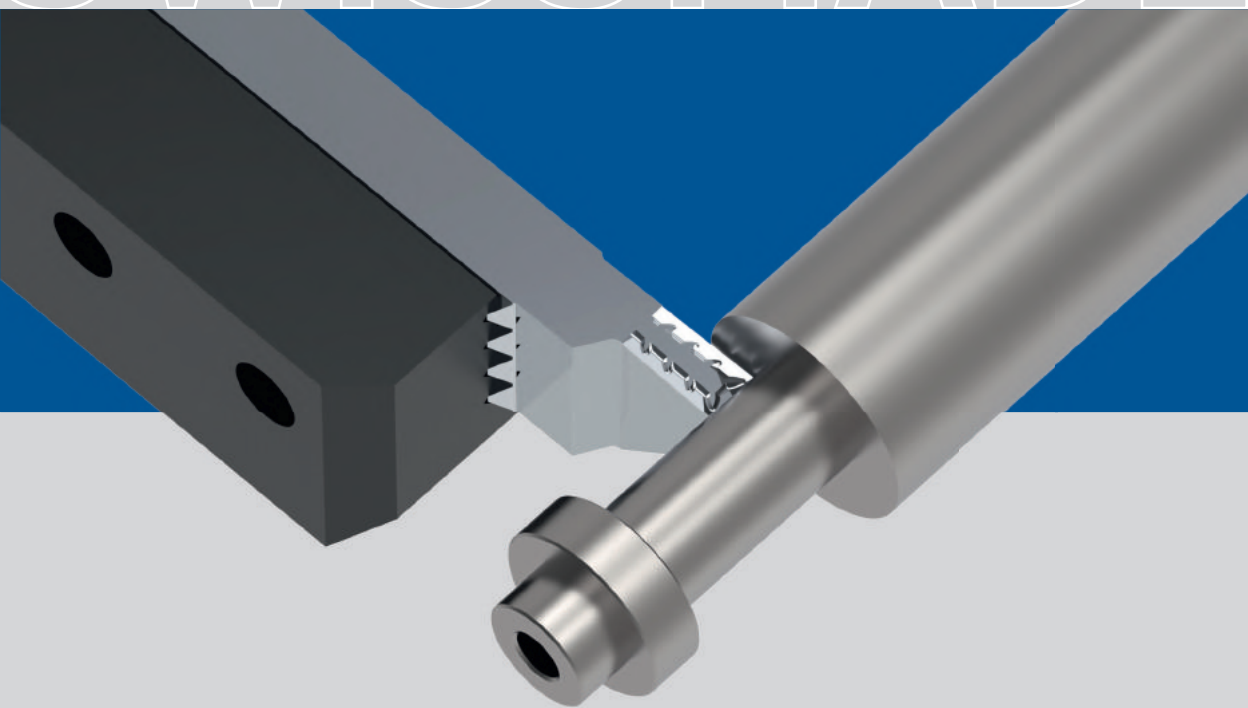


# APPLITEC

## SWISS TOOLING



SWISSMADE



EDITION 2022-2024

**OUTILS DE HAUTES PERFORMANCES  
POUR LE DÉCOLLETAGE  
ET LA MICROMÉCANIQUE**

**HOCHLEISTUNGSWERKZEUGE  
FÜR DREHAUTOMATEN  
UND MIKROMECHANIK**

**HIGH PERFORMANCE TOOLING  
FOR AUTOMATIC LATHES  
AND MICROMECHANICS**



|                                                                                     |                               |           |
|-------------------------------------------------------------------------------------|-------------------------------|-----------|
|    | <b>TOP-LINE</b>               | <b>1</b>  |
|    | <b>TOP-WATCH</b>              | <b>2</b>  |
|    | <b>PRO-LINE</b>               | <b>3</b>  |
|    | <b>ECO-LINE</b>               | <b>4</b>  |
|    | <b>TRIO-LINE</b>              | <b>5</b>  |
|    | <b>TURN-LINE</b>              | <b>6</b>  |
|    | <b>ISO-LINE</b>               | <b>7</b>  |
|    | <b>EVOCUT-LINE</b>            | <b>8</b>  |
|   | <b>CUT-LINE</b>               | <b>9</b>  |
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APPLITEC



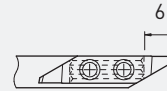


**INFO**

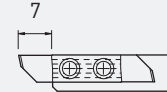
Nuances et paramètres de coupe  
Sorten und Schnittwerte  
Grades and machining data

> **1.02****710 / 720**

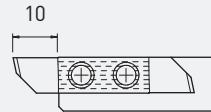
Pour machines à cames  
Für kurvengesteuerte Maschinen  
For cam driven machines

> **1.12****730 / 740**

**Main series**  
**Small type**

> **1.24****750 / 760**

**Main series**  
**Large type**

> **1.68****770 / 780****7050 / 7060****W750 / W760**

**POLYGONAL**  
**INTERFACE**  
**HSK**

**740Z / 760Z****TORNOS****SCHÜTTE**

Tronçonnage de grande capacité et ébauches larges pour  
profilage + porte-outils spéciaux

Abstechen für grössere Durchmesser und breite Rohlinge  
für Profilschleifen + Sonderwerkzeughalter

High capacity parting off and wide blanks for profiling +  
special tool holders

> **1.132**

Pièces de rechange  
Ersatzteile  
Spare parts

> **1.166**

Codification des plaquettes TOP-Line série 700

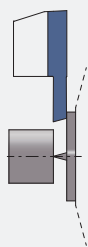
WSP-Bezeichnungssystem für TOP-Line 700 Serie

Inserts designation key for TOP-Line 700 series

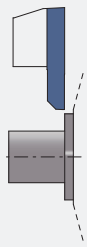
7 6 4 X - 2.0 - R20 - HTA

Dimension  
Abmessung  
DimensionRayon  
Radius  
RadiusNuance  
Sorte  
GradeGéométrie de coupe / Brise-copeaux / Particularités  
Schneidgeometrie / Spanbrecher / Sondereigenschaften  
Cutting geometry / Chip breaker / Special featuresGéométrie d'usinage  
Bearbeitungsgeometrie  
Machining geometry

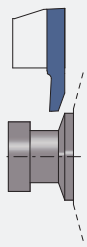
1



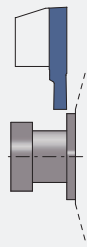
2



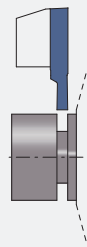
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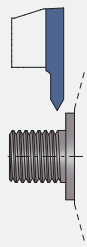
4



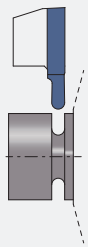
5



6

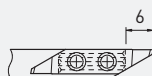
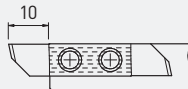
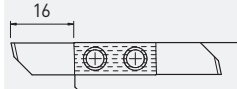


7

Gamme de produit  
Produktserie  
Product seriesdéfinit la compatibilité des plaquettes avec le porte-outil  
bestimmt die WSP und Halter Kompatibilität  
shows the inserts and holder compatibility

L = 1, 3, 5, 7 (chiffre impair / ungerade Zahl / uneven number)

R = 2, 4, 6, 8 (chiffre pair / gerade Zahl / even number)

L  
710R  
720pour machines à cames  
für kurvengesteuerte Maschinen  
for cam driven machinesL  
730R  
740main series  
small typeL  
750R  
760main series  
large typeL  
770R  
780tronçonnage uniquement  
nur für abstechen  
only for parting offApplitec série 700  
Applitec 700 Serie  
Applitec 700 seriesSystème de serrage à denture décalée avec 2 vis de fixation  
Spannsystem mit 2 Schrauben und verschobener Verzahnung  
Shifted teeth clamping system with 2 screws

L'outil de référence pour le décolletage

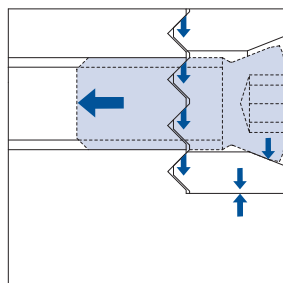
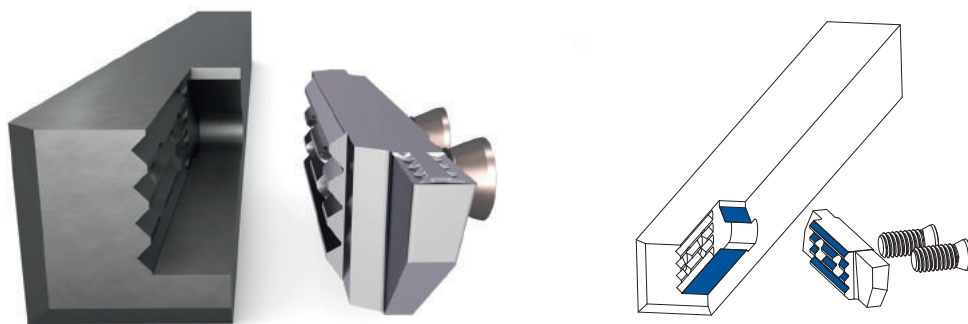
Hochwertiges Wendelattensystem für Langdrehautomaten

Top class turning tool for automatic lathes

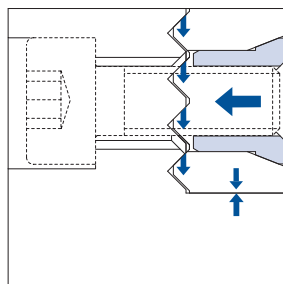
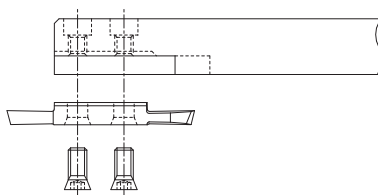
700 Series

## 100% rigid!

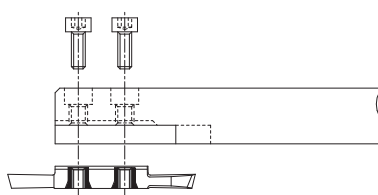
Système de serrage Applitec à denture décalée  
Applitec-Spannsystem mit verschobener Verzahnung  
Applitec clamping system with shifted teeth



**Serrage standard (A)**  
**Standard Spannsystem (A)**  
**Standard clamping system (A)**



**Serrage type B\***  
**Spannsystem Typ B\***  
**Clamping system type B\***



ajouter -B après le numéro d'article  
-B nach der Artikelreferenz hinzufügen  
add -B after the article number

Changement de la plaquette possible dans la machine, sans démontage du porte-outil  
WSP-Austauschmöglichkeit in der Maschine ohne Halterausbau  
The insert can be changed in the machine without removing the tool holder

## 700-ZX geometries

Très bonne maîtrise du copeau  
pour matières difficiles

Sehr gute Spankontrolle für  
schwierige Werkstoffe

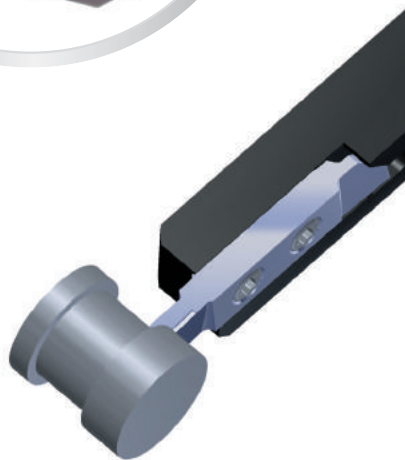
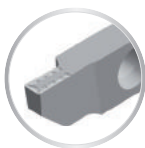
Very efficient chip control for  
difficult materials



Multitude de géométries possibles

Mehrere mögliche Spangeometrien

Many different cutting geometries are possible



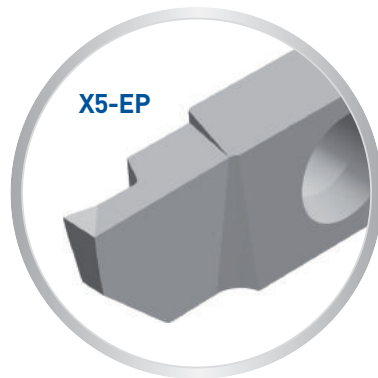
## 700-honed



Géométrie positive 5° avec arête de coupe renforcée (honée)  
Meilleure durée de vie dans l'usinage des matériaux abrasifs (aciers au carbone, aciers alliés)

Positive Geometry 5° mit verstärkte Schneidkante (gehont)  
Bessere Standzeit für die Bearbeitung von abrasive Materialien (Kohlenstoff Stahl, legierter Stahl)

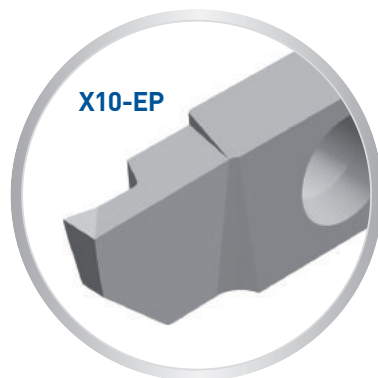
Positive geometry 5° with reinforced cutting edge (honed)  
Better tool life for abrasive materials (carbon steel, alloy steel)

**X5-EP**

Géométrie positive 10° avec arête de coupe renforcée (honée)  
Meilleure durée de vie dans l'usinage des matériaux tenace (acier inox, inox martensitique)

Positive Geometrie 10° mit verstärkte Schneidkante (gehont)  
Bessere Standzeit für die Bearbeitung von zähe Materialien (Rostfreier Stahl, martensitische Rostfreier Stahl)

Positive geometry 10° with reinforced cutting edge (honed)  
Better tool life for tough materials (stainless steel, martensitic steel)

**X10-EP**

## Conseils d'utilisation

## Anwendungsempfehlungen

## Application recommendations

## Tronçonnage

## Abstechen

## Parting off

## 700 Series

| Géométries de coupe<br>Spanformgeometrien<br>Cutting geometries                    |      | Acier de décolletage<br>Automatenstahl<br>Free-cutting steel | Acier<br>Stahl<br>Steel | Acier inoxydable<br>Rostfreistahl<br>Stainless steel | Aluminium   | Titane<br>Titan<br>Titanium | Laiton, bronze<br>Messing, Bronze<br>Brass, bronze | Cuivre<br>Kupfer<br>Copper | <div>★</div> <div>☆</div> <div>🔧</div> | 1 <sup>er</sup> choix<br>1. Wahl<br>1 <sup>st</sup> choice<br><br>Recommandé<br>Empfohlen<br>Recommended<br><br>Pour pièces fragiles de très petits diamètres<br>Für empfindliche und sehr kleine Werkstücke<br>For fragile and very small work pieces |
|------------------------------------------------------------------------------------|------|--------------------------------------------------------------|-------------------------|------------------------------------------------------|-------------|-----------------------------|----------------------------------------------------|----------------------------|----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    | 0°   | ★                                                            | 🔧                       | 🔧                                                    | 🔧           | 🔧                           | ★                                                  | 🔧                          |                                        | Permet un réaffûtage aisé<br>Erlaubt einfaches Nachschleifen<br>Allows easy regrinding                                                                                                                                                                 |
|    | X4°  | ★                                                            | ★                       | ★                                                    | 🔧           | 🔧                           |                                                    | 🔧                          |                                        | Réduit l'effort de coupe, réaffûtable<br>Reduziert Schneidkräfte, nachschleifbar<br>Decreases cutting force, allows regrinding                                                                                                                         |
|    | XF   | ☆                                                            | ★                       | ★                                                    |             |                             |                                                    | ☆                          |                                        | Pour matières difficiles (pointe renforcée)<br>Für schwierige Werkstoffe (verstärkte Spitze)<br>For difficult materials (reinforced point)                                                                                                             |
|    | X12° |                                                              |                         | ☆                                                    | ★           | ★                           |                                                    | ★                          |                                        | Très bonne maîtrise du copeau<br>Sehr gute Spankontrolle<br>Very efficient chip control                                                                                                                                                                |
|    | X25° |                                                              |                         | ☆                                                    | ★           | ☆                           |                                                    | ☆                          |                                        | Pour matières collantes faisant de très longs copeaux<br>Für klebrige Werkstoffe mit sehr langen Spänen<br>For long chipping sticky materials                                                                                                          |
|   | U    | ☆                                                            | ☆                       | ☆                                                    |             |                             |                                                    |                            |                                        | Pour resserrer le copeau, réaffûtage aisé<br>Für Spanversmälnerung, einfaches Nachschleifen<br>To narrow the chips, easy regrinding                                                                                                                    |
|  | ZU8  | ★                                                            | ★                       | ★                                                    | ☆<br><5% Si | ☆                           | ☆                                                  |                            |                                        | Très bonne maîtrise du copeau (arête de coupe honée)<br>Sehr gute Spankontrolle (gehönte Schneidkante)<br>Very efficient chip control (honed edge)<br>f min: 0.02 mm/U                                                                                 |

## Conseils d'utilisation

## Anwendungsempfehlungen

## Application recommendations

## Tournage

## Drehen

## Turning

## 700 Series

| Géométries de coupe<br>Spanformgeometrien<br>Cutting geometries                    |        | Acier de décolletage<br>Automatenstahl<br>Free-cutting steel | Acier<br>Stahl<br>Steel | Acier inoxydable<br>Rostfreistahl<br>Stainless steel | Aluminium   | Titane<br>Titan<br>Titanium | Laiton, bronze<br>Messing, Bronze<br>Brass, bronze | Cuivre<br>Kupfer<br>Copper | ★<br>1 <sup>er</sup> choix<br>1. Wahl<br>1 <sup>st</sup> choice | ★<br>Recommandé<br>Empfohlen<br>Recommended | ★<br>Pour pièces fragiles de très petits diamètres<br>Für empfindliche und sehr kleine Werkstücke<br>For fragile and very small work pieces                            |
|------------------------------------------------------------------------------------|--------|--------------------------------------------------------------|-------------------------|------------------------------------------------------|-------------|-----------------------------|----------------------------------------------------|----------------------------|-----------------------------------------------------------------|---------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    | 0°     | ★                                                            | ★                       | ★                                                    | ★           | ★                           | ★                                                  | ★                          | ★                                                               | ★                                           | Permet un réaffûtage aisé<br>Erlaubt einfaches Nachschleifen<br>Allows easy regrinding                                                                                 |
|    | X      | ★                                                            | ★                       | ★                                                    | ★           | ★                           |                                                    | ★                          |                                                                 |                                             | Très bonne maîtrise du copeau<br>Sehr gute Spankontrolle<br>Very efficient chip control                                                                                |
|    | X5-EP  | ★                                                            | ★                       | ★                                                    |             |                             |                                                    |                            |                                                                 |                                             | Très bonne maîtrise du copeau (arête de coupe honée)<br>Sehr gute Spankontrolle (gehonte Schneidkante)<br>Very efficient chip control (honed edge)<br>f min: 0.02 mm/U |
|    | X10-EP | ★                                                            | ★                       | ★                                                    |             |                             |                                                    |                            |                                                                 |                                             | Très bonne maîtrise du copeau (arête de coupe honée)<br>Sehr gute Spankontrolle (gehonte Schneidkante)<br>Very efficient chip control (honed edge)<br>f min: 0.02 mm/U |
|    | VX800  | ★                                                            | ★                       | ★                                                    |             |                             |                                                    | ★                          |                                                                 |                                             | Très bonne maîtrise du copeau<br>Sehr gute Spankontrolle<br>Very efficient chip control                                                                                |
|   | VX8°   | ★                                                            | ★                       | ★                                                    |             |                             |                                                    | ★                          |                                                                 |                                             | Très bonne maîtrise du copeau<br>Sehr gute Spankontrolle<br>Very efficient chip control                                                                                |
|  | VUX    | ★                                                            | ★                       | ★                                                    |             | ★                           |                                                    | ★                          |                                                                 |                                             | Roule-copeau bidirectionnel<br>Bidirektionaler Spanroller<br>Bi-directional chip-breaker                                                                               |
|  | VX15°  | ★                                                            |                         | ★                                                    |             | ★                           |                                                    | ★                          |                                                                 |                                             | Très bonne maîtrise du copeau<br>Sehr gute Spankontrolle<br>Very efficient chip control                                                                                |
|  | VS     | ★                                                            |                         | ★                                                    | ★           | ★                           |                                                    | ★                          |                                                                 |                                             | Brise-copeau pour usinage léger en finition<br>Spanbrecher für leichte Schlichtbearbeitung<br>Chip-breaker for light finishing operation                               |
|  | ZX10   | ★                                                            | ★                       | ★                                                    | ★<br><5% Si | ★                           | ★                                                  |                            |                                                                 |                                             | Très bonne maîtrise du copeau<br>Sehr gute Spankontrolle<br>Very efficient chip control<br>f min: 0.02 mm/U                                                            |
|  | ZX17   |                                                              |                         | ★                                                    | ★<br><5% Si | ★                           |                                                    | ★                          |                                                                 |                                             | Très bonne maîtrise du copeau<br>Sehr gute Spankontrolle<br>Very efficient chip control<br>f min: 0.02 mm/U                                                            |
|  | ZX25   |                                                              |                         | ★                                                    | ★<br><5% Si | ★                           |                                                    | ★                          |                                                                 |                                             | Très bonne maîtrise du copeau<br>Sehr gute Spankontrolle<br>Very efficient chip control<br>f min: 0.02 mm/U                                                            |
|  | ZXT    | ★                                                            | ★                       | ★                                                    | ★<br><5% Si | ★                           | ★                                                  |                            |                                                                 |                                             | Très bonne maîtrise du copeau<br>Sehr gute Spankontrolle<br>Very efficient chip control<br>f min: 0.02 mm/U                                                            |

## Nuances micro-grain tenace

## Zähe Feinkornsorten

## Tough micro-grain grades

μK 20

**TiAlN**

μK20 + revêtement PVD  
μK20 + PVD Beschichtung  
μK20 + PVD coating

- excellente nuance universelle
- 1<sup>er</sup> choix pour l'usinage des aciers, aciers inoxydables et alliages de titane
- très bonne résistance à la température

- beste Universalsorte
- für die Bearbeitung von Stahl, rostfreiem Stahl und Titanlegierungen bestens geeignet
- sehr gute Warmfestigkeit

- best universal grade
- first choice for steel, stainless steel and titanium alloys machining
- very good heat resistance

**TiAlX**

μK20 + revêtement PVD  
μK20 + PVD Beschichtung  
μK20 + PVD coating

- nuance très résistante à l'usure et à la température, recommandée pour l'usinage des matières suivantes: Inox 304, 316L, 317L, 904, Phynox
- aciers alliés contenant: Chrome Nickel, Vanadium, Molybdène, ...

- sehr verschleissfeste und temperaturbeständige Sorte. Für folgende Materialien empfohlen: Inox 304, 316L, 317L, 904, Phynox
- legierter Stahl enthaltend: Chrom-Nickel, Vanadium, Molybdän, ...

- very wear and high temperature resistant grade. Recommended for following material: Inox 304, 316L, 317L, 904, Phynox
- alloy steel containing: Chrome-nickel, Vanadium, Molybdenum, ...

**TiN**

μK20 + revêtement PVD  
μK20 + PVD Beschichtung  
μK20 + PVD coating

- nuance pour l'usinage des matières peu résistantes qui créent des arêtes rapportées
- très faible coefficient de frottement
- à éviter pour l'usinage du titane

- Sorte für die Bearbeitung von weichen Werkstoffen mit Tendenz zur Bildung von Aufbauschneiden
- sehr geringer Reibwert
- für die Bearbeitung von Titan nicht geeignet

- grade for the machining of low resistance materials which creates build-up edge
- very low friction ratio
- not suitable for titanium machining

**LOX**

μK20 + revêtement PVD  
μK20 + PVD Beschichtung  
μK20 + PVD coating

- nuance résistante à l'usure et à la température, destinée à l'usinage des matières suivantes: Inox, Titanes, alliages à base de Nickel, Chrome Cobalt, les matières avec une dureté supérieure à > 50HRC
- bonne alternative pour l'usinage des aciers de construction types ETG88, ETG100, 36SMnPb14

- verschleissfeste und temperaturbeständige Sorte. Für folgende Materialien empfohlen: Inox, Titan, Nickellegierungen, Chrom-Kobalt, Materialien härter als > 50HRC
- gute Alternative für die Bearbeitung von Baustähle Typ ETG88, ETG100, 36SMnPb14

- wear and high temperature resistant grade. Recommended for following materials: inox, titanium, nickel alloys, materials harder than > 50HRC
- good alternative for machining of structural steels type ETG88, ETG100, 36SMnPb14

**N (μK20)**

non revêtu  
unbeschichtet  
uncoated

- supporte les coupes interrompues et autres conditions d'usinage défavorables

- für unterbrochene Schnitte und andere ungünstige Bearbeitungsbedingungen geeignet

- suitable for interrupted cut and other unfavourable machining conditions



**Nuances micro-grain à dureté élevée****Verschleissfeste Feinkornsorten****Wear resistant micro-grain grades****μK 10****HTA**

μK10 + revêtement PVD  
μK10 + PVD Beschichtung  
μK10 + PVD coating

- nuance très résistante à l'usure
- pour l'usinage en finition dans des conditions favorables des aciers, aciers inoxydables et alliages de titane

- sehr verschleissfeste Sorte
- für die Feinbearbeitung von Stahl, rostfreiem Stahl und Titanlegierungen bei guten Bearbeitungsbedingungen

- very wear resistant grade
- for light machining of steel, stainless steel and titanium alloys under favourable machining conditions

**HTAX**

μK10 + revêtement PVD  
μK10 + PVD Beschichtung  
μK10 + PVD coating

- nuance très résistante à l'usure et à la température, pour l'usinage en finition avec faibles avances de petites pièces, recommandée pour l'usinage des matières suivantes: Inox 304, 316L, 317L, 904, Phynox
- aciers alliés contenant: Chrome Nickel, Vanadium, Molybdène, ...

- sehr verschleissfeste und temperaturbeständige Sorte. Für Feinbearbeitung von kleinen Teilen mit geringer Vorschub. Für folgende Materialien empfohlen: Inox 304, 316L, 317L, 904, Phynox
- legierter Stahl enthaltend: Chrom-Nickel, Vanadium, Molybdän, ...

- very wear and high temperature resistant grade. For light machining of small parts with low cutting feed. Recommended for following material: Inox 304, 316L, 317L, 904, Phynox
- alloy steel containing: Chrome-nickel, Vanadium, Molybdenum, ...

**HTiN**

μK10 + revêtement PVD  
μK10 + PVD Beschichtung  
μK10 + PVD coating

- nuance pour l'usinage en finition des matières peu résistantes qui créent des arêtes rapportées
- très faible coefficient de frottement
- à éviter pour l'usinage du titane

- Sorte für die Feinbearbeitung von weichen Werkstoffen mit Tendenz zur Bildung von Aufbauschneiden
- sehr geringer Reibwert
- für die Bearbeitung von Titan nicht geeignet

- grade for light machining of low resistance materials which creates build-up edge
- very low friction ratio
- not suitable for titanium machining

**HAS**

μK10 + revêtement PVD  
μK10 + PVD Beschichtung  
μK10 + PVD coating

- nuance pour métaux non ferreux
- très faible coefficient de frottement
- 1<sup>er</sup> choix pour l'usinage des aluminiums jusqu'à 5% Si, des cuivres et titanes faiblement alliés

- Sorte für Nichteisenmetalle
- sehr geringer Reibwert
- für die Bearbeitung von Aluminium bis 5% Si, Kupfer und niedriglegiertem Titan bestens geeignet

- grade for non-ferrous materials
- very low friction ratio
- first choice for aluminium up to 5% Si, copper and low alloyed titanium

**HN (μK10)**

non revêtu  
unbeschichtet  
uncoated

- nuance micro-grain très résistante à l'usure
- recommandé pour l'usinage du titane faiblement allié
- déconseillé en cas de coupe interrompue et autres conditions d'usinage défavorables

- verschleissfeste Feinkornsorte
- für die Bearbeitung von niedrig legiertem Titan empfehlenswert
- für unterbrochene Schnitte und andere ungünstige Bearbeitungsbedingungen nicht geeignet

- wear resistant micro-grain grade
- suitable for the machining of low alloyed titanium
- not suitable for interrupted cut and other unfavourable machining conditions

Paramètres de coupe indicatifs

Empfohlene Schnittwerte

Standard machining data

|                                                                            |               | Tournage<br>Drehen<br>Turning |                                                |                            | Tronçonnage<br>Abstechen<br>Parting off |                                                    |                            |
|----------------------------------------------------------------------------|---------------|-------------------------------|------------------------------------------------|----------------------------|-----------------------------------------|----------------------------------------------------|----------------------------|
| Matière<br>Werkstoff<br>Material                                           |               | VC                            | Prof. de passe<br>Schnitttiefe<br>Depth of cut | Avance<br>Vorschub<br>Feed | VC                                      | Largeur de coupe<br>Abstechbreite<br>Cutting width | Avance<br>Vorschub<br>Feed |
|                                                                            |               | (m/min)                       | (mm)                                           | (mm/U)                     | (m/min)                                 | (mm)                                               | (mm/U)                     |
| Acier de décolletage<br>Automatenstahl<br>Free-cutting steel               | P             | 120 - 200                     | 0.05 - 1.0<br>1.0 - 4.0                        | 0.01 - 0.15<br>0.05 - 0.25 | 80 - 150                                | 0.50 - 1.50<br>1.50 - 3.50                         | 0.01 - 0.08<br>0.03 - 0.15 |
| Acier<br>Stahl<br>Steel                                                    | < 600 N/mm² P | 80 - 160                      | 0.05 - 1.0<br>1.0 - 4.0                        | 0.01 - 0.15<br>0.05 - 0.25 | 70 - 120                                | 0.50 - 1.50<br>1.50 - 3.50                         | 0.01 - 0.06<br>0.03 - 0.12 |
| Acier<br>Stahl<br>Steel                                                    | < 800 N/mm² P | 60 - 120                      | 0.05 - 1.0<br>1.0 - 4.0                        | 0.01 - 0.10<br>0.05 - 0.20 | 60 - 100                                | 0.50 - 1.50<br>1.50 - 3.50                         | 0.01 - 0.05<br>0.03 - 0.10 |
| Acier<br>Stahl<br>Steel                                                    | > 800 N/mm² P | 50 - 100                      | 0.05 - 1.0<br>1.0 - 3.0                        | 0.01 - 0.08<br>0.05 - 0.15 | 40 - 80                                 | 0.50 - 1.50<br>1.50 - 3.50                         | 0.01 - 0.04<br>0.03 - 0.08 |
| Acier inoxydable<br>Rostfreistahl<br>Stainless steel                       | M             | 60 - 120                      | 0.05 - 1.0<br>1.0 - 3.0                        | 0.01 - 0.08<br>0.05 - 0.15 | 60 - 100                                | 0.50 - 1.50<br>1.50 - 3.50                         | 0.01 - 0.04<br>0.03 - 0.08 |
| Aluminium Si <12%                                                          | N             | 200 - 1000                    | 0.05 - 1.0<br>1.0 - 4.0                        | 0.01 - 0.20<br>0.05 - 0.40 | 180 - 400                               | 0.50 - 1.50<br>1.50 - 3.50                         | 0.01 - 0.10<br>0.03 - 0.20 |
| Aluminium Si >12%                                                          | N             | 180 - 800                     | 0.05 - 1.0<br>1.0 - 4.0                        | 0.01 - 0.20<br>0.05 - 0.40 | 150 - 300                               | 0.50 - 1.50<br>1.50 - 3.50                         | 0.01 - 0.10<br>0.03 - 0.20 |
| Cuivre, laiton, bronze<br>Kupfer, Messing, Bronze<br>Copper, brass, bronze | N             | 100 - 500                     | 0.05 - 1.0<br>1.0 - 4.0                        | 0.01 - 0.20<br>0.05 - 0.35 | 100 - 300                               | 0.50 - 1.50<br>1.50 - 3.50                         | 0.01 - 0.10<br>0.03 - 0.20 |
| Titane<br>Titan<br>Titanium                                                | S             | 30 - 70                       | 0.05 - 1.0<br>1.0 - 4.0                        | 0.01 - 0.08<br>0.05 - 0.15 | 30 - 50                                 | 0.50 - 1.50<br>1.50 - 3.50                         | 0.01 - 0.03<br>0.03 - 0.06 |

**Indications pour premier réglage****Hinweise für die erste Einrichtung****Indications for first setting****Ébauche  
Schruppen  
Roughing**

- vitesse de coupe moyenne
- avance élevée

- durchschnittliche Schnittgeschwindigkeit
- hohe Schnittgeschwindigkeit

- average cutting speed
- high cutting speed

**Finition  
Schlichten  
Finishing**

- vitesse de coupe élevée
- avance faible

- hohe Schnittgeschwindigkeit
- niedriger Vorschub

- high cutting speed
- low cutting feed

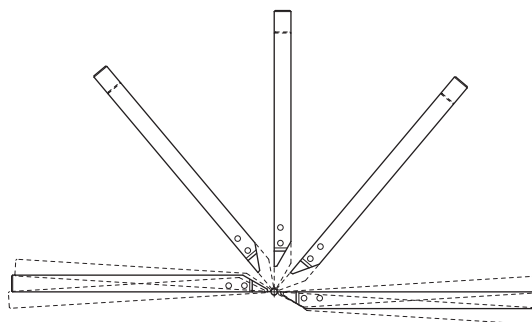
**Remarques importantes  
Wichtige Bemerkungen  
Important remarks**

- en raison des limites de la machine, il n'est souvent pas possible d'atteindre les vitesses de coupe préconisées
- les outils Applitec sont spécialement développés pour permettre de hautes performances, même dans des conditions de coupe défavorables
- des applications non préconisées dans le tableau ci-contre peuvent également s'avérer efficaces

- wegen begrenzter Maschinenleistung ist es oft nicht möglich, die vorgeschlagenen Schnittgeschwindigkeiten zu erreichen
- Applitec Werkzeuge sind besonders dazu entwickelt, um sogar bei ungünstigen Schnittbedingungen leistungsfähig zu sein
- die in der nebenstehenden Tabelle nicht erwähnten Anwendungsfälle können sich auch effizient erweisen

- in many cases, it is impossible to reach the recommended cutting speed, due to the machine limits
- Applitec tools are especially designed to be efficient even in bad cutting conditions
- applications not mentioned in the opposite table can also be efficient

| L           |      | R      |      |
|-------------|------|--------|------|
| Type        | Page | Type   | Page |
| 710         | 1.14 | 720    | 1.14 |
| 710-NOVIBRA | 1.15 | 721    | 1.16 |
| 711         | 1.16 | 721-EP | 1.23 |
| 711-EP      | 1.23 | 722    | 1.17 |
| 712         | 1.17 | 723-30 | 1.18 |
| 713-30      | 1.18 | 723-45 | 1.19 |
| 713-45      | 1.19 | 723-60 | 1.20 |
| 713-60      | 1.20 | 724    | 1.21 |
| 714         | 1.21 | 726    | 1.22 |
| 716         | 1.22 |        |      |



Porte-outils et plaquettes pour machines à cames  
 Halter und WSP für kurvengesteuerte Maschinen  
 Tool holders and inserts for cam driven machines

**710 / 720**

Porte-outils  
Halter  
Holders

> **1.14****711 / 721**

Tronçonnage  
Abstechen  
Parting off

> **1.16****712 / 722**

Tournage avant  
Vorwärts drehen  
Front turning

> **1.17****713 / 723**

Tournage arrière  
Rückwärts drehen  
Back turning

> **1.18****714 / 724**

Fonçage-tournage  
Einstechen und drehen  
Grooving and turning

> **1.21****716 / 726**

Filetage  
Gewinde drehen  
Threading

> **1.22**

Plaquette ébauche  
WSP-Rohling  
Blank insert

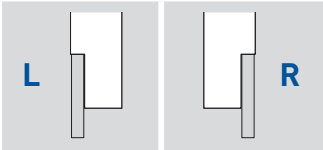
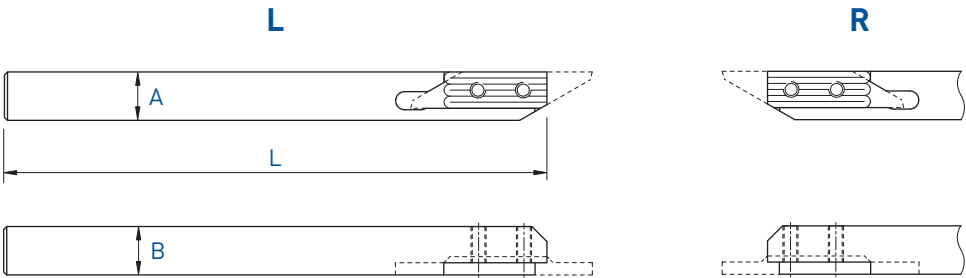
> **1.23**

Porte-outils

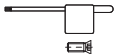
Halter

Holders

710 / 720



| A x B   | L   | Serrage<br>Spannsystem<br>Clamping | Art. N°   | Art. N° |
|---------|-----|------------------------------------|-----------|---------|
| 6 x 6   | 115 | A                                  | 710-6     | -       |
| 7 x 7   | 115 | A                                  | 710-7     | 720-7   |
| 8 x 8   | 115 | A                                  | 710-8     | 720-8   |
| 8 x 8   | 140 | A                                  | 710-8-140 | -       |
| 10 x 10 | 115 | A                                  | 710-10    | 720-10  |
| 12 x 12 | 130 | A                                  | 710-12    | 720-12  |



Chaque support est livré avec vis et clé.  
Jeder Halter wird mit Spannschraube(n) und Schlüssel geliefert.  
Screw(s) and key are included with each tool holder.

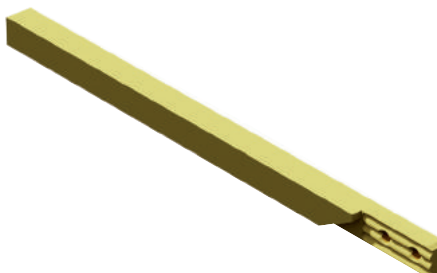
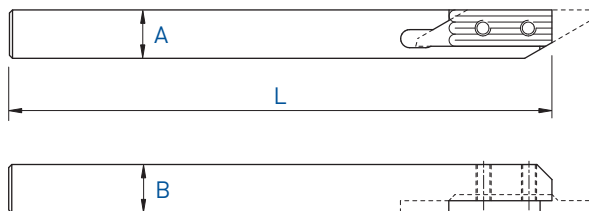
Porte-outils en métal lourd anti-vibratoire

Schwingungsdämpfende Schwermetallhalter

Low vibration heavy metal holders

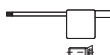
710-NOVIBRA

L



L

| A x B | L   | Serrage<br>Spannsystem<br>Clamping | Art. N°       |
|-------|-----|------------------------------------|---------------|
| 6 x 6 | 115 | A                                  | 710-6-NOVIBRA |
| 7 x 7 | 115 | A                                  | 710-7-NOVIBRA |
| 8 x 8 | 115 | A                                  | 710-8-NOVIBRA |



Chaque support est livré avec vis et clé.

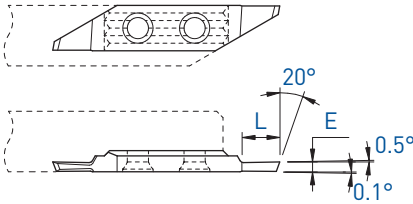
Jeder Halter wird mit Spannschraube(n) und Schlüssel geliefert.

Screw(s) and key are included with each tool holder.

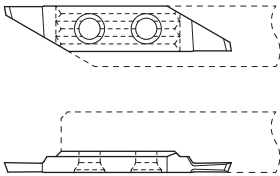
Tronçonnage  
Abstechen  
Parting off

711 / 721

L



R



L

R

| E   | L   | Art. N° | TiAlN | TiN | N (µk20) | HTA | HTiN | HN (µk10) | Art. N° | TiAlN | TiN | N (µk20) | HTA | HTiN | HN (µk10) |
|-----|-----|---------|-------|-----|----------|-----|------|-----------|---------|-------|-----|----------|-----|------|-----------|
| 0.5 | 2   | 711-0.5 | ■     | ■   | ■        | ■   | □    | ■         | -       |       |     |          |     |      |           |
| 0.8 | 3   | 711-0.8 | ■     | ■   | ■        | ■   | ■    | ■         | 721-0.8 | ■     | ■   | ■        |     |      |           |
| 0.9 | 3   | 711-0.9 | ■     | ■   | ■        | ■   | □    | ■         | -       |       |     |          |     |      |           |
| 1.0 | 4   | 711-1.0 | ■     | ■   | ■        | ■   | ■    | ■         | 721-1.0 | ■     | ■   | ■        | ■   | □    | ■         |
| 1.1 | 4   | 711-1.1 | ■     | ■   | ■        | ■   | ■    | ■         | -       |       |     |          |     |      |           |
| 1.2 | 5   | 711-1.2 | ■     | ■   | ■        | ■   | ■    | ■         | 721-1.2 | ■     | ■   | ■        | ■   | □    | ■         |
| 1.3 | 5   | 711-1.3 | ■     | ■   | ■        | ■   | □    | ■         | -       |       |     |          |     |      |           |
| 1.4 | 5   | 711-1.4 | ■     | ■   | ■        |     |      |           | -       |       |     |          |     |      |           |
| 1.5 | 6.5 | 711-1.5 | ■     | ■   | ■        | ■   | ■    | ■         | 721-1.5 | ■     | ■   | ■        | ■   | □    | ■         |
| 1.8 | 6.5 | 711-1.8 | ■     | ■   | ■        | ■   | □    | ■         | 721-1.8 | ■     | ■   | ■        |     |      |           |
| 2.0 | 6.5 | 711-2.0 | ■     | ■   | ■        |     |      |           | 721-2.0 | ■     | ■   | ■        |     |      |           |



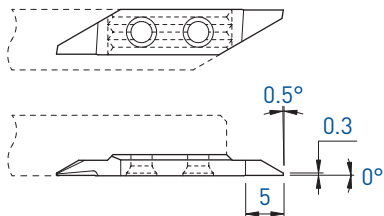
Tournage avant

Vorwärts drehen

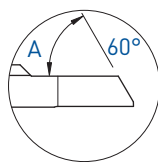
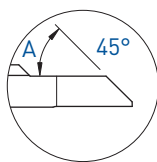
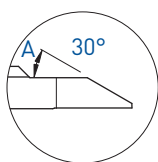
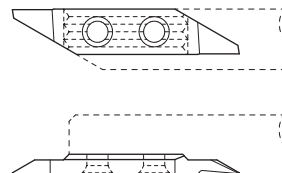
Front turning

712 / 722

L



R



L

R

| A   | Art. N° | L     |     |          | R   |      |           |
|-----|---------|-------|-----|----------|-----|------|-----------|
|     |         | TiAlN | TiN | N (μk20) | HTA | HTIN | HN (μk10) |
| 30° | 712-30  | ■     | ■   | ■        | ■   | □    | ■         |
| 45° | 712-45  | ■     | ■   | ■        | ■   | ■    | ■         |
| 60° | 712-60  | ■     | ■   | ■        | ■   | □    | ■         |

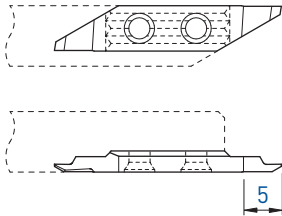
Tournage arrière

Rückwärts drehen

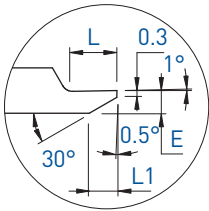
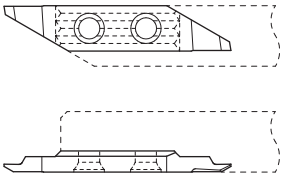
Back turning

713-30° / 723-30°

L



R



L

R

| E   | L   | L1   | Art. N°    | TiAlN | TiN | N (µk20) | HTA | HTiN | HN (µk10) | Art. N°    | TiAlN | TiN | N (µk20) | HTA | HTiN | HN (µk10) |
|-----|-----|------|------------|-------|-----|----------|-----|------|-----------|------------|-------|-----|----------|-----|------|-----------|
| 0.8 | 1.6 | 0.85 | 713-30-0.8 | ■     | ■   | ■        |     |      |           | 723-30-0.8 | ■     | ■   | ■        | ■   | □    | ■         |
| 0.9 | 1.6 | 1.05 | 713-30-0.9 | ■     | ■   | ■        |     |      |           | -          |       |     |          |     |      |           |
| 1.0 | 2.0 | 1.2  | 713-30-1.0 | ■     | ■   | ■        | ■   | □    | ■         | 723-30-1.0 | ■     | ■   | ■        | ■   | □    | ■         |
| 1.1 | 2.0 | 1.4  | 713-30-1.1 | ■     | ■   | ■        |     |      |           | -          |       |     |          |     |      |           |
| 1.2 | 2.5 | 1.55 | 713-30-1.2 | ■     | ■   | ■        |     |      |           | 723-30-1.2 | ■     | ■   | ■        |     |      |           |
| 1.3 | 2.5 | 1.7  | 713-30-1.3 | ■     | ■   | ■        |     |      |           | -          |       |     |          |     |      |           |
| 1.4 | 3.0 | 1.9  | 713-30-1.4 | ■     | ■   | ■        |     |      |           | -          |       |     |          |     |      |           |
| 1.5 | 3.0 | 2.1  | 713-30-1.5 | ■     | ■   | ■        | ■   | ■    | ■         | 723-30-1.5 | ■     | ■   | ■        |     |      |           |
| 1.8 | 4.0 | 2.6  | 713-30-1.8 | ■     | ■   | ■        |     |      |           | 723-30-1.8 | ■     | ■   | ■        |     |      |           |
| 2.0 | 4.0 | 2.9  | 713-30-2.0 | ■     | ■   | ■        | ■   | ■    | ■         | 723-30-2.0 | ■     | ■   | ■        |     |      |           |

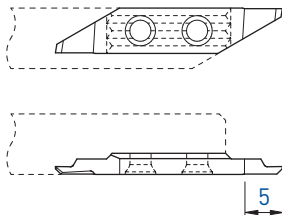
Tournage arrière

Rückwärts drehen

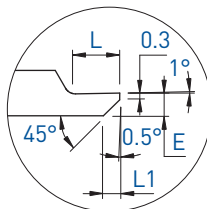
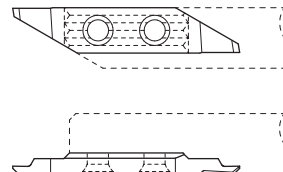
Back turning

713-45° / 723-45°

L



R



L

R

| E   | L   | L1  | Art. N°    | TiAlN | TiN | N (µk20) | HTA | HTiN | HN (µk10) | Art. N°    | TiAlN | TiN | N (µk20) | HTA | HTiN | HN (µk10) |
|-----|-----|-----|------------|-------|-----|----------|-----|------|-----------|------------|-------|-----|----------|-----|------|-----------|
| 0.8 | 1.6 | 0.5 | 713-45-0.8 | ■     | ■   | ■        | ■   | □    | ■         | 723-45-0.8 | ■     | ■   | ■        |     |      |           |
| 0.9 | 1.6 | 0.6 | 713-45-0.9 | ■     | ■   | ■        |     |      |           | -          |       |     |          |     |      |           |
| 1.0 | 2.0 | 0.7 | 713-45-1.0 | ■     | ■   | ■        | ■   | □    | ■         | 723-45-1.0 | ■     | □   | ■        |     |      |           |
| 1.1 | 2.0 | 0.8 | 713-45-1.1 | ■     | ■   | ■        |     |      |           | -          |       |     |          |     |      |           |
| 1.2 | 2.5 | 0.9 | 713-45-1.2 | ■     | ■   | ■        |     |      |           | 723-45-1.2 | ■     | ■   | ■        |     |      |           |
| 1.3 | 2.5 | 1.0 | 713-45-1.3 | ■     | ■   | ■        |     |      |           | -          |       |     |          |     |      |           |
| 1.4 | 3.0 | 1.1 | 713-45-1.4 | ■     | ■   | ■        |     |      |           | -          |       |     |          |     |      |           |
| 1.5 | 3.0 | 1.2 | 713-45-1.5 | ■     | ■   | ■        | ■   | ■    | ■         | 723-45-1.5 | ■     | □   | ■        |     |      |           |
| 1.8 | 4.0 | 1.5 | 713-45-1.8 | ■     | ■   | ■        |     |      |           | 723-45-1.8 | ■     | □   | ■        |     |      |           |
| 2.0 | 4.0 | 1.7 | 713-45-2.0 | ■     | ■   | ■        |     |      |           | 723-45-2.0 | ■     | ■   | ■        |     |      |           |

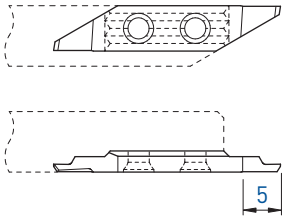
Tournage arrière

Rückwärts drehen

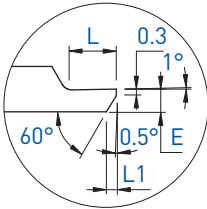
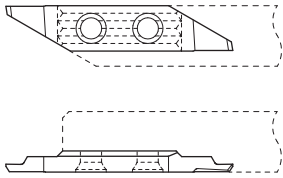
Back turning

713-60° / 723-60°

L



R



L

R

| E   | L   | L1   | Art. N°    | TiAlN | TiN | N (µk20) | Art. N°    | TiAlN | TiN | N (µk20) |
|-----|-----|------|------------|-------|-----|----------|------------|-------|-----|----------|
| 0.8 | 1.6 | 0.3  | 713-60-0.8 | ■     | ■   | ■        | 723-60-0.8 | ■     | ■   | ■        |
| 0.9 | 1.6 | 0.35 | 713-60-0.9 | ■     | ■   | ■        | -          |       |     |          |
| 1.0 | 2.0 | 0.4  | 713-60-1.0 | ■     | ■   | ■        | 723-60-1.0 | ■     | □   | ■        |
| 1.1 | 2.0 | 0.45 | 713-60-1.1 | ■     | ■   | ■        | -          |       |     |          |
| 1.2 | 2.5 | 0.5  | 713-60-1.2 | ■     | ■   | ■        | 723-60-1.2 | ■     | □   | ■        |
| 1.3 | 2.5 | 0.6  | 713-60-1.3 | ■     | ■   | ■        | -          |       |     |          |
| 1.4 | 3.0 | 0.65 | 713-60-1.4 | ■     | ■   | ■        | -          |       |     |          |
| 1.5 | 3.0 | 0.7  | 713-60-1.5 | ■     | ■   | ■        | 723-60-1.5 | ■     | ■   | ■        |
| 1.8 | 4.0 | 0.9  | 713-60-1.8 | ■     | ■   | ■        | 723-60-1.8 | ■     | □   | ■        |
| 2.0 | 4.0 | 1.0  | 713-60-2.0 | ■     | ■   | ■        | 723-60-2.0 | ■     | ■   | ■        |

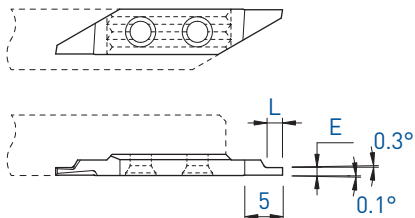
Fonçage-tournage

Einstecken und drehen

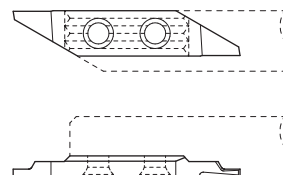
Grooving and turning

714 / 724

L



R



L

R

| E   | L   | Art. N° | TiAlN | TiN | N (µk20) | HTA | HTiN | HN (µk10) | Art. N° | TiAlN | TiN | N (µk20) | HTA | HTiN | HN (µk10) |
|-----|-----|---------|-------|-----|----------|-----|------|-----------|---------|-------|-----|----------|-----|------|-----------|
| 0.5 | 1.0 | 714-0.5 | ■     | ■   | ■        |     |      |           | 724-0.5 | ■     | ■   | ■        | ■   | □    | ■         |
| 0.6 | 1.0 | 714-0.6 | ■     | ■   | ■        |     |      |           | 724-0.6 | ■     | ■   | ■        |     |      |           |
| 0.7 | 1.5 | 714-0.7 | ■     | ■   | ■        |     |      |           | 724-0.7 | ■     | ■   | ■        |     |      |           |
| 0.8 | 1.5 | 714-0.8 | ■     | ■   | ■        | ■   | □    | ■         | 724-0.8 | ■     | ■   | ■        |     |      |           |
| 0.9 | 2.0 | 714-0.9 | ■     | ■   | ■        |     |      |           | 724-0.9 | ■     | □   | ■        |     |      |           |
| 1.0 | 2.0 | 714-1.0 | ■     | ■   | ■        | ■   | ■    | ■         | 724-1.0 | ■     | ■   | ■        |     |      |           |
| 1.1 | 2.0 | 714-1.1 | ■     | ■   | ■        |     |      |           | 724-1.1 | ■     | □   | ■        |     |      |           |
| 1.2 | 2.5 | 714-1.2 | ■     | ■   | ■        |     |      |           | 724-1.2 | ■     | □   | ■        |     |      |           |
| 1.3 | 2.5 | 714-1.3 | ■     | ■   | ■        |     |      |           | 724-1.3 | ■     | ■   | ■        |     |      |           |
| 1.4 | 3.0 | 714-1.4 | ■     | ■   | ■        |     |      |           | 724-1.4 | ■     | □   | ■        |     |      |           |
| 1.5 | 3.0 | 714-1.5 | ■     | ■   | ■        | ■   | ■    | ■         | 724-1.5 | ■     | ■   | ■        |     |      |           |

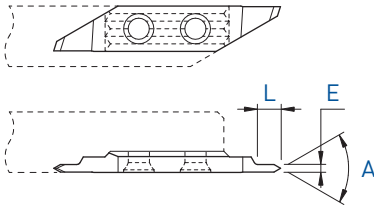
Filetage

Gewinde drehen

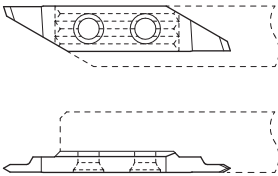
Threading

716 / 726

L



R



L



R



| A   | E   | L | Art. N°    | TiAlN | TiN | N (µk20) | Art. N°    | TiAlN | TiN | N (µk20) |
|-----|-----|---|------------|-------|-----|----------|------------|-------|-----|----------|
| 60° | 1.0 | 3 | 716-60-1.0 | ■     | ■   | ■        | 726-60-1.0 | ■     | ■   | ■        |
| 60° | 1.5 | 4 | 716-60-1.5 | ■     | ■   | ■        | 726-60-1.5 | ■     | ■   | ■        |
| 55° | 1.0 | 3 | 716-55-1.0 | ■     | ■   | ■        | 726-55-1.0 | ■     | □   | ■        |
| 55° | 1.5 | 4 | 716-55-1.5 | ■     | ■   | ■        | 726-55-1.5 | ■     | □   | ■        |

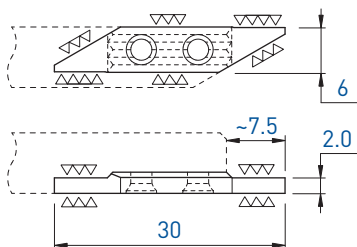
Plaquettes ébauches

WSP-Rohlinge

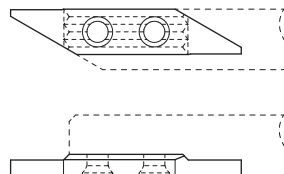
Blank inserts

711-EP / 721-EP

L



R



L



R



| Art. N° | TiAlN | TiN | N (µk20) | HTA | HTiN | HN (µk10) | Art. N° | TiAlN | TiN | N (µk20) | HTA | HTiN | HN (µk10) |
|---------|-------|-----|----------|-----|------|-----------|---------|-------|-----|----------|-----|------|-----------|
| 711-EP  | ■     | ■   | ■        | ■   | □    | ■         | 721-EP  | ■     | □   | ■        | □   | □    | ■         |

| L    |             |           | R    |             |           |
|------|-------------|-----------|------|-------------|-----------|
| Type |             | Page      | Type |             | Page      |
| 730  | 730         | 1.26      | 740  | 740         | 1.26      |
|      | 730-JET     | 1.27      |      | 740/730-D   | 1.31      |
|      | 730-NOVIBRA | 1.30      |      | 740-C       | 1.28      |
|      | 730RC       | 1.29      |      | 740-JET     | 1.27      |
| 731  | 731         | 1.32      |      | 740-NOVIBRA | 1.30      |
|      | 731-E       | 1.67      | 741  | 741         | 1.32      |
|      | 731N        | 1.38/1.45 |      | 741-E       | 1.67      |
|      | 731R        | 1.39      |      | 741L        | 1.39      |
|      | 731RU       | 1.44      |      | 741LX12     | 1.42      |
|      | 731RX12     | 1.42      |      | 741LX25     | 1.43      |
|      | 731RX25     | 1.43      |      | 741LX4      | 1.40      |
|      | 731RX4      | 1.40      |      | 741LXF      | 1.41      |
|      | 731RXF      | 1.41      |      | 741N        | 1.38/1.45 |
|      | 731U        | 1.37      |      | 741U        | 1.37      |
|      | 731X12      | 1.35      |      | 741X12      | 1.35      |
|      | 731X25      | 1.36      |      | 741X25      | 1.36      |
|      | 731X4       | 1.33      |      | 741X4       | 1.33      |
|      | 731XF       | 1.34      |      | 741XF       | 1.34      |
| 732  | 732         | 1.46      | 742  | 742         | 1.46      |
|      | 732PX       | 1.47      |      | 742PX       | 1.47      |
|      | 732X        | 1.48      |      | 742X        | 1.48      |
| 733  | 733         | 1.49      | 743  | 743         | 1.49      |
|      | 733P        | 1.55      |      | 743P        | 1.55      |
|      | 733VX-15°   | 1.53      |      | 743VX-15°   | 1.53      |
|      | 733VX-8°    | 1.51      |      | 743VX-8°    | 1.51      |
|      | 733VX-805   | 1.52      |      | 743VX-805   | 1.52      |
|      | 733X        | 1.50      |      | 743X        | 1.50      |
|      | 733ZX       | 1.54      |      | 743ZX10     | 1.54      |
| 734  | 734         | 1.56      | 744  | 744         | 1.56      |
|      | 734VS       | 1.57      |      | 744VS       | 1.57      |
|      | 734X        | 1.58      |      | 744X        | 1.58      |
|      | 734ZX       | 1.59      |      | 744ZX       | 1.59      |
| 735  | 735         | 1.61      |      | 744ZXT      | 1.60      |
|      | 735X-90     | 1.62      | 745  | 745         | 1.61      |
| 736  | 736         | 1.63      |      | 745X-90     | 1.62      |
|      | 736-A60°    | 1.64      | 746  | 746         | 1.63      |
|      | 736-M       | 1.65      |      | 746-A60°    | 1.64      |
| 737  | 737         | 1.66      |      | 746-M       | 1.65      |
|      |             |           | 747  | 747         | 1.66      |



**730 / 740**

Porte-outils  
Halter  
Holders

&gt; 1.26

**731 / 741**

Tronçonnage  
Abstechen  
Parting off

&gt; 1.32

**741L / 731R**

Tronçonnage - coupe déportée  
Abstechen - versetztes Schneiden  
Parting off - cut off line

&gt; 1.39

**732 / 742**

Tournage avant  
Vorwärts drehen  
Front turning

&gt; 1.46

**733 / 743**

Tournage arrière  
Rückwärts drehen  
Back turning

&gt; 1.49

**734 / 744**

Fonçage-tournage  
Einstechen und drehen  
Grooving and turning

&gt; 1.56

**735 / 745**

Gorges  
Einstechen  
Grooving

&gt; 1.61

**736 / 746**

Filetage  
Gewinde drehen  
Threading

&gt; 1.63

**737 / 747**

Plaquettes à rayon  
Radius Wendepplatten  
Radius inserts

&gt; 1.66

Plaquettes ébauches  
WSP-Rohlinge  
Blank inserts

&gt; 1.67

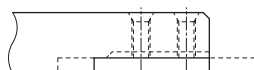
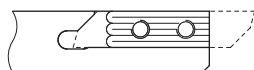
Porte-outils

Halter

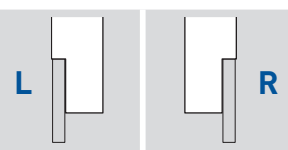
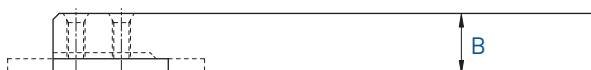
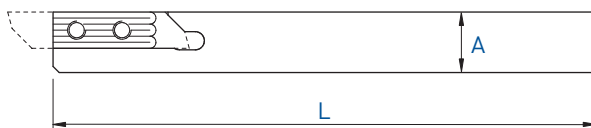
Holders

730 / 740

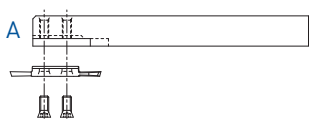
L



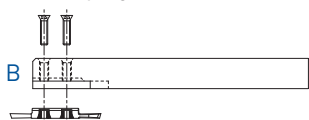
R



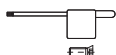
Serrage standard A  
Standard Spannsystem A  
Standard clamping system A



Serrage B  
Spannsystem B  
Clamping system B



| A x B       | L   | Serrage<br>Spannsystem<br>Clamping | Art. N°   | Art. N°   |
|-------------|-----|------------------------------------|-----------|-----------|
| 7 x 7       | 115 | A                                  | 730-7     | 740-7     |
| 8 x 8       | 115 | A + B                              | 730-8     | 740-8     |
| 8 x 8       | 140 | A + B                              | 730-8-140 | -         |
| 10 x 10     | 115 | A + B                              | 730-10    | 740-10    |
| 10 x 10     | 50  | A + B                              | 730-10-50 | 740-10-50 |
| 12 x 12     | 130 | A + B                              | 730-12    | 740-12    |
| 12 x 12     | 90  | A + B                              | 730-12-90 | 740-12-90 |
| 12.7 x 12.7 | 130 | A + B                              | 730-12.7  | 740-12.7  |
| 16 x 16     | 130 | A + B                              | 730-16    | 740-16    |
| 16 x 16     | 75  | A + B                              | 730-16-75 | 740-16-75 |
| 20 x 20     | 120 | A + B                              | 730-20    | 740-20    |



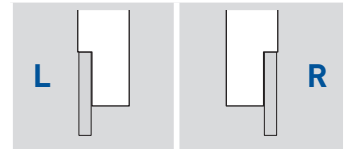
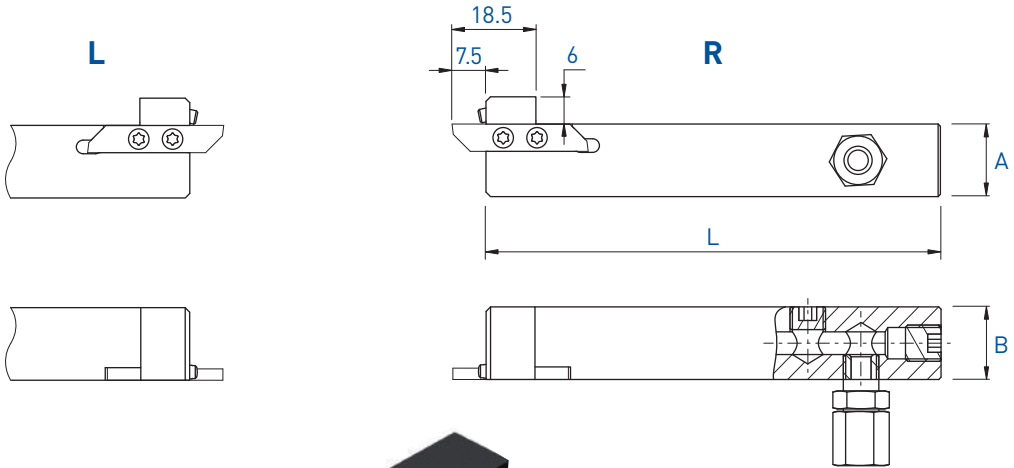
Chaque support est livré avec vis et clé.  
Jeder Halter wird mit Spannschraube(n) und Schlüssel geliefert.  
Screw(s) and key are included with each tool holder.

Porte-outils avec arrosage intégré

Halter mit integrierter Kühlmittelzufuhr

Holders with integrated coolant supply

730-JET / 740-JET



| A x B       | L   | Serrage<br>Spannsystem<br>Clamping | Art. N°      | Art. N°                    |
|-------------|-----|------------------------------------|--------------|----------------------------|
| 8 x 10      | 100 | A + B                              | -            | 740-0810-JET               |
| 10 x 12     | 100 | A + B                              | 730-1012-JET | 740-1012-JET               |
| 10 x 12     | 80  | A + B                              | -            | 740-1012-80-JET <b>new</b> |
| 12 x 12     | 100 | A + B                              | 730-12-JET   | 740-12-JET                 |
| 12.7 x 12.7 | 100 | A + B                              | 730-12.7-JET | 740-12.7-JET               |
| 16 x 16     | 100 | A + B                              | 730-16-JET   | 740-16-JET                 |
| 20 x 20     | 100 | A + B                              | 730-20-JET   | 740-20-JET                 |



| Pièces de rechange<br>Ersatzteile<br>Spare parts | Art. N°   | Art. N° | Buse<br>Düse<br>Nozzle | Option   |
|--------------------------------------------------|-----------|---------|------------------------|----------|
| 740-0810-JET                                     | J-M5-D5   | JB-M5   | -                      | JC-M5-D5 |
| 730-JET / 740-JET                                | J-M8X1-D6 | JB-M8X1 | JJ-M3X6-D1.5           | -        |

Chaque support est livré avec vis et clé.  
Jeder Halter wird mit Spannschraube(n) und Schlüssel geliefert.  
Screw(s) and key are included with each tool holder.



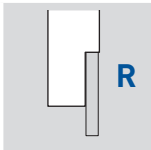
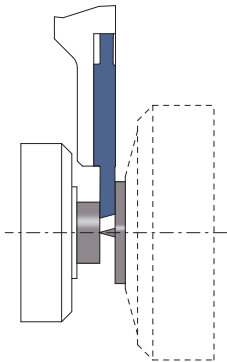
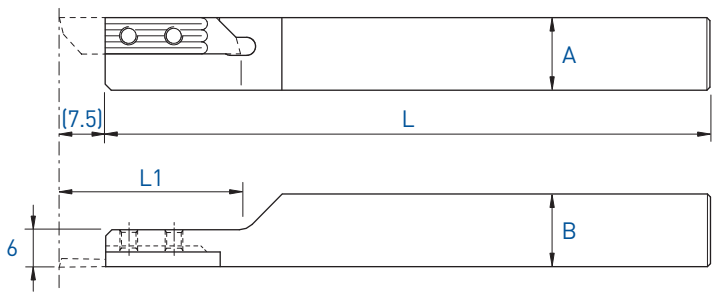
Porte-outils

Halter

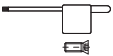
Holders

740-C

R



| A x B   | L   | L1 | Serrage<br>Spannsystem<br>Clamping | Art. N°  |
|---------|-----|----|------------------------------------|----------|
| 8 x 8   | 115 | 24 | A                                  | 740-C-8  |
| 10 x 10 | 115 | 24 | A                                  | 740-C-10 |
| 12 x 12 | 130 | 30 | A                                  | 740-C-12 |
| 16 x 16 | 130 | 40 | A                                  | 740-C-16 |



Chaque support est livré avec vis et clé.  
Jeder Halter wird mit Spannschraube(n) und Schlüssel geliefert.  
Screw(s) and key are included with each tool holder.

Porte-outils

Halter

Holders

Coupe à droite déportée

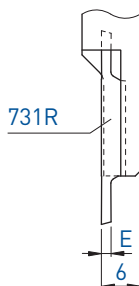
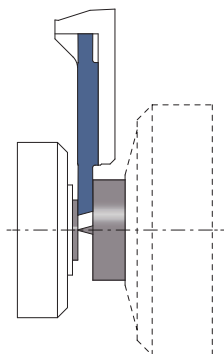
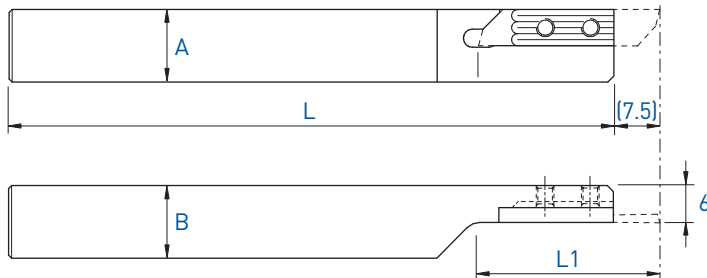
Versetztes Rechtsschneiden

Right cut off line

730RC

Utiliser des plaquettes type 731R  
 WSP Typ 731R verwenden  
 Use inserts type 731R

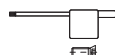
Voir pages 1.39 - 1.45  
 Siehe Seiten 1.39 - 1.45  
 See pages 1.39 - 1.45

**L (R)**

Coupe à droite déportée  
 Versetztes Rechtsschneiden  
 Right cut off line



| A x B   | L   | L1 | Art. N°         |
|---------|-----|----|-----------------|
| 8 x 8   | 115 | 24 | <b>730RC-8</b>  |
| 10 x 10 | 115 | 24 | <b>730RC-10</b> |
| 12 x 12 | 130 | 30 | <b>730RC-12</b> |
| 16 x 16 | 130 | 40 | <b>730RC-16</b> |

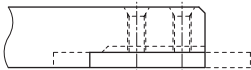
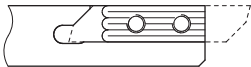


Chaque support est livré avec vis et clé.  
 Jeder Halter wird mit Spannschraube(n) und Schlüssel geliefert.  
 Screw(s) and key are included with each tool holder.

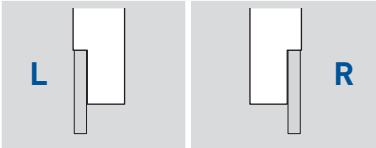
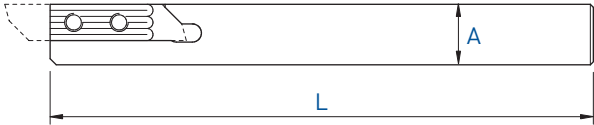
Porte-outils en métal lourd anti-vibratoire  
Schwingungsdämpfende Schwermetallhalter  
Low vibration heavy metal holders

730-NOVIBRA  
740-NOVIBRA

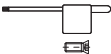
L



R



| A x B   | L   | Serrage<br>Spannsystem<br>Clamping | Art. N°       | Art. N°          |
|---------|-----|------------------------------------|---------------|------------------|
| 7 x 7   | 115 | A                                  | 730-7-NOVIBRA | 740-7-NOVIBRA    |
| 8 x 8   | 115 | A + B                              | 730-8-NOVIBRA | 740-8-NOVIBRA    |
| 8 x 8   | 80  | A + B                              | -             | 740-8-80-NOVIBRA |
| 10 x 10 | 115 | A + B                              | -             | 740-10-NOVIBRA   |
| 12 x 12 | 130 | A + B                              | -             | 740-12-NOVIBRA   |



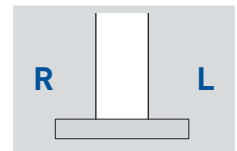
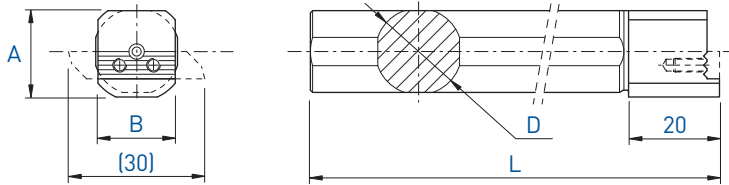
Chaque support est livré avec vis et clé.  
Jeder Halter wird mit Spannschraube(n) und Schlüssel geliefert.  
Screw(s) and key are included with each tool holder.

Porte-outils

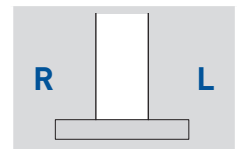
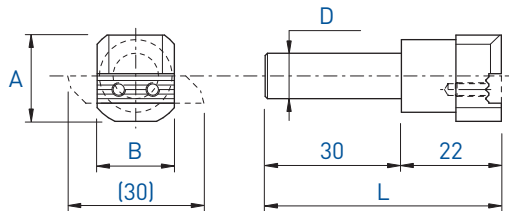
Halter

Holders

740 / 730-D



| A x B     | L   | D     | Art. N°          |
|-----------|-----|-------|------------------|
| 19 x 17   | 160 | 16    | 740/730-D16      |
| 19 x 17   | 160 | 19.05 | 740/730-D19.05   |
| 19 x 17   | 110 | 19.05 | 740/730-D19.05-S |
| 19.5 x 17 | 160 | 20    | 740/730-D20      |
| 20 x 17   | 110 | 22    | 740/730-D22      |
| 22 x 17   | 200 | 25    | 740/730-D25      |
| 22 x 17   | 200 | 25.4  | 740/730-D25.4    |



| A x B   | L  | D  | Art. N°     |
|---------|----|----|-------------|
| 19 x 17 | 52 | 10 | 740/730-D10 |



Chaque support est livré avec vis et clé.

Jeder Halter wird mit Spannschraube(n) und Schlüssel geliefert.

Screw(s) and key are included with each tool holder.

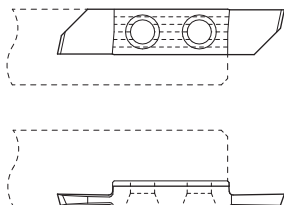
Tronçonnage

&lt; Abstechen

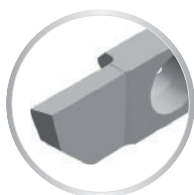
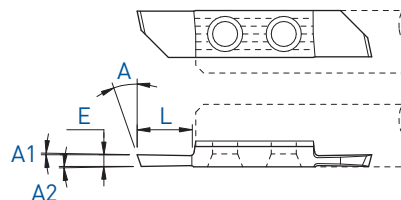
Parting off

731 / 741

L



R



L



R



| E   | A   | A1   | A2   | L | Art. N° | TiAlN | TiN | N (µk20) | HTA | HTiN | HN (µk10) | Art. N° | TiAlN | TiAlX | TiN | N (µk20) | HTA | HTiN | HN (µk10) |
|-----|-----|------|------|---|---------|-------|-----|----------|-----|------|-----------|---------|-------|-------|-----|----------|-----|------|-----------|
| 0.6 | 18° | 2.5° | 0.5° | 3 | 731-0.6 | ■     |     | ■        | ■   |      | ■         | 741-0.6 | ■     | ■     |     | ■        | ■   |      | ■         |
| 0.8 | 20° | 0.3° | 0.3° | 5 | 731-0.8 | ■     | ■   | ■        | ■   | □    | ■         | 741-0.8 | ■     | ■     | ■   | ■        | ■   | ■    | ■         |
| 1.0 | 20° | 0.3° | 0.3° | 5 | 731-1.0 | ■     | ■   | ■        | ■   | ■    | ■         | 741-1.0 | ■     | ■     | ■   | ■        | ■   | ■    | ■         |
| 1.2 | 20° | 0.3° | 0.3° | 5 | 731-1.2 | ■     | ■   | ■        | ■   | □    | ■         | 741-1.2 | ■     | ■     | ■   | ■        | ■   | ■    | ■         |
| 1.5 | 20° | 0.3° | 0.3° | 7 | 731-1.5 | ■     | ■   | ■        | ■   | ■    | ■         | 741-1.5 | ■     | ■     | ■   | ■        | ■   | ■    | ■         |
| 1.8 | 20° | 0.3° | 0.3° | 7 | 731-1.8 | ■     | ■   | ■        | ■   | □    | ■         | 741-1.8 | ■     | ■     | ■   | ■        | ■   | □    | ■         |
| 2.0 | 20° | 0.3° | 0.3° | 7 | 731-2.0 | ■     | ■   | ■        | ■   | □    | ■         | 741-2.0 | ■     | ■     | ■   | ■        | ■   | ■    | ■         |
| 2.5 | 20° | 0.3° | 0.3° | 7 | 731-2.5 | ■     | ■   | ■        |     |      |           | 741-2.5 | ■     | ■     | ■   | ■        | ■   | □    | ■         |

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Sur demande pour serrage type B, voir page 1.03  
 Wahlweise mit B-Spannsystem, siehe Seite 1.03  
 On request for B clamping system, see page 1.03



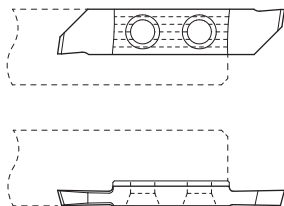
Tronçonnage

Abstechen

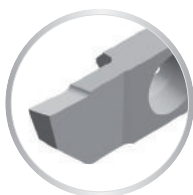
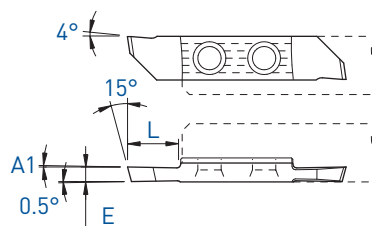
Parting off

731X4 / 741X4

L



R



L



R



| E   | A1   | L | Art. N°   | TiAlN | TiN | N (µk20) | HTA | HTiN | HN (µk10) | Art. N°   | TiAlN | TiAlX | TiN | N (µk20) | HTA | HTiN | HN (µk10) |
|-----|------|---|-----------|-------|-----|----------|-----|------|-----------|-----------|-------|-------|-----|----------|-----|------|-----------|
| 0.6 | 2.5° | 3 | 731X4-0.6 | ■     |     | ■        | ■   |      | ■         | 741X4-0.6 | ■     | ■     |     | ■        | ■   |      | ■         |
| 0.8 | 0.5° | 4 | -         |       |     |          |     |      |           | 741X4-0.8 |       |       |     |          | ■   |      | ■         |
| 1.0 | 0.5° | 5 | 731X4-1.0 | ■     | ■   | ■        |     |      |           | 741X4-1.0 | ■     | ■     | ■   | ■        | ■   | □    | ■         |
| 1.5 | 0.5° | 7 | 731X4-1.5 | ■     | ■   | ■        | ■   | □    | ■         | 741X4-1.5 | ■     | ■     | ■   | ■        | ■   | □    | ■         |
| 2.0 | 0.5° | 7 | 731X4-2.0 | ■     | ■   | ■        |     |      |           | 741X4-2.0 | ■     | ■     | ■   | ■        |     |      |           |

7XX-XX-B



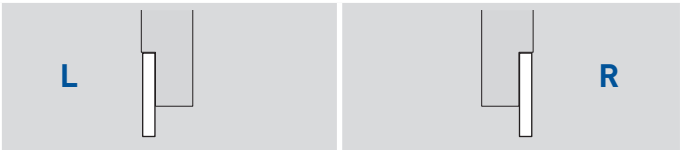
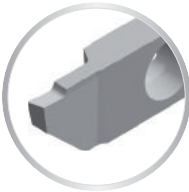
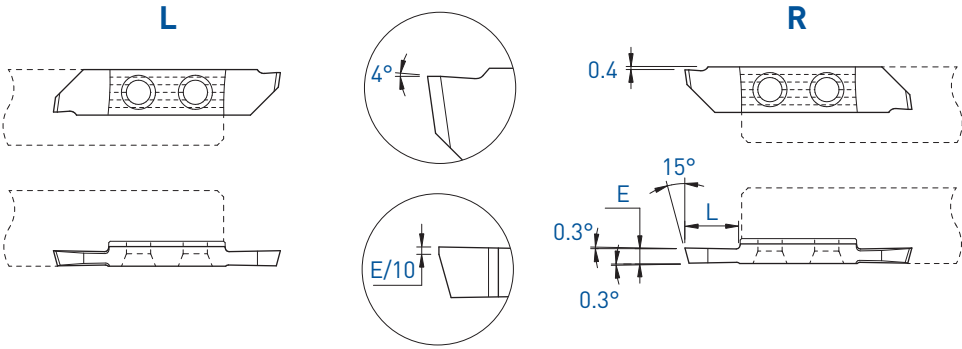
Sur demande pour serrage type B, voir page 1.03  
 Wahlweise mit B-Spannsystem, siehe Seite 1.03  
 On request for B clamping system, see page 1.03

■ = disponible / verfügbar / available

□ = selon disponibilité du stock / jenach Lagerverfügbarkeit / depending on stock availability

Tronçonnage  
Abstechen  
Parting off

731XF / 741XF



| E   | L | Art. N°   | TiAlN | TiN | N (µk20) | HTA | HTiN | HN (µk10) | Art. N°   | TiAlN | TiN | N (µk20) | HTA | HTiN | HN (µk10) |
|-----|---|-----------|-------|-----|----------|-----|------|-----------|-----------|-------|-----|----------|-----|------|-----------|
| 1.2 | 5 | -         | ■     | ■   | ■        | ■   | ■    | ■         | 741XF-1.2 | ■     | □   | ■        |     |      |           |
| 1.5 | 7 | 731XF-1.5 | ■     | ■   | ■        | ■   | ■    | ■         | 741XF-1.5 | ■     | ■   | ■        | ■   | ■    | ■         |
| 2.0 | 7 | 731XF-2.0 | ■     | ■   | ■        |     |      |           | 741XF-2.0 | ■     | ■   | ■        | ■   | ■    | ■         |
| 2.5 | 7 | 731XF-2.5 | ■     | ■   | ■        |     |      |           | 741XF-2.5 | ■     | ■   | ■        |     |      |           |

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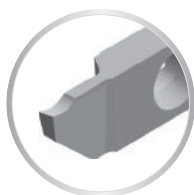
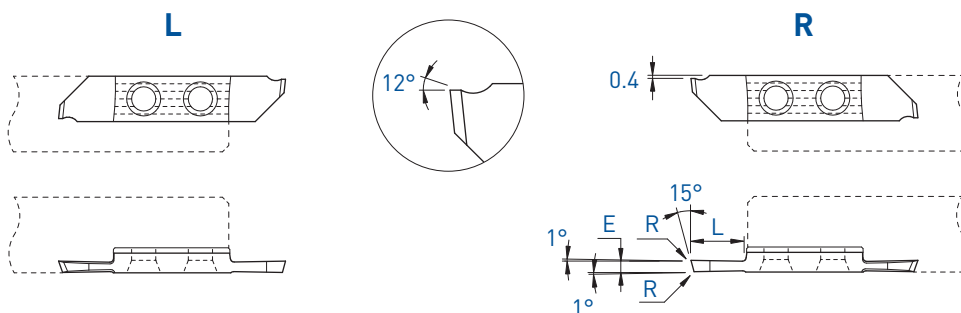
Sur demande pour serrage type B, voir page 1.03  
Wahlweise mit B-Spannsystem, siehe Seite 1.03  
On request for B clamping system, see page 1.03

Tronçonnage

Abstechen

Parting off

731X12 / 741X12



L

R

| E   | L | R    | Art. N°    | TiAlN | TiN | N (µk20) | HTA | HTiN | HN (µk10) | Art. N°    | TiAlN | TiAlX | TiN | N (µk20) | HTA | HTiN | HN (µk10) |
|-----|---|------|------------|-------|-----|----------|-----|------|-----------|------------|-------|-------|-----|----------|-----|------|-----------|
| 0.5 | 3 | 0.03 | -          | ■     | ■   | ■        |     |      |           | 741X12-0.5 |       |       |     |          | ■   |      | ■         |
| 1.0 | 5 | 0.03 | 731X12-1.0 | ■     | ■   | ■        |     |      |           | 741X12-1.0 | ■     | ■     | ■   | ■        | ■   | □    | ■         |
| 1.5 | 7 | 0.03 | 731X12-1.5 | ■     | ■   | ■        |     |      |           | 741X12-1.5 | ■     | ■     | ■   | ■        | ■   | ■    | ■         |
| 2.0 | 7 | 0.03 | 731X12-2.0 | ■     | ■   | ■        |     |      |           | 741X12-2.0 | ■     | ■     | ■   | ■        | ■   | □    | ■         |

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Sur demande pour serrage type B, voir page 1.03  
 Wahlweise mit B-Spannsystem, siehe Seite 1.03  
 On request for B clamping system, see page 1.03

■ = disponible / verfügbar / available

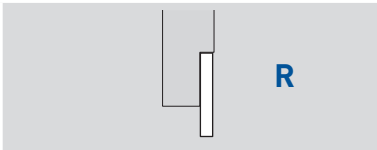
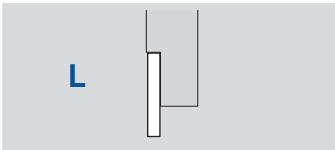
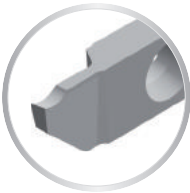
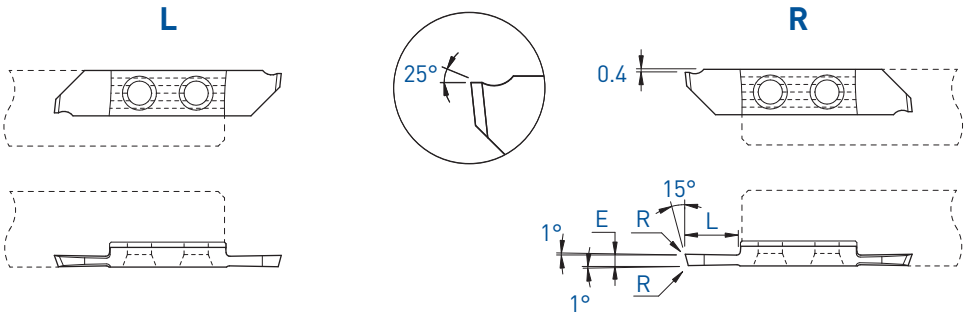
□ = selon disponibilité du stock / jenach Lagerverfügbarkeit / depending on stock availability

Tronçonnage

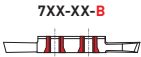
< Abstechen

Parting off

731X25 / 741X25



| E   | L | Art. N°    | TiAlN | TiN | N (µk20) | HTA | HTiN | HN (µk10) | Art. N°    | TiAlN | TiAlX | TiN | N (µk20) | HTA | HTiN | HN (µk10) |
|-----|---|------------|-------|-----|----------|-----|------|-----------|------------|-------|-------|-----|----------|-----|------|-----------|
| 1.0 | 5 | 731X25-1.0 | ■     | ■   | ■        |     |      |           | 741X25-1.0 | ■     |       | ■   | ■        | ■   | □    | ■         |
| 1.5 | 7 | 731X25-1.5 | ■     | ■   | ■        |     |      |           | 741X25-1.5 | ■     |       | ■   | ■        | ■   | □    | ■         |
| 2.0 | 7 | 731X25-2.0 | ■     | ■   | ■        |     |      |           | 741X25-2.0 | ■     | ■     | ■   | ■        | ■   | □    | ■         |



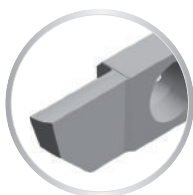
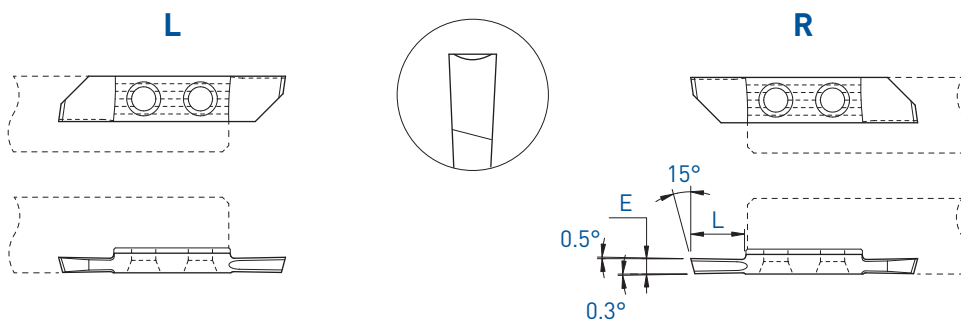
Sur demande pour serrage type B, voir page 1.03  
Wahlweise mit B-Spannsystem, siehe Seite 1.03  
On request for B clamping system, see page 1.03

Tronçonnage

Abstechen

Parting off

731U / 741U



L



R



| E   | L | Art. N°  | TiAlN | TiN | N [µk20] | HTA | HTiN | HN [µk10] | Art. N°  | TiAlN | TiN | N [µk20] | HTA | HTiN | HN [µk10] |
|-----|---|----------|-------|-----|----------|-----|------|-----------|----------|-------|-----|----------|-----|------|-----------|
| 1.5 | 7 | 731U-1.5 | ■     | ■   | ■        | ■   | □    | ■         | 741U-1.5 | ■     | ■   | ■        | ■   | ■    | ■         |
| 2.0 | 7 | 731U-2.0 | ■     | ■   | ■        | ■   | □    | ■         | 741U-2.0 | ■     | ■   | ■        | ■   | □    | ■         |

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Sur demande pour serrage type B, voir page 1.03  
 Wahlweise mit B-Spannsystem, siehe Seite 1.03  
 On request for B clamping system, see page 1.03

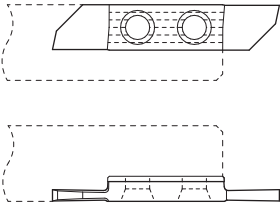
■ = disponible / verfügbar / available

□ = selon disponibilité du stock / jenach Lagerverfügbarkeit / depending on stock availability

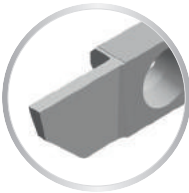
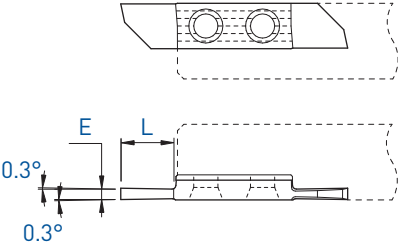
Tronçonnage  
Abstechen  
Parting off

731N / 741N

L



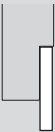
R



L



R



| E   | L | Art. N°  | TiAlN | TiN | N (µk20) | HTA | HTiN | HN (µk10) | Art. N°  | TiAlN | TiN | N (µk20) | HTA | HTiN | HN (µk10) |
|-----|---|----------|-------|-----|----------|-----|------|-----------|----------|-------|-----|----------|-----|------|-----------|
| 1.0 | 5 | 731N-1.0 | ■     | ■   | ■        | ■   | □    | ■         | 741N-1.0 | ■     | ■   | ■        | ■   | □    | ■         |
| 1.5 | 7 | 731N-1.5 | ■     | ■   | ■        | ■   | □    | ■         | 741N-1.5 | ■     | ■   | ■        | ■   | □    | ■         |

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Sur demande pour serrage type B, voir page 1.03  
Wahlweise mit B-Spannsystem, siehe Seite 1.03  
On request for B clamping system, see page 1.03

Tronçonnage

&lt; Abstechen

Parting off

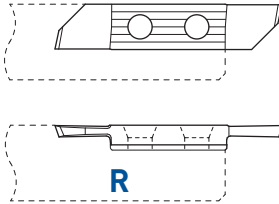
Coupe déportée

Versetztes Schneiden

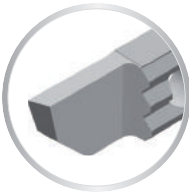
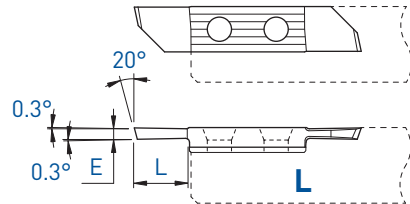
Cut off line

741L / 731R

Cut L



Cut R



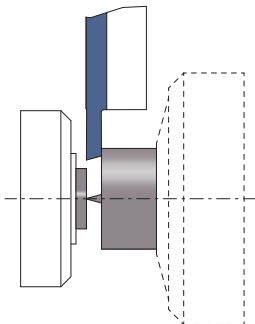
R (L)

Coupe à gauche déportée  
Versetztes Linksschneiden  
Left cut off line

L (R)

Coupe à droite déportée  
Versetztes Rechtsschneiden  
Right cut off line

| E   | L | Art. N°  | TiAlN | TiN | N (μk20) | HTA | HTiN | HN (μk10) | Art. N°  | TiAlN | TiN | N (μk20) | HTA | HTiN | HN (μk10) |
|-----|---|----------|-------|-----|----------|-----|------|-----------|----------|-------|-----|----------|-----|------|-----------|
| 1.0 | 5 | 741L-1.0 | ■     | ■   | ■        | ■   | □    | ■         | 731R-1.0 | ■     | ■   | ■        | ■   | ■    | ■         |
| 1.2 | 5 | 741L-1.2 | ■     | ■   | ■        | ■   | □    | ■         | 731R-1.2 | ■     | ■   | ■        | ■   | □    | ■         |
| 1.5 | 7 | 741L-1.5 | ■     | ■   | ■        | ■   | ■    | ■         | 731R-1.5 | ■     | ■   | ■        | ■   | ■    | ■         |
| 2.0 | 7 | 741L-2.0 | ■     | ■   | ■        | ■   | □    | ■         | 731R-2.0 | ■     | ■   | ■        | ■   | □    | ■         |
| 2.5 | 7 | 741L-2.5 | ■     | ■   | ■        |     |      |           | 731R-2.5 | ■     | ■   | ■        |     |      |           |



Tronçonnage

< Abstechen

Parting off

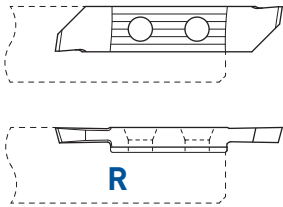
Coupe déportée

Versetztes Schneiden

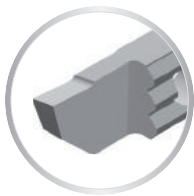
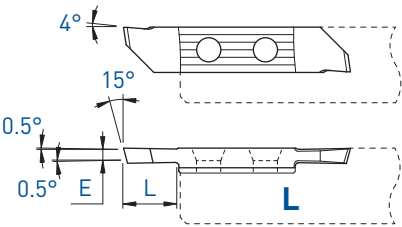
Cut off line

741LX4 / 731RX4

Cut L



Cut R



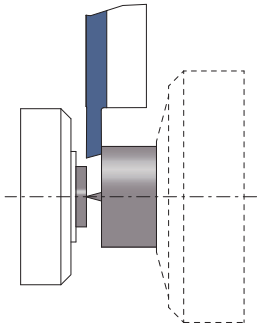
R (L)

Coupe à gauche déportée  
Versetztes Linksschneiden  
Left cut off line

L (R)

Coupe à droite déportée  
Versetztes Rechtsschneiden  
Right cut off line

| E   | L | Art. N°    | TiAlN | TiN | N (µk20) | HTA | HTiN | HN (µk10) | Art. N°    | TiAlN | TiN | N (µk20) | HTA | HTiN | HN (µk10) |
|-----|---|------------|-------|-----|----------|-----|------|-----------|------------|-------|-----|----------|-----|------|-----------|
| 1.5 | 5 | 741LX4-1.5 | ■     | ■   | ■        |     |      |           | 731RX4-1.5 | ■     | ■   | ■        | ■   | ■    | ■         |





Tronçonnage

Abstechen

Parting off

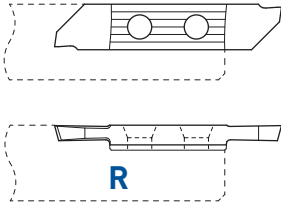
Coupe déportée

Versetztes Schneiden

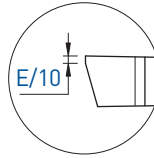
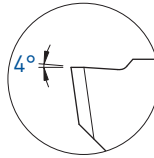
Cut off line

741LXF / 731RXF

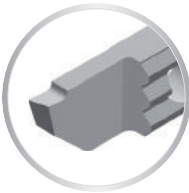
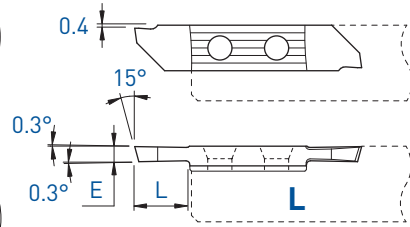
Cut L



R



Cut R



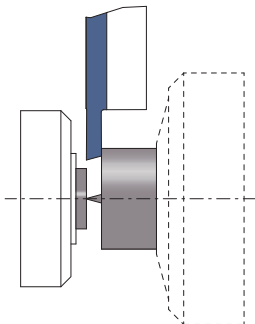
R (L)

Coupe à gauche déportée  
Versetztes Linksschneiden  
Left cut off line

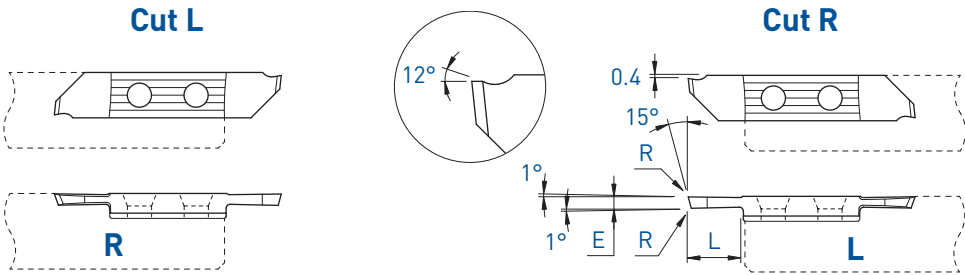
L (R)

Coupe à droite déportée  
Versetztes Rechtsschneiden  
Right cut off line

| E   | L | Art. N°    | TiAlN | TiN | N (µk20) | HTA | HTiN | HN (µk10) | Art. N°    | TiAlN | TiN | N (µk20) | HTA | HTiN | HN (µk10) |
|-----|---|------------|-------|-----|----------|-----|------|-----------|------------|-------|-----|----------|-----|------|-----------|
| 1.5 | 7 | 741LXF-1.5 | ■     | ■   | ■        |     |      |           | 731RXF-1.5 | ■     | ■   | ■        | ■   | ■    | ■         |
| 2.0 | 7 | 741LXF-2.0 | ■     | ■   | ■        |     |      |           | 731RXF-2.0 | ■     | ■   | ■        | ■   | □    | ■         |
| 2.5 | 7 | 741LXF-2.5 | ■     | ■   | ■        |     |      |           | 731RXF-2.5 | ■     | ■   | ■        |     |      |           |



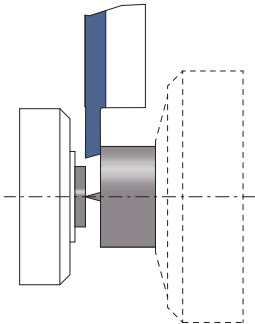
|             |                      |                   |
|-------------|----------------------|-------------------|
| Tronçonnage | Coupe déportée       | 741LX12 / 731RX12 |
| Abstechen   | Versetztes Schneiden |                   |
| Parting off | Cut off line         |                   |



| R (L)                                                                     |
|---------------------------------------------------------------------------|
| Coupe à gauche déportée<br>Versetztes Linksschneiden<br>Left cut off line |

| L (R)                                                                       |
|-----------------------------------------------------------------------------|
| Coupe à droite déportée<br>Versetztes Rechtsschneiden<br>Right cut off line |

| E   | L | R    | Art. N°     | TiAlN | TiN | N (µk20) | HTA | HTiN | HN (µk10) | Art. N°     | TiAlN | TiN | N (µk20) | HTA | HTiN | HN (µk10) |
|-----|---|------|-------------|-------|-----|----------|-----|------|-----------|-------------|-------|-----|----------|-----|------|-----------|
| 1.0 | 5 | 0.03 | -           |       |     |          |     |      |           | 731RX12-1.0 | ■     | □   | ■        |     |      |           |
| 1.5 | 7 | 0.03 | 741LX12-1.5 | ■     | ■   | ■        |     |      |           | 731RX12-1.5 | ■     | ■   | ■        | ■   | ■    | ■         |



Tronçonnage

Abstechen

Parting off

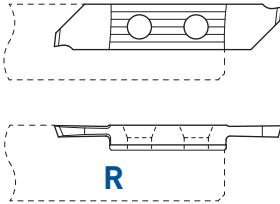
Coupe déportée

Versetztes Schneiden

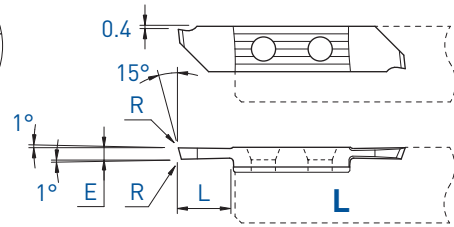
Cut off line

741LX25 / 731RX25

Cut L



Cut R



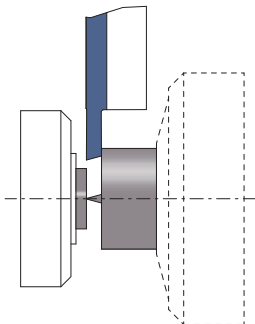
R (L)

Coupe à gauche déportée  
Versetztes Linksschneiden  
Left cut off line

L (R)

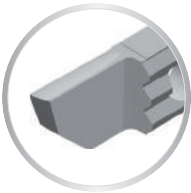
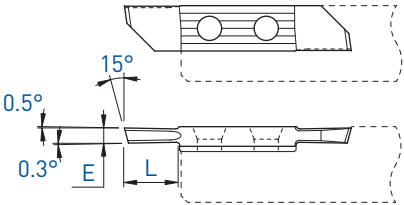
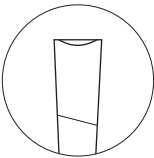
Coupe à droite déportée  
Versetztes Rechtsschneiden  
Right cut off line

| E   | L | R    | Art. N°     | TiAlN | TiN | N [µk20] | Art. N°     | TiAlN | TiN | N [µk20] |
|-----|---|------|-------------|-------|-----|----------|-------------|-------|-----|----------|
| 1.5 | 7 | 0.03 | 741LX25-1.5 | ■     | ■   | ■        | 731RX25-1.5 | ■     | ■   | ■        |



|             |                      |       |
|-------------|----------------------|-------|
| Tronçonnage | Coupe déportée       | 731RU |
| Abstechen   | Versetztes Schneiden |       |
| Parting off | Cut off line         |       |

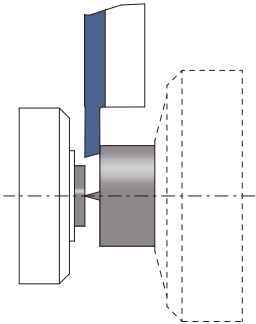
Cut R



L (R)

Coupe à droite déportée  
Versetztes Rechtsschneiden  
Right cut off line

| E   | L | Art. N°   | TiAlN | TiN | N (μk20) | HTA | HTiN | HN (μk10) |
|-----|---|-----------|-------|-----|----------|-----|------|-----------|
| 1.0 | 5 | 731RU-1.0 | ■     | □   | ■        |     |      |           |
| 1.2 | 5 | 731RU-1.2 | ■     | □   | ■        |     |      |           |
| 1.5 | 7 | 731RU-1.5 | ■     | □   | ■        | ■   | □    | ■         |
| 2.0 | 7 | 731RU-2.0 | ■     | □   | ■        |     |      |           |



Tronçonnage

Abstechen

Parting off

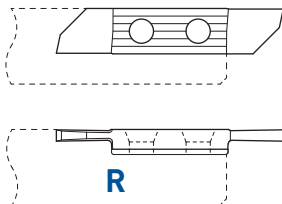
Coupe déportée

Versetztes Schneiden

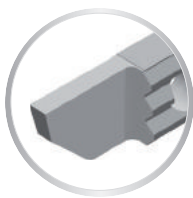
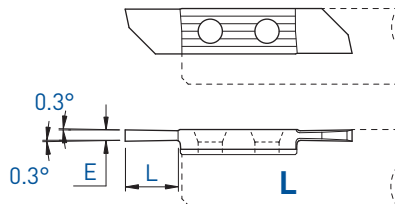
Cut off line

741N / 731N

Cut L



Cut R



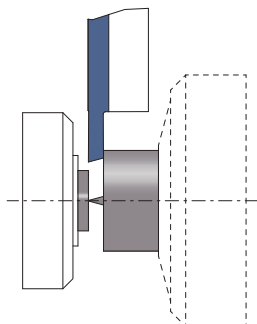
R (L)

Coupe à gauche déportée  
Versetztes Linksschneiden  
Left cut off line

L (R)

Coupe à droite déportée  
Versetztes Rechtsschneiden  
Right cut off line

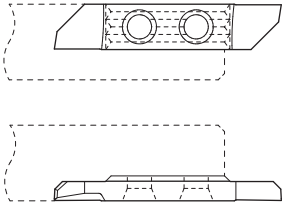
| E   | L | Art. N°  | TiAlN | TiN | N (μk20) | HTA | HTiN | HN (μk10) | Art. N°  | TiAlN | TiN | N (μk20) | HTA | HTiN | HN (μk10) |
|-----|---|----------|-------|-----|----------|-----|------|-----------|----------|-------|-----|----------|-----|------|-----------|
| 1.0 | 5 | 741N-1.0 | ■     | ■   | ■        | ■   | □    | ■         | 731N-1.0 | ■     | ■   | ■        | ■   | □    | ■         |
| 1.5 | 7 | 741N-1.5 | ■     | ■   | ■        | ■   | □    | ■         | 731N-1.5 | ■     | ■   | ■        | ■   | □    | ■         |



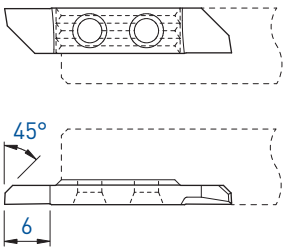
Tournage avant  
Vorwärts drehen  
Front turning

732 / 742

L



R



L

R

| A  | R | Art. N° | TiAlN | TiN | N (µk20) | HTA | HTiN | HN (µk10) | Art. N° | TiAlN | TiAlX | TiN | N (µk20) | HTA | HTiN | HN (µk10) |
|----|---|---------|-------|-----|----------|-----|------|-----------|---------|-------|-------|-----|----------|-----|------|-----------|
| 0° | 0 | 732     | ■     | ■   | ■        | ■   | ■    | ■         | 742     | ■     | ■     | ■   | ■        | ■   | ■    | ■         |
| 2° | 0 | 732-2°  | ■     | ■   | ■        | ■   | □    | ■         | 742-2°  | ■     | ■     | ■   | ■        | ■   | ■    | ■         |

7XX-XX-B



Sur demande pour serrage type B, voir page 1.03  
Wahlweise mit B-Spannsystem, siehe Seite 1.03  
On request for B clamping system, see page 1.03

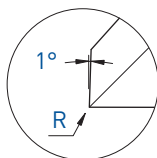
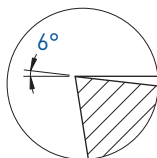
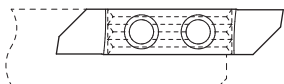
Tournage avant

Vorwärts drehen

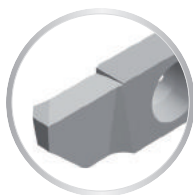
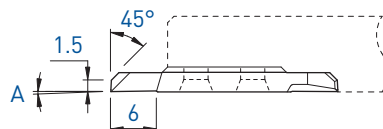
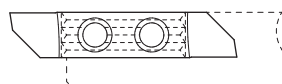
Front turning

732PX / 742PX

L



R



L

R

| A  | R | Art. N° | TiAlN | TiN | N (μk20) | Art. N° | TiAlN | TiN | N (μk20) |
|----|---|---------|-------|-----|----------|---------|-------|-----|----------|
| 0° | 0 | 732PX   | ■     | ■   | ■        | 742PX   | ■     | ■   | ■        |

7XX-XX-B



Sur demande pour serrage type B, voir page 1.03  
 Wahlweise mit B-Spannsystem, siehe Seite 1.03  
 On request for B clamping system, see page 1.03

■ = disponible / verfügbar / available

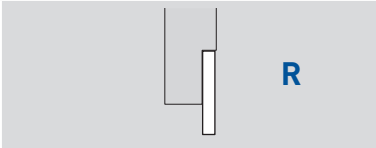
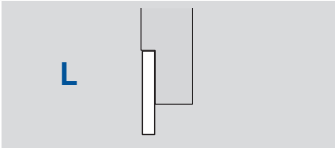
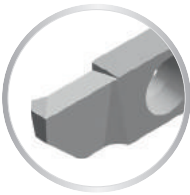
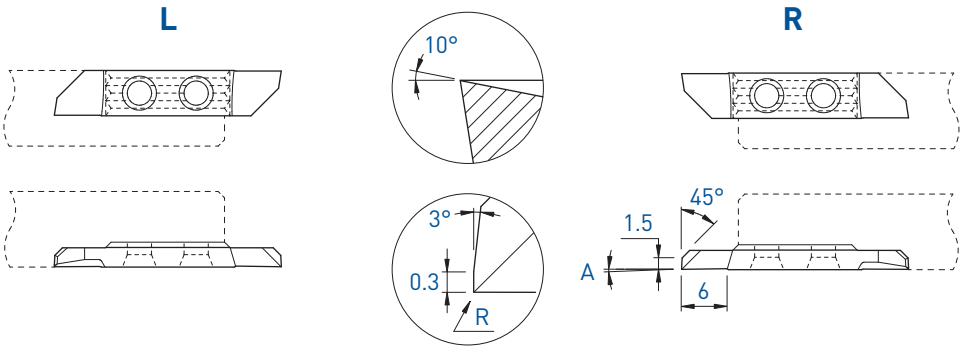
□ = selon disponibilité du stock / jenach Lagerverfügbarkeit / depending on stock availability

Tournage avant

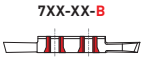
< Vorwärts drehen

Front turning

732X / 742X



| A  | R | Art. N° | TiAlN | TiN | N (µk20) | HTA | HTiN | HN (µk10) | Art. N° | TiAlN | TiAlX | TiN | N (µk20) | HTA | HTiN | HN (µk10) |
|----|---|---------|-------|-----|----------|-----|------|-----------|---------|-------|-------|-----|----------|-----|------|-----------|
| 0° | 0 | 732X    | ■     | ■   | ■        | ■   | ■    | ■         | 742X    | ■     | ■     | ■   | ■        | ■   | ■    | ■         |



Sur demande pour serrage type B, voir page 1.03  
Wahlweise mit B-Spannsystem, siehe Seite 1.03  
On request for B clamping system, see page 1.03



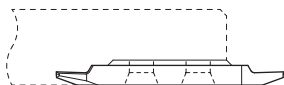
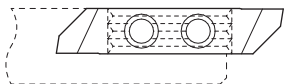
Tournage arrière

Rückwärts drehen

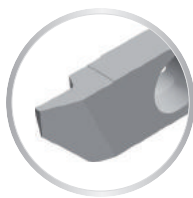
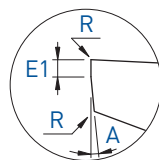
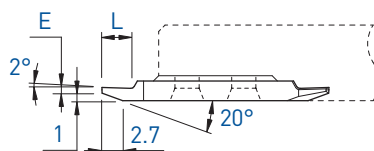
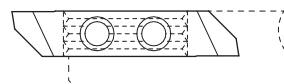
Back turning

733 / 743

L



R



L



R



| E   | E1   | A  | L | R    | Art. N°     | TiAlN | TiN | N (μk20) | HTA | HTiN | HN (μk10) | Art. N°     | TiAlN | TiAlX | TiN | N (μk20) | HTA | HTiN | HN (μk10) |
|-----|------|----|---|------|-------------|-------|-----|----------|-----|------|-----------|-------------|-------|-------|-----|----------|-----|------|-----------|
| 0.5 | 0.25 | 3° | 3 | 0    | 733-0.5     | ■     | ■   | ■        | ■   | □    | ■         | 743-0.5     | ■     | ■     | ■   | ■        | ■   | ■    | ■         |
| 0.5 | -    | 2° | 3 | 0.08 | 733-0.5-R08 | ■     | ■   | ■        | ■   | □    | ■         | 743-0.5-R08 | ■     | ■     | ■   | ■        | ■   | □    | ■         |
| 0.8 | 0.30 | 3° | 4 | 0    | 733-0.8     | ■     | ■   | ■        | ■   | □    | ■         | 743-0.8     | ■     | ■     | ■   | ■        | ■   | □    | ■         |
| 1.0 | 0.40 | 3° | 4 | 0    | 733-1.0     | ■     | ■   | ■        | ■   | □    | ■         | 743-1.0     | ■     | ■     | ■   | ■        | ■   | □    | ■         |
| 1.2 | 0.50 | 3° | 5 | 0    | 733-1.2     | ■     | ■   | ■        | ■   | □    | ■         | 743-1.2     | ■     | ■     | ■   | ■        | ■   | □    | ■         |
| 1.5 | 0.50 | 3° | 6 | 0    | 733-1.5     | ■     | ■   | ■        | ■   | □    | ■         | 743-1.5     | ■     | ■     | ■   | ■        | ■   | □    | ■         |

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Sur demande pour serrage type B, voir page 1.03  
 Wahlweise mit B-Spannsystem, siehe Seite 1.03  
 On request for B clamping system, see page 1.03

■ = disponible / verfügbar / available

□ = selon disponibilité du stock / jenach Lagerverfügbarkeit / depending on stock availability

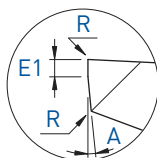
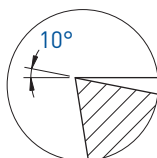
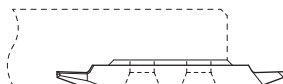
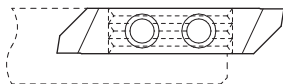
Tournage arrière

&lt; Rückwärts drehen

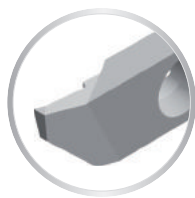
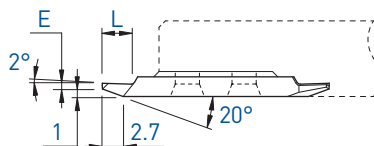
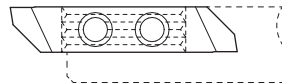
Back turning

733X / 743X

L



R



L



R



| E   | E1   | A  | L | R    | Art. N°      | TiAlN | TiN | N (µk20) | HTA | HTiN | HN (µk10) | Art. N°      | TiAlN | TiAlX | TiN | N (µk20) | HTA | HTAX | HTiN | HN (µk10) |
|-----|------|----|---|------|--------------|-------|-----|----------|-----|------|-----------|--------------|-------|-------|-----|----------|-----|------|------|-----------|
| 0.5 | 0.25 | 3° | 3 | 0    | 733X-0.5     | ■     | ■   | ■        | ■   | □    | ■         | 743X-0.5     | ■     | ■     | ■   | ■        | ■   | □    | □    | ■         |
| 0.5 | -    | 2° | 3 | 0.08 | 733X-0.5-R08 | ■     | ■   | ■        |     |      |           | 743X-0.5-R08 | ■     | ■     | ■   | ■        | ■   | □    | □    | ■         |
| 0.8 | 0.30 | 3° | 4 | 0    | 733X-0.8     | ■     | ■   | ■        |     |      |           | 743X-0.8     | ■     |       | ■   | ■        |     |      | □    | ■         |
| 1.0 | 0.40 | 3° | 4 | 0    | 733X-1.0     | ■     | ■   | ■        |     |      |           | 743X-1.0     | ■     |       | ■   | ■        |     |      | □    | ■         |
| 1.2 | 0.50 | 3° | 5 | 0    | 733X-1.2     | ■     | ■   | ■        |     |      |           | 743X-1.2     | ■     |       | ■   | ■        |     |      | □    | ■         |
| 1.5 | 0.50 | 3° | 6 | 0    | 733X-1.5     | ■     | ■   | ■        |     |      |           | 743X-1.5     | ■     |       | ■   | ■        |     |      | □    | ■         |

7XX-XX-B



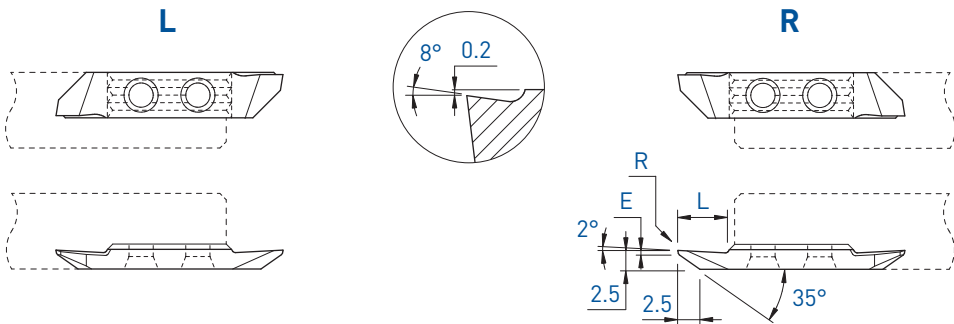
Sur demande pour serrage type B, voir page 1.03  
 Wahlweise mit B-Spannsystem, siehe Seite 1.03  
 On request for B clamping system, see page 1.03

Tournage arrière

Rückwärts drehen

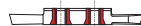
Back turning

733VX-8° / 743VX-8°



| L                                                                                 |  |  |       |     |          |     |      |           | R                                                                                 |  |  |       |     |          |     |      |           |
|-----------------------------------------------------------------------------------|--|--|-------|-----|----------|-----|------|-----------|-----------------------------------------------------------------------------------|--|--|-------|-----|----------|-----|------|-----------|
|  |  |  |       |     |          |     |      |           |  |  |  |       |     |          |     |      |           |
| Art. N°                                                                           |  |  | TiAlN | TiN | N (μk20) | HTA | HTiN | HN (μk10) | Art. N°                                                                           |  |  | TiAlN | TiN | N (μk20) | HTA | HTiN | HN (μk10) |
| 733VX-8°                                                                          |  |  | ■     | ■   | ■        | ■   | ■    | ■         | 743VX-8°                                                                          |  |  | ■     | ■   | ■        | ■   | ■    | ■         |
| 733VX-8°-R08                                                                      |  |  | ■     | ■   | ■        | ■   | □    | ■         | 743VX-8°-R08                                                                      |  |  | ■     | ■   | ■        | ■   | □    | ■         |

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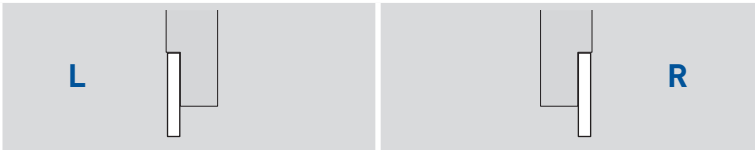
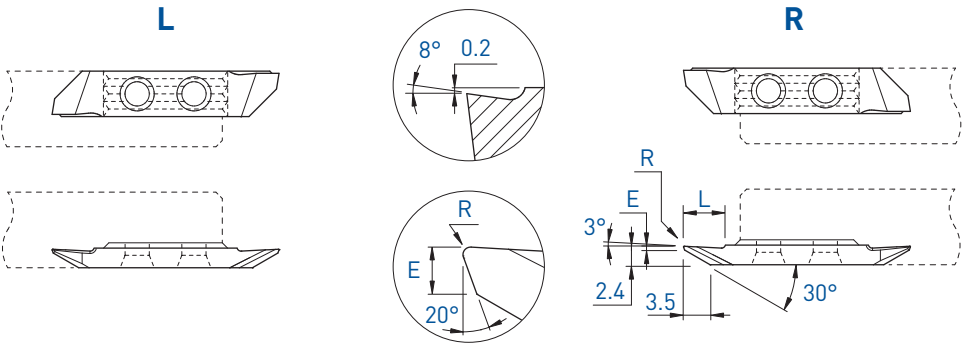
Sur demande pour serrage type B, voir page 1.03  
 Wahlweise mit B-Spannsystem, siehe Seite 1.03  
 On request for B clamping system, see page 1.03

■ = disponible / verfügbar / available

□ = selon disponibilité du stock / jenach Lagerverfügbarkeit / depending the stock availability

Tournage arrière  
Rückwärts drehen  
Back turning

733VX-805 / 743VX-805



| E   | L | R    | Art. N°       | TiAlN | TiN | N (µk20) | HTA | HTiN | HN (µk10) | Art. N°       | TiAlN | TiN | N (µk20) | HTA | HTiN | HN (µk10) |
|-----|---|------|---------------|-------|-----|----------|-----|------|-----------|---------------|-------|-----|----------|-----|------|-----------|
| 0.5 | 6 | 0.08 | 733VX-805-R08 | ■     | □   | ■        | ■   | □    | ■         | 743VX-805-R08 | ■     | ■   | ■        | ■   | □    | ■         |

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Sur demande pour serrage type B, voir page 1.03  
Wahlweise mit B-Spannsystem, siehe Seite 1.03  
On request for B clamping system, see page 1.03

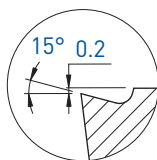
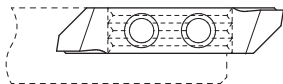
Tournage arrière

Rückwärts drehen

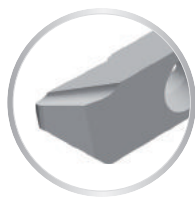
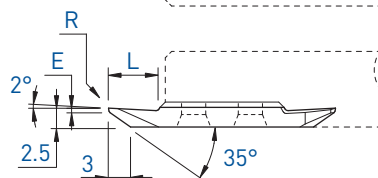
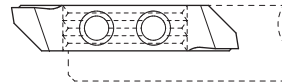
Back turning

733VX-15° / 743VX-15°

L



R



L



R



| E   | L   | R    | Art. N°       | TiAlN | TiN | N (µk20) | HTA | HTiN | HN (µk10) | Art. N°       | TiAlN | TiN | N (µk20) | HTA | HTiN | HN (µk10) |
|-----|-----|------|---------------|-------|-----|----------|-----|------|-----------|---------------|-------|-----|----------|-----|------|-----------|
| 0.5 | 6.5 | 0    | 733VX-15°     | ■     | ■   | ■        | ■   | □    | ■         | 743VX-15°     | ■     | ■   | ■        | ■   | □    | ■         |
| 0.5 | 6.5 | 0.08 | 733VX-15°-R08 | ■     | ■   | ■        |     |      |           | 743VX-15°-R08 | ■     | ■   | ■        | ■   | □    | ■         |

7XX-XX-B



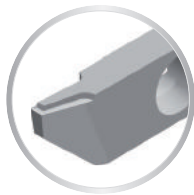
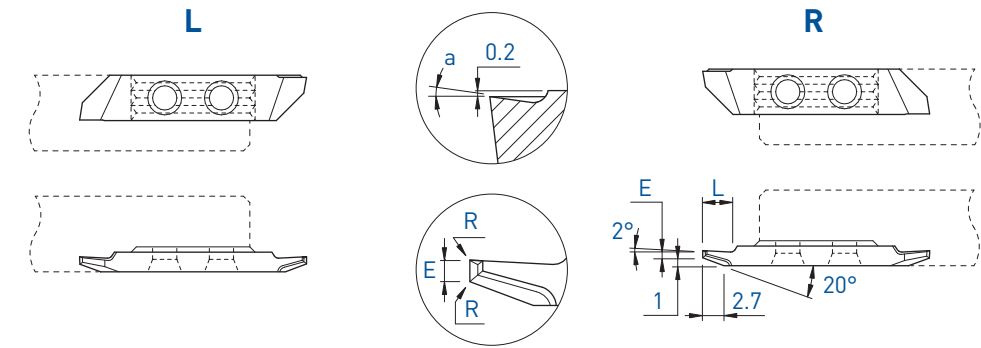
Sur demande pour serrage type B, voir page 1.03  
 Wahlweise mit B-Spannsystem, siehe Seite 1.03  
 On request for B clamping system, see page 1.03

■ = disponible / verfügbar / available

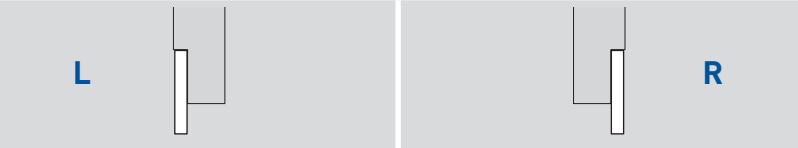
□ = selon disponibilité du stock / jenach Lagerverfügbarkeit / depending on stock availability

Tournage arrière  
Rückwärts drehen  
Back turning

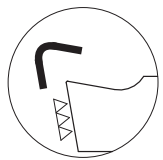
733ZX / 743ZX



Pour un meilleur contrôle des copeaux  
Für eine bessere Spankontrolle  
For a better chip-control

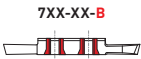


| a   | E   | L | R    | Art. N°         | TiAlN | TiN | N [µk20] | HTA | HTiN | HN [µk10] | Art. N°         | TiAlN | TiN | N [µk20] | HTA | HTiN | HN [µk10] |
|-----|-----|---|------|-----------------|-------|-----|----------|-----|------|-----------|-----------------|-------|-----|----------|-----|------|-----------|
| 10° | 1.0 | 4 | 0.01 | 733ZX10-1.0     | ■     | □   |          |     |      |           | 743ZX10-1.0     | ■     | □   |          | ■   | □    |           |
|     | 1.0 | 4 | 0.08 | 733ZX10-1.0-R08 | ■     | □   |          |     |      |           | 743ZX10-1.0-R08 | ■     | □   |          | ■   | □    |           |



Arête de coupe honée  
Gehonte Schneidkante  
Honed edge

f min: 0.02 mm/U



Sur demande pour serrage type B, voir page 1.03  
Wahlweise mit B-Spannsystem, siehe Seite 1.03  
On request for B clamping system, see page 1.03

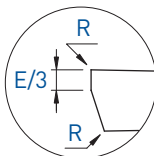
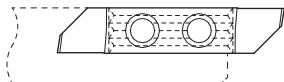
Tournage arrière / pré-coupe

Rückwärts drehen / vorstechen

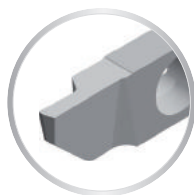
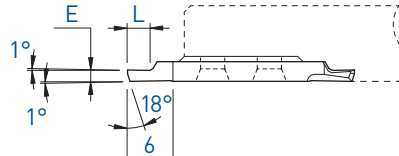
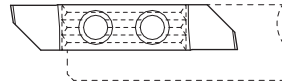
Back turning / pre-parting off

733P / 743P

L



R



L



R



| E   | L   | R | Art. N°  | TiAlN | TiN | N (μk20) | HTA | HTiN | HN (μk10) | Art. N°  | TiAlN | TiN | N (μk20) | HTA | HTiN | HN (μk10) |
|-----|-----|---|----------|-------|-----|----------|-----|------|-----------|----------|-------|-----|----------|-----|------|-----------|
| 0.8 | 2   | 0 | 733P-0.8 | ■     | ■   | ■        |     |      |           | 743P-0.8 | ■     | ■   | ■        | ■   | □    | ■         |
| 1.0 | 2   | 0 | 733P-1.0 | ■     | ■   | ■        |     |      |           | 743P-1.0 | ■     | ■   | ■        |     |      |           |
| 1.2 | 2.5 | 0 | 733P-1.2 | ■     | ■   | ■        |     |      |           | 743P-1.2 | ■     | ■   | ■        |     |      |           |
| 1.5 | 3   | 0 | 733P-1.5 | ■     | ■   | ■        |     |      |           | 743P-1.5 | ■     | ■   | ■        |     |      |           |

7XX-XX-B



Sur demande pour serrage type B, voir page 1.03  
 Wahlweise mit B-Spannsystem, siehe Seite 1.03  
 On request for B clamping system, see page 1.03

■ = disponible / verfügbar / available

□ = selon disponibilité du stock / jenach Lagerverfügbarkeit / depending on stock availability

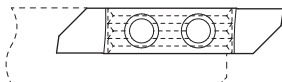
Fonçage-tournage

Einstecken und drehen

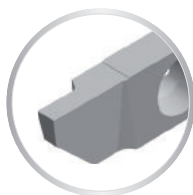
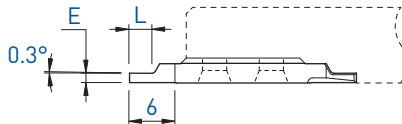
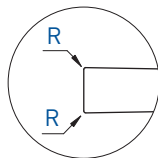
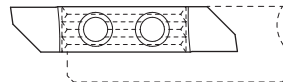
Grooving and turning

734 / 744

L



R



L



R



| E    | L   | R    | Art. N°     | TiAlN | TiN | N [µk20] | HTA | HTiN | HN [µk10] | Art. N°     | TiAlN | TiAlX | TiN | N [µk20] | HTA | HTAX | HTiN | HN [µk10] |
|------|-----|------|-------------|-------|-----|----------|-----|------|-----------|-------------|-------|-------|-----|----------|-----|------|------|-----------|
| 0.5  | 1.5 | 0    | 734-0.5     | ■     | ■   | ■        | ■   | □    | ■         | 744-0.5     | ■     | ■     | ■   | ■        | ■   | ■    | ■    | ■         |
| 0.6  | 1.8 | 0    | 734-0.6     | ■     | ■   | ■        | ■   | □    | ■         | 744-0.6     | ■     | ■     | ■   | ■        | ■   | ■    | □    | ■         |
| 0.75 | 2   | 0    | 734-0.75    | ■     | ■   | ■        | ■   | □    | ■         | 744-0.75    | ■     | ■     | ■   | ■        | ■   | ■    | ■    | ■         |
| 0.8  | 2   | 0    | 734-0.8     | ■     | ■   | ■        | ■   | □    | ■         | 744-0.8     | ■     | ■     | ■   | ■        | ■   | ■    | □    | ■         |
| 0.8  | 2   | 0.08 | -           |       |     |          |     |      |           | 744-0.8-R08 | ■     | ■     | ■   | ■        | ■   | ■    | □    | ■         |
| 0.9  | 2.5 | 0    | -           |       |     |          |     |      |           | 744-0.9     | ■     | ■     | ■   | ■        | ■   | ■    | □    | ■         |
| 0.95 | 3   | 0    | 734-0.95    | ■     | ■   | ■        |     |      |           | 744-0.95    | ■     | ■     | ■   | ■        | ■   | ■    | □    | ■         |
| 1.0  | 2.5 | 0    | 734-1.0     | ■     | ■   | ■        | ■   | ■    | ■         | 744-1.0     | ■     | ■     | ■   | ■        | ■   | ■    | ■    | ■         |
| 1.0  | 2.5 | 0.08 | 734-1.0-R08 | ■     | ■   | ■        | ■   | ■    | ■         | 744-1.0-R08 | ■     | ■     | ■   | ■        | ■   | ■    | □    | ■         |
| 1.2  | 3   | 0    | 734-1.2     | ■     | ■   | ■        | ■   | □    | ■         | 744-1.2     | ■     | ■     | ■   | ■        | ■   | ■    | ■    | ■         |
| 1.5  | 3   | 0    | 734-1.5     | ■     | ■   | ■        | ■   | ■    | ■         | 744-1.5     | ■     | ■     | ■   | ■        | ■   | ■    | ■    | ■         |
| 1.5  | 3   | 0.08 | 734-1.5-R08 | ■     | ■   | ■        | ■   | □    | ■         | 744-1.5-R08 | ■     | ■     | ■   | ■        | ■   | ■    | □    | ■         |
| 1.5  | 3   | 0.15 | -           |       |     |          |     |      |           | 744-1.5-R15 | ■     | ■     | □   | ■        | ■   | ■    | □    | ■         |
| 1.5  | 3   | 0.20 | -           |       |     |          |     |      |           | 744-1.5-R20 | ■     | ■     | ■   | ■        | ■   | ■    | □    | ■         |
| 1.8  | 4   | 0    | 734-1.8     | ■     | ■   | ■        | ■   | □    | ■         | 744-1.8     | ■     | ■     | ■   | ■        | ■   | ■    | □    | ■         |
| 2.0  | 4   | 0    | 734-2.0     | ■     | ■   | ■        | ■   | □    | ■         | 744-2.0     | ■     | ■     | ■   | ■        | ■   | ■    | □    | ■         |
| 2.0  | 4   | 0.08 | 734-2.0-R08 | ■     | ■   | ■        | ■   | □    | ■         | 744-2.0-R08 | ■     | ■     | ■   | ■        | ■   | ■    | □    | ■         |
| 2.0  | 4   | 0.15 | -           |       |     |          |     |      |           | 744-2.0-R15 | ■     | ■     | □   | ■        | ■   | ■    | □    | ■         |
| 2.0  | 4   | 0.20 | -           |       |     |          |     |      |           | 744-2.0-R20 | ■     | ■     | ■   | ■        | ■   | ■    | □    | ■         |
| 2.5  | 6   | 0    | 734-2.5     | ■     | ■   | ■        |     |      |           | 744-2.5     | ■     | ■     | ■   | ■        | ■   | ■    | □    | ■         |

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Sur demande pour serrage type B, voir page 1.03  
 Wahlweise mit B-Spannsystem, siehe Seite 1.03  
 On request for B clamping system, see page 1.03

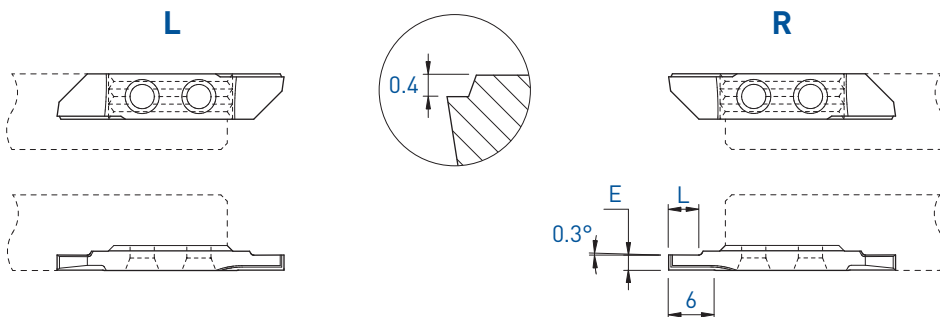


Fonçage-tournage

Einstecken und drehen

Grooving and turning

734VS / 744VS



| <div>L</div> |       |     |          |     |      |           | <div>R</div> |       |     |          |     |      |           |
|--------------|-------|-----|----------|-----|------|-----------|--------------|-------|-----|----------|-----|------|-----------|
| Art. N°      | TiAlN | TiN | N (µk20) | HTA | HTiN | HN (µk10) | Art. N°      | TiAlN | TiN | N (µk20) | HTA | HTiN | HN (µk10) |
| 734VS-1.0    | ■     | ■   | ■        | ■   | □    | ■         | 744VS-1.0    | ■     | ■   | ■        | ■   | □    | ■         |
| 734VS-1.2    | ■     | ■   | ■        | ■   | □    | ■         | 744VS-1.2    | ■     | ■   | ■        | ■   | □    | ■         |
| 734VS-1.5    | ■     | ■   | ■        | ■   | □    | ■         | 744VS-1.5    | ■     | ■   | ■        | ■   | □    | ■         |
| 734VS-1.8    | ■     | ■   | ■        |     |      |           | 744VS-1.8    | ■     | ■   | ■        |     |      |           |
| 734VS-2.0    | ■     | ■   | ■        |     |      |           | 744VS-2.0    | ■     | ■   | ■        | ■   | □    | ■         |
| 734VS-2.5    | ■     | ■   | ■        |     |      |           | 744VS-2.5    | ■     | ■   | ■        |     |      |           |

7XX-XX-B



Sur demande pour serrage type B, voir page 1.03  
 Wahlweise mit B-Spannsystem, siehe Seite 1.03  
 On request for B clamping system, see page 1.03

■ = disponible / verfügbar / available

□ = selon disponibilité du stock / jenach Lagerverfügbarkeit / depending on stock availability

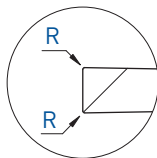
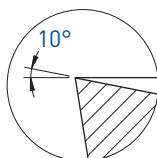
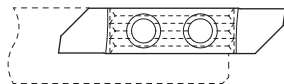
Fonçage-tournage

Einstecken und drehen

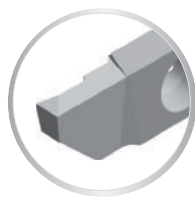
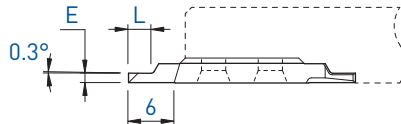
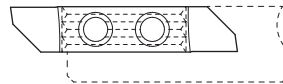
Grooving and turning

734X / 744X

L



R



L



R



| E   | L   | R    | Art. N°      | TiAlN | TiN | N (μk20) | HTA | HTiN | HN (μk10) | Art. N°      | TiAlN | TiAlX | LoX | TiN | N (μk20) | HTA | HTAX | HTiN | HN (μk10) |
|-----|-----|------|--------------|-------|-----|----------|-----|------|-----------|--------------|-------|-------|-----|-----|----------|-----|------|------|-----------|
| 0.8 | 2   | 0    | 734X-0.8     | ■     | ■   | ■        | ■   | □    | ■         | 744X-0.8     | ■     | ■     |     | ■   | ■        | ■   | ■    | ■    | ■         |
| 1.0 | 2.5 | 0    | 734X-1.0     | ■     | ■   | ■        | ■   | □    | ■         | 744X-1.0     | ■     | ■     |     | ■   | ■        | ■   | ■    | ■    | ■         |
| 1.0 | 2.5 | 0.08 | 734X-1.0-R08 | ■     | ■   | ■        | ■   | □    | ■         | 744X-1.0-R08 | ■     | ■     |     | ■   | ■        | ■   | ■    | □    | ■         |
| 1.2 | 3   | 0    | 734X-1.2     | ■     | ■   | ■        | ■   | □    | ■         | 744X-1.2     | ■     | ■     |     | ■   | ■        | ■   | ■    | □    | ■         |
| 1.5 | 3   | 0    | 734X-1.5     | ■     | ■   | ■        | ■   | ■    | ■         | 744X-1.5     | ■     | ■     |     | ■   | ■        | ■   | ■    | ■    | ■         |
| 1.5 | 3   | 0.08 | 734X-1.5-R08 | ■     | ■   | ■        | ■   | □    | ■         | 744X-1.5-R08 | ■     | ■     | ■   | ■   | ■        | ■   | ■    | □    | ■         |
| 1.5 | 3   | 0.15 | -            |       |     |          |     |      |           | 744X-1.5-R15 | ■     | ■     | ■   | □   | ■        | ■   | ■    | □    | ■         |
| 1.5 | 3   | 0.20 | -            |       |     |          |     |      |           | 744X-1.5-R20 | ■     | ■     | ■   | ■   | ■        | ■   | ■    | □    | ■         |
| 1.8 | 4   | 0    | 734X-1.8     | ■     | ■   | ■        |     |      |           | 744X-1.8     | ■     | ■     |     | ■   | ■        | ■   | ■    | □    | ■         |
| 2.0 | 4   | 0    | 734X-2.0     | ■     | ■   | ■        | ■   | □    | ■         | 744X-2.0     | ■     | ■     |     | ■   | ■        | ■   | ■    | ■    | ■         |
| 2.0 | 4   | 0.08 | 734X-2.0-R08 | ■     | ■   | ■        | ■   | □    | ■         | 744X-2.0-R08 | ■     | ■     | ■   | ■   | ■        | ■   | ■    | ■    | ■         |
| 2.0 | 4   | 0.15 | -            |       |     |          |     |      |           | 744X-2.0-R15 | ■     | ■     | ■   | □   | ■        | ■   | ■    | □    | ■         |
| 2.0 | 4   | 0.20 | 734X-2.0-R20 | ■     | ■   | ■        | ■   | □    | ■         | 744X-2.0-R20 | ■     | ■     | ■   | ■   | ■        | ■   | ■    | □    | ■         |
| 2.5 | 6   | 0    | 734X-2.5     | ■     | ■   | ■        | ■   | □    | ■         | 744X-2.5     | ■     | ■     |     | ■   | ■        | ■   | ■    | □    | ■         |

7XX-XX-B



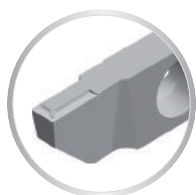
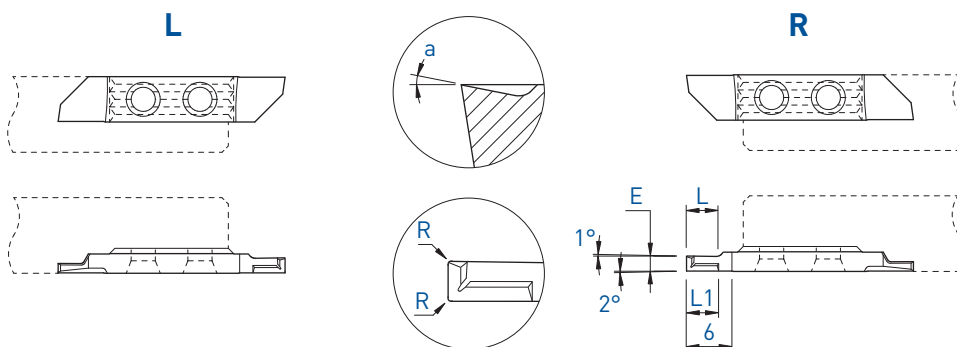
Sur demande pour serrage type B, voir page 1.03  
 Wahlweise mit B-Spannsystem, siehe Seite 1.03  
 On request for B clamping system, see page 1.03

Fonçage-tournage

Einstecken und drehen

Grooving and turning

734ZX / 744ZX



Pour un meilleur contrôle des copeaux  
Für eine bessere Spankontrolle  
For a better chip-control



| a   | E   | L   | L1 | R    | Art. N°         | TiAlN | TiN | N (µk20) | HTA | HAS | HTiN | HN (µk10) | Art. N°         | TiAlN | TiAlX | TiN | N (µk20) | HTA | HAS | HTiN | HN (µk10) |
|-----|-----|-----|----|------|-----------------|-------|-----|----------|-----|-----|------|-----------|-----------------|-------|-------|-----|----------|-----|-----|------|-----------|
| 10° | 1.0 | 2.5 | 3  | 0.01 | 734ZX10-1.0     | ■     | ■   |          |     |     |      |           | 744ZX10-1.0     | ■     | ■     | ■   |          | ■   |     | □    |           |
|     | 1.5 | 4   | 4  | 0.01 | 734ZX10-1.5     | ■     | ■   |          |     |     |      |           | 744ZX10-1.5     | ■     | ■     | □   |          | ■   |     | ■    |           |
|     | 1.5 | 4   | 4  | 0.08 | 734ZX10-1.5-R08 | ■     | ■   |          |     |     |      |           | 744ZX10-1.5-R08 | ■     | ■     | ■   |          | ■   |     |      |           |
|     | 2.0 | 4   | 4  | 0.01 | 734ZX10-2.0     | ■     | ■   |          |     |     |      |           | 744ZX10-2.0     | ■     | ■     | □   |          | ■   |     | □    |           |
|     | 2.0 | 4   | 4  | 0.08 | 734ZX10-2.0-R08 | ■     | ■   |          |     |     |      |           | 744ZX10-2.0-R08 | ■     | ■     | □   |          | ■   |     |      |           |
|     | 2.5 | 6   | 4  | 0.01 | 734ZX10-2.5     | ■     | ■   |          |     |     |      |           | 744ZX10-2.5     | ■     | ■     | □   |          | ■   |     | □    |           |
|     | 2.5 | 6   | 4  | 0.08 | -               |       |     |          |     |     |      |           | 744ZX10-2.5-R08 | ■     | ■     | □   |          | ■   |     |      |           |
| 17° | 1.0 | 2.5 | 3  | 0.01 | -               |       |     |          |     |     |      |           | 744ZX17-1.0     |       |       |     |          | ■   | ■   |      |           |



Arête de coupe honée  
Gehonte Schneidkante  
Honed edge

f min: 0.02 mm/U

7XX-XX-B



Sur demande pour serrage type B, voir page 1.03  
Wahlweise mit B-Spannsystem, siehe Seite 1.03  
On request for B clamping system, see page 1.03

■ = disponible / verfügbar / available

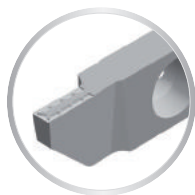
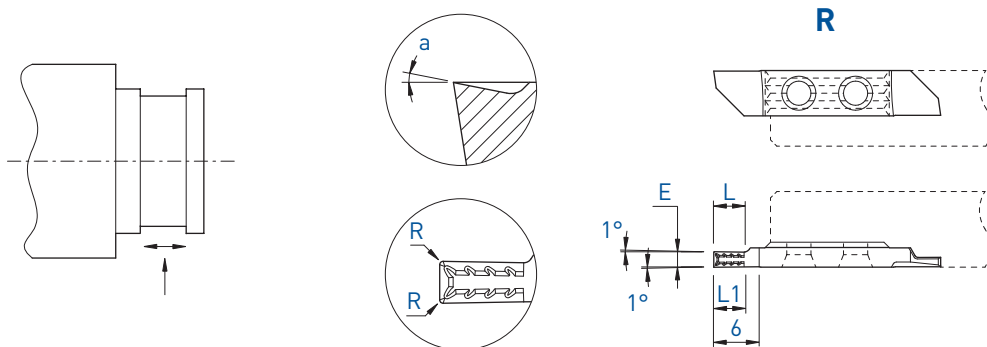
□ = selon disponibilité du stock / jenach Lagerverfügbarkeit / depending on stock availability

Fonçage-tournage

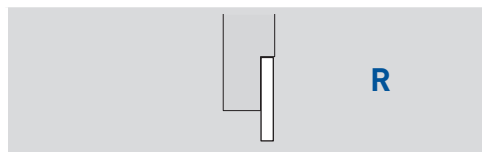
&lt; Einstechen und drehen

Grooving and turning

744ZXT



Pour un meilleur contrôle des copeaux  
Für eine bessere Spankontrolle  
For a better chip-control



| a   | E   | L   | L1  | R    | Art. N°          | TiAlN | TiAlX | LoX | TiN | N (µk20) | HTA | HTiN | HN (µk10) |
|-----|-----|-----|-----|------|------------------|-------|-------|-----|-----|----------|-----|------|-----------|
| 10° | 1.0 | 2.5 | 2.5 | 0.01 | 744ZXT10-1.0     | ■     | ■     | ■   | ■   |          | ■   | □    |           |
|     | 1.5 | 4   | 4   | 0.01 | 744ZXT10-1.5     | ■     | ■     | ■   | □   |          | ■   | □    |           |
|     | 1.5 | 4   | 4   | 0.08 | 744ZXT10-1.5-R08 | ■     | ■     | ■   | ■   |          | ■   | □    |           |
|     | 2.0 | 4   | 4   | 0.01 | 744ZXT10-2.0     | ■     | ■     | ■   | □   |          | ■   | □    |           |
|     | 2.0 | 4   | 4   | 0.08 | 744ZXT10-2.0-R08 | ■     | ■     | ■   | □   |          | ■   | □    |           |
|     | 2.5 | 5   | 5   | 0.01 | 744ZXT10-2.5     | ■     | ■     | ■   | □   |          | ■   | □    |           |
|     | 2.5 | 5   | 5   | 0.08 | 744ZXT10-2.5-R08 | ■     | ■     | ■   | □   |          | ■   | □    |           |



Arête de coupe honée  
Gehonte Schneidkante  
Honed edge

f min: 0.02 mm/U

7XX-XX-B



Sur demande pour serrage type B, voir page 1.03  
Wahlweise mit B-Spannsystem, siehe Seite 1.03  
On request for B clamping system, see page 1.03

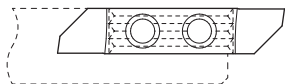
Gorges

Einstechen

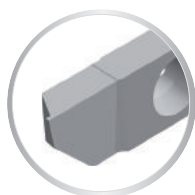
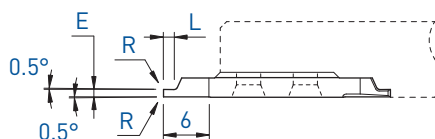
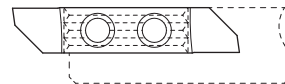
Grooving

735 / 745

L



R



L



R



| E<br>± 0.01 | L   | R | Art. N°  | TiAlN | TiN | N (μk20) | HTA | HTiN | HN (μk10) | Art. N°  | TiAlN | TiN | N (μk20) | HTA | HTiN | HN (μk10) |
|-------------|-----|---|----------|-------|-----|----------|-----|------|-----------|----------|-------|-----|----------|-----|------|-----------|
| 0.2         | 0.2 | 0 | 735-0202 | ■     | ■   | ■        |     |      |           | 745-0202 | ■     | ■   | ■        | ■   | □    | ■         |
| 0.3         | 0.3 | 0 | 735-0303 | ■     | ■   | ■        |     |      |           | 745-0303 | ■     | ■   | ■        | ■   | □    | ■         |
| 0.4         | 0.4 | 0 | 735-0404 | ■     | ■   | ■        |     |      |           | 745-0404 | ■     | □   | ■        | ■   | □    | ■         |

7XX-XX-B



Sur demande pour serrage type B, voir page 1.03  
 Wahlweise mit B-Spannsystem, siehe Seite 1.03  
 On request for B clamping system, see page 1.03

■ = disponible / verfügbar / available

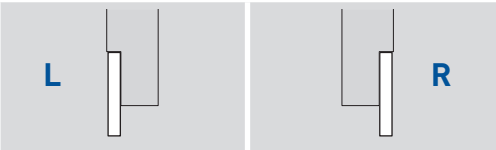
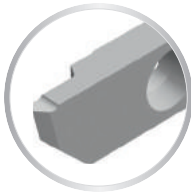
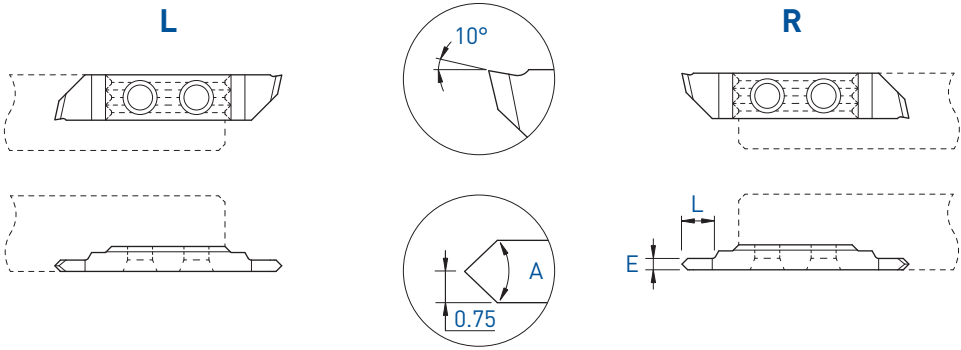
□ = selon disponibilité du stock / jenach Lagerverfügbarkeit / depending on stock availability

Gorges

Einstechen

Grooving

735X-90 / 745X-90



| A   | E   | L | Art. N°     | TiAlN | TiN | N (μk20) | Art. N°     | TiAlN | TiN | N (μk20) |
|-----|-----|---|-------------|-------|-----|----------|-------------|-------|-----|----------|
| 90° | 1.5 | 4 | 735X-90-1.5 | □     | □   | □        | 745X-90-1.5 | ■     | □   | ■        |

7XX-XX-B



Sur demande pour serrage type B, voir page 1.03  
Wahlweise mit B-Spannsystem, siehe Seite 1.03  
On request for B clamping system, see page 1.03

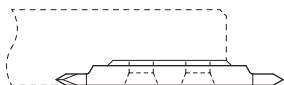
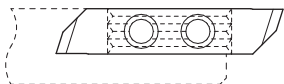
Filetage

Gewinde drehen

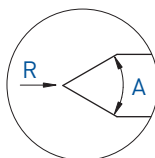
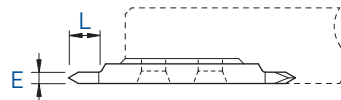
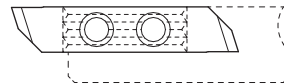
Threading

736 / 746

L



R



Profil partiel  
Teilprofil  
Partial profile

L



R



| A   | E   | L | R    | Art. N°        | TiAlN | TiN | N (μk20) | HTA | HTiN | HN (μk10) | Art. N°        | TiAlN | TiN | N (μk20) | HTA | HTiN | HN (μk10) |
|-----|-----|---|------|----------------|-------|-----|----------|-----|------|-----------|----------------|-------|-----|----------|-----|------|-----------|
| 60° | 1.5 | 4 | 0    | 736-60-1.5     | ■     | ■   | ■        |     |      |           | 746-60-1.5     | ■     | ■   | ■        |     |      |           |
| 60° | 1.5 | 4 | 0.02 | 736-60-1.5-R02 | ■     | ■   | ■        |     |      | ■         | 746-60-1.5-R02 | ■     | ■   | ■        |     | □    | ■         |
| 60° | 2.0 | 6 | 0    | 736-60-2.0     | ■     | ■   | ■        |     |      |           | 746-60-2.0     | ■     | ■   | ■        |     |      |           |
| 60° | 2.0 | 6 | 0.02 | 736-60-2.0-R02 | ■     | ■   | ■        |     |      | ■         | 746-60-2.0-R02 | ■     | ■   | ■        |     |      | ■         |
| 55° | 1.5 | 4 | 0    | 736-55-1.5     | ■     | ■   | ■        |     |      |           | 746-55-1.5     | ■     | ■   | ■        |     |      |           |
| 55° | 1.5 | 4 | 0.02 | 736-55-1.5-R02 | ■     | ■   | ■        |     |      |           | 746-55-1.5-R02 | ■     | ■   | ■        |     |      |           |
| 55° | 2.0 | 6 | 0    | 736-55-2.0     | ■     | ■   | ■        |     |      |           | 746-55-2.0     | ■     | ■   | ■        |     |      |           |
| 55° | 2.0 | 6 | 0.02 | 736-55-2.0-R02 | ■     | ■   | ■        |     |      |           | 746-55-2.0-R02 | ■     | ■   | ■        |     |      |           |

7XX-XX-B



Sur demande pour serrage type B, voir page 1.03  
Wahlweise mit B-Spannsystem, siehe Seite 1.03  
On request for B clamping system, see page 1.03

■ = disponible / verfügbar / available

□ = selon disponibilité du stock / jenach Lagerverfügbarkeit / depending on stock availability

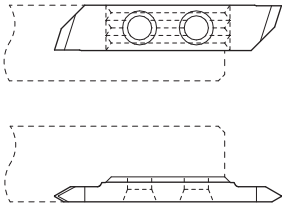
Filetage

Gewinde drehen

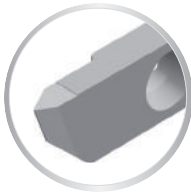
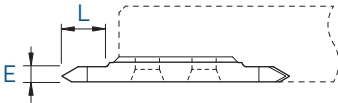
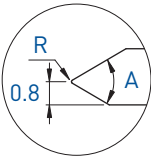
Threading

736-A60° / 746-A60°

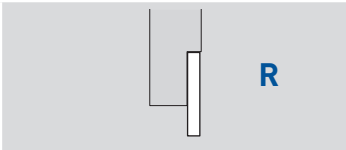
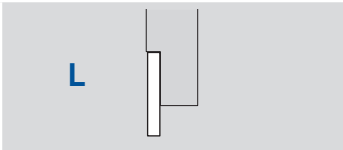
L



R

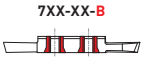


Profil partiel  
Teilprofil  
Partial profile



| A   | E   | L | R    | Pas<br>Steigung<br>Pitch<br>P | Art. N°  | TiAlN | TiN | N (µk20) | HTA | HTiN | HN (µk10) | Art. N°  | TiAlN | TiN | N (µk20) | HTA | HTiN | HN (µk10) |
|-----|-----|---|------|-------------------------------|----------|-------|-----|----------|-----|------|-----------|----------|-------|-----|----------|-----|------|-----------|
| 60° | 2.0 | 6 | 0.06 | 0.50-1.50                     | 736-A60° | ■     | ■   | ■        |     |      |           | 746-A60° | ■     | ■   | ■        | ■   | □    | ■         |

Plaquettes de filetage avec coupe positive 2°, voir page 1.126  
WSP Gewindedrehen mit positivem Schnitt 2°, siehe Seite 1.126  
Threading inserts with positive cut 2°, see page 1.126



7XX-XX-B

Sur demande pour serrage type B, voir page 1.03  
Wahlweise mit B-Spannsystem, siehe Seite 1.03  
On request for B clamping system, see page 1.03



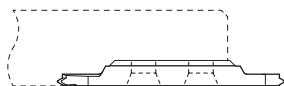
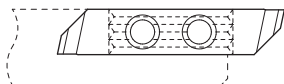
Filetage

Gewinde drehen

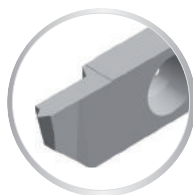
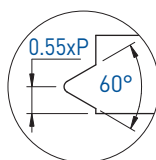
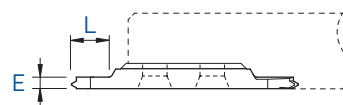
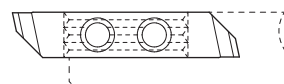
Threading

736-M / 746-M

L



R



Profil complet métrique  
Metrisches Vollprofil  
Metric full profile

L

R

| Pas<br>Steigung<br>Pitch<br>P | E   | L   | Art. N°    | Ti | Al | N (µk20) | Art. N°    | Ti | Al | N (µk20) |
|-------------------------------|-----|-----|------------|----|----|----------|------------|----|----|----------|
| 0.25                          | 1.0 | 3   | 736-M-0.25 | ■  | ■  | ■        | 746-M-0.25 | ■  | ■  | ■        |
| 0.30                          | 1.0 | 3   | 736-M-0.30 | ■  | ■  | ■        | 746-M-0.30 | ■  | ■  | ■        |
| 0.35                          | 1.0 | 3   | 736-M-0.35 | ■  | ■  | ■        | 746-M-0.35 | ■  | ■  | ■        |
| 0.40                          | 1.0 | 3   | 736-M-0.40 | ■  | ■  | ■        | 746-M-0.40 | ■  | ■  | ■        |
| 0.45                          | 1.0 | 3   | 736-M-0.45 | ■  | ■  | ■        | 746-M-0.45 | ■  | ■  | ■        |
| 0.50                          | 1.0 | 3   | 736-M-0.50 | ■  | ■  | ■        | 746-M-0.50 | ■  | ■  | ■        |
| 0.60                          | 1.0 | 3   | 736-M-0.60 | ■  | ■  | ■        | 746-M-0.60 | ■  | ■  | ■        |
| 0.70                          | 1.0 | 3   | 736-M-0.70 | ■  | ■  | ■        | 746-M-0.70 | ■  | ■  | ■        |
| 0.75                          | 1.0 | 3   | 736-M-0.75 | ■  | ■  | ■        | 746-M-0.75 | ■  | ■  | ■        |
| 0.80                          | 1.5 | 4.5 | 736-M-0.80 | ■  | ■  | ■        | 746-M-0.80 | ■  | ■  | ■        |
| 1.00                          | 1.5 | 4.5 | 736-M-1.00 | ■  | ■  | ■        | 746-M-1.00 | ■  | ■  | ■        |
| 1.25                          | 1.5 | 4.5 | 736-M-1.25 | ■  | ■  | ■        | 746-M-1.25 | ■  | ■  | ■        |
| 1.50                          | 2.0 | 6   | 736-M-1.50 | ■  | ■  | ■        | 746-M-1.50 | ■  | ■  | ■        |
| 1.75                          | 2.0 | 6   | 736-M-1.75 | ■  | ■  | ■        | 746-M-1.75 | ■  | ■  | ■        |

Plaquettes de filetage avec coupe positive 2°, voir page 1.127  
WSP Gewindedrehen mit positivem Schnitt 2°, siehe Seite 1.127  
Threading inserts with positive cut 2°, see page 1.127

7XX-XX-B



Sur demande pour serrage type B, voir page 1.03  
Wahlweise mit B-Spannsystem, siehe Seite 1.03  
On request for B clamping system, see page 1.03

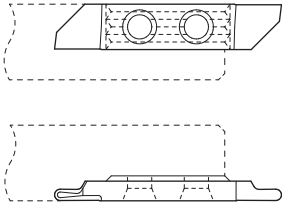
■ = disponible / verfügbar / available

□ = selon disponibilité du stock / jenach Lagerverfügbarkeit / depending on stock availability

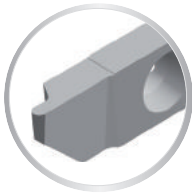
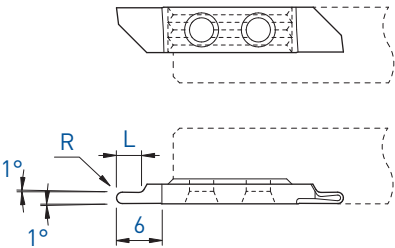
Plaquettes à rayon  
Radius Wendeplatten  
Radius inserts

737 / 747

L



R



L

R

| R    | L   | Art. N°   | TiAlN | TiN | N [µk20] | Art. N°   | TiAlN | TiN | N [µk20] |
|------|-----|-----------|-------|-----|----------|-----------|-------|-----|----------|
| 0.25 | 1.5 | -         |       |     |          | 747-R0.25 | ■     | ■   | ■        |
| 0.40 | 2   | -         |       |     |          | 747-R0.4  | ■     | ■   | ■        |
| 0.50 | 2.5 | 737-R0.5  | ■     | ■   | ■        | 747-R0.5  | ■     | ■   | ■        |
| 0.60 | 2.5 | 737-R0.6  | ■     | ■   | ■        | 747-R0.6  | ■     | ■   | ■        |
| 0.75 | 3   | 737-R0.75 | ■     | ■   | ■        | 747-R0.75 | ■     | ■   | ■        |
| 0.80 | 3   | 737-R0.8  | ■     | ■   | ■        | 747-R0.8  | ■     | ■   | ■        |
| 1.00 | 4   | 737-R1.0  | ■     | ■   | ■        | 747-R1.0  | ■     | ■   | ■        |

7XX-XX-B

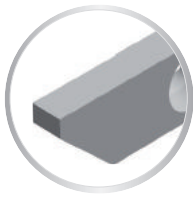


Sur demande pour serrage type B, voir page 1.03  
Wahlweise mit B-Spannsystem, siehe Seite 1.03  
On request for B clamping system, see page 1.03

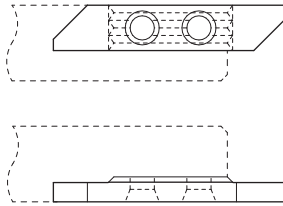
Plaquettes ébauches

WSP-Rohlinge

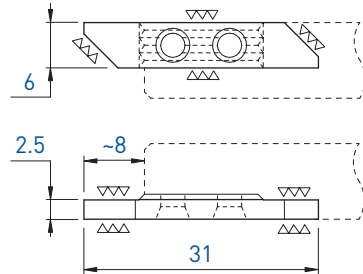
Blank inserts

731-E / 741-E  
731-EP / 741-EP

L



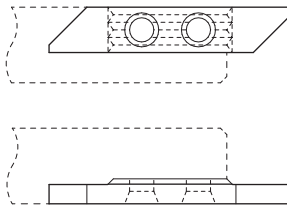
R



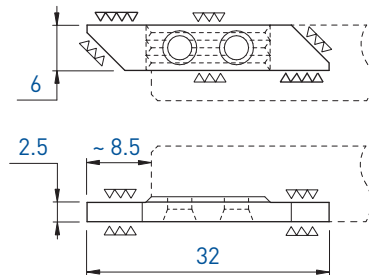
L

| L       |          |           | R       |          |           |
|---------|----------|-----------|---------|----------|-----------|
| Art. N° | N (µk20) | HN (µk10) | Art. N° | N (µk20) | HN (µk10) |
| 731-E   | ■        | ■         | 741-E   | ■        | ■         |

L



R



Face de coupe polie  
Polierte Schneidfläche  
Polished cutting face

7XX-XX-B



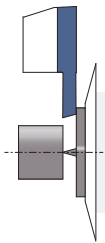
Sur demande pour serrage type B,  
voir page 1.03  
Wahlweise mit B-Spannsystem,  
siehe Seite 1.03  
On request for B clamping system,  
see page 1.03

| L                                                                                   |       |     |          |     |      |           | R                                                                                   |       |     |          |     |      |           |
|-------------------------------------------------------------------------------------|-------|-----|----------|-----|------|-----------|-------------------------------------------------------------------------------------|-------|-----|----------|-----|------|-----------|
|  |       |     |          |     |      |           |  |       |     |          |     |      |           |
| Art. N°                                                                             | TiAlN | TiN | N (µk20) | HTA | HTiN | HN (µk10) | Art. N°                                                                             | TiAlN | TiN | N (µk20) | HTA | HTiN | HN (µk10) |
| 731-EP                                                                              | ■     | ■   | ■        | ■   | ■    | ■         | 741-EP                                                                              | ■     | ■   | ■        | ■   | □    | ■         |

■ = disponible / verfügbar / available

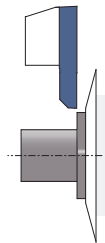
□ = selon disponibilité du stock / jenach Lagerverfügbarkeit / depending on stock availability

| L    |           |           | R    |             |           |
|------|-----------|-----------|------|-------------|-----------|
| Type |           | Page      | Type |             | Page      |
| 750  | 750       | 1.70      | 760  | 760         | 1.70      |
|      | 750-JET   | 1.71      |      | 760/750-D   | 1.75/1.76 |
|      | 750RC     | 1.72      |      | 760/750-AX  | 1.77      |
| 751  | 751       | 1.78      |      | 760-JET     | 1.71      |
|      | 751-E     | 1.131     |      | 760LC       | 1.73      |
|      | 751NXF    | 1.87/1.97 |      | 760-NOVIBRA | 1.74      |
|      | 751R      | 1.88      | 761  | 761         | 1.78      |
|      | 751-R05   | 1.80      |      | 761-E       | 1.131     |
|      | 751RAS    | 1.99      |      | 761L        | 1.88      |
|      | 751RD     | 1.98      |      | 761LD       | 1.98      |
|      | 751R-R05  | 1.90      |      | 761L-R05    | 1.90      |
|      | 751RS     | 1.89      |      | 761LS       | 1.89      |
|      | 751RU     | 1.95      |      | 761LX12     | 1.93      |
|      | 751RZU    | 1.96      |      | 761LX25     | 1.94      |
|      | 751RX12   | 1.93      |      | 761LX4      | 1.91      |
|      | 751RX25   | 1.94      |      | 761LXF      | 1.92      |
|      | 751RX4    | 1.91      |      | 761NXF      | 1.87/1.97 |
|      | 751RXF    | 1.92      |      | 761-R05     | 1.80      |
|      | 751S      | 1.79      |      | 761S        | 1.79      |
|      | 751U      | 1.85      |      | 761U        | 1.85      |
|      | 751X12    | 1.83      |      | 761ZU       | 1.86      |
|      | 751X25    | 1.84      |      | 761X12      | 1.83      |
|      | 751X4     | 1.81      |      | 761X25      | 1.84      |
|      | 751XF     | 1.82      |      | 761X4       | 1.81      |
| 752  | 752       | 1.100     |      | 761XF       | 1.82      |
|      | 752PX     | 1.101     | 762  | 762         | 1.100     |
|      | 752S      | 1.106     |      | 762PX       | 1.101     |
|      | 752X      | 1.102     |      | 762S        | 1.105     |
| 753  | 753       | 1.107     |      | 762X        | 1.102     |
|      | 753P      | 1.116     |      | 762VX-800   | 1.103     |
|      | 753S      | 1.106     |      | 762ZX       | 1.104     |
|      | 753VX-15° | 1.113     | 763  | 763         | 1.107     |
|      | 753VX-8°  | 1.110     |      | 763P        | 1.116     |
|      | 753VX-805 | 1.111     |      | 763S        | 1.106     |
|      | 753X      | 1.108     |      | 763VUX      | 1.114     |
|      | 753XS     | 1.109     |      | 763VX-15°   | 1.113     |
|      | 753ZX10   | 1.115     |      | 763VX-8°    | 1.110     |
| 754  | 754       | 1.117     |      | 763VX-800   | 1.112     |
|      | 754VS     | 1.118     |      | 763VX-805   | 1.111     |
|      | 754X      | 1.119     |      | 763X        | 1.108     |
|      | 754ZX     | 1.122     |      | 763XS       | 1.109     |
| 756  | 754ZXT    | 1.124     |      | 763ZX10     | 1.115     |
|      | 756-55    | 1.125     | 764  | 764         | 1.117     |
|      | 756-60    | 1.125     |      | 764VS       | 1.118     |
|      | 756-AG60° | 1.126     |      | 764X        | 1.119     |
|      | 756-G60°  | 1.126     |      | 764X5       | 1.120     |
| 757  | 756-M     | 1.127     |      | 764X10      | 1.121     |
|      | 757       | 1.129     |      | 764ZX       | 1.122     |
|      | 757ZX     | 1.130     |      | 764ZXB      | 1.123     |
|      |           |           |      | 764ZXT      | 1.124     |
|      |           |           | 766  | 766         | 1.125     |
|      |           |           |      | 766-AG60°   | 1.126     |
|      |           |           |      | 766-G60°    | 1.126     |
|      |           |           |      | 766-M       | 1.127     |
|      |           |           |      | 766ZX       | 1.128     |
|      |           |           | 767  | 767         | 1.129     |
|      |           |           |      | 767ZX       | 1.130     |

**751 / 761**

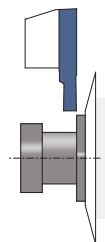
Tronçonnage  
Abstechen  
Parting off

&gt; 1.78

**752 / 762**

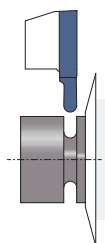
Tournage avant  
Vorwärts drehen  
Front turning

&gt; 1.100

**754 / 764**

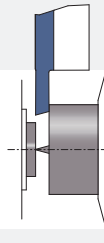
Fonçage-tournage  
Einstecken und drehen  
Grooving and turning

&gt; 1.117

**757 / 767**

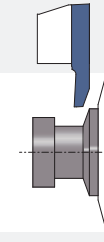
Plaquettes à rayon  
Radius Wendepplatten  
Radius inserts

&gt; 1.129

**761L / 751R**

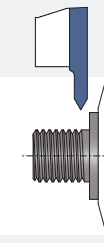
Tronçonnage - coupe déportée  
Abstechen - versetztes Schneiden  
Parting off - cut off line

&gt; 1.88

**753 / 763**

Tournage arrière  
Rückwärts drehen  
Back turning

&gt; 1.106

**756 / 766**

Filetage  
Gewinde drehen  
Threading

&gt; 1.125

Plaquettes ébauches  
WSP-Rohlinge  
Blank inserts

&gt; 1.131

**750 / 760**

Porte-outils  
Halter  
Holders

&gt; 1.70

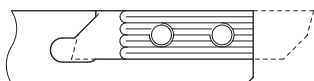
Porte-outils

Halter

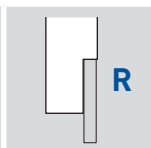
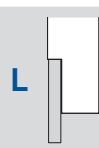
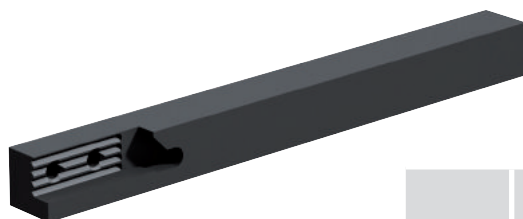
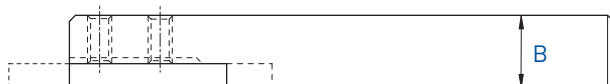
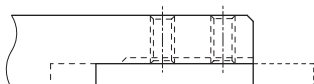
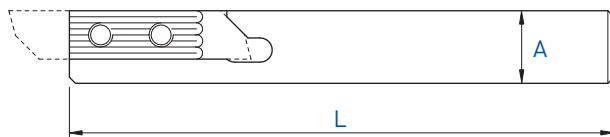
Holders

750 / 760

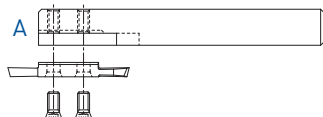
L



R

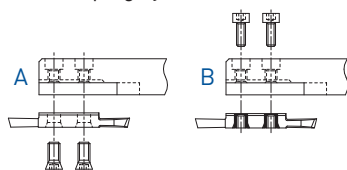


Serrage standard A  
Standard Spannsystem A  
Standard clamping system A



| A x B       | L   | Serrage<br>Spannsystem<br>Clamping | Art. N°      | Art. N°      |
|-------------|-----|------------------------------------|--------------|--------------|
| 10 x 10     | 115 | A                                  | 750-10       | 760-10       |
| 10 x 10     | 115 | A + B                              | 750-10-AB    | 760-10-AB    |
| 10 x 10     | 50  | A                                  | 750-10-50    | 760-10-50    |
| 12 x 12     | 130 | A                                  | 750-12       | 760-12       |
| 12 x 12     | 130 | A + B                              | 750-12-AB    | 760-12-AB    |
| 12 x 12     | 90  | A                                  | 750-12-90    | 760-12-90    |
| 12 x 12     | 90  | A + B                              | 750-12-90-AB | 760-12-90-AB |
| 12.7 x 12.7 | 130 | A + B                              | 750-12.7     | 760-12.7     |
| 14 x 14     | 130 | A + B                              | 750-14       | 760-14       |
| 16 x 16     | 130 | A + B                              | 750-16       | 760-16       |
| 16 x 16     | 75  | A + B                              | 750-16-75    | 760-16-75    |
| 20 x 20     | 120 | A + B                              | 750-20       | 760-20       |
| 25 x 25     | 140 | A                                  | 760/750-25   |              |

Serrage A + B  
Spannsystem A + B  
Clamping system A + B



760/750-25  
R + L



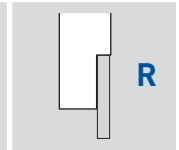
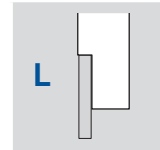
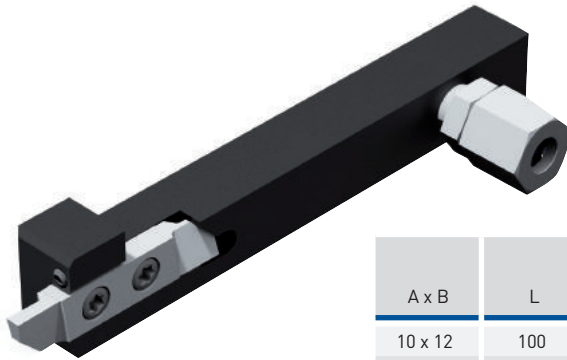
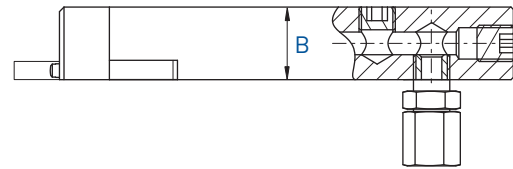
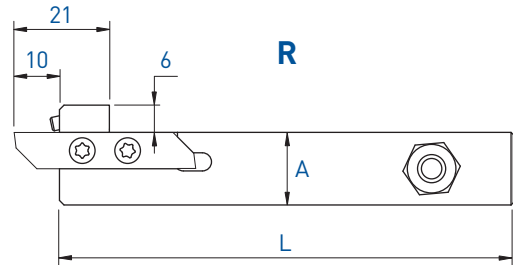
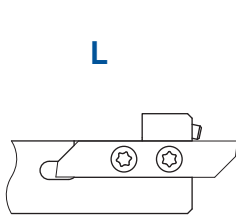
Chaque support est livré avec vis et clé.  
Jeder Halter wird mit Spannschraube(n) und Schlüssel geliefert.  
Screw(s) and key are included with each tool holder.

Porte-outils avec arrosage intégré

Halter mit integrierter Kühlmittelzufuhr

Holders with integrated coolant supply

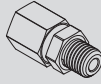
750-JET / 760-JET



| A x B       | L   | Serrage<br>Spannsystem<br>Clamping | Art. N°      | Art. N°                    |
|-------------|-----|------------------------------------|--------------|----------------------------|
| 10 x 12     | 100 | A + B                              | 750-1012-JET | 760-1012-JET               |
| 10 x 12     | 80  | A + B                              | -            | 760-1012-80-JET <b>new</b> |
| 12 x 12     | 100 | A + B                              | 750-12-JET   | 760-12-JET                 |
| 12.7 x 12.7 | 100 | A + B                              | 750-12.7-JET | 760-12.7-JET               |
| 16 x 16     | 100 | A + B                              | 750-16-JET   | 760-16-JET                 |
| 20 x 20     | 100 | A + B                              | 750-20-JET   | 760-20-JET                 |



Chaque support est livré avec vis et clé.  
Jeder Halter wird mit Spannschraube(n)  
und Schlüssel geliefert.  
Screw(s) and key are included with each  
tool holder.

| Pièces de rechange<br>Ersatzteile<br>Spare parts |  |  | Buse<br>Düse<br>Nozzle<br> |
|--------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
|                                                  | Art. N°                                                                             | Art. N°                                                                             | Art. N°                                                                                                         |
| 750-JET / 760-JET                                | J-M8X1-D6                                                                           | JB-M8X1                                                                             | JJ-M3X6-D1.5                                                                                                    |

Porte-outils

Halter

Holders

Coupe à droite déportée

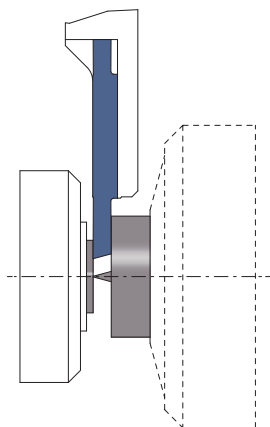
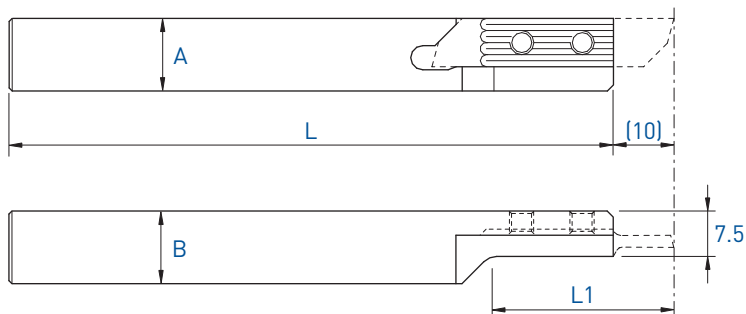
Versetzttes Rechtsschneiden

Right cut off line

750RC

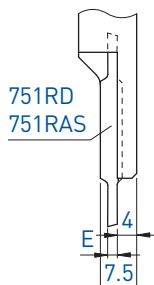
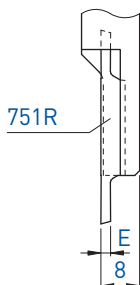
Utiliser des plaquettes type 751R  
 WSP Typ 751R verwenden  
 Use inserts type 751R

Voir pages 1.88 - 1.99  
 Siehe Seiten 1.88 - 1.99  
 See pages 1.88 - 1.99

**L (R)**

Coupe à droite déportée  
 Versetzttes Rechtsschneiden  
 Right cut off line

| A x B   | L   | L1 | Art. N°         |
|---------|-----|----|-----------------|
| 12 x 12 | 130 | 30 | <b>750RC-12</b> |
| 16 x 16 | 130 | 40 | <b>750RC-16</b> |



(p. 1.98 - 1.99)



Chaque support est livré avec vis et clé.  
 Jeder Halter wird mit Spannschraube(n) und Schlüssel geliefert.  
 Screw(s) and key are included with each tool holder.



Porte-outils

Halter

Holders

Coupe à gauche déportée

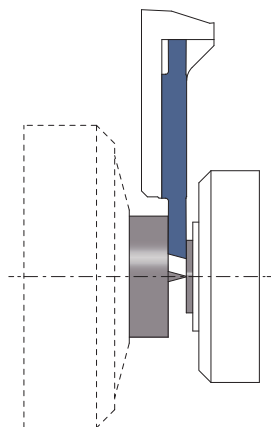
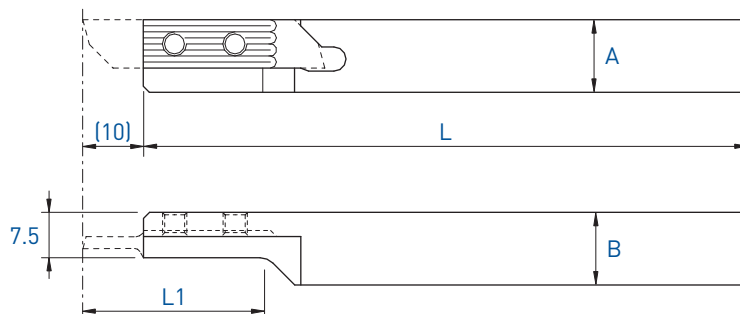
Versetztes Linksschneiden

Left cut off line

760LC

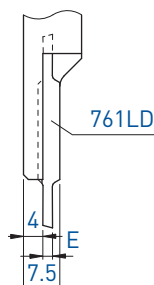
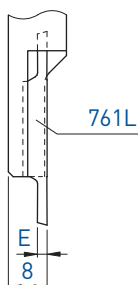
Utiliser des plaquettes type 761L  
WSP Typ 761L verwenden  
Use insets type 761L

Voir pages 1.88 - 1.94 + 1.98  
Siehe Seiten 1.88 - 1.94 + 1.98  
See pages 1.88 - 1.94 + 1.98

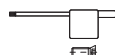
**R (L)**

Coupe à gauche déportée  
Versetztes Linksschneiden  
Left cut off line

| A x B   | L   | L1 | Art. N°  |
|---------|-----|----|----------|
| 16 x 16 | 130 | 40 | 760LC-16 |



(p. 1.98)

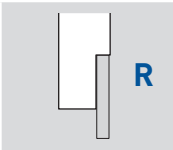
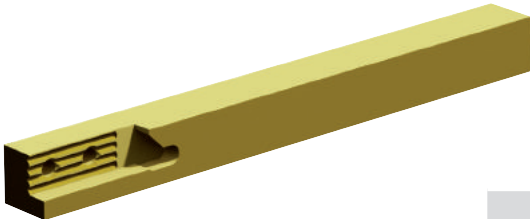
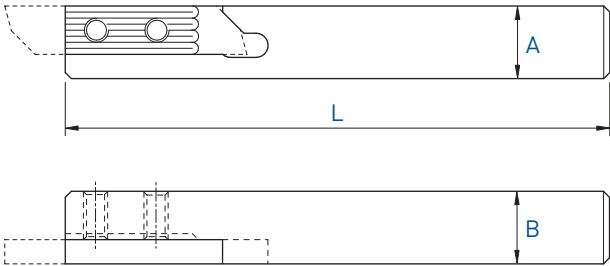


Chaque support est livré avec vis et clé.  
Jeder Halter wird mit Spannschraube(n) und Schlüssel geliefert.  
Screw(s) and key are included with each tool holder.

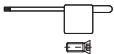
Porte-outils en métal lourd anti-vibratoire  
Schwingungsdämpfende Schwermetallhalter  
Low vibration heavy metal holders

760-NOVIBRA

R



| A x B   | L   | Serrage<br>Spannsystem<br>Clamping | Art. N°        |
|---------|-----|------------------------------------|----------------|
| 10 x 10 | 115 | A                                  | 760-10-NOVIBRA |
| 12 x 12 | 130 | A                                  | 760-12-NOVIBRA |



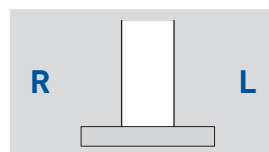
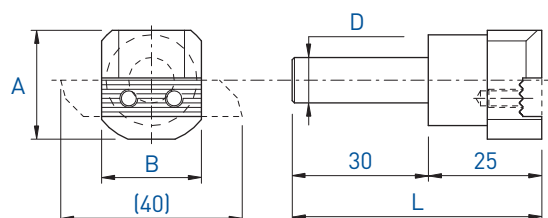
Chaque support est livré avec vis et clé.  
Jeder Halter wird mit Spannschraube(n) und Schlüssel geliefert.  
Screw(s) and key are included with each tool holder.

Porte-outils

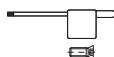
Halter

Holders

760 / 750-D10



| A x B   | L  | D  | Art. N°     |
|---------|----|----|-------------|
| 24 x 22 | 55 | 10 | 760/750-D10 |



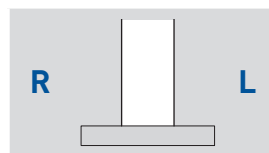
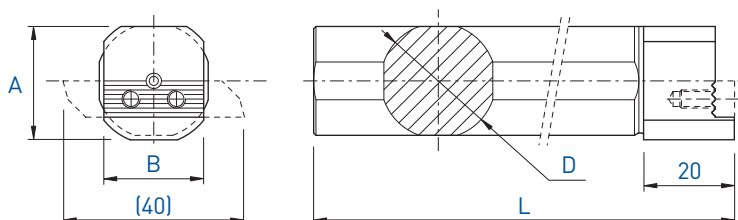
Chaque support est livré avec vis et clé.  
 Jeder Halter wird mit Spannschraube(n) und Schlüssel geliefert.  
 Screw(s) and key are included with each tool holder.

Porte-outils

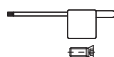
Halter

Holders

760 / 750-D



| A x B   | L   | D     | Art. N°                 |
|---------|-----|-------|-------------------------|
| 25 x 22 | 160 | 16    | <b>760/750-D16</b>      |
| 25 x 22 | 160 | 19.05 | <b>760/750-D19.05</b>   |
| 25 x 22 | 110 | 19.05 | <b>760/750-D19.05-S</b> |
| 25 x 22 | 160 | 20    | <b>760/750-D20</b>      |
| 25 x 22 | 110 | 22    | <b>760/750-D22</b>      |
| 25 x 22 | 200 | 25    | <b>760/750-D25</b>      |
| 25 x 22 | 200 | 25.4  | <b>760/750-D25.4</b>    |
| 25 x 22 | 125 | 25.4  | <b>760/750-D25.4-S</b>  |



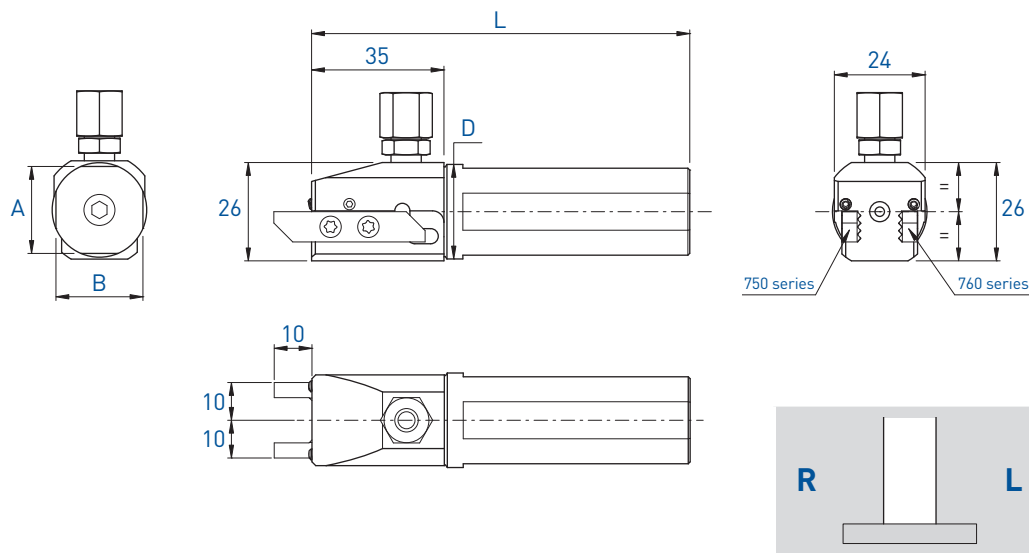
Chaque support est livré avec vis et clé.  
 Jeder Halter wird mit Spannschraube(n) und Schlüssel geliefert.  
 Screw(s) and key are included with each tool holder.

Porte-outils

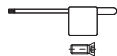
Halter

Holders

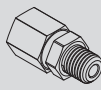
760 / 750-AX



| A x B   | L   | D    | Art. N°              |
|---------|-----|------|----------------------|
| 23 x 23 | 100 | 25   | 760/750-AX-D25-JET   |
| 23 x 23 | 100 | 25.4 | 760/750-AX-D25.4-JET |



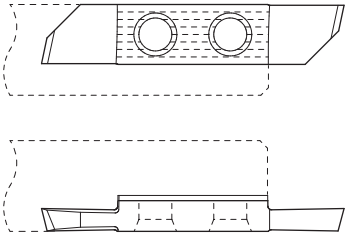
Chaque support est livré avec vis et clé.  
 Jeder Halter wird mit Spannschraube(n)  
 und Schlüssel geliefert.  
 Screw(s) and key are included with each  
 tool holder.

| Pièces de rechange<br>Ersatzteile<br>Spare parts |  |  | Buse<br>Düse<br>Nozzle |
|--------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|------------------------|
|                                                  | Art. N°                                                                             | Art. N°                                                                              | Art. N°                |
| 760/750-AX                                       | J-M8X1-D6                                                                           | JB-M8X1                                                                              | JJ-M3X6-D1.5           |

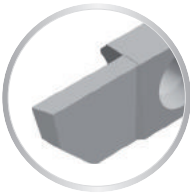
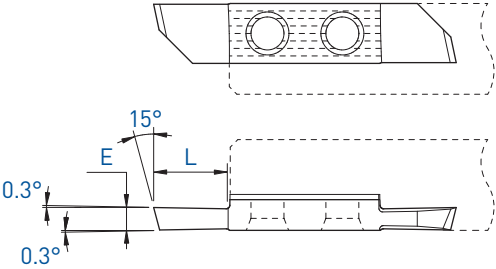
Tronçonnage  
Abstechen  
Parting off

751 / 761

L



R



L



R



| E   | L   | Art. N° | TiAlN | TiN | N (µk20) | HTA | HTiN | HN (µk10) | Art. N° | TiAlN | TiAlX | TiN | N (µk20) | HTA | HTiN | HN (µk10) |
|-----|-----|---------|-------|-----|----------|-----|------|-----------|---------|-------|-------|-----|----------|-----|------|-----------|
| 1.0 | 5   | 751-1.0 | ■     | ■   | ■        | ■   | □    | ■         | 761-1.0 | ■     | ■     | ■   | ■        | ■   | ■    | ■         |
| 1.2 | 5   | 751-1.2 | ■     | ■   | ■        |     |      |           | 761-1.2 | ■     | ■     | ■   | ■        | ■   | □    | ■         |
| 1.5 | 7.5 | 751-1.5 | ■     | ■   | ■        | ■   | □    | ■         | 761-1.5 | ■     | ■     | ■   | ■        | ■   | ■    | ■         |
| 1.8 | 7.5 | 751-1.8 | ■     | ■   | ■        |     |      |           | 761-1.8 | ■     | ■     | ■   | ■        | ■   | □    | ■         |
| 2.0 | 10  | 751-2.0 | ■     | ■   | ■        | ■   | □    | ■         | 761-2.0 | ■     | ■     | ■   | ■        | ■   | ■    | ■         |
| 2.2 | 10  | 751-2.2 | ■     | ■   | ■        |     |      |           | 761-2.2 | ■     | ■     | ■   | ■        | ■   | □    | ■         |
| 2.5 | 10  | 751-2.5 | ■     | ■   | ■        | ■   | □    | ■         | 761-2.5 | ■     | ■     | ■   | ■        | ■   | ■    | ■         |
| 3.0 | 10  | 751-3.0 | ■     | ■   | ■        |     |      |           | 761-3.0 | ■     | ■     | ■   | ■        | ■   | □    | ■         |

7XX-XX-B



Sur demande pour serrage type B, voir page 1.03  
Wahlweise mit B-Spannsystem, siehe Seite 1.03  
On request for B clamping system, see page 1.03

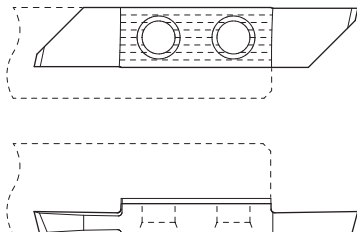
Tronçonnage

Abstechen

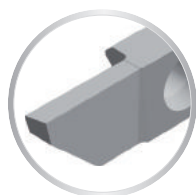
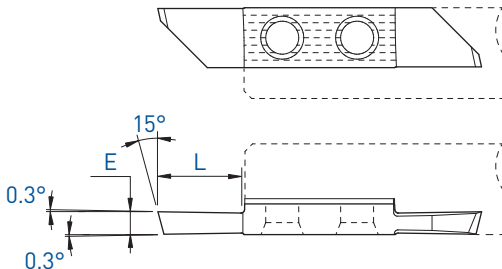
Parting off

751S / 761S

L



R



L

R

| E   | L    | Art. N°  | TiAlN | TiN | N (µk20) | HTA | HTiN | HN (µk10) | Art. N°  | TiAlN | TiAlX | TiN | N (µk20) | HTA | HTiN | HN (µk10) |
|-----|------|----------|-------|-----|----------|-----|------|-----------|----------|-------|-------|-----|----------|-----|------|-----------|
| 2.0 | 11.5 | 751S-2.0 | ■     | ■   | ■        | ■   | □    | ■         | 761S-2.0 | ■     | ■     | ■   | ■        | ■   | □    | ■         |
| 2.2 | 11.5 | 751S-2.2 | ■     | ■   | ■        |     |      |           | 761S-2.2 | ■     | ■     | ■   | ■        | ■   | □    | ■         |
| 2.5 | 11.5 | 751S-2.5 | ■     | ■   | ■        | ■   | □    | ■         | 761S-2.5 | ■     | ■     | ■   | ■        | ■   | □    | ■         |
| 3.0 | 11.5 | 751S-3.0 | ■     | ■   | ■        |     |      |           | 761S-3.0 | ■     | ■     | ■   | ■        | ■   | □    | ■         |

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Sur demande pour serrage type B, voir page 1.03  
 Wahlweise mit B-Spannsystem, siehe Seite 1.03  
 On request for B clamping system, see page 1.03

■ = disponible / verfügbar / available

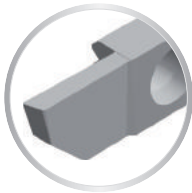
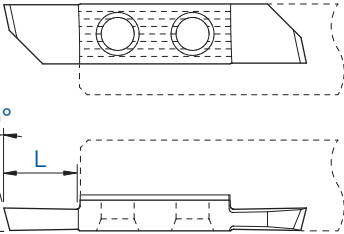
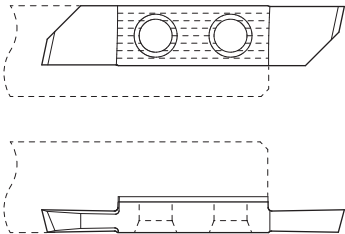
□ = selon disponibilité du stock / jenach Lagerverfügbarkeit / depending on stock availability

Tronçonnage  
Abstechen  
Parting off

751-R05 / 761-R05

L

R



L

R

| E   | L   | Art. N°     | L     |     |          | R   |      |           |
|-----|-----|-------------|-------|-----|----------|-----|------|-----------|
|     |     |             | TiAlN | TiN | N (µk20) | HTA | HTiN | HN (µk10) |
| 1.5 | 7.5 | 751-1.5-R05 | ■     | ■   | ■        |     |      |           |
| 2.0 | 10  | 751-2.0-R05 | ■     | ■   | ■        |     |      |           |
| 2.5 | 10  | 751-2.5-R05 | ■     | ■   | ■        |     |      |           |

| E   | L   | Art. N°     | L     |       |     | R        |     |      |
|-----|-----|-------------|-------|-------|-----|----------|-----|------|
|     |     |             | TiAlN | TiAlX | TiN | N (µk20) | HTA | HTiN |
| 1.5 | 7.5 | 761-1.5-R05 | ■     | ■     | ■   | ■        | ■   | ■    |
| 2.0 | 10  | 761-2.0-R05 | ■     | ■     | ■   | ■        | ■   | ■    |
| 2.5 | 10  | 761-2.5-R05 | ■     | ■     | ■   | ■        | ■   | ■    |

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Sur demande pour serrage type B, voir page 1.03  
Wahlweise mit B-Spannsystem, siehe Seite 1.03  
On request for B clamping system, see page 1.03



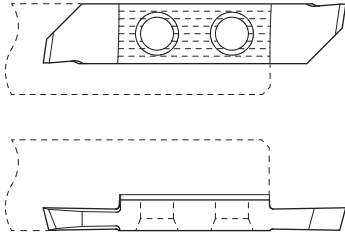
Tronçonnage

Abstechen

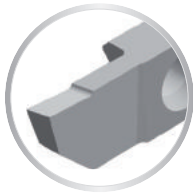
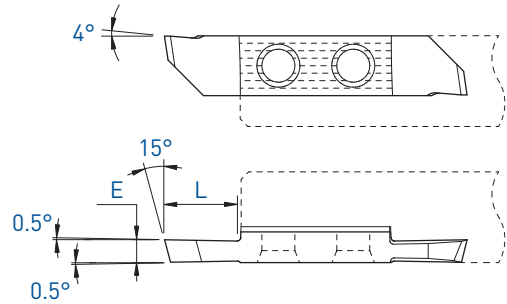
Parting off

751X4 / 761X4

L



R



L

R

| E   | L   | Art. N°   | TiAlN | TiN | N (µk20) | HTA | HTiN | HN (µk10) | Art. N°   | TiAlN | TiN | N (µk20) | HTA | HTiN | HN (µk10) |
|-----|-----|-----------|-------|-----|----------|-----|------|-----------|-----------|-------|-----|----------|-----|------|-----------|
| 1.5 | 7.5 | -         | ■     | ■   | ■        | ■   | □    | ■         | 761X4-1.5 | ■     | ■   | ■        |     |      |           |
| 2.0 | 10  | 751X4-2.0 | ■     | ■   | ■        | ■   | □    | ■         | 761X4-2.0 | ■     | ■   | ■        | ■   | □    | ■         |
| 2.5 | 10  | -         |       |     |          |     |      |           | 761X4-2.5 | ■     | ■   | ■        |     |      |           |

7XX-XX-B



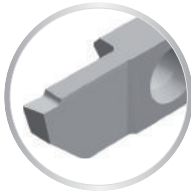
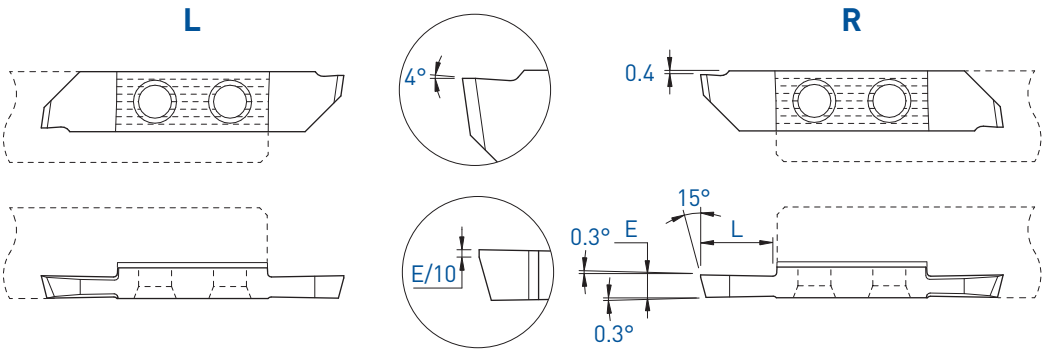
Sur demande pour serrage type B, voir page 1.03  
 Wahlweise mit B-Spannsystem, siehe Seite 1.03  
 On request for B clamping system, see page 1.03

■ = disponible / verfügbar / available

□ = selon disponibilité du stock / jenach Lagerverfügbarkeit / depending on stock availability

Tronçonnage  
Abstechen  
Parting off

751XF / 761XF



|     |     | L         |     |          |     |      |           | R         |     |          |     |      |           |
|-----|-----|-----------|-----|----------|-----|------|-----------|-----------|-----|----------|-----|------|-----------|
|     |     | Art. N°   |     |          |     |      |           | Art. N°   |     |          |     |      |           |
| E   | L   | TiAlN     | TiN | N (µk20) | HTA | HTiN | HN (µk10) | TiAlN     | TiN | N (µk20) | HTA | HTiN | HN (µk10) |
| 1.5 | 7.5 | 751XF-1.5 | ■   | ■        | ■   | ■    | □         | 761XF-1.5 | ■   | ■        | ■   | ■    | □         |
| 2.0 | 10  | 751XF-2.0 | ■   | ■        | ■   | ■    | ■         | 761XF-2.0 | ■   | ■        | ■   | ■    | ■         |
| 2.2 | 10  | 751XF-2.2 | ■   | ■        | ■   |      |           | 761XF-2.2 | ■   | ■        | ■   |      |           |
| 2.5 | 10  | 751XF-2.5 | ■   | ■        | ■   | ■    | □         | 761XF-2.5 | ■   | ■        | ■   |      |           |
| 3.0 | 10  | 751XF-3.0 | ■   | ■        | ■   |      |           | 761XF-3.0 | ■   | ■        | ■   | ■    | □         |

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Sur demande pour serrage type B, voir page 1.03  
Wahlweise mit B-Spannsystem, siehe Seite 1.03  
On request for B clamping system, see page 1.03

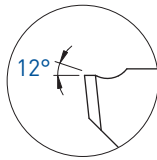
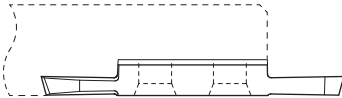
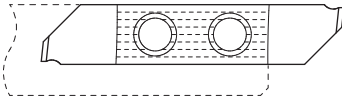
Tronçonnage

&lt; Abstechen

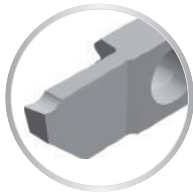
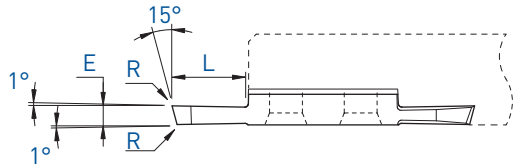
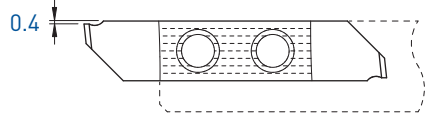
Parting off

751X12 / 761X12

L



R



L



R



| E   | L   | R    | Art. N°    | TiAlN | TiN | N (µk20) | HTA | HTiN | HN (µk10) | Art. N°    | TiAlN | TiN | N (µk20) | HTA | HTiN | HN (µk10) |
|-----|-----|------|------------|-------|-----|----------|-----|------|-----------|------------|-------|-----|----------|-----|------|-----------|
| 1.5 | 7.5 | 0.03 | 751X12-1.5 | ■     | ■   | ■        | ■   | □    | ■         | 761X12-1.5 | ■     | ■   | ■        | ■   | □    | ■         |
| 2.0 | 10  | 0.03 | 751X12-2.0 | ■     | ■   | ■        | ■   | □    | ■         | 761X12-2.0 | ■     | ■   | ■        | ■   | □    | ■         |
| 2.5 | 10  | 0.03 | 751X12-2.5 | ■     | ■   | ■        | ■   | ■    | ■         | 761X12-2.5 | ■     | ■   | ■        | ■   | □    | ■         |

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Sur demande pour serrage type B, voir page 1.03  
 Wahlweise mit B-Spannsystem, siehe Seite 1.03  
 On request for B clamping system, see page 1.03

■ = disponible / verfügbar / available

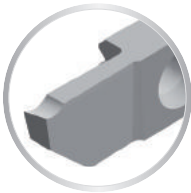
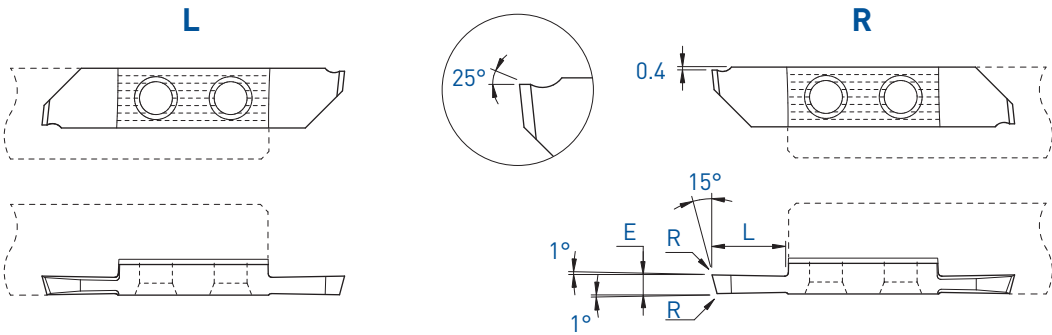
□ = selon disponibilité du stock / jenach Lagerverfügbarkeit / depending on stock availability

Tronçonnage

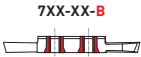
Abstechen

Parting off

751X25 / 761X25



| L                                                                                 |       |     |          |     |      |           | R                                                                                  |       |     |          |     |      |           |
|-----------------------------------------------------------------------------------|-------|-----|----------|-----|------|-----------|------------------------------------------------------------------------------------|-------|-----|----------|-----|------|-----------|
|  |       |     |          |     |      |           |  |       |     |          |     |      |           |
| Art. N°                                                                           | TiAlN | TiN | N (µk20) | HTA | HTiN | HN (µk10) | Art. N°                                                                            | TiAlN | TiN | N (µk20) | HTA | HTiN | HN (µk10) |
| 751X25-1.5                                                                        | ■     | ■   | ■        | ■   | □    | ■         | 761X25-1.5                                                                         | ■     | ■   | ■        |     |      |           |
| 751X25-2.0                                                                        | ■     | ■   | ■        |     |      |           | 761X25-2.0                                                                         | ■     | ■   | ■        | ■   | □    | ■         |
| 751X25-2.5                                                                        | ■     | ■   | ■        |     |      |           | 761X25-2.5                                                                         | ■     | ■   | ■        | ■   | □    | ■         |



Sur demande pour serrage type B, voir page 1.03  
Wahlweise mit B-Spannsystem, siehe Seite 1.03  
On request for B clamping system, see page 1.03

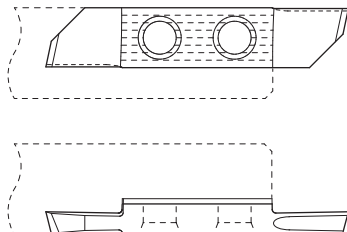
Tronçonnage

Abstechen

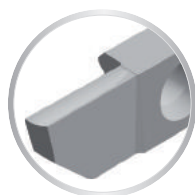
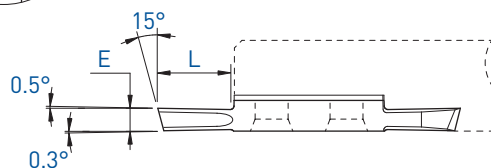
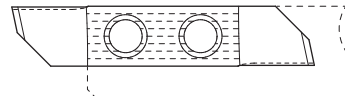
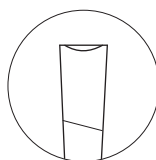
Parting off

751U / 761U

L



R



L



R



| E   | L   | Art. N°  | TiAlN | TiN | N [μk20] | HTA | HTiN | HN [μk10] | Art. N°  | TiAlN | TiN | N [μk20] | HTA | HTiN | HN [μk10] |
|-----|-----|----------|-------|-----|----------|-----|------|-----------|----------|-------|-----|----------|-----|------|-----------|
| 1.5 | 7.5 | -        |       |     |          |     |      |           | 761U-1.5 | ■     | □   | ■        | ■   | □    | ■         |
| 2.0 | 10  | 751U-2.0 | ■     | ■   | ■        |     |      |           | 761U-2.0 | ■     | ■   | ■        |     | □    | ■         |

7XX-XX-B



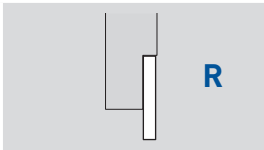
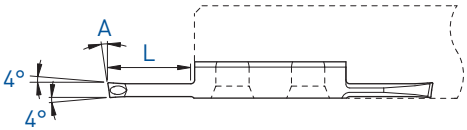
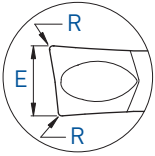
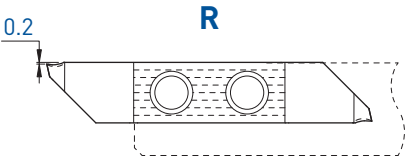
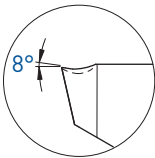
Sur demande pour serrage type B, voir page 1.03  
 Wahlweise mit B-Spannsystem, siehe Seite 1.03  
 On request for B clamping system, see page 1.03

■ = disponible / verfügbar / available

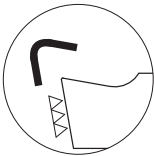
□ = selon disponibilité du stock / jenach Lagerverfügbarkeit / depending on stock availability

Tronçonnage  
Abstechen  
Parting off

761ZU



| E   | A  | L  | R    | Art. N°           | TiAlN<br>N [µk20] |
|-----|----|----|------|-------------------|-------------------|
| 2.0 | 0° | 11 | 0.10 | 761ZU8-2.0-R10    | ■                 |
| 2.0 | 8° | 11 | 0.10 | 761ZU8-2.0-8°-R10 | ■                 |



Arête de coupe honée  
Gehonte Schneidkante  
Honed edge

f min: 0.02 mm/U

7XX-XX-B



Sur demande pour serrage type B, voir page 1.03  
Wahlweise mit B-Spannsystem, siehe Seite 1.03  
On request for B clamping system, see page 1.03

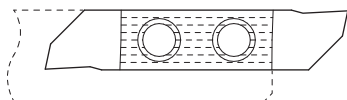
Tronçonnage

&lt; Abstechen

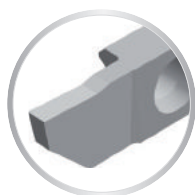
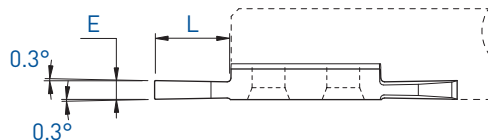
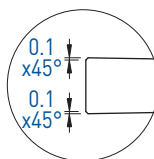
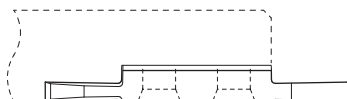
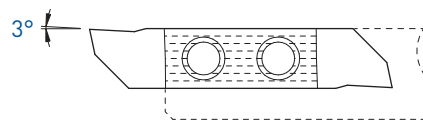
Parting off

751NXF / 761NXF

L



R



L



R



| E   | L  | Art. N°    | TiAlN | TiN | N (µk20) | HTA | HTiN | HN (µk10) | Art. N°    | TiAlN | TiN | N (µk20) | HTA | HTiN | HN (µk10) |
|-----|----|------------|-------|-----|----------|-----|------|-----------|------------|-------|-----|----------|-----|------|-----------|
| 2.0 | 10 | 751NXF-2.0 | ■     | ■   | ■        | ■   | □    | ■         | 761NXF-2.0 | ■     | ■   | ■        | ■   | □    | ■         |
| 2.5 | 10 | 751NXF-2.5 | ■     | ■   | ■        |     |      |           | 761NXF-2.5 | ■     | ■   | ■        |     |      |           |
| 3.0 | 10 | 751NXF-3.0 | ■     | ■   | ■        |     |      |           | 761NXF-3.0 | ■     | ■   | ■        |     |      |           |

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Sur demande pour serrage type B, voir page 1.03  
 Wahlweise mit B-Spannsystem, siehe Seite 1.03  
 On request for B clamping system, see page 1.03

■ = disponible / verfügbar / available

□ = selon disponibilité du stock / jenach Lagerverfügbarkeit / depending on stock availability

Tronçonnage

Abstechen

Parting off

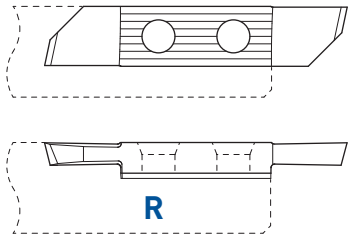
Coupe déportée

Versetztes Schneiden

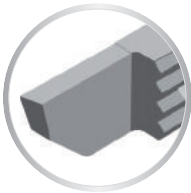
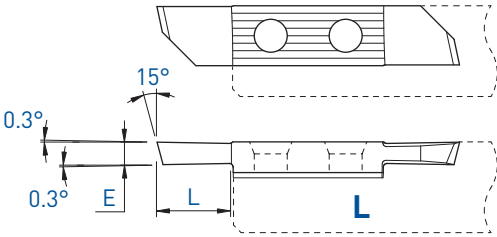
Cut off line

761L / 751R

Cut L



Cut R



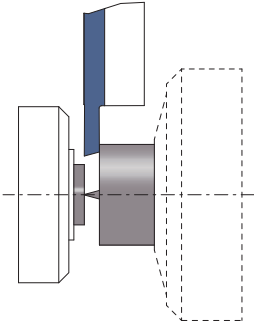
R (L)

Coupe à gauche déportée  
Versetztes Linksschneiden  
Left cut off line

L (R)

Coupe à droite déportée  
Versetztes Rechtsschneiden  
Right cut off line

| E   | L   | Art. N°  | TiAlN | TiN | N (µk20) | HTA | HTiN | HN (µk10) | Art. N°  | TiAlN | TiAlX | TiN | N (µk20) | HTA | HTiN | HN (µk10) |
|-----|-----|----------|-------|-----|----------|-----|------|-----------|----------|-------|-------|-----|----------|-----|------|-----------|
| 1.0 | 5   | 761L-1.0 | ■     | ■   | ■        | ■   | □    | ■         | 751R-1.0 | ■     | ■     | ■   | ■        | ■   | □    | ■         |
| 1.5 | 7.5 | 761L-1.5 | ■     | ■   | ■        | ■   | □    | ■         | 751R-1.5 | ■     | ■     | ■   | ■        | ■   | □    | ■         |
| 1.8 | 7.5 | 761L-1.8 | ■     | ■   | ■        |     |      |           | 751R-1.8 | ■     | ■     | ■   | ■        | ■   | □    | ■         |
| 2.0 | 10  | 761L-2.0 | ■     | ■   | ■        | ■   | □    | ■         | 751R-2.0 | ■     | ■     | ■   | ■        | ■   | ■    | ■         |
| 2.2 | 10  | 761L-2.2 | ■     | ■   | ■        |     |      |           | 751R-2.2 | ■     | ■     | ■   | ■        |     |      |           |
| 2.5 | 10  | 761L-2.5 | ■     | ■   | ■        | ■   | □    | ■         | 751R-2.5 | ■     | ■     | ■   | ■        | ■   | ■    | ■         |
| 3.0 | 10  | 761L-3.0 | ■     | ■   | ■        |     |      |           | 751R-3.0 | ■     | ■     | ■   | ■        | ■   | □    | ■         |





Tronçonnage

Abstechen

Parting off

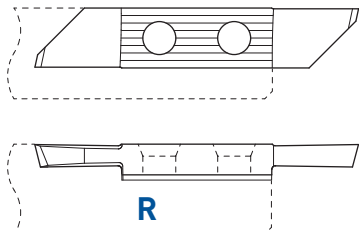
Coupe déportée

Versetztes Schneiden

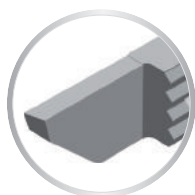
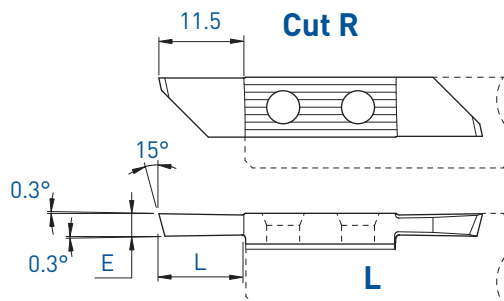
Cut off line

761LS / 751RS

Cut L



Cut R



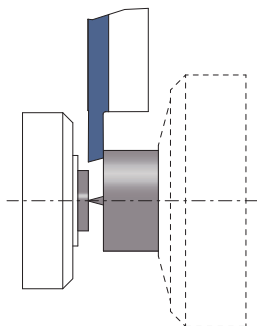
R (L)

Coupe à gauche déportée  
Versetztes Linksschneiden  
Left cut off line

L (R)

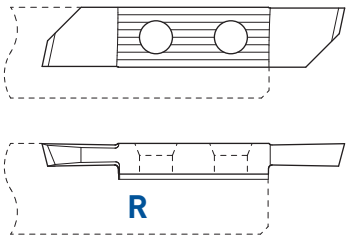
Coupe à droite déportée  
Versetztes Rechtsschneiden  
Right cut off line

| E   | L    | Art. N°   | TiAlN | TiN | N (μk20) | HTA | HTiN | HN (μk10) | Art. N°   | TiAlN | TiAlX | TiN | N (μk20) | HTA | HTiN | HN (μk10) |
|-----|------|-----------|-------|-----|----------|-----|------|-----------|-----------|-------|-------|-----|----------|-----|------|-----------|
| 1.0 | 5.5  | 761LS-1.0 | ■     | ■   | ■        | ■   | □    | ■         | 751RS-1.0 | ■     | ■     | ■   | ■        | ■   | □    | ■         |
| 1.5 | 8    | 761LS-1.5 | ■     | ■   | ■        | ■   | □    | ■         | 751RS-1.5 | ■     | ■     | ■   | ■        | ■   | □    | ■         |
| 2.0 | 11.5 | 761LS-2.0 | ■     | ■   | ■        |     |      |           | 751RS-2.0 | ■     | ■     | ■   | ■        | ■   | ■    | ■         |
| 2.2 | 11.5 | 761LS-2.2 | ■     | ■   | ■        |     |      |           | 751RS-2.2 | ■     | ■     | ■   | ■        | ■   | □    | ■         |
| 2.5 | 11.5 | 761LS-2.5 | ■     | ■   | ■        |     |      |           | 751RS-2.5 | ■     | ■     | ■   | ■        | ■   | □    | ■         |
| 3.0 | 11.5 | 761LS-3.0 | ■     | ■   | ■        |     |      |           | 751RS-3.0 | ■     | ■     | ■   | ■        | ■   | □    | ■         |

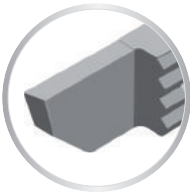
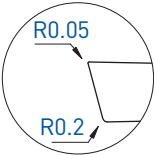
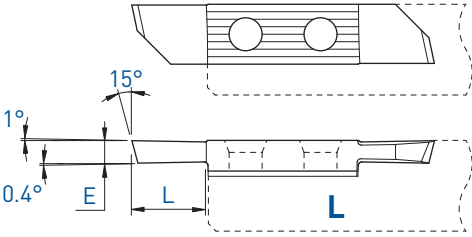


|             |                      |                     |
|-------------|----------------------|---------------------|
| Tronçonnage | Coupe déportée       | 761L-R05 / 751R-R05 |
| Abstechen   | Versetztes Schneiden |                     |
| Parting off | Cut off line         |                     |

Cut L



Cut R



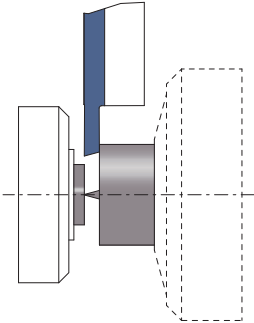
R (L)

Coupe à gauche déportée  
Versetztes Linksschneiden  
Left cut off line

L (R)

Coupe à droite déportée  
Versetztes Rechtsschneiden  
Right cut off line

| E   | L   | Art. N°      | TiAlN | TiN | N (µk20) | HTA | HTiN | HN (µk10) | Art. N°      | TiAlN | TiAlX | TiN | N (µk20) | HTA | HTiN | HN (µk10) |
|-----|-----|--------------|-------|-----|----------|-----|------|-----------|--------------|-------|-------|-----|----------|-----|------|-----------|
| 1.5 | 7.5 | 761L-1.5-R05 | ■     | ■   | ■        |     |      |           | 751R-1.5-R05 | ■     | ■     | ■   | ■        | ■   | □    | ■         |
| 2.0 | 10  | 761L-2.0-R05 | ■     | ■   | ■        |     |      |           | 751R-2.0-R05 | ■     | ■     | ■   | ■        |     |      |           |



Tronçonnage

&lt; Abstechen

Parting off

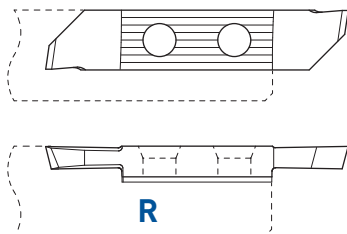
Coupe déportée

Versetzttes Schneiden

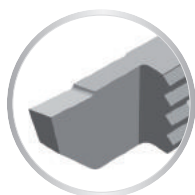
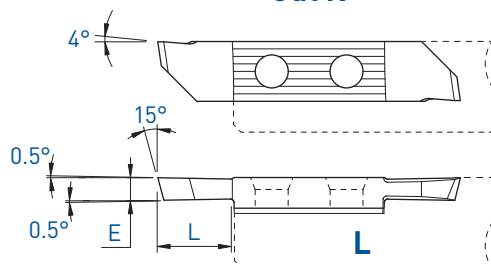
Cut off line

761LX4 / 751RX4

Cut L



Cut R



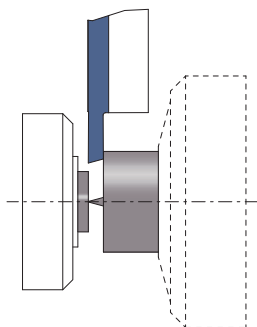
R (L)

Coupe à gauche déportée  
Versetzttes Linksschneiden  
Left cut off line

L (R)

Coupe à droite déportée  
Versetzttes Rechtsschneiden  
Right cut off line

| E   | L   | Art. N°    | TiAlN | TiN | N [µk20] | HTA | HTiN | HN [µk10] | Art. N°    | TiAlN | TiN | N [µk20] | HTA | HTiN | HN [µk10] |
|-----|-----|------------|-------|-----|----------|-----|------|-----------|------------|-------|-----|----------|-----|------|-----------|
| 1.5 | 7.5 | -          |       |     |          |     |      |           | 751RX4-1.5 | ■     | ■   | ■        | ■   | ■    | ■         |
| 2.0 | 10  | 761LX4-2.0 | ■     | ■   | ■        |     |      |           | 751RX4-2.0 | ■     | ■   | ■        | ■   | ■    | ■         |
| 2.5 | 10  | -          |       |     |          |     |      |           | 751RX4-2.5 | ■     | ■   | ■        | ■   | ■    | ■         |



Tronçonnage

Abstechen

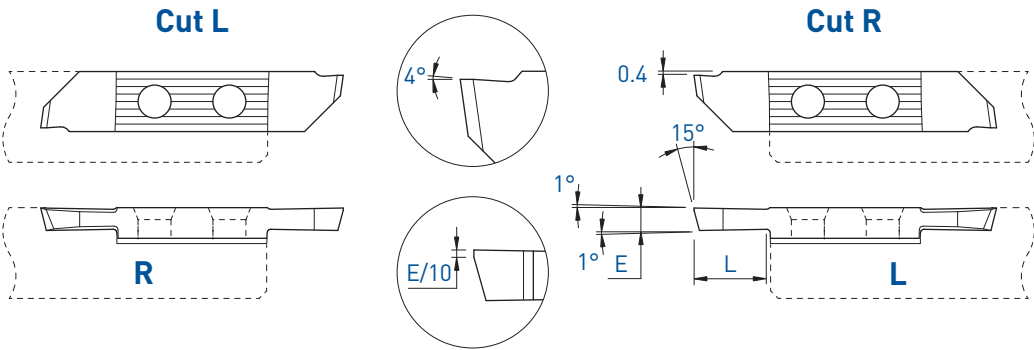
Parting off

Coupe déportée

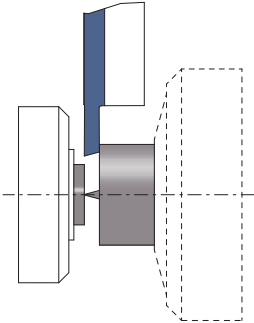
Versetztes Schneiden

Cut off line

761LXF / 751RXF



|     |     | <div>R (L)</div> <div>Coupe à gauche déportée<br/>Versetztes Linksschneiden<br/>Left cut off line</div> |       |     |          |     |      |           | <div>L (R)</div> <div>Coupe à droite déportée<br/>Versetztes Rechtsschneiden<br/>Right cut off line</div> |       |     |          |     |      |           |
|-----|-----|---------------------------------------------------------------------------------------------------------|-------|-----|----------|-----|------|-----------|-----------------------------------------------------------------------------------------------------------|-------|-----|----------|-----|------|-----------|
| E   | L   | Art. N°                                                                                                 | TiAlN | TiN | N (µk20) | HTA | HTiN | HN (µk10) | Art. N°                                                                                                   | TiAlN | TiN | N (µk20) | HTA | HTiN | HN (µk10) |
| 1.5 | 7.5 | -                                                                                                       |       |     |          |     |      |           | 751RXF-1.5                                                                                                | ■     | ■   | ■        | ■   | □    | ■         |
| 2.0 | 10  | 761LXF-2.0                                                                                              | ■     | ■   | ■        |     |      |           | 751RXF-2.0                                                                                                | ■     | ■   | ■        | ■   | ■    | ■         |
| 2.5 | 10  | 761LXF-2.5                                                                                              | ■     | ■   | ■        |     |      |           | 751RXF-2.5                                                                                                | ■     | ■   | ■        | ■   | □    | ■         |
| 3.0 | 10  | 761LXF-3.0                                                                                              | ■     | ■   | ■        |     |      |           | 751RXF-3.0                                                                                                | ■     | ■   | ■        | ■   | □    | ■         |



Tronçonnage

Abstechen

Parting off

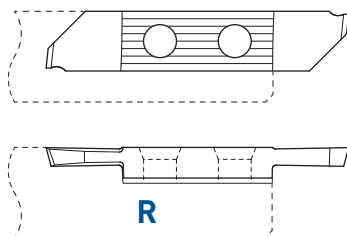
Coupe déportée

Versetzttes Schneiden

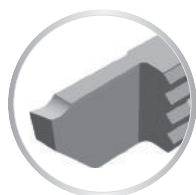
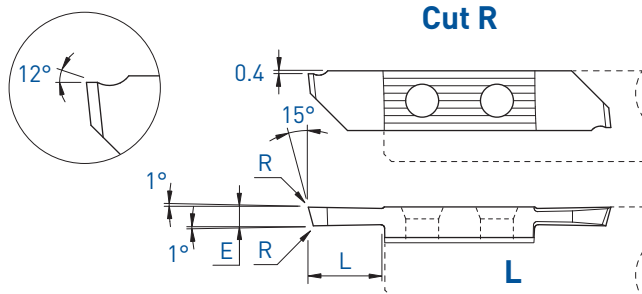
Cut off line

761LX12 / 751RX12

Cut L



Cut R



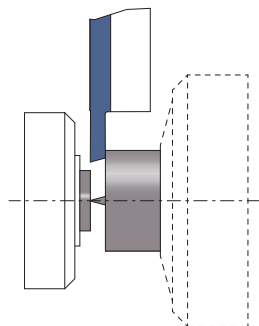
R (L)

Coupe à gauche déportée  
Versetzttes Linksschneiden  
Left cut off line

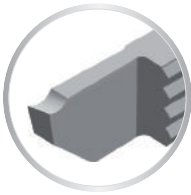
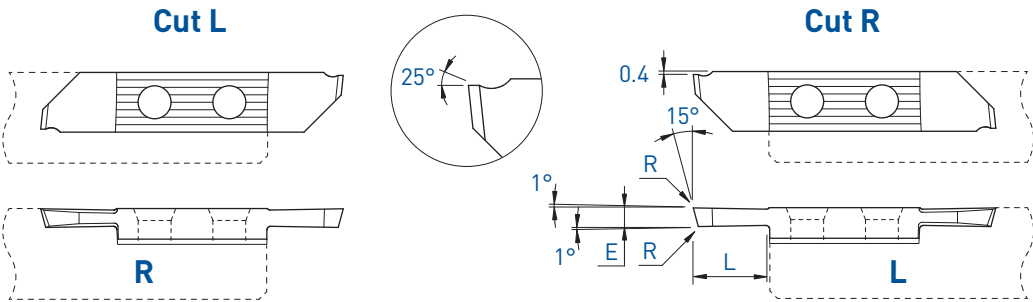
L (R)

Coupe à droite déportée  
Versetzttes Rechtsschneiden  
Right cut off line

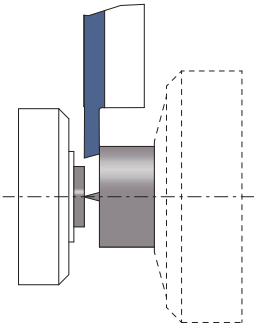
| E   | L   | R    | Art. N°     | TiAlN | TiN | N [µk20] | HTA | HTiN | HN [µk10] | Art. N°     | TiAlN | TiN | N [µk20] | HTA | HTiN | HN [µk10] |
|-----|-----|------|-------------|-------|-----|----------|-----|------|-----------|-------------|-------|-----|----------|-----|------|-----------|
| 1.5 | 7.5 | 0.03 | -           |       |     |          |     |      |           | 751RX12-1.5 | ■     | ■   | ■        |     |      |           |
| 2.0 | 10  | 0.03 | 761LX12-2.0 | ■     | ■   | ■        |     |      |           | 751RX12-2.0 | ■     | ■   | ■        | ■   | ■    | ■         |



|             |                      |                   |
|-------------|----------------------|-------------------|
| Tronçonnage | Coupe déportée       | 761LX25 / 751RX25 |
| Abstechen   | Versetztes Schneiden |                   |
| Parting off | Cut off line         |                   |



|     |    |      | <div>R (L)</div> <div>Coupe à gauche déportée<br/>Versetztes Linksschneiden<br/>Left cut off line</div> |       |     | <div>L (R)</div> <div>Coupe à droite déportée<br/>Versetztes Rechtsschneiden<br/>Right cut off line</div> |             |       |     |          |
|-----|----|------|---------------------------------------------------------------------------------------------------------|-------|-----|-----------------------------------------------------------------------------------------------------------|-------------|-------|-----|----------|
| E   | L  | R    | Art. N°                                                                                                 | TiAIN | TiN | N (µk20)                                                                                                  | Art. N°     | TiAIN | TiN | N (µk20) |
| 2.0 | 10 | 0.03 | 761LX25-2.0                                                                                             | ■     | ■   | ■                                                                                                         | 751RX25-2.0 | ■     | ■   | ■        |



Tronçonnage

Abstechen

Parting off

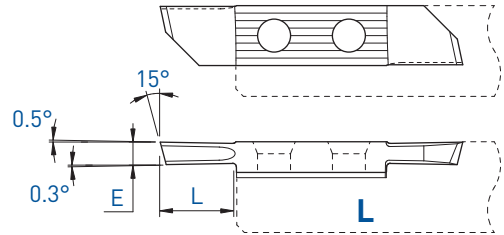
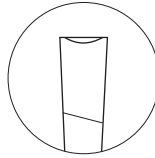
Coupe déportée

Versetztes Schneiden

Cut off line

751RU

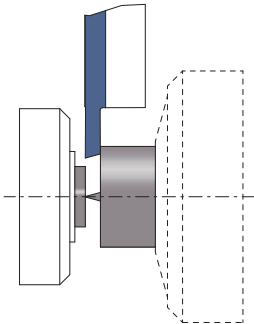
## Cut R



## L (R)

Coupe à droite déportée  
Versetztes Rechtsschneiden  
Right cut off line

| E   | L   | Art. N°   | TiAlN | TiN | N (µk20) |
|-----|-----|-----------|-------|-----|----------|
| 1.5 | 7.5 | 751RU-1.5 | ■     | ■   | ■        |
| 2.0 | 10  | 751RU-2.0 | ■     | ■   | ■        |



Tronçonnage

Abstechen

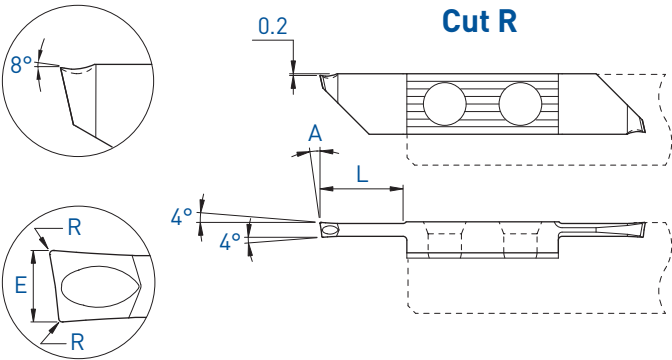
Parting off

Coupe déportée

Versetztes Schneiden

Cut off line

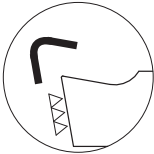
751RZU



R (L)

Coupe à gauche déportée  
Versetztes Linksschneiden  
Left cut off line

| E   | A  | L    | R    | Art. N°            | TiAIN | TiN | N [µk20] |
|-----|----|------|------|--------------------|-------|-----|----------|
| 2.0 | 8° | 11.0 | 0.10 | 751RZU8-2.0-8°-R10 | ■     |     |          |



Arête de coupe honée  
Gehonte Schneidkante  
Honed edge

f min: 0.02 mm/U



Tronçonnage

Abstechen

Parting off

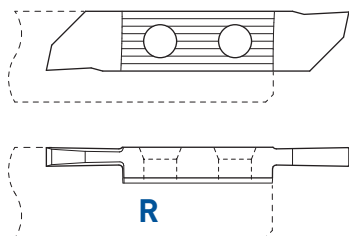
Coupe déportée

Versetztes Schneiden

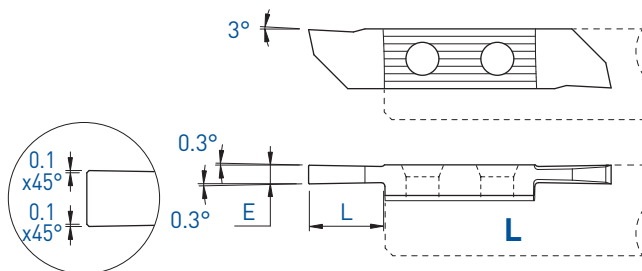
Cut off line

761NXF / 751NXF

Cut L



Cut R



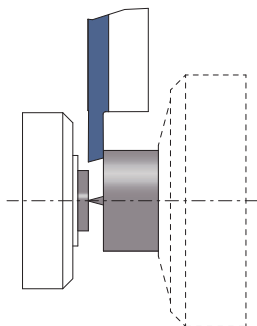
R (L)

Coupe à gauche déportée  
Versetztes Linksschneiden  
Left cut off line

L (R)

Coupe à droite déportée  
Versetztes Rechtsschneiden  
Right cut off line

| E   | L  | Art. N°    | TiAlN | TiN | N (µk20) | HTA | HTiN | HN (µk10) | Art. N°    | TiAlN | TiN | N (µk20) | HTA | HTiN | HN (µk10) |
|-----|----|------------|-------|-----|----------|-----|------|-----------|------------|-------|-----|----------|-----|------|-----------|
| 2.0 | 10 | 761NXF-2.0 | ■     | ■   | ■        | ■   | □    | ■         | 751NXF-2.0 | ■     | ■   | ■        | ■   | □    | ■         |
| 2.5 | 10 | 761NXF-2.5 | ■     | ■   | ■        |     |      |           | 751NXF-2.5 | ■     | ■   | ■        |     |      |           |
| 3.0 | 10 | 761NXF-3.0 | ■     | ■   | ■        |     |      |           | 751NXF-3.0 | ■     | ■   | ■        |     |      |           |



Tronçonnage

Coupe déportée

761LD / 751RD

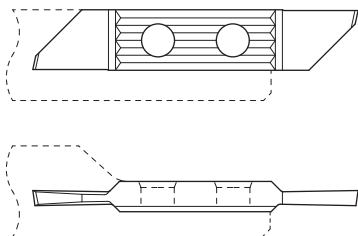
Abstechen

Versetztes Schneiden

Parting off

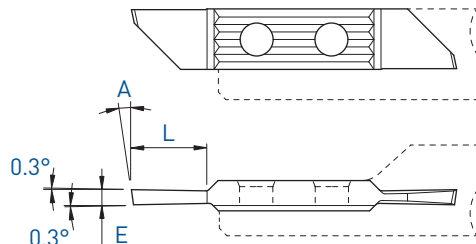
Cut off line

Cut L

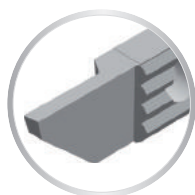


R

Cut R



L



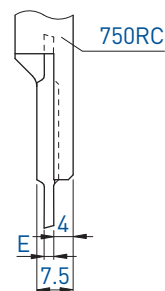
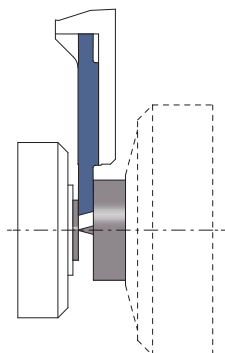
R (L)

Coupe à gauche déportée  
Versetztes Linksschneiden  
Left cut off line

L (R)

Coupe à droite déportée  
Versetztes Rechtsschneiden  
Right cut off line

| E   | A   | L  | Art. N°       | TiAlN | TiN | N (µk20) | HTA | HTiN | HN (µk10) | Art. N°       | TiAlN | TiN | N (µk20) | HTA | HTiN | HN (µk10) |
|-----|-----|----|---------------|-------|-----|----------|-----|------|-----------|---------------|-------|-----|----------|-----|------|-----------|
| 1.0 | 8°  | 5  | 761LD-1.0-8°  | ■     | ■   | ■        | ■   | □    | ■         | 751RD-1.0-8°  | ■     | ■   | ■        | ■   | □    | ■         |
| 1.0 | 15° | 5  | 761LD-1.0-15° | ■     | ■   | ■        | ■   | □    | ■         | 751RD-1.0-15° | ■     | ■   | ■        | ■   | □    | ■         |
| 1.2 | 8°  | 5  | 761LD-1.2-8°  | ■     | ■   | ■        |     |      |           | 751RD-1.2-8°  | ■     | ■   | ■        | ■   | □    | ■         |
| 1.5 | 8°  | 8  | 761LD-1.5-8°  | ■     | ■   | ■        |     |      |           | 751RD-1.5-8°  | ■     | ■   | ■        | ■   | ■    | ■         |
| 1.5 | 15° | 8  | 761LD-1.5-15° | ■     | ■   | ■        |     |      |           | 751RD-1.5-15° | ■     | ■   | ■        | ■   | □    | ■         |
| 1.6 | 8°  | 8  | 761LD-1.6-8°  | ■     | ■   | ■        |     |      |           | 751RD-1.6-8°  | ■     | ■   | ■        |     |      |           |
| 1.8 | 8°  | 10 | 761LD-1.8-8°  | ■     | ■   | ■        |     |      |           | 751RD-1.8-8°  | ■     | ■   | ■        | ■   | □    | ■         |
| 2.0 | 8°  | 10 | 761LD-2.0-8°  | ■     | ■   | ■        |     |      |           | 751RD-2.0-8°  | ■     | ■   | ■        | ■   | □    | ■         |
| 2.0 | 15° | 10 | 761LD-2.0-15° | ■     | ■   | ■        | ■   | □    | ■         | 751RD-2.0-15° | ■     | ■   | ■        | ■   | □    | ■         |
| 2.5 | 8°  | 10 | -             |       |     |          |     |      |           | 751RD-2.5-8°  | ■     | ■   | ■        | ■   | □    | ■         |



Tronçonnage

Abstechen

Parting off

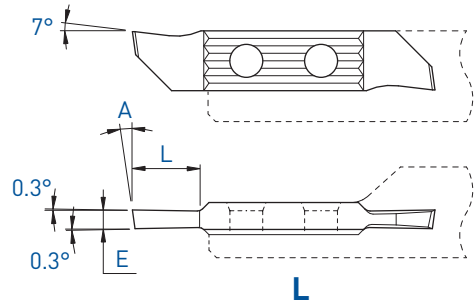
Coupe déportée

Versetztes Schneiden

Cut off line

751RAS

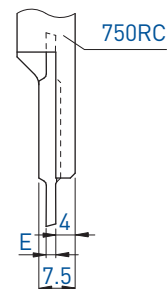
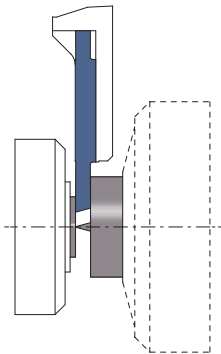
Cut R



L (R)

Coupe à droite déportée  
Versetztes Rechtsschneiden  
Right cut off line

| E   | A   | L   | Art. N°        | TiAlN | TiN | N (µk20) | HTA | HTiN | HN (µk10) |
|-----|-----|-----|----------------|-------|-----|----------|-----|------|-----------|
| 1.6 | 8°  | 7.5 | 751RAS-1.6-8°  | ■     | ■   | ■        |     |      |           |
| 1.6 | 15° | 7.5 | 751RAS-1.6-15° | ■     | ■   | ■        | ■   | □    | ■         |
| 2.0 | 8°  | 9   | 751RAS-2.0-8°  | ■     | ■   | ■        | ■   | □    | ■         |
| 2.0 | 15° | 9   | 751RAS-2.0-15° | ■     | ■   | ■        |     |      |           |
| 2.5 | 8°  | 9   | 751RAS-2.5-8°  | ■     | ■   | ■        |     |      |           |
| 2.5 | 15° | 9   | 751RAS-2.5-15° | ■     | ■   | ■        |     |      |           |



Tournage avant

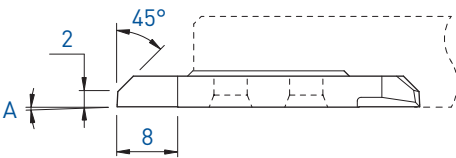
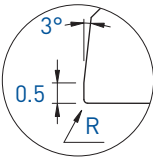
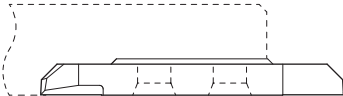
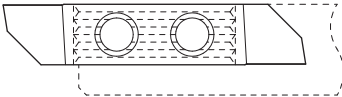
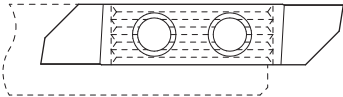
Vorwärts drehen

Front turning

752 / 762

L

R



L

R

| A  | R    | Art. N° | TiAlN | TiN | N (µk20) | HTA | HTiN | HN (µk10) | Art. N° | TiAlN | TiN | N (µk20) | HTA | HTiN | HN (µk10) |
|----|------|---------|-------|-----|----------|-----|------|-----------|---------|-------|-----|----------|-----|------|-----------|
| 0° | 0    | 752     | ■     | ■   | ■        | ■   | □    | ■         | 762     | ■     | ■   | ■        | ■   | □    | ■         |
| 0° | 0.20 | -       |       |     |          |     |      |           | 762-R20 | ■     | ■   | ■        | ■   | □    | ■         |
| 3° | 0    | 752-3°  | ■     | ■   | ■        | ■   | □    | ■         | 762-3°  | ■     | ■   | ■        | ■   | □    | ■         |

7XX-XX-B



Sur demande pour serrage type B, voir page 1.03  
Wahlweise mit B-Spannsystem, siehe Seite 1.03  
On request for B clamping system, see page 1.03

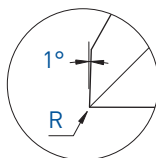
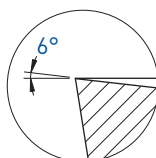
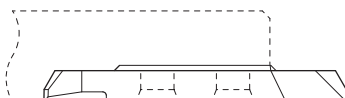
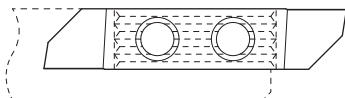
Tournage avant

&lt; Vorwärts drehen

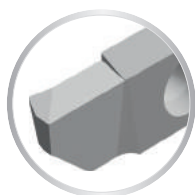
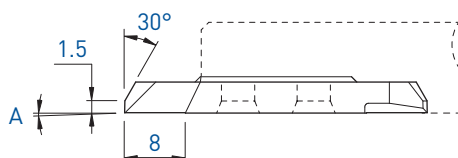
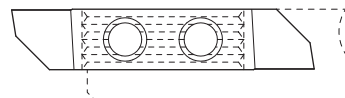
Front turning

752PX / 762PX

L



R



L

R

| A  | R | Art. N° | TiAlN | TiN | N [μk20] | Art. N° | TiAlN | TiN | N [μk20] |
|----|---|---------|-------|-----|----------|---------|-------|-----|----------|
| 0° | 0 | 752PX   | ■     | ■   | ■        | 762PX   | ■     | ■   | ■        |

7XX-XX-B



Sur demande pour serrage type B, voir page 1.03  
 Wahlweise mit B-Spannsystem, siehe Seite 1.03  
 On request for B clamping system, see page 1.03

■ = disponible / verfügbar / available

□ = selon disponibilité du stock / jenach Lagerverfügbarkeit / depending on stock availability

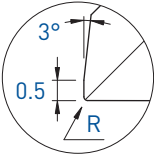
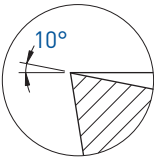
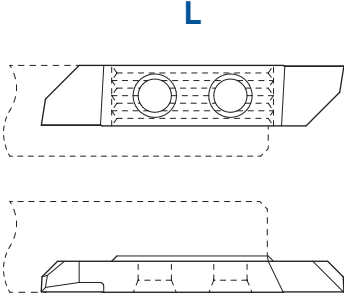
Tournage avant

Vorwärts drehen

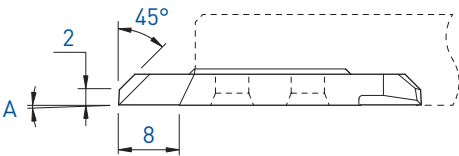
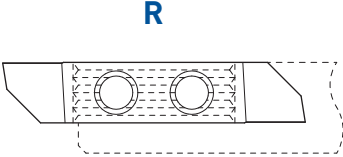
Front turning

752X / 762X

L



R



L

R

| A  | R    | Art. N°  | TiAlN | TiN | N [µk20] | HTA | HTiN | HN [µk10] | Art. N°  | TiAlN | TiN | N [µk20] | HTA | HTiN | HN [µk10] |
|----|------|----------|-------|-----|----------|-----|------|-----------|----------|-------|-----|----------|-----|------|-----------|
| 0° | 0    | 752X     | ■     | ■   | ■        | ■   | ■    | ■         | 762X     | ■     | ■   | ■        | ■   | ■    | ■         |
| 0° | 0.20 | 752X-R20 | ■     | ■   | ■        |     |      |           | 762X-R20 | ■     | ■   | ■        | ■   | ■    | ■         |

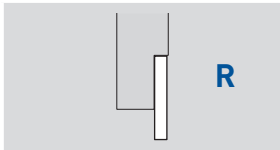
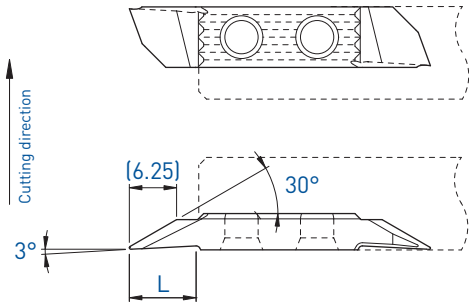
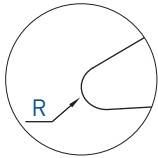
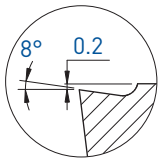
7XX-XX-B



Sur demande pour serrage type B, voir page 1.03  
Wahlweise mit B-Spannsystem, siehe Seite 1.03  
On request for B clamping system, see page 1.03

- Tournage avant
- < Vorwärts drehen
- Front turning

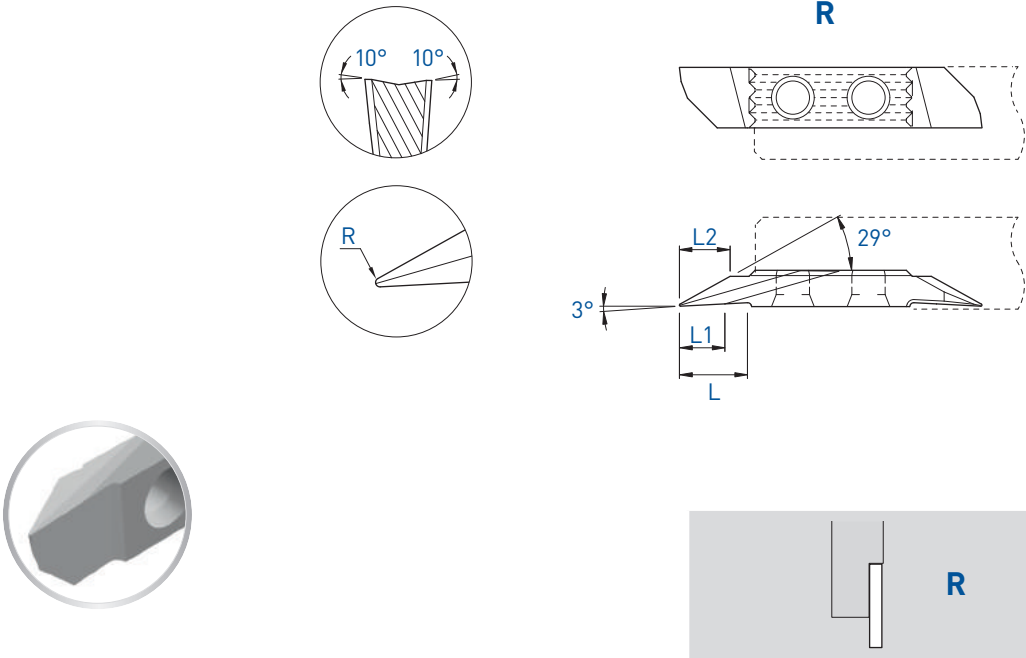
762VX-800



| L | R    | Art. N°       | HTA | HTiN | HN (μk10) |
|---|------|---------------|-----|------|-----------|
| 9 | 0.15 | 762VX-800-R15 | ■   | ■    | ■         |

- Tournage avant
- Vorwärts drehen
- Front turning

762VUX



| L | L1 | L2  | R    | Art. N°          | TiAlN<br>N [µk20] | HTA | HN [µk10] |
|---|----|-----|------|------------------|-------------------|-----|-----------|
| 9 | 6  | 6.9 | 0.08 | 762VUX10-29°-R08 | ■                 | ■   | ■         |
| 9 | 6  | 6.7 | 0.15 | 762VUX10-29°-R15 | ■                 | ■   | ■         |
| 9 | 6  | 6.1 | 0.35 | 762VUX10-29°-R35 | ■                 | ■   | ■         |
| 9 | 6  | 4.9 | 0.75 | 762VUX10-29°-R75 | ■                 | ■   | ■         |

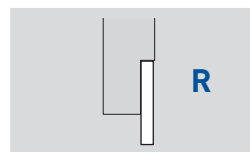
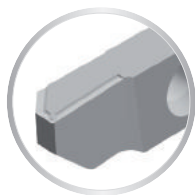
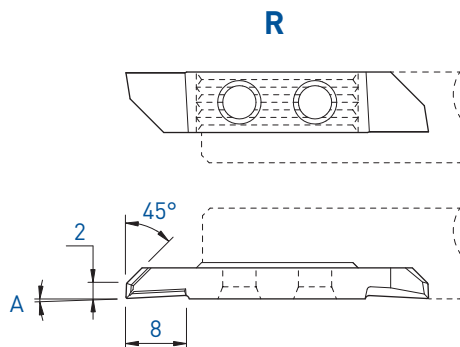
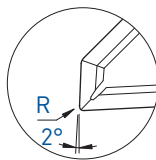
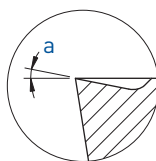


Tournage avant

Vorwärts drehen

Front turning

762ZX



| a   | A  | R    | Art. N°     | TiAlN | TiN | N [µk20] |
|-----|----|------|-------------|-------|-----|----------|
| 10° | 3° | 0.08 | 762ZX10-R08 | ■     | □   |          |
|     | 3° | 0.20 | 762ZX10-R20 | ■     | □   |          |



Arête de coupe honée  
Gehonte Schneidkante  
Honed edge

f min: 0.02 mm/U

7XX-XX-B



Sur demande pour serrage type B, voir page 1.03  
Wahlweise mit B-Spannsystem, siehe Seite 1.03  
On request for B clamping system, see page 1.03

■ = disponible / verfügbar / available

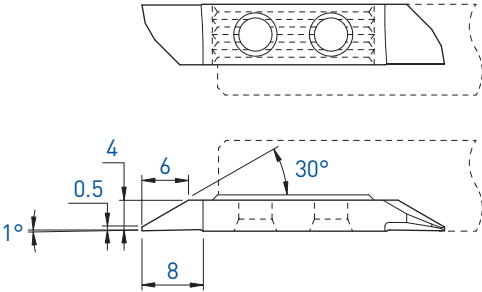
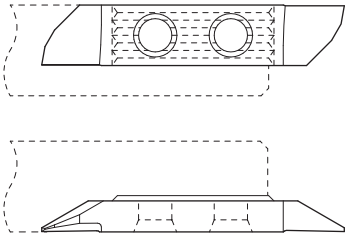
□ = selon disponibilité du stock / jenach Lagerverfügbarkeit / depending on stock availability

Tournage multifonction  
Mehrzweck Drehen  
Multifunction turning

752S / 762S  
753S / 763S

L

R

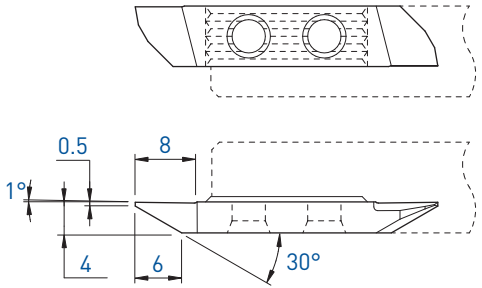
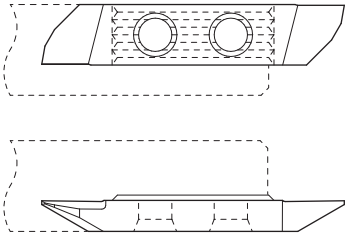


Tournage avant  
Vorwärts drehen  
Front turning

| L                                                                                 |       |     |          |     |      | R                                                                                  |         |       |       |     |          |     |      |           |
|-----------------------------------------------------------------------------------|-------|-----|----------|-----|------|------------------------------------------------------------------------------------|---------|-------|-------|-----|----------|-----|------|-----------|
|  |       |     |          |     |      |  |         |       |       |     |          |     |      |           |
| Art. N°                                                                           | TiAlN | TiN | N (µk20) | HTA | HTiN | HN (µk10)                                                                          | Art. N° | TiAlN | TiAlX | TiN | N (µk20) | HTA | HTiN | HN (µk10) |
| 752S05                                                                            | ■     | ■   | ■        | ■   | □    | ■                                                                                  | 762S05  | ■     | ■     | ■   | ■        | ■   | ■    | ■         |

L

R



Tournage arrière  
Rückwärts drehen  
Back turning

| L                                                                                   |       |     |          |     |      | R                                                                                    |         |       |       |     |          |     |      |           |
|-------------------------------------------------------------------------------------|-------|-----|----------|-----|------|--------------------------------------------------------------------------------------|---------|-------|-------|-----|----------|-----|------|-----------|
|  |       |     |          |     |      |  |         |       |       |     |          |     |      |           |
| Art. N°                                                                             | TiAlN | TiN | N (µk20) | HTA | HTiN | HN (µk10)                                                                            | Art. N° | TiAlN | TiAlX | TiN | N (µk20) | HTA | HTiN | HN (µk10) |
| 753S05                                                                              | ■     | ■   | ■        | ■   | ■    | ■                                                                                    | 763S05  | ■     | ■     | ■   | ■        | ■   | ■    | ■         |

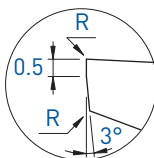
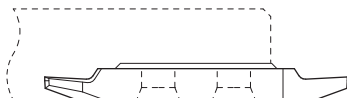
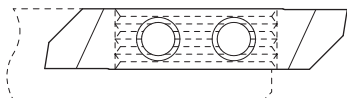
Tournage arrière

Rückwärts drehen

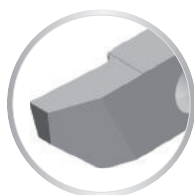
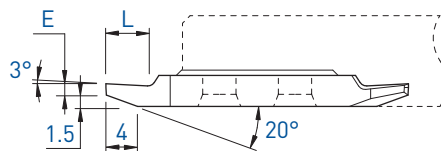
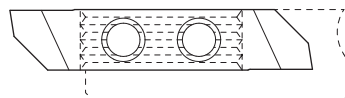
Back turning

753 / 763

L



R



L



R



| E   | L   | R    | Art. N°     | TiAlN | TiN | N [μk20] | HTA | HTiN | HN [μk10] | Art. N°     | TiAlN | TiN | N [μk20] | HTA | HTiN | HN [μk10] |
|-----|-----|------|-------------|-------|-----|----------|-----|------|-----------|-------------|-------|-----|----------|-----|------|-----------|
| 1.0 | 5   | 0    | 753-1.0     | ■     | ■   | ■        | ■   | □    | ■         | 763-1.0     | ■     | ■   | ■        | ■   | ■    | ■         |
| 1.0 | 5   | 0.08 | 753-1.0-R08 | ■     | ■   | ■        |     |      |           | 763-1.0-R08 | ■     | ■   | ■        | ■   | □    | ■         |
| 1.5 | 6   | 0    | 753-1.5     | ■     | ■   | ■        |     |      |           | 763-1.5     | ■     | ■   | ■        | ■   | □    | ■         |
| 2.0 | 7.5 | 0    | 753-2.0     | ■     | ■   | ■        |     |      |           | 763-2.0     | ■     | ■   | ■        | ■   | □    | ■         |
| 2.5 | 9   | 0    | 753-2.5     | ■     | ■   | ■        |     |      |           | 763-2.5     | ■     | ■   | ■        | ■   | □    | ■         |

7XX-XX-B



Sur demande pour serrage type B, voir page 1.03  
 Wahlweise mit B-Spannsystem, siehe Seite 1.03  
 On request for B clamping system, see page 1.03

■ = disponible / verfügbar / available

□ = selon disponibilité du stock / jenach Lagerverfügbarkeit / depending on stock availability

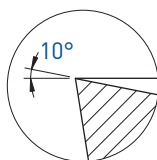
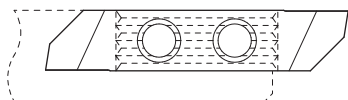
Tournage arrière

Rückwärts drehen

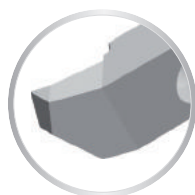
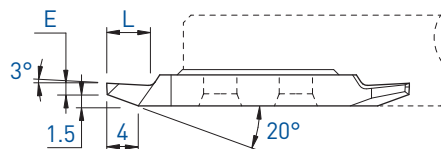
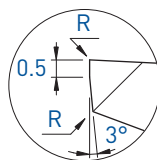
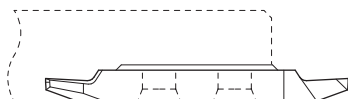
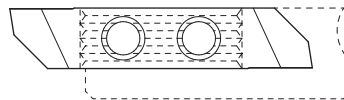
Back turning

753X / 763X

L



R



L



R



| E   | L   | R    | Art. N°      | TiAlN | TiN | N (μk20) | HTA | HTiN | HN (μk10) | Art. N°      | TiAlN | TiN | N (μk20) | HTA | HTiN | HN (μk10) |
|-----|-----|------|--------------|-------|-----|----------|-----|------|-----------|--------------|-------|-----|----------|-----|------|-----------|
| 1.0 | 5   | 0    | 753X-1.0     | ■     | ■   | ■        |     |      |           | 763X-1.0     | ■     | ■   | ■        | ■   | □    | ■         |
| 1.0 | 5   | 0.08 | 753X-1.0-R08 | ■     | ■   | ■        | ■   | □    | ■         | 763X-1.0-R08 | ■     | ■   | ■        | ■   | □    | ■         |
| 1.0 | 5   | 0.20 | 753X-1.0-R20 | ■     | ■   | ■        |     |      |           | 763X-1.0-R20 | ■     | ■   | ■        |     |      |           |
| 1.5 | 6   | 0    | 753X-1.5     | ■     | ■   | ■        |     |      |           | 763X-1.5     | ■     | ■   | ■        | ■   | □    | ■         |
| 1.5 | 6   | 0.20 | 753X-1.5-R20 | ■     | ■   | ■        |     |      |           | 763X-1.5-R20 | ■     | ■   | ■        |     |      |           |
| 2.0 | 7.5 | 0    | 753X-2.0     | ■     | ■   | ■        |     |      |           | 763X-2.0     | ■     | ■   | ■        |     |      |           |
| 2.0 | 7.5 | 0.20 | 753X-2.0-R20 | ■     | ■   | ■        |     |      |           | 763X-2.0-R20 | ■     | ■   | ■        |     |      |           |
| 2.5 | 9   | 0    | 753X-2.5     | ■     | ■   | ■        |     |      |           | 763X-2.5     | ■     | ■   | ■        |     |      |           |
| 2.5 | 9   | 0.20 | 753X-2.5-R20 | ■     | ■   | ■        |     |      |           | 763X-2.5-R20 | ■     | ■   | ■        |     |      |           |

7XX-XX-B



Sur demande pour serrage type B, voir page 1.03  
 Wahlweise mit B-Spannsystem, siehe Seite 1.03  
 On request for B clamping system, see page 1.03

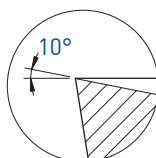
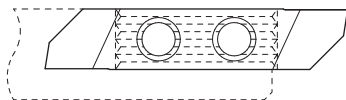
Tournage arrière

Rückwärts drehen

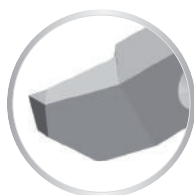
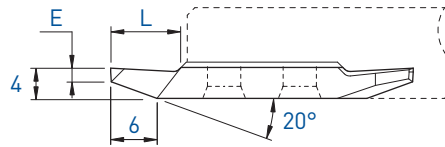
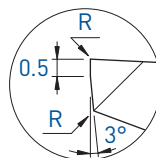
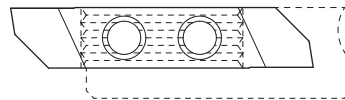
Back turning

753XS / 763XS

L



R



L



R



| E   | L | R    | Art. N°       | TiAlN | TiN | N [μk20] | HTA | HTiN | HN [μk10] | Art. N°       | TiAlN | TiN | N [μk20] | HTA | HTiN | HN [μk10] |
|-----|---|------|---------------|-------|-----|----------|-----|------|-----------|---------------|-------|-----|----------|-----|------|-----------|
| 1.8 | 9 | 0    | 753XS-1.8     | ■     | ■   | ■        |     |      |           | 763XS-1.8     | ■     | ■   | ■        | ■   | □    | ■         |
| 1.8 | 9 | 0.20 | 753XS-1.8-R20 | ■     | ■   | ■        |     |      |           | 763XS-1.8-R20 | ■     | ■   | ■        |     |      |           |

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Sur demande pour serrage type B, voir page 1.03  
 Wahlweise mit B-Spannsystem, siehe Seite 1.03  
 On request for B clamping system, see page 1.03

■ = disponible / verfügbar / available

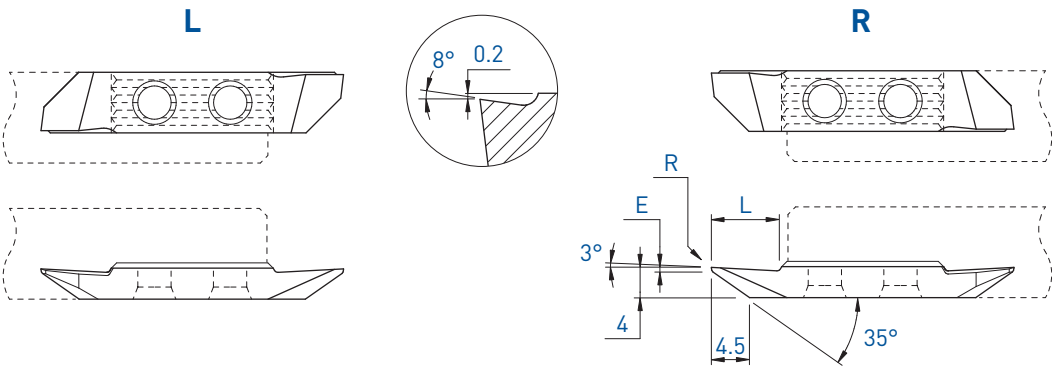
□ = selon disponibilité du stock / jenach Lagerverfügbarkeit / depending on stock availability

Tournage arrière

Rückwärts drehen

Back turning

753VX-8° / 763VX-8°



| <div>L</div>  |  |  |       |     |          |     | <div>R</div>  |           |              |  |  |       |     |          |     |      |           |
|------------------------------------------------------------------------------------------------|--|--|-------|-----|----------|-----|-------------------------------------------------------------------------------------------------|-----------|--------------|--|--|-------|-----|----------|-----|------|-----------|
| Art. N°                                                                                        |  |  | TiAlN | TiN | N [µk20] | HTA | HTiN                                                                                            | HN [µk10] | Art. N°      |  |  | TiAlN | TiN | N [µk20] | HTA | HTiN | HN [µk10] |
| 753VX-8°                                                                                       |  |  | ■     | ■   | ■        |     |                                                                                                 |           | 763VX-8°     |  |  | ■     | ■   | ■        | ■   | ■    | ■         |
| 753VX-8°-R08                                                                                   |  |  | ■     | ■   | ■        |     |                                                                                                 |           | 763VX-8°-R08 |  |  | ■     | ■   | ■        | ■   | □    | ■         |
| -                                                                                              |  |  |       |     |          |     |                                                                                                 |           | 763VX-8°-R20 |  |  | ■     | ■   | ■        |     |      |           |

7XX-XX-B



Sur demande pour serrage type B, voir page 1.03  
Wahlweise mit B-Spannsystem, siehe Seite 1.03  
On request for B clamping system, see page 1.03

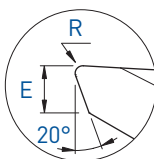
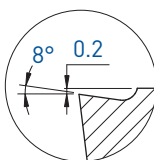
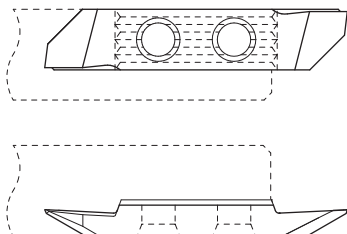
Tournage arrière

Rückwärts drehen

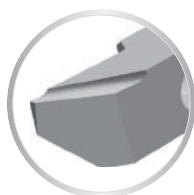
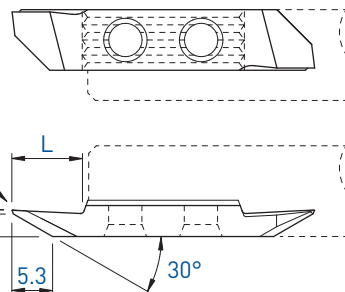
Back turning

753VX-805 / 763VX-805

L



R



L

R

| E   | L | R    | Art. N°       | TiAlN | TiN | N [µk20] | HTA | HTiN | HN [µk10] | Art. N°       | TiAlN | TiN | N [µk20] | HTA | HTiN | HN [µk10] |
|-----|---|------|---------------|-------|-----|----------|-----|------|-----------|---------------|-------|-----|----------|-----|------|-----------|
| 0.5 | 9 | 0.08 | 753VX-805-R08 | ■     | ■   | ■        | ■   | □    | ■         | 763VX-805-R08 | ■     | ■   | ■        | ■   | □    | ■         |

7XX-XX-B



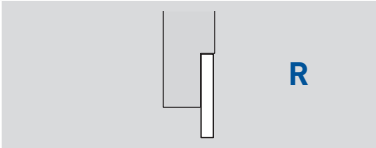
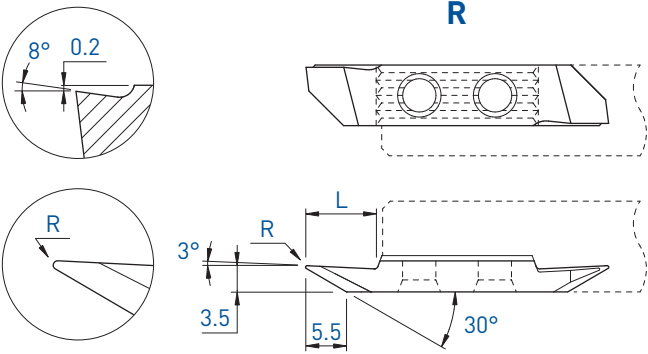
Sur demande pour serrage type B, voir page 1.03  
 Wahlweise mit B-Spannsystem, siehe Seite 1.03  
 On request for B clamping system, see page 1.03

■ = disponible / verfügbar / available

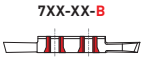
□ = selon disponibilité du stock / jenach Lagerverfügbarkeit / depending on stock availability

Tournage arrière  
Rückwärts drehen  
Back turning

763VX-800



| L | R    | Art. N°       | TiAlN | TiN | N (µk20) | HTA | HTiN | HN (µk10) |
|---|------|---------------|-------|-----|----------|-----|------|-----------|
| 9 | 0.08 | 763VX-800-R08 | ■     | ■   | ■        | ■   | □    | ■         |
| 9 | 0.20 | 763VX-800-R20 | ■     | ■   | ■        | ■   | □    | ■         |



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Sur demande pour serrage type B, voir page 1.03  
Wahlweise mit B-Spannsystem, siehe Seite 1.03  
On request for B clamping system, see page 1.03



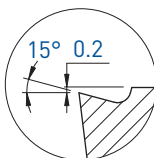
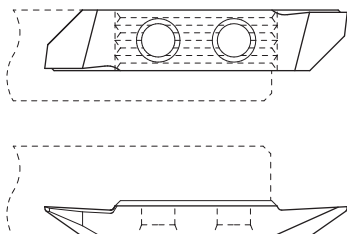
Tournage arrière

Rückwärts drehen

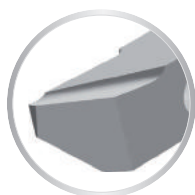
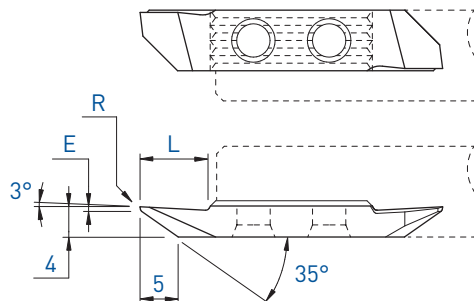
Back turning

753VX-15° / 763VX-15°

L



R



L



R



| E   | L | R    | Art. N°       | TiAlN | TiN | N [µk20] | HTA | HTiN | HN [µk10] | Art. N°       | TiAlN | TiN | N [µk20] | HTA | HTiN | HN [µk10] |
|-----|---|------|---------------|-------|-----|----------|-----|------|-----------|---------------|-------|-----|----------|-----|------|-----------|
| 0.6 | 9 | 0    | 753VX-15°     | ■     | ■   | ■        |     |      |           | 763VX-15°     | ■     | ■   | ■        | ■   | □    | ■         |
| 0.6 | 9 | 0.08 | 753VX-15°-R08 | ■     | ■   | ■        |     |      |           | 763VX-15°-R08 | ■     | ■   | ■        | ■   | □    | ■         |

7XX-XX-B



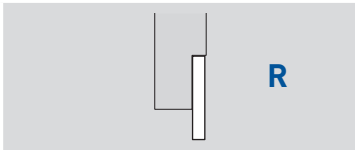
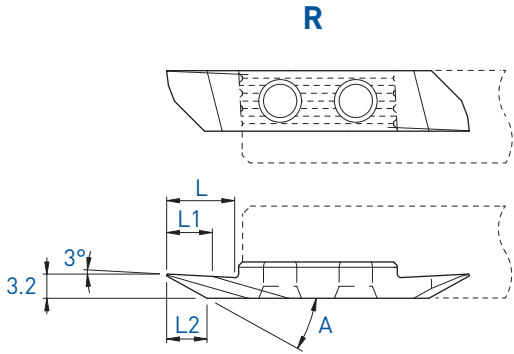
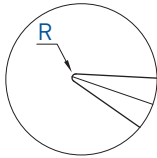
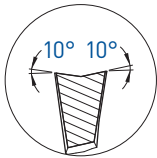
Sur demande pour serrage type B, voir page 1.03  
 Wahlweise mit B-Spannsystem, siehe Seite 1.03  
 On request for B clamping system, see page 1.03

■ = disponible / verfügbar / available

□ = selon disponibilité du stock / jenach Lagerverfügbarkeit / depending on stock availability

Tournage arrière  
Rückwärts drehen  
Back turning

763VUX



| L | L1 | L2  | A  | R    | Art. N°          | TiAlN<br>N [μk20] | HTA | HN [μk10] |
|---|----|-----|----|------|------------------|-------------------|-----|-----------|
| 9 | 6  | 5.5 | 29 | 0.08 | 763VUX10-29°-R08 | ■                 | ■   | ■         |
| 9 | 6  | 5.3 | 29 | 0.15 | 763VUX10-29°-R15 | ■                 | ■   | ■         |
| 9 | 6  | 4.7 | 29 | 0.35 | 763VUX10-29°-R35 | ■                 | ■   | ■         |
| 9 | 6  | 3.6 | 29 | 0.75 | 763VUX10-29°-R75 | ■                 | ■   | ■         |
| 9 | 6  | 4.2 | 35 | 0.15 | 763VUX10-35°-R15 | ■                 | ■   | ■         |
| 9 | 6  | 3.8 | 35 | 0.35 | 763VUX10-35°-R35 | ■                 | ■   | ■         |

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Sur demande pour serrage type B, voir page 1.03  
Wahlweise mit B-Spannsystem, siehe Seite 1.03  
On request for B clamping system, see page 1.03

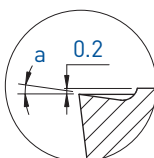
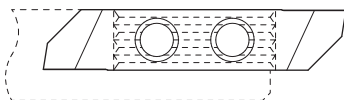
Tournage arrière

Rückwärts drehen

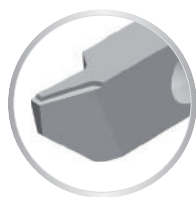
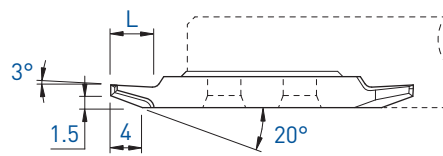
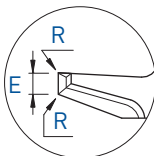
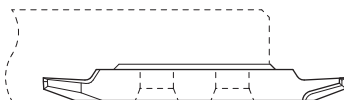
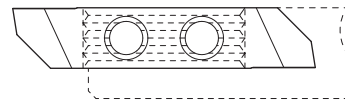
Back turning

753ZX / 763ZX

L

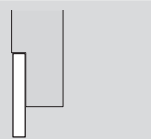


R

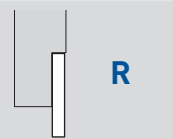


Pour un meilleur contrôle des copeaux  
Für eine bessere Spankontrolle  
For a better chip-control

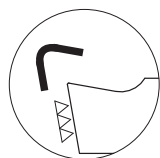
L



R



| a   | E   | L | R    | Art. N°     | TiAlN | TiN | N (µk20) | Art. N°         | TiAlN | TiN | N (µk20) |
|-----|-----|---|------|-------------|-------|-----|----------|-----------------|-------|-----|----------|
| 10° | 1.0 | 5 | 0.01 | 753ZX10-1.0 | ■     | □   |          | 763ZX10-1.0     | ■     | ■   |          |
|     | 1.0 | 5 | 0.08 | -           |       |     |          | 763ZX10-1.0-R08 | ■     | ■   |          |
|     | 1.0 | 5 | 0.20 | -           |       |     |          | 763ZX10-1.0-R20 | ■     | ■   |          |



Arête de coupe honée  
Gehonte Schneidkante  
Honed edge

f min: 0.02 mm/U

7XX-XX-B



Sur demande pour serrage type B, voir page 1.03  
Wahlweise mit B-Spannsystem, siehe Seite 1.03  
On request for B clamping system, see page 1.03

■ = disponible / verfügbar / available

□ = selon disponibilité du stock / je nach Lagerverfügbarkeit / depending on stock availability

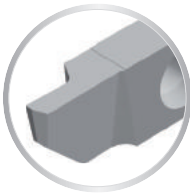
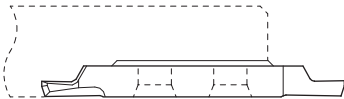
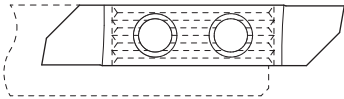
Tournage arrière / pré-coupe

Rückwärts drehen / vorstechen

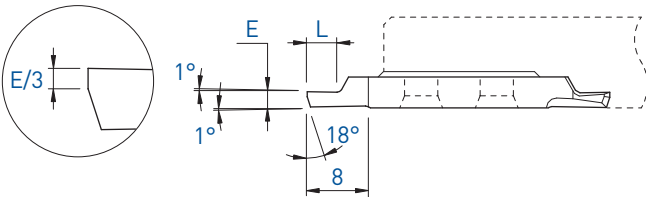
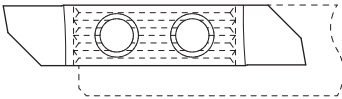
Back turning / pre-parting off

753P / 763P

L



R



L

R

| E   | L   | Art. N°  | TiAlN |   |        | Art. N°  | TiAlN |   |        |
|-----|-----|----------|-------|---|--------|----------|-------|---|--------|
|     |     |          | TiN   | N | (µk20) |          | TiN   | N | (µk20) |
| 1.5 | 3   | 753P-1.5 | ■     | ■ | ■      | 763P-1.5 | ■     | ■ | ■      |
| 1.8 | 3.5 | 753P-1.8 | ■     | ■ | ■      | 763P-1.8 | ■     | ■ | ■      |
| 2.0 | 4   | 753P-2.0 | ■     | ■ | ■      | 763P-2.0 | ■     | ■ | ■      |
| 2.2 | 5   | 753P-2.2 | ■     | ■ | ■      | 763P-2.2 | ■     | ■ | ■      |
| 2.5 | 6   | 753P-2.5 | ■     | ■ | ■      | 763P-2.5 | ■     | ■ | ■      |
| 3.0 | 6   | 753P-3.0 | ■     | ■ | ■      | 763P-3.0 | ■     | ■ | ■      |

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Sur demande pour serrage type B, voir page 1.03  
Wahlweise mit B-Spannsystem, siehe Seite 1.03  
On request for B clamping system, see page 1.03

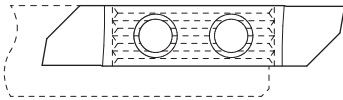
Fonçage-tournage

Einstecken und drehen

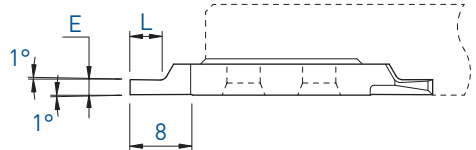
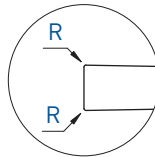
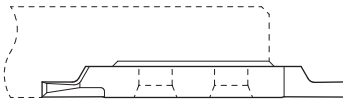
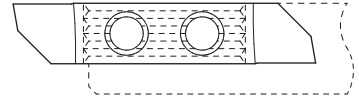
Grooving and turning

754 / 764

L



R



L



R



| E    | L   | R    | Art. N°     | TiAlN | TiN | N (μk20) | HTA | HTiN | HN (μk10) | Art. N°     | TiAlN | TiAlX | TiN | N (μk20) | HTA | HTiN | HN (μk10) |
|------|-----|------|-------------|-------|-----|----------|-----|------|-----------|-------------|-------|-------|-----|----------|-----|------|-----------|
| 0.5  | 1.5 | 0    | 754-0.5     | ■     | ■   | ■        |     |      |           | 764-0.5     | ■     | ■     | ■   | ■        | ■   | ■    | ■         |
| 0.75 | 2   | 0    | 754-0.75    | ■     | ■   | ■        |     |      |           | 764-0.75    | ■     | ■     | ■   | ■        | ■   | ■    | ■         |
| 0.8  | 2   | 0    | -           |       |     |          |     |      |           | 764-0.8     | ■     | ■     | ■   | ■        | ■   | □    | ■         |
| 0.95 | 3   | 0    | 754-0.95    | ■     | ■   | ■        |     | ■    | □         | 764-0.95    | ■     | ■     | ■   | ■        | ■   |      |           |
| 1.0  | 2.5 | 0    | 754-1.0     | ■     | ■   | ■        |     | ■    | □         | 764-1.0     | ■     | ■     | ■   | ■        | ■   | ■    | ■         |
| 1.0  | 2.5 | 0.08 | 754-1.0-R08 | ■     | ■   | ■        |     |      |           | 764-1.0-R08 | ■     | ■     | ■   | ■        | ■   | □    | ■         |
| 1.2  | 3   | 0    | 754-1.2     | ■     | ■   | ■        |     |      |           | 764-1.2     | ■     | ■     | ■   | ■        | ■   | □    | ■         |
| 1.5  | 3   | 0    | 754-1.5     | ■     | ■   | ■        |     | ■    | □         | 764-1.5     | ■     | ■     | ■   | ■        | ■   | ■    | ■         |
| 1.5  | 3   | 0.08 | 754-1.5-R08 | ■     | ■   | ■        |     | ■    | □         | 764-1.5-R08 | ■     | ■     | ■   | ■        | ■   | □    | ■         |
| 1.5  | 3   | 0.15 | -           |       |     |          |     |      |           | 764-1.5-R15 | ■     | ■     | □   | ■        | ■   |      | ■         |
| 1.5  | 3   | 0.20 | -           |       |     |          |     |      |           | 764-1.5-R20 | ■     | ■     | ■   | ■        | ■   | □    | ■         |
| 1.8  | 4   | 0    | 754-1.8     | ■     | ■   | ■        |     |      |           | 764-1.8     | ■     | ■     | ■   | ■        | ■   |      |           |
| 2.0  | 4   | 0    | 754-2.0     | ■     | ■   | ■        |     | ■    | □         | 764-2.0     | ■     | ■     | ■   | ■        | ■   | ■    | ■         |
| 2.0  | 4   | 0.08 | 754-2.0-R08 | ■     | ■   | ■        |     | ■    | □         | 764-2.0-R08 | ■     | ■     | ■   | ■        | ■   | □    | ■         |
| 2.0  | 4   | 0.15 | -           |       |     |          |     |      |           | 764-2.0-R15 | ■     | ■     | □   | ■        | ■   |      | ■         |
| 2.0  | 4   | 0.20 | 754-2.0-R20 | ■     | ■   | ■        |     |      |           | 764-2.0-R20 | ■     | ■     | ■   | ■        | ■   | □    | ■         |
| 2.5  | 6   | 0    | 754-2.5     | ■     | ■   | ■        |     |      |           | 764-2.5     | ■     | ■     | ■   | ■        | ■   | □    | ■         |
| 2.5  | 6   | 0.15 | -           |       |     |          |     |      |           | 764-2.5-R15 | ■     | ■     | □   | ■        | ■   |      | ■         |
| 2.5  | 6   | 0.20 | -           |       |     |          |     |      |           | 764-2.5-R20 | ■     | ■     | ■   | ■        | ■   | □    | ■         |
| 3.0  | 6   | 0    | 754-3.0     | ■     | ■   | ■        |     | ■    | □         | 764-3.0     | ■     | ■     | ■   | ■        | ■   | □    | ■         |
| 3.0  | 6   | 0.08 | 754-3.0-R08 | ■     | ■   | ■        |     |      |           | 764-3.0-R08 | ■     | ■     | ■   | ■        | ■   | □    | ■         |
| 3.0  | 6   | 0.15 | -           |       |     |          |     |      |           | 764-3.0-R15 | ■     | ■     | □   | ■        | ■   |      | ■         |
| 3.0  | 6   | 0.20 | 754-3.0-R20 | ■     | ■   | ■        |     | ■    | □         | 764-3.0-R20 | ■     | ■     | ■   | ■        | ■   |      |           |
| 4.0  | 8   | 0    | 754-4.0     | ■     | ■   | ■        |     | ■    | ■         | 764-4.0     | ■     | ■     | ■   | ■        | ■   | □    | ■         |

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Sur demande pour serrage type B, voir page 1.03  
 Wahlweise mit B-Spannsystem, siehe Seite 1.03  
 On request for B clamping system, see page 1.03

■ = disponible / verfügbar / available

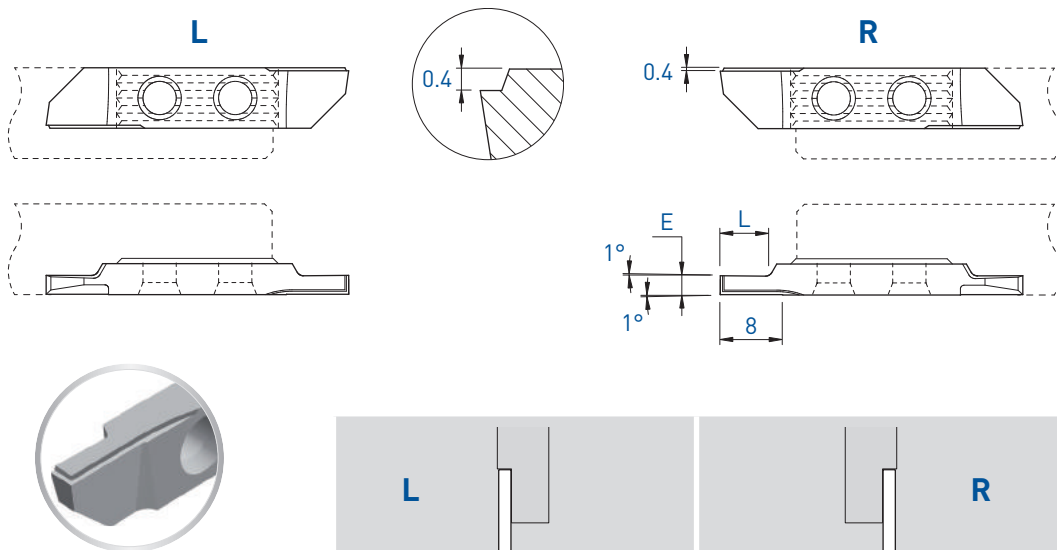
□ = selon disponibilité du stock / jenach Lagerverfügbarkeit / depending on stock availability

Fonçage-tournage

Einstecken und drehen

Grooving and turning

754VS / 764VS





|     |     | <div> <div>L</div>  </div> |       |     |          |     |      |           | <div>  <div>R</div> </div> |       |     |          |     |      |           |
|-----|-----|-------------------------------------------------------------------------------------------------------------|-------|-----|----------|-----|------|-----------|--------------------------------------------------------------------------------------------------------------|-------|-----|----------|-----|------|-----------|
| E   | L   | Art. N°                                                                                                     | TiAlN | TiN | N (µk20) | HTA | HTiN | HN (µk10) | Art. N°                                                                                                      | TiAlN | TiN | N (µk20) | HTA | HTiN | HN (µk10) |
| 1.0 | 2   | 754VS-1.0                                                                                                   | ■     | ■   | ■        |     |      |           | 764VS-1.0                                                                                                    | ■     | ■   | ■        |     |      |           |
| 1.2 | 2.5 | 754VS-1.2                                                                                                   | ■     | ■   | ■        | ■   | □    | ■         | 764VS-1.2                                                                                                    | ■     | ■   | ■        |     |      |           |
| 1.5 | 3   | 754VS-1.5                                                                                                   | ■     | ■   | ■        |     |      |           | 764VS-1.5                                                                                                    | ■     | ■   | ■        |     |      |           |
| 2.0 | 4   | 754VS-2.0                                                                                                   | ■     | ■   | ■        |     |      |           | 764VS-2.0                                                                                                    | ■     | ■   | ■        |     |      |           |
| 2.5 | 6   | 754VS-2.5                                                                                                   | ■     | ■   | ■        |     |      |           | 764VS-2.5                                                                                                    | ■     | ■   | ■        | ■   | □    | ■         |
| 3.0 | 6   | 754VS-3.0                                                                                                   | ■     | ■   | ■        |     |      |           | 764VS-3.0                                                                                                    | ■     | ■   | ■        |     |      |           |

7XX-XX-B



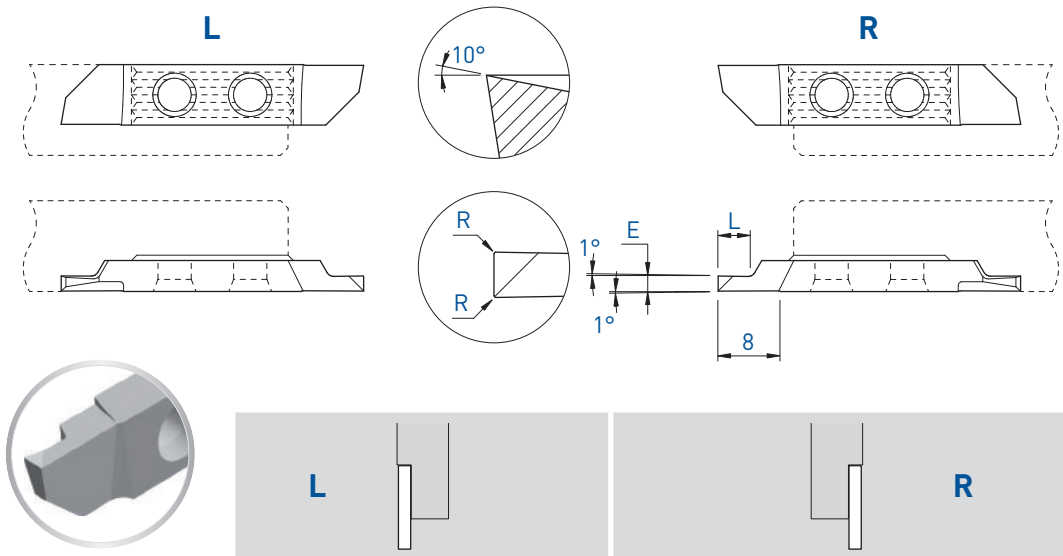
Sur demande pour serrage type B, voir page 1.03  
 Wahlweise mit B-Spannsystem, siehe Seite 1.03  
 On request for B clamping system, see page 1.03

Fonçage-tournage

Einstecken und drehen

Grooving and turning

754X / 764X



| E   | L   | R    | Art. N°      | TiAlN | TiN | N (µk20) | HTA | HTiN | HN (µk10) | Art. N°      | TiAlN | TiAlX | LoX | TiN | N (µk20) | HTA | HTiN | HN (µk10) |
|-----|-----|------|--------------|-------|-----|----------|-----|------|-----------|--------------|-------|-------|-----|-----|----------|-----|------|-----------|
| 1.0 | 2.5 | 0    | 754X-1.0     | ■     | ■   | ■        | ■   | ■    | ■         | 764X-1.0     | ■     | ■     | ■   | ■   | ■        | ■   | □    | ■         |
| 1.0 | 2.5 | 0.08 | 754X-1.0-R08 | ■     | ■   | ■        | ■   | □    | ■         | 764X-1.0-R08 | ■     | ■     | ■   | ■   | ■        | ■   | □    | ■         |
| 1.0 | 2.5 | 0.20 | -            | ■     | ■   | ■        |     |      |           | 764X-1.0-R20 | ■     | ■     | ■   | ■   | ■        |     |      |           |
| 1.2 | 3   | 0    | 754X-1.2     | ■     | ■   | ■        |     |      |           | 764X-1.2     | ■     | ■     | ■   | ■   | ■        |     | □    | ■         |
| 1.2 | 3   | 0.08 | -            | ■     | ■   | ■        |     |      |           | 764X-1.2-R08 | ■     | ■     | ■   | ■   | ■        |     |      |           |
| 1.5 | 3   | 0    | 754X-1.5     | ■     | ■   | ■        |     | □    | ■         | 764X-1.5     | ■     | ■     | ■   | ■   | ■        |     | ■    | ■         |
| 1.5 | 3   | 0.08 | 754X-1.5-R08 | ■     | ■   | ■        |     | □    | ■         | 764X-1.5-R08 | ■     | ■     | ■   | ■   | ■        |     | □    | ■         |
| 1.5 | 3   | 0.15 | -            | ■     | ■   | ■        |     |      |           | 764X-1.5-R15 | ■     | ■     | ■   | □   | ■        |     |      | ■         |
| 1.5 | 3   | 0.20 | 754X-1.5-R20 | ■     | ■   | ■        |     |      |           | 764X-1.5-R20 | ■     | ■     | ■   | ■   | ■        |     | ■    | ■         |
| 1.8 | 4   | 0    | 754X-1.8     | ■     | ■   | ■        |     |      |           | 764X-1.8     | ■     | ■     | ■   | ■   | ■        |     | □    | ■         |
| 1.8 | 4   | 0.20 | -            | ■     | ■   | ■        |     |      |           | 764X-1.8-R20 | ■     | ■     | ■   | ■   | ■        |     |      |           |
| 2.0 | 4   | 0    | 754X-2.0     | ■     | ■   | ■        |     | □    | ■         | 764X-2.0     | ■     | ■     | ■   | ■   | ■        |     | ■    | ■         |
| 2.0 | 4   | 0.08 | 754X-2.0-R08 | ■     | ■   | ■        |     | □    | ■         | 764X-2.0-R08 | ■     | ■     | ■   | ■   | ■        |     | □    | ■         |
| 2.0 | 4   | 0.15 | -            | ■     | ■   | ■        |     |      |           | 764X-2.0-R15 | ■     | ■     | ■   | □   | ■        |     |      | ■         |
| 2.0 | 4   | 0.20 | 754X-2.0-R20 | ■     | ■   | ■        |     | □    | ■         | 764X-2.0-R20 | ■     | ■     | ■   | ■   | ■        |     | □    | ■         |
| 2.0 | 4   | 0.35 | -            | ■     | ■   | ■        |     |      |           | 764X-2.0-R35 | ■     | ■     | ■   | □   | ■        |     |      | ■         |
| 2.5 | 6   | 0    | 754X-2.5     | ■     | ■   | ■        |     | ■    | ■         | 764X-2.5     | ■     | ■     | ■   | ■   | ■        |     | ■    | ■         |
| 2.5 | 6   | 0.15 | -            | ■     | ■   | ■        |     |      |           | 764X-2.5-R15 | ■     | ■     | ■   | □   | ■        |     |      | ■         |
| 2.5 | 6   | 0.20 | 754X-2.5-R20 | ■     | ■   | ■        |     | □    | ■         | 764X-2.5-R20 | ■     | ■     | ■   | ■   | ■        |     | □    | ■         |
| 2.5 | 6   | 0.35 | -            | ■     | ■   | ■        |     |      |           | 764X-2.5-R35 | ■     | ■     | ■   | □   | ■        |     |      | ■         |
| 3.0 | 6   | 0    | 754X-3.0     | ■     | ■   | ■        |     |      |           | 764X-3.0     | ■     | ■     | ■   | ■   | ■        |     | □    | ■         |
| 3.0 | 6   | 0.08 | 754X-3.0-R08 | ■     | ■   | ■        |     |      |           | 764X-3.0-R08 | ■     | ■     | ■   | ■   | ■        |     | □    | ■         |
| 3.0 | 6   | 0.15 | -            | ■     | ■   | ■        |     |      |           | 764X-3.0-R15 | ■     | ■     | ■   | □   | ■        |     |      | ■         |
| 3.0 | 6   | 0.20 | 754X-3.0-R20 | ■     | ■   | ■        |     |      |           | 764X-3.0-R20 | ■     | ■     | ■   | ■   | ■        |     | □    | ■         |
| 3.0 | 6   | 0.35 | -            | ■     | ■   | ■        |     |      |           | 764X-3.0-R35 | ■     | ■     | ■   | □   | ■        |     |      | ■         |
| 4.0 | 8   | 0    | 754X-4.0     | ■     | ■   | ■        |     |      |           | 764X-4.0     | ■     | ■     | ■   | ■   | ■        |     | □    | ■         |
| 4.0 | 8   | 0.20 | 754X-4.0-R20 | ■     | ■   | ■        |     |      |           | 764X-4.0-R20 | ■     | ■     | ■   | ■   | ■        |     | □    | ■         |
| 4.0 | 8   | 0.35 | -            | ■     | ■   | ■        |     |      |           | 764X-4.0-R35 | ■     | ■     | ■   | □   | ■        |     |      | ■         |

7XX-XX-B



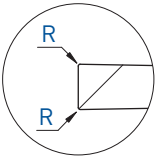
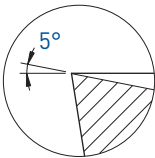
Sur demande pour serrage type B, voir page 1.03  
 Wahlweise mit B-Spannsystem, siehe Seite 1.03  
 On request for B clamping system, see page 1.03

■ = disponible / verfügbar / available

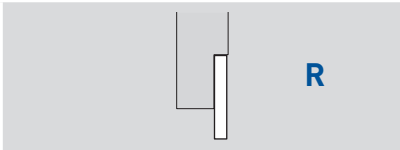
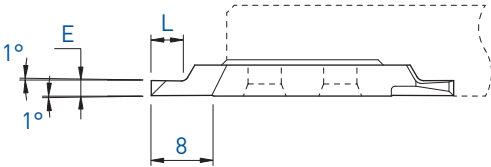
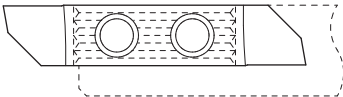
□ = selon disponibilité du stock / jenach Lagerverfügbarkeit / depending on stock availability

Fonçage-tournage  
Einstecken und drehen  
Grooving and turning

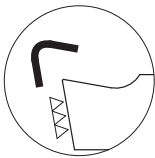
764X5-EP



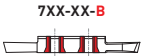
R



| E   | L | R    | Art. N°          | TiAlN | TiAlX | LoX | TiN | N [µk20] |
|-----|---|------|------------------|-------|-------|-----|-----|----------|
| 1.5 | 3 | 0.08 | 764X5-1.5-R08-EP | ■     | ■     | ■   | ■   | ■        |
| 2.0 | 4 | 0.08 | 764X5-2.0-R08-EP | ■     | ■     | ■   | ■   | ■        |
| 2.5 | 6 | 0.08 | 764X5-2.5-R08-EP | ■     | ■     | ■   | ■   | ■        |
| 2.5 | 6 | 0.15 | 764X5-2.5-R15-EP | ■     | ■     | ■   | ■   | ■        |
| 3.0 | 6 | 0.08 | 764X5-3.0-R08-EP | ■     | ■     | ■   | ■   | ■        |
| 3.0 | 6 | 0.15 | 764X5-3.0-R15-EP | ■     | ■     | ■   | ■   | ■        |
| 4.0 | 8 | 0.15 | 764X5-4.0-R15-EP | ■     | ■     | ■   | ■   | ■        |
| 4.0 | 8 | 0.35 | 764X5-4.0-R35-EP | ■     | ■     | ■   | ■   | ■        |



Arête de coupe honée  
Gehonte Schneidkante  
Honed edge



Sur demande pour serrage type B, voir page 1.03  
Wahlweise mit B-Spannsystem, siehe Seite 1.03  
On request for B clamping system, see page 1.03

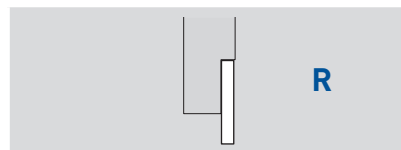
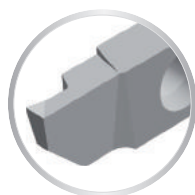
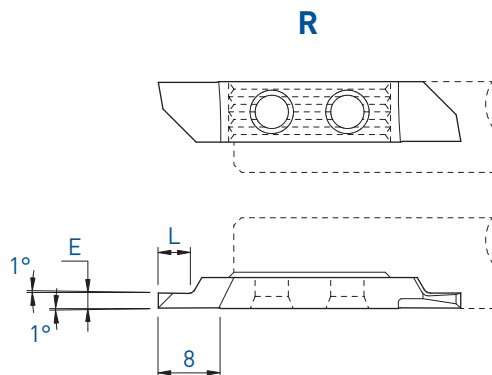
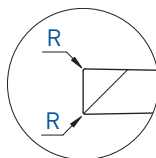
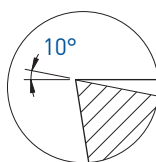


Fonçage-tournage

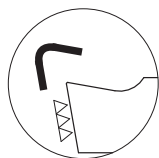
Einstecken und drehen

Grooving and turning

764X10-EP



| E   | L | R    | Art. N°           | TiAIN | TiAlX | LoX | TiN | N (μk20) |
|-----|---|------|-------------------|-------|-------|-----|-----|----------|
| 1.5 | 3 | 0.08 | 764X10-1.5-R08-EP | ■     | ■     | ■   | ■   | ■        |
| 2.0 | 4 | 0.08 | 764X10-2.0-R08-EP | ■     | ■     | ■   | ■   | ■        |
| 2.5 | 6 | 0.08 | 764X10-2.5-R08-EP | ■     | ■     | ■   | ■   | ■        |
| 2.5 | 6 | 0.15 | 764X10-2.5-R15-EP | ■     | ■     | ■   | ■   | ■        |
| 3.0 | 6 | 0.08 | 764X10-3.0-R08-EP | ■     | ■     | ■   | ■   | ■        |
| 3.0 | 6 | 0.15 | 764X10-3.0-R15-EP | ■     | ■     | ■   | ■   | ■        |
| 4.0 | 8 | 0.15 | 764X10-4.0-R15-EP | ■     | ■     | ■   | ■   | ■        |
| 4.0 | 8 | 0.35 | 764X10-4.0-R35-EP | ■     | ■     | ■   | ■   | ■        |



Arête de coupe honée  
Gehonte Schneidkante  
Honed edge

7XX-XX-B



Sur demande pour serrage type B, voir page 1.03  
Wahlweise mit B-Spannsystem, siehe Seite 1.03  
On request for B clamping system, see page 1.03

■ = disponible / verfügbar / available

□ = selon disponibilité du stock / jenach Lagerverfügbarkeit / depending on stock availability

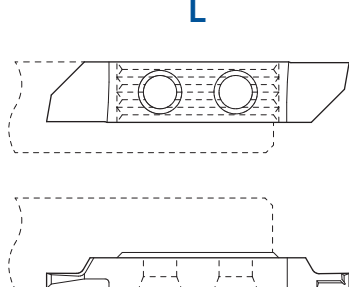
Fonçage-tournage

Einstecken und drehen

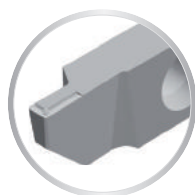
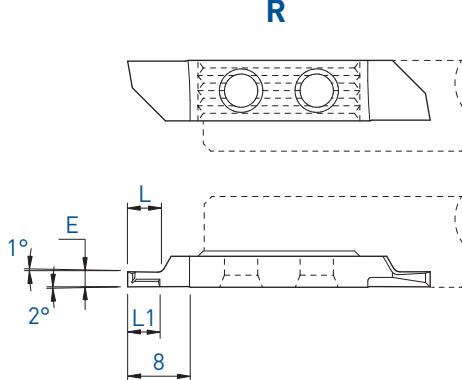
Grooving and turning

754ZX / 764ZX

L



R



Pour un meilleur contrôle des copeaux  
Für eine bessere Spankontrolle  
For a better chip-control

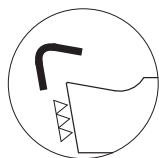
L



R



| a   | E   | L | L1 | R    | Art. N°         | TiAlN | TiN | N (μk20) | HTA | HAS | HTiN | HN (μk10) | Art. N°         | TiAlN | TiAlX | TiN | N (μk20) | HTA | HAS | HTiN | HN (μk10) |
|-----|-----|---|----|------|-----------------|-------|-----|----------|-----|-----|------|-----------|-----------------|-------|-------|-----|----------|-----|-----|------|-----------|
| 10° | 1.5 | 4 | 4  | 0.03 | 754ZX10-1.5-R03 | ■     | □   |          |     |     |      |           | 764ZX10-1.5-R03 | ■     | ■     | ■   |          |     |     |      |           |
|     | 1.5 | 4 | 4  | 0.08 | 754ZX10-1.5-R08 | ■     | □   |          |     |     |      |           | 764ZX10-1.5-R08 | ■     | ■     | ■   |          |     |     |      |           |
|     | 2.0 | 4 | 4  | 0.08 | 754ZX10-2.0-R08 | ■     | □   |          |     |     |      |           | 764ZX10-2.0-R08 | ■     | ■     | ■   |          |     |     |      |           |
|     | 2.0 | 4 | 4  | 0.20 | -               |       |     |          |     |     |      |           | 764ZX10-2.0-R20 | ■     | ■     | □   |          |     |     |      |           |
|     | 2.5 | 5 | 5  | 0.08 | 754ZX10-2.5-R08 | ■     | ■   |          |     |     |      |           | 764ZX10-2.5-R08 | ■     | ■     | ■   |          |     |     |      |           |
|     | 2.5 | 5 | 5  | 0.20 | -               |       |     |          |     |     |      |           | 764ZX10-2.5-R20 | ■     | ■     | ■   |          |     |     |      |           |
|     | 3.0 | 6 | 6  | 0.08 | 754ZX10-3.0-R08 | ■     | □   |          |     |     |      |           | 764ZX10-3.0-R08 | ■     | ■     | ■   |          |     |     |      |           |
|     | 3.0 | 6 | 6  | 0.20 | -               |       |     |          |     |     |      |           | 764ZX10-3.0-R20 | ■     | ■     | ■   |          |     |     |      |           |
| 25° | 4.0 | 6 | 6  | 0.20 | -               |       |     |          |     |     |      |           | 764ZX10-4.0-R20 | ■     | ■     | □   |          |     |     |      |           |
|     | 2.0 | 4 | 4  | 0.08 | -               |       |     |          |     |     |      |           | 764ZX25-2.0-R08 |       |       |     |          | ■   | ■   | □    |           |
|     | 2.0 | 4 | 4  | 0.20 | -               |       |     |          |     |     |      |           | 764ZX25-2.0-R20 |       |       |     |          | ■   | ■   | □    |           |
|     | 2.5 | 5 | 5  | 0.08 | -               |       |     |          |     |     |      |           | 764ZX25-2.5-R08 |       |       |     |          | ■   | ■   | □    |           |
|     | 2.5 | 5 | 5  | 0.20 | -               |       |     |          |     |     |      |           | 764ZX25-2.5-R20 |       |       |     |          | ■   | ■   | □    |           |



Arête de coupe honée  
Gehonte Schneidkante  
Honed edge

f min: 0.02 mm/U

7XX-XX-B



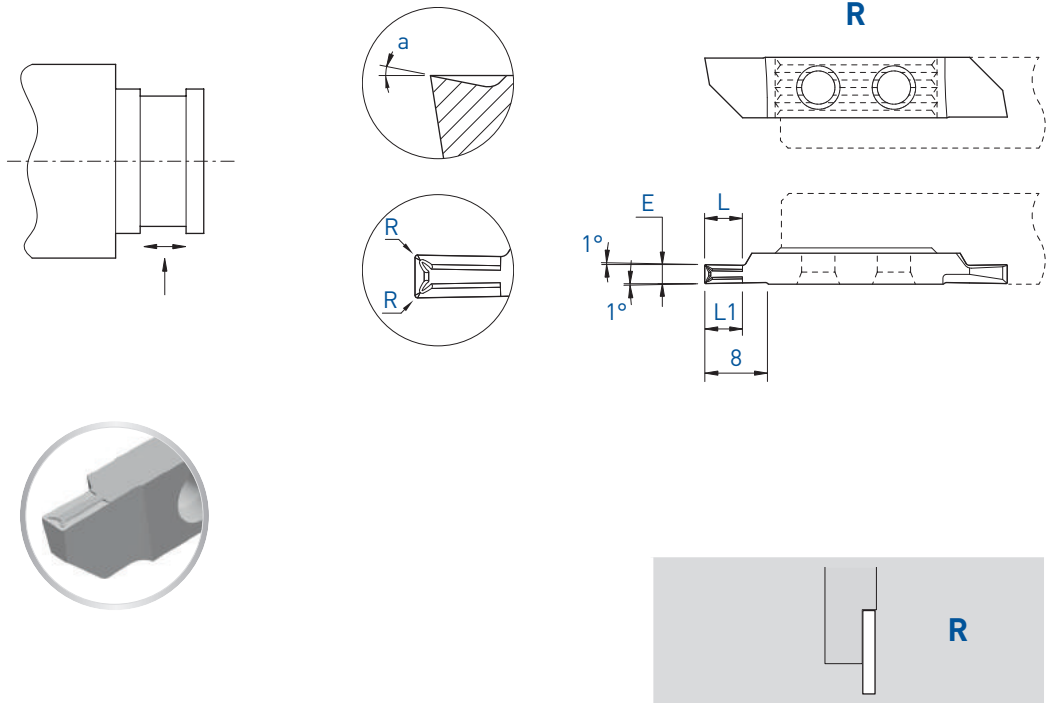
Sur demande pour serrage type B, voir page 1.03  
Wahlweise mit B-Spannsystem, siehe Seite 1.03  
On request for B clamping system, see page 1.03

Fonçage-tournage

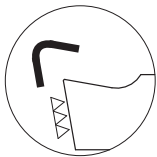
Einstecken und drehen

Grooving and turning

764ZXB



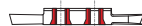
| a   | E   | L | L1 | R    | Art. N°          | TiAlN | TiAlX | LoX | TiN | N [μm20] |
|-----|-----|---|----|------|------------------|-------|-------|-----|-----|----------|
| 10° | 1.5 | 4 | 4  | 0.08 | 764ZXB10-1.5-R08 | ■     | ■     | ■   | □   |          |
|     | 2.0 | 4 | 4  | 0.08 | 764ZXB10-2.0-R08 | ■     | ■     | ■   | □   |          |
|     | 2.0 | 4 | 4  | 0.15 | 764ZXB10-2.0-R15 | ■     | ■     | ■   | □   |          |
|     | 2.0 | 4 | 4  | 0.35 | 764ZXB10-2.0-R35 | ■     | ■     | ■   | □   |          |
|     | 2.5 | 5 | 5  | 0.08 | 764ZXB10-2.5-R08 | ■     | ■     | ■   | □   |          |
|     | 2.5 | 5 | 5  | 0.15 | 764ZXB10-2.5-R15 | ■     | ■     | ■   | □   |          |
|     | 2.5 | 5 | 5  | 0.35 | 764ZXB10-2.5-R35 | ■     | ■     | ■   | □   |          |
|     | 3.0 | 6 | 6  | 0.08 | 764ZXB10-3.0-R08 | ■     | ■     | ■   | □   |          |
|     | 3.0 | 6 | 6  | 0.15 | 764ZXB10-3.0-R15 | ■     | ■     | ■   | □   |          |
|     | 3.0 | 6 | 6  | 0.35 | 764ZXB10-3.0-R35 | ■     | ■     | ■   | □   |          |



Arête de coupe honée  
Gehonte Schneidkante  
Honed edge

f min: 0.02 mm/U

7XX-XX-B



Sur demande pour serrage type B, voir page 1.03  
Wahlweise mit B-Spannsystem, siehe Seite 1.03  
On request for B clamping system, see page 1.03

■ = disponible / verfügbar / available

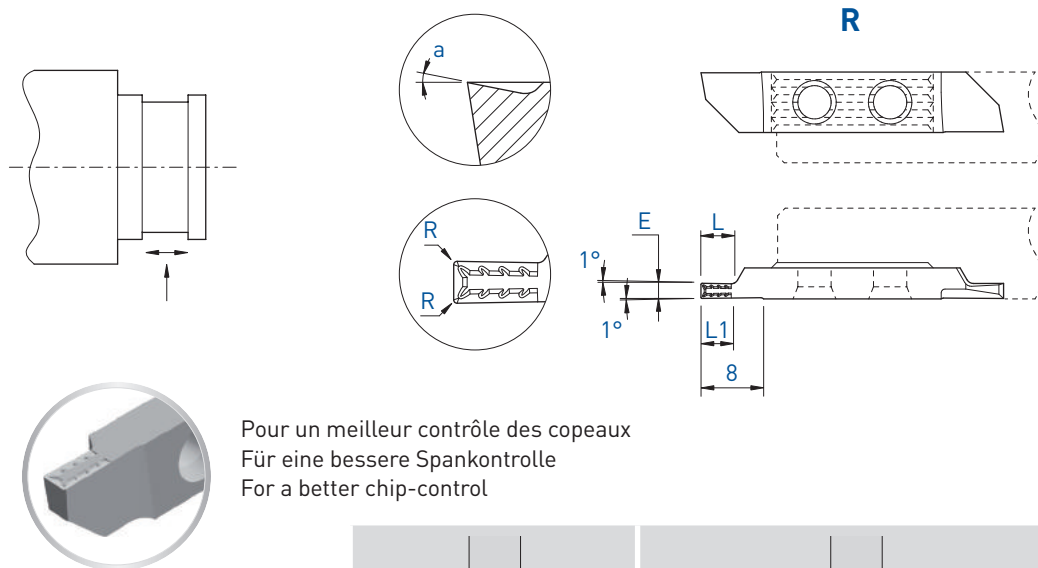
□ = selon disponibilité du stock / jenach Lagerverfügbarkeit / depending on stock availability

Fonçage-tournage

Einstecken und drehen

Grooving and turning

754ZXT / 764ZXT



|     |     |   |    |      | <div>L</div>     |       |     |          | <div>R</div>     |       |       |     |     |          |     |           |
|-----|-----|---|----|------|------------------|-------|-----|----------|------------------|-------|-------|-----|-----|----------|-----|-----------|
| a   | E   | L | L1 | R    | Art. N°          | TiAlN | TiN | N (µk20) | Art. N°          | TiAlN | TiAlX | LoX | TiN | N (µk20) | HTA | HN (µk10) |
| 10° | 1.5 | 4 | 4  | 0.03 | -                |       |     |          | 764ZXT10-1.5-R03 | ■     | ■     | ■   | □   |          |     |           |
|     | 1.5 | 4 | 4  | 0.08 | 754ZXT10-1.5-R08 | ■     | □   |          | 764ZXT10-1.5-R08 | ■     | ■     | ■   | □   |          |     |           |
|     | 1.5 | 4 | 4  | 0.20 | 754ZXT10-1.5-R20 | ■     |     |          | -                |       |       |     |     |          |     |           |
|     | 2.0 | 4 | 4  | 0.08 | 754ZXT10-2.0-R08 | ■     | □   |          | 764ZXT10-2.0-R08 | ■     | ■     | ■   | □   |          |     |           |
|     | 2.0 | 4 | 4  | 0.20 | 754ZXT10-2.0-R20 | ■     |     |          | 764ZXT10-2.0-R20 | ■     | ■     | ■   | □   |          |     |           |
|     | 2.0 | 4 | 4  | 0.40 | -                |       |     |          | 764ZXT10-2.0-R40 | ■     | ■     | ■   |     |          |     |           |
|     | 2.5 | 5 | 5  | 0.08 | 754ZXT10-2.5-R08 | ■     | □   |          | 764ZXT10-2.5-R08 | ■     | ■     | ■   | □   |          |     |           |
|     | 2.5 | 5 | 5  | 0.20 | 754ZXT10-2.5-R20 | ■     |     |          | 764ZXT10-2.5-R20 | ■     | ■     | ■   | □   |          |     |           |
|     | 2.5 | 5 | 5  | 0.40 | -                |       |     |          | 764ZXT10-2.5-R40 | ■     | ■     | ■   |     |          |     |           |
|     | 3.0 | 6 | 6  | 0.08 | 754ZXT10-3.0-R08 | ■     | □   |          | 764ZXT10-3.0-R08 | ■     | ■     | ■   | □   |          |     |           |
|     | 3.0 | 6 | 6  | 0.20 | -                |       |     |          | 764ZXT10-3.0-R20 | ■     | ■     | ■   | □   |          | ■   |           |
|     | 3.0 | 6 | 6  | 0.40 | -                |       |     |          | 764ZXT10-3.0-R40 | ■     | ■     | ■   | □   |          |     |           |
|     | 4.0 | 8 | 8  | 0.20 | -                |       |     |          | 764ZXT10-4.0-R20 | ■     | ■     | ■   | □   |          |     |           |
|     | 4.0 | 8 | 8  | 0.40 | -                |       |     |          | 764ZXT10-4.0-R40 | ■     | ■     | ■   | □   |          |     |           |
|     | 4.0 | 8 | 8  | 0.80 | -                |       |     |          | 764ZXT10-4.0-R80 | ■     | ■     | ■   |     |          |     |           |



Arête de coupe honée  
Gehonte Schneidkante  
Honed edge

f min: 0.02 mm/U

7XX-XX-B



Sur demande pour serrage type B, voir page 1.03  
Wahlweise mit B-Spannsystem, siehe Seite 1.03  
On request for B clamping system, see page 1.03

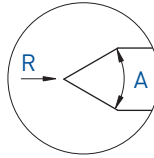
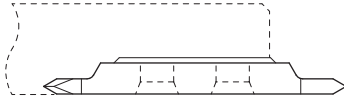
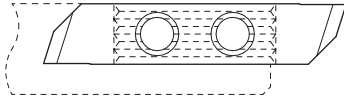
Filetage

Gewinde drehen

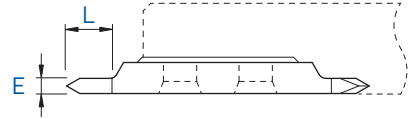
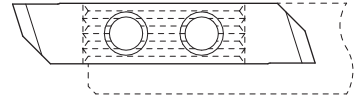
Threading

756 / 766

L



R



L



R



| A   | E   | L | R    | Art. N°        | TiAlN | TiN | N (µk20) | HTA | HTIN | HN (µk10) | Art. N°        | TiAlN | TiN | N (µk20) | HTA | HTIN | HN (µk10) |
|-----|-----|---|------|----------------|-------|-----|----------|-----|------|-----------|----------------|-------|-----|----------|-----|------|-----------|
| 60° | 2.0 | 6 | -    | 756-60-2.0     | ■     | ■   | ■        |     |      |           | 766-60-2.0     | ■     | ■   | ■        |     |      |           |
| 60° | 2.0 | 6 | 0.02 | 756-60-2.0-R02 | ■     | ■   | ■        | ■   | □    | ■         | 766-60-2.0-R02 | ■     | ■   | ■        | ■   | □    | ■         |
| 60° | 3.0 | 8 | -    | 756-60-3.0     | ■     | ■   | ■        |     |      |           | 766-60-3.0     | ■     | ■   | ■        |     |      |           |
| 60° | 3.0 | 8 | 0.02 | 756-60-3.0-R02 | ■     | ■   | ■        | ■   | □    | ■         | 766-60-3.0-R02 | ■     | ■   | ■        | ■   | □    | ■         |
| 55° | 2.0 | 6 | -    | 756-55-2.0     | ■     | ■   | ■        |     |      |           | 766-55-2.0     | ■     | ■   | ■        |     |      |           |
| 55° | 2.0 | 6 | 0.02 | 756-55-2.0-R02 | ■     | ■   | ■        |     |      |           | 766-55-2.0-R02 | ■     | ■   | ■        |     |      |           |
| 55° | 3.0 | 8 | -    | 756-55-3.0     | ■     | ■   | ■        |     |      |           | 766-55-3.0     | ■     | ■   | ■        |     |      |           |
| 55° | 3.0 | 8 | 0.02 | 756-55-3.0-R02 | ■     | ■   | ■        |     |      |           | 766-55-3.0-R02 | ■     | ■   | ■        |     |      |           |

7XX-XX-B



Sur demande pour serrage type B, voir page 1.03  
 Wahlweise mit B-Spannsystem, siehe Seite 1.03  
 On request for B clamping system, see page 1.03

■ = disponible / verfügbar / available

□ = selon disponibilité du stock / jenach Lagerverfügbarkeit / depending on stock availability

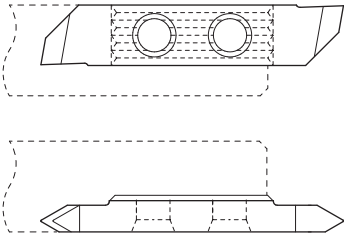
Filetage

Gewinde drehen

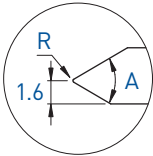
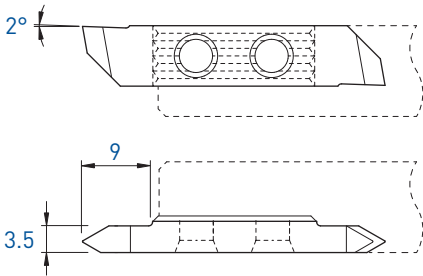
Threading

756-AG60° / 766-AG60°  
756-G60° / 766-G60°

L



R



Profil partiel  
Teilprofil  
Partial profile

L

R

|     |      | Pas<br>Steigung<br>Pitch |           |       |     |          |           |       |     |          |
|-----|------|--------------------------|-----------|-------|-----|----------|-----------|-------|-----|----------|
| A   | R    | P                        | Art. N°   | TiAlN | TiN | N (µk20) | Art. N°   | TiAlN | TiN | N (µk20) |
| 60° | 0.06 | 0.50-1.50                | 756-AG60° | ■     | ■   | ■        | 766-AG60° | ■     | ■   | ■        |
| 60° | 0.20 | 1.75-3.00                | 756-G60°  | ■     | ■   | ■        | 766-G60°  | ■     | ■   | ■        |

7XX-XX-B



Sur demande pour serrage type B, voir page 1.03  
Wahlweise mit B-Spannsystem, siehe Seite 1.03  
On request for B clamping system, see page 1.03

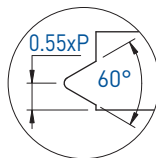
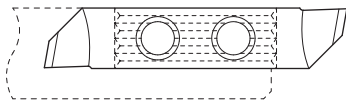
Filetage

Gewinde drehen

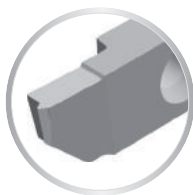
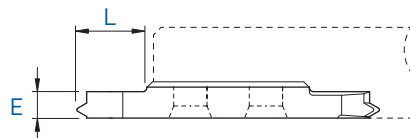
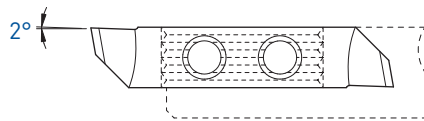
Threading

756-M / 766-M

L



R



Profil complet métrique  
Metrisches Vollprofil  
Metric full profile

L

R

| E   | L | Pas<br>Steigung<br>Pitch<br>P | Art. N°    | TiAlN | TiN | N [μk20] | Art. N°    | TiAlN | TiN | N [μk20] |
|-----|---|-------------------------------|------------|-------|-----|----------|------------|-------|-----|----------|
| 2.5 | 8 | 0.80                          | 756-M-0.80 | ■     | ■   | ■        | 766-M-0.80 | ■     | ■   | ■        |
| 2.5 | 8 | 1.00                          | 756-M-1.00 | ■     | ■   | ■        | 766-M-1.00 | ■     | ■   | ■        |
| 2.5 | 8 | 1.25                          | 756-M-1.25 | ■     | ■   | ■        | 766-M-1.25 | ■     | ■   | ■        |
| 3.5 | 9 | 1.50                          | 756-M-1.50 | ■     | ■   | ■        | 766-M-1.50 | ■     | ■   | ■        |
| 3.5 | 9 | 1.75                          | 756-M-1.75 | ■     | ■   | ■        | 766-M-1.75 | ■     | ■   | ■        |
| 3.5 | 9 | 2.00                          | 756-M-2.00 | ■     | ■   | ■        | 766-M-2.00 | ■     | ■   | ■        |

Pour de plus petits pas, voir page 1.65  
Für kleinere Steigungen, siehe Seite 1.65  
For smaller pitches, see page 1.65

7XX-XX-B



Sur demande pour serrage type B, voir page 1.03  
Wahlweise mit B-Spannsystem, siehe Seite 1.03  
On request for B clamping system, see page 1.03

■ = disponible / verfügbar / available  
□ = selon disponibilité du stock / jenach Lagerverfügbarkeit / depending on stock availability

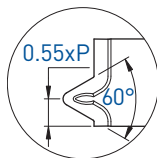
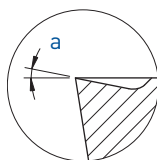
Filetage

Gewinde drehen

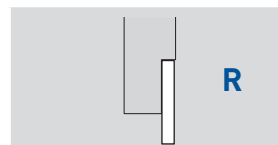
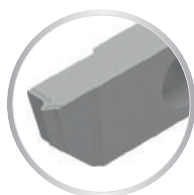
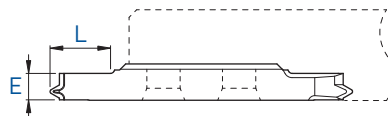
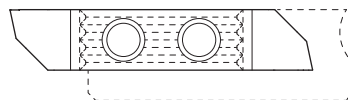
Threading

766ZX

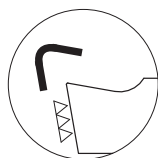
new



R



| a   | E   | L | P    | Art. N°        | TIAIN | LOX |
|-----|-----|---|------|----------------|-------|-----|
| 10° | 2.5 | 8 | 0.80 | 766ZX10-M-0.80 | ■     | □   |
|     | 2.5 | 8 | 1.00 | 766ZX10-M-1.00 | ■     | □   |
|     | 2.5 | 8 | 1.25 | 766ZX10-M-1.25 | ■     | □   |
|     | 3.5 | 9 | 1.50 | 766ZX10-M-1.50 | ■     | □   |
|     | 3.5 | 9 | 1.75 | 766ZX10-M-1.75 | ■     | □   |
|     | 3.5 | 9 | 2.00 | 766ZX10-M-2.00 | ■     | □   |



Arête de coupe honée  
Gehonte Schneidkante  
Honed edge

7XX-XX-B



Sur demande pour serrage type B, voir page 1.03  
Wahlweise mit B-Spannsystem, siehe Seite 1.03  
On request for B clamping system, see page 1.03



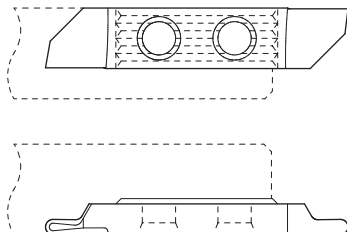
Plaquettes à rayon

Radius Wendeplatten

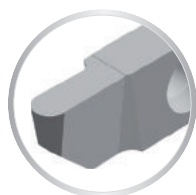
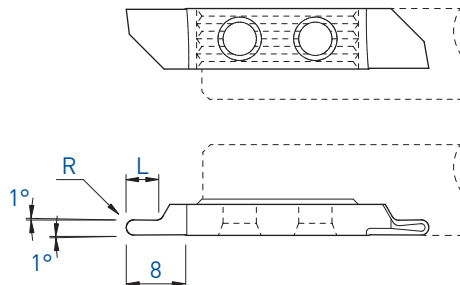
Radius inserts

757 / 767

L



R



L

R

| R   | L   | Art. N°  | TiAlN |   |        | Art. N°  | TiAlN |   |        |
|-----|-----|----------|-------|---|--------|----------|-------|---|--------|
|     |     |          | TiN   | N | (μk20) |          | TiN   | N | (μk20) |
| 0.5 | 2.5 | 757-R0.5 | ■     | ■ | ■      | 767-R0.5 | ■     | ■ | ■      |
| 1.0 | 4   | 757-R1.0 | ■     | ■ | ■      | 767-R1.0 | ■     | ■ | ■      |
| 1.5 | 6   | 757-R1.5 | ■     | ■ | ■      | 767-R1.5 | ■     | ■ | ■      |
| 2.0 | 8   | 757-R2.0 | ■     | ■ | ■      | 767-R2.0 | ■     | ■ | ■      |

7XX-XX-B



Sur demande pour serrage type B, voir page 1.03  
 Wahlweise mit B-Spannsystem, siehe Seite 1.03  
 On request for B clamping system, see page 1.03

■ = disponible / verfügbar / available

□ = selon disponibilité du stock / jenach Lagerverfügbarkeit / depending on stock availability

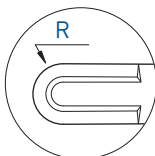
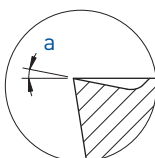
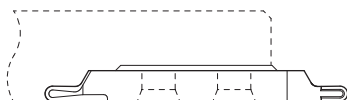
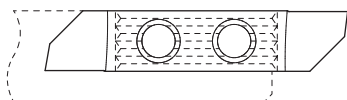
Plaquettes à rayon

Radius Wendeplatten

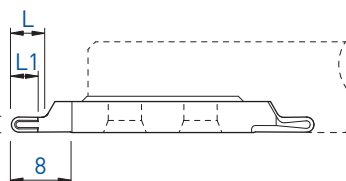
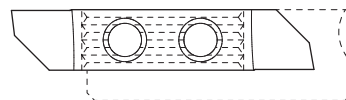
Radius inserts

757ZX / 767ZX

L



R



Pour un meilleur contrôle des copeaux  
Für eine bessere Spankontrolle  
For a better chip-control

L

R

| a   | R   | L | L1  | Art. N°      | TiAlN | TiN | N (μk20) | Art. N°      | TiAlN | TiN | N (μk20) | HTA | HN (μk10) |
|-----|-----|---|-----|--------------|-------|-----|----------|--------------|-------|-----|----------|-----|-----------|
| 10° | 1.0 | 4 | 3.5 | 757ZX10-R1.0 | ■     | □   |          | 767ZX10-R1.0 | ■     | □   |          |     |           |
|     | 1.5 | 6 | 4.0 | 757ZX10-R1.5 | ■     | □   |          | 767ZX10-R1.5 | ■     | □   |          |     |           |
|     | 2.0 | 8 | 4.5 | 757ZX10-R2.0 | ■     | □   |          | 767ZX10-R2.0 | ■     | □   |          | ■   |           |



Arête de coupe honée  
Gehonte Schneidkante  
Honed edge

f min: 0.02 mm/U

7XX-XX-B



Sur demande pour serrage type B, voir page 1.03  
Wahlweise mit B-Spannsystem, siehe Seite 1.03  
On request for B clamping system, see page 1.03

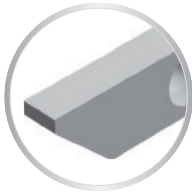
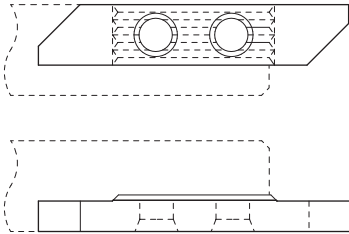
Plaquettes ébauches

WSP-Rohlinge

Blank inserts

751-E / 761-E  
751-EP / 761-EP

L

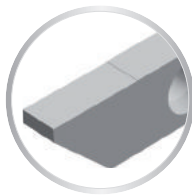
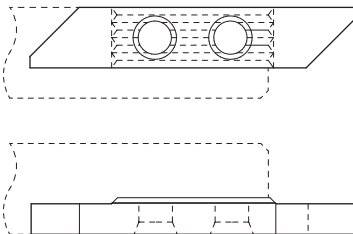


7XX-XX-B



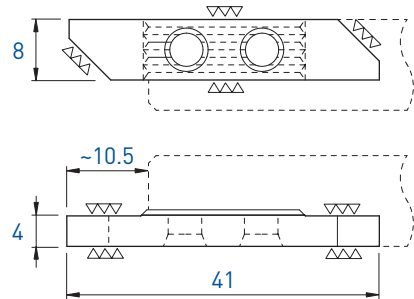
Sur demande pour serrage type B, voir page 1.03  
Wahlweise mit B-Spannsystem, siehe Seite 1.03  
On request for B clamping system, see page 1.03

L



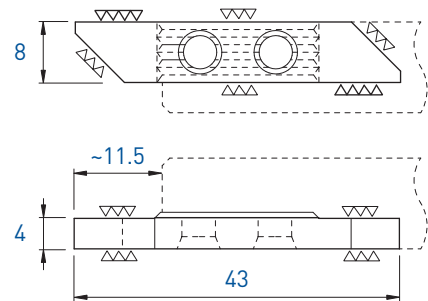
Face de coupe polie  
Polierte Schneidfläche  
Polished cutting face

R



| L       |          |           | R       |          |           |
|---------|----------|-----------|---------|----------|-----------|
| Art. N° | N (μk20) | HN (μk10) | Art. N° | N (μk20) | HN (μk10) |
| 751-E   | ■        | ■         | 761-E   | ■        | ■         |

R



| L                                                                                   |       |     |          |     |      |           | R                                                                                    |       |     |          |     |      |           |
|-------------------------------------------------------------------------------------|-------|-----|----------|-----|------|-----------|--------------------------------------------------------------------------------------|-------|-----|----------|-----|------|-----------|
|  |       |     |          |     |      |           |  |       |     |          |     |      |           |
| Art. N°                                                                             | TiAlN | TiN | N (µk20) | HTA | HTiN | HN (µk10) | Art. N°                                                                              | TiAlN | TiN | N (µk20) | HTA | HTiN | HN (µk10) |
| 751-EP                                                                              | ■     | ■   | ■        | □   | □    | ■         | 761-EP                                                                               | ■     | ■   | ■        | ■   | □    | ■         |

■ = disponible / verfügbar / available

□ = selon disponibilité du stock / jenach Lagerverfügbarkeit / depending on stock availability

Index

770 / 780

7050 / 7060

W750 / W760

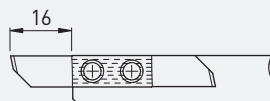
Porte-outils spécifiques

Spezifische Werkzeughalter

Specific tool holders

770 / 780

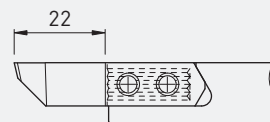
Tronçonnage de grande capacité  
 Abstechen für grössere Durchmesser  
 High capacity parting



&gt; 1.133

7050 / 7060

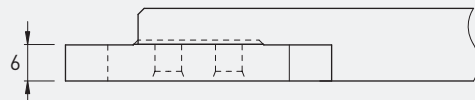
Tronçonnage de grande capacité  
 Abstechen für grössere Durchmesser  
 High capacity parting



&gt; 1.143

W750 / W760

Outils avec plaquettes ébauchées larges pour profilage  
 Werkzeuge mit breiten WSP-Rohlingen für Profilschleifen  
 Tools with wide blank inserts for profiling



&gt; 1.149

*Porte-outils spécifiques / Spezifische Werkzeughalter / Specific tool holders*

POLYGONAL INTERFACE C3 / C4 / HSK

&gt; 1.153

740Z / 760Z

Porte-outils pour usinage déporté  
 Halter für versetzte Bearbeitung  
 Holders for shifted machining

&gt; 1.156

DECO 7/10 - EvoDECO 10

R

&gt; 1.157

DECO 7/10 - EvoDECO 10

L

&gt; 1.159

Tornos

DECO 13 - EvoDECO 16

DECO 20/26 - EvoDECO 20/32

&gt; 1.161

MultiSwiss 6x16

&gt; 1.163

AS14 / SAS16

&gt; 1.164

Schütte

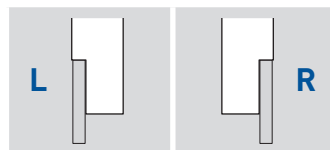
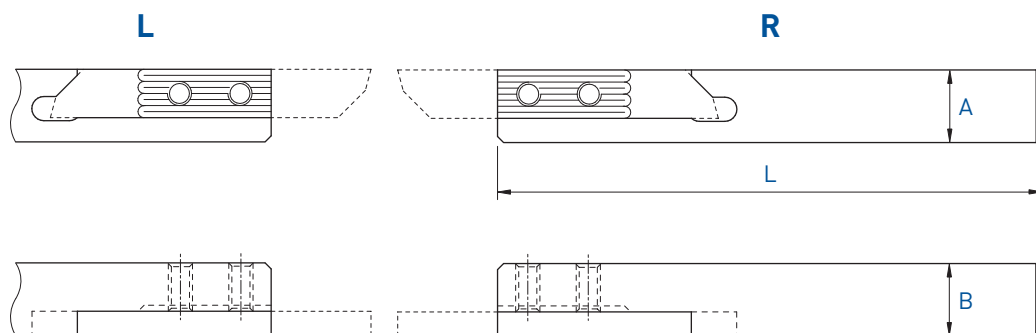
&gt; 1.165

Porte-outils

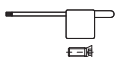
Halter

Holders

770 / 780



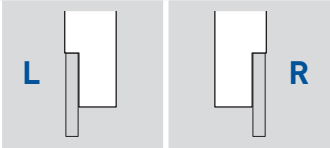
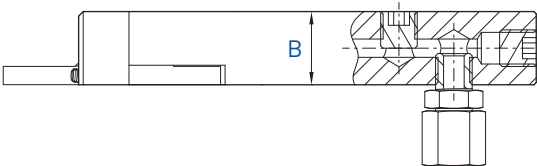
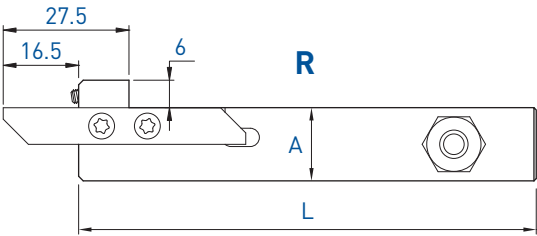
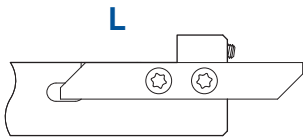
| A x B       | L   | Serrage<br>Spannsystem<br>Clamping | Art. N°          | Art. N°          |
|-------------|-----|------------------------------------|------------------|------------------|
| 10 x 10     | 115 | A                                  | <b>770-10</b>    | <b>780-10</b>    |
| 12 x 12     | 130 | A                                  | <b>770-12</b>    | <b>780-12</b>    |
| 12 x 12     | 90  | A                                  | <b>770-12-90</b> | <b>780-12-90</b> |
| 12.7 x 12.7 | 130 | A                                  | <b>770-12.7</b>  | <b>780-12.7</b>  |
| 14 x 14     | 130 | A                                  | <b>770-14</b>    | <b>780-14</b>    |
| 16 x 16     | 130 | A                                  | <b>770-16</b>    | <b>780-16</b>    |
| 16 x 16     | 75  | A                                  | <b>770-16-75</b> | <b>780-16-75</b> |
| 20 x 20     | 120 | A                                  | <b>770-20</b>    | <b>780-20</b>    |
| 25 x 25     | 140 | A                                  | <b>770-25</b>    | <b>780-25</b>    |



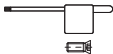
Chaque support est livré avec vis et clé.  
 Jeder Halter wird mit Spannschraube(n) und Schlüssel geliefert.  
 Screw(s) and key are included with each tool holder.

Porte-outils avec arrosage intégré  
Halter mit integrierter Kühlmittelzufuhr  
Holders with integrated coolant supply

770-JET / 780-JET

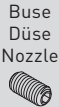


| A x B   | L   | Serrage<br>Spannsystem<br>Clamping | Art. N°    | Art. N°    |
|---------|-----|------------------------------------|------------|------------|
| 16 x 16 | 100 | A                                  | 770-16-JET | 780-16-JET |



Chaque support est livré avec vis et clé.  
Jeder Halter wird mit Spannschraube(n)  
und Schlüssel geliefert.  
Screw(s) and key are included with each  
tool holder.

| Pièces de rechange<br>Ersatzteile<br>Spare parts | Art. N°   | Art. N° | Art. N°      |
|--------------------------------------------------|-----------|---------|--------------|
| 770-JET / 780-JET                                | J-M8X1-D6 | JB-M8X1 | JJ-M3X6-D1.5 |



Porte-outils

Halter

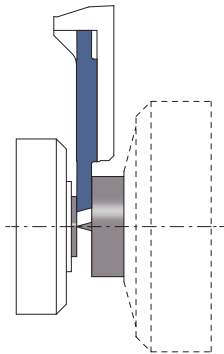
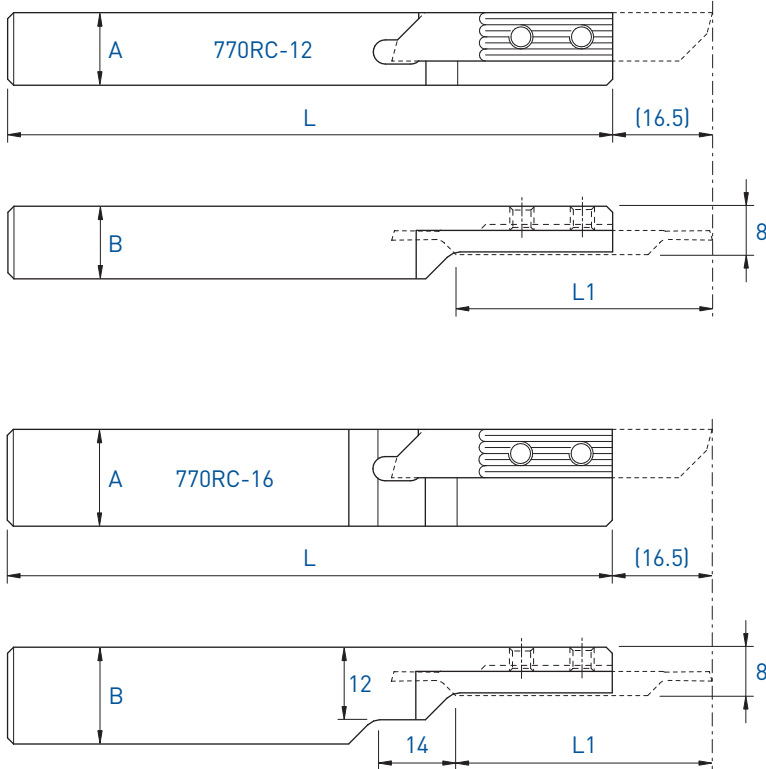
Holders

Coupe déportée

Versetzttes Schneiden

Cut off line

770RC



Utiliser des plaquettes type 771R  
WSP Typ 771R verwenden  
Use inserts type 771R

L (R)

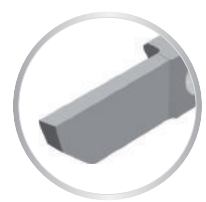
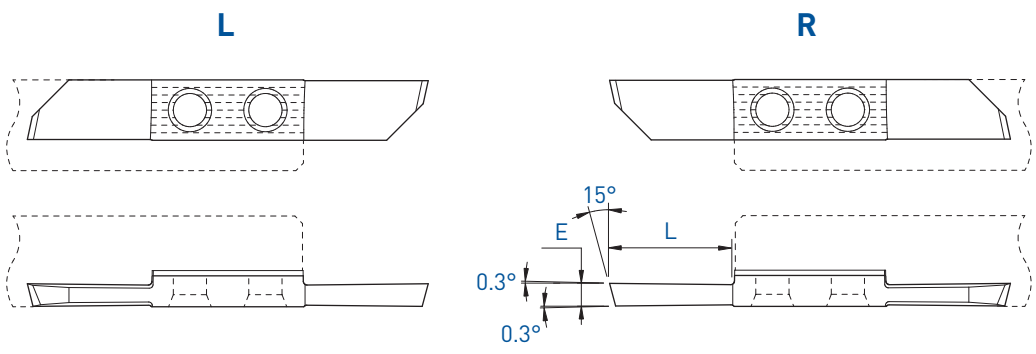
Coupe à droite déportée  
Versetzttes Rechtsschneiden  
Right cut off line

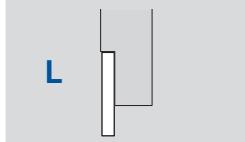
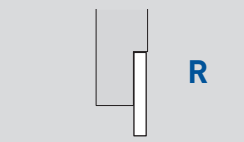
| A x B   | L   | L1 | Serrage<br>Spannsystem<br>Clamping | Art. N°  |
|---------|-----|----|------------------------------------|----------|
| 12 x 12 | 130 | 42 | A                                  | 770RC-12 |
| 16 x 16 | 130 | 42 | A                                  | 770RC-16 |

Voir pages 1.138 - 1.141  
Siehe Seiten 1.138 - 1.141  
See pages 1.138 - 1.141



Chaque support est livré avec vis et clé.  
Jeder Halter wird mit Spannschraube(n) und Schlüssel geliefert.  
Screw(s) and key are included with each tool holder.



|     |    |  |       |     |          |  |       |     |          |
|-----|----|------------------------------------------------------------------------------------|-------|-----|----------|-------------------------------------------------------------------------------------|-------|-----|----------|
| E   | L  | Art. N°                                                                            | TiAlN | TiN | N (µk20) | Art. N°                                                                             | TiAlN | TiN | N (µk20) |
| 1.5 | 16 | -                                                                                  |       |     |          | 781-1.5                                                                             | ■     | ■   | ■        |
| 2.0 | 16 | 771-2.0                                                                            | ■     | ■   | ■        | 781-2.0                                                                             | ■     | ■   | ■        |
| 2.5 | 16 | 771-2.5                                                                            | ■     | ■   | ■        | 781-2.5                                                                             | ■     | ■   | ■        |
| 3.0 | 16 | 771-3.0                                                                            | ■     | ■   | ■        | 781-3.0                                                                             | ■     | ■   | ■        |
| 3.5 | 16 | 771-3.5                                                                            | ■     | ■   | ■        | 781-3.5                                                                             | ■     | ■   | ■        |

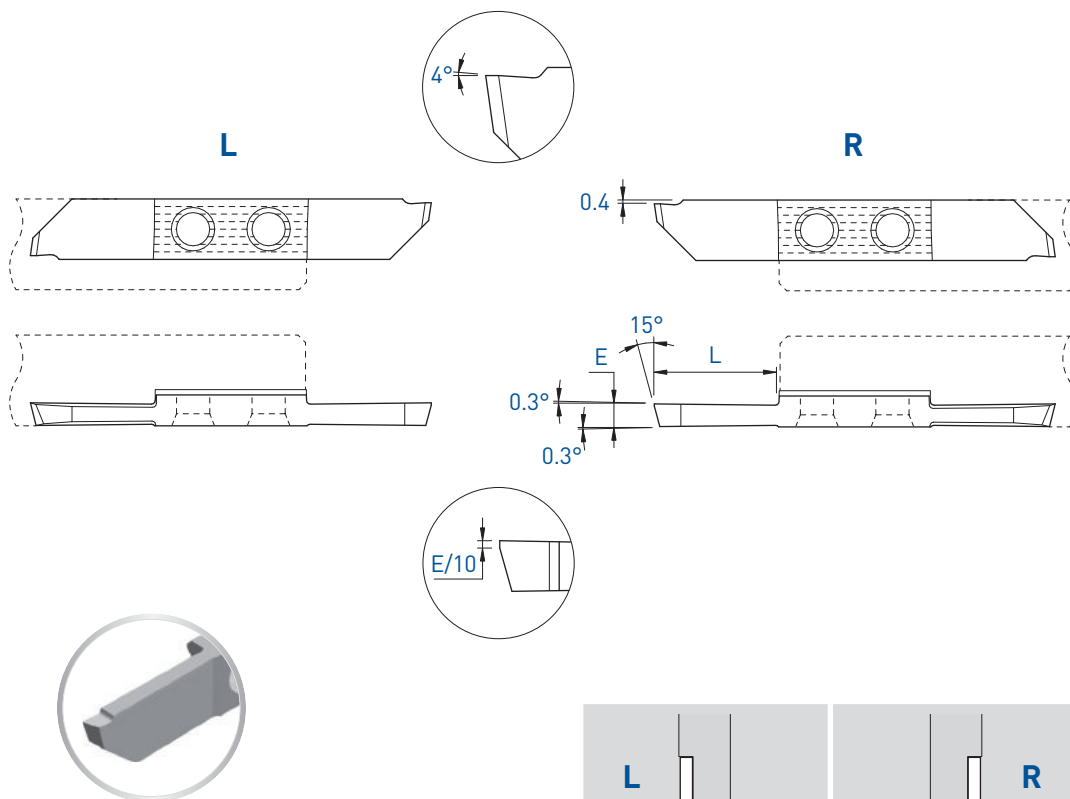


Tronçonnage

Abstechen

Parting off

771XF / 781XF



|     |    | L         |       |     |          | R         |       |     |          |
|-----|----|-----------|-------|-----|----------|-----------|-------|-----|----------|
| E   | L  | Art. N°   | TiAlN | TiN | N (µk20) | Art. N°   | TiAlN | TiN | N (µk20) |
| 2.0 | 16 | -         |       |     |          | 781XF-2.0 | ■     | ■   | ■        |
| 2.5 | 16 | 771XF-2.5 | ■     | ■   | ■        | 781XF-2.5 | ■     | ■   | ■        |
| 3.0 | 16 | 771XF-3.0 | ■     | ■   | ■        | 781XF-3.0 | ■     | ■   | ■        |
| 3.5 | 16 | 771XF-3.5 | ■     | ■   | ■        | 781XF-3.5 | ■     | ■   | ■        |

Tronçonnage

Abstechen

Parting off

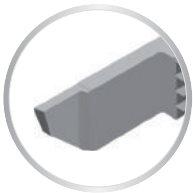
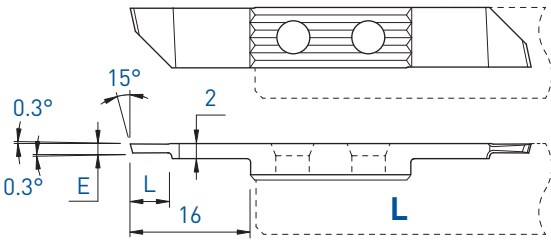
Coupe déportée

Versetztes Schneiden

Cut off line

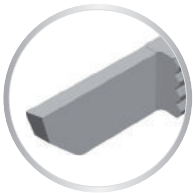
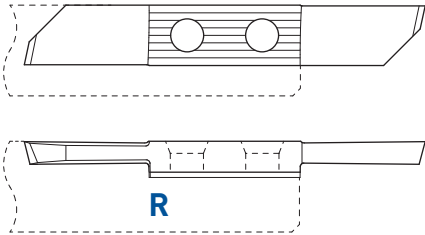
781L / 771R

Cut R

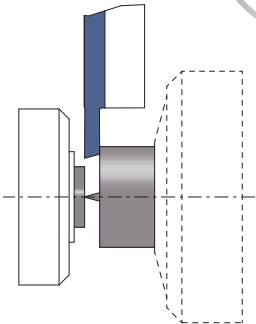
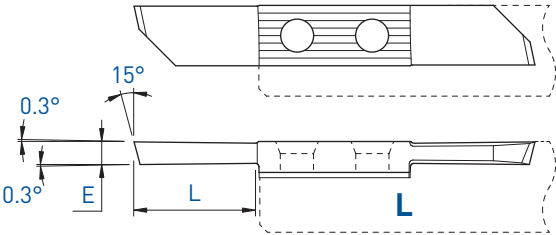


| L (R)                                                                       |     |          |       |     |          |
|-----------------------------------------------------------------------------|-----|----------|-------|-----|----------|
| Coupe à droite déportée<br>Versetztes Rechtsschneiden<br>Right cut off line |     |          |       |     |          |
| E                                                                           | L   | Art. N°  | TiAlN | TiN | N (µk20) |
| 1.0                                                                         | 5   | 771R-1.0 | ■     | ■   | ■        |
| 1.2                                                                         | 5   | 771R-1.2 | ■     | ■   | ■        |
| 1.5                                                                         | 8.5 | 771R-1.5 | ■     | ■   | ■        |

Cut L



Cut R



| R (L)                                                                     |    |          |       |     |          | L (R)                                                                       |       |     |          |
|---------------------------------------------------------------------------|----|----------|-------|-----|----------|-----------------------------------------------------------------------------|-------|-----|----------|
| Coupe à gauche déportée<br>Versetztes Linksschneiden<br>Left cut off line |    |          |       |     |          | Coupe à droite déportée<br>Versetztes Rechtsschneiden<br>Right cut off line |       |     |          |
| E                                                                         | L  | Art. N°  | TiAlN | TiN | N (µk20) | Art. N°                                                                     | TiAlN | TiN | N (µk20) |
| 2.0                                                                       | 16 | 781L-2.0 | ■     | ■   | ■        | 771R-2.0                                                                    | ■     | ■   | ■        |
| 2.5                                                                       | 16 | 781L-2.5 | ■     | ■   | ■        | 771R-2.5                                                                    | ■     | ■   | ■        |
| 3.0                                                                       | 16 | 781L-3.0 | ■     | ■   | ■        | 771R-3.0                                                                    | ■     | ■   | ■        |
| 3.5                                                                       | 16 | 781L-3.5 | ■     | ■   | ■        | 771R-3.5                                                                    | ■     | ■   | ■        |

Tronçonnage

Abstechen

Parting off

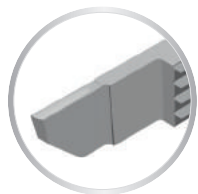
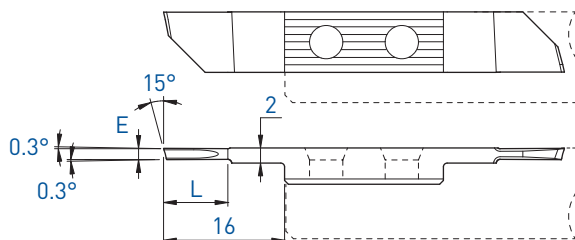
Coupe déportée

Versetztsschneiden

Cut off line

771RU

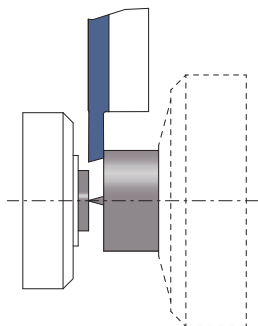
## Cut R



## L (R)

Coupe à droite déportée  
Versetztsschneiden  
Right cut off line

| E   | L   | Art. N°   | TiAlN | TiN | N (µk20) |
|-----|-----|-----------|-------|-----|----------|
| 1.0 | 5   | 771RU-1.0 | ■     | □   | ■        |
| 1.5 | 8.5 | 771RU-1.5 | ■     | □   | ■        |



Tronçonnage

Abstechen

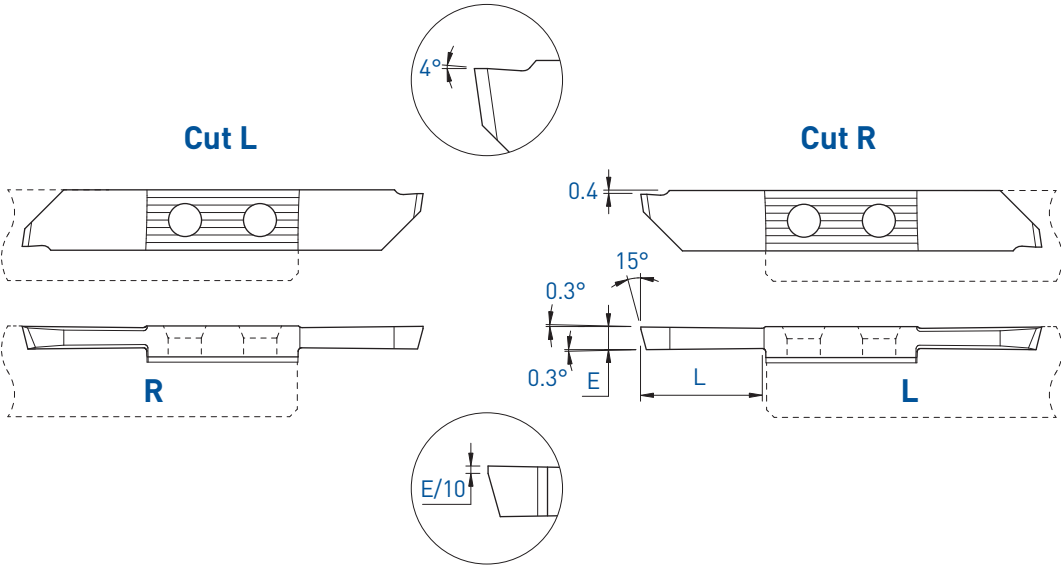
Parting off

Coupe déportée

Versetztes Schneiden

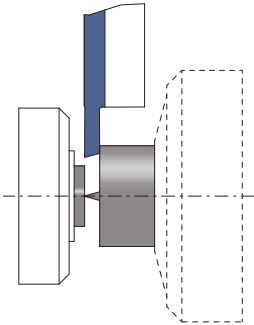
Cut off line

781LXF / 771RXF



| R (L)                                                                     | L (R)                                                                       |
|---------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| Coupe à gauche déportée<br>Versetztes Linksschneiden<br>Left cut off line | Coupe à droite déportée<br>Versetztes Rechtsschneiden<br>Right cut off line |

| E   | L  | Art. N°    | TiAlN | TiN | N (µk20) | Art. N°    | TiAlN | TiN | N (µk20) |
|-----|----|------------|-------|-----|----------|------------|-------|-----|----------|
| 2.0 | 16 | -          |       |     |          | 771RXF-2.0 | ■     | ■   | ■        |
| 2.5 | 16 | 781LXF-2.5 | ■     | ■   | ■        | 771RXF-2.5 | ■     | ■   | ■        |
| 3.0 | 16 | 781LXF-3.0 | ■     | ■   | ■        | 771RXF-3.0 | ■     | ■   | ■        |
| 3.5 | 16 | 781LXF-3.5 | ■     | ■   | ■        | 771RXF-3.5 | ■     | ■   | ■        |



Tronçonnage

Abstechen

Parting off

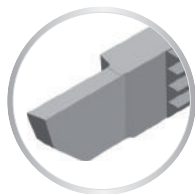
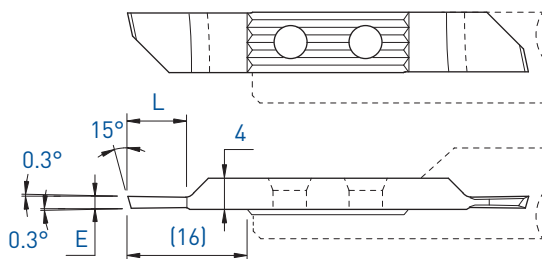
Coupe déportée

Versetztes Schneiden

Cut off line

771RD

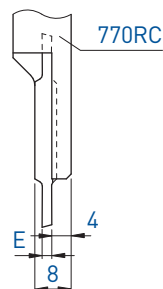
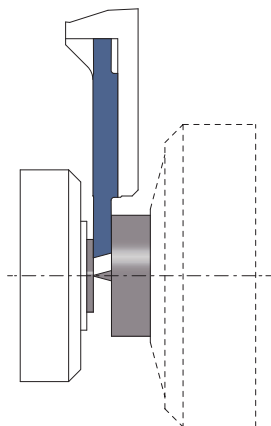
## Cut R



## L (R)

Coupe à droite déportée  
Versetztes Rechtsschneiden  
Right cut off line

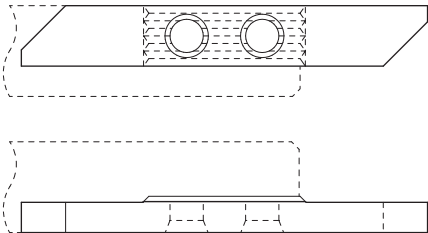
| E   | L   | Art. N°   | TiAlN | TiN | N (µk20) |
|-----|-----|-----------|-------|-----|----------|
| 1.2 | 5   | 771RD-1.2 | ■     | ■   | ■        |
| 1.5 | 7.5 | 771RD-1.5 | ■     | ■   | ■        |
| 2.0 | 10  | 771RD-2.0 | ■     | ■   | ■        |



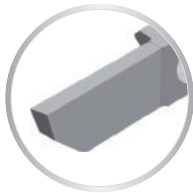
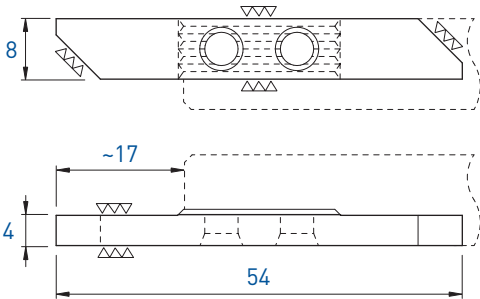
Plaquettes ébauches  
WSP-Rohlinge  
Blank inserts

771-E / 781-E

L



R



|          |          |          |          |
|----------|----------|----------|----------|
| <b>L</b> |          | <b>R</b> |          |
| Art. N°  | N (µk20) | Art. N°  | N (µk20) |
| 771-E    | ■        | 781-E    | ■        |

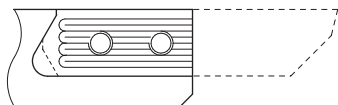
Porte-outils

Halter

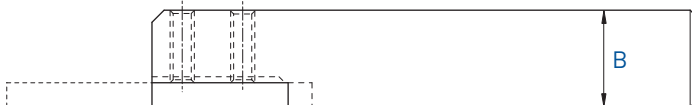
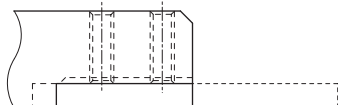
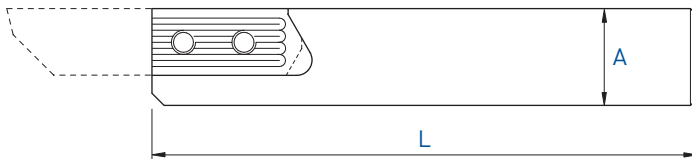
Holders

7050 / 7060

L



R



L

R

| A x B   | L   | Serrage<br>Spannsystem<br>Clamping | Art. N°    | Art. N°    |
|---------|-----|------------------------------------|------------|------------|
| 16 x 16 | 130 | A                                  | 7050-16    | 7060-16    |
| 16 x 16 | 75  | A                                  | 7050-16-75 | 7060-16-75 |
| 20 x 20 | 120 | A                                  | 7050-20    | 7060-20    |
| 25 x 25 | 140 | A                                  | 7050-25    | 7060-25    |



Chaque support est livré avec vis et clé.  
Jeder Halter wird mit Spannschraube(n) und Schlüssel geliefert.  
Screw(s) and key are included with each tool holder.

■ = disponible / verfügbar / available

□ = selon disponibilité du stock / jenach Lagerverfügbarkeit / depending on stock availability

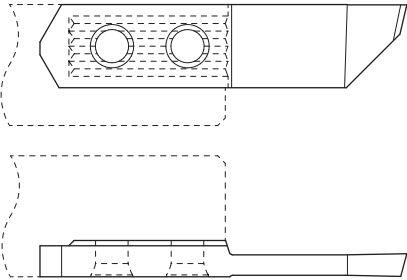
Tronçonnage

Abstechen

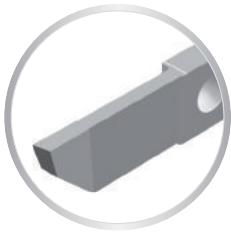
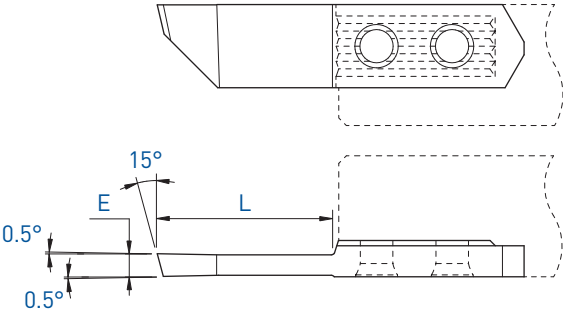
Parting off

7051 / 7061

L



R



|                                                                                    |  |       |     |                                                                                      |          |  |       |     |          |
|------------------------------------------------------------------------------------|--|-------|-----|--------------------------------------------------------------------------------------|----------|--|-------|-----|----------|
|  |  |       |     |  |          |  |       |     |          |
| Art. N°                                                                            |  | TiAlN | TiN | N [µk20]                                                                             | Art. N°  |  | TiAlN | TiN | N [µk20] |
| -                                                                                  |  |       |     |                                                                                      | 7061-2.5 |  | ■     | ■   | ■        |
| 7051-3.0                                                                           |  | ■     | ■   | ■                                                                                    | 7061-3.0 |  | ■     | ■   | ■        |
| -                                                                                  |  |       |     |                                                                                      | 7061-3.5 |  | ■     | ■   | ■        |

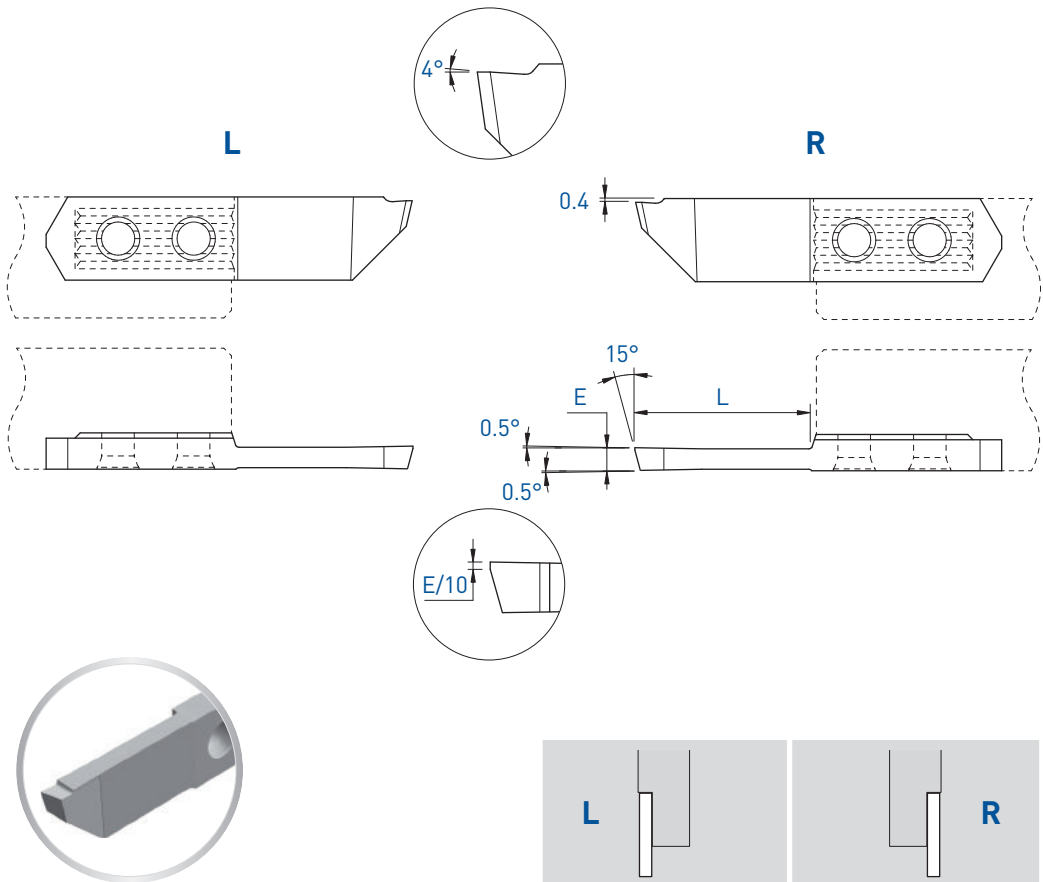


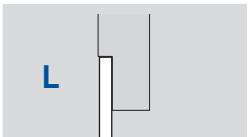
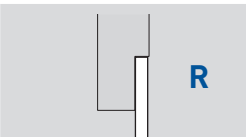
Tronçonnage

Abstechen

Parting off

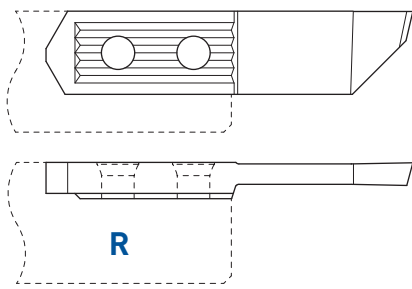
7051XF / 7061XF



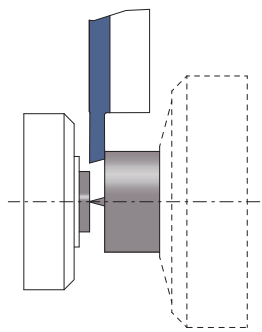
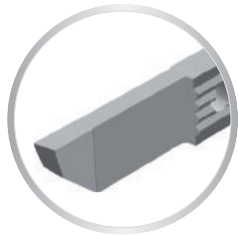
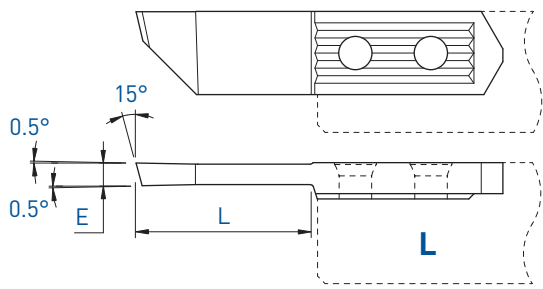
|     |    |  |       |     |  |            |       |     |          |
|-----|----|------------------------------------------------------------------------------------|-------|-----|-------------------------------------------------------------------------------------|------------|-------|-----|----------|
| E   | L  | Art. N°                                                                            | TiAlN | TiN | N (µk20)                                                                            | Art. N°    | TiAlN | TiN | N (µk20) |
| 3.0 | 22 | 7051XF-3.0                                                                         | ■     | ■   | ■                                                                                   | 7061XF-3.0 | ■     | ■   | ■        |

|             |                      |               |
|-------------|----------------------|---------------|
| Tronçonnage | Coupe déportée       | 7061L / 7051R |
| Abstechen   | Versetztes Schneiden |               |
| Parting off | Cut off line         |               |

Cut L



Cut R



|     |    | <div>R (L)</div> <div>Coupe à gauche déportée<br/>Versetztes Linksschneiden<br/>Left cut off line</div> |       |     |          | <div>L (R)</div> <div>Coupe à droite déportée<br/>Versetztes Rechtsschneiden<br/>Right cut off line</div> |       |     |          |
|-----|----|---------------------------------------------------------------------------------------------------------|-------|-----|----------|-----------------------------------------------------------------------------------------------------------|-------|-----|----------|
| E   | L  | Art. N°                                                                                                 | TiAIN | TiN | N (µk20) | Art. N°                                                                                                   | TiAIN | TiN | N (µk20) |
| 2.5 | 22 | -                                                                                                       |       |     |          | 7051R-2.5                                                                                                 | ■     | ■   | ■        |
| 3.0 | 22 | 7061L-3.0                                                                                               | ■     | ■   | ■        | 7051R-3.0                                                                                                 | ■     | ■   | ■        |
| 3.5 | 22 | -                                                                                                       |       |     |          | 7051R-3.5                                                                                                 | ■     | ■   | ■        |

Tronçonnage

Abstechen

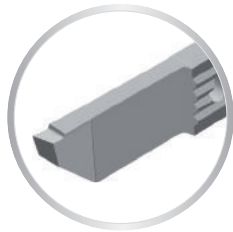
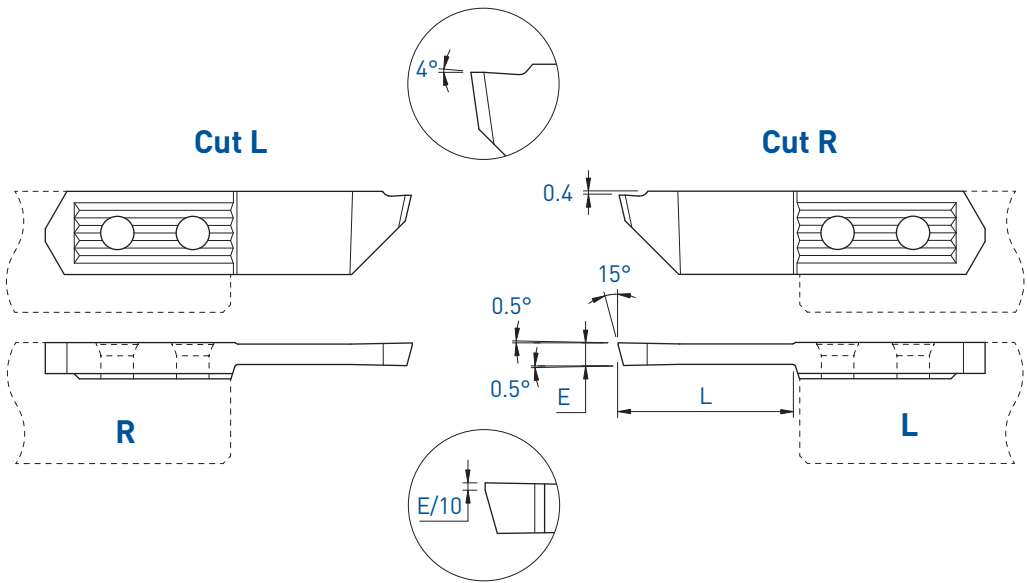
Parting off

Coupe déportée

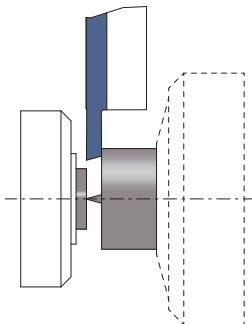
Versetztes Schneiden

Cut off line

7061LXF / 7051RXF

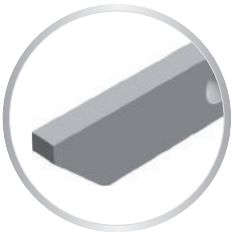
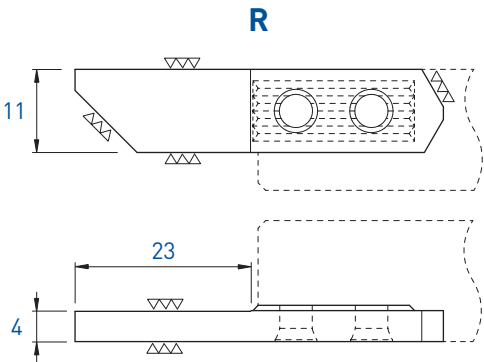
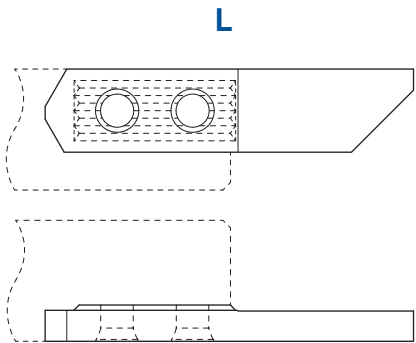
**R (L)**Coupe à gauche déportée  
Versetztes Linksschneiden  
Left cut off line**L (R)**Coupe à droite déportée  
Versetztes Rechtsschneiden  
Right cut off line

| E   | L  | Art. N°     | TiAlN | TiN | N (µk20) | Art. N°     | TiAlN | TiN | N (µk20) |
|-----|----|-------------|-------|-----|----------|-------------|-------|-----|----------|
| 3.0 | 22 | 7061LXF-3.0 | ■     | ■   | ■        | 7051RXF-3.0 | ■     | ■   | ■        |



Plaquettes ébauches  
WSP-Rohlinge  
Blank inserts

7051-E / 7061-E



| <b>L</b> |          | <b>R</b> |          |
|----------|----------|----------|----------|
| Art. N°  | N (µk20) | Art. N°  | N (µk20) |
| 7051-E   | ■        | 7061-E   | ■        |

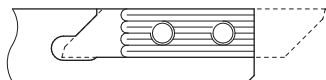
Porte-outils

Halter

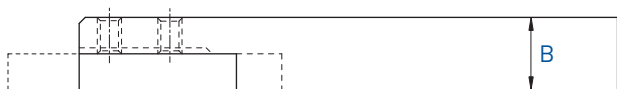
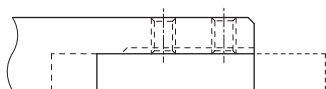
Holders

W750 / W760

L



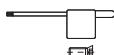
R



L

R

| A x B   | L   | Serrage<br>Spannsystem<br>Clamping | Art. N°        | Art. N°        |
|---------|-----|------------------------------------|----------------|----------------|
| 12 x 12 | 130 | A                                  | <b>W750-12</b> | <b>W760-12</b> |
| 16 x 16 | 130 | A                                  | <b>W750-16</b> | <b>W760-16</b> |
| 20 x 20 | 120 | A                                  | <b>W750-20</b> | <b>W760-20</b> |



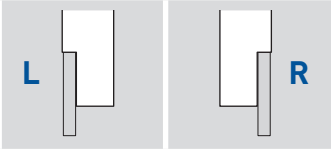
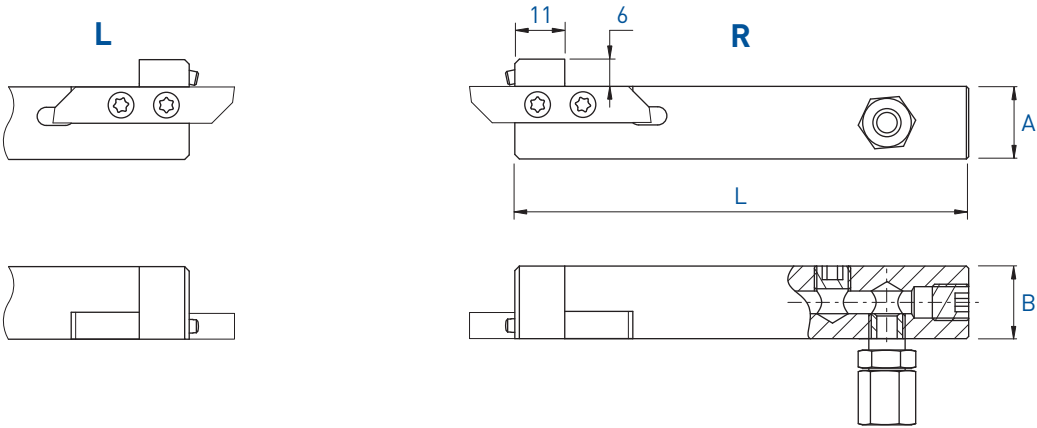
Chaque support est livré avec vis et clé.  
Jeder Halter wird mit Spannschraube(n) und Schlüssel geliefert.  
Screw(s) and key are included with each tool holder.

■ = disponible / verfügbar / available

□ = selon disponibilité du stock / jenach Lagerverfügbarkeit / depending on stock availability

Porte-outils avec arrosage intégré  
Halter mit integrierter Kühlmittelzufuhr  
Holders with integrated coolant supply

W750-JET / W760-JET



| A x B   | L   | Serrage<br>Spannsystem<br>Clamping | Art. N°     | Art. N°     |
|---------|-----|------------------------------------|-------------|-------------|
| 16 x 16 | 100 | A                                  | W750-16-JET | W760-16-JET |
| 20 x 20 | 100 | A                                  | W750-20-JET | W760-20-JET |



Chaque support est livré avec vis et clé.  
Jeder Halter wird mit Spannschraube(n)  
und Schlüssel geliefert.  
Screw(s) and key are included with each  
tool holder.

| Pièces de rechange<br>Ersatzteile<br>Spare parts |  |  | Buse<br>Düse<br>Nozzle |
|--------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|------------------------|
|                                                  | Art. N°                                                                             | Art. N°                                                                             | Art. N°                |
| W750-JET / W760-JET                              | J-M8X1-D6                                                                           | JB-M8X1                                                                             | JJ-M3X6-D1.5           |

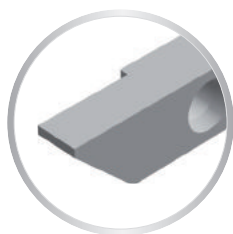
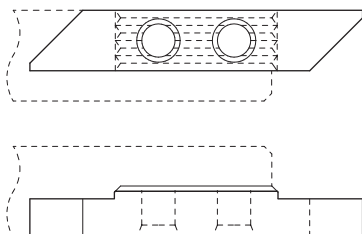
Plaquettes ébauches

WSP-Rohlinge

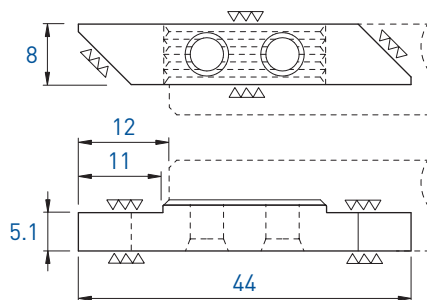
Blank inserts

W751-E5 / W761-E5  
W751-EP5 / W761-EP5

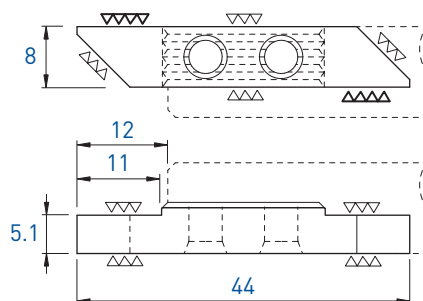
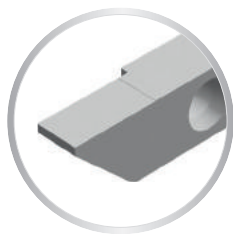
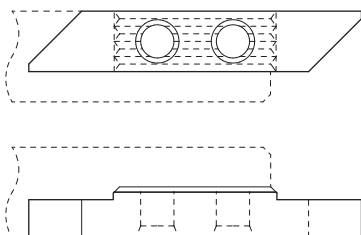
L



R



|         |          |         |          |
|---------|----------|---------|----------|
| L       |          | R       |          |
| Art. N° | N (µk20) | Art. N° | N (µk20) |
| W751-E5 | ■        | W761-E5 | ■        |



|          |          |          |          |
|----------|----------|----------|----------|
| L        |          | R        |          |
| Art. N°  | N (µk20) | Art. N°  | N (µk20) |
| W751-EP5 | ■        | W761-EP5 | ■        |

■ = disponible / verfügbar / available

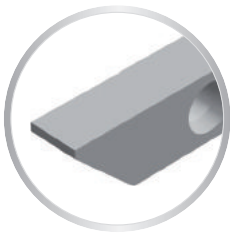
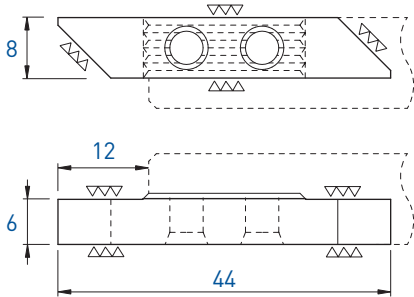
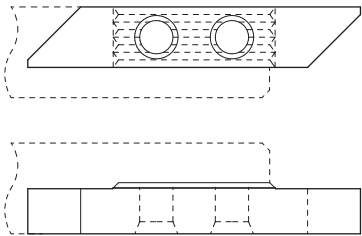
□ = selon disponibilité du stock / je nach Lagerverfügbarkeit / depending on stock availability

Plaquettes ébauches  
WSP-Rohlinge  
Blank inserts

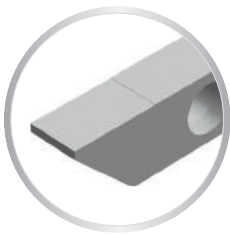
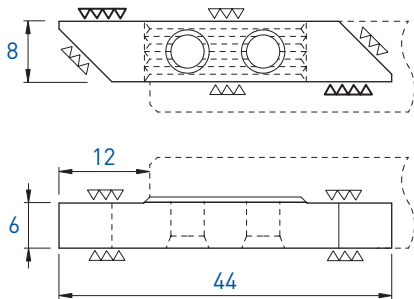
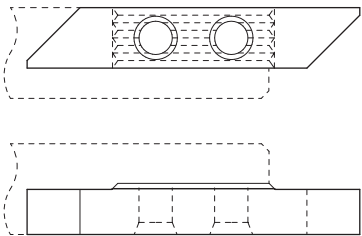
W751-E6 / W761-E6  
W751-EP6 / W761-EP6

L

R



|         |          |         |          |
|---------|----------|---------|----------|
| L       |          | R       |          |
| Art. N° | N (µk20) | Art. N° | N (µk20) |
| W751-E6 | ■        | W761-E6 | ■        |



|          |          |          |          |
|----------|----------|----------|----------|
| L        |          | R        |          |
| Art. N°  | N (µk20) | Art. N°  | N (µk20) |
| W751-EP6 | ■        | W761-EP6 | ■        |



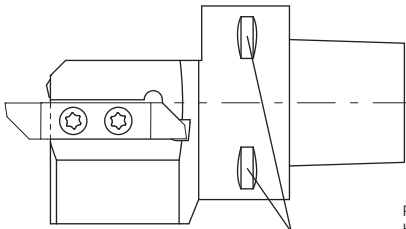
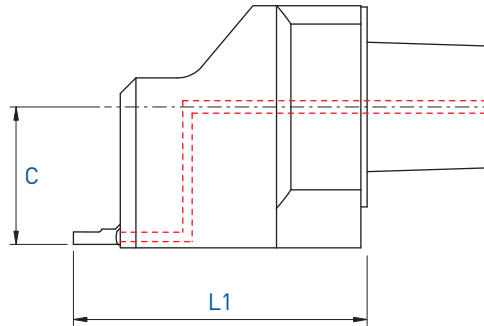
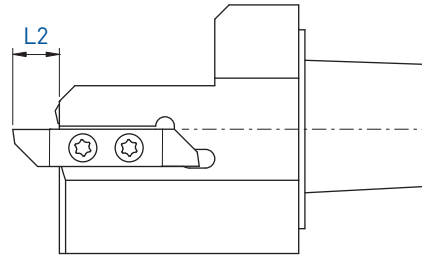
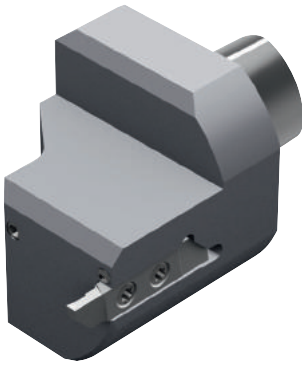
Interface polygonale PSC

Polygonal Schnittstelle PSC

Polygonal interface PSC

R

C3 / C4



Porte-outils pour changeur automatique sur demande.  
 Halter für Werkzeugwechsler auf Anfrage.  
 Holders for tool changer on request.

| Type | Plaquettes type<br>WSP Typ<br>Insert type | Pages<br>Seiten<br>Pages | L1 | C  | L2  | Art. N°             | Buse<br>Düse<br>Nozzle<br> |
|------|-------------------------------------------|--------------------------|----|----|-----|---------------------|-----------------------------------------------------------------------------------------------------------------|
|      |                                           |                          |    |    |     |                     | Art. N°                                                                                                         |
| C3   | 740                                       | > 1.32                   | 47 | 22 | 7.5 | <b>C3-740-22047</b> | <b>JJ-M3X6-D1.5</b>                                                                                             |
| C3   | 760                                       | > 1.78                   | 47 | 22 | 10  | <b>C3-760-22047</b> | <b>JJ-M3X6-D1.5</b>                                                                                             |
| C4   | 760                                       | > 1.78                   | 62 | 27 | 10  | <b>C4-760-27062</b> | <b>JJ-M3X6-D1.5</b>                                                                                             |



Chaque support est livré avec vis et clé.  
 Jeder Halter wird mit Spannschraube(n) und Schlüssel geliefert.  
 Screw(s) and key are included with each tool holder.

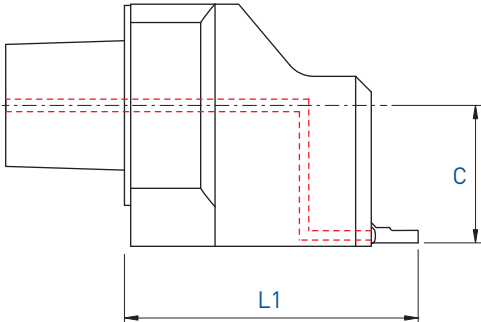
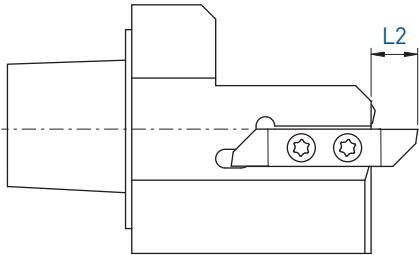
■ = disponible / verfügbar / available

□ = selon disponibilité du stock / jenach Lagerverfügbarkeit / depending on stock availability

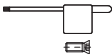
Interface polygonale PSC  
Polygonal Schnittstelle PSC  
Polygonal interface PSC

L

C4



| Type | Plaquettes type<br>WSP Typ<br>Insert type | Pages<br>Seiten<br>Pages | L1 | C  | L2 | Art. N°      | Buse<br>Düse<br>Nozzle<br>Art. N° |
|------|-------------------------------------------|--------------------------|----|----|----|--------------|-----------------------------------|
| C4   | 750                                       | > 1.78                   | 62 | 27 | 10 | C4-750-27062 | JJ-M3X6-D1.5                      |



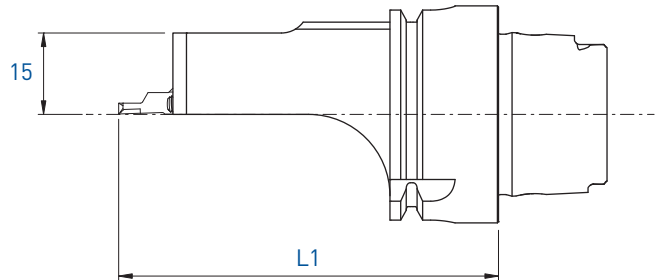
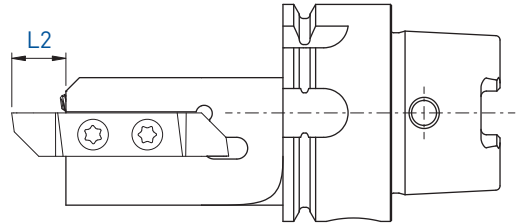
Chaque support est livré avec vis et clé.  
Jeder Halter wird mit Spannschraube(n) und Schlüssel geliefert.  
Screw(s) and key are included with each tool holder.

Porte-outils

Halter

Holders

HSK



Utilisable sur toutes les machines avec broches HSK-T ou HSK-A

Auf allen Maschinen mit HSK-T oder HSK-A verwendbar

Applicable on all machines with HSK-T or HSK-A spindle

| Plaquettes type<br>WSP Typ<br>Insert type | Pages<br>Seiten<br>Pages | L1 | L2  | Art. N°                                            | Buse<br>Düse<br>Nozzle<br> |
|-------------------------------------------|--------------------------|----|-----|----------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
|                                           |                          |    |     |                                                    | Art. N°                                                                                                         |
| 740                                       | > 1.32                   | 65 | 7.5 | HSK-T40-740-0065-JET<br>HSK-A40-S191-740-0065-JET* | JJ-M3X6-D1.5                                                                                                    |
| 760                                       | > 1.78                   | 70 | 10  | HSK-T40-760-0070-JET<br>HSK-A40-S191-760-0070-JET* | JJ-M3X6-D1.5                                                                                                    |

\* pour machines Bumotec  
für Bumotec Maschinen  
for Bumotec machines



Chaque support est livré avec vis et clé.  
Jeder Halter wird mit Spannschraube(n) und Schlüssel geliefert.  
Screw(s) and key are included with each tool holder.

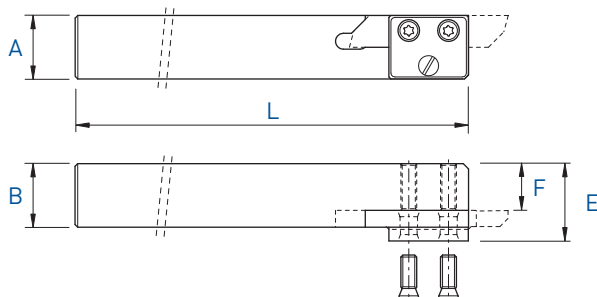
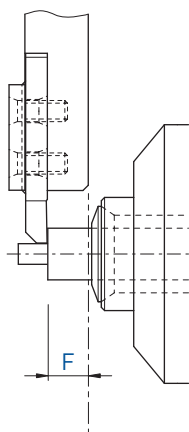
Porte-outils pour usinage déporté

Halter für versetzte Bearbeitung

Holders for shifted machining

R

740Z / 760Z

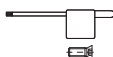


## 740 Series

| A x B   | L   | F    | E    | Art. N°        | Plaquettes type<br>WSP Typ<br>Inserts type | Pages<br>Seiten<br>Pages |
|---------|-----|------|------|----------------|--------------------------------------------|--------------------------|
| 12 x 12 | 130 | 9.5  | 14.5 | <b>740Z-12</b> | 741 - 747                                  | > 1.32                   |
| 16 x 16 | 130 | 13.5 | 18.5 | <b>740Z-16</b> | 741 - 747                                  | > 1.32                   |

## 760 Series

| A x B   | L   | F  | E  | Art. N°        | Plaquettes type<br>WSP Typ<br>Inserts type | Pages<br>Seiten<br>Pages |
|---------|-----|----|----|----------------|--------------------------------------------|--------------------------|
| 12 x 12 | 130 | 8  | 15 | <b>760Z-12</b> | 761 - 767                                  | > 1.78                   |
| 16 x 16 | 130 | 12 | 19 | <b>760Z-16</b> | 761 - 767                                  | > 1.78                   |



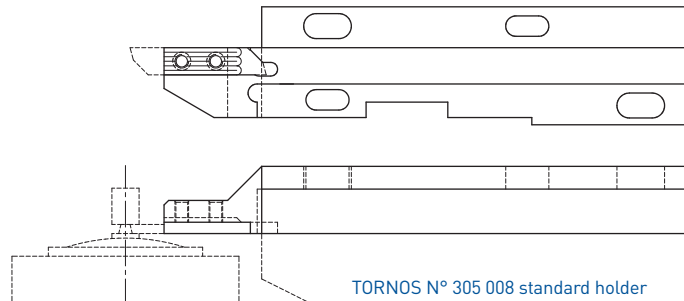
Chaque support est livré avec vis et clé.  
Jeder Halter wird mit Spannschraube(n) und Schlüssel geliefert.  
Screw(s) and key are included with each tool holder.

Porte-outils pour machine Tornos

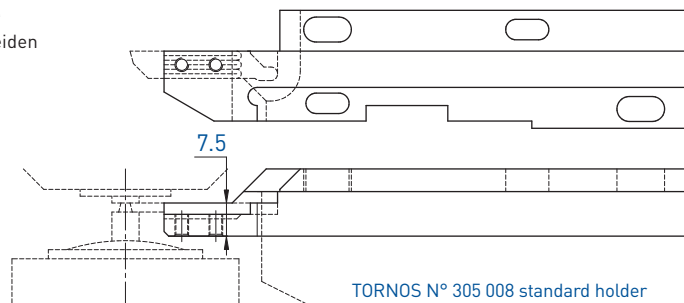
Halter für Tornos Maschine

Holders for Tornos machine

R

DECO 7/10  
EvoDECO 10Coupe à droite  
Rechtsschneiden  
Right hand cut

| Art. N°    | Plaquettes type<br>WSP Typ<br>Inserts type | Pages<br>Seiten<br>Pages |
|------------|--------------------------------------------|--------------------------|
| 740-DECO10 | 741 - 747                                  | > 1.32                   |

Coupe à droite déportée  
Versetztes Rechtsschneiden  
Right cut off line

| Art. N°     | Plaquettes type<br>WSP Typ<br>Inserts type | Pages<br>Seiten<br>Pages |
|-------------|--------------------------------------------|--------------------------|
| 730R-DECO10 | 731R / 731N                                | 1.39 - 1.45              |



Chaque support est livré avec vis et clé.  
Jeder Halter wird mit Spannschraube(n) und Schlüssel geliefert.  
Screw(s) and key are included with each tool holder.

Porte-outils pour machine Tornos

Halter für Tornos Maschine

Holders for Tornos machine

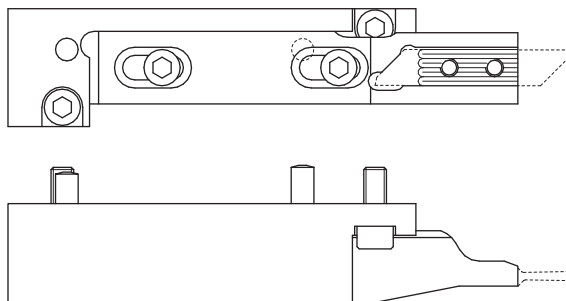
R

DECO 7/10  
EvoDECO 10

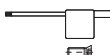
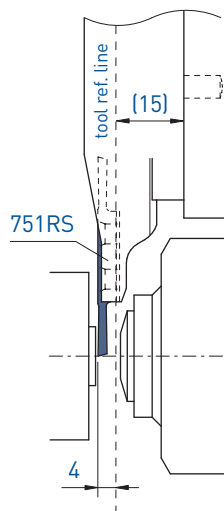
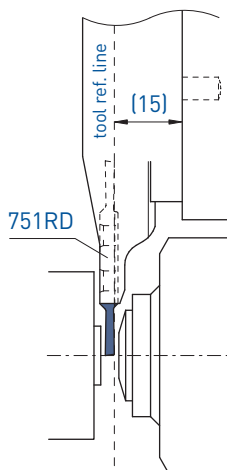
Pour le tronçonnage de petites pièces  
Zum Abstechen von kleinen Werkstücken  
For small parts parting off



Réglable en longueur  
Längseinstellbar  
Adjustable length



| Art. N°     | Plaquettes type<br>WSP Typ<br>Inserts type | Pages<br>Seiten<br>Pages |
|-------------|--------------------------------------------|--------------------------|
| 750R-DECO10 | 751R / 751N                                | 1.88 - 1.99              |



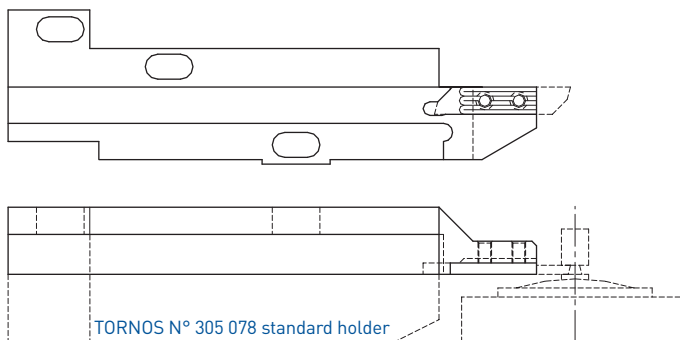
Chaque support est livré avec vis et clé.  
Jeder Halter wird mit Spannschraube(n) und Schlüssel geliefert.  
Screw(s) and key are included with each tool holder.

Porte-outils pour machine Tornos

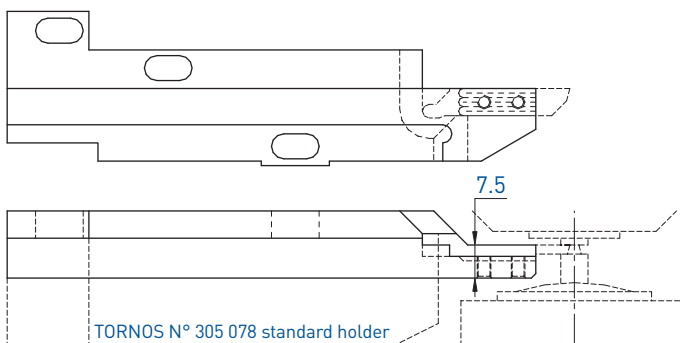
Halter für Tornos Maschine

Holders for Tornos machine

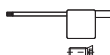
L

DECO 7/10  
EvoDECO 10Coupe à gauche  
Linksschneiden  
Left hand cut

| Art. N°    | Plaquettes type<br>WSP Typ<br>Inserts type | Pages<br>Seiten<br>Pages |
|------------|--------------------------------------------|--------------------------|
| 730-DEC010 | 731 - 737                                  | > 1.32                   |

Coupe à gauche déportée  
Versetztes Linksschneiden  
Left cut off line

| Art. N°     | Plaquettes type<br>WSP Typ<br>Inserts type | Pages<br>Seiten<br>Pages |
|-------------|--------------------------------------------|--------------------------|
| 740L-DEC010 | 741L / 741N                                | 1.39 - 1.45              |



Chaque support est livré avec vis et clé.  
Jeder Halter wird mit Spannschraube(n) und Schlüssel geliefert.  
Screw(s) and key are included with each tool holder.

Porte-outils pour machine Tornos

Halter für Tornos Maschine

Holders for Tornos machine

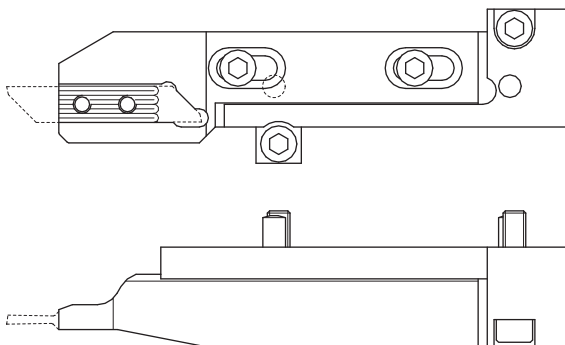
L

DECO 7/10  
EvoDECO 10

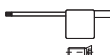
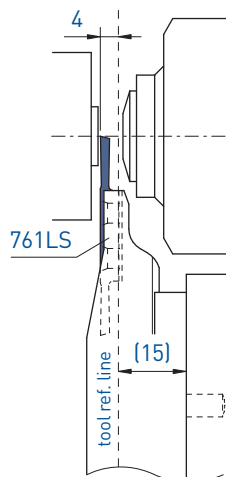
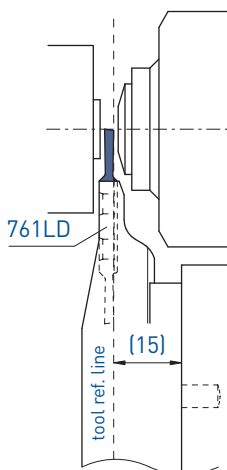
Pour le tronçonnage de petites pièces  
Zum Abstechen von kleinen Werkstücken  
For small parts parting off



Réglable en longueur  
Längseinstellbar  
Adjustable length



| Art. N°     | Plaquettes type<br>WSP Typ<br>Inserts type | Pages<br>Seiten<br>Pages |
|-------------|--------------------------------------------|--------------------------|
| 760L-DECO10 | 761L / 761N                                | 1.88 - 1.98              |



Chaque support est livré avec vis et clé.  
Jeder Halter wird mit Spannschraube(n) und Schlüssel geliefert.  
Screw(s) and key are included with each tool holder.



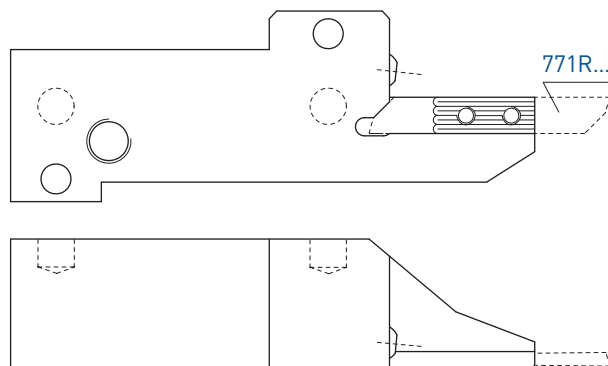
Porte-outils pour machine Tornos

Halter für Tornos Maschine

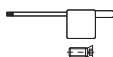
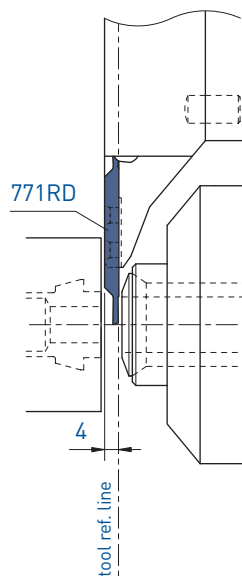
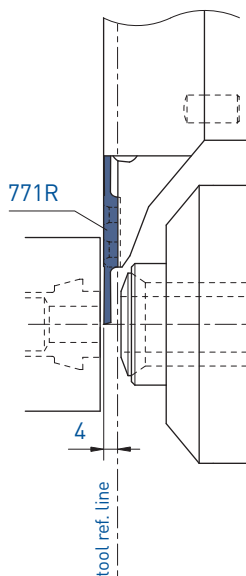
Holders for Tornos machine

DECO 13  
EvoDECO 16

Pour le tronçonnage de petites pièces  
Zum Abstechen von kleinen Werkstücken  
For small parts parting off



| Art. N°     | Plaquettes type<br>WSP Typ<br>Inserts type | Pages<br>Seiten<br>Pages |
|-------------|--------------------------------------------|--------------------------|
| 770R-DEC013 | 771R                                       | 1.138 - 1.141            |



Chaque support est livré avec vis et clé.  
Jeder Halter wird mit Spannschraube(n) und Schlüssel geliefert.  
Screw(s) and key are included with each tool holder.

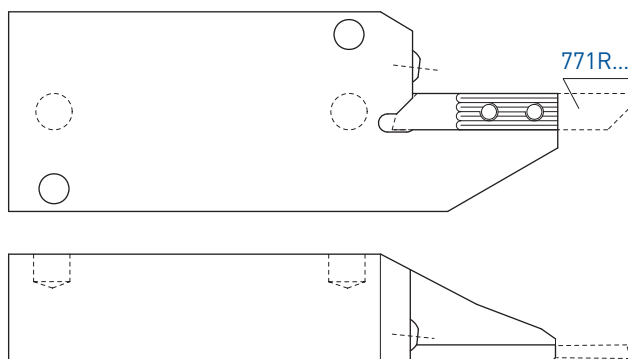
Porte-outils pour machine Tornos

Halter für Tornos Maschine

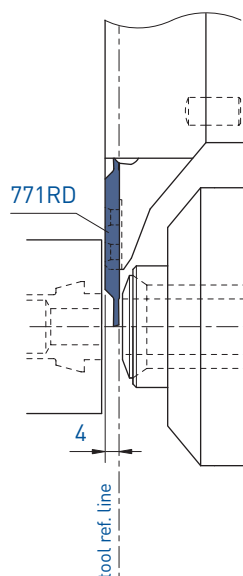
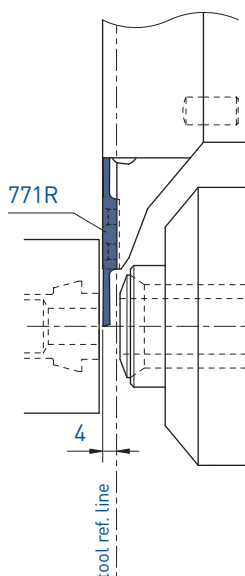
Holders for Tornos machine

DECO 20  
EvoDECO 20/32

Pour le tronçonnage de petites pièces  
Zum Abstechen von kleinen Werkstücken  
For small parts parting off



| Art. N°     | Plaquettes type<br>WSP Typ<br>Inserts type | Pages<br>Seiten<br>Pages |
|-------------|--------------------------------------------|--------------------------|
| 770R-DECO20 | 771R                                       | 1.138 - 1.141            |



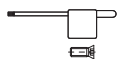
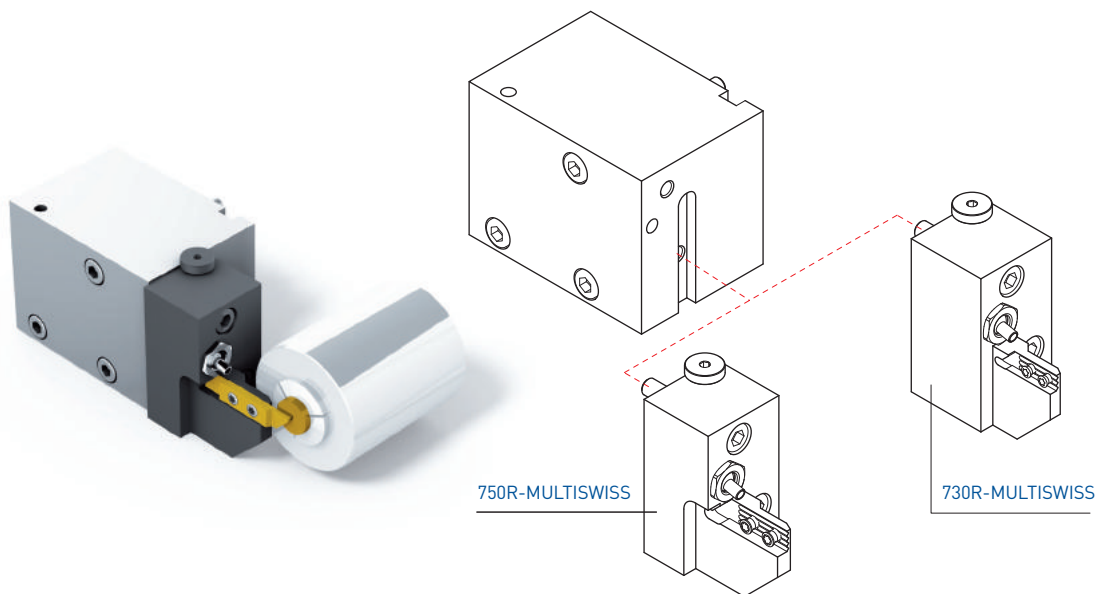
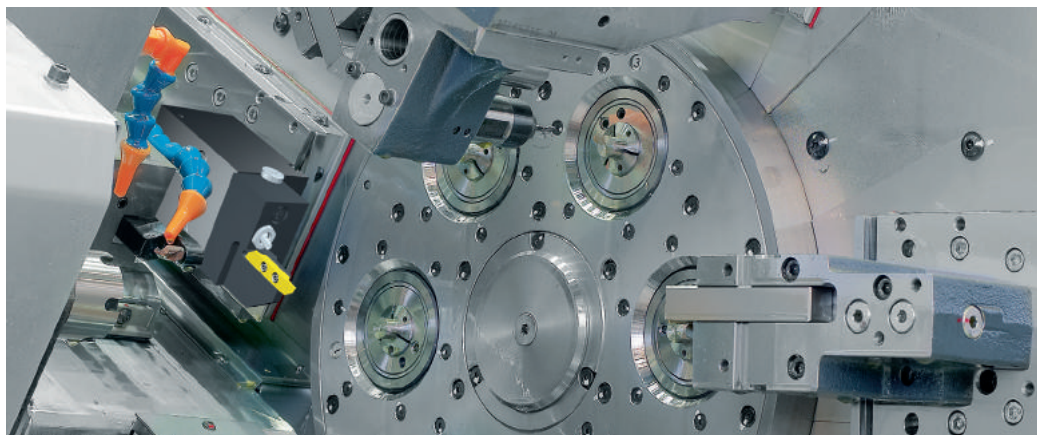
Chaque support est livré avec vis et clé.  
Jeder Halter wird mit Spannschraube(n) und Schlüssel geliefert.  
Screw(s) and key are included with each tool holder.

Porte-outils pour machine Tornos

Halter für Tornos Maschine

Holders for Tornos machine

**MultiSwiss 6x16**



Chaque support est livré avec vis et clé.  
Jeder Halter wird mit Spannschraube(n) und  
Schlüssel geliefert.  
Screw(s) and key are included with each tool holder.

| Art. N°                | Plaquettes type<br>WSP Typ<br>Inserts type | Pages<br>Seiten<br>Pages |
|------------------------|--------------------------------------------|--------------------------|
| <b>730R-MULTISWISS</b> | 731R / 731N                                | 1.39 - 1.45              |
| <b>750R-MULTISWISS</b> | 751R / 751N                                | 1.88 - 1.99              |

Porte-outils

Halter

Holders

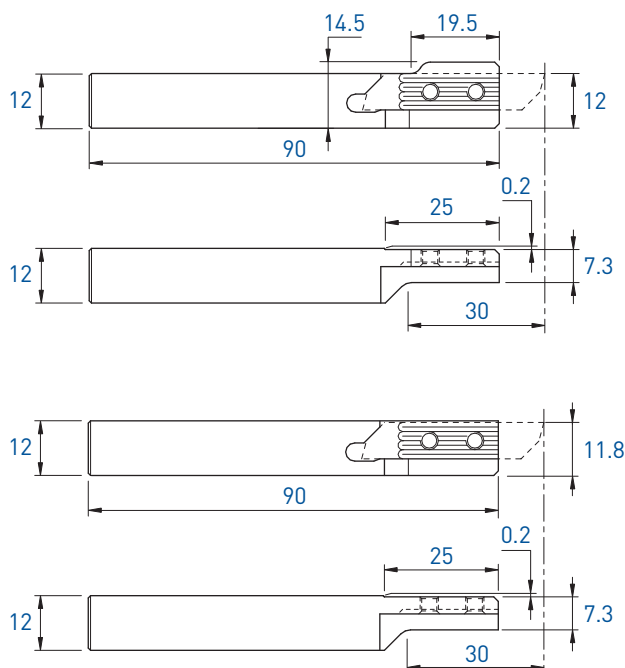
Tornos

AS 14

SAS 16

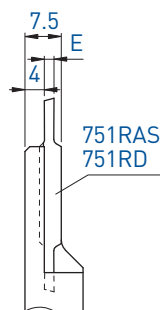
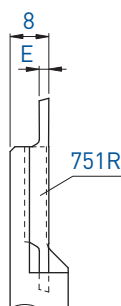
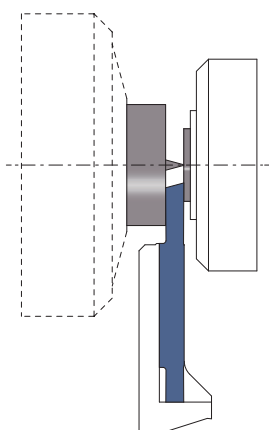
R

750RAS



| Art. N°   | Plaquettes type<br>WSP Typ<br>Inserts type | Pages<br>Seiten<br>Pages |
|-----------|--------------------------------------------|--------------------------|
| 750RAS-12 | 751R                                       | 1.88 - 1.96              |

| Art. N°         | Plaquettes type<br>WSP Typ<br>Inserts type | Pages<br>Seiten<br>Pages |
|-----------------|--------------------------------------------|--------------------------|
| 750RAS-12-H11.8 | 751R                                       | 1.88 - 1.96              |



(p. 1.98 - 1.99)



Chaque support est livré avec vis et clé.  
Jeder Halter wird mit Spannschraube(n) und Schlüssel geliefert.  
Screw(s) and key are included with each tool holder.

Porte-outils

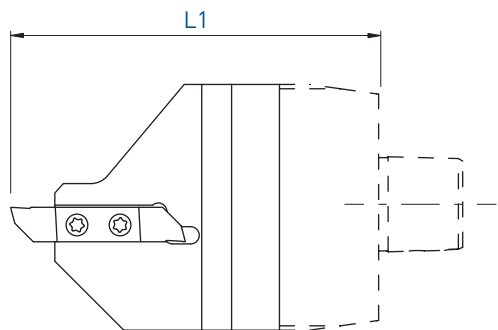
&lt; Halter

Schütte

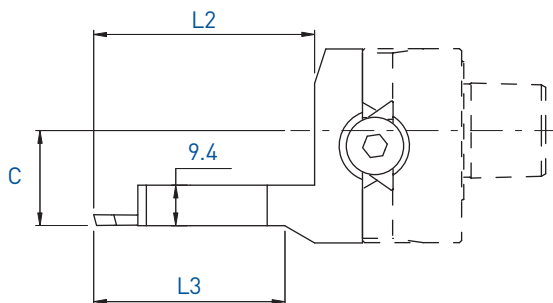
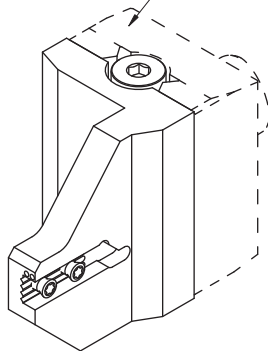
Holders

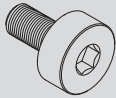
DT20

DT30



Compatibility Schütte

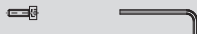


| Plaquettes type<br>WSP Typ<br>Inserts type | Pages<br>Seiten<br>Pages | L1 | C    | L2 | L3 | Art. N°      | Compatibility<br>Schütte | <br>Art. N° |
|--------------------------------------------|--------------------------|----|------|----|----|--------------|--------------------------|--------------------------------------------------------------------------------------------------|
|                                            |                          |    |      |    |    |              |                          |                                                                                                  |
| 761-767                                    | > 1.78                   | 86 | 22   | 51 | 44 | DT20-760-JET | C3-75870949              | V-M6X0.5-14-L18                                                                                  |
|                                            |                          | 83 | 27.5 | 48 | –  | DT30-760-JET | C4-75836783              |                                                                                                  |

## Vis et clés de rechange

## Ersatzschrauben und Schlüsseln

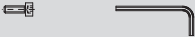
## Spare screws and keys

|     | Porte-outils<br>Halter<br>Holders   | Serrage standard (A)<br>Standard Spannsystem (A)<br>Standard clamping system (A)<br>   |       | Serrage type B<br>Spannsystem Typ B<br>Clamping system type B<br>   |          |  |
|-----|-------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------|----------|--|
| 710 | 710-6 / - NOVIBRA                   | V-M2.5X5.8-T8                                                                                                                                                           | C-T8  | -                                                                                                                                                     | -        |  |
|     | 710-7 / - NOVIBRA                   | V-M2.5X6.5-T8                                                                                                                                                           |       |                                                                                                                                                       |          |  |
|     | 710-8 / - NOVIBRA                   | V-M2.5X7.8-T8                                                                                                                                                           |       |                                                                                                                                                       |          |  |
|     | 710-10 - 710-12                     |                                                                                                                                                                         |       |                                                                                                                                                       |          |  |
| 720 | 720-7                               | V-M2.5X6.5-T8                                                                                                                                                           | C-T8  | -                                                                                                                                                     | -        |  |
|     | 720-8 - 720-12                      | V-M2.5X7.8-T8                                                                                                                                                           |       |                                                                                                                                                       |          |  |
| 730 | 730-7 / - JET / -NOVIBRA            | V-M3X7-T8                                                                                                                                                               | C-T8  | -                                                                                                                                                     | -        |  |
|     | 730-8 / -NOVIBRA                    |                                                                                                                                                                         |       | V-M2.5X7.8-T8                                                                                                                                         | C-T8     |  |
|     | 730-10 - 730-20                     |                                                                                                                                                                         |       | -                                                                                                                                                     | -        |  |
|     | 730-DECO10                          |                                                                                                                                                                         |       |                                                                                                                                                       |          |  |
|     | 730R-DECO10                         |                                                                                                                                                                         |       |                                                                                                                                                       |          |  |
|     | 730RC                               | V-M3X5.5-T8                                                                                                                                                             |       |                                                                                                                                                       |          |  |
| 740 | 740-7 / -JET / -NOVIBRA             | V-M3X7-T8                                                                                                                                                               | C-T8  | -                                                                                                                                                     | -        |  |
|     | 740-8 / -NOVIBRA -                  |                                                                                                                                                                         |       | V-M2.5X7.8-T8                                                                                                                                         | C-T8     |  |
|     | 740-12 / -JET / -NOVIBRA            |                                                                                                                                                                         |       | -                                                                                                                                                     | -        |  |
|     | 740-16 - 740-20                     |                                                                                                                                                                         |       |                                                                                                                                                       |          |  |
|     | 740/730-D                           | V-M3X5.5-T8                                                                                                                                                             |       |                                                                                                                                                       |          |  |
|     | 740-C                               |                                                                                                                                                                         |       |                                                                                                                                                       |          |  |
|     | 740-DECO10                          | V-M3X7-T8                                                                                                                                                               |       |                                                                                                                                                       |          |  |
|     | 740L-DECO10                         | V-M3X9-T8                                                                                                                                                               |       |                                                                                                                                                       |          |  |
|     | 740-Z                               |                                                                                                                                                                         |       |                                                                                                                                                       |          |  |
|     | Porte-outils<br>Halter<br>Holders   | Serrage standard (A)<br>Standard Spannsystem (A)<br>Standard clamping system (A)<br> |       | Serrage type B<br>Spannsystem Typ B<br>Clamping system type B<br> |          |  |
| 750 | 750-10 - 750-12 / -JET              | V-M4X9-T15                                                                                                                                                              | C-T15 | -                                                                                                                                                     | -        |  |
|     | 750-10-AB                           |                                                                                                                                                                         |       | V-M3X10-BN21                                                                                                                                          | C-6P-2.0 |  |
|     | 750-12-AB                           |                                                                                                                                                                         |       | V-M3X8-BN11                                                                                                                                           | C-6P-2.5 |  |
|     | 750-12.7 - 750-14                   |                                                                                                                                                                         |       | V-M3X10-BN11                                                                                                                                          |          |  |
|     | 750-16                              |                                                                                                                                                                         |       | V-M3X12-BN11                                                                                                                                          |          |  |
|     | 750-20                              | V-M4X7.3-T15                                                                                                                                                            |       | V-M3X16-BN11                                                                                                                                          | -        |  |
|     | 750RAS - 750-RC                     |                                                                                                                                                                         |       |                                                                                                                                                       |          |  |
|     | 750R-DECO10                         | V-M4X5.6-T15                                                                                                                                                            |       | -                                                                                                                                                     | -        |  |
| 760 | 760-10 - 760-12 / -JET / -NOVIBRA / | V-M4X9-T15                                                                                                                                                              | C-T15 | -                                                                                                                                                     | -        |  |
|     | 760/750                             |                                                                                                                                                                         |       | V-M3X10-BN21                                                                                                                                          | C-6P-2.0 |  |
|     | 760-10-AB                           |                                                                                                                                                                         |       | V-M3X8-BN11                                                                                                                                           | C-6P-2.5 |  |
|     | 760-12-AB                           |                                                                                                                                                                         |       | V-M3X10-BN11                                                                                                                                          |          |  |
|     | 760-12.7 - 760-14                   |                                                                                                                                                                         |       | V-M3X12-BN11                                                                                                                                          |          |  |
|     | 760-16                              | V-M4X7.3-T15                                                                                                                                                            |       | V-M3X16-BN11                                                                                                                                          | -        |  |
|     | 760-20                              |                                                                                                                                                                         |       |                                                                                                                                                       |          |  |
|     | 760LC                               | V-M4X5.6-T15                                                                                                                                                            |       | -                                                                                                                                                     | -        |  |
|     | 760L-DECO10                         | V-M4X12-T15                                                                                                                                                             |       |                                                                                                                                                       |          |  |
|     | 760-Z                               |                                                                                                                                                                         |       |                                                                                                                                                       |          |  |

## Vis et clés de rechange

## Ersatzschrauben und Schlüssel

## Spare screws and keys

|                   | Porte-outils<br>Halter<br>Holders | Serrage standard (A)<br>Standard Spannsystem (A)<br>Standard clamping system (A)<br> |       | Serrage type B<br>Spannsystem Typ B<br>Clamping system type B<br> |   |
|-------------------|-----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------|---|
| <b>770</b>        | 770 / -JET                        | V-M4X9-T15                                                                                                                                                            | C-T15 | -                                                                                                                                                   | - |
|                   | 770RC                             | V-M4X7.3-T15                                                                                                                                                          |       |                                                                                                                                                     |   |
| <b>780</b>        | 780 / -JET                        | V-M4X9-T15                                                                                                                                                            | C-T15 | -                                                                                                                                                   | - |
| <b>7050</b>       | 7050                              | V-M4X9-T15                                                                                                                                                            | C-T15 | -                                                                                                                                                   | - |
| <b>7060</b>       | 7060                              | V-M4X9-T15                                                                                                                                                            | C-T15 | -                                                                                                                                                   | - |
| <b>W</b>          | W750 / W760 /-JET                 | V-M4X11.5-T15                                                                                                                                                         | C-T15 | -                                                                                                                                                   | - |
| <b>C3</b>         | C3-740                            | V-M3X7-T8                                                                                                                                                             | C-T8  | -                                                                                                                                                   | - |
|                   | C3-760                            | V-M4X9-T15                                                                                                                                                            | C-T15 |                                                                                                                                                     |   |
| <b>C4</b>         | C4-750                            | V-M4X9-T15                                                                                                                                                            | C-T15 | -                                                                                                                                                   | - |
|                   | C4-760                            |                                                                                                                                                                       |       |                                                                                                                                                     |   |
| <b>HSK</b>        | HSK-T40-740                       | V-M3X7-T8                                                                                                                                                             | C-T8  | -                                                                                                                                                   | - |
|                   | HSK-T40-760                       | V-M4X9-T15                                                                                                                                                            | C-T15 |                                                                                                                                                     |   |
| <b>MultiSwiss</b> | 730R-MULTISWISS                   | V-M3X5.5-T8                                                                                                                                                           | C-T8  | -                                                                                                                                                   | - |
|                   | 750R-MULTISWISS                   | V-M4X7.3-T15                                                                                                                                                          | C-T15 |                                                                                                                                                     |   |
| <b>Schütte</b>    | DT20-760-JET                      | V-M4X9-T15                                                                                                                                                            | C-T15 | -                                                                                                                                                   | - |
|                   | DT30-760-JET                      |                                                                                                                                                                       |       |                                                                                                                                                     |   |

Nuances micro-grain à dureté élevée  
Verschleissfeste Feinkornsorten  
Wear resistant micro-grain grades

> 2.02

Pièces de rechange  
Ersatzteile  
Spare parts

> 2.05

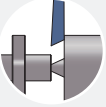
|                                                                                    | pour machines à cames<br>für kurvengesteuerte Maschinen<br>for cam driven machines |        | pour machines CNC<br>für CNC-Maschinen<br>for CNC driven machines |                                    |
|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|--------|-------------------------------------------------------------------|------------------------------------|
|                                                                                    | L                                                                                  |        | L                                                                 | R                                  |
|    | 710<br>710SF<br>710-NOVIBRA                                                        | > 2.06 | 730<br>730-NOVIBRA                                                | 740<br>740SF<br>740-NOVIBRA > 2.10 |
|    | 711SF                                                                              | > 2.08 |                                                                   | 741SF > 2.13                       |
|   | 712SF                                                                              | > 2.08 |                                                                   | 742SF > 2.13                       |
|  | 713SF                                                                              | > 2.09 |                                                                   | 743SF > 2.15                       |
|  |                                                                                    |        | 736SF                                                             | 746SF > 2.17                       |
|  |                                                                                    |        |                                                                   | 748SF > 2.18                       |
|  |                                                                                    |        |                                                                   | 749SF > 2.18                       |
|  | 711-ESF                                                                            | > 2.09 | 731-ESF                                                           | 741-ESF > 2.19                     |



*Coupe à droite déportée / Versetztes Rechtsschneiden / Right cut off line*

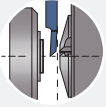
**730RC  
750RC**

> **2.20**



**731R  
751R**

> **2.21**



**770-SN-SF**

> **2.22** **new**



**771RVSF**

> **2.24** **new**

Halter für SwissNano  
Porte-outils pour Swissnano - MODU-Line  
Holder for SwissNano

**ML12**

> **2.24**

## Nuances micro-grain à dureté élevée

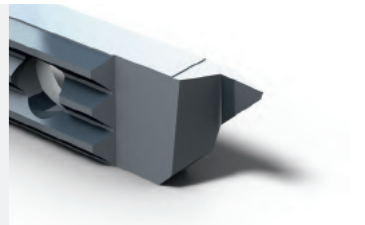
## Verschleissfeste Feinkornsorten

## Wear resistant micro-grain grades

**new****N ( $\mu$ K20)**

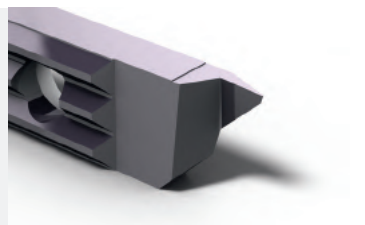
non revêtu  
unbeschichtet  
uncoated

- nuance micro-grain tenace, résistante aux conditions défavorables, recommandée pour des opérations de coupe dans des matières ne nécessitant aucun revêtement
- zähe Feinkornsorte, in ungünstige Bearbeitungskonditionen widerstandsfähig, für Schnittbearbeitung empfohlen, die keine Beschichtung erfordern
- tough micro-grain grade, suitable for unfavorable machining conditions, suitable for cutting in material that do not necessitate any tool coating

**new****TAF**

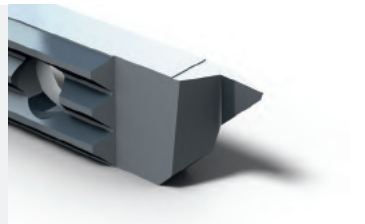
$\mu$ K20 + revêtement PVD  
 $\mu$ K20 + PVD Beschichtung  
 $\mu$ K20 + PVD coating

- nuance tenace résistante aux conditions défavorables, recommandée pour des opérations de coupes dans les aciers et aciers inoxydables.
- zähe widerstandsfähige Sorte in ungünstigen Bearbeitungskonditionen, für Schnittbearbeitung in Stahl und rostfreiem Stahl empfohlen
- tough grade, resistant to unfavorable machining conditions, suitable for cutting of steel and stainless steel

**HN ( $\mu$ K10)**

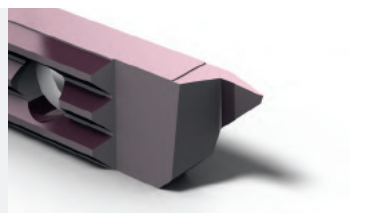
non revêtu  
unbeschichtet  
uncoated

- nuance micro-grain, bonne résistance à l'usure, recommandée pour des opérations d'ébauche et de finition pour des matières ou usinages ne nécessitant aucun revêtement
- verschleissfeste Feinkornsorte, für Schruppen und Schlichtbearbeitung empfohlen oder für Werkstoffe oder Bearbeitungen, die keine Beschichtung erfordern
- wear resistant micro-grain carbide, recommended for roughing and finishing and for materials or operations that do not necessitate any tool coating

**HTC**

$\mu$ K10 + revêtement PVD  
 $\mu$ K10 + PVD Beschichtung  
 $\mu$ K10 + PVD coating

- nuance résistante à l'usure, faible coefficient de frottement, recommandée pour des opérations d'ébauche et de finition
- verschleissfeste Sorte, geringer Reibwert, für Schruppen und Schlichtbearbeitung empfohlen
- wear resistant grade, low friction ratio, recommended for roughing and finishing

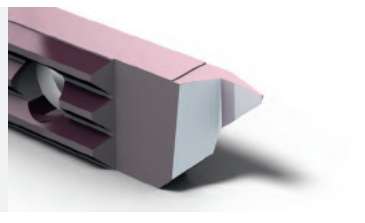


conseillée pour l'usinage de la matière 20AP  
für Bearbeitung von 20AP geeignet  
suitable for machining of 20AP material

**HTC-RE**

$\mu$ K10 + revêtement PVD  
 $\mu$ K10 + PVD Beschichtung  
 $\mu$ K10 + PVD coating

- nuance identique à HTC avec dépouilles rectifiées après revêtement pour des opérations de finition
- gleiche Sorte wie HTC nach der Beschichtung geschliffener Freiwinkel, für Schlichtbearbeitung empfohlen
- same grade as HTC, after coating grounded clearance, recommended for finishing



conseillée pour l'usinage de la matière 20AP  
für Bearbeitung von 20AP geeignet  
suitable for machining of 20AP material

**Nuances micro-grain à dureté élevée****Verschleissfeste Feinkornsorten****Wear resistant micro-grain grades****HTAF**

μK10 + revêtement PVD  
μK10 + PVD Beschichtung  
μK10 + PVD coating

- nuance résistante à l'usure, recommandée pour des opérations d'ébauche et de finition
- verschleissfeste Sorte, für Schruppen und Schlichtbearbeitung empfohlen
- wear resistant grade, recommended for roughing and finishing

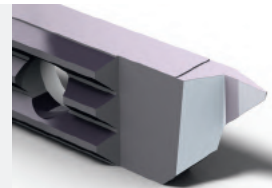


*conseillée pour l'usinage des matières Finemac et inox 4c27a  
für Bearbeitung von Finemac und 4c27a-Rostfreier Stahl geeignet  
suitable for machining of Finemac and 4c27a stainless steel*

**HTAF-RE**

μK10 + revêtement PVD  
μK10 + PVD Beschichtung  
μK10 + PVD coating

- nuance identique à HTAF avec dépouilles rectifiées après revêtement pour des opérations de finition
- gleiche Sorte wie HTAF nach der Beschichtung geschliffener Freiwinkel, für Schlichtbearbeitung empfohlen
- same grade as HTAF, after coating grounded clearance, recommended for finishing

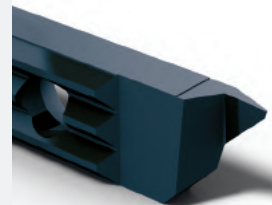


*recommandée pour les matières Finemac et inox 4c27a  
für Bearbeitung von Finemac und 4c27a-Rostfreier Stahl geeignet  
suitable for machining of Finemac and 4c27a stainless steel*

**HTAXF**

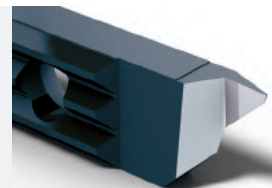
μK10 + revêtement PVD  
μK10 + PVD Beschichtung  
μK10 + PVD coating

- nuance complémentaire, résistante à l'usure et à la température pour l'usinage ébauche et finition des matières inox 304, 316L, 317L, 904, Phynox Aciers alliés contenant: Chrome Nickel, Vanadium, molybdène...
- komplementäre Sorte, verschleissfest und temperaturbeständig. Für Schruppen und Schlichtbearbeitung von Materialien Inox 304, 316L, 317L, 904, Phynox Legierter Stahl enthaltend Chrom-Nickel, Vanadium, Molybdän...
- complementary grade, wear and temperature resistant for roughing and finishing of following materials: Inox 304, 316L, 317L, 904, Phynox Alloy steel containing Chrome-nickel, Vanadium, Molybdenum...

**HTAXF-RE**

μK10 + revêtement PVD  
μK10 + PVD Beschichtung  
μK10 + PVD coating

- nuance identique à HTAXF avec dépouilles rectifiées après revêtement pour des opérations de finition
- gleiche Sorte wie HTAXF nach der Beschichtung geschliffener Freiwinkel, für Schlichtbearbeitung empfohlen
- same grade as HTAXF, after coating grounded clearance, recommended for finishing

**HTiN**

μK10 + revêtement PVD  
μK10 + PVD Beschichtung  
μK10 + PVD coating

- nuance résistante à l'usure, faible coefficient de frottement, recommandée pour des opérations d'ébauche et de finition
- verschleissfeste Sorte, geringer Reibwert, für Schruppen und Schlichtbearbeitung empfohlen
- wear resistant grade, low friction ratio, recommended for roughing and finishing



## Nuances micro-grain à dureté élevée

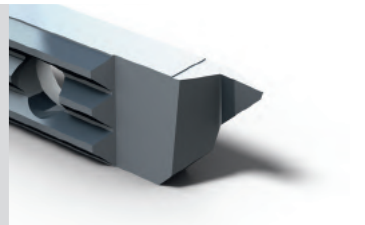
## Verschleissfeste Feinkornsorten

## Wear resistant micro-grain grades

**XN ( $\mu$ K01)**

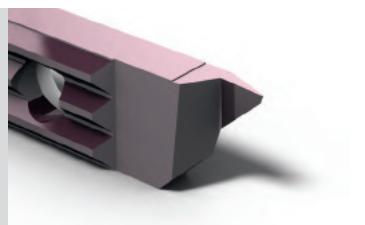
non revêtu  
unbeschichtet  
uncoated

- nuance micro-grain très résistante à l'usure, recommandée pour des opérations d'ébauche et de finition pour des matières ou usinages nécessitant aucun revêtement
- sehr verschleissfeste Sorte, für Schruppen und Schlichtbearbeitung empfohlen oder für Werkstoffe oder Bearbeitungen, die keine Beschichtung erfordern
- wear resistant micro-grain carbide, recommended for roughing and finishing and for materials or operations that do not necessitate any tool coating

**XTC**

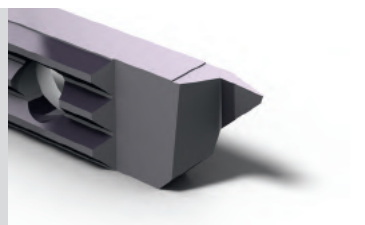
$\mu$ K01 + revêtement PVD  
 $\mu$ K01 + PVD Beschichtung  
 $\mu$ K01 + PVD coating

- nuance très résistante à l'usure, faible coefficient de frottement, recommandée pour des opérations de finition
- sehr verschleissfeste Sorte, geringer Reibwert, für Schlichtbearbeitung empfohlen
- very wear resistant grade, low friction ratio, recommended for finishing

**XTAF**

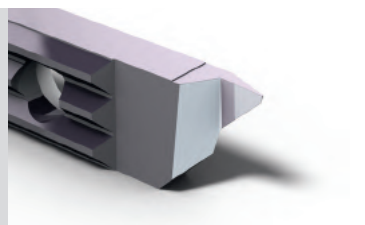
$\mu$ K01 + revêtement PVD  
 $\mu$ K01 + PVD Beschichtung  
 $\mu$ K01 + PVD coating

- nuance très résistante à l'usure, recommandée pour des opérations de finition, conseillée pour l'usinage des matières très abrasives
- sehr verschleissfeste Sorte, für Schlichtbearbeitung empfohlen, für die Bearbeitung von sehr abrasive Rohstoffe geeignet
- very wear resistant grade, recommended for finishing, suitable for machining of very abrasive materials

**XTAF-RE**

$\mu$ K01 + revêtement PVD  
 $\mu$ K01 + PVD Beschichtung  
 $\mu$ K01 + PVD coating

- nuance identique à XTAF avec dépouilles rectifiées après revêtement pour des opérations de finition
- gleiche Sorte wie XTAF nach der Beschichtung geschliffener Freiwinkel, für Schlichtbearbeitung empfohlen
- same grade as XTAF, after coating grounded clearance, recommended for finishing



Nuances micro-grain à dureté élevée

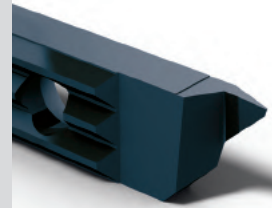
Verschleissfeste Feinkornsorten

Wear resistant micro-grain grades

**XTAXF**

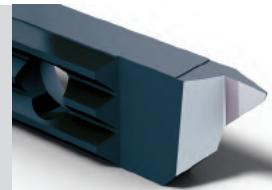
μK01 + revêtement PVD  
μK01 + PVD Beschichtung  
μK01 + PVD coating

- nuance complémentaire très résistante à l'usure et à la température pour la finition des matières inox 304, 316L, 317L, 904, Phynox  
Aciers alliés contenant: Chrome Nickel, Vanadium, molybdène...
- komplementäre Sorte, sehr verschleissfest und temperaturbeständig. Für Schlichtbearbeitung von Materialien Inox 304, 316L, 317L, 904, Phynox  
Legierter Stahl enthaltend Chrom-Nickel, Vanadium, Molybdän...
- complementary grade, very wear and temperature resistant for finishing of following materials: Inox 304, 316L, 317L, 904, Phynox  
Alloy steel containing Chrome-nickel, Vanadium, Molybdenum...

**XTAXF-RE**

μK01 + revêtement PVD  
μK01 + PVD Beschichtung  
μK01 + PVD coating

- nuance identique à XTAXF avec dépouilles rectifiées après revêtement pour des opérations de finition
- gleiche Sorte wie XTAXF nach der Beschichtung geschliffener Freiwinkel, für Schlichtbearbeitung empfohlen
- same grade as XTAXF, after coating grounded clearance, recommended for finishing



Pièces de rechange

Ersatzteile

Spare parts

|     | Porte-outils<br>Halter<br>Holders | Serrage standard (A)<br>Standard Spannsystem (A)<br>Standard clamping system (A)<br>  |       | Serrage type B<br>Spannsystem Typ B<br>Clamping system type B<br>  |      |
|-----|-----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| 710 | 710-6 / - NOVIBRA                 | V-M2.5X5.8-T8                                                                                                                                                                                                                                               | C-T8  | -                                                                                                                                                                                                                                         | -    |
|     | 710-7 / - NOVIBRA / - SF          | V-M2.5X6.5-T8                                                                                                                                                                                                                                               |       |                                                                                                                                                                                                                                           |      |
|     | 710-8 / - NOVIBRA / -SF           | V-M2.5X7.8-T8                                                                                                                                                                                                                                               |       |                                                                                                                                                                                                                                           |      |
|     | 710-10 - 710-12                   |                                                                                                                                                                                                                                                             |       |                                                                                                                                                                                                                                           |      |
| 730 | 730-7 / - NOVIBRA                 | V-M3X7-T8                                                                                                                                                                                                                                                   | C-T8  | -                                                                                                                                                                                                                                         | -    |
|     | 730-8 / - NOVIBRA                 |                                                                                                                                                                                                                                                             |       | V-M2.5X7.8-T8                                                                                                                                                                                                                             | C-T8 |
|     | 730-10 - 730-12                   | V-M3X5.5-T8                                                                                                                                                                                                                                                 |       | -                                                                                                                                                                                                                                         | -    |
|     | 730RC                             |                                                                                                                                                                                                                                                             |       | -                                                                                                                                                                                                                                         | -    |
| 740 | 740-7 / -NOVIBRA / -SF            | V-M3X7-T8                                                                                                                                                                                                                                                   | C-T8  | -                                                                                                                                                                                                                                         | -    |
|     | 740-8 -12 / -SF / -NOVIBRA        |                                                                                                                                                                                                                                                             |       | V-M2.5X7.8-T8                                                                                                                                                                                                                             | C-T8 |
| 750 | 750RC                             | V-M4X7.3-T15                                                                                                                                                                                                                                                | C-T15 | -                                                                                                                                                                                                                                         | -    |
| 770 | 770-SN-SF                         | V-M4X7.3-T15                                                                                                                                                                                                                                                | C-T15 | -                                                                                                                                                                                                                                         | -    |

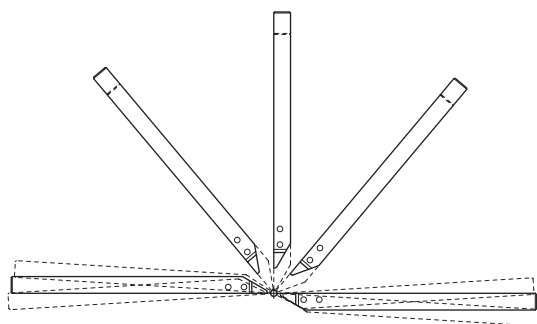
Porte-outils

Halter

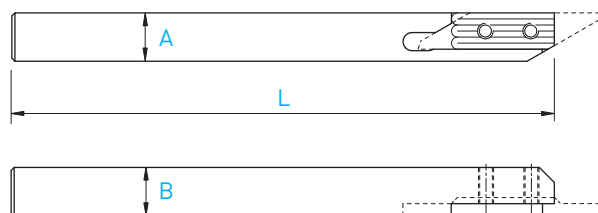
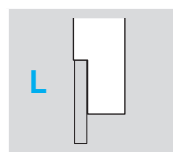
Holders

L

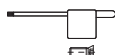
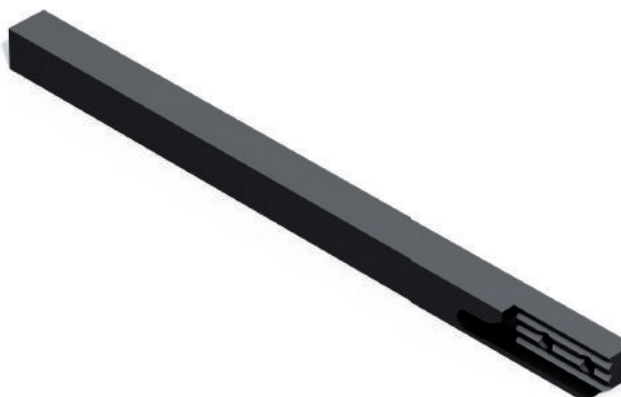
710



Porte-outils pour machines à cames à gauche  
 Halter für linksdrehende kurvengesteuerte Maschinen  
 Tool holders for left hand turning cam driven machines



| A x B   | L   | Serrage<br>Spannsystem<br>Clamping | Art. N°          |
|---------|-----|------------------------------------|------------------|
| 6 x 6   | 115 | A                                  | <b>710-6</b>     |
| 7 x 7   | 115 | A                                  | <b>710-7</b>     |
| 8 x 8   | 115 | A                                  | <b>710-8</b>     |
| 8 x 8   | 140 | A                                  | <b>710-8-140</b> |
| 10 x 10 | 115 | A                                  | <b>710-10</b>    |
| 12 x 12 | 130 | A                                  | <b>710-12</b>    |



Chaque support est livré avec vis et clé.  
 Jeder Halter wird mit Spannschraube(n) und Schlüssel geliefert.  
 Screw(s) and key are included with each tool holder.

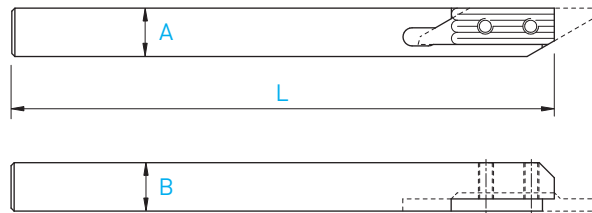
Porte-outils

Halter

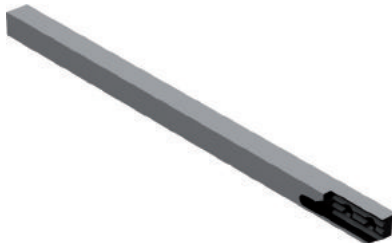
Holders

L

710-SF



Super finition des 4 faces  
4 seitig feinstgeschliffen  
4 sides superfinish



L

| A x B | L   | Serrage<br>Spannsystem<br>Clamping | Art. N°      |
|-------|-----|------------------------------------|--------------|
| 7 x 7 | 140 | A                                  | 710-7-140-SF |
| 8 x 8 | 140 | A                                  | 710-8-140-SF |

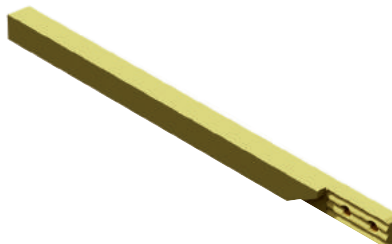
Porte-outils en métal lourd anti-vibratoire

Schwingungsdämpfender Schwermetallhalter

Low vibration heavy metal holders

L

710-NOVIBRA



L

| A x B | L   | Serrage<br>Spannsystem<br>Clamping | Art. N°       |
|-------|-----|------------------------------------|---------------|
| 6 x 6 | 115 | A                                  | 710-6-NOVIBRA |
| 7 x 7 | 115 | A                                  | 710-7-NOVIBRA |
| 8 x 8 | 115 | A                                  | 710-8-NOVIBRA |



Chaque support est livré avec vis et clé.  
Jeder Halter wird mit Spannschraube(n) und Schlüssel geliefert.  
Screw(s) and key are included with each tool holder.

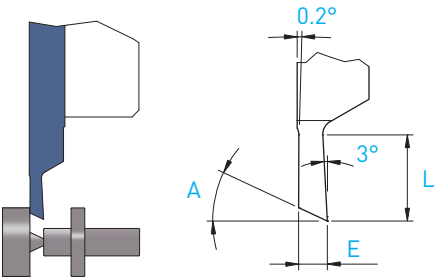
Plaquettes d'horlogerie pour machines à cames

Uhrenindustrie-WSP für kurvengesteuerte Maschinen

Watch industry inserts for cam driven machines

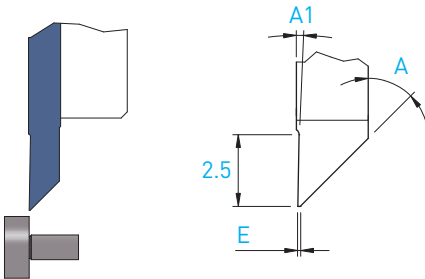
L

711SF / 712SF



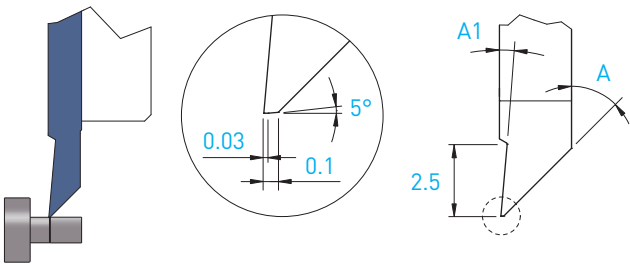
Tronçonnage  
Abstechen  
Parting off

| E   | L   | A   | Art. N°       | HTC | HTC-RE | HTAF | HTiN | HN (µK10) |
|-----|-----|-----|---------------|-----|--------|------|------|-----------|
| 0.8 | 3.0 | 25° | 711SF-0.8-25° | ■   | ■      | ■    | ■    | ■         |
| 1.0 | 3.0 | 25° | 711SF-1.0-25° | ■   | □      | ■    | □    | ■         |



Tournage avant ébauche / finition  
Vorwärts drehen schruppen / schlichten  
Front turning for roughing / finishing

| E    | A   | A1 | Art. N°       | HTC | HTC-RE | HTAF | HTiN | HN (µK10) |
|------|-----|----|---------------|-----|--------|------|------|-----------|
| 0.03 | 45° | 3° | 712SF-3/3-45° | ■   | □      | ■    | □    | ■         |
| 0.08 | 45° | 1° | 712SF-8/8-45° | ■   | ■      | ■    | □    | ■         |



Tournage avant finition (pivotage)  
Vorwärts drehen schlichten  
Front turning for finishing

| A   | A1 | Art. N°    | HTC | HTC-RE | HTAF | HTiN | HN (µK10) |
|-----|----|------------|-----|--------|------|------|-----------|
| 45° | 3° | 712SF-10/3 | ■   | □      | ■    | ■    | ■         |



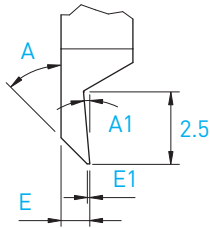
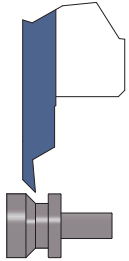
Plaquettes d'horlogerie pour machines à cames

Uhrenindustrie-WSP für kurvengesteuerte Maschinen

Watch industry inserts for cam driven machines

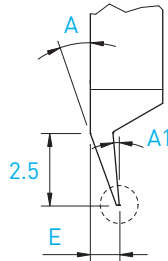
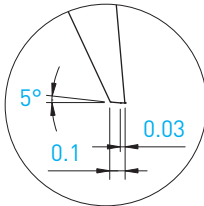
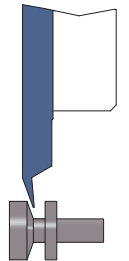
L

713SF



Tournage arrière ébauche / finition  
Rückwärts drehen schrappen / schlichten  
Back turning for roughing / finishing

| E1   | E   | A   | A1 | Art. N°             | HTC | HTC-RE | HTAF | HTiN | HN (μK10) |
|------|-----|-----|----|---------------------|-----|--------|------|------|-----------|
| 0.03 | 1.0 | 45° | 5° | 713SF-3/3-45°-1.0   | ■   | □      | ■    | □    | ■         |
| 0.10 | 1.0 | 45° | 5° | 713SF-10/10-45°-1.0 | ■   | □      | ■    | □    | ■         |



Tournage arrière finition  
Rückwärts drehen schlichten  
Back turning for finishing

| E   | A   | A1 | Art. N°    | HTC | HTC-RE | HTAF | HTiN | HN (μK10) |
|-----|-----|----|------------|-----|--------|------|------|-----------|
| 1.0 | 20° | 5° | 713SF-10/3 | ■   | □      | ■    | ■    | ■         |

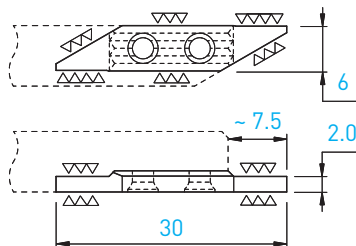
Plaquettes ébauches

WSP-Rohlinge

Blank inserts

L

711-ESF



| Art. N° | HTC | HTAF | HTiN | HN (μK10) | XN (μK01) | XTC | XTAF |
|---------|-----|------|------|-----------|-----------|-----|------|
| 711-ESF | ■   | ■    | □    | ■         | ■         | ■   | ■    |

Porte-outils

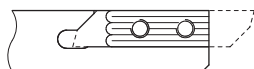
Halter

Holders

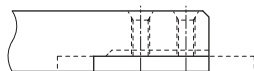
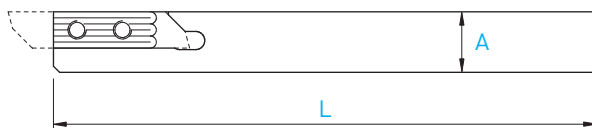
L/R

730 / 740

L



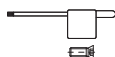
R



L

R

| A x B   | L   | Serrage<br>Spannsystem<br>Clamping | Art. N°          | Art. N°          |
|---------|-----|------------------------------------|------------------|------------------|
| 7 x 7   | 115 | A                                  | <b>730-7</b>     | <b>740-7</b>     |
| 8 x 8   | 115 | A + B                              | <b>730-8</b>     | <b>740-8</b>     |
| 8 x 8   | 140 | A + B                              | <b>730-8-140</b> | -                |
| 10 x 10 | 115 | A + B                              | <b>730-10</b>    | <b>740-10</b>    |
| 12 x 12 | 130 | A + B                              | <b>730-12</b>    | <b>740-12</b>    |
| 12 x 12 | 90  | A + B                              | <b>730-12-90</b> | <b>740-12-90</b> |



Chaque support est livré avec vis et clé.  
Jeder Halter wird mit Spannschraube(n) und Schlüssel geliefert.  
Screw(s) and key are included with each tool holder.

Porte-outils

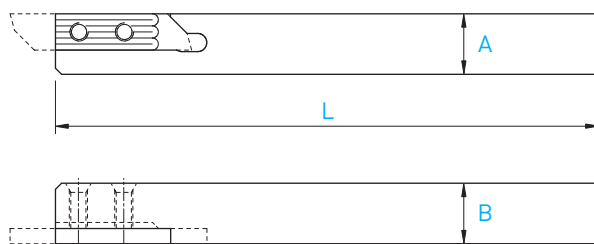
Halter

Holders

R

740-SF

R



Super finition des 4 faces  
4 seitig feinstgeschliffen  
4 sides superfinish



R

| A x B   | L   | Serrage<br>Spannsystem<br>Clamping | Art. N°      |
|---------|-----|------------------------------------|--------------|
| 7 x 7   | 90  | A                                  | 740-7-90-SF  |
| 8 x 8   | 115 | A + B                              | 740-8-SF     |
| 8 x 8   | 90  | A + B                              | 740-8-90-SF  |
| 10 x 10 | 115 | A + B                              | 740-10-SF    |
| 10 x 10 | 90  | A + B                              | 740-10-90-SF |
| 12 x 12 | 130 | A + B                              | 740-12-SF    |
| 12 x 12 | 90  | A + B                              | 740-12-90-SF |

Porte-outils en métal lourd anti-vibratoire

Schwingungsdämpfender Schwermetallhalter

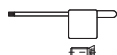
Low vibration heavy metal holders

L/R

730 / 740-NOVIBRA



Chaque support est livré  
avec vis et clé.  
Jeder Halter wird mit  
Spannschraube(n) und  
Schlüssel geliefert.  
Screw(s) and key are included  
with each tool holder.



| A x B   | L   | Serrage<br>Spannsystem<br>Clamping | Art. N°       | Art. N°          |
|---------|-----|------------------------------------|---------------|------------------|
| 7 x 7   | 115 | A                                  | 730-7-NOVIBRA | 740-7-NOVIBRA    |
| 8 x 8   | 115 | A + B                              | 730-8-NOVIBRA | 740-8-NOVIBRA    |
| 8 x 8   | 80  | A + B                              | -             | 740-8-80-NOVIBRA |
| 10 x 10 | 115 | A + B                              | -             | 740-10-NOVIBRA   |
| 12 x 12 | 130 | A + B                              | -             | 740-12-NOVIBRA   |

Porte-outils

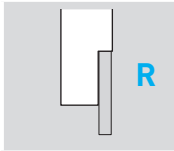
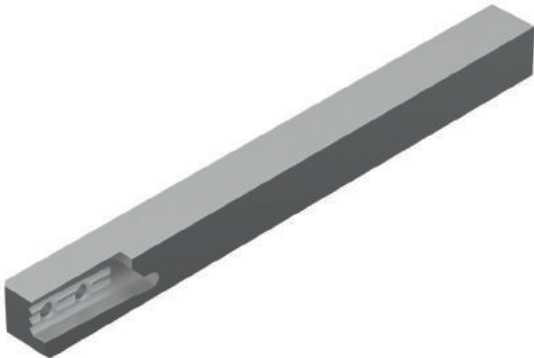
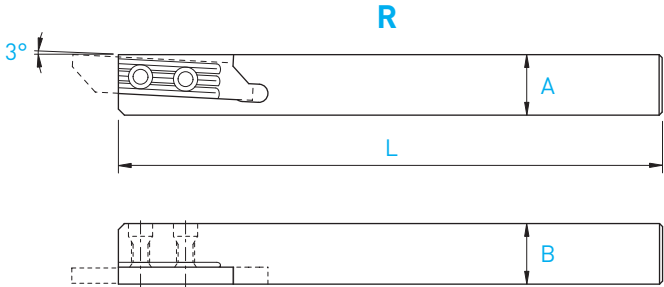
Halter

Holders

R

740X3-SF

new



| A x B   | L   | Serrage<br>Spannsystem<br>Clamping | Art. N°     |
|---------|-----|------------------------------------|-------------|
| 8 x 8   | 115 | A + B                              | 740X3-8-SF  |
| 10 x 10 | 115 | A + B                              | 740X3-10-SF |
| 12 x 12 | 130 | A + B                              | 740X3-12-SF |

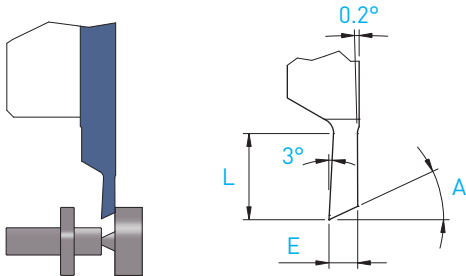
Plaquettes d'horlogerie pour machines CNC

Uhrenindustrie-WSP für CNC-Maschinen

Watch industry inserts for CNC machines

R

741SF / 742SF

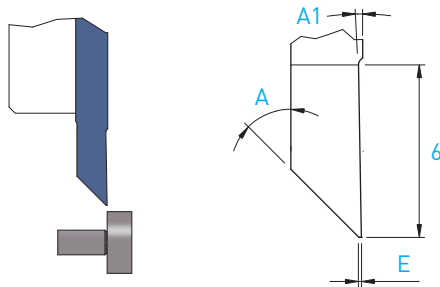


Tronçonnage

Abstechen

Parting off

| E   | L   | A   | Art. N°       | HTC | HTC-RE | HTAF | HTAF-RE | HTAXF | HTAXF-RE | HTIN | HN (μK10) | XTAF | XTAXF | XTAXF-RE | XN (μK01) |
|-----|-----|-----|---------------|-----|--------|------|---------|-------|----------|------|-----------|------|-------|----------|-----------|
| 0.5 | 2.0 | 25° | 741SF-0.5-25° | ■   | □      | ■    | □       | ■     | □        | □    | ■         | ■    | ■     | □        | □         |
| 0.8 | 3.0 | 25° | 741SF-0.8-25° | ■   | □      | ■    | □       | ■     | □        | □    | ■         | ■    | ■     | □        | □         |
| 1.0 | 3.0 | 25° | 741SF-1.0-25° | ■   | □      | ■    | □       | ■     | □        | □    | ■         | ■    | ■     | □        | ■         |
| 1.2 | 6.0 | 22° | 741SF-1.2-22° | ■   | □      | ■    | □       | ■     | □        | □    | ■         | ■    | ■     | □        | □         |



Tournage avant ébauche / finition

Vorwärts drehen schrappen / schlichten

Front turning for roughing / finishing

| E    | A   | A1 | Art. N°       | HTC | HTC-RE | HTAF | HTAF-RE | HTAXF | HTAXF-RE | HTIN | HN (μK10) | XTAF | XTAXF | XTAF-RE | XN (μK01) |
|------|-----|----|---------------|-----|--------|------|---------|-------|----------|------|-----------|------|-------|---------|-----------|
| 0.03 | 45° | 3° | 742SF-3/3-45° | ■   | ■      | ■    | ■       | ■     | ■        | □    | ■         | ■    | ■     | □       | ■         |
| 0.08 | 45° | 1° | 742SF-8/8-45° | ■   | ■      | ■    | ■       | ■     | ■        | □    | ■         | ■    | ■     | □       | ■         |

7XX-XX-B



Sur demande pour serrage type B, voir page 2.25

Wahlweise für B-Spannsystem, siehe Seite 2.25

On request for B clamping system, see page 2.25

■ = disponible / verfügbar / available

□ = selon disponibilité du stock / jenach Lagerverfügbarkeit / depending on stock availability

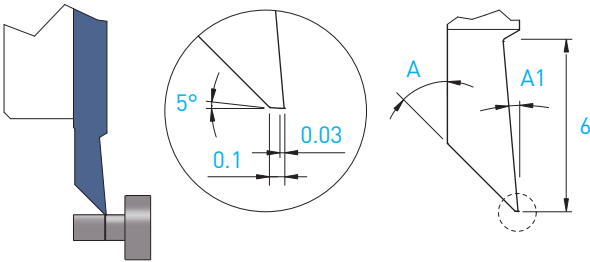
Plaquettes d'horlogerie pour machines CNC

Uhrenindustrie-WSP für CNC-Maschinen

Watch industry inserts for CNC machines

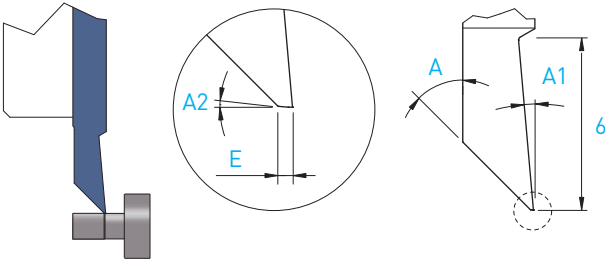
R

742SF



Tournage avant finition  
Vorwärts drehen schlichten  
Front turning for finishing

| A   | A1 | Art. N°    | HTC | HTC-RE | HTAF | HTAF-RE | HTAXF | HTAXF-RE | HTiN | HN (µK10) | XTAF | XTAXF | XTAXF-RE | XN (µK01) |
|-----|----|------------|-----|--------|------|---------|-------|----------|------|-----------|------|-------|----------|-----------|
| 45° | 5° | 742SF-10/3 | ■   | ■      | ■    | □       | □     | ■        | ■    | ■         | ■    | ■     | □        | □         |



Tournage avant finition  
Vorwärts drehen schlichten  
Front turning for finishing

| E    | A   | A1 | A2 | Art. N°           | HTAF-RE | XTAF-RE |
|------|-----|----|----|-------------------|---------|---------|
| 0.10 | 45° | 5° | 5° | 742SF-10/0-5°-45° | ■       | ■       |
| 0.15 | 30° | 3° | 2° | 742SF-15/0-2°-30° | ■       | ■       |

7XX-XX-B



Sur demande pour serrage type B, voir page 2.25  
Wahlweise für B-Spannsystem, siehe Seite 2.25  
On request for B clamping system, see page 2.25

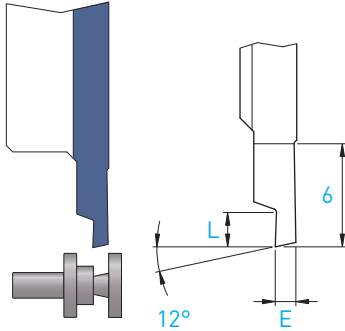
Plaquettes d'horlogerie pour machines CNC

Uhrenindustrie-WSP für CNC-Maschinen

Watch industry inserts for CNC machines

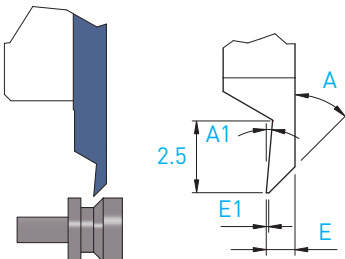
R

743SF



Tournage arrière ébauche  
Rückwärts drehen schrappen  
Back turning for roughing

| E   | L   | Art. N°         | HTC | HTAF | HN (μK10) |
|-----|-----|-----------------|-----|------|-----------|
| 1.2 | 2.5 | 743SF-120/0-12° | ■   | ■    | ■         |
| 1.4 | 3.0 | 743SF-140/0-12° | ■   | ■    | ■         |
| 1.6 | 3.0 | 743SF-160/0-12° | ■   | ■    | ■         |
| 1.8 | 4.0 | 743SF-180/0-12° | ■   | ■    | ■         |



Tournage arrière ébauche/finition  
Rückwärts drehen schrappen/schlichten  
Back turning for roughing/finishing

| E1   | E   | A   | A1 | Art. N°             | HTC | HTC-RE | HTAF | HTAF-RE | HTAXF | HTAXF-RE | HTiN | HN (μK10) | XTAF | XTAXF | XTAXF-RE | XN (μK01) |
|------|-----|-----|----|---------------------|-----|--------|------|---------|-------|----------|------|-----------|------|-------|----------|-----------|
| 0.03 | 1.0 | 45° | 5° | 743SF-3/3-45°-1.0   | ■   | ■      | ■    | ■       | ■     | ■        | □    | ■         | ■    | ■     | ■        | ■         |
| 0.03 | 1.2 | 45° | 5° | 743SF-3/3-45°-1.2   | ■   | ■      | ■    | ■       | ■     | ■        | □    | ■         | ■    | ■     | ■        | ■         |
| 0.10 | 1.0 | 45° | 5° | 743SF-10/10-45°-1.0 | ■   | ■      | ■    | ■       | ■     | ■        | □    | ■         | ■    | ■     | ■        | ■         |
| 0.05 | 0.8 | 30° | 3° | 743SF-5/5-30°-0.8   |     |        | ■    |         |       |          |      |           |      |       |          |           |
| 0.05 | 1.0 | 30° | 3° | 743SF-5/5-30°-1.0   |     |        | ■    |         |       |          |      |           |      |       |          |           |

7XX-XX-B



Sur demande pour serrage type B, voir page 2.25  
Wahlweise für B-Spannsystem, siehe Seite 2.25  
On request for B clamping system, see page 2.25

■ = disponible / verfügbar / available

□ = selon disponibilité du stock / jenach Lagerverfügbarkeit / depending on stock availability

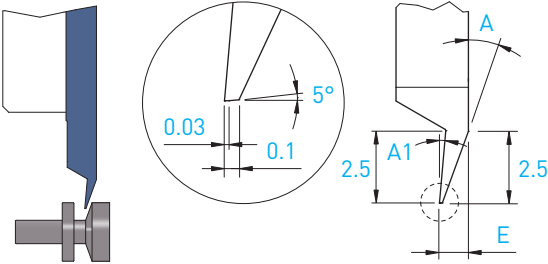
Plaquettes d'horlogerie pour machines CNC

Uhrenindustrie-WSP für CNC-Maschinen

Watch industry inserts for CNC machines

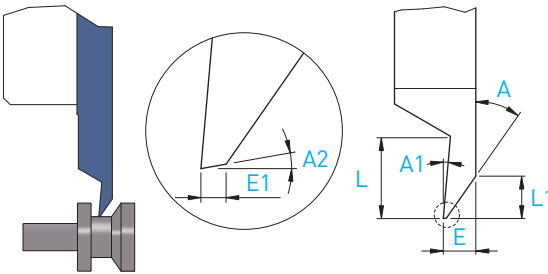
R

743SF



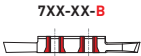
Tournage arrière finition  
Rückwärts drehen schlichten  
Back turning for finishing

| E   | A   | A1 | Art. N°    | HTC | HTC-RE | HTAF | HTAF-RE | HTAXF | HTAXF-RE | HTiN | HN (µK10) | XTAF | XTAXF | XTAXF-RE | XN (µK01) |
|-----|-----|----|------------|-----|--------|------|---------|-------|----------|------|-----------|------|-------|----------|-----------|
| 1.0 | 20° | 5° | 743SF-10/3 | ■   | ■      | ■    | ■       | ■     | ■        | □    | ■         | ■    | ■     | □        | □         |



Tournage arrière finition  
Rückwärts drehen schlichten  
Back turning for finishing

| E1   | E   | L1  | L   | A   | A1 | A2  | Art. N°                | HTAF-RE | XTAF-RE |
|------|-----|-----|-----|-----|----|-----|------------------------|---------|---------|
| 0.08 | 1.0 | 1.6 | 2.5 | 30° | 5° | 2°  | 743SF-8/0-2°-30°-1.0   | ■       | ■       |
| 0.15 | 1.2 | 1.8 | 4.0 | 30° | 3° | 2°  | 743SF-15/0-2°-30°-1.2  | ■       | ■       |
| 0.10 | 1.0 | 1.3 | 2.5 | 35° | 5° | 10° | 743SF-10/0-10°-35°-1.0 | ■       | ■       |



Sur demande pour serrage type B, voir page 2.25  
Wahlweise für B-Spannsystem, siehe Seite 2.25  
On request for B clamping system, see page 2.25



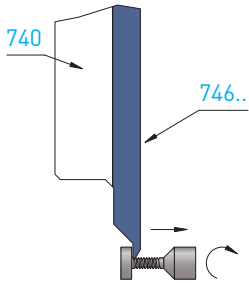
## Filetage à profil partiel – norme NIHS

## Gewinde drehen mit Teilprofil – Norm NIHS

## Threading with partial profile – norm NIHS

R/L

746SF / 736SF

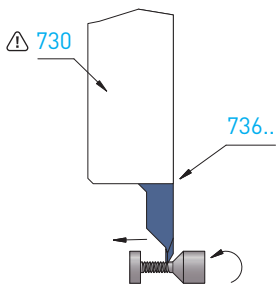


Filetage à droite  
sens rotation machine M3

Rechtgewinde Drehrichtung  
der Maschine M3

Right-hand thread rotating  
machinery M3

| Filetage<br>Gewinde drehen<br>Threading | Pas<br>Steigung<br>Pitch<br>P | T    | E 0/-0.01 | Art. N°              | HTAF<br>HN (μK10) |
|-----------------------------------------|-------------------------------|------|-----------|----------------------|-------------------|
| S0.50                                   | 0.125                         | 0.07 | 0.015     | 746SFX3-A60-S0.50-AR | ■ ■               |
| S0.60                                   | 0.150                         | 0.09 | 0.020     | 746SFX3-A60-S0.60-AR | ■ ■               |
| S0.70                                   | 0.175                         | 0.10 | 0.020     | 746SFX3-A60-S0.70-AR | ■ ■               |
| S0.80                                   | 0.200                         | 0.12 | 0.025     | 746SFX3-A60-S0.80-AR | ■ ■               |
| S0.90                                   | 0.225                         | 0.13 | 0.030     | 746SFX3-A60-S0.90-AR | ■ ■               |
| S1.00                                   | 0.250                         | 0.15 | 0.035     | 746SFX3-A60-S1.00-AR | ■ ■               |



Filetage à droite  
sens rotation machine M4

Rechtgewinde Drehrichtung  
der Maschine M4

Right-hand thread rotating  
machinery M4

| Filetage<br>Gewinde drehen<br>Threading | Pas<br>Steigung<br>Pitch<br>P | T    | E 0/-0.01 | Art. N°              | HTAF<br>HN (μK10) |
|-----------------------------------------|-------------------------------|------|-----------|----------------------|-------------------|
| S0.50                                   | 0.125                         | 0.07 | 0.015     | 736SFX3-A60-S0.50-AR | ■ ■               |
| S0.60                                   | 0.150                         | 0.09 | 0.020     | 736SFX3-A60-S0.60-AR | ■ ■               |
| S0.70                                   | 0.175                         | 0.10 | 0.020     | 736SFX3-A60-S0.70-AR | ■ ■               |
| S0.80                                   | 0.200                         | 0.12 | 0.025     | 736SFX3-A60-S0.80-AR | ■ ■               |
| S0.90                                   | 0.225                         | 0.13 | 0.030     | 736SFX3-A60-S0.90-AR | ■ ■               |
| S1.00                                   | 0.250                         | 0.15 | 0.035     | 736SFX3-A60-S1.00-AR | ■ ■               |

7XX-XX-B



Sur demande pour serrage type B, voir page 2.25  
Wahlweise für B-Spannsystem, siehe Seite 2.25  
On request for B clamping system, see page 2.25

■ = disponible / verfügbar / available

□ = selon disponibilité du stock / jenach Lagerverfügbarkeit / depending on stock availability

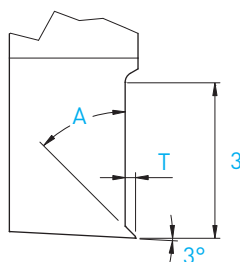
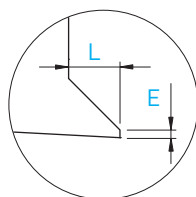
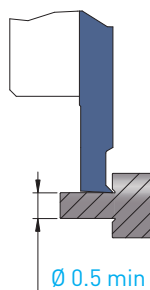
Plaquettes piqure avant

Fronteinstich WSP

Front grooving inserts

R

748SF



| E 0/-0.01 | A   | T   | Art. N°            | HTC | HTC-RE | HTAF | HTAF-RE | HTIN | HN (μK10) |
|-----------|-----|-----|--------------------|-----|--------|------|---------|------|-----------|
| 0.03      | 45° | 0.2 | 748SF-E03-A45°-L20 | ■   | ■      | ■    | ■       | □    | ■         |
| 0.05      | 45° | 0.3 | 748SF-E05-A45°-L30 | ■   | ■      | ■    |         | ■    | ■         |
| 0.08      | 45° | 0.5 | 748SF-E08-A45°-L50 | ■   | ■      | ■    |         | □    | ■         |

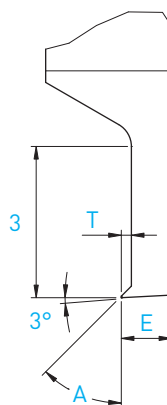
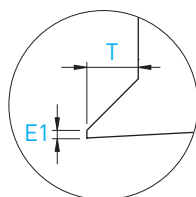
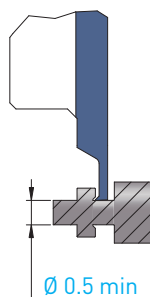
Plaquettes piqure arrière

Rückeinstich WSP

Back grooving inserts

R

749SF



| E1 0/-0.01 | A   | T   | E   | Art. N°                 | HTC | HTC-RE | HTAF | HTAF-RE | HTIN | HN (μK10) |
|------------|-----|-----|-----|-------------------------|-----|--------|------|---------|------|-----------|
| 0.03       | 45° | 0.2 | 1.0 | 749SF-E03-A45°-L20-B100 | ■   | ■      | ■    | ■       | □    | ■         |
| 0.05       | 45° | 0.3 | 1.0 | 749SF-E05-A45°-L30-B100 | ■   | □      | ■    |         | □    | ■         |
| 0.08       | 45° | 0.5 | 1.2 | 749SF-E08-A45°-L50-B120 | ■   | ■      | ■    |         | □    | ■         |

7XX-XX-B



Sur demande pour serrage type B, voir page 2.25  
 Wahlweise für B-Spannsystem, siehe Seite 2.25  
 On request for B clamping system, see page 2.25

Plaquettes ébauches

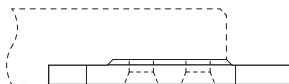
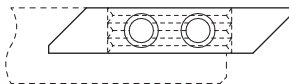
WSP-Rohlinge

Blank inserts

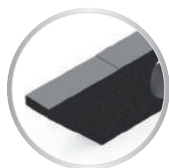
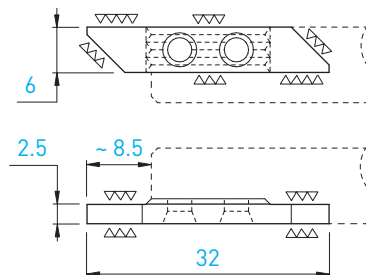
L/R

731-ESF / 741-ESF

L



R



L



R



| Art. N° | HTC | HTAF | HTAXF | HTIN | HN (μK10) | XTC | XTAF | XN (μK01) | Art. N° | HTC | HTAF | HTAXF | HTIN | HN (μK10) | XTC | XTAF | XN (μK01) |
|---------|-----|------|-------|------|-----------|-----|------|-----------|---------|-----|------|-------|------|-----------|-----|------|-----------|
| 731-ESF | ■   | ■    | ■     | ■    | ■         | ■   | ■    | ■         | 741-ESF | ■   | ■    | ■     | ■    | ■         | ■   | ■    | ■         |

7XX-XX-B



Sur demande pour serrage type B, voir page 2.25  
 Wahlweise für B-Spannsystem, siehe Seite 2.25  
 On request for B clamping system, see page 2.25

■ = disponible / verfügbar / available

□ = selon disponibilité du stock / jenach Lagerverfügbarkeit / depending on stock availability

Porte-outils

Halter

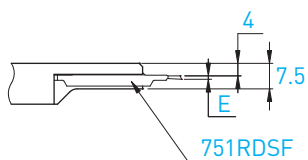
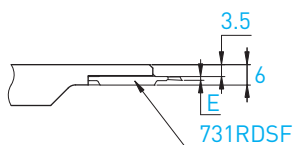
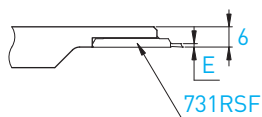
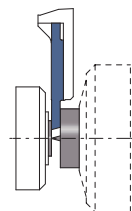
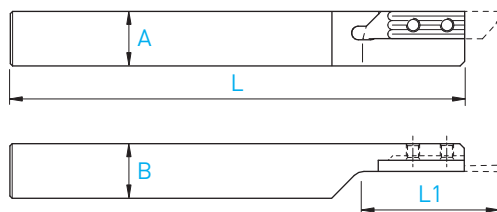
Holders

Coupe à droite déportée

Versetztes Rechtsschneiden

Right cut off line

## 730RC / 750RC



**L (R)**

Coupe à droite déportée  
Versetztes Rechtsschneiden  
Right cut off line



| A x B   | L   | L1 | Art. N°         |
|---------|-----|----|-----------------|
| 8 x 8   | 115 | 24 | <b>730RC-8</b>  |
| 10 x 10 | 115 | 24 | <b>730RC-10</b> |
| 12 x 12 | 130 | 30 | <b>730RC-12</b> |
| 16 x 16 | 130 | 40 | <b>730RC-16</b> |

| A x B   | L   | L1 | Art. N°         |
|---------|-----|----|-----------------|
| 12 x 12 | 130 | 30 | <b>750RC-12</b> |
| 16 x 16 | 130 | 40 | <b>750RC-16</b> |

Tronçonnage

Abstechen

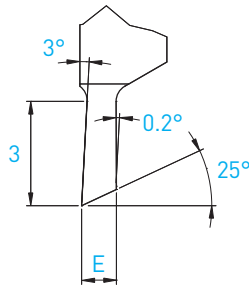
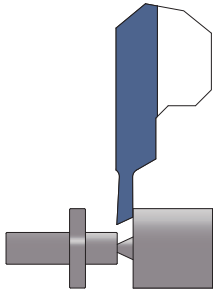
Parting off

Coupe à droite déportée

Versetztes Rechtsschneiden

Right cut off line

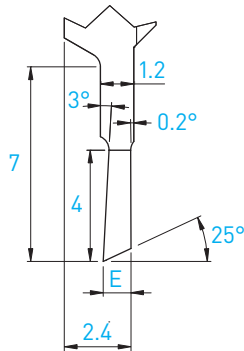
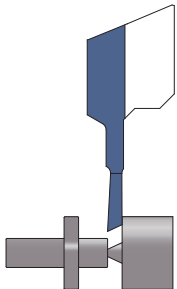
731R / 751R



L (R)

Coupe à droite déportée  
Versetztes Rechtsschneiden  
Right cut off line

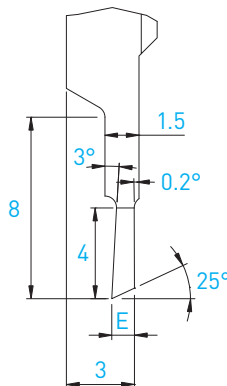
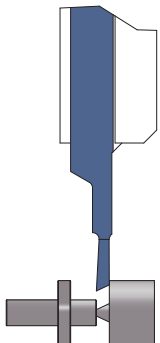
| E   | Art. N°        | HTAF | HTIN | HN (μK10) |
|-----|----------------|------|------|-----------|
| 1.0 | 731RSF-1.0-25° | ■    | ■    | ■         |



L (R)

Coupe à droite déportée  
Versetztes Rechtsschneiden  
Right cut off line

| E   | Art. N°         | HTAF | HTIN | HN (μK10) |
|-----|-----------------|------|------|-----------|
| 0.8 | 731RDSF-0.8-25° | ■    | ■    | ■         |
| 1.0 | 731RDSF-1.0-25° | ■    | □    | ■         |



L (R)

Coupe à droite déportée  
Versetztes Rechtsschneiden  
Right cut off line

| E   | Art. N°         | HTAF | HTIN | HN (μK10) |
|-----|-----------------|------|------|-----------|
| 0.8 | 751RDSF-0.8-25° | ■    | ■    | ■         |
| 1.0 | 751RDSF-1.0-25° | ■    | □    | ■         |

Porte-outils

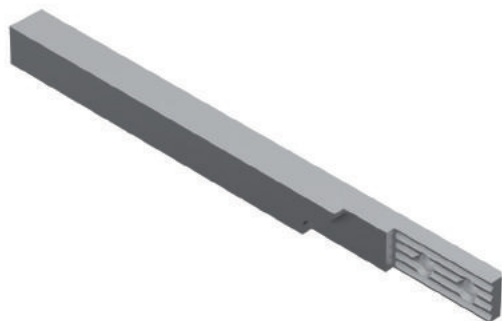
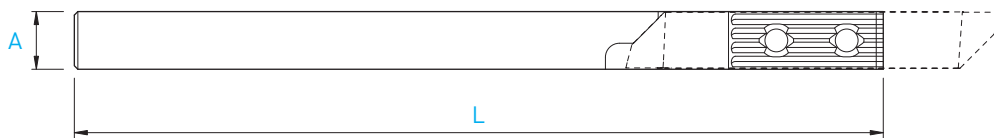
Halter

Holders

SwissNANO 4

770-SN4-SF

new

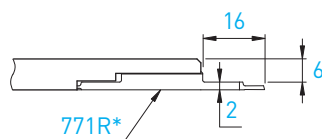
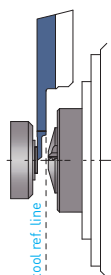
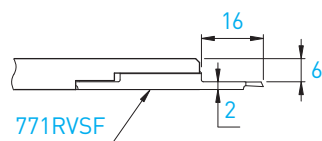
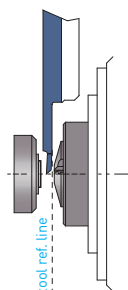


L (R)

Coupe à droite déportée  
Versetzttes Rechtsschneiden  
Right cut off line



| A x B   | L   | Art. N°          |
|---------|-----|------------------|
| 8.2 x 8 | 115 | 770-8.2X8-SN4-SF |



\* voir TOP-Line  
\* siehe TOP-Line  
\* see TOP-Line

Porte-outils

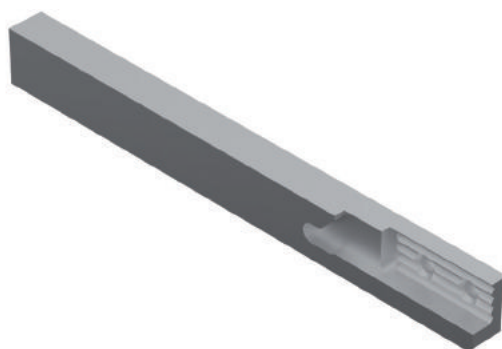
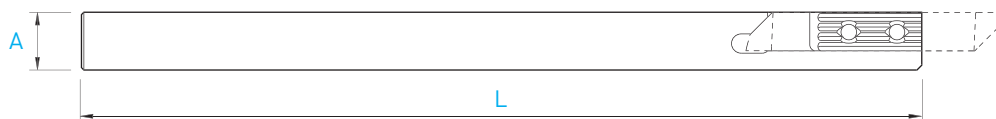
Halter

Holders

SwissNANO 7

770-SN7-SF

new

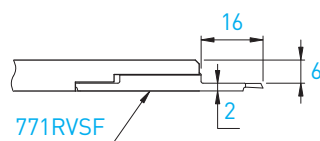
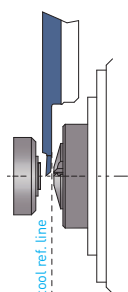


L (R)

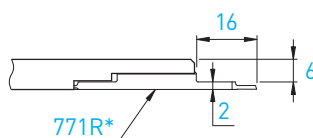
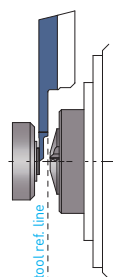
Coupe à droite déportée  
Versetzttes Rechtsschneiden  
Right cut off line



| A x B  | L   | Art. N°         |
|--------|-----|-----------------|
| 12 x 8 | 115 | 770-12X8-SN7-SF |



771RVSF



771R\*

\* voir TOP-Line  
\* siehe TOP-Line  
\* see TOP-Line

Plaquette

Wendeplatte

Insert

Coupe à gauche déportée

Versetztes Linksschneiden

Left cut off line

771RVSF

new

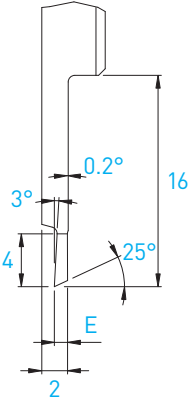
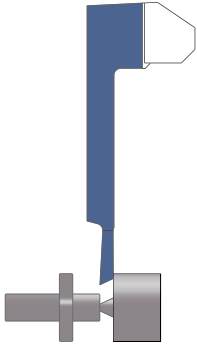
R (L)

Coupe à gauche déportée

Versetztes Linksschneiden

Left cut off line

| E   | Art. N°         | TAF | N (µK20) |
|-----|-----------------|-----|----------|
| 1.0 | 771RVSF-1.0-25° | ■   | ■        |
| 1.2 | 771RVSF-1.2-25° | ■   | ■        |
| 1.5 | 771RVSF-1.5-25° | ■   | ■        |



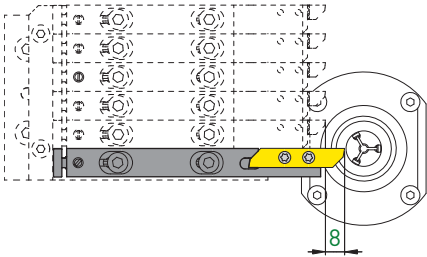
Porte-outils spéciaux de tronçonnage

Sonder Abstechwerkzeughalter

Special parting off tool holders

MODU-LINE

ML12



| Type de machine<br>Maschinen-Typ<br>Type of machine | Porte-outils<br>Halter<br>Holders | Art. N°                | Plaquettes type<br>WSP Typ<br>Inserts type |
|-----------------------------------------------------|-----------------------------------|------------------------|--------------------------------------------|
| SwissNano                                           | ML12                              | ML12A-730RC-SWISS-NANO | 731RSF / 731RDSF                           |
| SwissNano                                           | ML12                              | ML12A-750RC-SWISS-NANO | 751RDSF                                    |

Voir documentation MODU-Line

Siehe MODU-Line Dokumentation

See MODU-Line documentation



L'outil de référence pour le décolletage

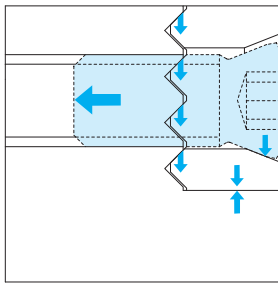
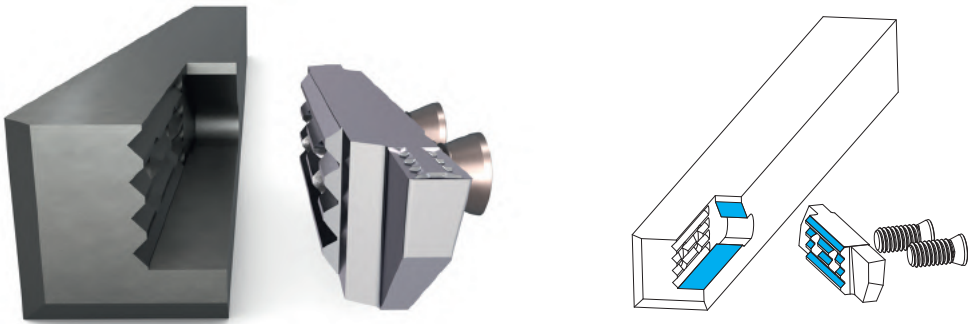
Hochwertiges Wendeplattensystem für Langdrehautomaten

Top class turning tool for automatic lathes

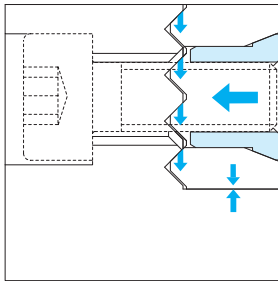
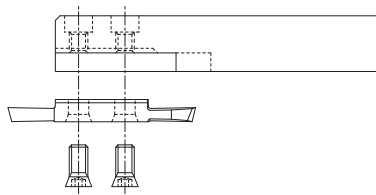
700 Series

## 100% rigid!

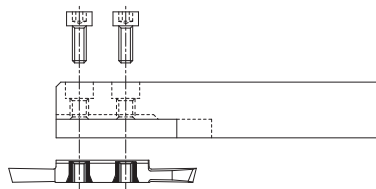
Système de serrage Applitec à denture décalée  
Applitec-Spannsystem mit verschobener Verzahnung  
Applitec clamping system with shifted teeth



**Serrage standard (A)**  
**Standard Spannsystem (A)**  
**Standard clamping system (A)**



**Serrage type B\***  
**Spannsystem Typ B\***  
**Clamping system type B\***



ajouter -B après le numéro d'article  
-B nach der Artikelreferenz hinzufügen  
add -B after the article number

Changement de la plaquette possible dans la machine, sans démontage du porte-outil  
WSP-Austauschmöglichkeit in der Maschine ohne Halterausbau  
The insert can be changed in the machine without removing the tool holder

APPLITEC



## INFO

Codification  
Bezeichnungsschlüssel  
Designation key

Paramètres de coupe indicatifs  
Empfohlene Schnittwerte  
Standard machining data

Nuances  
Sorten  
Grades  
> **3.02**

## SERIES 630 / 640

Tournage  
et gorge  
  
Drehen und  
Einstecken  
  
Turning and  
grooving

Porte-outils  
Halter  
Holders



**630 / 640**

> **3.06**

Tournage avant  
Vorwärts drehen  
Front turning

**632 / 642**



> **3.08**

Tournage arrière  
Rückwärts drehen  
Back turning

**633 / 643**



> **3.11**

Fonçage-tournage  
Einstecken und drehen  
Grooving and turning

**634 / 644**



> **3.19**

Chanfreinage  
Anfasen  
Chamfering

**635 / 645**



> **3.24**

Filetage  
Gewinde drehen  
Threading

**636 / 646**



> **3.26**

Plaquettes à rayon  
Radius Wendeplatten  
Radius inserts

**637 / 647**



> **3.28**

Plaquettes ébauches  
WSP-Rohlinge  
Blank inserts

**631-EP / 641-EP**



> **3.30**

## SERIES 650 / 660

Tronçonnage  
  
Abstechen  
  
Parting off

Porte-outils  
Halter  
Holders



**650 / 660**

> **3.31**

Tronçonnage  
Abstechen  
Parting off

**651 / 661**



> **3.34**

Tronçonnage - coupe déportée  
Abstechen - versetztes Schneiden  
Parting off - cut off line

**651R**



> **3.39**

Plaquettes ébauches  
WSP-Rohlinge  
Blank inserts

**651-EP / 661-EP**



> **3.44**

Pièces de rechange et accessoires  
Ersatzteile und Zubehör  
Spare parts and accessories

> **3.45**

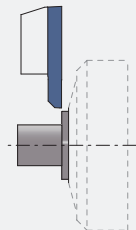
Codification des usinages

Bearbeitung Bezeichnungssystem

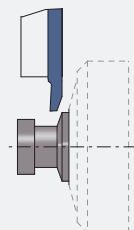
Machining designation key

INFO

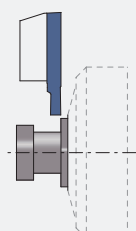
642



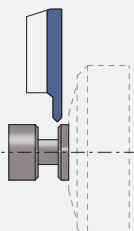
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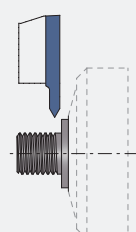
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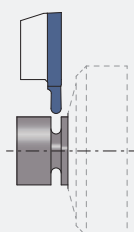
645



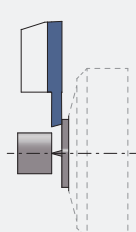
646



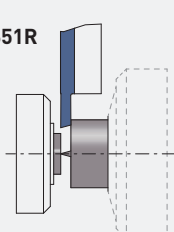
647



661



651R



Codification des plaquettes PRO-Line série 600

WSP-Bezeichnungssystem für PRO-Line 600 Serie

Inserts designation key for PRO-Line 600 series

INFO

|   |   |   |   |   |     |   |     |   |       |
|---|---|---|---|---|-----|---|-----|---|-------|
| 6 | 4 | 4 | X | - | 2.0 | - | R15 | - | TiAlN |
|---|---|---|---|---|-----|---|-----|---|-------|

Dimension  
Abmessung  
Dimension

Rayon  
Radius  
Radius

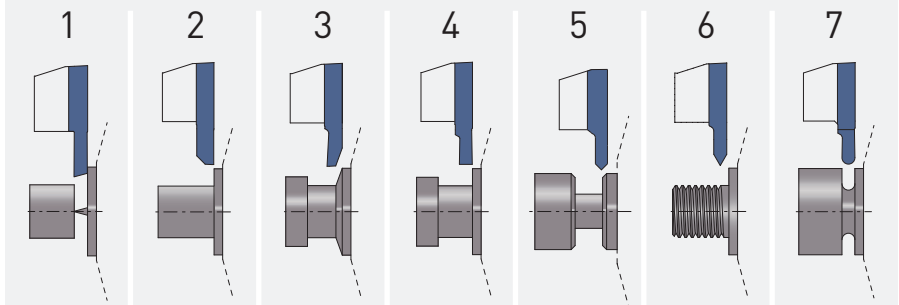
Nuance  
Sorte  
Grade

Géométrie de coupe  
Schneidgeometrie  
Cutting geometry

brise-copeau  
Spanbrecher  
chip breaker

particularités  
Sondereigenschaften  
special features

Géométrie d'usinage  
Bearbeitungsgeometrie  
Machining geometry



Gamme de produit  
Produktserie  
Product series

définit la compatibilité des plaquettes avec le porte-outil  
bestimmt die WSP und Halter Kompatibilität  
shows the inserts and holder compatibility

L = 3, 5

(chiffre impair / ungerade Zahl / uneven number)

R = 4, 6

(chiffre pair / gerade Zahl / even number)

**SERIES**

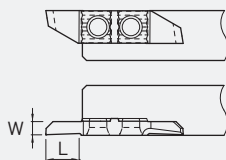
Tournage  
et gorge

Drehen und  
Einstechen  
Turning and  
grooving

W max = 3 mm  
L max = 8 mm

L  
630

R  
640



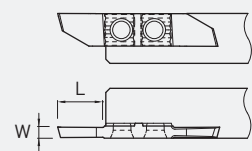
**SERIES**

Tronçonnage  
Abstechen  
Parting off

W max = 2.5 mm  
L max = 11 mm

L  
650

R  
660



Applitec série 600  
Applitec 600 Serie  
Applitec 600 series

Système de serrage à denture avec 2 vis de fixation  
Spannsystem mit Verzahnung und 2 Schrauben  
Teeth clamping system with 2 screws

Paramètres de coupe indicatifs

Empfohlene Schnittwerte

Standard machining data

|                                                                            |                  | Tournage<br>Drehen<br>Turning |                                                |                            | Tronçonnage<br>Abstechen<br>Parting off |                                                    |                            |
|----------------------------------------------------------------------------|------------------|-------------------------------|------------------------------------------------|----------------------------|-----------------------------------------|----------------------------------------------------|----------------------------|
|                                                                            |                  | 630/640                       |                                                |                            | 650/660                                 |                                                    |                            |
| Matière<br>Werkstoff<br>Material                                           |                  | VC                            | Prof. de passe<br>Schnitttiefe<br>Depth of cut | Avance<br>Vorschub<br>Feed | VC                                      | Largeur de coupe<br>Abstechbreite<br>Cutting width | Avance<br>Vorschub<br>Feed |
|                                                                            |                  | (m/min)                       | (mm)                                           | (mm/U)                     | (m/min)                                 | (mm)                                               | (mm/U)                     |
| Acier de décolletage<br>Automatenstahl<br>Free-cutting steel               | P                | 120 - 200                     | 0.05 - 1.0<br>1.0 - 4.0                        | 0.01 - 0.15<br>0.05 - 0.25 | 80 - 150                                | 0.50 - 1.50<br>1.50 - 2.50                         | 0.01 - 0.08<br>0.03 - 0.15 |
| Acier<br>Stahl<br>Steel                                                    | < 600 N/mm²<br>P | 80 - 160                      | 0.05 - 1.0<br>1.0 - 4.0                        | 0.01 - 0.15<br>0.05 - 0.25 | 70 - 120                                | 0.50 - 1.50<br>1.50 - 2.50                         | 0.01 - 0.06<br>0.03 - 0.12 |
| Acier<br>Stahl<br>Steel                                                    | < 800 N/mm²<br>P | 60 - 120                      | 0.05 - 1.0<br>1.0 - 4.0                        | 0.01 - 0.10<br>0.05 - 0.20 | 60 - 100                                | 0.50 - 1.50<br>1.50 - 2.50                         | 0.01 - 0.05<br>0.03 - 0.10 |
| Acier<br>Stahl<br>Steel                                                    | > 800 N/mm²<br>P | 50 - 100                      | 0.05 - 1.0<br>1.0 - 3.0                        | 0.01 - 0.08<br>0.05 - 0.15 | 40 - 80                                 | 0.50 - 1.50<br>1.50 - 2.50                         | 0.01 - 0.04<br>0.03 - 0.08 |
| Acier inoxydable<br>Rostfreistahl<br>Stainless steel                       | M                | 60 - 120                      | 0.05 - 1.0<br>1.0 - 3.0                        | 0.01 - 0.08<br>0.05 - 0.15 | 60 - 100                                | 0.50 - 1.50<br>1.50 - 2.50                         | 0.01 - 0.04<br>0.03 - 0.08 |
| Aluminium Si <12%                                                          | N                | 200 - 1000                    | 0.05 - 1.0<br>1.0 - 4.0                        | 0.01 - 0.20<br>0.05 - 0.40 | 180 - 400                               | 0.50 - 1.50<br>1.50 - 2.50                         | 0.01 - 0.10<br>0.03 - 0.20 |
| Aluminium Si >12%                                                          | N                | 180 - 800                     | 0.05 - 1.0<br>1.0 - 4.0                        | 0.01 - 0.20<br>0.05 - 0.40 | 150 - 300                               | 0.50 - 1.50<br>1.50 - 2.50                         | 0.01 - 0.10<br>0.03 - 0.20 |
| Cuivre, laiton, bronze<br>Kupfer, Messing, Bronze<br>Copper, brass, bronze | N                | 100 - 500                     | 0.05 - 1.0<br>1.0 - 4.0                        | 0.01 - 0.20<br>0.05 - 0.35 | 100 - 300                               | 0.50 - 1.50<br>1.50 - 2.50                         | 0.01 - 0.10<br>0.03 - 0.20 |
| Titane<br>Titan<br>Titanium                                                | S                | 30 - 70                       | 0.05 - 1.0<br>1.0 - 4.0                        | 0.01 - 0.08<br>0.05 - 0.15 | 30 - 50                                 | 0.50 - 1.50<br>1.50 - 2.50                         | 0.01 - 0.03<br>0.03 - 0.06 |

## Nuances

## Sorten

## Grades

**TiAlN**

μK20 + revêtement PVD  
μK20 + PVD Beschichtung  
μK20 + PVD coating

- excellente nuance universelle
- 1<sup>er</sup> choix pour l'usinage des aciers, aciers inoxydables et alliages de titane
- très bonne résistance à la température

- beste Universalsorte
- für die Bearbeitung von Stahl, rostfreiem Stahl und Titanlegierungen bestens geeignet
- sehr gute Warmfestigkeit

- best universal grade
- first choice for steel, stainless steel and titanium alloys machining
- very good heat resistance

**N (μK20)**

non revêtu  
unbeschichtet  
uncoated

- nuance micro-grain tenace
- supporte les coupes interrompues et autres conditions d'usinage défavorables

- zähe Feinkornsorte
- für unterbrochene Schnitte und andere ungünstige Bearbeitungsbedingungen geeignet

- tough micro-grain grade
- suitable for interrupted cut and other unfavorable machining conditions

**HTA**

μK10 + revêtement PVD  
μK10 + PVD Beschichtung  
μK10 + PVD coating

- nuance très résistante à l'usure
- pour l'usinage en finition dans des conditions favorables des aciers, aciers inoxydables et alliages de titane

- sehr verschleissfeste Sorte
- für die Feinbearbeitung von Stahl, rostfreiem Stahl und Titanlegierungen bei guten Bearbeitungsbedingungen

- very wear resistant grade
- for light machining of steel, stainless steel and titanium alloys under favorable machining conditions

**HN (μK10)**

non revêtu  
unbeschichtet  
uncoated

- nuance micro-grain très résistante à l'usure
- recommandé pour l'usinage du titane faiblement allié
- déconseillé en cas de coupe interrompue et autres conditions d'usinage défavorables

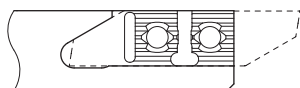
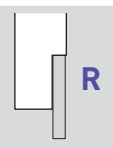
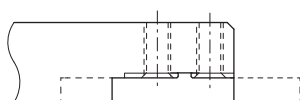
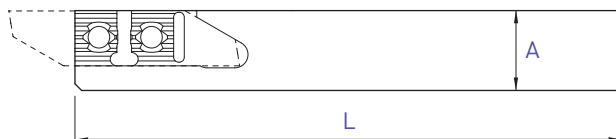
- verschleissfeste Feinkornsorte
- für die Bearbeitung von niedrig legiertem Titan empfehlenswert
- für unterbrochene Schnitte und andere ungünstige Bearbeitungsbedingungen nicht geeignet

- wear resistant micro-grain grade
- suitable for the machining of low alloyed titanium
- not suitable for interrupted cut and other unfavorable machining conditions

Porte-outils

Halter

Holders

**630 / 640**
**L**

**R**


| A x B       | L   | Art. N°          | Art. N°          |
|-------------|-----|------------------|------------------|
| 8 x 8       | 115 | <b>630-8</b>     | <b>640-8</b>     |
| 10 x 10     | 115 | <b>630-10</b>    | <b>640-10</b>    |
| 10 x 10     | 50  | <b>630-10-50</b> | <b>640-10-50</b> |
| 12 x 12     | 130 | <b>630-12</b>    | <b>640-12</b>    |
| 12 x 12     | 90  | <b>630-12-90</b> | <b>640-12-90</b> |
| 12.7 x 12.7 | 130 | <b>630-12.7</b>  | <b>640-12.7</b>  |
| 16 x 16     | 130 | <b>630-16</b>    | <b>640-16</b>    |
| 16 x 16     | 75  | <b>630-16-75</b> | <b>640-16-75</b> |
| 20 x 20     | 120 | <b>630-20</b>    | <b>640-20</b>    |

Chaque support est livré avec vis et clé.

Jeder Halter wird mit Spannschraube(n) und Schlüssel geliefert.

Screw(s) and key are included with each tool holder.

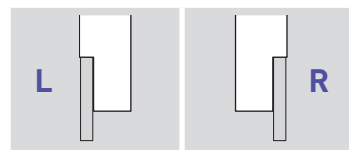
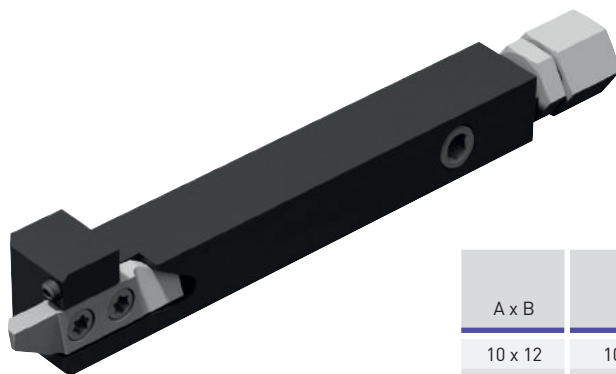
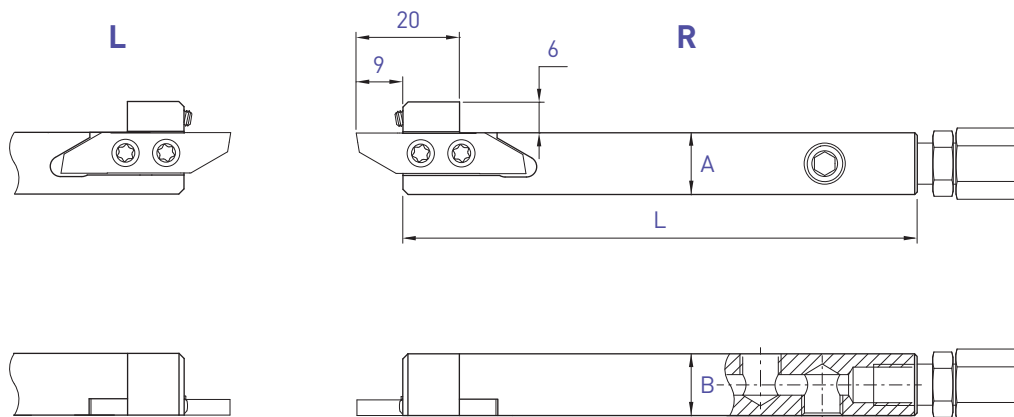


Porte-outils avec arrosage intégré

Halter mit integrierter Kühlmittelzufuhr

Holders with integrated coolant supply

630-JET / 640-JET



| A x B       | L   | Art. N°      | Art. N°      |
|-------------|-----|--------------|--------------|
| 10 x 12     | 100 | 630-1012-JET | 640-1012-JET |
| 12 x 12     | 100 | 630-12-JET   | 640-12-JET   |
| 12.7 x 12.7 | 100 | 630-12.7-JET | 640-12.7-JET |
| 16 x 16     | 100 | 630-16-JET   | 640-16-JET   |
| 20 x 20     | 100 | 630-20-JET   | 640-20-JET   |

Chaque support est livré avec vis, clé, raccord droit et buse d'arrosage Ø 1.5 mm.

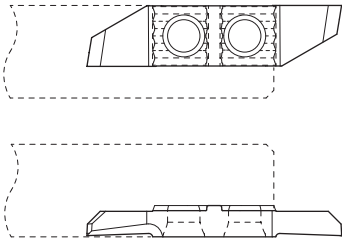
Jeder Halter wird mit Spannschraube(n), Schlüssel, gerader Kühlmittelanschluss und Kühlmitteldüse Ø 1.5 mm geliefert.

Screw(s), key, straight connector and coolant nozzle Ø 1.5 mm are included with each tool holder.

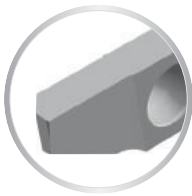
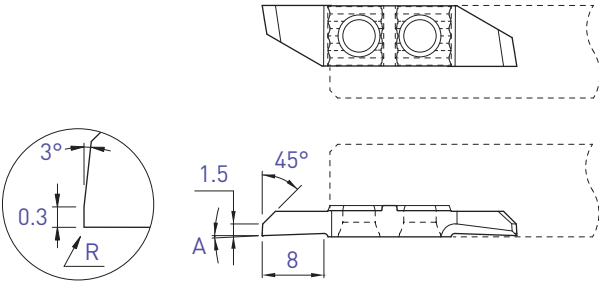
Tournage avant  
Vorwärts drehen  
Front turning

632 / 642

L



R



L

R

| A  | R    | Art. N° | TiAlN    |   | HTA | HN [µk10] | Art. N°    | TiAlN    |   | HTA | HN [µk10] |
|----|------|---------|----------|---|-----|-----------|------------|----------|---|-----|-----------|
|    |      |         | N [µk20] |   |     |           |            | N [µk20] |   |     |           |
| 0° | 0    | 632     | ■        | ■ |     |           | 642        | ■        | ■ | □   | □         |
| 0° | 0.08 | -       |          |   |     |           | 642-R08    | ■        | ■ | □   | □         |
| 0° | 0.15 | -       |          |   |     |           | 642-R15    | ■        | ■ | □   | □         |
| 2° | 0    | 632-2°  | ■        | ■ |     |           | 642-2°     | ■        | ■ | □   | □         |
| 2° | 0.08 | -       |          |   |     |           | 642-2°-R08 | ■        | ■ | □   | □         |
| 2° | 0.15 | -       |          |   |     |           | 642-2°-R15 | ■        | ■ | □   | □         |

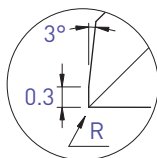
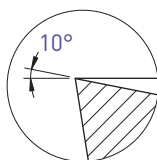
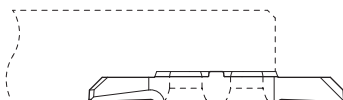
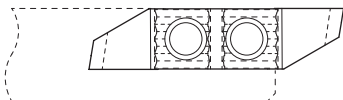
Tournage avant

Vorwärts drehen

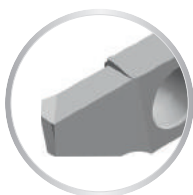
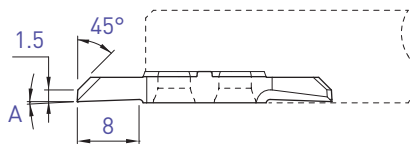
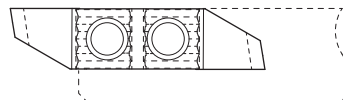
Front turning

632X / 642X

L



R



L



R

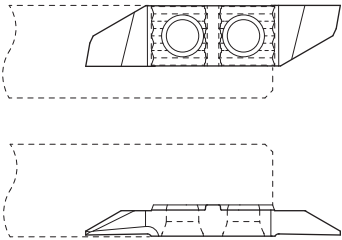


| A  | R    | Art. N°   | TiAlN<br>N [µk20] | HTA<br>HN [µk10] | Art. N°       | TiAlN<br>N [µk20] | HTA<br>HN [µk10] |
|----|------|-----------|-------------------|------------------|---------------|-------------------|------------------|
| 0° | 0    | 632X10    | ■ ■               |                  | 642X10        | ■ ■               | □ □              |
| 0° | 0.08 | -         |                   |                  | 642X10-R08    | ■ ■               | □ □              |
| 0° | 0.15 | -         |                   |                  | 642X10-R15    | ■ ■               | □ □              |
| 2° | 0    | 632X10-2° | ■ ■               |                  | 642X10-2°     | ■ ■               | □ □              |
| 2° | 0.08 | -         |                   |                  | 642X10-2°-R08 | ■ ■               | □ □              |
| 2° | 0.15 | -         |                   |                  | 642X10-2°-R15 | ■ ■               | □ □              |

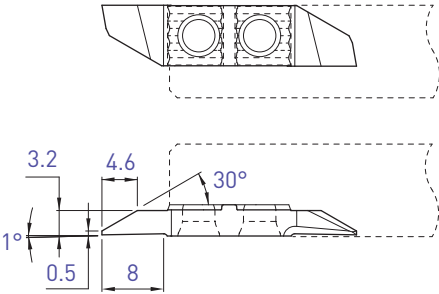
Tournage multifonction  
Mehrweck drehen  
Multifunction turning

632S / 642S

L

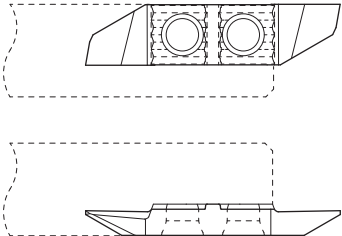
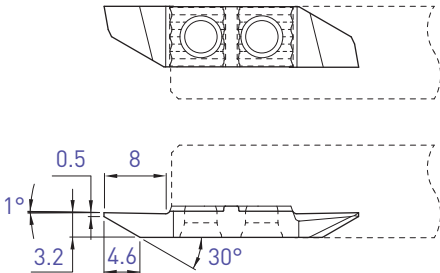


R



Tournage avant  
Vorwärts drehen  
Front turning

| L       |  |  |  | R       |  |  |  |
|---------|--|--|--|---------|--|--|--|
| Art. N° |  |  |  | Art. N° |  |  |  |
| 632S05  |  |  |  | 642S05  |  |  |  |

**Tournage multifonction****Mehrweck drehen****Multifunction turning****633S / 643S****L****R**

Tournage arrière  
Rückwärts drehen  
Back turning

L



R



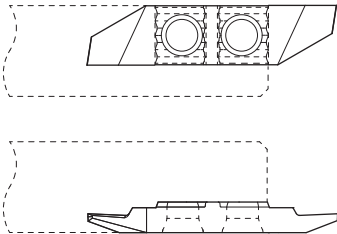
| Art. N° | TiAlN<br>N [μk20] | HTA<br>HN [μk10] |
|---------|-------------------|------------------|
| 633S05  | ■ ■               |                  |

| Art. N° | TiAlN<br>N [μk20] | HTA<br>HN [μk10] |
|---------|-------------------|------------------|
| 643S05  | ■ ■               | □ □              |

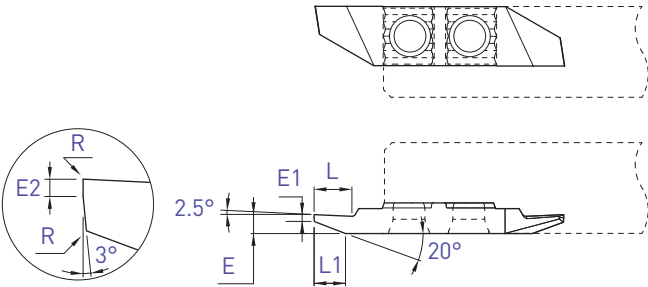
Tournage arrière  
Rückwärts drehen  
Back turning

633 / 643

L



R



L

R

| E1  | E2   | L   | L1  | E   | R    | Art. N° | TiAlN<br>N [µk20] | HTA<br>HN [µk10] | Art. N°     | TiAlN<br>N [µk20] | HTA<br>HN [µk10] |
|-----|------|-----|-----|-----|------|---------|-------------------|------------------|-------------|-------------------|------------------|
| 0.5 | 0.25 | 3   | 2.8 | 1.5 | 0    | 633-0.5 | ■ ■               |                  | 643-0.5     | ■ ■               | □ □              |
| 0.5 | 0.25 | 3   | 2.8 | 1.5 | 0.08 | -       |                   |                  | 643-0.5-R08 | ■ ■               | □ □              |
| 0.8 | 0.40 | 4.5 | 3.3 | 2.0 | 0    | -       |                   |                  | 643-0.8     | ■ ■               | □ □              |
| 0.8 | 0.40 | 4.5 | 3.3 | 2.0 | 0.08 | -       |                   |                  | 643-0.8-R08 | ■ ■               | □ □              |
| 1.0 | 0.40 | 5   | 4.2 | 2.5 | 0    | -       |                   |                  | 643-1.0     | ■ ■               | □ □              |
| 1.0 | 0.40 | 5   | 4.2 | 2.5 | 0.08 | -       |                   |                  | 643-1.0-R08 | ■ ■               | □ □              |
| 1.5 | 0.50 | 6   | 4.2 | 3.0 | 0    | -       |                   |                  | 643-1.5     | ■ ■               | □ □              |
| 1.5 | 0.50 | 6   | 4.2 | 3.0 | 0.08 | -       |                   |                  | 643-1.5-R08 | ■ ■               | □ □              |

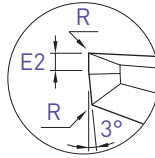
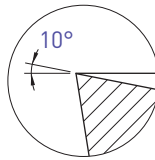
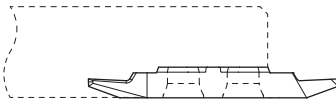
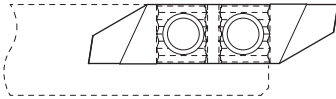
Tournage arrière

Rückwärts drehen

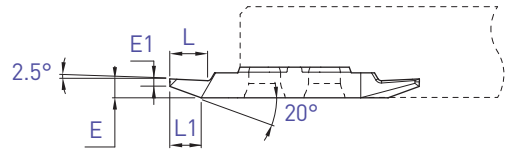
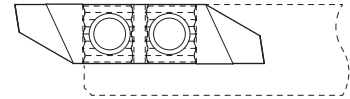
Back turning

633X / 643X

L



R



L



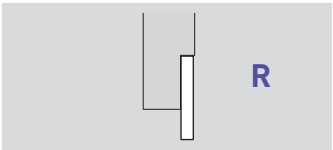
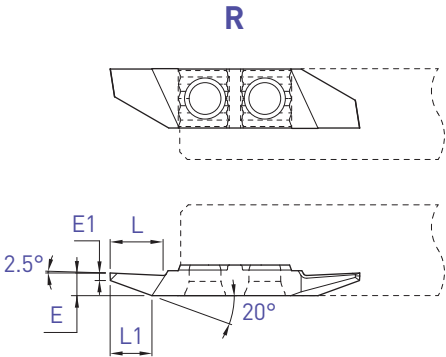
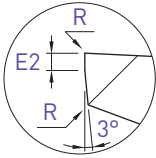
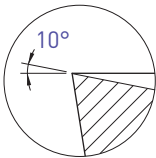
R



| E1  | E2   | L   | L1  | E   | R    | Art. N°    | TiAlN<br>N [µk20] | HTA<br>HN [µk10] | Art. N°        | TiAlN<br>N [µk20] | HTA<br>HN [µk10] |
|-----|------|-----|-----|-----|------|------------|-------------------|------------------|----------------|-------------------|------------------|
| 0.5 | 0.25 | 3   | 2.8 | 1.5 | 0    | 633X10-0.5 | ■ ■               |                  | 643X10-0.5     | ■ ■               | □ □              |
| 0.5 | 0.25 | 3   | 2.8 | 1.5 | 0.08 | -          |                   |                  | 643X10-0.5-R08 | ■ ■               | □ □              |
| 0.8 | 0.40 | 4.5 | 3.3 | 2.0 | 0    | -          |                   |                  | 643X10-0.8     | ■ ■               | □ □              |
| 0.8 | 0.40 | 4.5 | 3.3 | 2.0 | 0.08 | -          |                   |                  | 643X10-0.8-R08 | ■ ■               | □ □              |
| 1.0 | 0.40 | 5   | 4.2 | 2.5 | 0    | -          |                   |                  | 643X10-1.0     | ■ ■               | □ □              |
| 1.0 | 0.40 | 5   | 4.2 | 2.5 | 0.08 | -          |                   |                  | 643X10-1.0-R08 | ■ ■               | □ □              |
| 1.5 | 0.50 | 6   | 4.2 | 3.0 | 0    | -          |                   |                  | 643X10-1.5     | ■ ■               | □ □              |
| 1.5 | 0.50 | 6   | 4.2 | 3.0 | 0.08 | -          |                   |                  | 643X10-1.5-R08 | ■ ■               | □ □              |

Tournage arrière  
Rückwärts drehen  
Back turning

643XS



| E1  | E2  | L | L1  | E   | R    | Art. N°         | TiAlN<br>Z [µk20] | HTA | HN [µk10] |
|-----|-----|---|-----|-----|------|-----------------|-------------------|-----|-----------|
| 1.0 | 0.4 | 7 | 5.5 | 3.0 | 0    | 643X10S-1.0     | ■ ■               | □ □ |           |
| 1.0 | 0.4 | 7 | 5.5 | 3.0 | 0.08 | 643X10S-1.0-R08 | ■ ■               | □ □ |           |

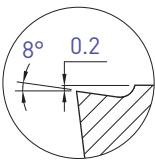


Tournage arrière

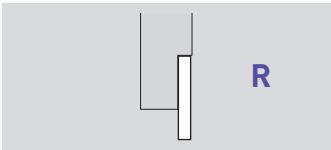
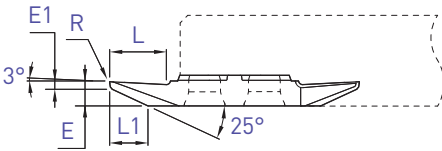
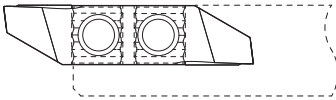
Rückwärts drehen

Back turning

643VX8



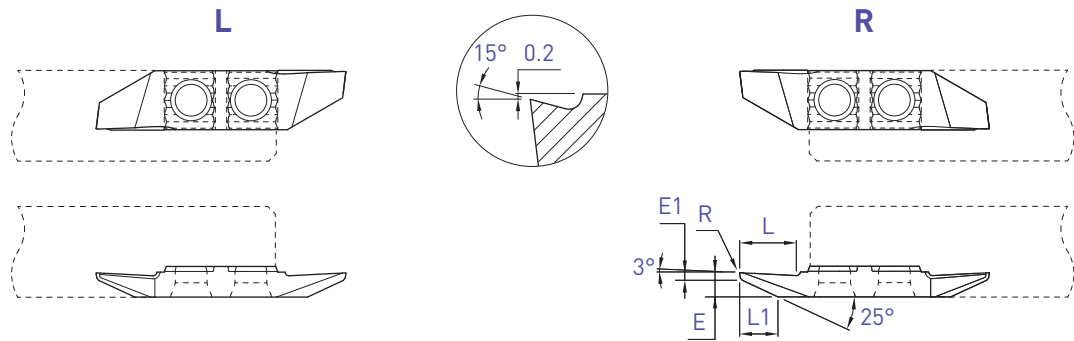
R

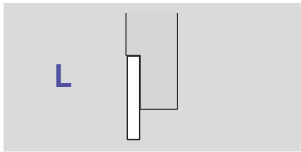
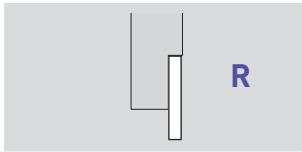


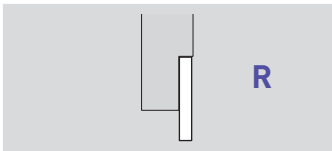
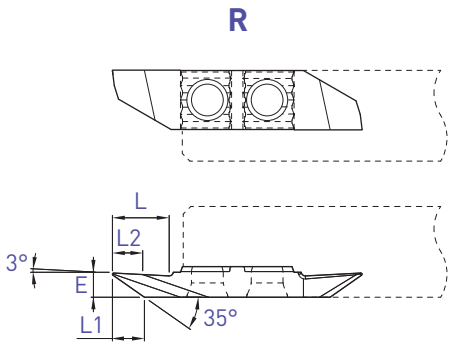
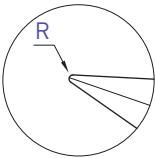
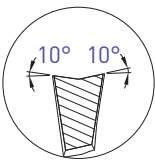
| E1  | L   | L1  | E   | R    | Art. N°    | TiAlN<br>N [µk20] | HTA | HN [µk10] |
|-----|-----|-----|-----|------|------------|-------------------|-----|-----------|
| 1.0 | 7.5 | 5.0 | 3.2 | 0    | 643VX8     | ■ ■               | □ □ |           |
| 1.0 | 7.5 | 5.0 | 3.2 | 0.08 | 643VX8-R08 | ■ ■               | □ □ |           |

Tournage arrière  
Rückwärts drehen  
Back turning

633VX15 / 643VX15



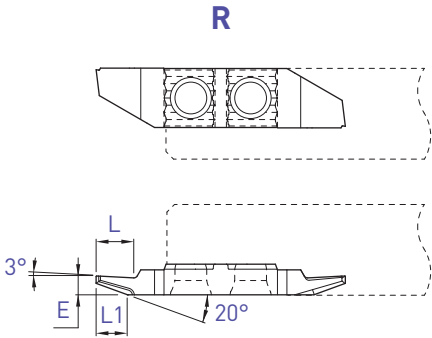
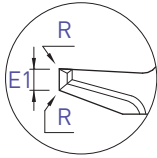
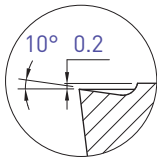
|  |  |                   |     |           |  |  |                   |     |           |
|-----------------------------------------------------------------------------------|--|-------------------|-----|-----------|------------------------------------------------------------------------------------|--|-------------------|-----|-----------|
| Art. N°                                                                           |  | TiAlN<br>N (µk20) | HTA | HN (µk10) | Art. N°                                                                            |  | TiAlN<br>N (µk20) | HTA | HN (µk10) |
| 633VX15                                                                           |  | ■                 | ■   |           | 643VX15                                                                            |  | ■                 | ■   | □ □       |
| -                                                                                 |  |                   |     |           | 643VX15-R08                                                                        |  | ■                 | ■   | □ □       |

**Tournage arrière****Rückwärts drehen****Back turning****643VUX**

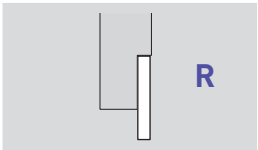
| L   | L1  | L2  | E   | R    | Art. N°      | TiAlN<br>N [μk20] | HTA | HN [μk10] |
|-----|-----|-----|-----|------|--------------|-------------------|-----|-----------|
| 7.5 | 4.2 | 4.0 | 3.2 | 0.15 | 643VUX10-R15 | ■ ■               | □ □ |           |
| 7.5 | 3.8 | 3.8 | 3.2 | 0.35 | 643VUX10-R35 | ■ ■               | □ □ |           |

Tournage arrière  
Rückwärts drehen  
Back turning

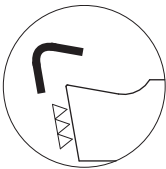
643ZX



Pour un meilleur contrôle des copeaux  
Für eine bessere Spankontrolle  
For a better chip control



| E1  | L | L1 | E   | R    | Art. N°         | TiAIN<br>N [µk20] |
|-----|---|----|-----|------|-----------------|-------------------|
| 1.0 | 5 | 4  | 2.5 | 0.01 | 643ZX10-1.0     | ■                 |
| 1.0 | 5 | 4  | 2.5 | 0.08 | 643ZX10-1.0-R08 | ■                 |



Arête de coupe honée  
Gehonte Schneidkante  
Honed edge

f min: 0.02 mm/U

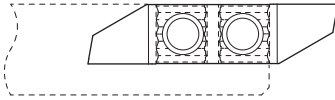
Fonçage-tournage

Einstecken und drehen

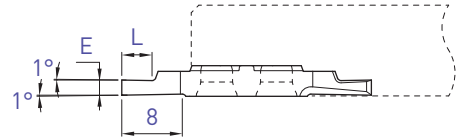
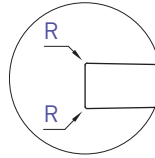
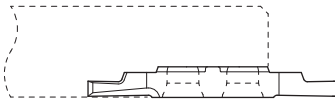
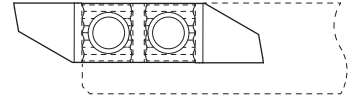
Grooving and turning

634 / 644

L



R



L



R



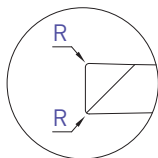
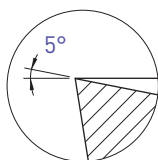
| E    | L   | R    | Art. N° | TiAlN<br>N (µk20) | HTA<br>HN (µk10) | Art. N°     | TiAlN<br>N (µk20) | HTA<br>HN (µk10) |
|------|-----|------|---------|-------------------|------------------|-------------|-------------------|------------------|
| 0.5  | 1.5 | 0    | 634-0.5 | ■ ■               |                  | 644-0.5     | ■ ■ □ □           |                  |
| 0.6  | 1.8 | 0    | -       |                   |                  | 644-0.6     | ■ ■ □ □           |                  |
| 0.75 | 2   | 0    | -       |                   |                  | 644-0.75    | ■ ■ □ □           |                  |
| 0.8  | 2   | 0    | 634-0.8 | ■ ■               |                  | 644-0.8     | ■ ■ □ □           |                  |
| 0.9  | 2.5 | 0    | -       |                   |                  | 644-0.9     | ■ ■ □ □           |                  |
| 0.95 | 3   | 0    | -       |                   |                  | 644-0.95    | ■ ■ □ □           |                  |
| 1.0  | 2.5 | 0    | 634-1.0 | ■ ■               |                  | 644-1.0     | ■ ■ □ □           |                  |
| 1.0  | 2.5 | 0.08 | -       |                   |                  | 644-1.0-R08 | ■ ■ □ □           |                  |
| 1.2  | 3   | 0    | 634-1.2 | ■ ■               |                  | 644-1.2     | ■ ■ □ □           |                  |
| 1.2  | 3   | 0.08 | -       |                   |                  | 644-1.2-R08 | ■ ■ □ □           |                  |
| 1.5  | 3   | 0    | 634-1.5 | ■ ■               |                  | 644-1.5     | ■ ■ □ □           |                  |
| 1.5  | 3   | 0.08 | -       |                   |                  | 644-1.5-R08 | ■ ■ □ □           |                  |
| 1.5  | 3   | 0.15 | -       |                   |                  | 644-1.5-R15 | ■ ■ □ □           |                  |
| 1.8  | 4   | 0    | -       |                   |                  | 644-1.8     | ■ ■ □ □           |                  |
| 2.0  | 4   | 0    | 634-2.0 | ■ ■               |                  | 644-2.0     | ■ ■ □ □           |                  |
| 2.0  | 4   | 0.08 | -       |                   |                  | 644-2.0-R08 | ■ ■ □ □           |                  |
| 2.0  | 4   | 0.15 | -       |                   |                  | 644-2.0-R15 | ■ ■ □ □           |                  |
| 2.5  | 6   | 0    | 634-2.5 | ■ ■               |                  | 644-2.5     | ■ ■ □ □           |                  |
| 2.5  | 6   | 0.08 | -       |                   |                  | 644-2.5-R08 | ■ ■ □ □           |                  |
| 2.5  | 6   | 0.15 | -       |                   |                  | 644-2.5-R15 | ■ ■ □ □           |                  |
| 3    | 6   | 0    | 634-3.0 | ■ ■               |                  | 644-3.0     | ■ ■ □ □           |                  |
| 3    | 6   | 0.08 | -       |                   |                  | 644-3.0-R08 | ■ ■ □ □           |                  |
| 3    | 6   | 0.15 | -       |                   |                  | 644-3.0-R15 | ■ ■ □ □           |                  |

Fonçage-tournage

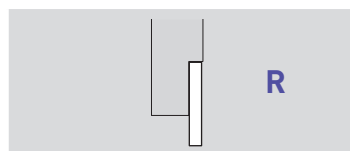
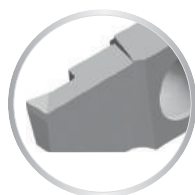
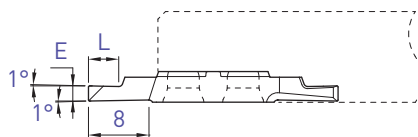
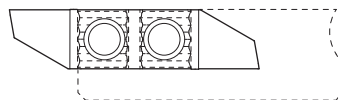
Einstechen und drehen

Grooving and turning

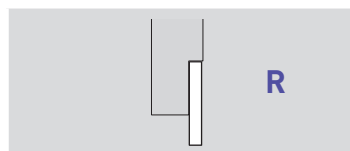
644X5



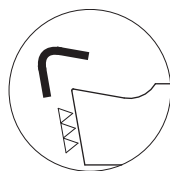
R



| E   | L | R    | Art. N°       | TiAlN<br>N (µk20) | HTA | HN (µk10) |
|-----|---|------|---------------|-------------------|-----|-----------|
| 1.5 | 3 | 0.08 | 644X5-1.5-R08 | ■ ■               | □ □ |           |
| 2   | 4 | 0.08 | 644X5-2.0-R08 | ■ ■               | □ □ |           |
| 2   | 4 | 0.15 | 644X5-2.0-R15 | ■ ■               | □ □ |           |
| 2.5 | 6 | 0.08 | 644X5-2.5-R08 | ■ ■               | □ □ |           |
| 2.5 | 6 | 0.15 | 644X5-2.5-R15 | ■ ■               | □ □ |           |
| 3   | 6 | 0.08 | 644X5-3.0-R08 | ■ ■               | □ □ |           |
| 3   | 6 | 0.15 | 644X5-3.0-R15 | ■ ■               | □ □ |           |



| E   | L | R    | Art. N°          | TiAlN<br>N (µk20) | HTA | HN (µk10) |
|-----|---|------|------------------|-------------------|-----|-----------|
| 1.5 | 3 | 0.08 | 644X5-1.5-R08-EP | ■ ■               |     |           |
| 2   | 4 | 0.08 | 644X5-2.0-R08-EP | ■ ■               |     |           |
| 2   | 4 | 0.15 | 644X5-2.0-R15-EP | ■ ■               |     |           |
| 2.5 | 6 | 0.08 | 644X5-2.5-R08-EP | ■ ■               |     |           |
| 2.5 | 6 | 0.15 | 644X5-2.5-R15-EP | ■ ■               |     |           |
| 3   | 6 | 0.08 | 644X5-3.0-R08-EP | ■ ■               |     |           |
| 3   | 6 | 0.15 | 644X5-3.0-R15-EP | ■ ■               |     |           |



Arête de coupe honée  
Gehonte Schneidkante  
Honed edge

f min: 0.02 mm/U

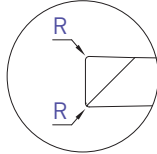
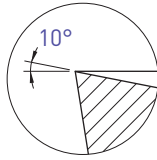
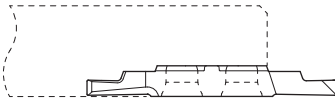
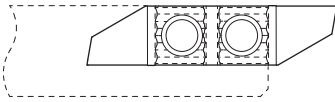
Fonçage-tournage

Einstecken und drehen

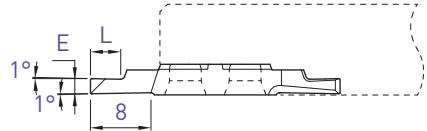
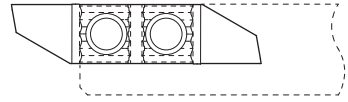
Grooving and turning

634X10 / 644X10

L



R



L



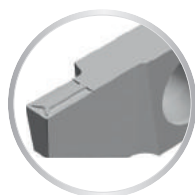
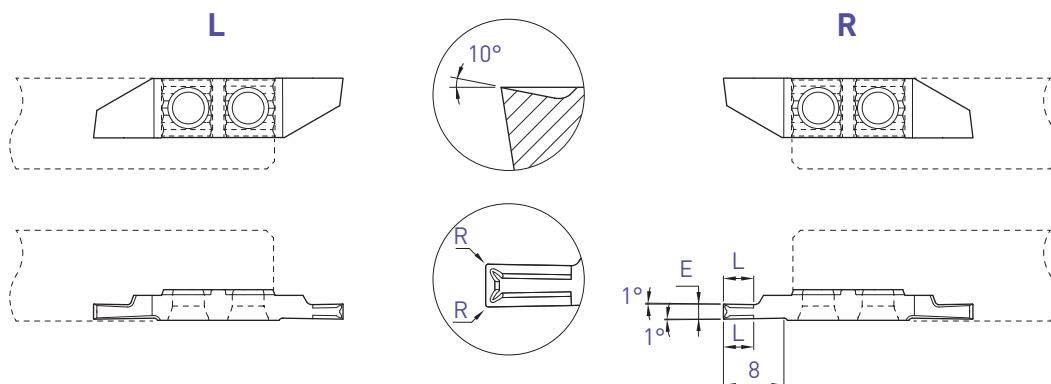
R



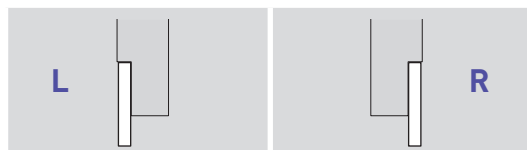
| E   | L   | R    | Art. N°        | TiAlN<br>N (µk20) | HTA<br>HN (µk10) | Art. N°        | TiAlN<br>N (µk20) | HTA<br>HN (µk10) |
|-----|-----|------|----------------|-------------------|------------------|----------------|-------------------|------------------|
| 0.8 | 2   | 0    | 634X10-0.8     | ■ ■               |                  | 644X10-0.8     | ■ ■ □ □           |                  |
| 1.0 | 2.5 | 0    | 634X10-1.0     | ■ ■               |                  | 644X10-1.0     | ■ ■ □ □           |                  |
| 1.0 | 2.5 | 0.08 | 634X10-1.0-R08 | ■ ■               |                  | 644X10-1.0-R08 | ■ ■ □ □           |                  |
| 1.2 | 3   | 0    | -              |                   |                  | 644X10-1.2     | ■ ■ □ □           |                  |
| 1.2 | 3   | 0.08 | -              |                   |                  | 644X10-1.2-R08 | ■ ■ □ □           |                  |
| 1.5 | 3   | 0    | 634X10-1.5     | ■ ■               |                  | 644X10-1.5     | ■ ■ □ □           |                  |
| 1.5 | 3   | 0.08 | 634X10-1.5-R08 | ■ ■               |                  | 644X10-1.5-R08 | ■ ■ □ □           |                  |
| 1.5 | 3   | 0.15 | 634X10-1.5-R15 | ■ ■               |                  | 644X10-1.5-R15 | ■ ■ □ □           |                  |
| 1.8 | 4   | 0    | -              |                   |                  | 644X10-1.8     | ■ ■ □ □           |                  |
| 2   | 4   | 0    | 634X10-2.0     | ■ ■               |                  | 644X10-2.0     | ■ ■ □ □           |                  |
| 2   | 4   | 0.08 | 634X10-2.0-R08 | ■ ■               |                  | 644X10-2.0-R08 | ■ ■ □ □           |                  |
| 2   | 4   | 0.15 | 634X10-2.0-R15 | ■ ■               |                  | 644X10-2.0-R15 | ■ ■ □ □           |                  |
| 2.5 | 6   | 0    | 634X10-2.5     | ■ ■               |                  | 644X10-2.5     | ■ ■ □ □           |                  |
| 2.5 | 6   | 0.08 | 634X10-2.5-R08 | ■ ■               |                  | 644X10-2.5-R08 | ■ ■ □ □           |                  |
| 2.5 | 6   | 0.15 | 634X10-2.5-R15 | ■ ■               |                  | 644X10-2.5-R15 | ■ ■ □ □           |                  |
| 3   | 6   | 0    | 634X10-3.0     | ■ ■               |                  | 644X10-3.0     | ■ ■ □ □           |                  |
| 3   | 6   | 0.08 | 634X10-3.0-R08 | ■ ■               |                  | 644X10-3.0-R08 | ■ ■ □ □           |                  |
| 3   | 6   | 0.15 | 634X10-3.0-R15 | ■ ■               |                  | 644X10-3.0-R15 | ■ ■ □ □           |                  |

Fonçage-tournage  
Einstecken und drehen  
Grooving and turning

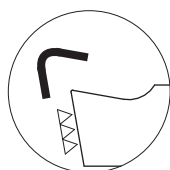
634ZXB / 644ZXB



Pour un meilleur contrôle des copeaux  
Für eine bessere Spankontrolle  
For a better chip-control



| E   | L   | R    | Art. N°          | TiAlN<br>N (µk20) | Art. N°          | TiAlN<br>N (µk20) |
|-----|-----|------|------------------|-------------------|------------------|-------------------|
| 1.0 | 2.5 | 0.01 | 634ZXB10-1.0     | ■                 | 644ZXB10-1.0     | ■                 |
| 1.5 | 4   | 0.01 | 634ZXB10-1.5     | ■                 | 644ZXB10-1.5     | ■                 |
| 1.5 | 4   | 0.08 | 634ZXB10-1.5-R08 | ■                 | 644ZXB10-1.5-R08 | ■                 |
| 2.0 | 4   | 0.01 | 634ZXB10-2.0     | ■                 | 644ZXB10-2.0     | ■                 |
| 2.0 | 4   | 0.08 | 634ZXB10-2.0-R08 | ■                 | 644ZXB10-2.0-R08 | ■                 |
| 2.0 | 4   | 0.15 | 634ZXB10-2.0-R15 | ■                 | 644ZXB10-2.0-R15 | ■                 |
| 2.5 | 5   | 0.08 | 634ZXB10-2.5-R08 | ■                 | 644ZXB10-2.5-R08 | ■                 |
| 2.5 | 5   | 0.15 | 634ZXB10-2.5-R15 | ■                 | 644ZXB10-2.5-R15 | ■                 |
| 3.0 | 6   | 0.08 | 634ZXB10-3.0-R08 | ■                 | 644ZXB10-3.0-R08 | ■                 |
| 3.0 | 6   | 0.15 | 634ZXB10-3.0-R15 | ■                 | 644ZXB10-3.0-R15 | ■                 |
| 3.0 | 6   | 0.35 | 634ZXB10-3.0-R35 | ■                 | 644ZXB10-3.0-R35 | ■                 |



Arête de coupe honée  
Gehonte Schneidkante  
Honed edge

f min: 0.02 mm/U



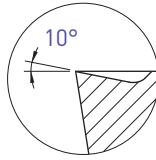
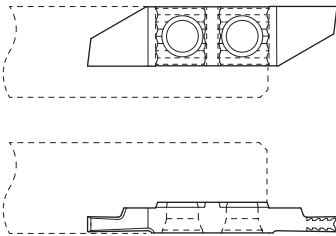
Fonçage-tournage

Einstecken und drehen

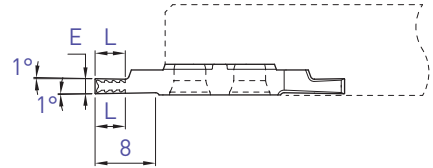
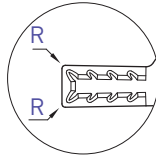
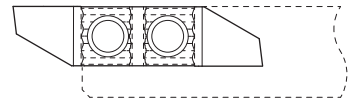
Grooving and turning

634ZXT / 644ZXT

L



R



Pour un meilleur contrôle des copeaux  
Für eine bessere Spankontrolle  
For a better chip-control

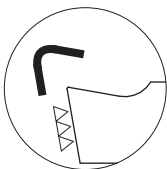
L



R



| E   | L   | R    | Art. N°          | TiAlN<br>N (µk20) | Art. N°          | TiAlN<br>N (µk20) |
|-----|-----|------|------------------|-------------------|------------------|-------------------|
| 1.0 | 2.5 | 0.01 | 634ZXT10-1.0     | ■                 | 644ZXT10-1.0     | ■                 |
| 1.5 | 4   | 0.01 | 634ZXT10-1.5     | ■                 | 644ZXT10-1.5     | ■                 |
| 1.5 | 4   | 0.08 | 634ZXT10-1.5-R08 | ■                 | 644ZXT10-1.5-R08 | ■                 |
| 2.0 | 4   | 0.01 | 634ZXT10-2.0     | ■                 | 644ZXT10-2.0     | ■                 |
| 2.0 | 4   | 0.08 | 634ZXT10-2.0-R08 | ■                 | 644ZXT10-2.0-R08 | ■                 |
| 2.0 | 4   | 0.15 | 634ZXT10-2.0-R15 | ■                 | 644ZXT10-2.0-R15 | ■                 |
| 2.5 | 5   | 0.08 | 634ZXT10-2.5-R08 | ■                 | 644ZXT10-2.5-R08 | ■                 |
| 2.5 | 5   | 0.15 | 634ZXT10-2.5-R15 | ■                 | 644ZXT10-2.5-R15 | ■                 |
| 3.0 | 6   | 0.08 | 634ZXT10-3.0-R08 | ■                 | 644ZXT10-3.0-R08 | ■                 |
| 3.0 | 6   | 0.15 | 634ZXT10-3.0-R15 | ■                 | 644ZXT10-3.0-R15 | ■                 |
| 3.0 | 6   | 0.35 | -                |                   | 644ZXT10-3.0-R35 | ■                 |



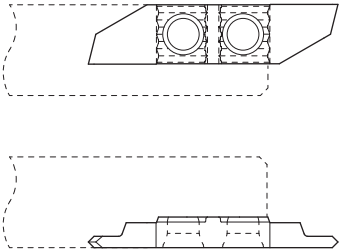
Arête de coupe honée  
Gehonte Schneidkante  
Honed edge

f min: 0.02 mm/U

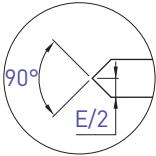
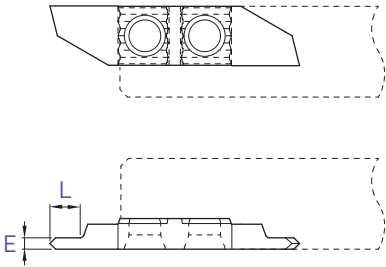
- Chanfreinage
- Anfasen
- Chamfering

635-90 / 645-90

L



R



L

R

| E   | L | Art. N°    | TiAlN<br>N (µk20) | Art. N°    | TiAlN<br>N (µk20) |
|-----|---|------------|-------------------|------------|-------------------|
| 1.5 | 4 | 635-90-1.5 | ■ ■               | 645-90-1.5 | ■ ■               |

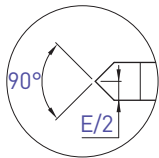
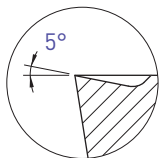
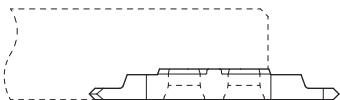
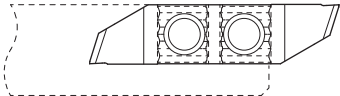
Chanfreinage

Anfasen

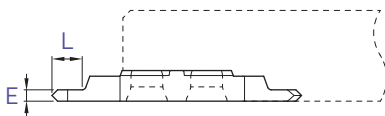
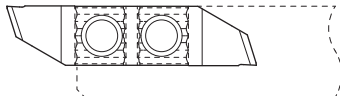
Chamfering

635X-90 / 645X-90

L



R



L

R

| E   | L | Art. N°      | TiAlN<br>N (µk20) | Art. N°      | TiAlN<br>N (µk20) |
|-----|---|--------------|-------------------|--------------|-------------------|
| 1.5 | 4 | 635X5-90-1.5 | ■ ■               | 645X5-90-1.5 | ■ ■               |

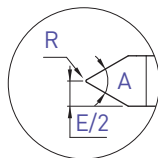
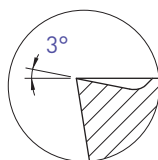
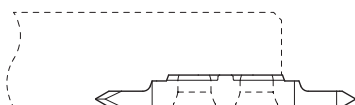
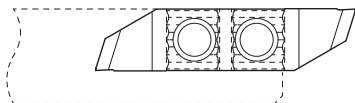
Filetage

Gewinde drehen

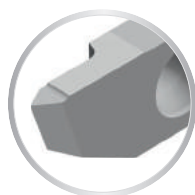
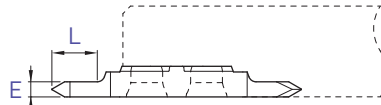
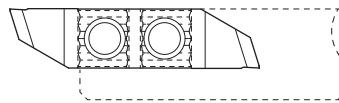
Threading

636X / 646X

L



R



Profil partiel  
Teilprofil  
Partial profile

L

R

| A   | E   | L | R    | Art. N°          | TiAlN<br>N (µk20) | Art. N°          | TiAlN<br>N (µk20) |
|-----|-----|---|------|------------------|-------------------|------------------|-------------------|
| 55° | 1.5 | 4 | 0    | 636X3-55-1.5     | ■ ■               | 646X3-55-1.5     | ■ ■               |
| 55° | 2.0 | 6 | 0.03 | 636X3-55-2.0-R03 | ■ ■               | 646X3-55-2.0-R03 | ■ ■               |
| 60° | 1.5 | 4 | 0    | 636X3-60-1.5     | ■ ■               | 646X3-60-1.5     | ■ ■               |
| 60° | 2.0 | 6 | 0.03 | 636X3-60-2.0-R03 | ■ ■               | 646X3-60-2.0-R03 | ■ ■               |
| 60° | 2.0 | 6 | 0.06 | 636X3-60-2.0-R06 | ■ ■               | 646X3-60-2.0-R06 | ■ ■               |
| 60° | 3.0 | 8 | 0.06 | 636X3-60-3.0-R06 | ■ ■               | 646X3-60-3.0-R06 | ■ ■               |
| 60° | 3.0 | 8 | 0.12 | 636X3-60-3.0-R12 | ■ ■               | 646X3-60-3.0-R12 | ■ ■               |

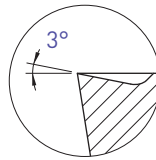
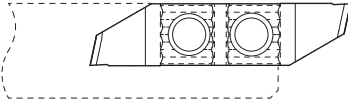
Filetage

Gewinde drehen

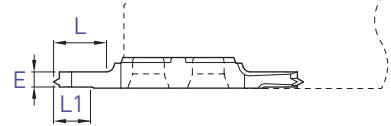
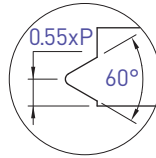
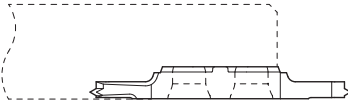
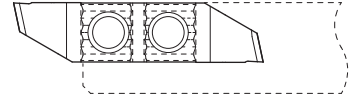
Threading

636X-M / 646X-M

L



R



Profil complet métrique  
Metrisches Vollprofil  
Metric full profile

L



R

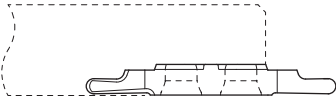
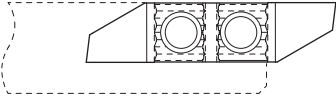


| E   | L | L1 | Pas<br>Steigung<br>Pitch<br>P | Art. N°      | TiAlN<br>N (µk20) | Art. N°      | TiAlN<br>N (µk20) |
|-----|---|----|-------------------------------|--------------|-------------------|--------------|-------------------|
| 1.0 | 3 | 3  | 0.25                          | 636X3-M-0.25 | ■ ■               | 646X3-M-0.25 | ■ ■               |
| 1.0 | 3 | 3  | 0.30                          | 636X3-M-0.30 | ■ ■               | 646X3-M-0.30 | ■ ■               |
| 1.0 | 3 | 3  | 0.35                          | 636X3-M-0.35 | ■ ■               | 646X3-M-0.35 | ■ ■               |
| 1.0 | 3 | 3  | 0.40                          | 636X3-M-0.40 | ■ ■               | 646X3-M-0.40 | ■ ■               |
| 1.0 | 3 | 3  | 0.45                          | 636X3-M-0.45 | ■ ■               | 646X3-M-0.45 | ■ ■               |
| 1.0 | 3 | 3  | 0.50                          | 636X3-M-0.50 | ■ ■               | 646X3-M-0.50 | ■ ■               |
| 1.5 | 5 | 5  | 0.60                          | 636X3-M-0.60 | ■ ■               | 646X3-M-0.60 | ■ ■               |
| 1.5 | 5 | 5  | 0.70                          | 636X3-M-0.70 | ■ ■               | 646X3-M-0.70 | ■ ■               |
| 1.5 | 5 | 5  | 0.75                          | 636X3-M-0.75 | ■ ■               | 646X3-M-0.75 | ■ ■               |
| 1.5 | 5 | 5  | 0.80                          | 636X3-M-0.80 | ■ ■               | 646X3-M-0.80 | ■ ■               |
| 2.0 | 7 | 5  | 1.00                          | 636X3-M-1.00 | ■ ■               | 646X3-M-1.00 | ■ ■               |
| 2.0 | 7 | 5  | 1.25                          | 636X3-M-1.25 | ■ ■               | 646X3-M-1.25 | ■ ■               |
| 2.0 | 7 | 5  | 1.50                          | 636X3-M-1.50 | ■ ■               | 646X3-M-1.50 | ■ ■               |

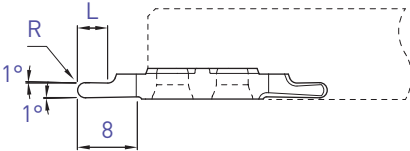
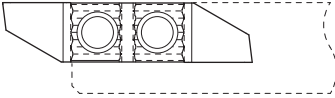
Plaquettes à rayon  
Radius Wendeplatten  
Radius inserts

637 / 647

L



R



L



R



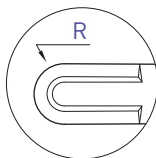
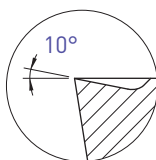
| R    | L   | Art. N°  | TiAlN<br>N (µk20) | HTA<br>HN (µk10) | Art. N°   | TiAlN<br>N (µk20) | HTA<br>HN (µk10) |
|------|-----|----------|-------------------|------------------|-----------|-------------------|------------------|
| 0.25 | 1.5 | -        |                   |                  | 647-R0.25 | ■ ■               |                  |
| 0.4  | 2   | -        |                   |                  | 647-R0.4  | ■ ■               |                  |
| 0.5  | 2.5 | 637-R0.5 | ■ ■               |                  | 647-R0.5  | ■ ■               | □ □              |
| 0.6  | 2.5 | -        |                   |                  | 647-R0.6  | ■ ■               |                  |
| 0.75 | 3   | -        |                   |                  | 647-R0.75 | ■ ■               |                  |
| 0.8  | 3   | -        |                   |                  | 647-R0.8  | ■ ■               |                  |
| 1.0  | 4   | 637-R1.0 | ■ ■               |                  | 647-R1.0  | ■ ■               |                  |
| 1.5  | 6   | -        |                   |                  | 647-R1.5  | ■ ■               |                  |

Plaquettes à rayon

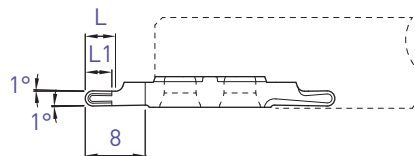
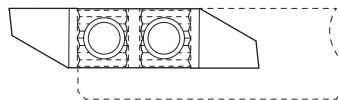
Radius Wendeplatten

Radius inserts

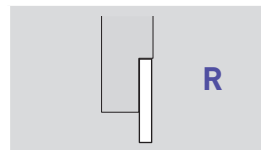
647ZX10



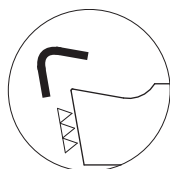
R



Pour un meilleur contrôle des copeaux  
Für eine bessere Spankontrolle  
For a better chip-control



| R   | L | L1  | Art. N°      | TiAlN<br>N [µm(20)] |
|-----|---|-----|--------------|---------------------|
| 1.0 | 4 | 3.5 | 647ZX10-R1.0 | ■                   |
| 1.5 | 6 | 4   | 647ZX10-R1.5 | ■                   |

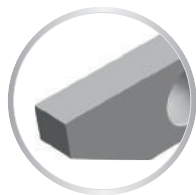
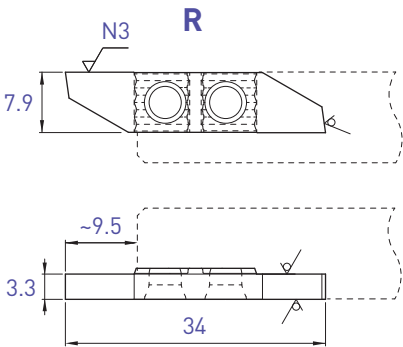
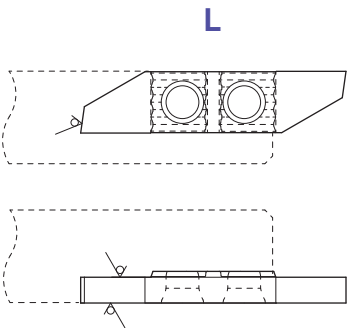


Arête de coupe honée  
Gehonte Schneidkante  
Honed edge

f min: 0.02 mm/U

Plaquettes ébauchées  
WSP-Rohlinge  
Blank inserts

631-EP / 641-EP



Face de coupe polie  
Polierte Schneidfläche  
Polished cutting face

| L       |  |                   |                  | R       |  |                   |                  |
|---------|--|-------------------|------------------|---------|--|-------------------|------------------|
| Art. N° |  | TiAlN<br>N [µk20] | HTA<br>HN [µk10] | Art. N° |  | TiAlN<br>N [µk20] | HTA<br>HN [µk10] |
| 631-EP  |  | ■                 | ■                | 641-EP  |  | ■                 | ■                |



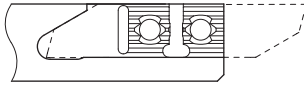
Porte-outils

Halter

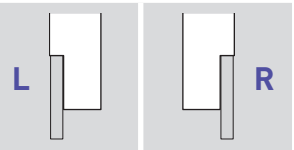
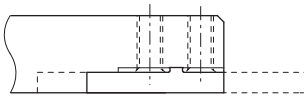
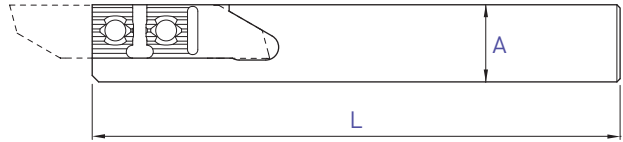
Holders

650 / 660

L



R



| A x B       | L   | Art. N°          | Art. N°          |
|-------------|-----|------------------|------------------|
| 8 x 8       | 115 | <b>650-8</b>     | <b>660-8</b>     |
| 10 x 10     | 115 | <b>650-10</b>    | <b>660-10</b>    |
| 10 x 10     | 50  | <b>650-10-50</b> | <b>660-10-50</b> |
| 12 x 12     | 130 | <b>650-12</b>    | <b>660-12</b>    |
| 12 x 12     | 90  | <b>650-12-90</b> | <b>660-12-90</b> |
| 12.7 x 12.7 | 130 | <b>650-12.7</b>  | <b>660-12.7</b>  |
| 16 x 16     | 130 | <b>650-16</b>    | <b>660-16</b>    |
| 16 x 16     | 75  | <b>650-16-75</b> | <b>660-16-75</b> |
| 20 x 20     | 120 | <b>650-20</b>    | <b>660-20</b>    |

Chaque support est livré avec vis et clé.

Jeder Halter wird mit Spannschraube(n) und Schlüssel geliefert.

Screw(s) and key are included with each tool holder.

■ = disponible / verfügbar / available

□ = selon disponibilité du stock / jenach Lagerverfügbarkeit / depending on stock availability

Porte-outils

Halter

Holders

Coupe à droite déportée

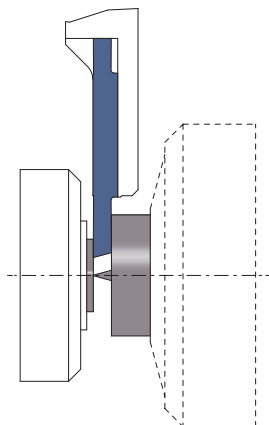
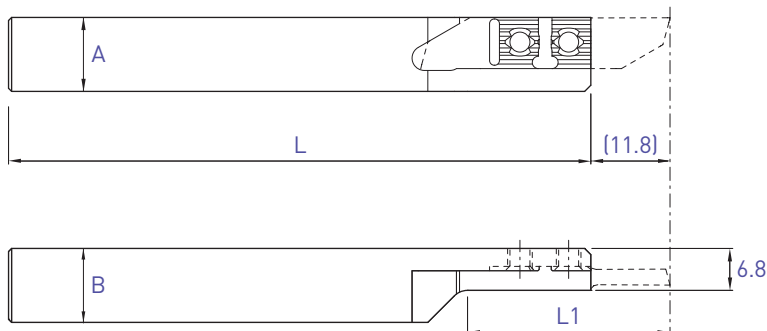
Versetztes Rechtsschneiden

Right cut off line

650 RC

Utiliser des plaquettes type 651R  
 WSP Typ 651R verwenden  
 Use inserts type 651R

Voir dès page 3.39  
 Siehe ab Seite 3.39  
 See from page 3.39



L (R)

Coupe à droite déportée  
 Versetztes Rechtsschneiden  
 Right cut off line

| A x B   | L   | L1 | Art. N°  |
|---------|-----|----|----------|
| 10 x 10 | 115 | 32 | 650RC-10 |
| 12 x 12 | 130 | 32 | 650RC-12 |
| 16 x 16 | 130 | 42 | 650RC-16 |

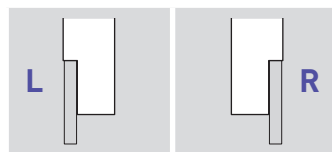
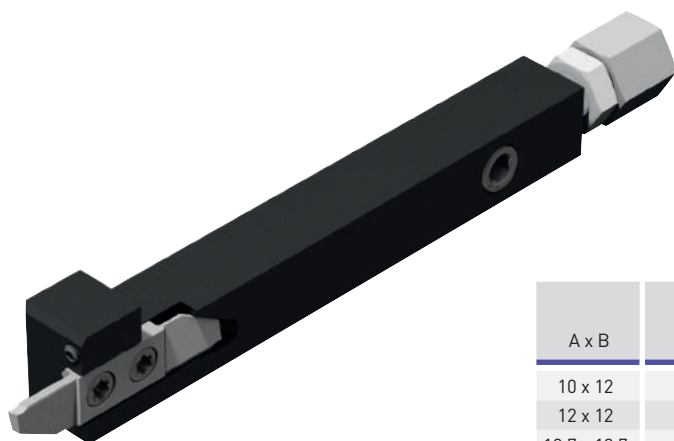
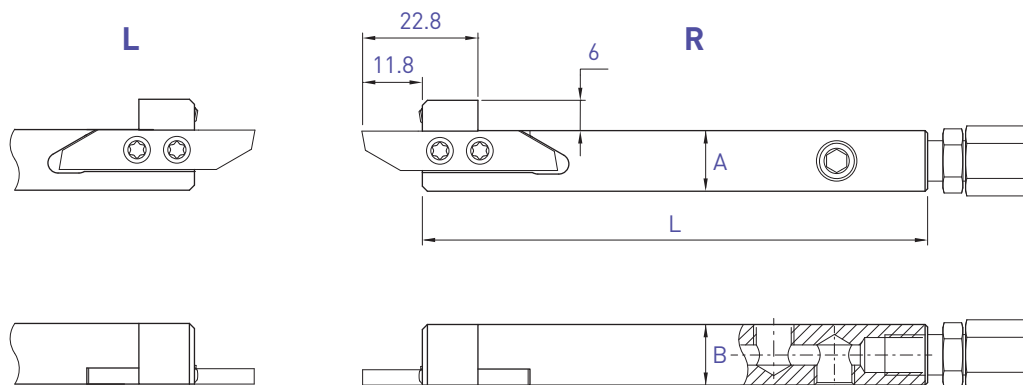
Chaque support est livré avec vis et clé.  
 Jeder Halter wird mit Spannschraube(n) und Schlüssel geliefert.  
 Screw(s) and key are included with each tool holder.

**Porte-outils avec arrosage intégré**

**Halter mit integrierter Kühlmittelzufuhr**

**Holders with integrated coolant supply**

**650-JET / 660-JET**



| A x B       | L   | Art. N°      | Art. N°      |
|-------------|-----|--------------|--------------|
| 10 x 12     | 100 | 650-1012-JET | 660-1012-JET |
| 12 x 12     | 100 | 650-12-JET   | 660-12-JET   |
| 12.7 x 12.7 | 100 | 650-12.7-JET | 660-12.7-JET |
| 16 x 16     | 100 | 650-16-JET   | 660-16-JET   |
| 20 x 20     | 100 | 650-20-JET   | 660-20-JET   |

Chaque support est livré avec vis, clé, raccord droit et buse d'arrosage Ø 1.5 mm.

Jeder Halter wird mit Spannschraube(n), Schlüssel, gerader Kühlmittelanschluss und Kühlmitteldüse Ø 1.5 mm geliefert.

Screw(s), key, straight connector and coolant nozzle Ø 1.5 mm are included with each tool holder.

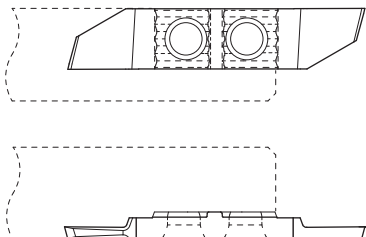
Tronçonnage

Abstechen

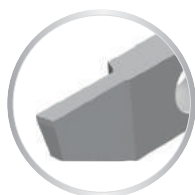
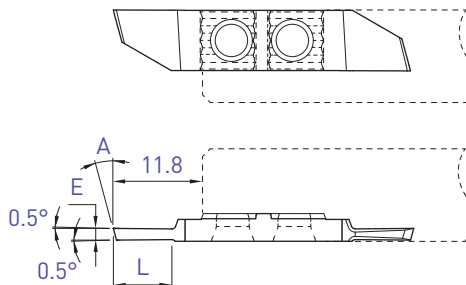
Parting off

651 / 661

L



R



L



R



| E   | A   | L   | Art. N°     | TiAlN<br>N [µk20] | HTA<br>HN [µk10] | Art. N°     | TiAlN<br>N [µk20] | HTA<br>HN [µk10] |
|-----|-----|-----|-------------|-------------------|------------------|-------------|-------------------|------------------|
| 0.8 | 20° | 5   | 651-0.8-20° | ■ ■               |                  | 661-0.8-20° | ■ ■ □ □           |                  |
| 1.0 | 15° | 5   | -           |                   |                  | 661-1.0-15° | ■ ■ □ □           |                  |
| 1.0 | 20° | 5   | 651-1.0-20° | ■ ■               |                  | 661-1.0-20° | ■ ■ □ □           |                  |
| 1.2 | 15° | 5   | -           |                   |                  | 661-1.2-15° | ■ ■ □ □           |                  |
| 1.2 | 20° | 5   | 651-1.2-20° | ■ ■               |                  | 661-1.2-20° | ■ ■ □ □           |                  |
| 1.5 | 15° | 7.5 | 651-1.5-15° | ■ ■               |                  | 661-1.5-15° | ■ ■ □ □           |                  |
| 1.5 | 20° | 7.5 | -           |                   |                  | 661-1.5-20° | ■ ■ □ □           |                  |
| 1.8 | 15° | 9   | 651-1.8-15° | ■ ■               |                  | 661-1.8-15° | ■ ■ □ □           |                  |
| 2.0 | 15° | 11  | 651-2.0-15° | ■ ■               |                  | 661-2.0-15° | ■ ■ □ □           |                  |
| 2.5 | 15° | 11  | 651-2.5-15° | ■ ■               |                  | 661-2.5-15° | ■ ■ □ □           |                  |

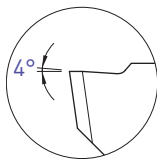
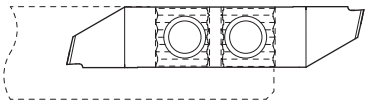
Tronçonnage

Abstechen

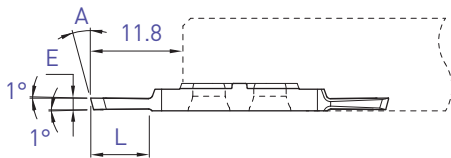
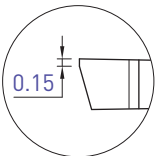
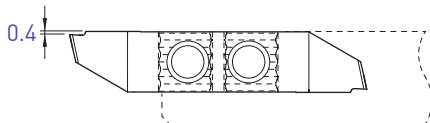
Parting off

651XF / 661XF

L



R



L



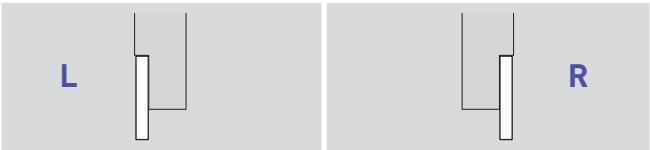
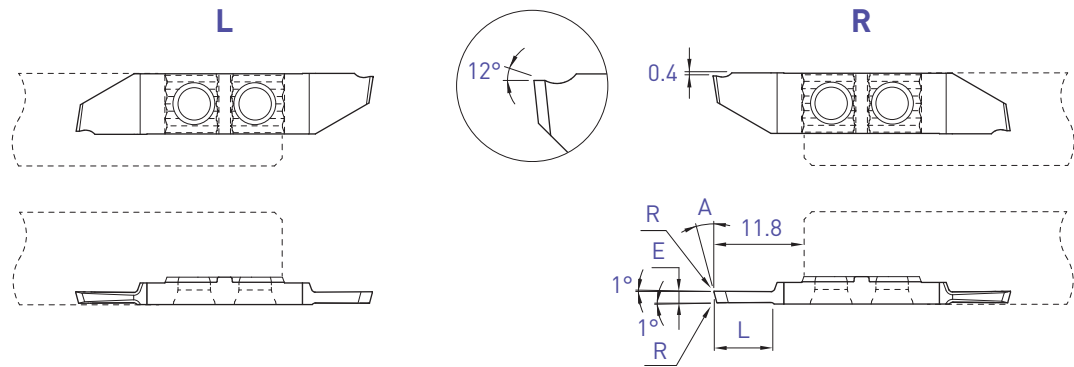
R



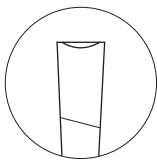
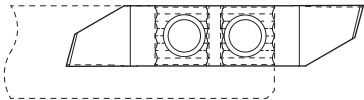
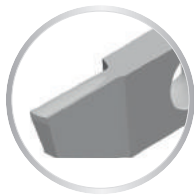
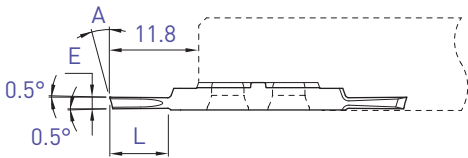
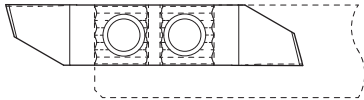
| E   | A   | L   | Art. N°   | TiAlN<br>N [µk20] | HTA<br>HN [µk10] | Art. N°   | TiAlN<br>N [µk20] | HTA<br>HN [µk10] |
|-----|-----|-----|-----------|-------------------|------------------|-----------|-------------------|------------------|
| 1.5 | 15° | 7.5 | 651XF-1.5 | ■ ■               |                  | 661XF-1.5 | ■ ■ □ □           |                  |
| 2.0 | 15° | 11  | 651XF-2.0 | ■ ■               |                  | 661XF-2.0 | ■ ■ □ □           |                  |

Tronçonnage  
Abstechen  
Parting off

651X12 / 661X12



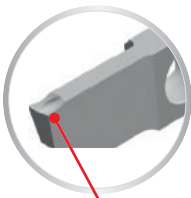
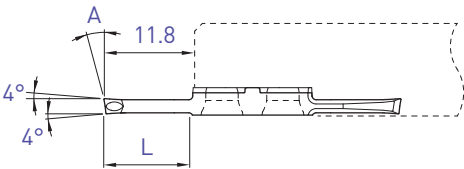
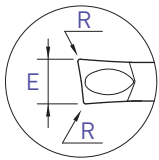
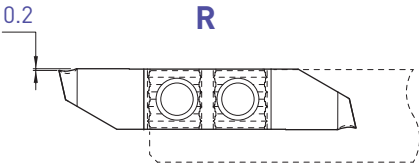
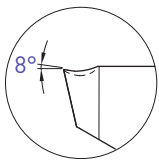
| E   | A   | L   | R    | Art. N°    | TiAlN<br>N [µk20] | HTA<br>HN [µk10] | Art. N°    | TiAlN<br>N [µk20] | HTA<br>HN [µk10] |
|-----|-----|-----|------|------------|-------------------|------------------|------------|-------------------|------------------|
| 1.0 | 15° | 5   | 0.03 | 651X12-1.0 | ■ ■               |                  | 661X12-1.0 | ■ ■ □ □           |                  |
| 1.5 | 15° | 7.5 | 0.03 | 651X12-1.5 | ■ ■               |                  | 661X12-1.5 | ■ ■ □ □           |                  |
| 2.0 | 15° | 11  | 0.03 | 651X12-2.0 | ■ ■               |                  | 661X12-2.0 | ■ ■ □ □           |                  |

**Tronçonnage****Abstechen****Parting off****651U / 661U****L****R****L****R**

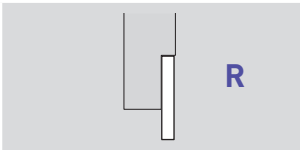
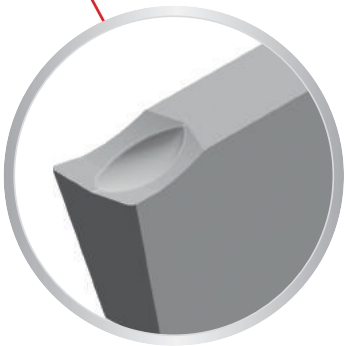
| E   | A   | L   | Art. N°  | TiAlN<br>N [µk20] | Art. N°  | TiAlN<br>N [µk20] |
|-----|-----|-----|----------|-------------------|----------|-------------------|
| 1.5 | 15° | 7.5 | 651U-1.5 | ■ ■               | 661U-1.5 | ■ ■               |
| 2.0 | 15° | 11  | 651U-2.0 | ■ ■               | 661U-2.0 | ■ ■               |

Tronçonnage  
Abstechen  
Parting off

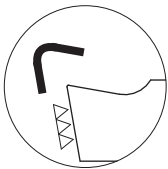
661ZU



Pour un meilleur contrôle des copeaux  
Für eine bessere Spankontrolle  
For a better chip-control



| E   | A  | L  | R    | Art. N°           | TiAlN<br>N (µm20) |
|-----|----|----|------|-------------------|-------------------|
| 2.0 | 8° | 11 | 0.10 | 661ZU8-2.0-8°-R10 | ■                 |



Arête de coupe honée  
Gehonte Schneidkante  
Honed edge

f min: 0.02 mm/U



Tronçonnage

Abstechen

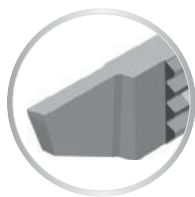
Parting off

Coupe déportée

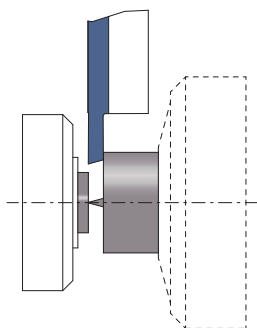
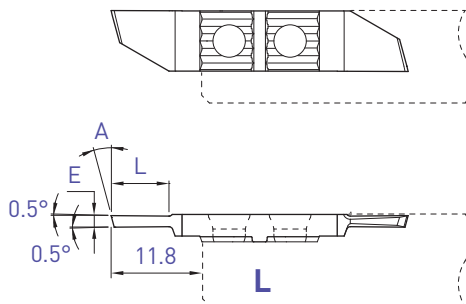
Versetztsschneiden

Cut off line

651R



Cut R



L (R)

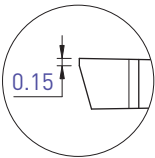
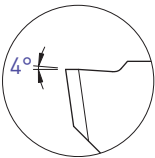
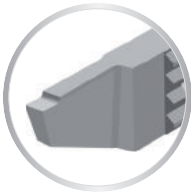
Coupe à droite déportée  
Versetztsschneiden  
Right cut off line

| E   | A   | L   | Art. N°      | TiAlN<br>N (μk20) | HTA | HN (μk10) |
|-----|-----|-----|--------------|-------------------|-----|-----------|
| 1.0 | 15° | 5   | 651R-1.0-15° | ■ ■               | □ □ | □ □       |
| 1.2 | 15° | 5   | 651R-1.2-15° | ■ ■               | □ □ | □ □       |
| 1.5 | 15° | 7.5 | 651R-1.5-15° | ■ ■               | □ □ | □ □       |
| 2.0 | 15° | 11  | 651R-2.0-15° | ■ ■               | □ □ | □ □       |
| 2.5 | 15° | 11  | 651R-2.5-15° | ■ ■               | □ □ | □ □       |

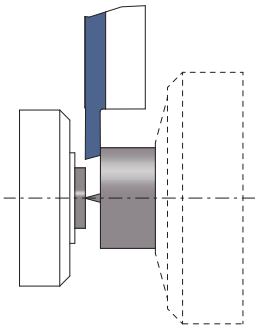
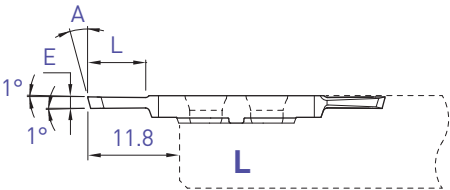
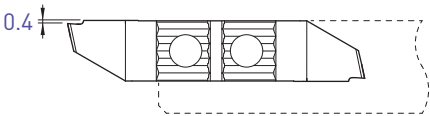
Tronçonnage  
Abstechen  
Parting off

Coupe déportée  
Versetzttes Schneiden  
Cut off line

651RXF



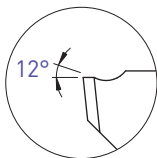
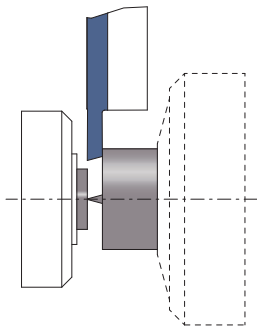
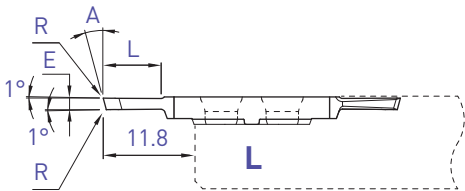
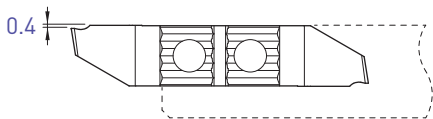
Cut R



L (R)

Coupe à droite déportée  
Versetzttes Rechtsschneiden  
Right cut off line

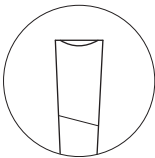
| E   | A   | L   | Art. N°    | Ti/AlN<br>N [μk20] | HTA | HN [μk10] |
|-----|-----|-----|------------|--------------------|-----|-----------|
| 1.5 | 15° | 7.5 | 651RXF-1.5 | ■ ■                | □ □ |           |
| 2.0 | 15° | 11  | 651RXF-2.0 | ■ ■                | □ □ |           |

**Tronçonnage****Abstechen****Parting off****Coupe déportée****Versetztes Schneiden****Cut off line****651RX12****Cut R****L (R)**

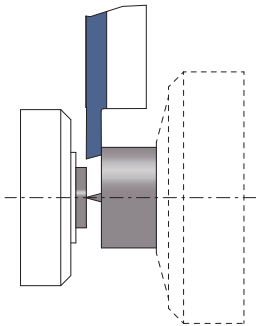
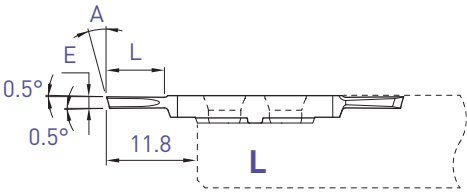
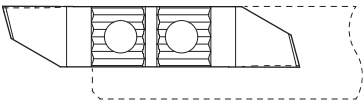
Coupe à droite déportée  
Versetztes Rechtsschneiden  
Right cut off line

| E   | A   | L   | R    | Art. N°            | TiAlN<br>N [μk20] | HTA | HN [μk10] |
|-----|-----|-----|------|--------------------|-------------------|-----|-----------|
| 1.5 | 15° | 7.5 | 0.03 | <b>651RX12-1.5</b> | ■ ■               | □ □ |           |
| 2.0 | 15° | 11  | 0.03 | <b>651RX12-2.0</b> | ■ ■               | □ □ |           |

|             |                      |       |
|-------------|----------------------|-------|
| Tronçonnage | Coupe déportée       | 651RU |
| Abstechen   | Versetztes Schneiden |       |
| Parting off | Cut off line         |       |



Cut R



L (R)

Coupe à droite déportée  
Versetztes Rechtsschneiden  
Right cut off line

| E   | A   | L   | Art. N°   | TiAlN<br>N (µk20) |
|-----|-----|-----|-----------|-------------------|
| 1.5 | 15° | 7.5 | 651RU-1.5 | ■ ■               |
| 2.0 | 15° | 11  | 651RU-2.0 | ■ ■               |

Tronçonnage

Abstechen

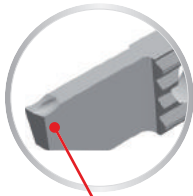
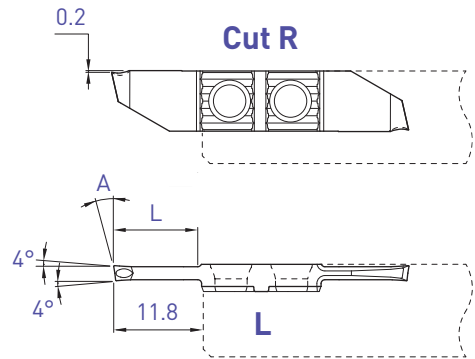
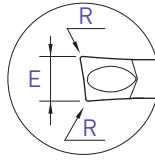
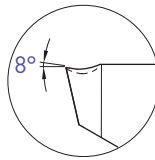
Parting off

Coupe déportée

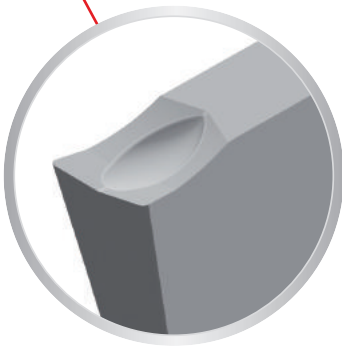
Versetztes Schneiden

Cut off line

651RZU



Pour un meilleur contrôle des copeaux  
Für eine bessere Spankontrolle  
For a better chip control



L (R)

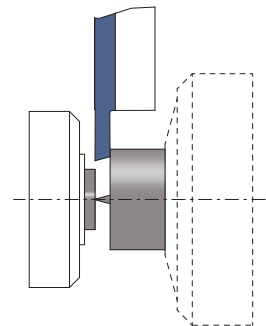
Coupe à droite déportée  
Versetztes Rechtsschneiden  
Right cut off line

| E   | A  | L  | R    | Art. N°            | TiAlN<br>N [µk20] |
|-----|----|----|------|--------------------|-------------------|
| 2.0 | 8° | 11 | 0.10 | 651RZU8-2.0-8°-R10 | ■                 |



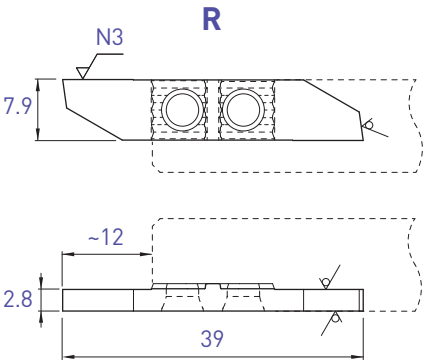
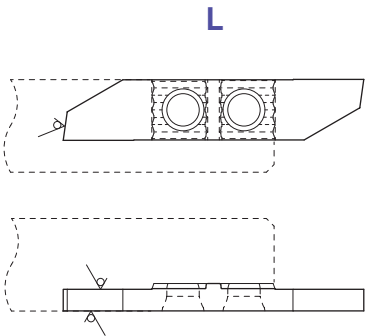
Arête de coupe honée  
Gehonte Schneidkante  
Honed edge

f min: 0.02 mm/U



Plaquettes ébauches  
WSP-Rohlinge  
Blank inserts

651-EP / 661-EP



Face de coupe polie  
Polierte Schneidfläche  
Polished cutting face

L



| Art. N° | TiAlN | N [µk20] | HTA | HN [µk10] |
|---------|-------|----------|-----|-----------|
| 651-EP  | ■     | ■        | ■   | ■         |

R



| Art. N° | TiAlN | N [µk20] | HTA | HN [µk10] |
|---------|-------|----------|-----|-----------|
| 661-EP  | ■     | ■        | ■   | ■         |

Pièces de rechange et accessoires

Ersatzteile und Zubehöre

Spare parts and accessories

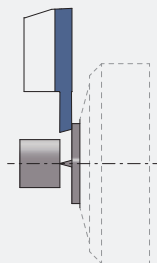
Pièces de rechange  
Ersatzteile  
Spare parts



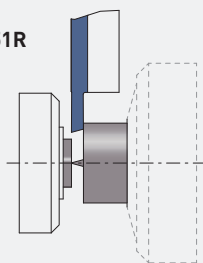
| Porte-outils<br>Halter<br>Holders |  |  |  |  |  | Option<br>Art. N° | Recommandation<br>de serrage<br>Drehmoment<br>Empfehlung<br>Clamping<br>recommendation |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------|----------------------------------------------------------------------------------------|
| 630<br>640                        | V-M4X9-T15                                                                        | C-T15                                                                             | -                                                                                 | -                                                                                 | -                                                                                 | SET-NM-TX15       | 3 Nm                                                                                   |
| 630-JET<br>640-JET                |                                                                                   |                                                                                   | J-M8X1-D6                                                                         | JB-M8X1                                                                           | JJ-M3X6-D1.5                                                                      |                   |                                                                                        |
| 650<br>660                        |                                                                                   |                                                                                   | -                                                                                 | -                                                                                 | -                                                                                 |                   |                                                                                        |
| 650-RC                            |                                                                                   |                                                                                   | -                                                                                 | -                                                                                 | -                                                                                 |                   |                                                                                        |
| 650-JET<br>660-JET                |                                                                                   |                                                                                   | J-M8X1-D6                                                                         | JB-M8X1                                                                           | JJ-M3X6-D1.5                                                                      |                   |                                                                                        |



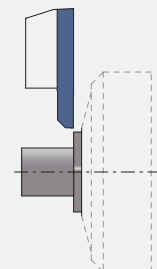
261



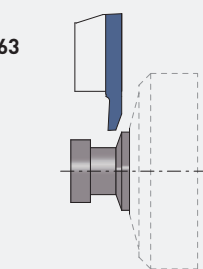
251R



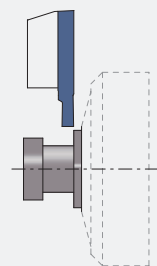
262



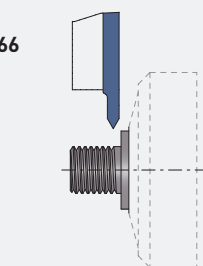
263



264



266





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Nuances  
Sorten  
Grades

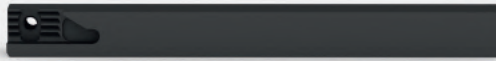
&gt; 4.02

Paramètres de coupe indicatifs  
Empfohlene Schnittwerte  
Standard machining data

Accessoires  
Zubehör  
Accessories

&gt; 4.03

Porte-outils  
Halter  
Holders



&gt; 4.04

Tronçonnage  
Abstechen  
Parting off

Type 251 / 261



&gt; 4.08

Tournage avant  
Vorwärts drehen  
Front turning

Type 252 / 262



&gt; 4.10

Tournage arrière  
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Back turning

Type 253 / 263



&gt; 4.11

Fonçage-tournage  
Einstechen und drehen  
Grooving and turning

Type 254 / 264



&gt; 4.14

Filetage  
Gewinde drehen  
Threading

Type 256 / 266



&gt; 4.16

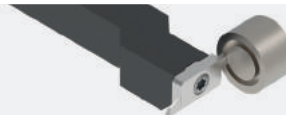
Plaquettes ébauches  
WSP-Rohlinge  
Blank inserts

Type 251E / 261E



&gt; 4.17

Usinage axial  
Axiale Bearbeitung  
Axial machining

> 4.18 **new**

## Nuances

## Sorten

## Grades

**AP302**

μK20 + revêtement PVD  
μK20 + PVD Beschichtung  
μK20 + PVD coating

- excellente nuance universelle
- 1<sup>er</sup> choix pour l'usinage des aciers, aciers inoxydables et alliages de titane
- très bonne résistance à la température

- beste Universalsorte
- für die Bearbeitung von Stahl, rostfreiem Stahl und Titanlegierungen bestens geeignet
- sehr gute Warmfestigkeit

- best universal grade
- first choice for steel, stainless steel and titanium alloys machining
- very good heat resistance

**AP202**

μK20 + revêtement PVD  
μK20 + PVD Beschichtung  
μK20 + PVD coating

- nuance particulièrement adaptée aux faibles vitesses de coupe

- besonders geeignete Sorte für niedrige Schnittgeschwindigkeiten

- grade particularly suitable for low cutting speeds

**N (μK20)**

non revêtu  
unbeschichtet  
uncoated

- nuance micro-grain tenace
- supporte les coupes interrompues et autres conditions d'usinage défavorables

- zähe Feinkornsorte
- für unterbrochene Schnitte und andere ungünstige Bearbeitungsbedingungen geeignet

- tough micro-grain grade
- suitable for interrupted cut and other unfavourable machining conditions

**AH302**

μK10 + revêtement PVD  
μK10 + PVD Beschichtung  
μK10 + PVD coating

- nuance très résistante à l'usure
- pour l'usinage en finition dans des conditions favorables des aciers, aciers inoxydables et alliages de titane

- sehr verschleissfeste Sorte
- für die Feinbearbeitung von Stahl, rostfreiem Stahl und Titanlegierungen bei guten Bearbeitungsbedingungen

- very wear resistant grade
- for light machining of steel, stainless steel and titanium alloys under favourable machining conditions

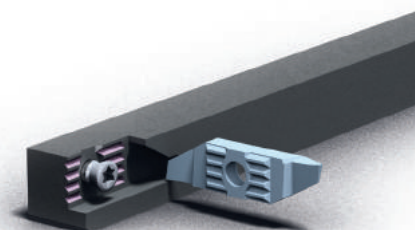
**HN (μK10)**

non revêtu  
unbeschichtet  
uncoated

- nuance micro-grain très résistante à l'usure
- recommandé pour l'usinage du titane faiblement allié
- déconseillé en cas de coupe interrompue et autres conditions d'usinage défavorables

- verschleissfeste Feinkornsorte
- für die Bearbeitung von niedrig legiertem Titan empfehlenswert
- für unterbrochene Schnitte und andere ungünstige Bearbeitungsbedingungen nicht geeignet

- wear resistant micro-grain grade
- suitable for the machining of low alloyed titanium
- not suitable for interrupted cut and other unfavourable machining conditions



*Rigid clamping system*

## Paramètres de coupe indicatifs

## Empfohlene Schnittwerte

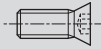
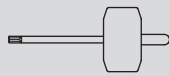
## Standard machining data

| Matière<br>Werkstoff<br>Material                                                            | Tournage<br>Drehen<br>Turning |             | Tronçonnage<br>Abstechen<br>Parting off |             |
|---------------------------------------------------------------------------------------------|-------------------------------|-------------|-----------------------------------------|-------------|
|                                                                                             | VC<br>(m/min)                 | F<br>(mm/U) | VC<br>(m/min)                           | F<br>(mm/U) |
| Acier de décolletage<br>Automatenstahl<br>Free-cutting steel <span>(P)</span>               | 120 - 200                     | 0.01 - 0.20 | 80 - 150                                | 0.01 - 0.15 |
| Acier<br>Stahl<br>Steel < 600 N/mm <sup>2</sup> <span>(P)</span>                            | 80 - 160                      | 0.01 - 0.18 | 70 - 120                                | 0.01 - 0.12 |
| Acier<br>Stahl<br>Steel < 800 N/mm <sup>2</sup> <span>(P)</span>                            | 60 - 120                      | 0.01 - 0.15 | 60 - 100                                | 0.01 - 0.10 |
| Acier<br>Stahl<br>Steel > 800 N/mm <sup>2</sup> <span>(P)</span>                            | 50 - 100                      | 0.01 - 0.12 | 40 - 80                                 | 0.01 - 0.08 |
| Acier inoxydable<br>Rostfreistahl<br>Stainless steel <span>(M)</span>                       | 60 - 120                      | 0.01 - 0.15 | 60 - 100                                | 0.01 - 0.08 |
| Aluminium <span>(N)</span>                                                                  | 180 - 800                     | 0.01 - 0.30 | 150 - 300                               | 0.01 - 0.20 |
| Cuivre, laiton, bronze<br>Kupfer, Messing, Bronze<br>Copper, brass, bronze <span>(N)</span> | 100 - 500                     | 0.01 - 0.30 | 100 - 300                               | 0.01 - 0.20 |
| Titane<br>Titan<br>Titanium <span>(S)</span>                                                | 30 - 70                       | 0.01 - 0.12 | 30 - 50                                 | 0.01 - 0.06 |

## Accessoires

## Zubehöre

## Accessories

| Porte-outils<br>Halter<br>Holders |  |  |  |
|-----------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| 250-8 / 260-8                     | V-M3.5X7.3-T15                                                                      | C-T15                                                                               | SET-NM-TX15                                                                          |
| 250-... / 260-...                 | V-M4X9-T15                                                                          |                                                                                     |                                                                                      |
| 250RC / 260-C                     | V-M4X7.3-T15                                                                        |                                                                                     |                                                                                      |

Recommandation de serrage

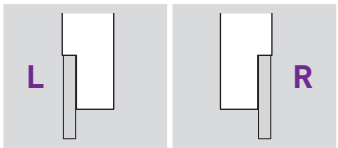
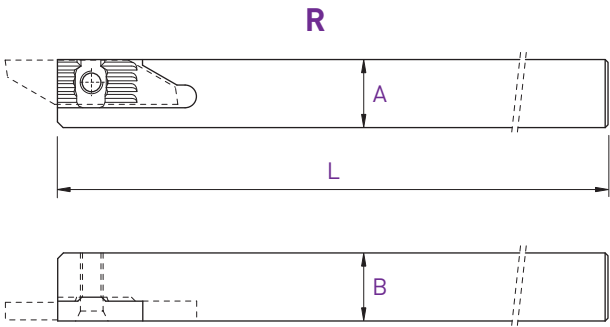
Drehmoment Empfehlung

Clamping recommendation

3.0 Nm

Porte-outils  
Halter  
Holders

250 / 260



| A x B       | L   | Art. N°   | Art. N°   |
|-------------|-----|-----------|-----------|
| 8 x 8       | 115 | 250-8     | 260-8     |
| 10 x 10     | 115 | 250-10    | 260-10    |
| 12 x 12     | 130 | 250-12    | 260-12    |
| 12 x 12     | 90  | 250-12-90 | 260-12-90 |
| 12.7 x 12.7 | 130 | 250-12.7  | 260-12.7  |
| 16 x 16     | 130 | 250-16    | 260-16    |
| 16 x 16     | 75  | 250-16-75 | 260-16-75 |
| 20 x 20     | 120 | 250-20    | 260-20    |

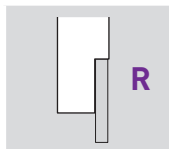
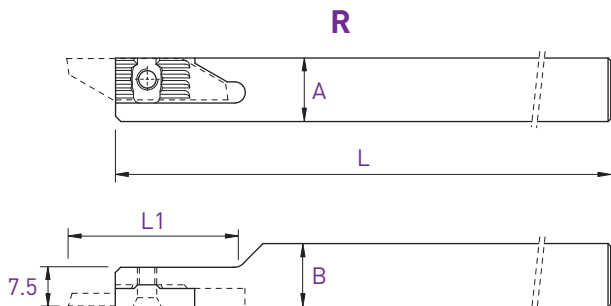
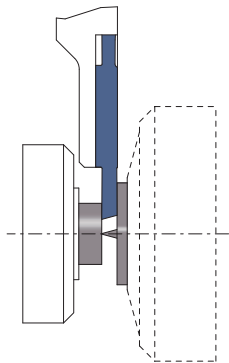
Chaque support est livré avec vis et clé.  
Jeder Halter wird mit Spannschraube(n) und Schlüssel geliefert.  
Screw(s) and key are included with each tool holder.

Porte-outils

Halter

Holders

260-C



| A x B   | L   | L1 | Art. N°  |
|---------|-----|----|----------|
| 12 x 12 | 130 | 30 | 260-C-12 |

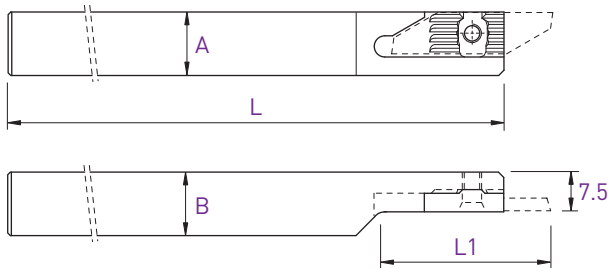
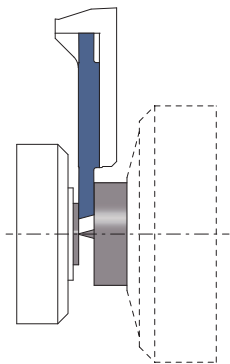
Porte-outils

Halter

Holders

**Coupe à droite déportée**  
**Versetztes Rechtsschneiden**  
**Right cut off line**

250RC



Utiliser des plaquettes type 251R  
 WSP Typ 251R verwenden  
 Use inserts type 251R

**L (R)**

Coupe à droite déportée  
 Versetztes Rechtsschneiden  
 Right cut off line

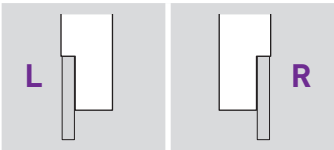
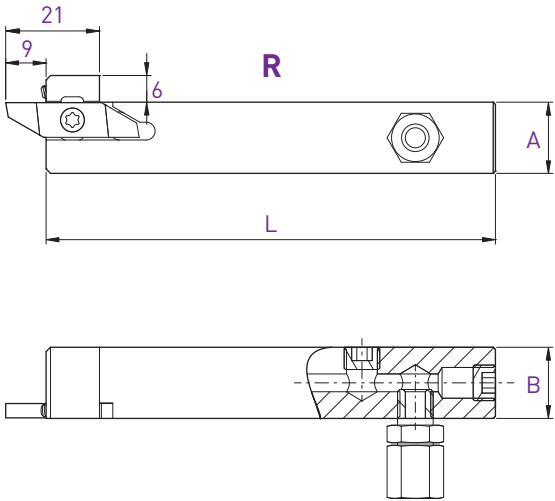


| A x B   | L   | L1 | Art. N°  |
|---------|-----|----|----------|
| 12 x 12 | 130 | 30 | 250RC-12 |
| 16 x 16 | 130 | 40 | 250RC-16 |

Chaque support est livré avec vis et clé.  
 Jeder Halter wird mit Spannschraube(n) und Schlüssel geliefert.  
 Screw(s) and key are included with each tool holder.

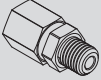
Porte-outils avec arrosage intégré  
Halter mit integrierter Kühlmittelzufuhr  
Holders with integrated coolant supply

250-JET / 260-JET



| A x B   | L   | Art. N°      | Art. N°      |
|---------|-----|--------------|--------------|
| 10 x 12 | 100 | 250-1012-JET | 260-1012-JET |
| 12 x 12 | 100 | 250-12-JET   | 260-12-JET   |
| 16 x 16 | 100 | 250-16-JET   | 260-16-JET   |
| 20 x 20 | 100 | 250-20-JET   | 260-20-JET   |

Chaque support est livré avec vis et clé.  
Jeder Halter wird mit Spannschraube(n) und Schlüssel geliefert.  
Screw(s) and key are included with each tool holder.

| Pièces de rechange<br>Ersatzteile<br>Spare parts |  |  | Buse<br>Düse<br>Nozzle<br> |
|--------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
|                                                  | Art. N°                                                                             | Art. N°                                                                             | Art. N°                                                                                                         |
| 250-JET / 260-JET                                | J-M8X1-D6                                                                           | JB-M8X1                                                                             | JJ-M3X6-D1.5                                                                                                    |

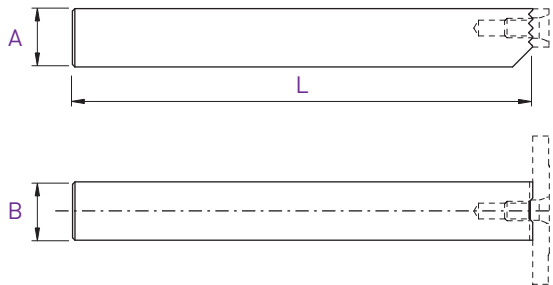
Porte-outils

Halter

Holders

260/250F

L / R



| A x B   | L   | Art. N°       |
|---------|-----|---------------|
| 10 x 12 | 120 | 260/250F-1012 |
| 12 x 12 | 120 | 260/250F-1212 |

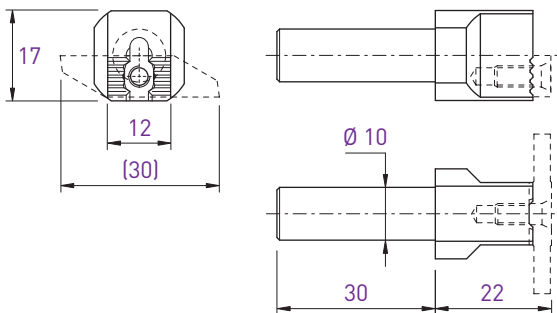
Porte-outils

Halter

Holders

260/250-D

L / R



| Art. N°     |
|-------------|
| 260/250-D10 |

Chaque support est livré avec vis et clé.

Jeder Halter wird mit Spannschraube(n) und Schlüssel geliefert.

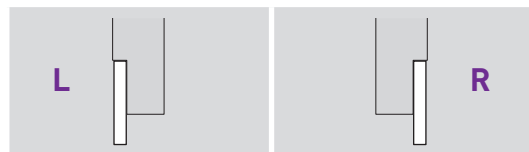
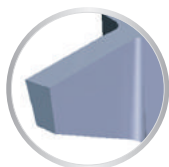
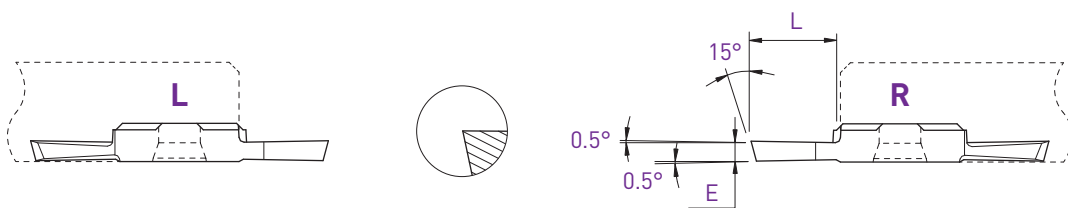
Screw(s) and key are included with each tool holder.

Tronçonnage

Abstechen

Parting off

251 / 261



| E   | L   | Art. N° | AP302 | AP202 | N (µk20) | Art. N° | AP302 | AP202 | N (µk20) |
|-----|-----|---------|-------|-------|----------|---------|-------|-------|----------|
| 0.8 | 4   | 251-0.8 | ■     | □     | ■        | 261-0.8 | ■     | □     | ■        |
| 1.0 | 5   | 251-1.0 | ■     | □     | ■        | 261-1.0 | ■     | □     | ■        |
| 1.2 | 5   | 251-1.2 | ■     | □     | ■        | 261-1.2 | ■     | □     | ■        |
| 1.5 | 7   | 251-1.5 | ■     | □     | ■        | 261-1.5 | ■     | □     | ■        |
| 2.0 | 8.5 | 251-2.0 | ■     | □     | ■        | 261-2.0 | ■     | □     | ■        |
| 2.5 | 8.5 | 251-2.5 | ■     | □     | ■        | 261-2.5 | ■     | □     | ■        |

Tronçonnage

Abstechen

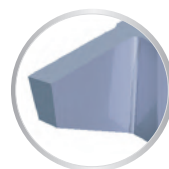
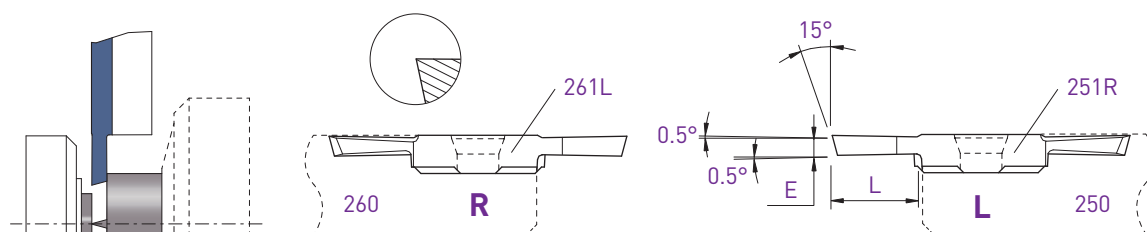
Parting off

Coupe déportée

Versetztes Schneiden

Cut off line

261L / 251R



| R (L)                                                                   | L (R)                                                                     |
|-------------------------------------------------------------------------|---------------------------------------------------------------------------|
| Coupe à gauche déportée<br>Versetzt Linksschneiden<br>Left cut off line | Coupe à droite déportée<br>Versetzt Rechtsschneiden<br>Right cut off line |

| E   | L   | Art. N°  | AP302 | AP202 | N (µk20) | Art. N°  | AP302 | AP202 | N (µk20) |
|-----|-----|----------|-------|-------|----------|----------|-------|-------|----------|
| 1.0 | 5   | -        |       |       |          | 251R-1.0 | ■     | □     | ■        |
| 1.5 | 7   | -        |       |       |          | 251R-1.5 | ■     | □     | ■        |
| 2.0 | 8.5 | 261L-2.0 | ■     | □     | ■        | 251R-2.0 | ■     | □     | ■        |

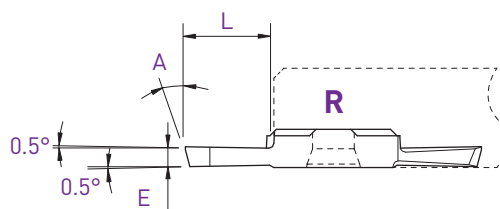
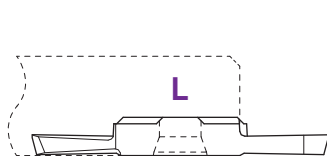


Tronçonnage

Abstechen

Parting off

251XF / 261XF



| a  | E   | L   | A   | Art. N°   | AP302 | AP202 | N (μk20) | Art. N°        | AP302 | AP202 | N (μk20) |
|----|-----|-----|-----|-----------|-------|-------|----------|----------------|-------|-------|----------|
| 4° | 1.0 | 4   | 15° | -         |       |       |          | 261XF-1.0      | ■     | ■     | ■        |
| 6° | 1.0 | 4   | 8°  | -         |       |       |          | 261XF6°-1.0-8° | ■     | ■     | ■        |
| 4° | 1.5 | 7   | 15° | 251XF-1.5 | ■     | □     | ■        | 261XF-1.5      | ■     | □     | ■        |
| 4° | 2.0 | 8.5 | 15° | 251XF-2.0 | ■     | □     | ■        | 261XF-2.0      | ■     | □     | ■        |

Tronçonnage

Abstechen

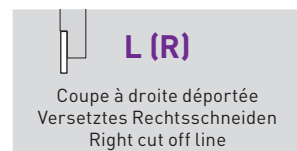
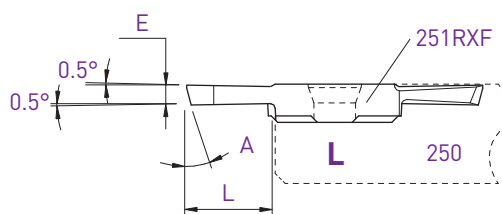
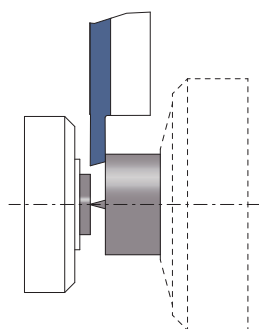
Parting off

Coupe déportée

Versetztes Schneiden

Cut off line

251RXF



| a  | E   | L   | A   | Art. N°         | AP302 | AP202 | N (μk20) |
|----|-----|-----|-----|-----------------|-------|-------|----------|
| 6° | 1.0 | 4   | 8°  | 251RXF6°-1.0-8° | ■     | ■     | ■        |
| 4° | 1.5 | 7   | 15° | 251RXF-1.5      | ■     | □     | ■        |
| 4° | 2.0 | 8.5 | 15° | 251RXF-2.0      | ■     | □     | ■        |

■ = disponible / verfügbar / available

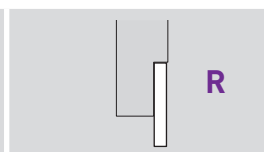
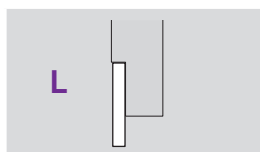
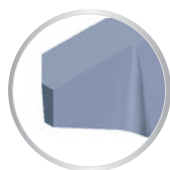
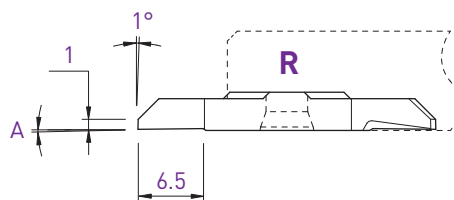
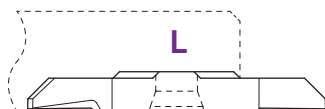
□ = selon disponibilité du stock / jenach Lagerverfügbarkeit / depending on stock availability

Tournage avant

Vorwärts drehen

Front turning

252 / 262



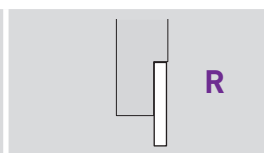
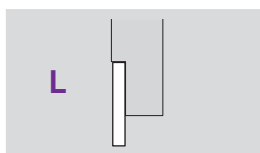
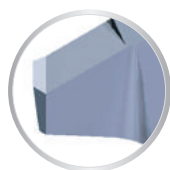
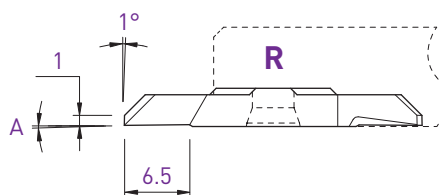
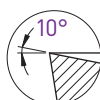
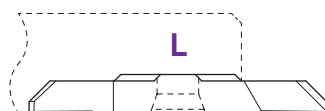
| A  | Art. N° | AP302 | AP202 | N [µk20] | Art. N° | AP302 | AP202 | N [µk20] |
|----|---------|-------|-------|----------|---------|-------|-------|----------|
| 0° | 252     | ■     | □     | ■        | 262     | ■     | □     | ■        |
| 2° | 252-2°  | ■     | □     | ■        | 262-2°  | ■     | □     | ■        |

Tournage avant

Vorwärts drehen

Front turning

252X / 262X



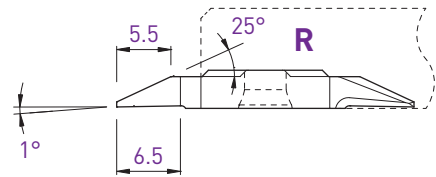
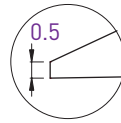
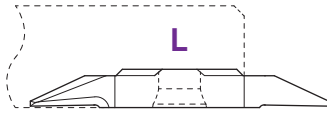
| A  | Art. N° | AP302 | AP202 | N [µk20] | Art. N° | AP302 | AP202 | N [µk20] |
|----|---------|-------|-------|----------|---------|-------|-------|----------|
| 0° | 252X    | ■     | □     | ■        | 262X    | ■     | □     | ■        |
| 2° | 252X-2° | ■     | □     | ■        | 262X-2° | ■     | □     | ■        |

Tournage avant

Vorwärts drehen

Front turning

252S / 262S



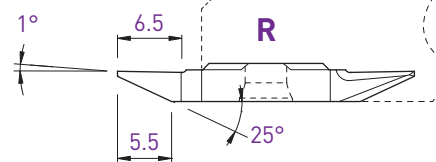
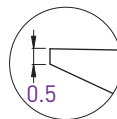
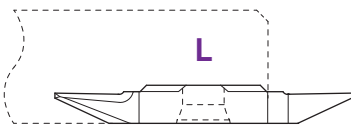
|                                                                                   |  |       |       |                                                                                     |         |  |       |       |          |
|-----------------------------------------------------------------------------------|--|-------|-------|-------------------------------------------------------------------------------------|---------|--|-------|-------|----------|
|  |  |       |       |  |         |  |       |       |          |
| Art. N°                                                                           |  | AP302 | AP202 | N [µk20]                                                                            | Art. N° |  | AP302 | AP202 | N [µk20] |
| 252S05                                                                            |  | ■     | □     | ■                                                                                   | 262S05  |  | ■     | □     | ■        |

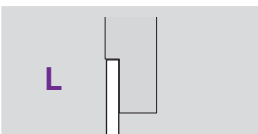
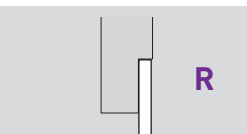
Tournage arrière

Rückwärts drehen

Back turning

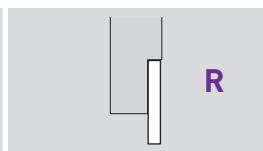
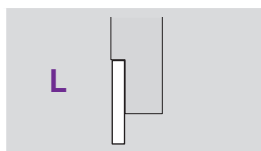
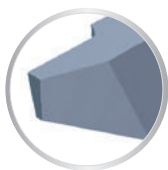
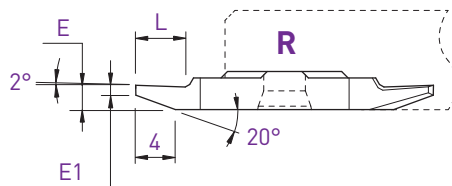
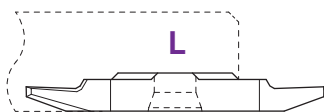
253S / 263S



|                                                                                     |  |       |       |                                                                                      |         |  |       |       |          |
|-------------------------------------------------------------------------------------|--|-------|-------|--------------------------------------------------------------------------------------|---------|--|-------|-------|----------|
|  |  |       |       |  |         |  |       |       |          |
| Art. N°                                                                             |  | AP302 | AP202 | N [µk20]                                                                             | Art. N° |  | AP302 | AP202 | N [µk20] |
| 253S05                                                                              |  | ■     | □     | ■                                                                                    | 263S05  |  | ■     | □     | ■        |

Tournage arrière  
Rückwärts drehen  
Back turning

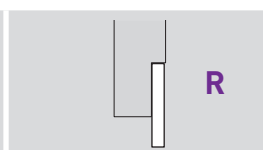
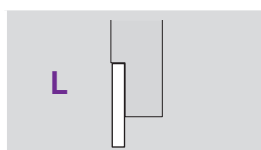
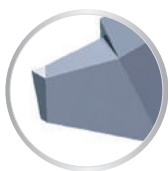
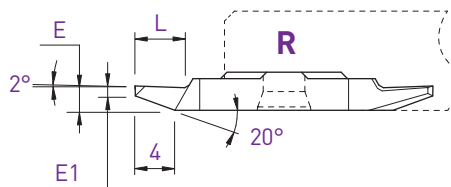
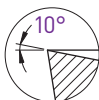
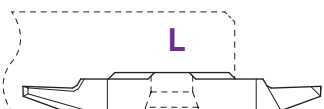
253 / 263



| E   | E1  | L | Art. N° | AP302 | AP202 | N (μk20) | Art. N° | AP302 | AP202 | N (μk20) |
|-----|-----|---|---------|-------|-------|----------|---------|-------|-------|----------|
| 2.0 | 0.5 | 4 | 253-0.5 | ■     | □     | ■        | 263-0.5 | ■     | □     | ■        |
| 2.5 | 1.0 | 5 | 253-1.0 | ■     | □     | ■        | 263-1.0 | ■     | □     | ■        |

Tournage arrière  
Rückwärts drehen  
Back turning

253X / 263X



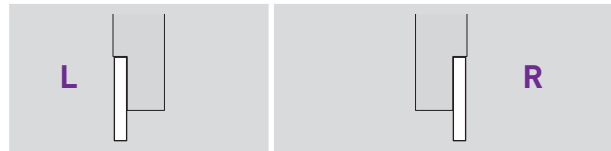
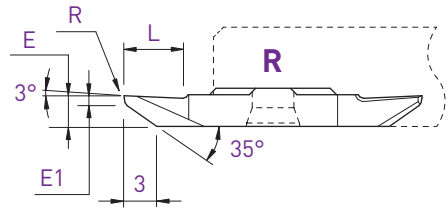
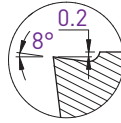
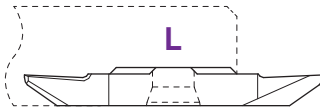
| E   | E1  | L | Art. N°  | AP302 | AP202 | N (μk20) | Art. N°  | AP302 | AP202 | N (μk20) |
|-----|-----|---|----------|-------|-------|----------|----------|-------|-------|----------|
| 2.0 | 0.5 | 5 | 253X-0.5 | ■     | □     | ■        | 263X-0.5 | ■     | □     | ■        |
| 2.5 | 1.0 | 5 | 253X-1.0 | ■     | □     | ■        | 263X-1.0 | ■     | □     | ■        |

Tournage arrière

Rückwärts drehen

Back turning

253VX-8° / 263VX-8°



R

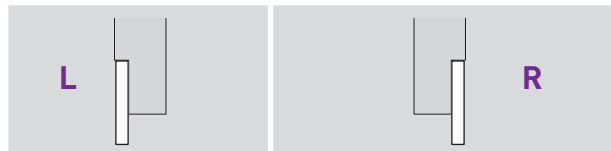
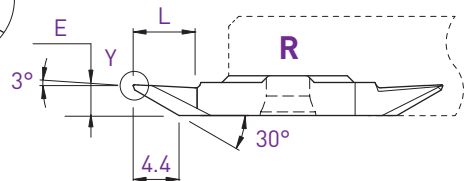
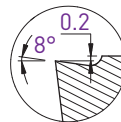
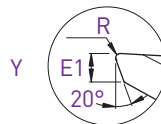
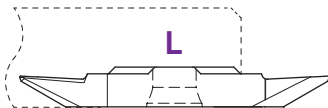
| E   | E1  | L | R    | Art. N°  | AP302 | AP202 | N (μk20) | Art. N°      | AP302 | AP202 | N (μk20) | AH302 | HN (μk10) |
|-----|-----|---|------|----------|-------|-------|----------|--------------|-------|-------|----------|-------|-----------|
| 3.1 | 1.0 | 6 | 0    | 253VX-8° | ■     | □     | ■        | 263VX-8°     | ■     | □     | ■        |       |           |
| 3.1 | 1.0 | 6 | 0.08 | -        |       |       |          | 263VX-8°-R08 | ■     | □     | ■        | ■     | ■         |
| 3.1 | 1.0 | 6 | 0.20 | -        |       |       |          | 263VX-8°-R20 | ■     | □     | ■        | ■     | ■         |

Tournage arrière

Rückwärts drehen

Back turning

253VX-805 / 263VX-805



R

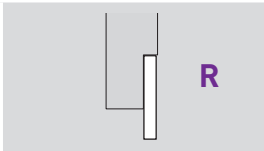
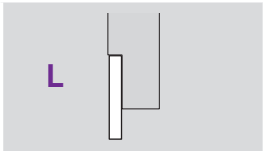
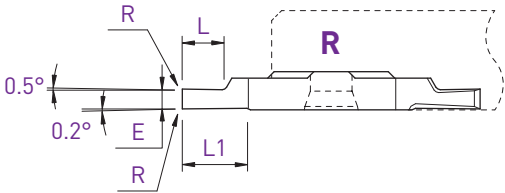
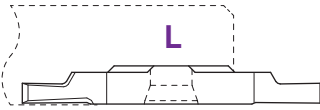
| E   | E1  | L | R    | Art. N°       | AP302 | AP202 | N (μk20) | Art. N°       | AP302 | AP202 | N (μk20) | AH302 | HN (μk10) |
|-----|-----|---|------|---------------|-------|-------|----------|---------------|-------|-------|----------|-------|-----------|
| 3.0 | 0.5 | 6 | 0.08 | 253VX-805-R08 | ■     | □     | ■        | 263VX-805-R08 | ■     | □     | ■        | ■     | ■         |

■ = disponible / verfügbar / available

□ = selon disponibilité du stock / jenach Lagerverfügbarkeit / depending on stock availability

Fonçage-tournage  
Einstecken und drehen  
Grooving and turning

254 / 264



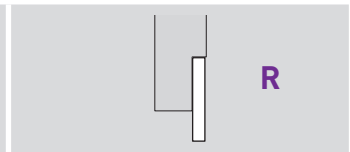
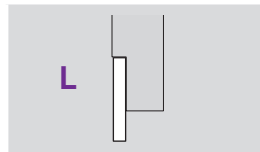
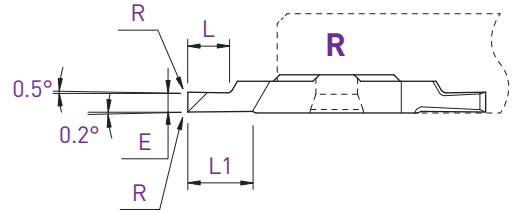
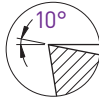
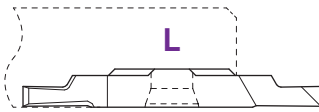
| E   | L   | L1  | R | Art. N° | AP302 | AP202 | N [μk20] | Art. N° | AP302 | AP202 | N [μk20] |
|-----|-----|-----|---|---------|-------|-------|----------|---------|-------|-------|----------|
| 0.8 | 2   | 4   | 0 | 254-0.8 | ■     | □     | ■        | 264-0.8 | ■     | □     | ■        |
| 1.0 | 2.5 | 4   | 0 | 254-1.0 | ■     | □     | ■        | 264-1.0 | ■     | □     | ■        |
| 1.2 | 3   | 4   | 0 | 254-1.2 | ■     | □     | ■        | 264-1.2 | ■     | □     | ■        |
| 1.5 | 3   | 4   | 0 | 254-1.5 | ■     | □     | ■        | 264-1.5 | ■     | □     | ■        |
| 1.8 | 4   | 6.5 | 0 | -       |       |       |          | 264-1.8 | ■     | □     | ■        |
| 2.0 | 4   | 6.5 | 0 | 254-2.0 | ■     | □     | ■        | 264-2.0 | ■     | □     | ■        |
| 2.5 | 6   | 6.5 | 0 | 254-2.5 | ■     | □     | ■        | 264-2.5 | ■     | □     | ■        |
| 3.0 | 6.5 | 6.5 | 0 | 254-3.0 | ■     | □     | ■        | 264-3.0 | ■     | □     | ■        |

Fonçage-tournage

Einstechen und drehen

Grooving and turning

254X / 264X



| E   | L   | L1  | R    | Art. N°  | AP302 | AP202 | N [μk20] | Art. N°      | AP302 | AP202 | N [μk20] | AH302 | HN [μk10] |
|-----|-----|-----|------|----------|-------|-------|----------|--------------|-------|-------|----------|-------|-----------|
| 0.8 | 2   | 4   | 0    | 254X-0.8 | ■     | □     | ■        | 264X-0.8     | ■     | □     | ■        |       |           |
| 1.0 | 2.5 | 4   | 0    | 254X-1.0 | ■     | □     | ■        | 264X-1.0     | ■     | □     | ■        |       |           |
| 1.0 | 2.5 | 4   | 0.08 | -        |       |       |          | 264X-1.0-R08 | ■     | □     | ■        | ■     | ■         |
| 1.2 | 3   | 4   | 0    | 254X-1.2 | ■     | □     | ■        | 264X-1.2     | ■     | □     | ■        |       |           |
| 1.5 | 3   | 4   | 0    | 254X-1.5 | ■     | □     | ■        | 264X-1.5     | ■     | □     | ■        |       |           |
| 1.5 | 3   | 4   | 0.08 | -        |       |       |          | 264X-1.5-R08 | ■     | □     | ■        | ■     | ■         |
| 1.5 | 3   | 4   | 0.20 | -        |       |       |          | 264X-1.5-R20 | ■     | □     | ■        | ■     | ■         |
| 2.0 | 4   | 6.5 | 0    | 254X-2.0 | ■     | □     | ■        | 264X-2.0     | ■     | □     | ■        |       |           |
| 2.0 | 4   | 6.5 | 0.08 | -        |       |       |          | 264X-2.0-R08 | ■     | □     | ■        | ■     | ■         |
| 2.0 | 4   | 6.5 | 0.20 | -        |       |       |          | 264X-2.0-R20 | ■     | □     | ■        | ■     | ■         |
| 2.5 | 6   | 6.5 | 0    | 254X-2.5 | ■     | □     | ■        | 264X-2.5     | ■     | □     | ■        |       |           |
| 2.5 | 6.5 | 6.5 | 0.08 | -        |       |       |          | 264X-2.5-R08 | ■     | □     | ■        | ■     | ■         |
| 2.5 | 6.5 | 6.5 | 0.20 | -        |       |       |          | 264X-2.5-R20 | ■     | □     | ■        | ■     | ■         |
| 3.0 | 6.5 | 6.5 | 0    | 254X-3.0 | ■     | □     | ■        | 264X-3.0     | ■     | □     | ■        |       |           |
| 3.0 | 6.5 | 6.5 | 0.08 | -        |       |       |          | 264X-3.0-R08 | ■     | □     | ■        | ■     | ■         |
| 3.0 | 6.5 | 6.5 | 0.20 | -        |       |       |          | 264X-3.0-R20 | ■     | □     | ■        | ■     | ■         |

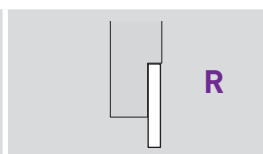
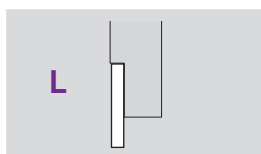
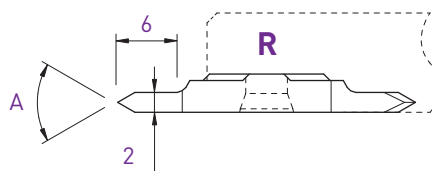
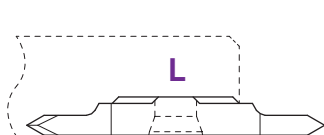
Filetage

Gewinde drehen

Threading

## Partial profile 60°

256-60 / 266-60



| A   | R    | a  | Art. N°    | AP302 | AP202 | N (μk20) | Art. N°    | AP302 | AP202 | N (μk20) |
|-----|------|----|------------|-------|-------|----------|------------|-------|-------|----------|
| 60° | 0    | 0° | 256-60-2.0 | ■     | □     | ■        | 266-60-2.0 | ■     | □     | ■        |
| 60° | 0.06 | 3° | 256-AG60°  | ■     | □     | ■        | 266-AG60°  | ■     | □     | ■        |

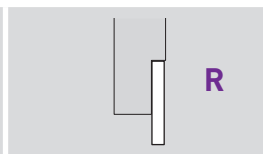
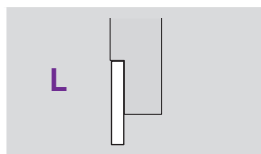
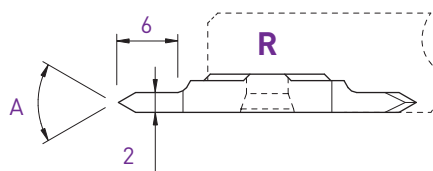
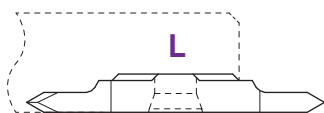
Filetage

Gewinde drehen

Threading

## Partial profile 55°

256-55 / 266-55

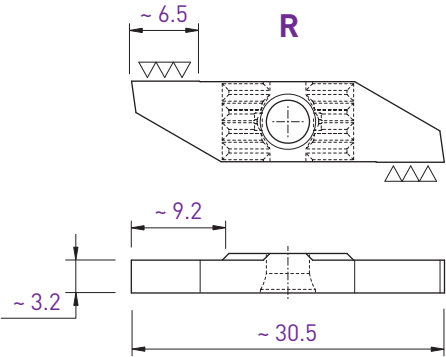
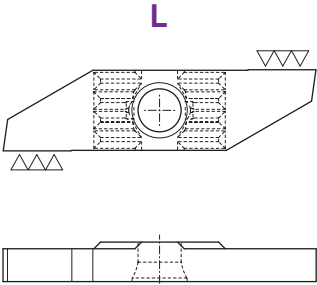


| A   | R    | a  | Art. N°    | AP302 | AP202 | N (μk20) | Art. N°    | AP302 | AP202 | N (μk20) |
|-----|------|----|------------|-------|-------|----------|------------|-------|-------|----------|
| 55° | 0    | 0° | 256-55-2.0 | ■     | □     | ■        | 266-55-2.0 | ■     | □     | ■        |
| 55° | 0.06 | 3° | 256-AG55°  | ■     | □     | ■        | 266-AG55°  | ■     | □     | ■        |



- Plaquettes ébauches
- WSP-Rohlinge
- Blank inserts

251-E / 261-E

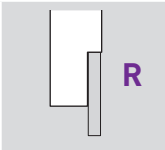
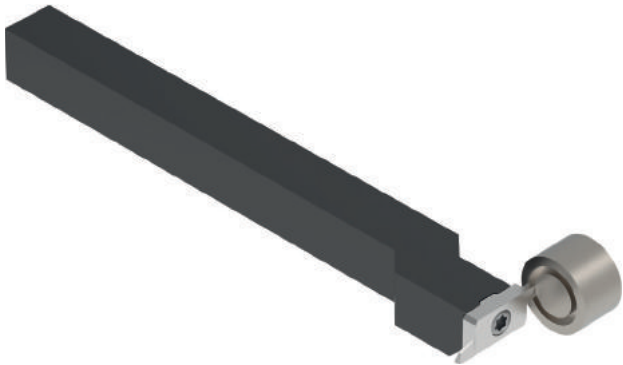
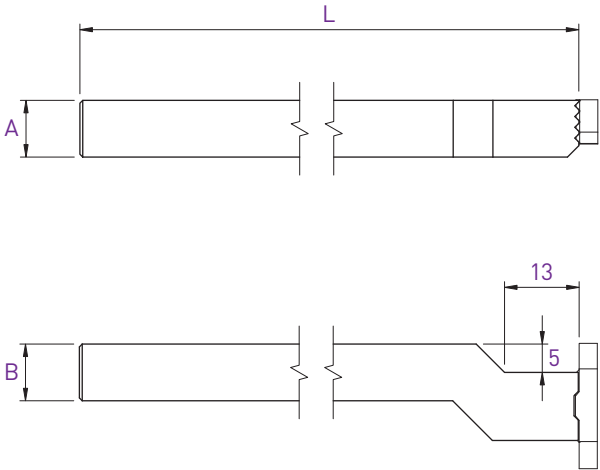


|                                                                                             |  |  |  |  |                                                                                             |  |  |  |  |
|---------------------------------------------------------------------------------------------|--|--|--|--|---------------------------------------------------------------------------------------------|--|--|--|--|
| <div>L</div>                                                                                |  |  |  |  | <div>R</div>                                                                                |  |  |  |  |
| Art. N°                                                                                     |  |  |  |  | Art. N°                                                                                     |  |  |  |  |
| 251-E                                                                                       |  |  |  |  | 261-E                                                                                       |  |  |  |  |
| <div><div></div><div></div><div></div></div>                                                |  |  |  |  | <div><div></div><div></div><div></div></div>                                                |  |  |  |  |
| <div>AP302</div> <div>AP202</div> <div>N (µk20)</div> <div>AH302</div> <div>HN (µk10)</div> |  |  |  |  | <div>AP302</div> <div>AP202</div> <div>N (µk20)</div> <div>AH302</div> <div>HN (µk10)</div> |  |  |  |  |

Porte-outils  
Halter  
Holders

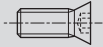
250RFG

new



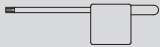
| A x B | L   | Art. N°     |
|-------|-----|-------------|
| 8x10  | 130 | 250RFG-0810 |
| 10x10 | 130 | 250RFG-1010 |
| 12x12 | 130 | 250RFG-1212 |
| 16x16 | 130 | 250RFG-1616 |

Pièces de rechange  
Ersatzteile  
Spare parts



Art. N°

V-M4X9-T15



Art. N°

C-T15

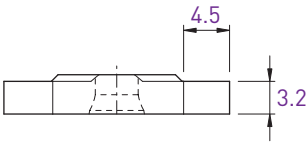
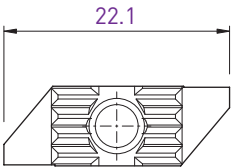
Plaquettes ébauches

WSP-Rohlinge

Blank inserts

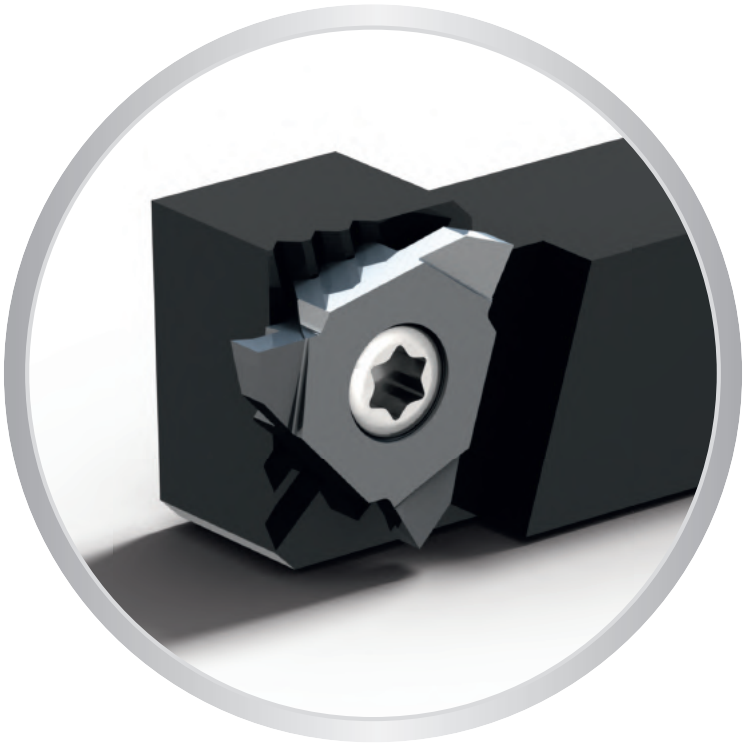
251RFG

new



|  |          |       |
|------------------------------------------------------------------------------------|----------|-------|
| Art. N°                                                                            | N (µk20) | AP302 |
| 251RFG-EP                                                                          | ■        | ■     |

APPLITEC



## Index

Nuances  
Sorten  
Grades

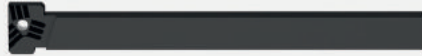
&gt; 5.02

Conseils d'utilisation - Accessoires  
Anwendungsempfehlungen - Zubehör  
Application recommendations - Accessories



&gt; 5.03

Porte-outils  
Halter  
Holders



&gt; 5.04

**GX**

Gorge de précision  
Präzisionseinstechen  
High precision grooving

DIN6799  
& DIN471



&gt; 5.05

**FT**

Tournage finition  
Schlicht drehen  
Fine turning



&gt; 5.06

**GT**

Fonçage-tournage  
Einstechen und drehen  
Grooving and turning



&gt; 5.07

**GTX**

Fonçage-tournage avec coupe positive  
Einstechen und drehen mit positivem Spanwinkel  
Grooving and turning with positive cut



&gt; 5.08

**EP**

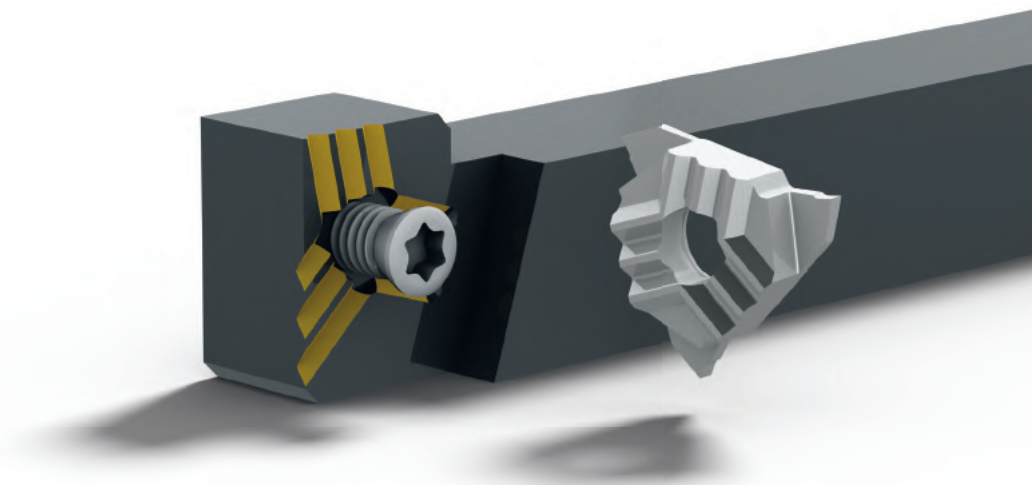
Plaquettes ébauches  
WSP-Rohlinge  
Blank inserts



&gt; 5.09

## INFO

*Rigid clamping system with the famous  
Applitec teeth clamping*



**Nuances micro-grain à dureté élevée**

**Verschleissfeste Feinkornsorten**

**Wear resistant micro-grain grades**

### HTA

μK10 + revêtement PVD  
μK10 + PVD Beschichtung  
μK10 + PVD coating

- nuance très résistante à l'usure
- pour l'usinage en finition dans des conditions favorables des aciers, aciers inoxydables et alliages de titane

- sehr verschleissfeste Sorte
- für die Feinbearbeitung von Stahl, rostfreiem Stahl und Titanlegierungen bei guten Bearbeitungsbedingungen

- very wear resistant grade
- for light machining of steel, stainless steel and titanium alloys under favourable machining conditions

### HN (μK10)

non revêtu  
unbeschichtet  
uncoated

- nuance micro-grain très résistante à l'usure
- recommandé pour l'usinage du laiton, de l'aluminium et du titane faiblement allié

- sehr verschleissfeste Feinkornsorte
- für die Bearbeitung von Messing und niedrig legiertem Aluminium und Titan empfehlenswert

- very wear resistant micro-grain grade
- suitable for the machining of brass and low alloyed aluminium and titanium

Paramètres de coupe indicatifs

Empfohlene Schnittwerte

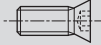
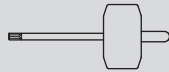
Standard machining data

|                                                                            |                              | Tournage<br>Drehen<br>Turning |             | Foncer<br>Einstechen<br>Grooving |             |
|----------------------------------------------------------------------------|------------------------------|-------------------------------|-------------|----------------------------------|-------------|
| Matière<br>Werkstoff<br>Material                                           |                              | VC<br>(m/min)                 | F<br>(mm/U) | VC<br>(m/min)                    | F<br>(mm/U) |
| Acier de décolletage<br>Automatenstahl<br>Free-cutting steel               | P                            | 120 - 200                     | 0.01 - 0.20 | 80 - 150                         | 0.01 - 0.15 |
| Acier<br>Stahl<br>Steel                                                    | < 600 N/mm <sup>2</sup><br>P | 80 - 160                      | 0.01 - 0.18 | 70 - 120                         | 0.01 - 0.12 |
| Acier<br>Stahl<br>Steel                                                    | < 800 N/mm <sup>2</sup><br>P | 60 - 120                      | 0.01 - 0.15 | 60 - 100                         | 0.01 - 0.10 |
| Acier<br>Stahl<br>Steel                                                    | > 800 N/mm <sup>2</sup><br>P | 50 - 100                      | 0.01 - 0.12 | 40 - 80                          | 0.01 - 0.08 |
| Acier inoxydable<br>Rostfreistahl<br>Stainless steel                       | M                            | 60 - 120                      | 0.01 - 0.15 | 60 - 100                         | 0.01 - 0.08 |
| Aluminium                                                                  | N                            | 180 - 800                     | 0.01 - 0.30 | 150 - 300                        | 0.01 - 0.20 |
| Cuivre, laiton, bronze<br>Kupfer, Messing, Bronze<br>Copper, brass, bronze | N                            | 100 - 500                     | 0.01 - 0.30 | 100 - 300                        | 0.01 - 0.20 |
| Titane<br>Titan<br>Titanium                                                | S                            | 30 - 70                       | 0.01 - 0.12 | 30 - 50                          | 0.01 - 0.06 |

Accessoires

Zubehöre

Accessories

|                                   |                                                                                     |                                                                                     |                                                                                      |
|-----------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| Porte-outils<br>Halter<br>Holders |  |  |  |
| T216-H...                         | V-M4X9-T15                                                                          | C-T15                                                                               | SET-NM-TX15                                                                          |

Recommandation de serrage  
Drehmoment Empfehlung  
Clamping recommendation

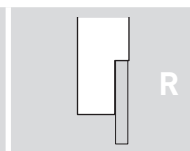
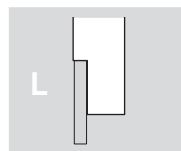
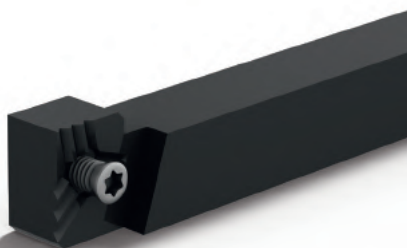
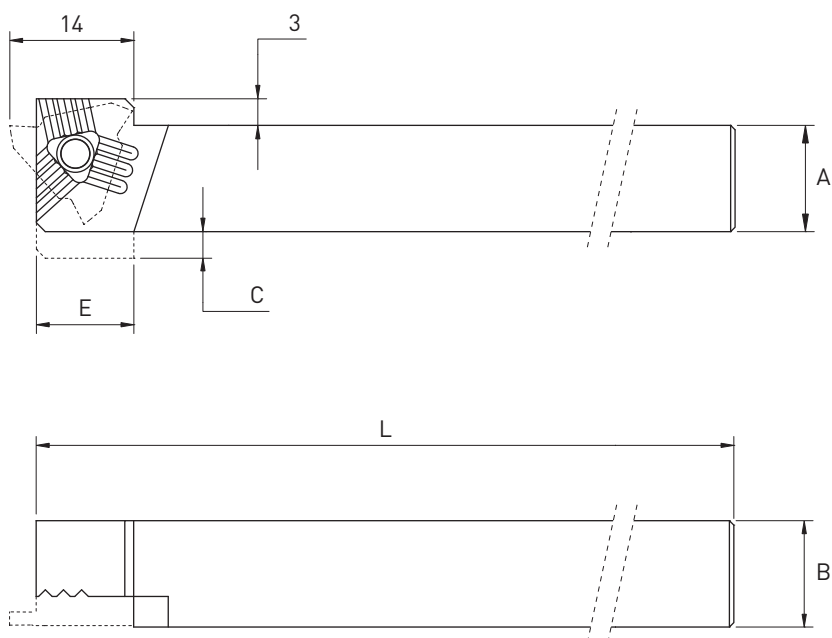
3.0 Nm

Porte-outils

Halter

Holders

T216-L/R



Chaque support est livré avec vis et clé.  
Jeder Halter wird mit Spannschraube(n)  
und Schlüssel geliefert.  
Screw(s) and key are included with each  
tool holder.

| AxB   | C | E  | L   | Art. N°               | Art. N°               |
|-------|---|----|-----|-----------------------|-----------------------|
| 8x10  | 4 | 11 | 115 | <b>T216-H0810L</b>    | <b>T216-H0810R</b>    |
| 10x10 | 2 | 8  | 130 | <b>T216-H1010L</b>    | <b>T216-H1010R</b>    |
| 12x12 | - | -  | 130 | <b>T216-H1212L</b>    | <b>T216-H1212R</b>    |
| 12x12 | - | -  | 90  | <b>T216-H1212L-90</b> | <b>T216-H1212R-90</b> |
| 16x16 | - | -  | 120 | <b>T216-H1616L</b>    | <b>T216-H1616R</b>    |
| 20x20 | - | -  | 130 | <b>T216-H2020L</b>    | <b>T216-H2020R</b>    |

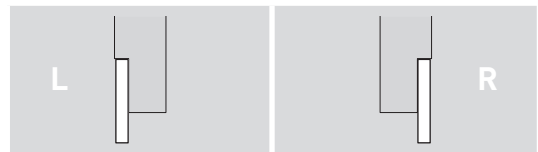
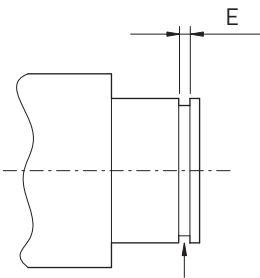
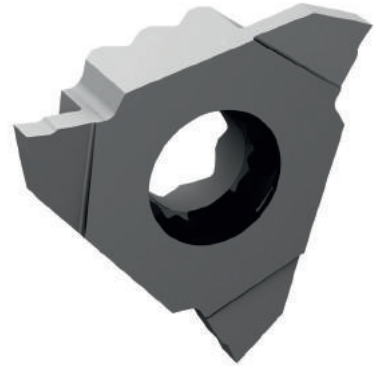
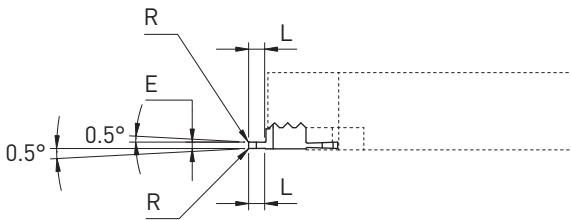
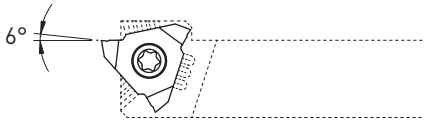


Plaquettes de gorge pour circlips

Einstechwendeplatte für Seegerring

Grooving inserts for retaining ring

GX



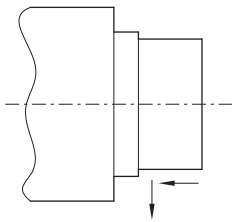
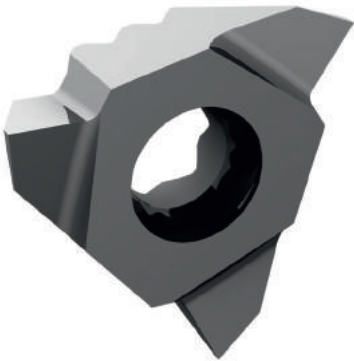
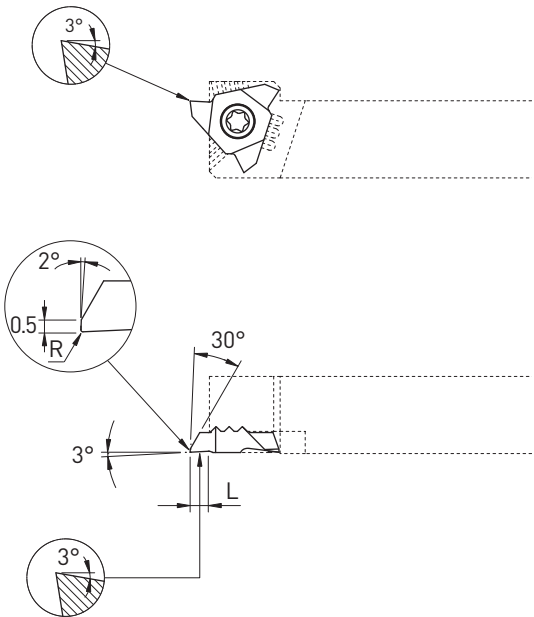
Selon DIN6799 et DIN471  
Gemäss DIN6799 und DIN471  
According to DIN6799 and DIN471



| E ±0.01 | L   | R    | Art. N°     | HTA | HN | Art. N°     | HTA | HN |
|---------|-----|------|-------------|-----|----|-------------|-----|----|
|         |     |      |             |     |    |             |     |    |
| 0.26    | 0.8 | 0.03 | T216L-GX026 | ■   | ■  | T216R-GX026 | ■   | ■  |
| 0.36    | 0.8 | 0.03 | T216L-GX036 | ■   | ■  | T216R-GX036 | ■   | ■  |
| 0.46    | 0.8 | 0.03 | T216L-GX046 | ■   | ■  | T216R-GX046 | ■   | ■  |
| 0.50    | 1.5 | 0.03 | T216L-GX050 | ■   | ■  | T216R-GX050 | ■   | ■  |
| 0.57    | 1.5 | 0.03 | T216L-GX057 | ■   | ■  | T216R-GX057 | ■   | ■  |
| 0.67    | 1.5 | 0.03 | T216L-GX067 | ■   | ■  | T216R-GX067 | ■   | ■  |
| 0.77    | 2.0 | 0.03 | T216L-GX077 | ■   | ■  | T216R-GX077 | ■   | ■  |
| 0.87    | 2.0 | 0.03 | T216L-GX087 | ■   | ■  | T216R-GX087 | ■   | ■  |
| 0.97    | 2.5 | 0.03 | T216L-GX097 | ■   | ■  | T216R-GX097 | ■   | ■  |
| 1.00    | 2.5 | 0.03 | T216L-GX100 | ■   | ■  | T216R-GX100 | ■   | ■  |
| 1.10    | 2.5 | 0.03 | T216L-GX110 | ■   | ■  | T216R-GX110 | ■   | ■  |
| 1.20    | 2.5 | 0.03 | T216L-GX120 | ■   | ■  | T216R-GX120 | ■   | ■  |
| 1.30    | 2.5 | 0.03 | T216L-GX130 | ■   | ■  | T216R-GX130 | ■   | ■  |
| 1.50    | 2.5 | 0.03 | T216L-GX150 | ■   | ■  | T216R-GX150 | ■   | ■  |
| 1.60    | 2.5 | 0.03 | T216L-GX160 | ■   | ■  | T216R-GX160 | ■   | ■  |
| 1.85    | 2.5 | 0.03 | T216L-GX185 | ■   | ■  | T216R-GX185 | ■   | ■  |
| 2.00    | 2.5 | 0.03 | T216L-GX200 | ■   | ■  | T216R-GX200 | ■   | ■  |
| 2.50    | 2.5 | 0.03 | T216L-GX250 | ■   | ■  | T216R-GX250 | ■   | ■  |

Tournage avant  
Vorwärts drehen  
Front turning

FT



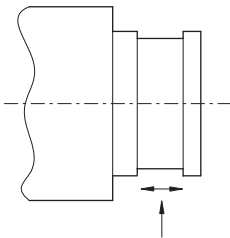
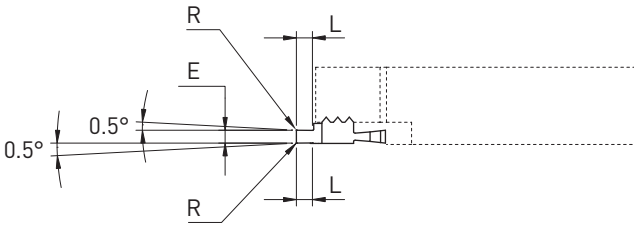
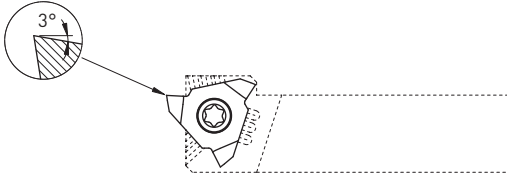
|     |      | L       |    | R       |    |
|-----|------|---------|----|---------|----|
|     |      | Art. N° |    | Art. N° |    |
| L   | R    | HTA     | HN | HTA     | HN |
| 3.0 | 0.03 | ■       | ■  | ■       | ■  |
| 3.0 | 0.08 | ■       | ■  | ■       | ■  |

Fonçage-tournage

Einstechen und drehen

Grooving and turning

GT



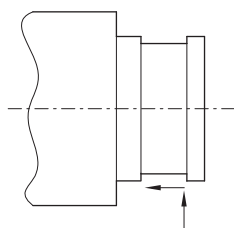
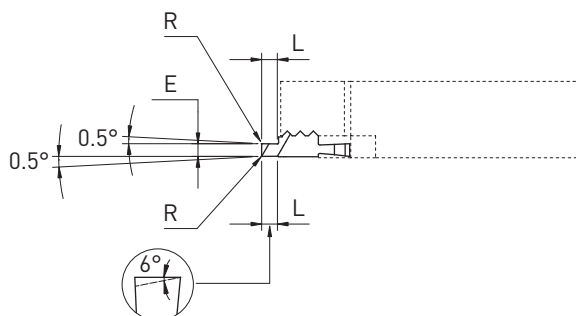
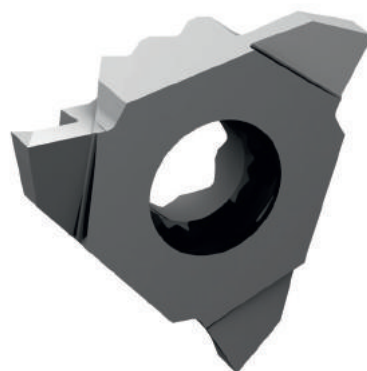
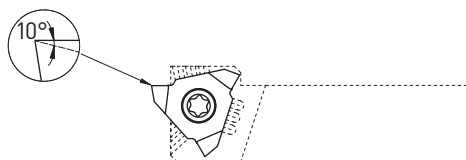
|     |     |      | L               |           | R               |           |
|-----|-----|------|-----------------|-----------|-----------------|-----------|
| E   | L   | R    | Art. N°         | HTA<br>HN | Art. N°         | HTA<br>HN |
| 0.5 | 1.5 | 0.03 | T216L-GT050     | ■ ■       | T216R-GT050     | ■ ■       |
| 1.0 | 2.5 | 0.03 | T216L-GT100     | ■ ■       | T216R-GT100     | ■ ■       |
| 1.0 | 2.5 | 0.08 | T216L-GT100-R08 | ■ ■       | T216R-GT100-R08 | ■ ■       |
| 1.5 | 2.5 | 0.03 | T216L-GT150     | ■ ■       | T216R-GT150     | ■ ■       |
| 1.5 | 2.5 | 0.08 | T216L-GT150-R08 | ■ ■       | T216R-GT150-R08 | ■ ■       |
| 1.5 | 2.5 | 0.15 | T216L-GT150-R15 | ■ ■       | T216R-GT150-R15 | ■ ■       |
| 2.0 | 2.5 | 0.03 | T216L-GT200     | ■ ■       | T216R-GT200     | ■ ■       |
| 2.0 | 2.5 | 0.08 | T216L-GT200-R08 | ■ ■       | T216R-GT200-R08 | ■ ■       |
| 2.0 | 2.5 | 0.15 | T216L-GT200-R15 | ■ ■       | T216R-GT200-R15 | ■ ■       |
| 2.5 | 2.5 | 0.15 | T216L-GT250-R15 | ■ ■       | T216R-GT250-R15 | ■ ■       |

Fonçage-tournage

Einstecken und drehen

Grooving and turning

GTX



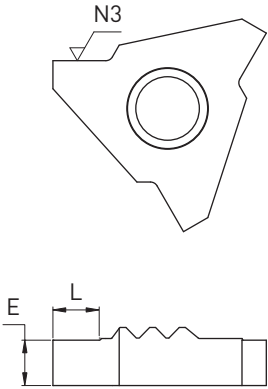
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|-----|-----|------|------------------|-----------|------------------|-----------|
| E   | L   | R    | Art. N°          | HTA<br>HN | Art. N°          | HTA<br>HN |
| 1.0 | 2.5 | 0.03 | T216L-GTX100     | ■ ■       | T216R-GTX100     | ■ ■       |
| 1.0 | 2.5 | 0.08 | T216L-GTX100-R08 | ■ ■       | T216R-GTX100-R08 | ■ ■       |
| 1.5 | 2.5 | 0.03 | T216L-GTX150     | ■ ■       | T216R-GTX150     | ■ ■       |
| 1.5 | 2.5 | 0.08 | T216L-GTX150-R08 | ■ ■       | T216R-GTX150-R08 | ■ ■       |
| 1.5 | 2.5 | 0.15 | T216L-GTX150-R15 | ■ ■       | T216R-GTX150-R15 | ■ ■       |
| 2.0 | 2.5 | 0.03 | T216L-GTX200     | ■ ■       | T216R-GTX200     | ■ ■       |
| 2.0 | 2.5 | 0.08 | T216L-GTX200-R08 | ■ ■       | T216R-GTX200-R08 | ■ ■       |
| 2.0 | 2.5 | 0.15 | T216L-GTX200-R15 | ■ ■       | T216R-GTX200-R15 | ■ ■       |
| 2.5 | 2.5 | 0.15 | T216L-GTX250-R15 | ■ ■       | T216R-GTX250-R15 | ■ ■       |

Plaquettes ébauches

WSP-Rohlinge

Blank inserts

EP

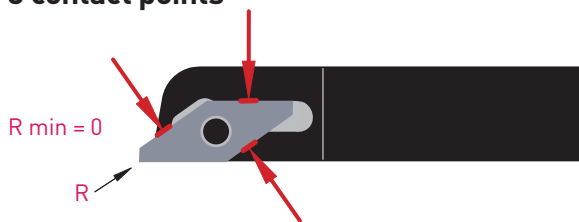


|    |   | L        |           | R        |           |
|----|---|----------|-----------|----------|-----------|
| E  | L | Art. N°  | HTA<br>HN | Art. N°  | HTA<br>HN |
| ~3 | 3 | T216L-EP | ■         | T216R-EP | ■         |

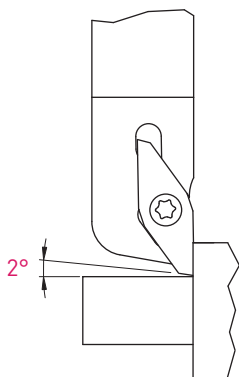


## 300 Series

3 contact points



rigid clamping system



**“wiper effect”**

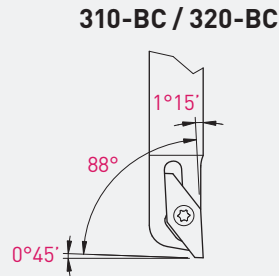
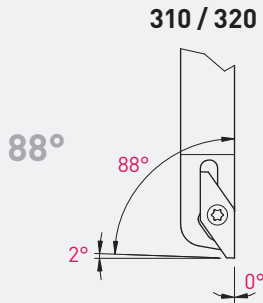
Pour un meilleur état de surface  
Für eine bessere Oberflächengüte  
For a better surface finish



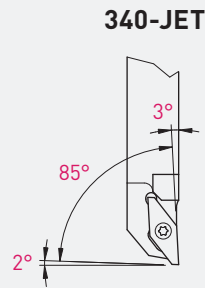
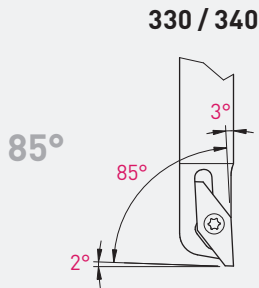
Conseils d'utilisation et paramètres de coupe indicatifs  
 Anwendungsempfehlungen und empfohlene Schnittwerte  
 Application recommendations and standard machining data

&gt; 6.02

Tournage avant  
 Vorwärts drehen  
 Front turning



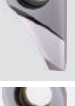
Tournage avant  
 Vorwärts drehen  
 Front turning



## Conseils d'utilisation

## Anwendungsempfehlungen

## Application recommendations

| Géométries de coupe<br>Spanformgeometrien<br>Cutting geometry                      |        | <b>P</b><br>Acier de décolletage<br>Automatenstahl<br>Free-cutting steel | <b>P</b><br>Acier<br>Stahl<br>Steel | <b>M</b><br>Acier inoxydable<br>Rostfreistahl<br>Stainless steel | <b>N</b><br>Aluminium | <b>N</b><br>Laiton, bronze<br>Messing, Bronze<br>Brass, bronze | <b>N</b><br>Cuivre<br>Kupfer<br>Copper | <b>S</b><br>Titane<br>Titane<br>Titanium | ★<br>1 <sup>er</sup> choix<br>1. Wahl<br>1 <sup>st</sup> choice                                                                                                                 |  |
|------------------------------------------------------------------------------------|--------|--------------------------------------------------------------------------|-------------------------------------|------------------------------------------------------------------|-----------------------|----------------------------------------------------------------|----------------------------------------|------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
|                                                                                    |        |                                                                          |                                     |                                                                  |                       |                                                                |                                        |                                          | ☆<br>Recommandé<br>Empfohlen<br>Recommended                                                                                                                                     |  |
|                                                                                    |        |                                                                          |                                     |                                                                  |                       |                                                                |                                        |                                          | ☑<br>Pour pièces fragiles de très petits diamètres<br>Für empfindliche und sehr kleine Werkstücke<br>For fragile and very small work pieces                                     |  |
|    | 3_7    | ★                                                                        | ★                                   | ★                                                                | ★                     |                                                                | ★                                      | ☆                                        | Géométrie universelle, très bonne maîtrise du copeau<br>Allgemeine Geometrie, sehr gute Spankontrolle<br>All-round insert with efficient chip control                           |  |
|    | 3_7-EN | ☆                                                                        | ★                                   | ☆                                                                |                       |                                                                |                                        |                                          | Arête renforcée (augmente l'effort de coupe)<br>Verstärkte Schneidkante (Schneidkraftehöhung)<br>Reinforced cutting edge (increases cutting force)<br>f min: 0.02 mm/U          |  |
|    | 3_8    | ☑                                                                        | ☑                                   | ☑                                                                |                       | ★                                                              |                                        |                                          | Géométrie plate classique<br>Standard flache Geometrie<br>Standard flat geometry                                                                                                |  |
|    | 3_8VS  | ☆                                                                        |                                     | ☆                                                                | ☑                     |                                                                | ☑                                      | ☑                                        | Brise-copeau pour usinage léger en finition<br>Spanbrecher für leichte Schlichtbearbeitung<br>Chip-breaker for light finishing operation                                        |  |
|   | 3_8VX  | ★                                                                        | ★                                   | ★                                                                | ★                     |                                                                | ★                                      | ★                                        | Très bonne maîtrise du copeau<br>Sehr gute Spankontrolle<br>Very efficient chip control                                                                                         |  |
|  | 3_8X   | ★                                                                        | ★                                   | ★                                                                | ☆                     |                                                                | ☆                                      | ★                                        | Coupe positive traditionnelle<br>Standard positive Geometrie<br>Standard positive geometry                                                                                      |  |
|  | 3_9    | ☆                                                                        | ☆                                   | ☆                                                                |                       | ☆                                                              |                                        |                                          | Témoin plat sur la coupe pour réduire les vibrations<br>Vibrationsreduzierung durch einer Flachfase und der Schneidkante<br>Vibration reduction through flat ended cutting edge |  |



**Nuances micro-grain à dureté élevée****Verschleissfeste Feinkornsorten****Wear resistant micro-grain grades**

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>P</b><br/><b>M</b><br/><b>N</b><br/><b>S</b></p> <p><b>TiAlN</b></p> <p>μK20 + revêtement PVD<br/>μK20 + PVD Beschichtung<br/>μK20 + PVD coating</p> <ul style="list-style-type: none"> <li>excellente nuance universelle</li> <li>1<sup>er</sup> choix pour l'usinage des aciers, aciers inoxydables et alliages de titane</li> <li>très bonne résistance à la température</li> </ul> <ul style="list-style-type: none"> <li>beste Universalsorte</li> <li>für die Bearbeitung von Stahl, rostfreiem Stahl und Titanlegierungen bestens geeignet</li> <li>sehr gute Warmfestigkeit</li> </ul> <ul style="list-style-type: none"> <li>best universal grade</li> <li>first choice for steel, stainless steel and titanium alloys machining</li> <li>very good heat resistance</li> </ul> | <p><b>P</b><br/><b>M</b><br/><b>N</b></p> <p><b>TiN</b></p> <p>μK20 + revêtement PVD<br/>μK20 + PVD Beschichtung<br/>μK20 + PVD coating</p> <ul style="list-style-type: none"> <li>nuance pour l'usinage des matières peu résistantes qui créent des arêtes rapportées</li> <li>très faible coefficient de frottement</li> <li>à éviter pour l'usinage du titane</li> </ul> <ul style="list-style-type: none"> <li>Sorte für die Bearbeitung von weichen Werkstoffen mit Tendenz zur Bildung von Aufbauschneiden</li> <li>sehr geringer Reibwert</li> <li>für die Bearbeitung von Titan nicht geeignet</li> </ul> <ul style="list-style-type: none"> <li>grade for the machining of low resistance materials which causes edge build-up</li> <li>very low friction ratio</li> <li>not suitable for titanium machining</li> </ul>                    | <p><b>P</b><br/><b>M</b><br/><b>S</b></p> <p><b>TiAlX</b></p> <p>μK20 + revêtement PVD<br/>μK20 + PVD Beschichtung<br/>μK20 + PVD coating</p> <ul style="list-style-type: none"> <li>nuance très résistante à l'usure et à la température, recommandée pour l'usinage des matières suivantes: Inox 304, 316L, 317L, 904, Phynox</li> <li>aciers alliés contenant: Chrome Nickel, Vanadium, Molybdène, ...</li> </ul> <ul style="list-style-type: none"> <li>sehr verschleissfeste und temperaturbeständige Sorte. Für folgende Materialien empfohlen: Inox 304, 316L, 317L, 904, Phynox</li> <li>legierter Stahl enthaltend: Chrom-Nickel, Vanadium, Molybdän, ...</li> </ul> <ul style="list-style-type: none"> <li>very wear and high temperature resistant grade. Recommended for following material: Inox 304, 316L, 317L, 904, Phynox</li> <li>alloy steel containing: Chrome-nickel, Vanadium, Molybdenum, ...</li> </ul>                                                                                                                                                                                         | <p><b>P</b><br/><b>S</b></p> <p><b>N (μK20)</b></p> <p>non revêtu<br/>unbeschichtet<br/>uncoated</p> <ul style="list-style-type: none"> <li>supporte les coupes interrompues et autres conditions d'usinage défavorables</li> </ul> <ul style="list-style-type: none"> <li>für unterbrochene Schnitte und andere ungünstige Bearbeitungsbedingungen geeignet</li> </ul> <ul style="list-style-type: none"> <li>suitable for interrupted cut and other unfavourable machining conditions</li> </ul>                                                                                                                                                                                                                                                                                                                                                             |
| <p><b>P</b><br/><b>M</b><br/><b>N</b><br/><b>S</b></p> <p><b>HTA</b></p> <p>μK10 + revêtement PVD<br/>μK10 + PVD Beschichtung<br/>μK10 + PVD coating</p> <ul style="list-style-type: none"> <li>nuance très résistante à l'usure</li> <li>pour l'usinage en finition dans des conditions favorables des aciers, aciers inoxydables et alliages de titane</li> </ul> <ul style="list-style-type: none"> <li>sehr verschleissfeste Sorte</li> <li>für die Feinbearbeitung von Stahl, rostfreiem Stahl und Titanlegierungen bei guten Bearbeitungsbedingungen</li> </ul> <ul style="list-style-type: none"> <li>very wear resistant grade</li> <li>for light machining of steel, stainless steel and titanium alloys under favourable machining conditions</li> </ul>                            | <p><b>P</b><br/><b>M</b><br/><b>N</b></p> <p><b>HTiN</b></p> <p>μK10 + revêtement PVD<br/>μK10 + PVD Beschichtung<br/>μK10 + PVD coating</p> <ul style="list-style-type: none"> <li>nuance pour l'usinage en finition des matières peu résistantes qui créent des arêtes rapportées</li> <li>très faible coefficient de frottement</li> <li>à éviter pour l'usinage du titane</li> </ul> <ul style="list-style-type: none"> <li>Sorte für die Feinbearbeitung von weichen Werkstoffen mit Tendenz zur Bildung von Aufbauschneiden</li> <li>sehr geringer Reibwert</li> <li>für die Bearbeitung von Titan nicht geeignet</li> </ul> <ul style="list-style-type: none"> <li>grade for light machining of low resistance materials which causes edge build-up</li> <li>very low friction ratio</li> <li>not suitable for titanium machining</li> </ul> | <p><b>P</b><br/><b>M</b><br/><b>S</b></p> <p><b>HTAX</b></p> <p>μK10 + revêtement PVD<br/>μK10 + PVD Beschichtung<br/>μK10 + PVD coating</p> <ul style="list-style-type: none"> <li>nuance très résistante à l'usure et à la température, pour l'usinage en finition avec faible avance de petites pièces. Recommandée pour l'usinage des matières suivantes: Inox 304, 316L, 317L, 904, Phynox</li> <li>aciers alliés contenant: Chrome Nickel, Vanadium, Molybdène, ...</li> </ul> <ul style="list-style-type: none"> <li>sehr verschleissfeste und temperaturbeständige Sorte, für Feinbearbeitung von kleinen Teilen mit geringer Vorschub. Für folgende Materialien empfohlen: Inox 304, 316L, 317L, 904, Phynox</li> <li>legierter Stahl enthaltend: Chrom-Nickel, Vanadium, Molybdän, ...</li> </ul> <ul style="list-style-type: none"> <li>very wear and high temperature resistant grade, for light machining of small parts with low cutting feed. Recommended for following material: Inox 304, 316L, 317L, 904, Phynox</li> <li>alloy steel containing: Chrome-nickel, Vanadium, Molybdenum, ...</li> </ul> | <p><b>P</b><br/><b>S</b></p> <p><b>HN (μK10)</b></p> <p>non revêtu<br/>unbeschichtet<br/>uncoated</p> <ul style="list-style-type: none"> <li>nuance micro-grain très résistante à l'usure</li> <li>recommandé pour l'usinage du titane faiblement allié</li> <li>déconseillé en cas de coupe interrompue et autres conditions d'usinage défavorables</li> </ul> <ul style="list-style-type: none"> <li>verschleissfeste Feinkornsorte</li> <li>für die Bearbeitung von niedrig legiertem Titan empfehlenswert</li> <li>für unterbrochene Schnitte und andere ungünstige Bearbeitungsbedingungen nicht geeignet</li> </ul> <ul style="list-style-type: none"> <li>wear resistant micro-grain grade</li> <li>suitable for the machining of low alloyed titanium</li> <li>not suitable for interrupted cut and other unfavourable machining conditions</li> </ul> |

Paramètres de coupe indicatifs  
Empfohlene Schnittwerte  
Standard machining data

| Matière<br>Werkstoff<br>Material                                           | Tournage<br>Drehen<br>Turning |                                                |                            |
|----------------------------------------------------------------------------|-------------------------------|------------------------------------------------|----------------------------|
|                                                                            | VC                            | Prof. de passe<br>Schnitttiefe<br>Depth of cut | Avance<br>Vorschub<br>Feed |
|                                                                            | (m/min)                       | (mm)                                           | (mm/U)                     |
| Acier de décolletage<br>Automatenstahl<br>Free-cutting steel               | 120 - 200                     | 0.05 - 1.0<br>1.0 - 4.0                        | 0.01 - 0.15<br>0.05 - 0.25 |
| Acier<br>Stahl<br>Steel < 600 N/mm²                                        | 80 - 160                      | 0.05 - 1.0<br>1.0 - 4.0                        | 0.01 - 0.15<br>0.05 - 0.25 |
| Acier<br>Stahl<br>Steel < 800 N/mm²                                        | 60 - 120                      | 0.05 - 1.0<br>1.0 - 4.0                        | 0.01 - 0.10<br>0.05 - 0.20 |
| Acier<br>Stahl<br>Steel > 800 N/mm²                                        | 50 - 100                      | 0.05 - 1.0<br>1.0 - 3.0                        | 0.01 - 0.08<br>0.05 - 0.15 |
| Acier inoxydable<br>Rostfreistahl<br>Stainless steel                       | 60 - 120                      | 0.05 - 1.0<br>1.0 - 3.0                        | 0.01 - 0.08<br>0.05 - 0.15 |
| Aluminium Si <12%                                                          | 200 - 1000                    | 0.05 - 1.0<br>1.0 - 4.0                        | 0.01 - 0.20<br>0.05 - 0.40 |
| Aluminium Si >12%                                                          | 180 - 800                     | 0.05 - 1.0<br>1.0 - 4.0                        | 0.01 - 0.20<br>0.05 - 0.40 |
| Cuivre, laiton, bronze<br>Kupfer, Messing, Bronze<br>Copper, brass, bronze | 100 - 500                     | 0.05 - 1.0<br>1.0 - 4.0                        | 0.01 - 0.20<br>0.05 - 0.35 |
| Titane<br>Titan<br>Titanium                                                | 30 - 70                       | 0.05 - 1.0<br>1.0 - 4.0                        | 0.01 - 0.08<br>0.05 - 0.15 |

**Indications pour premier réglage****Hinweise für die erste Einrichtung****Indications for first setting****Ébauche  
Schruppen  
Roughing**

- vitesse de coupe moyenne
- avance élevée

- durchschnittliche Schnittgeschwindigkeit
- hohe Schnittgeschwindigkeit

- average cutting feed
- high cutting feed

**Finition  
Schlichten  
Finishing**

- vitesse de coupe élevée
- avance faible

- hohe Schnittgeschwindigkeit
- niedriger Vorschub

- high cutting feed
- low cutting feed

**Remarques importantes  
Wichtige Bemerkungen  
Important remarks**

- en raison des limites de la machine, il n'est souvent pas possible d'atteindre les vitesses de coupe préconisées
- les outils Applitec sont spécialement développés pour permettre de hautes performances, même dans des conditions de coupe défavorables
- des applications non préconisées dans le tableau ci-contre peuvent également s'avérer efficaces

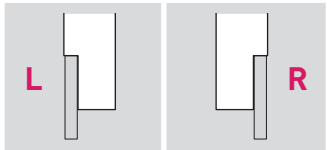
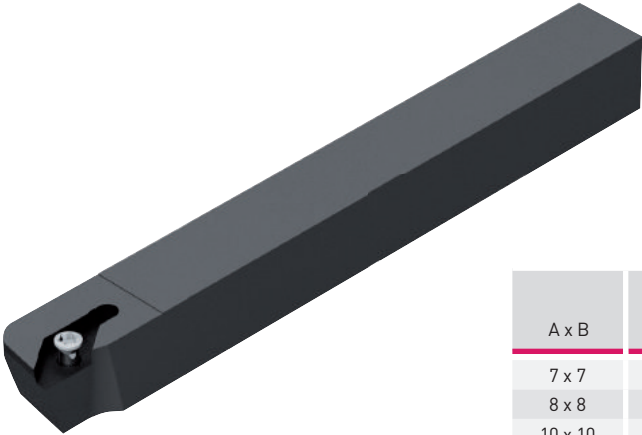
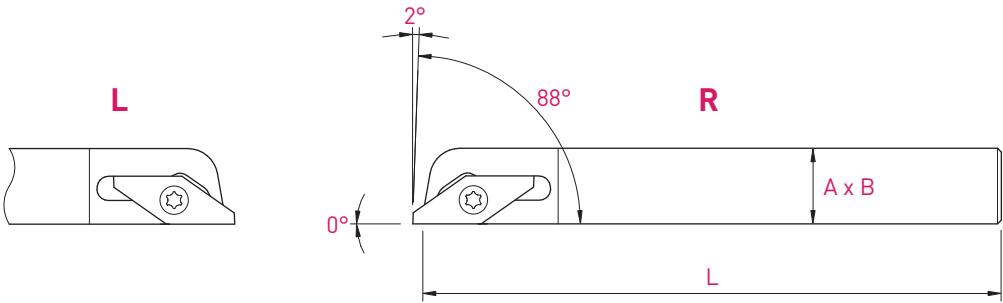
- wegen begrenzter Maschinenleistung ist es oft nicht möglich, die vorgeschlagenen Schnittgeschwindigkeiten zu erreichen
- Applitec Werkzeuge sind besonders dazu entwickelt, um sogar bei ungünstigen Schnittbedingungen leistungsfähig zu sein
- die in der nebenstehenden Tabelle nicht erwähnten Anwendungsfälle können sich auch effizient erweisen

- in many cases, it is impossible to reach the recommended cutting speed, due to the machine limits
- Applitec tools are especially designed to be efficient even in bad cutting conditions
- applications not mentioned in the opposite table can also be efficient

Porte-outils  
Halter  
Holders

88°

310 / 320



| A x B       | L   | Art. N°    | Art. N°    |
|-------------|-----|------------|------------|
| 7 x 7       | 115 | 310-7      | 320-7      |
| 8 x 8       | 115 | 310-8      | 320-8      |
| 10 x 10     | 115 | 310-10     | 320-10     |
| 10 x 10     | 140 | -          | 320-10-140 |
| 12 x 12     | 115 | 310-12     | 320-12     |
| 12 x 12     | 90  | 310-12-90  | 320-12-90  |
| 12 x 12     | 140 | 310-12-140 | 320-12-140 |
| 12.7 x 12.7 | 140 | 310-12.7   | 320-12.7   |
| 16 x 16     | 100 | 310-16     | 320-16     |
| 16 x 16     | 140 | 310-16-140 | 320-16-140 |
| 20 x 20     | 120 | 310-20     | 320-20     |

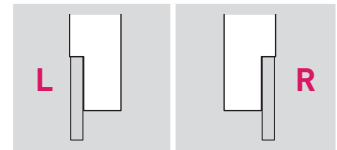
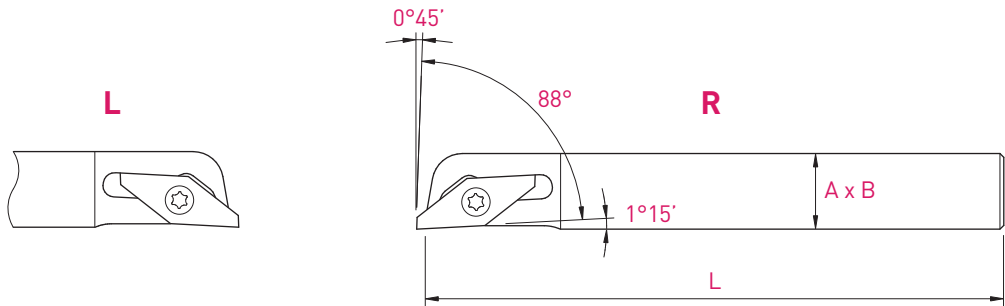
Porte-outils

Halter

Holders

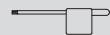
88°

310-BC / 320-BC



| A x B       | L   | Art. N°       | Art. N°       |
|-------------|-----|---------------|---------------|
| 7 x 7       | 115 | 310-7-BC      | 320-7-BC      |
| 8 x 8       | 115 | 310-8-BC      | 320-8-BC      |
| 10 x 10     | 115 | 310-10-BC     | 320-10-BC     |
| 10 x 10     | 140 | -             | 320-10-140-BC |
| 12 x 12     | 115 | 310-12-BC     | 320-12-BC     |
| 12 x 12     | 90  | 310-12-90-BC  | 320-12-90-BC  |
| 12 x 12     | 140 | 310-12-140-BC | 320-12-140-BC |
| 12.7 x 12.7 | 140 | 310-12.7-BC   | 320-12.7-BC   |
| 16 x 16     | 100 | 310-16-BC     | 320-16-BC     |
| 16 x 16     | 140 | 310-16-140-BC | 320-16-140-BC |
| 20 x 20     | 120 | 310-20-BC     | 320-20-BC     |

 Porte-outils  
Halter  
Holders

 Serrage standard (A)  
Standard Spannsystem (A)  
Standard clamping system (A)


311 / 321

V-M2.5X6.5-T8

312 - 316

V-M2.5X7.8-T8

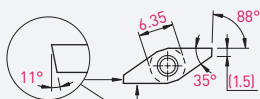
C-T8

322 - 326

Chaque support est livré avec vis et clé.  
Jeder Halter wird mit Spannschraube(n) und Schlüssel geliefert.  
Screw(s) and key are included with each tool holder.

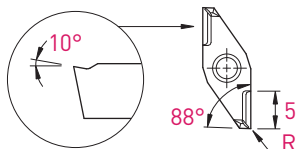
Tournage avant  
Vorwärts drehen  
Front turning

88°



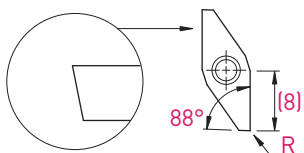
310 / 320

317 / 327



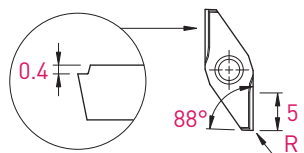
| R    | Art. N° | L |   |   |   |       |     | Art. N° | R |   |   |   |       |     |
|------|---------|---|---|---|---|-------|-----|---------|---|---|---|---|-------|-----|
|      |         | P | M | N | S | TiAlN | TiN |         | P | M | N | S | TiAlN | TiN |
| 0    | 317     | ■ | ■ | ■ | ■ | ■     | ■   | 327     | ■ | ■ | ■ | ■ | ■     | ■   |
| 0.03 | 317-R03 | ■ | ■ | ■ | ■ | ■     | ■   | 327-R03 | ■ | ■ | ■ | ■ | ■     | ■   |
| 0.08 | 317-R08 | ■ | ■ | ■ | ■ | ■     | ■   | 327-R08 | ■ | ■ | ■ | ■ | ■     | ■   |
| 0.10 | 317-R10 | ■ | ■ | ■ | ■ | ■     | ■   | 327-R10 | ■ | ■ | ■ | ■ | ■     | ■   |
| 0.20 | 317-R20 | ■ | ■ | ■ | ■ | ■     | ■   | 327-R20 | ■ | ■ | ■ | ■ | ■     | ■   |

318 / 328



| R    | Art. N° | L |   |   | Art. N° | R |   |   |
|------|---------|---|---|---|---------|---|---|---|
|      |         | P | M | N |         | P | M | N |
| 0    | 318     | ■ | ■ | ■ | 328     | ■ | ■ | ■ |
| 0.05 | 318-R05 | ■ | ■ | ■ | 328-R05 | ■ | ■ | ■ |
| 0.10 | 318-R10 | ■ | ■ | ■ | 328-R10 | ■ | ■ | ■ |
| 0.20 | 318-R20 | ■ | ■ | ■ | 328-R20 | ■ | ■ | ■ |
| 0.40 | 318-R40 | ■ | ■ | ■ | 328-R40 | ■ | ■ | ■ |

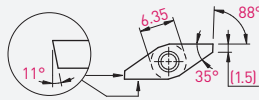
318VS / 328VS



| R    | Art. N°   | L |   |   | Art. N°   | R |   |   |
|------|-----------|---|---|---|-----------|---|---|---|
|      |           | P | M | N |           | P | M | N |
| 0    | 318VS     | ■ | ■ | ■ | 328VS     | ■ | ■ | ■ |
| 0.10 | 318VS-R10 | ■ | ■ | ■ | 328VS-R10 | ■ | ■ | ■ |

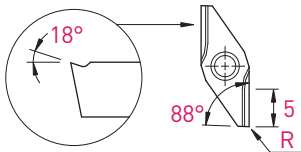
Tournage avant  
Vorwärts drehen  
Front turning

88°



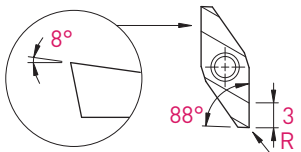
310 / 320

## 318VX / 328VX



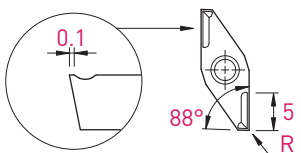
| R    | Art. N°   | L   |      |           | Art. N°   | R   |      |           |
|------|-----------|-----|------|-----------|-----------|-----|------|-----------|
|      |           | HTA | HTiN | HN (µk10) |           | HTA | HTiN | HN (µk10) |
| 0    | 318VX     | ■   | ■    | ■         | 328VX     | ■   | ■    | ■         |
| 0.05 | 318VX-R05 | ■   | ■    | ■         | 328VX-R05 | ■   | ■    | ■         |
| 0.10 | 318VX-R10 | ■   | ■    | ■         | 328VX-R10 | ■   | ■    | ■         |
| 0.20 | -         |     |      |           | 328VX-R20 | ■   | ■    | ■         |
| 0.40 | -         |     |      |           | 328VX-R40 | ■   | □    | ■         |

## 318X / 328X



| R    | Art. N°  | L   |      |           | Art. N°  | R   |      |           |
|------|----------|-----|------|-----------|----------|-----|------|-----------|
|      |          | HTA | HTiN | HN (µk10) |          | HTA | HTiN | HN (µk10) |
| 0    | 318X     | ■   | ■    | ■         | 328X     | ■   | ■    | ■         |
| 0.10 | 318X-R10 | ■   | ■    | ■         | 328X-R10 | ■   | ■    | ■         |

## 319 / 329



| R    | Art. N° | L   |      |           | Art. N° | R   |      |           |
|------|---------|-----|------|-----------|---------|-----|------|-----------|
|      |         | HTA | HTiN | HN (µk10) |         | HTA | HTiN | HN (µk10) |
| 0    | 319     | ■   | ■    | ■         | 329     | ■   | ■    | ■         |
| 0.10 | 319-R10 | ■   | ■    | ■         | 329-R10 | ■   | ■    | ■         |
| 0.20 | 319-R20 | ■   | ■    | ■         | 329-R20 | ■   | ■    | ■         |

■ = disponible / verfügbar / available

□ = selon disponibilité du stock / jenach Lagerverfügbarkeit / depending on stock availability

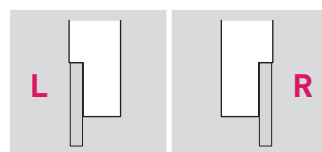
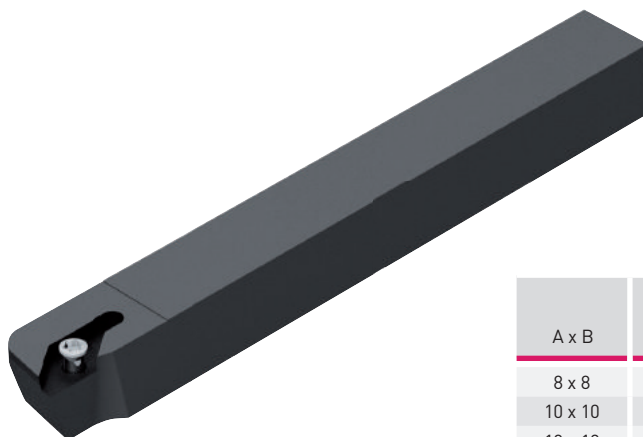
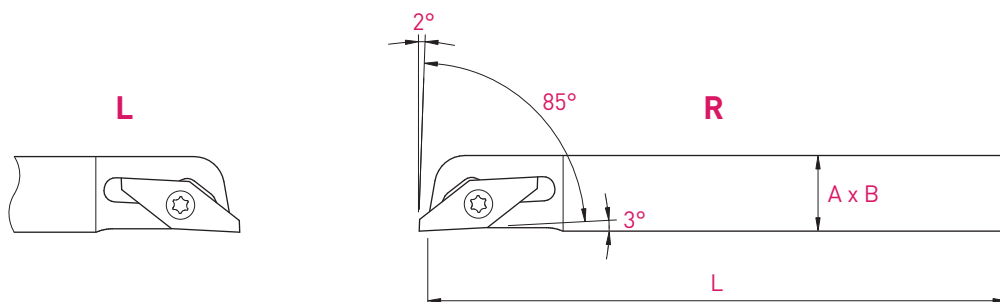
Porte-outils

Halter

Holders

85°

330 / 340



| A x B       | L   | Art. N°    | Art. N°    |
|-------------|-----|------------|------------|
| 8 x 8       | 115 | 330-8      | 340-8      |
| 10 x 10     | 115 | 330-10     | 340-10     |
| 10 x 10     | 140 | -          | 340-10-140 |
| 12 x 12     | 115 | 330-12     | 340-12     |
| 12 x 12     | 90  | 330-12-90  | 340-12-90  |
| 12 x 12     | 140 | 330-12-140 | 340-12-140 |
| 12.7 x 12.7 | 140 | 330-12.7   | 340-12.7   |
| 16 x 16     | 100 | 330-16     | 340-16     |
| 16 x 16     | 140 | 330-16-140 | 340-16-140 |
| 20 x 20     | 120 | 330-20     | 340-20     |

|                                   |                                                                                  |      |
|-----------------------------------|----------------------------------------------------------------------------------|------|
| Porte-outils<br>Halter<br>Holders | Serrage standard (A)<br>Standard Spannsystem (A)<br>Standard clamping system (A) |      |
|                                   |                                                                                  |      |
| 332 - 336<br>342 - 346            | V-M2.5X7.8-T8                                                                    | C-T8 |

Chaque support est livré avec vis et clé.  
 Jeder Halter wird mit Spannschraube(n) und Schlüssel geliefert.  
 Screw(s) and key are included with each tool holder.



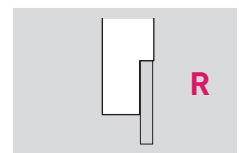
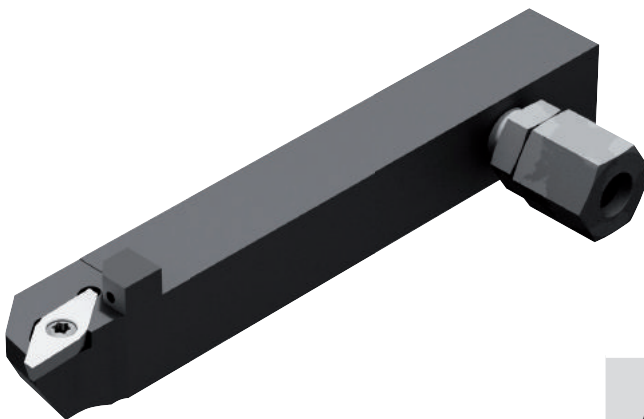
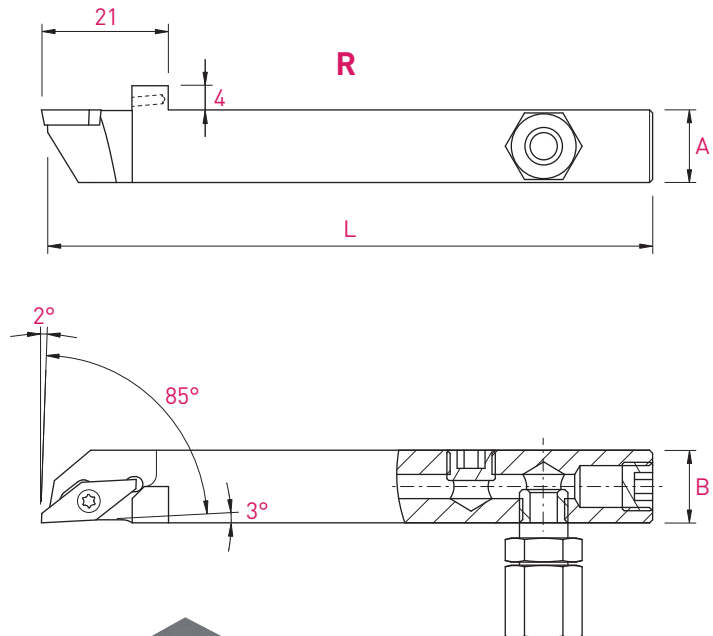
Porte-outils avec arrosage intégré

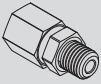
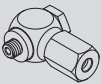
Halter mit integrierter Kühlmittelzufuhr

Holders with integrated coolant supply

85°

340-JET



| Pièces de rechange<br>Ersatzteile<br>Spare parts |  | Option<br> |  |
|--------------------------------------------------|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|                                                  | Art. N°                                                                             | Art. N°                                                                                       | Art. N°                                                                             |
| 340-0810-JET                                     | J-M5-D5                                                                             | JC-M5-D5                                                                                      | JB-M5                                                                               |
| 340-JET                                          | J-M8X1-D6                                                                           | -                                                                                             | JB-M8X1                                                                             |

| A x B       | L   | Art. N°      |
|-------------|-----|--------------|
| 8 x 10      | 100 | 340-0810-JET |
| 10 x 12     | 100 | 340-1012-JET |
| 12 x 12     | 100 | 340-12-JET   |
| 12.7 x 12.7 | 100 | 340-12.7-JET |
| 16 x 16     | 100 | 340-16-JET   |
| 20 x 20     | 100 | 340-20-JET   |

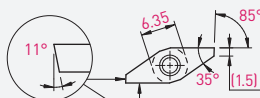
Chaque support est livré avec vis et clé.

Jeder Halter wird mit Spannschraube(n) und Schlüssel geliefert.

Screw(s) and key are included with each tool holder.

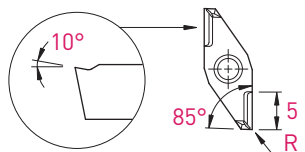
Tournage avant  
Vorwärts drehen  
Front turning

85°



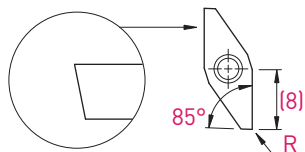
330 / 340

337 / 347



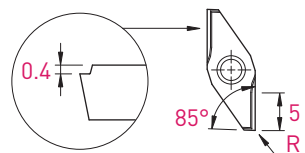
| R    | Art. N°    | L     |       |     |          |     |     |      | Art. N°    | R     |       |     |          |     |     |      |
|------|------------|-------|-------|-----|----------|-----|-----|------|------------|-------|-------|-----|----------|-----|-----|------|
|      |            | TiAlN | TiAlX | TiN | N (μk20) | HTA | HTX | HTiN |            | TiAlN | TiAlX | TiN | N (μk20) | HTA | HTX | HTiN |
| 0    | 337        |       |       |     |          |     |     |      | 347        |       |       |     |          |     |     |      |
| 0.03 | 337-R03    |       |       |     |          |     |     |      | 347-R03    |       |       |     |          |     |     |      |
| 0.08 | 337-R08    |       |       |     |          |     |     |      | 347-R08    |       |       |     |          |     |     |      |
| 0.10 | 337-R10    |       |       |     |          |     |     |      | 347-R10    |       |       |     |          |     |     |      |
| 0.20 | 337-R20    |       |       |     |          |     |     |      | 347-R20    |       |       |     |          |     |     |      |
| 0.35 | -          |       |       |     |          |     |     |      | 347-R35    |       |       |     |          |     |     |      |
| 0    | 337-EN     |       |       |     |          |     |     |      | 347-EN     |       |       |     |          |     |     |      |
| 0.03 | 337-EN-R03 |       |       |     |          |     |     |      | 347-EN-R03 |       |       |     |          |     |     |      |
| 0.08 | 337-EN-R08 |       |       |     |          |     |     |      | 347-EN-R08 |       |       |     |          |     |     |      |
| 0.10 | 337-EN-R10 |       |       |     |          |     |     |      | 347-EN-R10 |       |       |     |          |     |     |      |
| 0.20 | 337-EN-R20 |       |       |     |          |     |     |      | 347-EN-R20 |       |       |     |          |     |     |      |
| 0.35 | -          |       |       |     |          |     |     |      | 347-EN-R35 |       |       |     |          |     |     |      |

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| R    | Art. N° | L   |      |           | Art. N° | R   |      |           |
|------|---------|-----|------|-----------|---------|-----|------|-----------|
|      |         | HTA | HTiN | HN (μk10) |         | HTA | HTiN | HN (μk10) |
| 0    | 338     |     |      |           | 348     |     |      |           |
| 0.05 | 338-R05 |     |      |           | 348-R05 |     |      |           |
| 0.10 | 338-R10 |     |      |           | 348-R10 |     |      |           |
| 0.20 | 338-R20 |     |      |           | 348-R20 |     |      |           |
| 0.40 | 338-R40 |     |      |           | 348-R40 |     |      |           |

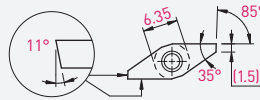
338VS / 348VS



| R    | Art. N°   | L   |      |           | Art. N°   | R   |      |           |
|------|-----------|-----|------|-----------|-----------|-----|------|-----------|
|      |           | HTA | HTiN | HN (μk10) |           | HTA | HTiN | HN (μk10) |
| 0    | 338VS     |     |      |           | 348VS     |     |      |           |
| 0.10 | 338VS-R10 |     |      |           | 348VS-R10 |     |      |           |

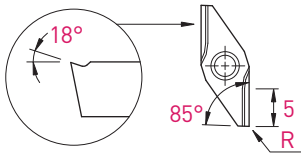
Tournage avant  
Vorwärts drehen  
Front turning

85°



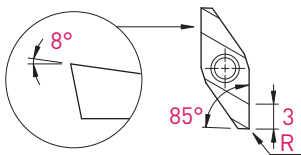
330 / 340

## 338VX / 348VX



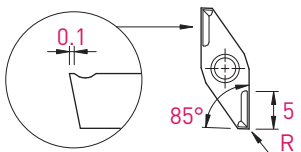
| R    | Art. N°   | L   |      |           | Art. N°   | R   |      |           |
|------|-----------|-----|------|-----------|-----------|-----|------|-----------|
|      |           | HTA | HTiN | HN (µk10) |           | HTA | HTiN | HN (µk10) |
| 0    | 338VX     | ■   | ■    | ■         | 348VX     | ■   | ■    | ■         |
| 0.05 | 338VX-R05 | ■   | ■    | ■         | 348VX-R05 | ■   | ■    | ■         |
| 0.10 | 338VX-R10 | ■   | ■    | ■         | 348VX-R10 | ■   | ■    | ■         |

## 338X / 348X



| R    | Art. N°  | L   |      |           | Art. N°  | R   |      |           |
|------|----------|-----|------|-----------|----------|-----|------|-----------|
|      |          | HTA | HTiN | HN (µk10) |          | HTA | HTiN | HN (µk10) |
| 0    | 338X     | ■   | ■    | ■         | 348X     | ■   | ■    | ■         |
| 0.10 | 338X-R10 | ■   | ■    | ■         | 348X-R10 | ■   | ■    | ■         |

## 339 / 349



| R    | Art. N° | L   |      |           | Art. N° | R   |      |           |
|------|---------|-----|------|-----------|---------|-----|------|-----------|
|      |         | HTA | HTiN | HN (µk10) |         | HTA | HTiN | HN (µk10) |
| 0    | 339     | ■   | ■    | ■         | 349     | ■   | ■    | ■         |
| 0.10 | 339-R10 | ■   | ■    | ■         | 349-R10 | ■   | ■    | ■         |
| 0.20 | 339-R20 | ■   | ■    | ■         | 349-R20 | ■   | ■    | ■         |

■ = disponible / verfügbar / available

□ = selon disponibilité du stock / jenach Lagerverfügbarkeit / depending on stock availability

APPLITEC



## Index

Codification des outils ISO-Line  
ISO-Line Bezeichnungssystem  
ISO-Line designation system

|   |   |   |   |   |    |    |    |   |    |    |
|---|---|---|---|---|----|----|----|---|----|----|
| S | D | J | C | R | -  | 12 | 12 | G | -  | 11 |
| D | C | G | T | - | 11 | T3 | 04 | - | FN | -  |

&gt; 7.02

Géométries de coupe  
Spanformgeometrien  
Cutting geometries



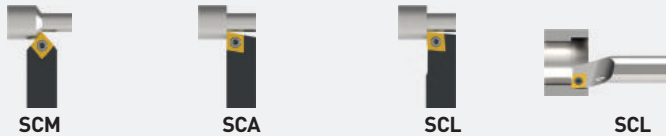
&gt; 7.05

Nuances  
Sorten  
Grades



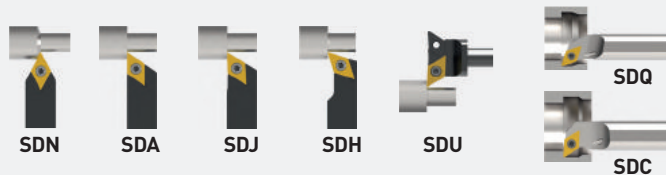
&gt; 7.11

Porte-outils  
et plaquettes 80°  
Halter und  
WSP 80°  
Holders and  
inserts 80°



&gt; 7.13

Porte-outils  
et plaquettes 55°  
Halter und  
WSP 55°  
Holders and  
inserts 55°



&gt; 7.27

Porte-outils  
et plaquettes 35°  
Halter und  
WSP 35°  
Holders and  
inserts 35°



&gt; 7.45

Pièces de rechange et accessoires  
Ersatzteile und Zubehör  
Spare parts and accessories



&gt; 7.61

Paramètres de coupe  
Schnittwerte  
Machining data

|            |   |          |   |
|------------|---|----------|---|
| P          | M | N        | S |
| VC (m/min) |   | F (mm/U) |   |

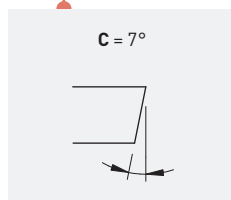
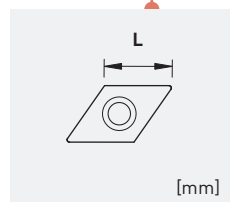
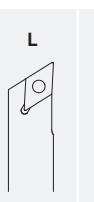
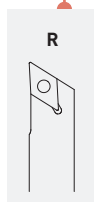
&gt; 7.62

## Codification des porte-outils ISO-Line

## ISO-Line Bezeichnungssystem für Halter

## ISO-Line designation system for holders

| Méthode de serrage<br>Klemmsystem<br>Clamping system | Forme de la plaque<br>Plattenform<br>Insert shape | Géométrie du porte-outil<br>Halterform<br>Holder geometry | Angle de dépouille de la plaque<br>WSP-Freiwinkel<br>Insert clearance angle | Direction de coupe<br>Schneidrichtung<br>Cut direction |          | Hauteur du porte-outil<br>Halter Höhe<br>Holder height | Largeur du porte-outil<br>Halter Breite<br>Holder width | Longueur du porte-outil<br>Halter Länge<br>Holder length |          | Dimension de la plaque (L)<br>WSP Grösse (L)<br>Insert size (L) |
|------------------------------------------------------|---------------------------------------------------|-----------------------------------------------------------|-----------------------------------------------------------------------------|--------------------------------------------------------|----------|--------------------------------------------------------|---------------------------------------------------------|----------------------------------------------------------|----------|-----------------------------------------------------------------|
| <b>S</b>                                             | <b>D</b>                                          | <b>J</b>                                                  | <b>C</b>                                                                    | <b>R</b>                                               | <b>-</b> | <b>12</b>                                              | <b>12</b>                                               | <b>G</b>                                                 | <b>-</b> | <b>11</b>                                                       |

**A x B (or Ø) [mm]**

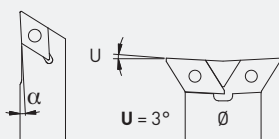
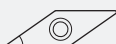
08 x 08  
10 x 10  
12 x 12  
12.7 x 12.7 (1/2 in)  
16 x 16  
20 x 20  
Ø: D10 / D20 / D25.4 (Ø1 in)

**Length: [mm]**

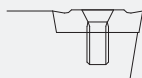
F = 75  
G = 90  
J = 110  
X = Special

**α:**

A = 0°  
J = 3°  
L = 5°  
H = 17.5°  
X = 27.5°

**C = 80°****D = 55°****V = 35°**

**S =** vis  
Schraube  
screw



**Compatibilité porte-outil - plaque**  
**WSP - Halter Kompatibilität**  
**Holder - insert compatibility**

|          |          |          |          |          |           |           |           |          |           |           |
|----------|----------|----------|----------|----------|-----------|-----------|-----------|----------|-----------|-----------|
| <b>S</b> | <b>D</b> | <b>J</b> | <b>C</b> | <b>R</b> | <b>-</b>  | <b>12</b> | <b>12</b> | <b>G</b> | <b>-</b>  | <b>11</b> |
| <b>D</b> | <b>C</b> | <b>G</b> | <b>T</b> | <b>-</b> | <b>11</b> | <b>T3</b> | <b>04</b> | <b>-</b> | <b>FN</b> | <b>-</b>  |

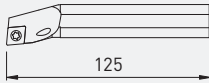
## Codification des porte-outils ISO-Line

## ISO-Line Bezeichnungssystem für Halter

## ISO-Line designation system for holders

| Méthode de serrage<br>Klemmsystem<br>Clamping system | Largeur du porte-outil<br>Halter Breite<br>Holder width | Longueur du porte-outil<br>Halter Länge<br>Holder length |          | Méthode de serrage<br>Klemmsystem<br>Clamping system | Forme de la plaque<br>Plattenform<br>Insert shape | Géométrie du porte-outil<br>Halterform<br>Holder geometry | Angle de dépouille de la plaque<br>WSP-Freiwinkel<br>Insert clearance angle | Direction de coupe<br>Schneidrichtung<br>Cut direction |          | Dimension de la plaque (L)<br>WSP Grösse (L)<br>Insert size (L) |
|------------------------------------------------------|---------------------------------------------------------|----------------------------------------------------------|----------|------------------------------------------------------|---------------------------------------------------|-----------------------------------------------------------|-----------------------------------------------------------------------------|--------------------------------------------------------|----------|-----------------------------------------------------------------|
| <b>A</b>                                             | <b>12</b>                                               | <b>K</b>                                                 | <b>-</b> | <b>S</b>                                             | <b>C</b>                                          | <b>L</b>                                                  | <b>C</b>                                                                    | <b>R</b>                                               | <b>-</b> | <b>06</b>                                                       |

Longueur  
Länge  
Length  
F = 80  
H = 100  
J = 110  
K = 125  
M = 150  
Q = 180



Ø queue  
Schaft Ø  
Shank Ø



**A** = acier avec lubrification  
Stahl mit Kühlung  
Steel with coolant

**E** = carbure avec lubrification  
Hartmetall mit Kühlung  
Carbide with coolant

**C** = 80°



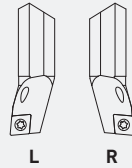
**D** = 55°



**V** = 35°



vis  
**S** = Schraube  
screw



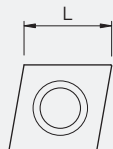
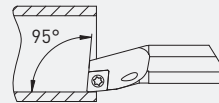
**C** = 7°



**L** = 95°

**Q** = 107.5°

**U** = 93°



## Codification des plaquettes ISO-Line

## ISO-Line Bezeichnungssystem für WSP

## ISO-Line designation system for inserts

| Forme de la plaque<br>Plattenform<br>Insert shape                 | Angle de dépouille de la plaque<br>WSP-Freiwinkel<br>Insert clearance angle | Classe de tolérance<br>Toleranz Klasse<br>Tolerance class | Brise-copeau<br>Spanbrecher<br>Chip breaker |          | Dimension de la plaque (L)<br>WSP Grösse (L)<br>Insert size (L)                                                                                                                                                                                                                                                                                                                                                                    | Épaisseur de la plaque (E)<br>WSP Dicke (E)<br>Insert thickness (E)                                                                                                                                                                                                            | Rayon de pointe de la plaque<br>WSP Eckenradius<br>Insert corner radius                           |                                                                           | Exécution d'arête et direction de coupe<br>Schneidkante Ausführung und<br>Schneidrichtung<br>Edge type and cutting direction |                 | Géométrie de coupe<br>Spanformgeometrie<br>Cutting geometry |                 |       |                 |       |                 |                 |  |  |
|-------------------------------------------------------------------|-----------------------------------------------------------------------------|-----------------------------------------------------------|---------------------------------------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|-----------------|-------------------------------------------------------------|-----------------|-------|-----------------|-------|-----------------|-----------------|--|--|
| <b>D</b>                                                          | <b>C</b>                                                                    | <b>G</b>                                                  | <b>T</b>                                    | <b>-</b> | <b>11</b>                                                                                                                                                                                                                                                                                                                                                                                                                          | <b>T3</b>                                                                                                                                                                                                                                                                      | <b>04</b>                                                                                         | <b>-</b>                                                                  | <b>FN</b>                                                                                                                    | <b>-</b>        | <b>X8</b>                                                   |                 |       |                 |       |                 |                 |  |  |
| <p><b>C = 80°</b></p> <p><b>D = 55°</b></p> <p><b>V = 35°</b></p> | <p><b>C = 7°</b></p>                                                        | <p><b>G = ±0.025 mm</b></p> <p><b>M = ±0.05 mm</b></p>    | <p><b>T</b></p> <p><b>W</b></p>             |          | <p><b>L</b></p> <p>Diagram showing insert size L and diameter Ø d.</p>                                                                                                                                                                                                                                                                                                                                                             | <p><b>R:</b></p> <p>003 = 0.03 mm<br/>005 = 0.05 mm<br/>008 = 0.08 mm<br/>01 = 0.1 mm<br/>015 = 0.15 mm<br/>02 = 0.2 mm<br/>04 = 0.4 mm<br/>08 = 0.8 mm</p> <p><b>02 = 2.38 mm</b><br/><b>03 = 3.18 mm</b><br/><b>T3 = 3.97 mm</b><br/><b>04 = 4.76 mm</b></p> <p><b>E</b></p> | <p><b>FN</b></p> <p><b>EN</b></p> <p><b>ENP</b></p> <p><b>FL / FR</b></p> <p><b>ELP / ERP</b></p> | <p>cf.: Géométrie de coupe<br/>Spanformgeometrie<br/>Cutting geometry</p> |                                                                                                                              |                 |                                                             |                 |       |                 |       |                 |                 |  |  |
|                                                                   |                                                                             |                                                           |                                             |          | <table border="1"> <thead> <tr> <th>L</th> <th>Ø d [mm]</th> </tr> </thead> <tbody> <tr> <td>CC...<b>06</b></td> <td rowspan="3">6.350</td> </tr> <tr> <td>DC...<b>07</b></td> </tr> <tr> <td>VC... <b>11</b></td> </tr> <tr> <td>VC... <b>13</b></td> <td>7.940</td> </tr> <tr> <td>CC...<b>09</b></td> <td rowspan="3">9.525</td> </tr> <tr> <td>DC...<b>11</b></td> </tr> <tr> <td>VC... <b>16</b></td> </tr> </tbody> </table> | L                                                                                                                                                                                                                                                                              | Ø d [mm]                                                                                          | CC... <b>06</b>                                                           | 6.350                                                                                                                        | DC... <b>07</b> | VC... <b>11</b>                                             | VC... <b>13</b> | 7.940 | CC... <b>09</b> | 9.525 | DC... <b>11</b> | VC... <b>16</b> |  |  |
| L                                                                 | Ø d [mm]                                                                    |                                                           |                                             |          |                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                |                                                                                                   |                                                                           |                                                                                                                              |                 |                                                             |                 |       |                 |       |                 |                 |  |  |
| CC... <b>06</b>                                                   | 6.350                                                                       |                                                           |                                             |          |                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                |                                                                                                   |                                                                           |                                                                                                                              |                 |                                                             |                 |       |                 |       |                 |                 |  |  |
| DC... <b>07</b>                                                   |                                                                             |                                                           |                                             |          |                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                |                                                                                                   |                                                                           |                                                                                                                              |                 |                                                             |                 |       |                 |       |                 |                 |  |  |
| VC... <b>11</b>                                                   |                                                                             |                                                           |                                             |          |                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                |                                                                                                   |                                                                           |                                                                                                                              |                 |                                                             |                 |       |                 |       |                 |                 |  |  |
| VC... <b>13</b>                                                   | 7.940                                                                       |                                                           |                                             |          |                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                |                                                                                                   |                                                                           |                                                                                                                              |                 |                                                             |                 |       |                 |       |                 |                 |  |  |
| CC... <b>09</b>                                                   | 9.525                                                                       |                                                           |                                             |          |                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                |                                                                                                   |                                                                           |                                                                                                                              |                 |                                                             |                 |       |                 |       |                 |                 |  |  |
| DC... <b>11</b>                                                   |                                                                             |                                                           |                                             |          |                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                |                                                                                                   |                                                                           |                                                                                                                              |                 |                                                             |                 |       |                 |       |                 |                 |  |  |
| VC... <b>16</b>                                                   |                                                                             |                                                           |                                             |          |                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                |                                                                                                   |                                                                           |                                                                                                                              |                 |                                                             |                 |       |                 |       |                 |                 |  |  |



Géométries de coupe

Spanformgeometrien

Cutting geometries

**G**

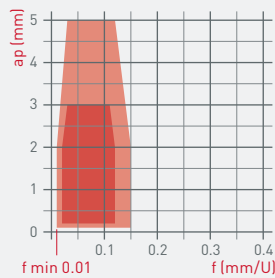
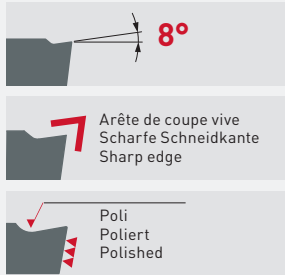
tolerance class

Plaquettes en métal dur rectifiées

VHM geschliffene WSP

Carbide ground inserts

Finishing

**FN-X8**

|   |       |
|---|-------|
| P | ★★★★★ |
| M | ★★★★  |
| N | ★★★★  |
| S | ★★★   |

CCGT



p. 7.19

DCGT



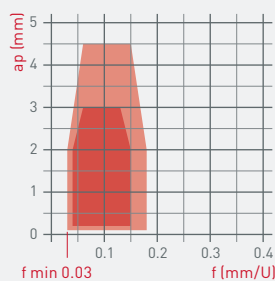
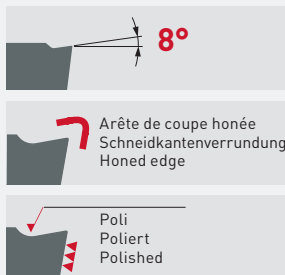
p. 7.37

VCGT



p. 7.54

Semi-finishing

**ENP-X8**

|   |       |
|---|-------|
| P | ★★★★★ |
| M | ★★★   |
| N | ★★★   |
| S | ★★★   |

CCGT



p. 7.19

DCGT



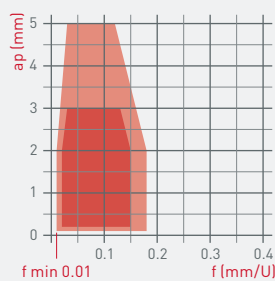
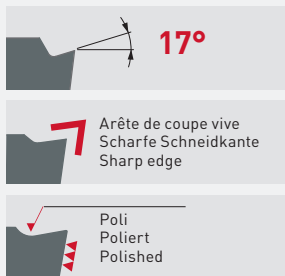
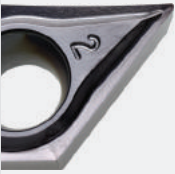
p. 7.37

VCGT



p. 7.54

Finishing

**FN-X17**

|   |       |
|---|-------|
| P | ★★★   |
| M | ★★★★★ |
| N | ★★★★★ |
| S | ★★★★★ |

CCGT



p. 7.20

DCGT



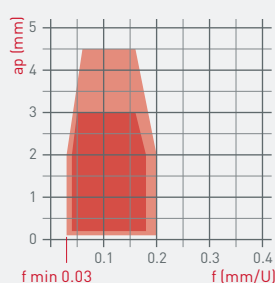
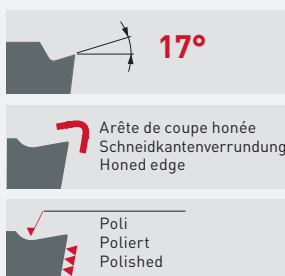
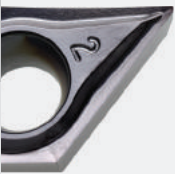
p. 7.38

VCGT



p. 7.55

Semi-finishing

**ENP-X17**

|   |       |
|---|-------|
| P | ★★★   |
| M | ★★★★★ |
| N | ★★★★  |
| S | ★★★★  |

CCGT



p. 7.20

DCGT



p. 7.38

VCGT



p. 7.55

Géométries de coupe

Spanformgeometrien

Cutting geometries

**G**

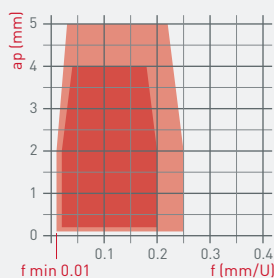
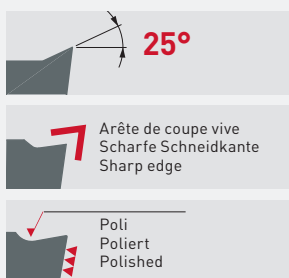
tolerance class

Plaquettes en métal dur rectifiées

VHM geschliffene WSP

Carbide ground inserts

Finishing

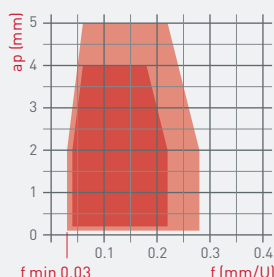
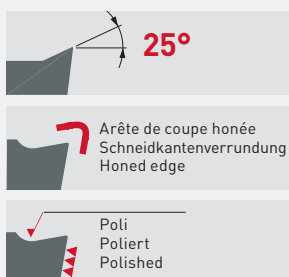
**FN-X25**

|   |       |
|---|-------|
| P |       |
| M | ★★★   |
| N | ★★★★★ |
| S | ★★★★★ |

|         |         |         |
|---------|---------|---------|
| CCGT    | DCGT    | VCGT    |
|         |         |         |
| p. 7.21 | p. 7.39 | p. 7.56 |

Semi-finishing

Finishing

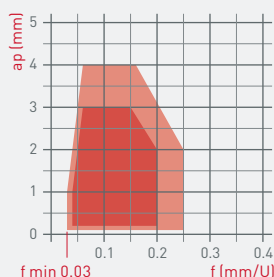
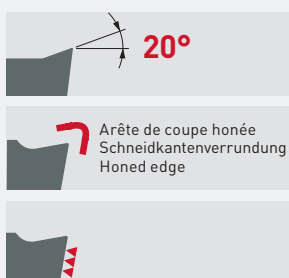
**ENP-X25**

|   |       |
|---|-------|
| P |       |
| M | ★★★   |
| N | ★★★★★ |
| S | ★★★★★ |

|         |         |         |
|---------|---------|---------|
| CCGT    | DCGT    | VCGT    |
|         |         |         |
| p. 7.21 | p. 7.39 | p. 7.56 |

Semi-finishing

Finishing

**ENP-X20**

|   |       |
|---|-------|
| P |       |
| M | ★★★★★ |
| N | ★★★★★ |
| S | ★★★★★ |

|         |         |         |
|---------|---------|---------|
| CCGT    | DCGT    | VCGT    |
|         |         |         |
| p. 7.22 | p. 7.40 | p. 7.57 |

Géométries de coupe

Spanformgeometrien

Cutting geometries

**M**

tolerance class

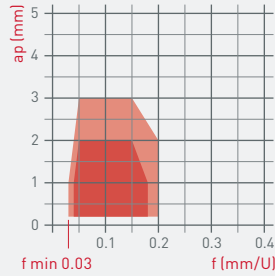
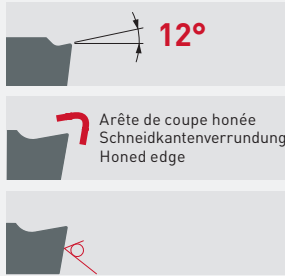
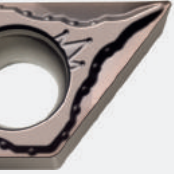
Plaquettes en métal dur

VHM-Wendeplatten

Carbide inserts

Semi-finishing

Finishing

**EN-XF3**

|   |       |
|---|-------|
| P | ★★★★★ |
| M | ★★★★★ |
| N | ★★★   |
| S | ★★★   |

CCMT



p. 7.23

DCMT



p. 7.41

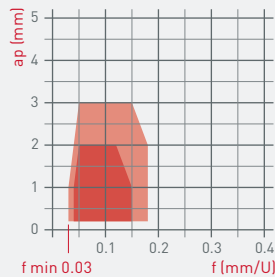
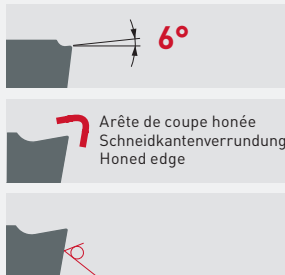
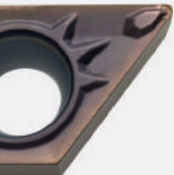
VCMT



p. 7.58

Semi-finishing

Finishing

**EN-XF2**

|   |       |
|---|-------|
| P | ★★★★★ |
| M | ★★★   |
| N |       |
| S | ★★★   |

CCMT



p. 7.23

DCMT



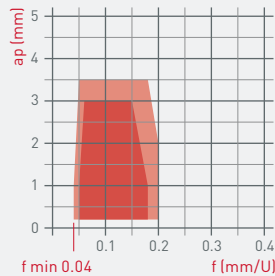
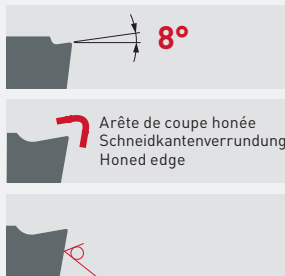
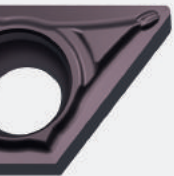
p. 7.41

VCMT



p. 7.58

Semi-finishing

**EN-MF2**

|   |       |
|---|-------|
| P | ★★★★★ |
| M | ★★★★★ |
| N | ★★★   |
| S | ★★★   |

CCMT



p. 7.23

DCMT



p. 7.41

Géométries de coupe

Spanformgeometrien

Cutting geometries

**M**

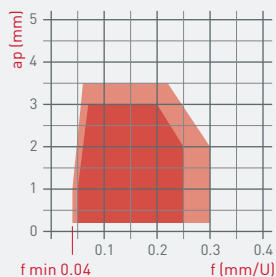
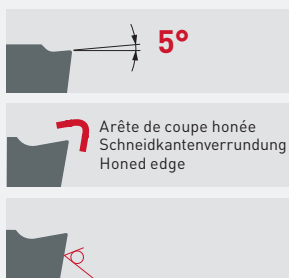
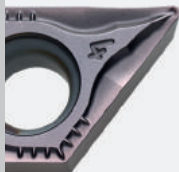
tolerance class

Plaquettes en métal dur

VHM-Wendeplatten

Carbide inserts

Semi-finishing

**EN-MF**

|   |       |
|---|-------|
| P | ★★★★★ |
| M | ★★★   |
| N |       |
| S |       |

CCMT



p. 7.24

DCMT



p. 7.42

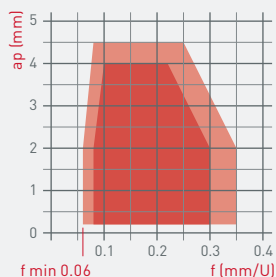
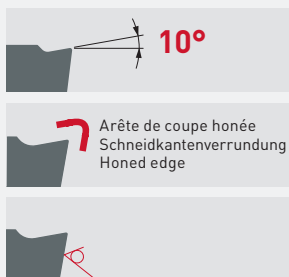
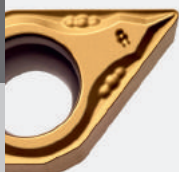
VCMT



p. 7.59

Roughing

Semi-finishing

**EN-HF3**

|   |       |
|---|-------|
| P | ★★★★★ |
| M | ★★★★★ |
| N |       |
| S | ★★★   |

CCMT



p. 7.24

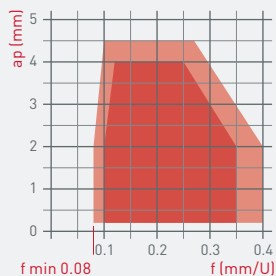
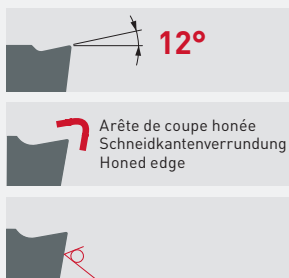
DCMT



p. 7.42

Roughing

Semi-finishing

**EN-HF**

|   |       |
|---|-------|
| P | ★★★★★ |
| M | ★★★★★ |
| N |       |
| S |       |

CCMT



p. 7.24

DCMT



p. 7.42

VCMT



p. 7.59

Géométries de coupe  
Spanformgeometrien  
Cutting geometries

**G**  
tolerance class

Plaquettes en métal dur rectifiées  
VHM geschliffene WSP  
Carbide ground inserts

**FL/FR-X10**

**Super-finishing**

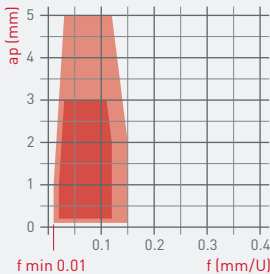
**Finishing**



10°

Arête de coupe vive  
Scharfe Schneidkante  
Sharp edge

Poli  
Poliert  
Polished



ap (mm)

f min 0.01

f (mm/U)

|   |       |
|---|-------|
| P | ★★★★★ |
| M | ★★★★★ |
| N | ★★★★★ |
| S | ★★★★★ |

VC6T



p. 7.52

**ELP/ERP-X10**

**Semi-finishing**

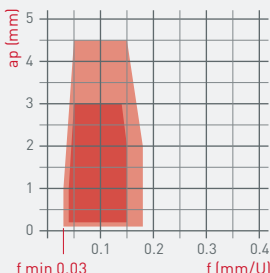
**Finishing**



10°

Arête de coupe honée  
Schneidkantenverrundung  
Honed edge

Poli  
Poliert  
Polished



ap (mm)

f min 0.03

f (mm/U)

|   |       |
|---|-------|
| P | ★★★★★ |
| M | ★★★★★ |
| N | ★★★   |
| S | ★★★   |

VC6T



p. 7.52

**FN-K18**

**Super-finishing**

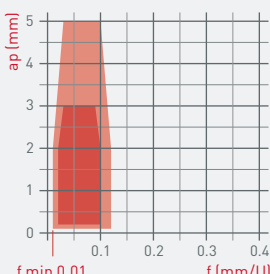
**Finishing**



18°

Arête de coupe vive  
Scharfe Schneidkante  
Sharp edge

Poli  
Poliert  
Polished



ap (mm)

f min 0.01

f (mm/U)

|   |       |
|---|-------|
| P | ★★★★★ |
| M | ★★★★★ |
| N | ★★★★★ |
| S | ★★★★★ |

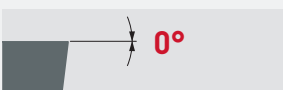
VC6T



p. 7.53

**FN-0**

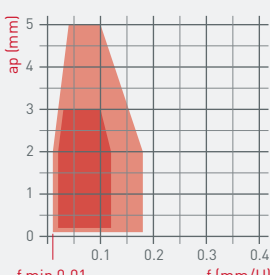
**Finishing**



0°

Arête de coupe vive  
Scharfe Schneidkante  
Sharp edge

Poli  
Poliert  
Polished



ap (mm)

f min 0.01

f (mm/U)

|   |     |
|---|-----|
| P | ★★★ |
| M |     |
| N | ★★★ |
| S |     |

VC6W



p. 7.53

Géometries de coupe

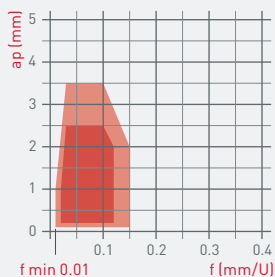
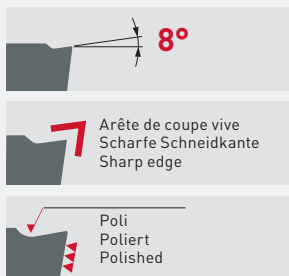
Spanformgeometrien

Cutting geometries

G/M  
tolerance class

CERMET

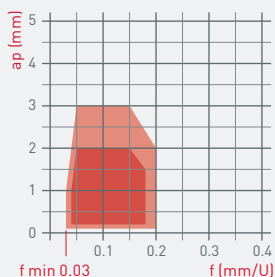
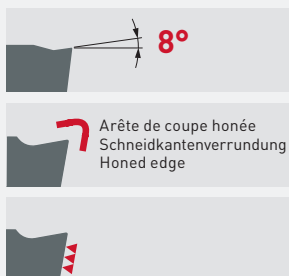
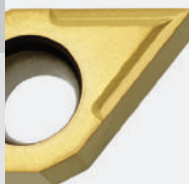
Finishing

FN-X8  
CERMET

|   |       |
|---|-------|
| P | ★★★★★ |
| M | ★★★   |
| N |       |
| S |       |

| CCGT    | DCGT    | VCGT    |
|---------|---------|---------|
|         |         |         |
| p. 7.25 | p. 7.43 | p. 7.60 |

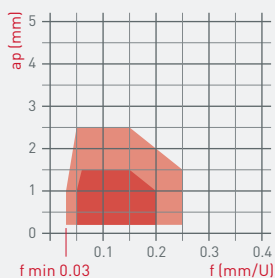
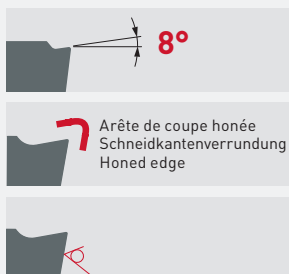
Semi-finishing

ENP-KX  
CERMET

|   |       |
|---|-------|
| P | ★★★★★ |
| M | ★★★   |
| N |       |
| S |       |

| CCGT    | DCGT    |
|---------|---------|
|         |         |
| p. 7.25 | p. 7.43 |

Finishing

EN-KM  
CERMET

|   |       |
|---|-------|
| P | ★★★★★ |
| M | ★★★   |
| N |       |
| S |       |

| CCMT    | DCMT    |
|---------|---------|
|         |         |
| p. 7.26 | p. 7.44 |

Semi-finishing

Nuances

Sorten

Grades

| Nuances<br>Sorten<br>Grades | Domaine d'application<br>Anwendungsbereich<br>Application area | Finishing / light machining | Semi-finishing / medium cut | Roughing / heavy machining | Géométries de coupe disponibles<br>Verfügbare Spanformgeometrien<br>Available cutting geometries | Résistance à l'usure<br>Verschleißfestigkeit<br>Wear resistance | Ténacité, résistance à la rupture<br>Zähigkeit, Bruchwiderstand<br>Toughness, crack resistance | Résistance à la température<br>Bearbeitungswarmfestigkeit<br>Machining heat resistance | Revêtement et couleur<br>Beschichtung und Farbe<br>Coating and colour | Recommandations spéciales<br>Sonder Empfehlungen<br>Special recommendations |
|-----------------------------|----------------------------------------------------------------|-----------------------------|-----------------------------|----------------------------|--------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|-----------------------------------------------------------------------|-----------------------------------------------------------------------------|
| Carbide + PVD               |                                                                |                             |                             |                            |                                                                                                  |                                                                 |                                                                                                |                                                                                        |                                                                       |                                                                             |
| TiAlN                       | ★★★★★<br>★★★★★<br>★★★★★<br>★★★★★                               | ■                           | ■                           | ■                          | FN/ENP-X8<br>FN/ENP-X17<br>FN/ENP-X25<br>L/R-X10                                                 | ■■■■■                                                           | ■■■■■                                                                                          | ■■■■■                                                                                  | PVD                                                                   |                                                                             |
| HTA                         | ★★★★★<br>★★★★★<br>★★★★★<br>★★★★★                               | ■                           |                             |                            | FN-X8 FN-X17<br>FN-X25<br>L/R-X10<br>FN-K18 FN-0                                                 | ■■■■■                                                           | ■■■■■                                                                                          | ■■■■■                                                                                  | PVD                                                                   |                                                                             |
| TiN                         | ★★★★<br>★★★★<br>★★★★★                                          | ■                           | ■                           | ■                          | FN/ENP-X8<br>FN/ENP-X17<br>FN/ENP-X25<br>L/R-X10                                                 | ■■■■■                                                           | ■■■■■                                                                                          | ■■■■■                                                                                  | PVD                                                                   | High resistance to edge build up                                            |
| HTiN                        | ★★★★<br>★★★★<br>★★★★★                                          | ■                           |                             |                            | FN-K18<br>FN-0                                                                                   | ■■■■■                                                           | ■■■■■                                                                                          | ■■■■■                                                                                  | PVD                                                                   | High resistance to edge build up                                            |
| TAC                         | ★★★★★<br>★★★★★<br>★★★★★<br>★★★★★                               | ■                           | ■                           | ■                          | EN-XF3<br>EN-XF2<br>EN-MF2<br>EN-HF                                                              | ■■■■■                                                           | ■■■■■                                                                                          | ■■■■■                                                                                  | PVD                                                                   |                                                                             |
| HTAC                        | ★★★★★<br>★★★★★<br>★★★★★<br>★★★★★                               | ■                           | ■                           |                            | EN-XF3<br>EN-XF2<br>EN-MF2                                                                       | ■■■■■                                                           | ■■■■■                                                                                          | ■■■■■                                                                                  | PVD                                                                   |                                                                             |
| TiX                         | ★★★★★<br>★★★★★<br>★★★                                          |                             |                             | ■                          | EN-HF3                                                                                           | ■■■■■                                                           | ■■■■■                                                                                          | ■■■■■                                                                                  | PVD                                                                   | Easy wear out control with TiN top layer                                    |
| HTiX                        | ★★★★★<br>★★★★★<br>★★★★★<br>★★★                                 | ■                           | ■                           |                            | ENP-X20<br>EN-HF3                                                                                | ■■■■■                                                           | ■■■■■                                                                                          | ■■■■■                                                                                  | PVD                                                                   | Easy wear out control with TiN top layer                                    |
| Tmax                        | ★★★★★<br>★★★★★<br>★★★★★<br>★★★★★                               | ■                           | ■                           |                            | EN-MF<br>EN-HF                                                                                   | ■■■■■                                                           | ■■■■■                                                                                          | ■■■■■                                                                                  | PVD                                                                   |                                                                             |
| ZTA                         | ★★★★★<br>★★★★★<br>★★★★★                                        | ■                           | ■                           |                            | ENP-X20                                                                                          | ■■■■■                                                           | ■■■■■                                                                                          | ■■■■■                                                                                  | PVD                                                                   | perfect for titanium alloys & superalloys                                   |
| TiAlX                       | ★★★★<br>★★★★<br>★★★★★                                          | ■                           | ■                           |                            | X8<br>R-X10<br>X17<br>X25                                                                        | ■■■■■                                                           | ■■■■■                                                                                          | ■■■■■                                                                                  | PVD                                                                   | perfect for titanium alloys & superalloys                                   |
| HTAX                        | ★★★★<br>★★★★<br>★★★★★                                          | ■                           |                             |                            | X8<br>R-X10<br>X17<br>X25                                                                        | ■■■■■                                                           | ■■■■■                                                                                          | ■■■■■                                                                                  | PVD                                                                   | perfect for titanium alloys & superalloys                                   |

Nuances

Sorten

Grades

| Nuances<br>Sorten<br>Grades | Domaine d'application<br>Anwendungsbereich<br>Application area | Finishing / light machining | Semi-finishing / medium cut | Roughing / heavy machining | Géométries de coupe disponibles<br>Verfügbare Spanformgeometrien<br>Available cutting geometries | Résistance à l'usure<br>Verschleißfestigkeit<br>Wear resistance | Ténacité, résistance à la rupture<br>Zähigkeit, Bruchwiderstand<br>Toughness, crack resistance | Résistance à la température<br>Bearbeitungswarmfestigkeit<br>Machining heat resistance | Revêtement et couleur<br>Beschichtung und Farbe<br>Coating and colour | Recommandations spéciales<br>Sonder Empfehlungen<br>Special recommendations |
|-----------------------------|----------------------------------------------------------------|-----------------------------|-----------------------------|----------------------------|--------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|-----------------------------------------------------------------------|-----------------------------------------------------------------------------|
| <b>Carbide + CVD</b>        |                                                                |                             |                             |                            |                                                                                                  |                                                                 |                                                                                                |                                                                                        |                                                                       |                                                                             |
| Ti4                         | ★★★★★<br>★★★                                                   |                             | ■                           | ■                          | EN-MF<br>EN-HF3<br>EN-HF                                                                         | ■■■■■                                                           | ■■■■■                                                                                          | ■■■■■                                                                                  | CVD                                                                   |                                                                             |
| Ti5                         | ★★★★★<br>★★★                                                   |                             | ■                           | ■                          | EN-MF2<br>EN-HF                                                                                  | ■■■■■                                                           | ■■■■■                                                                                          | ■■■■■                                                                                  | CVD                                                                   | Easy wear out control with TiN top layer                                    |
| HTi5                        | ★★★★★<br>★★★                                                   |                             | ■                           | ■                          | EN-XF2<br>EN-MF2<br>EN-HF                                                                        | ■■■■■                                                           | ■■■■■                                                                                          | ■■■■■                                                                                  | CVD                                                                   | Easy wear out control with TiN top layer                                    |
| Ti6                         | ★★★<br>★★★★★<br>★★★★★                                          |                             | ■                           | ■                          | EN-HF3                                                                                           | ■■■■■                                                           | ■■■■■                                                                                          | ■■■■■                                                                                  | CVD                                                                   |                                                                             |
| <b>Carbide uncoated</b>     |                                                                |                             |                             |                            |                                                                                                  |                                                                 |                                                                                                |                                                                                        |                                                                       |                                                                             |
| K10                         | ★★★<br>★★★                                                     | ■                           |                             |                            | FN-X8 FN-X17<br>FN-X25<br>ELP-X10/ERP-X10<br>FN-K18 FN-0                                         | ■■■■■                                                           | ■■■■■                                                                                          | ■■■■■                                                                                  | uncoated                                                              |                                                                             |
| K20                         | ★★<br>★★                                                       | ■                           |                             |                            | FN/ENP-X8<br>FN/ENP-X17<br>FN/ENP-X25<br>ELP-X10/ERP-X10                                         | ■■■■■                                                           | ■■■■■                                                                                          | ■■■■■                                                                                  | uncoated                                                              |                                                                             |
| <b>CERMET</b>               |                                                                |                             |                             |                            |                                                                                                  |                                                                 |                                                                                                |                                                                                        |                                                                       |                                                                             |
| CTA                         | ★★★★★<br>★★★                                                   | ■                           |                             |                            | FN-X8                                                                                            | ■■■■■                                                           | ■■■■■                                                                                          | ■■■■■                                                                                  | CERMET +PVD                                                           |                                                                             |
| CT7                         | ★★★★★<br>★★★                                                   | ■                           | ■                           | ■                          | ENP-KX<br>EN-KM                                                                                  | ■■■■■                                                           | ■■■■■                                                                                          | ■■■■■                                                                                  | CERMET + PVD                                                          | Easy wear out control with TiN top layer                                    |
| HCT7                        | ★★★★★<br>★★★                                                   | ■                           | ■                           |                            | ENP-KX<br>EN-KM                                                                                  | ■■■■■                                                           | ■■■■■                                                                                          | ■■■■■                                                                                  | CERMET + PVD                                                          | Easy wear out control with TiN top layer                                    |
| CN6                         | ★★★★                                                           | ■                           |                             |                            | FN-X8<br>ENP-KX<br>EN-KM                                                                         | ■■■■■                                                           | ■■■■■                                                                                          | ■■■■■                                                                                  | CERMET uncoated                                                       |                                                                             |



Porte-outils

Halter

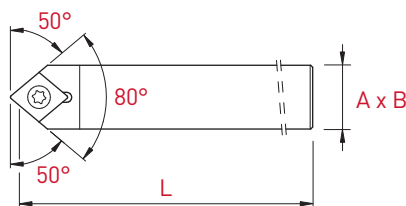
Holders

80°

SCM



SCM



| Plaquettes<br>WSP<br>Inserts | A x B       | L   | Art. N°        |
|------------------------------|-------------|-----|----------------|
| CC...-0602..                 | 8 x 8       | 115 | SCMCN-0808X-06 |
|                              | 10 x 10     | 115 | SCMCN-1010X-06 |
|                              | 12 x 12     | 130 | SCMCN-1212X-06 |
|                              | 12 x 12     | 90  | SCMCN-1212G-06 |
|                              | 12.7 x 12.7 | 130 | SCMCN-12.7X-06 |
|                              | 16 x 16     | 130 | SCMCN-1616X-06 |
|                              | 16 x 16     | 75  | SCMCN-1616F-06 |
| CC...-09T3..                 | 12 x 12     | 130 | SCMCN-1212X-09 |
|                              | 12 x 12     | 90  | SCMCN-1212G-09 |
|                              | 12.7 x 12.7 | 130 | SCMCN-12.7X-09 |
|                              | 16 x 16     | 130 | SCMCN-1616X-09 |
|                              | 16 x 16     | 75  | SCMCN-1616F-09 |
|                              | 20 x 20     | 120 | SCMCN-2020X-09 |

Porte-outils

Halter

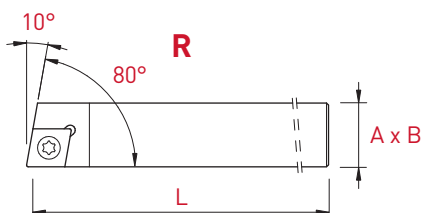
Holders

80°

SCA



SCA



|                              |             |     |  |  |
|------------------------------|-------------|-----|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Plaquettes<br>WSP<br>Inserts | A x B       | L   | Art. N°                                                                           | Art. N°                                                                             |
| CC...-0602..                 | 8 x 8       | 115 | SCACL-0808X-06                                                                    | SCACR-0808X-06                                                                      |
|                              | 10 x 10     | 115 | SCACL-1010X-06                                                                    | SCACR-1010X-06                                                                      |
|                              | 12 x 12     | 130 | SCACL-1212X-06                                                                    | SCACR-1212X-06                                                                      |
|                              | 12 x 12     | 90  | SCACL-1212G-06                                                                    | SCACR-1212G-06                                                                      |
|                              | 12.7 x 12.7 | 130 | SCACL-12.7X-06                                                                    | SCACR-12.7X-06                                                                      |
|                              | 16 x 16     | 130 | SCACL-1616X-06                                                                    | SCACR-1616X-06                                                                      |
|                              | 16 x 16     | 75  | SCACL-1616F-06                                                                    | SCACR-1616F-06                                                                      |
| CC...-09T3..                 | 12 x 12     | 130 | SCACL-1212X-09                                                                    | SCACR-1212X-09                                                                      |
|                              | 12 x 12     | 90  | SCACL-1212G-09                                                                    | SCACR-1212G-09                                                                      |
|                              | 12.7 x 12.7 | 130 | SCACL-12.7X-09                                                                    | SCACR-12.7X-09                                                                      |
|                              | 16 x 16     | 130 | SCACL-1616X-09                                                                    | SCACR-1616X-09                                                                      |
|                              | 16 x 16     | 75  | SCACL-1616F-09                                                                    | SCACR-1616F-09                                                                      |
|                              | 20 x 20     | 120 | SCACL-2020X-09                                                                    | SCACR-2020X-09                                                                      |

Porte-outils

Halter

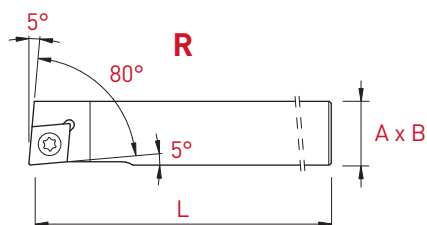
Holders

80°

SCL



SCL



L

R

| Plaquettes<br>WSP<br>Inserts | A x B       | L   | Art. N°        | Art. N°        |
|------------------------------|-------------|-----|----------------|----------------|
| CC..-0602..                  | 8 x 8       | 115 | SCLCL-0808X-06 | SCLCR-0808X-06 |
|                              | 10 x 10     | 115 | SCLCL-1010X-06 | SCLCR-1010X-06 |
|                              | 12 x 12     | 130 | SCLCL-1212X-06 | SCLCR-1212X-06 |
|                              | 12 x 12     | 90  | SCLCL-1212G-06 | SCLCR-1212G-06 |
|                              | 12.7 x 12.7 | 130 | SCLCL-12.7X-06 | SCLCR-12.7X-06 |
|                              | 16 x 16     | 130 | SCLCL-1616X-06 | SCLCR-1616X-06 |
|                              | 16 x 16     | 75  | SCLCL-1616F-06 | SCLCR-1616F-06 |
| CC..-09T3..                  | 12 x 12     | 130 | SCLCL-1212X-09 | SCLCR-1212X-09 |
|                              | 12 x 12     | 90  | SCLCL-1212G-09 | SCLCR-1212G-09 |
|                              | 12.7 x 12.7 | 130 | SCLCL-12.7X-09 | SCLCR-12.7X-09 |
|                              | 16 x 16     | 130 | SCLCL-1616X-09 | SCLCR-1616X-09 |
|                              | 16 x 16     | 75  | SCLCL-1616F-09 | SCLCR-1616F-09 |
|                              | 20 x 20     | 120 | SCLCL-2020X-09 | SCLCR-2020X-09 |

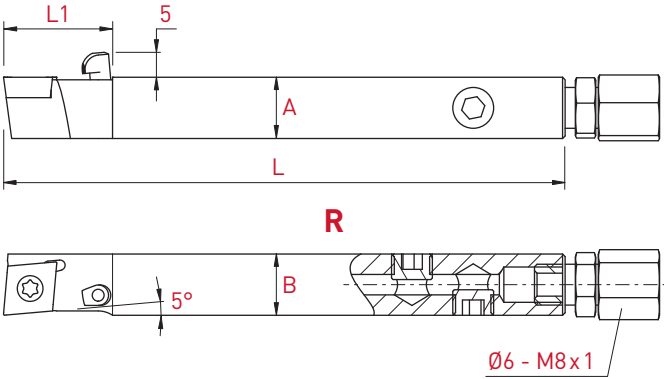
Porte-outils avec arrosage intégré  
Halter mit integrierter Kühlmittelzufuhr  
Holders with integrated coolant supply

80°

SCL-JET



SCL



L

R

| Plaquettes<br>WSP<br>Inserts | A x B       | L   | L1 | Art. N°            | Art. N°            |
|------------------------------|-------------|-----|----|--------------------|--------------------|
| CC...-0602..                 | 10 x 10     | 110 | 21 | SCLCL-1010J-06-JET | SCLCR-1010J-06-JET |
|                              | 12 x 12     | 110 | 21 | SCLCL-1212J-06-JET | SCLCR-1212J-06-JET |
|                              | 12.7 x 12.7 | 110 | 21 | SCLCL-12.7J-06-JET | SCLCR-12.7J-06-JET |
|                              | 16 x 16     | 110 | 21 | SCLCL-1616J-06-JET | SCLCR-1616J-06-JET |
| CC...-09T3..                 | 12 x 12     | 110 | 21 | SCLCL-1212J-09-JET | SCLCR-1212J-09-JET |
|                              | 12.7 x 12.7 | 110 | 21 | SCLCL-12.7J-09-JET | SCLCR-12.7J-09-JET |
|                              | 16 x 16     | 110 | 21 | SCLCL-1616J-09-JET | SCLCR-1616J-09-JET |
|                              | 20 x 20     | 110 | 21 | SCLCL-2020J-09-JET | SCLCR-2020J-09-JET |

Porte-outils intérieurs amincis

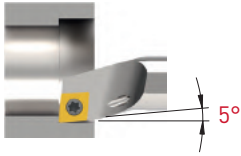
Verjüngte Innenhalter

Thinned internal holders

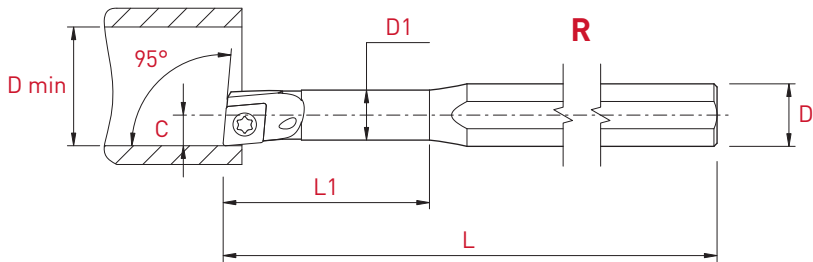
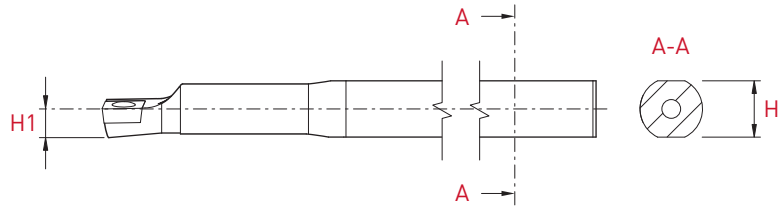
80°

A-SCLCR/L

new



SCL



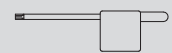
Acier / Stahl / Steel

L

R

| Plaquettes<br>WSP<br>Inserts |    |       |    |   |    |     |    |    |  | Art. N°         | Art. N°         |
|------------------------------|----|-------|----|---|----|-----|----|----|--|-----------------|-----------------|
|                              | D  | D min | D1 | C | H1 | L   | L1 | H  |  |                 |                 |
| CC...-0602..                 | 8  | 8     | 6  | 4 | 4  | 100 | 25 | 7  |  | A0608H-SCLCL-06 | A0608H-SCLCR-06 |
|                              | 10 | 12    | 8  | 6 | 5  | 110 | 32 | 9  |  | A0810J-SCLCL-06 | A0810J-SCLCR-06 |
|                              | 12 | 14    | 10 | 7 | 6  | 125 | 38 | 11 |  | A1012K-SCLCL-06 | A1012K-SCLCR-06 |

 Pour barres d'alésage  
 For boring bar  
 Für Borstange

 Pièces de rechange  
 Ersatzteile  
 Spare parts


Art. N°

Art. N°

A0608H\_ / A0810J\_

V-M2.5X4.8-T8

A1012K\_

V-M2.5X5.8-T8

C-T8

Porte-outils intérieurs

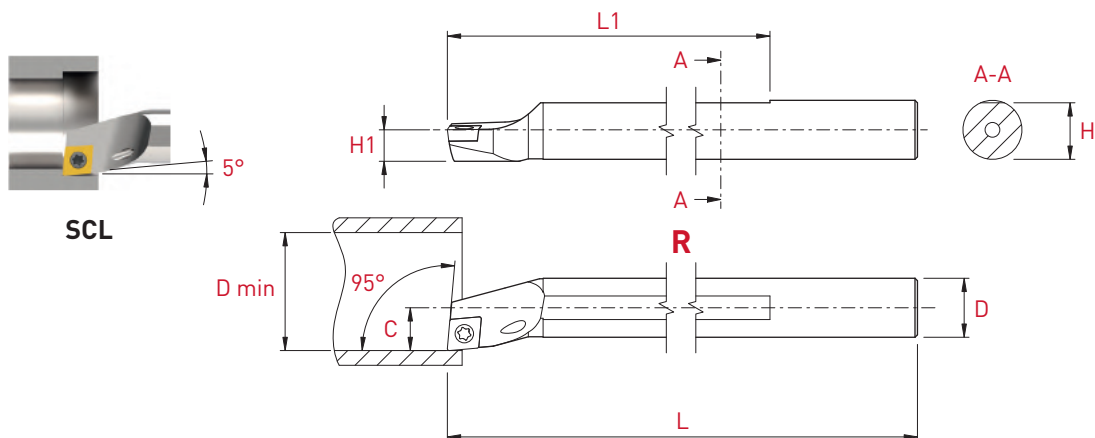
Innenhalter

Internal holders

80°

A-SCLCR/L  
E-SCLCR/L

new



Acier / Stahl / Steel

L

R

| Plaquettes<br>WSP<br>Inserts | D  | D min | C  | H1 | L   | L1  | H    | Art. N°       | Art. N°       |
|------------------------------|----|-------|----|----|-----|-----|------|---------------|---------------|
| CC...-0602                   | 8  | 11    | 5  | 4  | 80  | 74  | 7.5  | A08F-SCLCL-06 | A08F-SCLCR-06 |
|                              | 10 | 13    | 7  | 5  | 100 | 85  | 9.5  | A10H-SCLCL-06 | A10H-SCLCR-06 |
|                              | 12 | 16    | 9  | 6  | 125 | 95  | 11.5 | A12K-SCLCL-06 | A12K-SCLCR-06 |
| CC...-09T3                   | 16 | 20    | 11 | 8  | 150 | 117 | 15.5 | A16M-SCLCL-09 | A16M-SCLCR-09 |

Carbure de tungstène / Hartmetall / Solid carbide

|            | D  | D min | C | H1 | L   | L1 | H    | Art. N°       | Art. N°       |
|------------|----|-------|---|----|-----|----|------|---------------|---------------|
| CC...-0602 | 8  | 9     | 5 | 4  | 125 | -  | 7.5  | E08K-SCLCL 06 | E08K-SCLCR 06 |
|            | 10 | 11    | 6 | 5  | 125 | -  | 9.5  | E10K-SCLCL-06 | E10K-SCLCR 06 |
|            | 12 | 13    | 8 | 6  | 150 | -  | 11.5 | E12M-SCLCL 06 | E12M-SCLCR 06 |

Pour barres d'alésage  
For boring bar  
Für BorstangePièces de rechange  
Ersatzteile  
Spare parts

Art. N°

Art. N°

A08F\_ / E08K\_

V-M2.5X4.8-T8

C-T8

A10H\_ / E10H\_

V-M2.5X5.8-T8

C-T8

A16M\_

V-M3.5X7.2-T15-ISO

C-T15

Plaquettes en métal dur

VHM-Wendeplatten

Solid carbide inserts

80°

CCGT-X8

CCGT  
FN-X8

| R    | Art. N° | PVD   |     |     | non revêtu<br>unbeschichtet<br>uncoated |     |
|------|---------|-------|-----|-----|-----------------------------------------|-----|
|      |         | TiAlN | HTA | TiN | K10                                     | K20 |
| ~6 R | 0.05    | ■     | ■   | ■   | ■                                       | ■   |
|      | 0.1     | ■     | ■   | ■   | ■                                       | ■   |
|      | 0.2     | ■     | ■   | ■   | ■                                       | ■   |
|      | 0.4     | ■     | ■   | ■   | ■                                       | ■   |
| ~9 R | 0.05    | ■     | ■   | ■   | ■                                       | ■   |
|      | 0.1     | ■     | ■   | ■   | ■                                       | ■   |
|      | 0.2     | ■     | ■   | ■   | ■                                       | ■   |
|      | 0.4     | ■     | ■   | ■   | ■                                       | ■   |

CCGT  
ENP-X8

| R    | Art. N° | PVD   |     | non revêtu<br>unbeschichtet<br>uncoated |
|------|---------|-------|-----|-----------------------------------------|
|      |         | TiAlN | TiN | K20                                     |
| ~6 R | 0.05    | ■     | ■   | ■                                       |
|      | 0.1     | ■     | ■   | ■                                       |
|      | 0.2     | ■     | ■   | ■                                       |
|      | 0.4     | ■     | ■   | ■                                       |
| ~9 R | 0.05    | ■     | ■   | ■                                       |
|      | 0.1     | ■     | ■   | ■                                       |
|      | 0.2     | ■     | ■   | ■                                       |
|      | 0.4     | ■     | ■   | ■                                       |



Plaquettes en métal dur

VHM-Wendeplatten

Solid carbide inserts

80°

CCGT-X17

CCGT  
FN-X17

| R    | Art. N° | PVD   |     |     | non revêtu<br>unbeschichtet<br>uncoated |     |
|------|---------|-------|-----|-----|-----------------------------------------|-----|
|      |         | TiAlN | HTA | TiN | K10                                     | K20 |
| ~6 R | 0.05    | ■     | ■   | ■   | ■                                       | ■   |
|      | 0.1     | ■     | ■   | ■   | ■                                       | ■   |
|      | 0.2     | ■     | ■   | ■   | ■                                       | ■   |
|      | 0.4     | ■     | ■   | ■   | ■                                       | ■   |
| ~9 R | 0.05    | ■     | ■   | ■   | ■                                       | ■   |
|      | 0.1     | ■     | ■   | ■   | ■                                       | ■   |
|      | 0.2     | ■     | ■   | ■   | ■                                       | ■   |
|      | 0.4     | ■     | ■   | ■   | ■                                       | ■   |
|      | 0.8     | ■     | ■   | ■   | ■                                       | ■   |
|      |         | ■     | ■   | ■   | ■                                       | ■   |

CCGT  
ENP-X17

| R    | Art. N° | PVD   |     | non revêtu<br>unbeschichtet<br>uncoated |
|------|---------|-------|-----|-----------------------------------------|
|      |         | TiAlN | TiN | K20                                     |
| ~6 R | 0.05    | ■     | ■   | ■                                       |
|      | 0.1     | ■     | ■   | ■                                       |
|      | 0.2     | ■     | ■   | ■                                       |
|      | 0.4     | ■     | ■   | ■                                       |
| ~9 R | 0.05    | ■     | ■   | ■                                       |
|      | 0.1     | ■     | ■   | ■                                       |
|      | 0.2     | ■     | ■   | ■                                       |
|      | 0.4     | ■     | ■   | ■                                       |
|      | 0.8     | ■     | ■   | ■                                       |
|      |         | ■     | ■   | ■                                       |



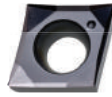
Plaquettes en métal dur

VHM-Wendeplatten

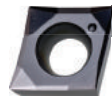
Solid carbide inserts

80°

CCGT-X25

CCGT  
FN-X25

| R    | Art. N°             | PVD              |                  |             | non revêtu<br>unbeschichtet<br>uncoated                                                                                 |                                                                                                                         |
|------|---------------------|------------------|------------------|-------------|-------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|
|      |                     | TiAlN            | HTA              | TiN         | K10                                                                                                                     | K20                                                                                                                     |
|      |                     | P<br>M<br>N<br>S | P<br>M<br>N<br>S | P<br>M<br>N | <input type="checkbox"/><br><input type="checkbox"/><br><input checked="" type="checkbox"/><br><input type="checkbox"/> | <input type="checkbox"/><br><input type="checkbox"/><br><input checked="" type="checkbox"/><br><input type="checkbox"/> |
| 0.05 | CCGT-0602005-FN-X25 | ■                | ■                | ■           | ■                                                                                                                       | ■                                                                                                                       |
| 0.1  | CCGT-060201-FN-X25  | ■                | ■                | ■           | ■                                                                                                                       | ■                                                                                                                       |
| 0.2  | CCGT-060202-FN-X25  | ■                | ■                | ■           | ■                                                                                                                       | ■                                                                                                                       |
| 0.4  | CCGT-060204-FN-X25  | ■                | ■                | ■           | ■                                                                                                                       | ■                                                                                                                       |
| 0.05 | CCGT-09T3005-FN-X25 | ■                | ■                | ■           | ■                                                                                                                       | ■                                                                                                                       |
| 0.1  | CCGT-09T301-FN-X25  | ■                | ■                | ■           | ■                                                                                                                       | ■                                                                                                                       |
| 0.2  | CCGT-09T302-FN-X25  | ■                | ■                | ■           | ■                                                                                                                       | ■                                                                                                                       |
| 0.4  | CCGT-09T304-FN-X25  | ■                | ■                | ■           | ■                                                                                                                       | ■                                                                                                                       |
| 0.8  | CCGT-09T308-FN-X25  | ■                | ■                | ■           | ■                                                                                                                       | ■                                                                                                                       |

CCGT  
ENP-X25

| R    | Art. N°              | PVD              |             | non revêtu<br>unbeschichtet<br>uncoated                                                                                 |
|------|----------------------|------------------|-------------|-------------------------------------------------------------------------------------------------------------------------|
|      |                      | TiAlN            | TiN         | K20                                                                                                                     |
|      |                      | P<br>M<br>N<br>S | P<br>M<br>N | <input type="checkbox"/><br><input type="checkbox"/><br><input checked="" type="checkbox"/><br><input type="checkbox"/> |
| 0.05 | CCGT-0602005-ENP-X25 | ■                | ■           | ■                                                                                                                       |
| 0.1  | CCGT-060201-ENP-X25  | ■                | ■           | ■                                                                                                                       |
| 0.2  | CCGT-060202-ENP-X25  | ■                | ■           | ■                                                                                                                       |
| 0.4  | CCGT-060204-ENP-X25  | ■                | ■           | ■                                                                                                                       |
| 0.05 | CCGT-09T3005-ENP-X25 | ■                | ■           | ■                                                                                                                       |
| 0.1  | CCGT-09T301-ENP-X25  | ■                | ■           | ■                                                                                                                       |
| 0.2  | CCGT-09T302-ENP-X25  | ■                | ■           | ■                                                                                                                       |
| 0.4  | CCGT-09T304-ENP-X25  | ■                | ■           | ■                                                                                                                       |
| 0.8  | CCGT-09T308-ENP-X25  | ■                | ■           | ■                                                                                                                       |



Plaquettes en métal dur  
VHM-Wendeplatten  
Solid carbide inserts

80°

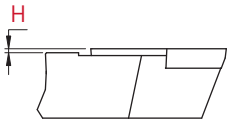
CCGT-X20



CCGT  
ENP-X20

| PVD                                   |                                       |
|---------------------------------------|---------------------------------------|
| <input type="checkbox"/>              | <input type="checkbox"/>              |
| <input checked="" type="checkbox"/> M | <input checked="" type="checkbox"/> M |
| <input checked="" type="checkbox"/> N | <input checked="" type="checkbox"/> N |
| <input checked="" type="checkbox"/> S | <input checked="" type="checkbox"/> S |
| ZTA                                   | HTIX                                  |

| R   | H    | Art. N°             |   |   |
|-----|------|---------------------|---|---|
| 0.1 | 0.2  | CCGT-060201-ENP-X20 | ■ |   |
| 0.2 | 0.2  | CCGT-060202-ENP-X20 | ■ | ■ |
| 0.4 | 0.2  | CCGT-060204-ENP-X20 | ■ | ■ |
| 0.1 | 0.25 | CCGT-09T301-ENP-X20 | ■ |   |
| 0.2 | 0.25 | CCGT-09T302-ENP-X20 | ■ | ■ |
| 0.4 | 0.25 | CCGT-09T304-ENP-X20 | ■ | ■ |
| 0.8 | 0.25 | CCGT-09T308-ENP-X20 | ■ | ■ |



Plaquettes en métal dur

VHM-Wendeplatten

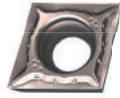
Solid carbide inserts

80°

CCMT-XF3

CCMT-XF2

CCMT-MF2

CCMT  
EN-XF3

PVD

|   |   |
|---|---|
| P | P |
| M | M |
| N | N |
| S | S |

|     |      |
|-----|------|
| TAC | HTAC |
|-----|------|

R

Art. N°

0.2

CCMT-060202-EN-XF3

■ ■

0.4

CCMT-060204-EN-XF3

■ ■

0.2

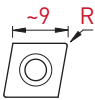
CCMT-09T302-EN-XF3

■ ■

0.4

CCMT-09T304-EN-XF3

■ ■

CCMT  
EN-XF2

PVD

|   |   |
|---|---|
| P | P |
| M | M |
| N | N |
| S | S |

|     |      |
|-----|------|
| TAC | HTAC |
|-----|------|

R

Art. N°

0.2

CCMT-060202-EN-XF2

■ ■

0.4

CCMT-060204-EN-XF2

■ ■

0.2

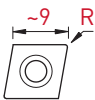
CCMT-09T302-EN-XF2

■ ■

0.4

CCMT-09T304-EN-XF2

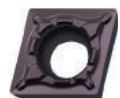
■ ■



CVD

|   |
|---|
| P |
| M |
|   |
|   |

|      |
|------|
| HTi5 |
|------|

CCMT  
EN-MF2

PVD

|   |   |
|---|---|
| P | P |
| M | M |
| N | N |
| S | S |

|     |      |
|-----|------|
| TAC | HTAC |
|-----|------|

R

Art. N°

0.2

CCMT-060202-EN-MF2

■ ■

0.4

CCMT-060204-EN-MF2

■ ■

0.2

CCMT-09T302-EN-MF2

■ ■

0.4

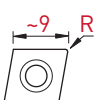
CCMT-09T304-EN-MF2

■ ■

0.8

CCMT-09T308-EN-MF2

■ ■



CVD

|   |   |
|---|---|
| P | P |
| M | M |
|   |   |
|   |   |

|     |      |
|-----|------|
| Ti5 | HTi5 |
|-----|------|

Plaquettes en métal dur

VHM-Wendeplatten

Solid carbide inserts

80°

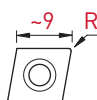
CCMT-MF

CCMT-HF3

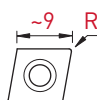
CCMT-HF

CCMT  
EN-MF

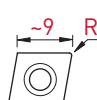
| R   | Art. N°           | PVD                                                                                                                                                   | CVD                                                                                                                                                  |
|-----|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
|     |                   | <input checked="" type="checkbox"/> P<br><input checked="" type="checkbox"/> M<br><input type="checkbox"/><br><input type="checkbox"/><br><b>Tmax</b> | <input checked="" type="checkbox"/> P<br><input checked="" type="checkbox"/> M<br><input type="checkbox"/><br><input type="checkbox"/><br><b>Ti4</b> |
| 0.2 | CCMT-060202-EN-MF | ■                                                                                                                                                     | ■                                                                                                                                                    |
| 0.4 | CCMT-060204-EN-MF | ■                                                                                                                                                     | ■                                                                                                                                                    |
| 0.2 | CCMT-09T302-EN-MF | ■                                                                                                                                                     | ■                                                                                                                                                    |
| 0.4 | CCMT-09T304-EN-MF | ■                                                                                                                                                     | ■                                                                                                                                                    |

CCMT  
EN-HF3

| R   | Art. N°            | PVD                                                                                                                                                  |                                                                                                                                                       | CVD                                                                                                                                                               |
|-----|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|     |                    | <input checked="" type="checkbox"/> P<br><input checked="" type="checkbox"/> M<br><input type="checkbox"/><br><input type="checkbox"/><br><b>TiX</b> | <input checked="" type="checkbox"/> P<br><input checked="" type="checkbox"/> M<br><input type="checkbox"/><br><input type="checkbox"/><br><b>HTiX</b> | <input checked="" type="checkbox"/> P<br><input checked="" type="checkbox"/> M<br><input type="checkbox"/><br><input checked="" type="checkbox"/> S<br><b>Ti6</b> |
| 0.2 | CCMT-060202-EN-HF3 | ■                                                                                                                                                    | ■                                                                                                                                                     | ■                                                                                                                                                                 |
| 0.4 | CCMT-060204-EN-HF3 | ■                                                                                                                                                    | ■                                                                                                                                                     | ■                                                                                                                                                                 |
| 0.2 | CCMT-09T302-EN-HF3 | ■                                                                                                                                                    | ■                                                                                                                                                     | ■                                                                                                                                                                 |
| 0.4 | CCMT-09T304-EN-HF3 | ■                                                                                                                                                    | ■                                                                                                                                                     | ■                                                                                                                                                                 |
| 0.8 | CCMT-09T308-EN-HF3 | ■                                                                                                                                                    | ■                                                                                                                                                     | ■                                                                                                                                                                 |

CCMT  
EN-HF

| R   | Art. N°           | PVD                                                                                                                                                   |                                                                                                                                                      | CVD                                                                                                                                                  |                                                                                                                                                      |                                                                                                                                                       |
|-----|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
|     |                   | <input checked="" type="checkbox"/> P<br><input checked="" type="checkbox"/> M<br><input type="checkbox"/><br><input type="checkbox"/><br><b>Tmax</b> | <input checked="" type="checkbox"/> P<br><input checked="" type="checkbox"/> M<br><input type="checkbox"/><br><input type="checkbox"/><br><b>TAC</b> | <input checked="" type="checkbox"/> P<br><input checked="" type="checkbox"/> M<br><input type="checkbox"/><br><input type="checkbox"/><br><b>Ti4</b> | <input checked="" type="checkbox"/> P<br><input checked="" type="checkbox"/> M<br><input type="checkbox"/><br><input type="checkbox"/><br><b>Ti5</b> | <input checked="" type="checkbox"/> P<br><input checked="" type="checkbox"/> M<br><input type="checkbox"/><br><input type="checkbox"/><br><b>HTi5</b> |
| 0.2 | CCMT-060202-EN-HF |                                                                                                                                                       | ■                                                                                                                                                    |                                                                                                                                                      | ■                                                                                                                                                    | ■                                                                                                                                                     |
| 0.4 | CCMT-060204-EN-HF | ■                                                                                                                                                     | ■                                                                                                                                                    | ■                                                                                                                                                    | ■                                                                                                                                                    | ■                                                                                                                                                     |
| 0.8 | CCMT-060208-EN-HF | ■                                                                                                                                                     | ■                                                                                                                                                    | ■                                                                                                                                                    | ■                                                                                                                                                    | ■                                                                                                                                                     |
| 0.2 | CCMT-09T302-EN-HF |                                                                                                                                                       | ■                                                                                                                                                    |                                                                                                                                                      | ■                                                                                                                                                    | ■                                                                                                                                                     |
| 0.4 | CCMT-09T304-EN-HF | ■                                                                                                                                                     | ■                                                                                                                                                    | ■                                                                                                                                                    | ■                                                                                                                                                    | ■                                                                                                                                                     |
| 0.8 | CCMT-09T308-EN-HF | ■                                                                                                                                                     | ■                                                                                                                                                    | ■                                                                                                                                                    | ■                                                                                                                                                    | ■                                                                                                                                                     |



Plaquettes CERMET

CERMET-Wendeplatten

CERMET inserts

80°

CCGT-X8  
CCGT-KXCCGT  
FN-X8

## CERMET

PVD

non revêtu  
unbeschichtet  
uncoated

P

M

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Art. N°

0.05

CCGT-0602005-FN-X8

0.1

CCGT-060201-FN-X8

0.2

CCGT-060202-FN-X8

0.05

CCGT-09T3005-FN-X8

0.1

CCGT-09T301-FN-X8

0.2

CCGT-09T302-FN-X8

0.4

CCGT-09T304-FN-X8

CTA

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Plaquettes CERMET  
CERMET-Wendeplatten  
CERMET inserts

80°

CCMT-KM



CCMT  
EN-KM

| CERMET                                                                                                                                 |                                                                                                                                        |                                                                                                                           |  |
|----------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|--|
| PVD                                                                                                                                    |                                                                                                                                        | non revêtu<br>unbeschichtet<br>uncoated                                                                                   |  |
| <input checked="" type="checkbox"/> P<br><input checked="" type="checkbox"/> M<br><input type="checkbox"/><br><input type="checkbox"/> | <input checked="" type="checkbox"/> P<br><input checked="" type="checkbox"/> M<br><input type="checkbox"/><br><input type="checkbox"/> | <input checked="" type="checkbox"/> P<br><input type="checkbox"/><br><input type="checkbox"/><br><input type="checkbox"/> |  |
| CT7                                                                                                                                    | HCT7                                                                                                                                   | CN6                                                                                                                       |  |

| R   | Art. N°           |   |   |   |
|-----|-------------------|---|---|---|
| 0.2 | CCMT-060202-EN-KM | ■ | ■ | ■ |
| 0.4 | CCMT-060204-EN-KM | ■ | ■ | ■ |
| 0.2 | CCMT-09T302-EN-KM | ■ | ■ | ■ |
| 0.4 | CCMT-09T304-EN-KM | ■ | ■ | ■ |
| 0.8 | CCMT-09T308-EN-KM | ■ | ■ | ■ |



Porte-outils

Halter

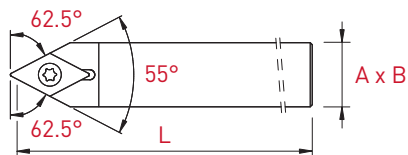
Holders

55°

SDN



SDN



| Plaquettes<br>WSP<br>Inserts | A x B       | L   | Art. N°        |
|------------------------------|-------------|-----|----------------|
| DC...-0702..                 | 8 x 8       | 115 | SDNCN-0808X-07 |
|                              | 10 x 10     | 115 | SDNCN-1010X-07 |
|                              | 12 x 12     | 130 | SDNCN-1212X-07 |
|                              | 12 x 12     | 90  | SDNCN-1212G-07 |
|                              | 12.7 x 12.7 | 130 | SDNCN-12.7X-07 |
|                              | 16 x 16     | 130 | SDNCN-1616X-07 |
|                              | 16 x 16     | 75  | SDNCN-1616F-07 |
| DC...-11T3..                 | 12 x 12     | 130 | SDNCN-1212X-11 |
|                              | 12 x 12     | 90  | SDNCN-1212G-11 |
|                              | 12.7 x 12.7 | 130 | SDNCN-12.7X-11 |
|                              | 16 x 16     | 130 | SDNCN-1616X-11 |
|                              | 16 x 16     | 75  | SDNCN-1616F-11 |
|                              | 20 x 20     | 120 | SDNCN-2020X-11 |

Porte-outils

Halter

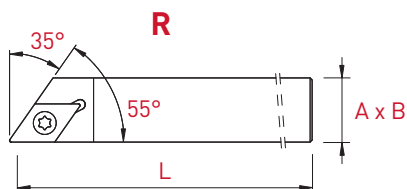
Holders

55°

SDA



SDA



L

R

| Plaquettes<br>WSP<br>Inserts | A x B       | L   | Art. N°        | Art. N°        |
|------------------------------|-------------|-----|----------------|----------------|
| DC...-0702..                 | 8 x 8       | 115 | SDACL-0808X-07 | SDACR-0808X-07 |
|                              | 10 x 10     | 115 | SDACL-1010X-07 | SDACR-1010X-07 |
|                              | 12 x 12     | 130 | SDACL-1212X-07 | SDACR-1212X-07 |
|                              | 12 x 12     | 90  | SDACL-1212G-07 | SDACR-1212G-07 |
|                              | 12.7 x 12.7 | 130 | SDACL-12.7X-07 | SDACR-12.7X-07 |
|                              | 16 x 16     | 130 | SDACL-1616X-07 | SDACR-1616X-07 |
|                              | 16 x 16     | 75  | SDACL-1616F-07 | SDACR-1616F-07 |
| DC...-11T3..                 | 12 x 12     | 130 | SDACL-1212X-11 | SDACR-1212X-11 |
|                              | 12 x 12     | 90  | SDACL-1212G-11 | SDACR-1212G-11 |
|                              | 12.7 x 12.7 | 130 | SDACL-12.7X-11 | SDACR-12.7X-11 |
|                              | 16 x 16     | 130 | SDACL-1616X-11 | SDACR-1616X-11 |
|                              | 16 x 16     | 75  | SDACL-1616F-11 | SDACR-1616F-11 |
|                              | 20 x 20     | 120 | SDACL-2020X-11 | SDACR-2020X-11 |



Porte-outils

Halter

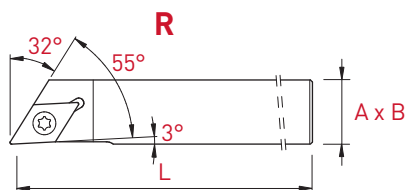
Holders

55°

SDJ



SDJ



L

R

| Plaquettes<br>WSP<br>Inserts | A x B       | L   | Art. N°        | Art. N°        |
|------------------------------|-------------|-----|----------------|----------------|
| DC...-0702..                 | 8 x 8       | 115 | SDJCL-0808X-07 | SDJCR-0808X-07 |
|                              | 10 x 10     | 115 | SDJCL-1010X-07 | SDJCR-1010X-07 |
|                              | 12 x 12     | 130 | SDJCL-1212X-07 | SDJCR-1212X-07 |
|                              | 12 x 12     | 90  | SDJCL-1212G-07 | SDJCR-1212G-07 |
|                              | 12.7 x 12.7 | 130 | SDJCL-12.7X-07 | SDJCR-12.7X-07 |
|                              | 16 x 16     | 130 | SDJCL-1616X-07 | SDJCR-1616X-07 |
|                              | 16 x 16     | 75  | SDJCL-1616F-07 | SDJCR-1616F-07 |
|                              | 20 x 20     | 120 | SDJCL-2020X-07 | SDJCR-2020X-07 |
| DC...-11T3..                 | 12 x 12     | 130 | SDJCL-1212X-11 | SDJCR-1212X-11 |
|                              | 12 x 12     | 90  | SDJCL-1212G-11 | SDJCR-1212G-11 |
|                              | 12.7 x 12.7 | 130 | SDJCL-12.7X-11 | SDJCR-12.7X-11 |
|                              | 16 x 16     | 130 | SDJCL-1616X-11 | SDJCR-1616X-11 |
|                              | 16 x 16     | 75  | SDJCL-1616F-11 | SDJCR-1616F-11 |
|                              | 20 x 20     | 120 | SDJCL-2020X-11 | SDJCR-2020X-11 |

Porte-outils avec arrosage intégré

Halter mit integrierter Kühlmittelzufuhr

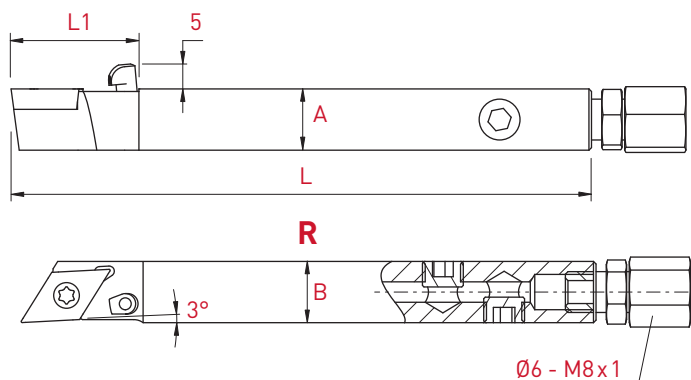
Holders with integrated coolant supply

55°

SDJ-JET



SDJ



L

R

| Plaquettes<br>WSP<br>Inserts | A x B       | L   | L1 | Art. N°            | Art. N°            |
|------------------------------|-------------|-----|----|--------------------|--------------------|
| DC...-0702..                 | 10 x 10     | 110 | 20 | SDJCL-1010J-07-JET | SDJCR-1010J-07-JET |
|                              | 12 x 12     | 110 | 20 | SDJCL-1212J-07-JET | SDJCR-1212J-07-JET |
|                              | 12.7 x 12.7 | 110 | 20 | SDJCL-12.7J-07-JET | SDJCR-12.7J-07-JET |
|                              | 16 x 16     | 110 | 20 | SDJCL-1616J-07-JET | SDJCR-1616J-07-JET |
|                              | 20 x 20     | 110 | 20 | SDJCL-2020J-07-JET | SDJCR-2020J-07-JET |
| DC...-11T3..                 | 12 x 12     | 110 | 23 | SDJCL-1212J-11-JET | SDJCR-1212J-11-JET |
|                              | 12.7 x 12.7 | 110 | 23 | SDJCL-12.7J-11-JET | SDJCR-12.7J-11-JET |
|                              | 16 x 16     | 110 | 23 | SDJCL-1616J-11-JET | SDJCR-1616J-11-JET |
|                              | 20 x 20     | 110 | 23 | SDJCL-2020J-11-JET | SDJCR-2020J-11-JET |

Porte-outils

Halter

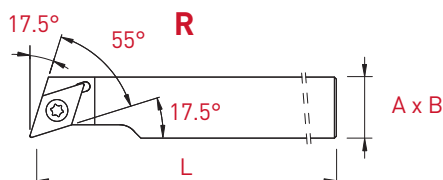
Holders

55°

SDH



SDH



| Plaquettes<br>WSP<br>Inserts | A x B       | L   | <div> <div>L</div> <div>R</div> </div> |                |
|------------------------------|-------------|-----|----------------------------------------|----------------|
|                              |             |     | Art. N°                                | Art. N°        |
| DC...-0702..                 | 10 x 10     | 115 | SDHCL-1010X-07                         | SDHCR-1010X-07 |
|                              | 12 x 12     | 130 | SDHCL-1212X-07                         | SDHCR-1212X-07 |
|                              | 12 x 12     | 90  | SDHCL-1212G-07                         | SDHCR-1212G-07 |
|                              | 12.7 x 12.7 | 130 | SDHCL-12.7X-07                         | SDHCR-12.7X-07 |
|                              | 16 x 16     | 130 | SDHCL-1616X-07                         | SDHCR-1616X-07 |
|                              | 16 x 16     | 75  | SDHCL-1616F-07                         | SDHCR-1616F-07 |
| DC...-11T3..                 | 16 x 16     | 130 | SDHCL-1616X-11                         | SDHCR-1616X-11 |
|                              | 16 x 16     | 75  | SDHCL-1616F-11                         | SDHCR-1616F-11 |
|                              | 20 x 20     | 120 | SDHCL-2020X-11                         | SDHCR-2020X-11 |

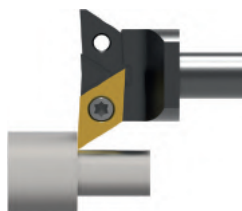
Porte-outils

Halter

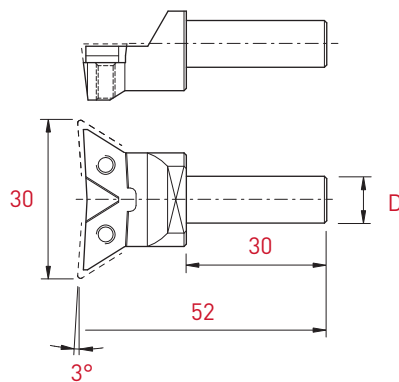
Holders

55°

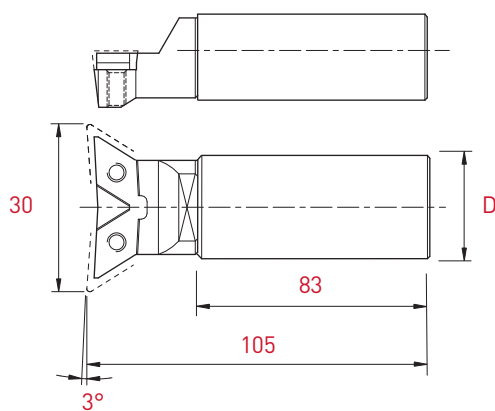
SDU



SDU



| Plaquettes<br>WSP<br>Inserts | D  | Art. N°      |
|------------------------------|----|--------------|
| DC...-11T3..                 | 10 | SDUC-D10X-11 |



| Plaquettes<br>WSP<br>Inserts | D    | Art. N°        |
|------------------------------|------|----------------|
| DC...-11T3..                 | 20   | SDUC-D20X-11   |
|                              | 25.4 | SDUC-D25.4X-11 |

Porte-outils intérieurs amincis

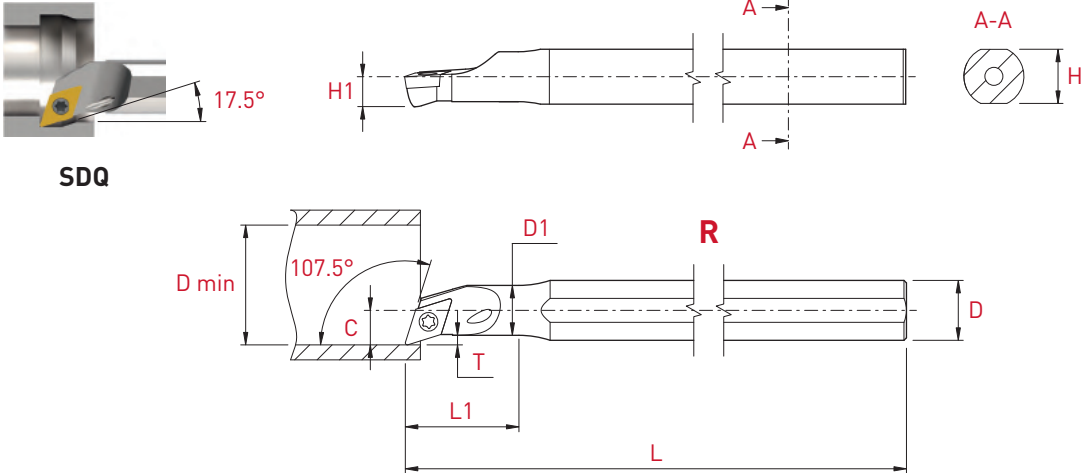
Verjüngte Innenhalter

Thinned internal holders

55°

A-SDQCR/L

new



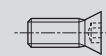
Acier / Stahl / Steel

L

R

| Plaquettes<br>WSP<br>Inserts |    |       |    |     |   |    |     |    |    | Art. N°         | Art. N°         |
|------------------------------|----|-------|----|-----|---|----|-----|----|----|-----------------|-----------------|
|                              | D  | D min | D1 | T   | C | H1 | L   | L1 | H  |                 |                 |
| DC...-0702                   | 10 | 12.5  | 8  | 2.4 | 7 | 5  | 100 | 22 | 9  | A0810H-SDQCL-07 | A0810H-SDQCR-07 |
|                              | 12 | 15.5  | 10 | 2.9 | 9 | 6  | 125 | 28 | 11 | A1012K-SDQCL-07 | A1012K-SDQCR-07 |

 Pour barres d'alésage  
 For boring bar  
 Für Borstange

 Pièces de rechange  
 Ersatzteile  
 Spare parts


Art. N°

Art. N°

A0810H\_

V-M2.5X4.8-T8

C-T8

A1012K\_

V-M2.5X5.8-T8

Porte-outils intérieurs

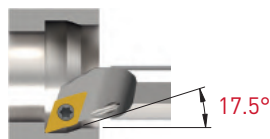
Innenhalter

Internal holders

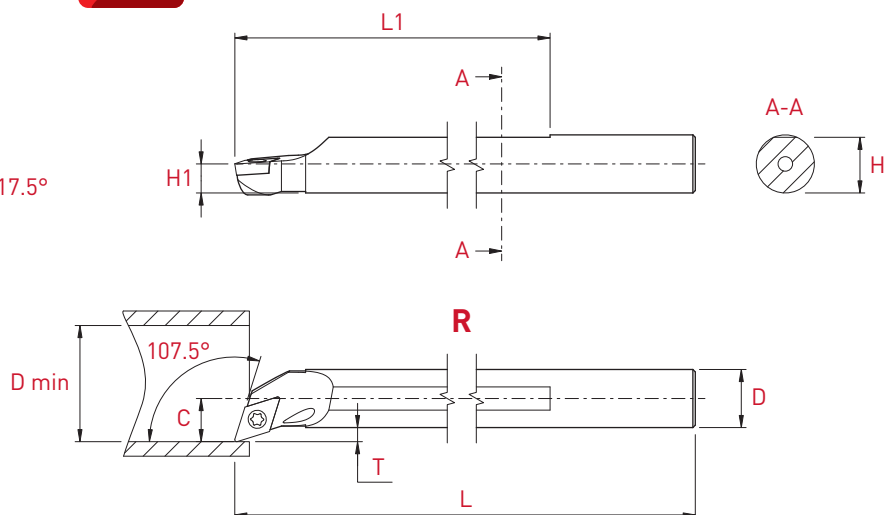
55°

A-SDQCR/L  
E-SDQCR/L

new



SDQ



| Acier / Stahl / Steel        |    |       |     |    |     |     |     |      |  |  |
|------------------------------|----|-------|-----|----|-----|-----|-----|------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Plaquettes<br>WSP<br>Inserts | D  | D min | T   | C  | H1  | L   | L1  | H    | Art. N°                                                                           | Art. N°                                                                             |
| DC...-0702                   | 10 | 14    | 2.4 | 7  | 4.5 | 100 | 85  | 9    | A10H-SDQCL-07                                                                     | A10H-SDQCR-07                                                                       |
|                              | 12 | 17    | 2.9 | 9  | 6   | 125 | 95  | 11.5 | A12K-SDQCL-07                                                                     | A12K-SDQCR-07                                                                       |
|                              | 16 | 21    | 2.9 | 11 | 8   | 150 | 117 | 15.5 | A16M-SDQCL-07                                                                     | A16M-SDQCR-07                                                                       |

| Carbure de tungstène / Hartmetall / Solid carbide |    |       |     |     |    |     |    |      |               |               |
|---------------------------------------------------|----|-------|-----|-----|----|-----|----|------|---------------|---------------|
|                                                   | D  | D min | T   | C   | H1 | L   | L1 | H    | Art. N°       | Art. N°       |
| DC...-0702                                        | 10 | 13    | 2.4 | 7.5 | 5  | 125 | -  | 9.5  | E10K-SDQCL-07 | E10K-SDQCR-07 |
|                                                   | 12 | 17    | 2.9 | 9   | 6  | 150 | -  | 11.5 | E12M-SDQCL-07 | E12M-SDQCR-07 |

Pièces de rechange  
Ersatzteile  
Spare parts

Art. N°

V-M2.5X5.8-T8



Art. N°

C-T8

Porte-outils intérieurs amincis

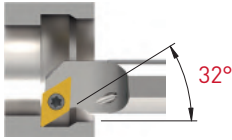
Verjüngte Innenhalter

Thinned internal holders

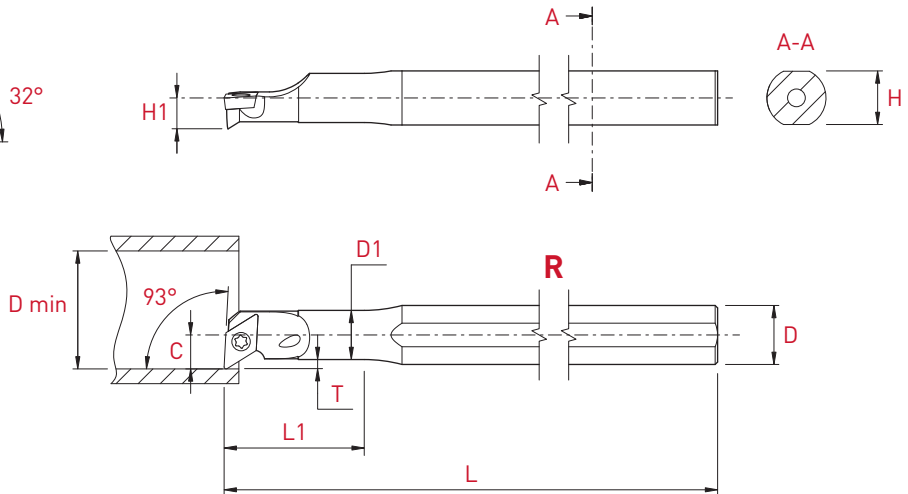
55°

A-SDUCR/L

new



SDU



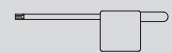
Acier / Stahl / Steel

L

R

| Plaquettes<br>WSP<br>Inserts |    |       |    |     |   |     |    |    | Art. N°         | Art. N°         |
|------------------------------|----|-------|----|-----|---|-----|----|----|-----------------|-----------------|
|                              | D  | D min | D1 | T   | C | H1  | L  | H  |                 |                 |
| DC...0702                    | 10 | 12.5  | 7  | 1.9 | 5 | 100 | 22 | 9  | A0810H-SDUCL-07 | A0810H-SDUCR-07 |
|                              | 12 | 15.5  | 9  | 2.9 | 6 | 125 | 28 | 11 | A1012K-SDUCL-07 | A1012K-SDUCR-07 |

 Pour barres d'alésage  
 For boring bar  
 Für Borstange

 Pièces de rechange  
 Ersatzteile  
 Spare parts


Art. N°

Art. N°

A0810H\_

V-M2.5X4.8-T8

C-T8

A1012K\_

V-M2.5X5.8-T8

Porte-outils intérieurs

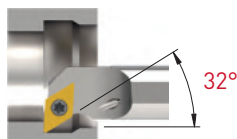
Innenhalter

Internal holders

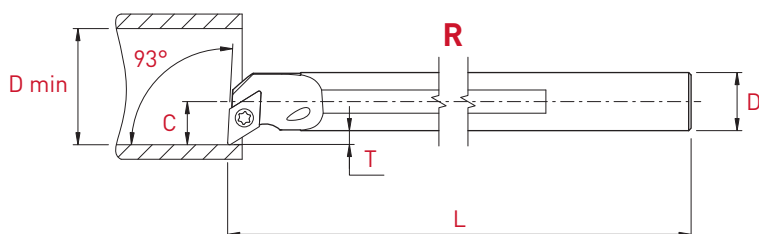
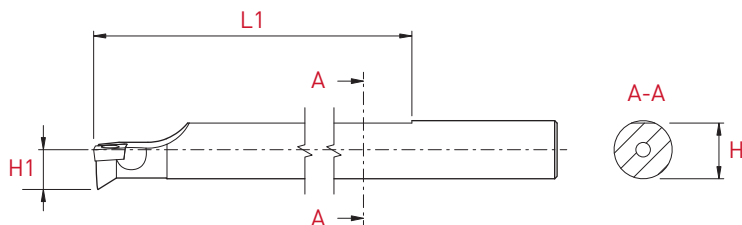
55°

A-SDUCR/L  
E-SDUCR/L

new



SDU



Acier / Stahl / Steel

L

R

| Plaquettes<br>WSP<br>Inserts |    |       |     |    |    |     |     |      | Art. N°       | Art. N°       |
|------------------------------|----|-------|-----|----|----|-----|-----|------|---------------|---------------|
|                              | D  | D min | T   | C  | H1 | L   | L1  | H    |               |               |
| DC...-0702                   | 10 | 14    | 1.9 | 7  | 5  | 100 | 85  | 9.5  | A10H-SDUCL-07 | A10H-SDUCR-07 |
|                              | 12 | 17    | 2.9 | 9  | 6  | 125 | 95  | 11.5 | A12K-SDUCL-07 | A12K-SDUCR-07 |
|                              | 16 | 21    | 2.9 | 11 | 8  | 150 | 117 | 15.5 | A16M-SDUCL-07 | A16M-SDUCR-07 |

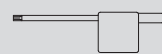
Carbure de tungstène / Hartmetall / Solid carbide

|            | D  | D min | T   | C | H1 | L   | L1 | H    | Art. N°       | Art. N°       |
|------------|----|-------|-----|---|----|-----|----|------|---------------|---------------|
|            | D  | D min | T   | C | H1 | L   | L1 | H    |               |               |
| DC...-0702 | 10 | 14    | 1.9 | 7 | 5  | 125 | -  | 9.5  | E10K-SDUCL-07 | E10K-SDUCR-07 |
|            | 12 | 17    | 2.9 | 9 | 6  | 150 | -  | 11.5 | E12M-SDUCL-07 | E12M-SDUCR-07 |

Pièces de rechange  
Ersatzteile  
Spare parts

Art. N°

V-M2.5X5.8-T8



Art. N°

C-T8



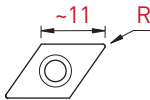
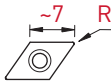
Plaquettes en métal dur

VHM-Wendeplatten

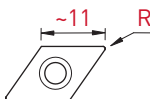
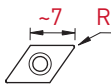
Solid carbide inserts

55°

DCGT-X8

DCGT  
FN-X8

| R    | Art. N°            | PVD              |                  |                  |                  |             | non revêtu<br>unbeschichtet<br>uncoated |     |
|------|--------------------|------------------|------------------|------------------|------------------|-------------|-----------------------------------------|-----|
|      |                    | P<br>M<br>N<br>S | P<br>M<br>N<br>S | P<br>M<br>N<br>S | P<br>M<br>N<br>S | P<br>M<br>N | K10                                     | K20 |
|      |                    | TiAlN            | HTA              | TiAlX            | HTAX             | TiN         |                                         |     |
| 0.05 | DCGT-0702005-FN-X8 | ■                | ■                | ■                | ■                | ■           | ■                                       | ■   |
| 0.08 | DCGT-0702008-FN-X8 | ■                | ■                | ■                | ■                | ■           | ■                                       | ■   |
| 0.1  | DCGT-070201-FN-X8  | ■                | ■                | ■                | ■                | ■           | ■                                       | ■   |
| 0.15 | DCGT-0702015-FN-X8 | ■                | ■                | ■                | ■                | ■           | ■                                       | ■   |
| 0.2  | DCGT-070202-FN-X8  | ■                | ■                | ■                | ■                | ■           | ■                                       | ■   |
| 0.4  | DCGT-070204-FN-X8  | ■                | ■                | ■                | ■                | ■           | ■                                       | ■   |
| 0.05 | DCGT-11T3005-FN-X8 | ■                | ■                | ■                | ■                | ■           | ■                                       | ■   |
| 0.08 | DCGT-11T3008-FN-X8 | ■                | ■                | ■                | ■                | ■           | ■                                       | ■   |
| 0.1  | DCGT-11T301-FN-X8  | ■                | ■                | ■                | ■                | ■           | ■                                       | ■   |
| 0.15 | DCGT-11T3015-FN-X8 | ■                | ■                | ■                | ■                | ■           | ■                                       | ■   |
| 0.2  | DCGT-11T302-FN-X8  | ■                | ■                | ■                | ■                | ■           | ■                                       | ■   |
| 0.4  | DCGT-11T304-FN-X8  | ■                | ■                | ■                | ■                | ■           | ■                                       | ■   |

DCGT  
ENP-X8

| R    | Art. N°             | PVD              |             | non revêtu<br>unbeschichtet<br>uncoated |
|------|---------------------|------------------|-------------|-----------------------------------------|
|      |                     | P<br>M<br>N<br>S | P<br>M<br>N | K20                                     |
|      |                     | TiAlN            | TiN         |                                         |
| 0.05 | DCGT-0702005-ENP-X8 | ■                | ■           | ■                                       |
| 0.08 | DCGT-0702008-ENP-X8 | ■                | ■           | ■                                       |
| 0.1  | DCGT-070201-ENP-X8  | ■                | ■           | ■                                       |
| 0.15 | DCGT-0702015-ENP-X8 | ■                | ■           | ■                                       |
| 0.2  | DCGT-070202-ENP-X8  | ■                | ■           | ■                                       |
| 0.4  | DCGT-070204-ENP-X8  | ■                | ■           | ■                                       |
| 0.05 | DCGT-11T3005-ENP-X8 | ■                | ■           | ■                                       |
| 0.08 | DCGT-11T3008-ENP-X8 | ■                | ■           | ■                                       |
| 0.1  | DCGT-11T301-ENP-X8  | ■                | ■           | ■                                       |
| 0.15 | DCGT-11T3015-ENP-X8 | ■                | ■           | ■                                       |
| 0.2  | DCGT-11T302-ENP-X8  | ■                | ■           | ■                                       |
| 0.4  | DCGT-11T304-ENP-X8  | ■                | ■           | ■                                       |

Plaquettes en métal dur

VHM-Wendeplatten

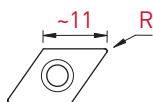
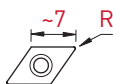
Solid carbide inserts

55°

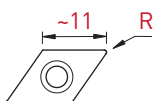
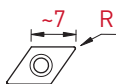
DCGT-X17

DCGT  
FN-X17

| R    | Art. N°             | PVD   |     |       |      |     | non revêtu<br>unbeschichtet<br>uncoated |     |
|------|---------------------|-------|-----|-------|------|-----|-----------------------------------------|-----|
|      |                     | TiAlN | HTA | TiAlX | HTAX | TiN | K10                                     | K20 |
| 0.05 | DCGT-0702005-FN-X17 | ■     | ■   | ■     | ■    | ■   | ■                                       | ■   |
| 0.08 | DCGT-0702008-FN-X17 | ■     | ■   | ■     | ■    | ■   | ■                                       | ■   |
| 0.1  | DCGT-070201-FN-X17  | ■     | ■   | ■     | ■    | ■   | ■                                       | ■   |
| 0.15 | DCGT-0702015-FN-X17 | ■     | ■   | ■     | ■    | ■   | ■                                       | ■   |
| 0.2  | DCGT-070202-FN-X17  | ■     | ■   | ■     | ■    | ■   | ■                                       | ■   |
| 0.4  | DCGT-070204-FN-X17  | ■     | ■   | ■     | ■    | ■   | ■                                       | ■   |
| 0.05 | DCGT-11T3005-FN-X17 | ■     | ■   | ■     | ■    | ■   | ■                                       | ■   |
| 0.08 | DCGT-11T3008-FN-X17 | ■     | ■   | ■     | ■    | ■   | ■                                       | ■   |
| 0.1  | DCGT-11T301-FN-X17  | ■     | ■   | ■     | ■    | ■   | ■                                       | ■   |
| 0.15 | DCGT-11T3015-FN-X17 | ■     | ■   | ■     | ■    | ■   | ■                                       | ■   |
| 0.2  | DCGT-11T302-FN-X17  | ■     | ■   | ■     | ■    | ■   | ■                                       | ■   |
| 0.4  | DCGT-11T304-FN-X17  | ■     | ■   | ■     | ■    | ■   | ■                                       | ■   |
| 0.8  | DCGT-11T308-FN-X17  | ■     | ■   | ■     | ■    | ■   | ■                                       | ■   |

DCGT  
ENP-X17

| R    | Art. N°              | PVD   |     | non revêtu<br>unbeschichtet<br>uncoated |
|------|----------------------|-------|-----|-----------------------------------------|
|      |                      | TiAlN | TiN |                                         |
| 0.05 | DCGT-0702005-ENP-X17 | ■     | ■   | ■                                       |
| 0.08 | DCGT-0702008-ENP-X17 | ■     | ■   | ■                                       |
| 0.1  | DCGT-070201-ENP-X17  | ■     | ■   | ■                                       |
| 0.15 | DCGT-0702015-ENP-X17 | ■     | ■   | ■                                       |
| 0.2  | DCGT-070202-ENP-X17  | ■     | ■   | ■                                       |
| 0.4  | DCGT-070204-ENP-X17  | ■     | ■   | ■                                       |
| 0.05 | DCGT-11T3005-ENP-X17 | ■     | ■   | ■                                       |
| 0.08 | DCGT-11T3008-ENP-X17 | ■     | ■   | ■                                       |
| 0.1  | DCGT-11T301-ENP-X17  | ■     | ■   | ■                                       |
| 0.15 | DCGT-11T3015-ENP-X17 | ■     | ■   | ■                                       |
| 0.2  | DCGT-11T302-ENP-X17  | ■     | ■   | ■                                       |
| 0.4  | DCGT-11T304-ENP-X17  | ■     | ■   | ■                                       |
| 0.8  | DCGT-11T308-ENP-X17  | ■     | ■   | ■                                       |



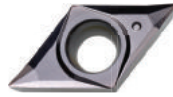
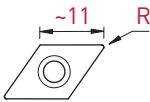
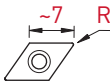
Plaquettes en métal dur

VHM-Wendeplatten

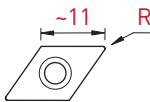
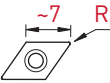
Solid carbide inserts

55°

DCGT-X25

DCGT  
FN-X25

| R    | Art. N°             | PVD   |     |     | non revêtu<br>unbeschichtet<br>uncoated |     |
|------|---------------------|-------|-----|-----|-----------------------------------------|-----|
|      |                     | TiAlN | HTA | TiN | K10                                     | K20 |
| 0.05 | DCGT-0702005-FN-X25 | ■     | ■   | ■   | ■                                       | ■   |
| 0.1  | DCGT-070201-FN-X25  | ■     | ■   | ■   | ■                                       | ■   |
| 0.2  | DCGT-070202-FN-X25  | ■     | ■   | ■   | ■                                       | ■   |
| 0.4  | DCGT-070204-FN-X25  | ■     | ■   | ■   | ■                                       | ■   |
| 0.05 | DCGT-11T3005-FN-X25 | ■     | ■   | ■   | ■                                       | ■   |
| 0.1  | DCGT-11T301-FN-X25  | ■     | ■   | ■   | ■                                       | ■   |
| 0.2  | DCGT-11T302-FN-X25  | ■     | ■   | ■   | ■                                       | ■   |
| 0.4  | DCGT-11T304-FN-X25  | ■     | ■   | ■   | ■                                       | ■   |
| 0.8  | DCGT-11T308-FN-X25  | ■     | ■   | ■   | ■                                       | ■   |

DCGT  
ENP-X25

| R    | Art. N°              | PVD   |       |     | non revêtu<br>unbeschichtet<br>uncoated |   |
|------|----------------------|-------|-------|-----|-----------------------------------------|---|
|      |                      | TiAlN | TiAlX | TiN | K20                                     |   |
| 0.05 | DCGT-0702005-ENP-X25 | ■     | ■     | ■   | ■                                       | ■ |
| 0.1  | DCGT-070201-ENP-X25  | ■     | ■     | ■   | ■                                       | ■ |
| 0.2  | DCGT-070202-ENP-X25  | ■     | ■     | ■   | ■                                       | ■ |
| 0.4  | DCGT-070204-ENP-X25  | ■     | ■     | ■   | ■                                       | ■ |
| 0.05 | DCGT-11T3005-ENP-X25 | ■     | ■     | ■   | ■                                       | ■ |
| 0.1  | DCGT-11T301-ENP-X25  | ■     | ■     | ■   | ■                                       | ■ |
| 0.2  | DCGT-11T302-ENP-X25  | ■     | ■     | ■   | ■                                       | ■ |
| 0.4  | DCGT-11T304-ENP-X25  | ■     | ■     | ■   | ■                                       | ■ |
| 0.8  | DCGT-11T308-ENP-X25  | ■     | ■     | ■   | ■                                       | ■ |

Plaquettes en métal dur  
VHM-Wendeplatten  
Solid carbide inserts

55°

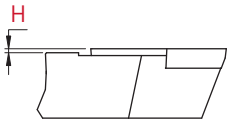
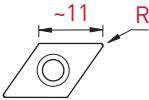
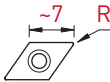
DCGT-X20



DCGT  
ENP-X20

| PVD                                   |                                       |
|---------------------------------------|---------------------------------------|
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| <input checked="" type="checkbox"/> M | <input checked="" type="checkbox"/> M |
| <input checked="" type="checkbox"/> N | <input checked="" type="checkbox"/> N |
| <input checked="" type="checkbox"/> S | <input checked="" type="checkbox"/> S |
| ZTA                                   | HTIX                                  |

| R   | H    | Art. N°             |   |   |
|-----|------|---------------------|---|---|
| 0.1 | 0.2  | DCGT-070201-ENP-X20 | ■ |   |
| 0.2 | 0.2  | DCGT-070202-ENP-X20 | ■ | ■ |
| 0.4 | 0.2  | DCGT-070204-ENP-X20 | ■ | ■ |
| 0.1 | 0.25 | DCGT-11T301-ENP-X20 | ■ |   |
| 0.2 | 0.25 | DCGT-11T302-ENP-X20 | ■ | ■ |
| 0.4 | 0.25 | DCGT-11T304-ENP-X20 | ■ | ■ |
| 0.8 | 0.25 | DCGT-11T308-ENP-X20 | ■ | ■ |



Plaquettes en métal dur

VHM-Wendeplatten

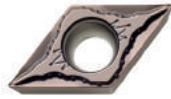
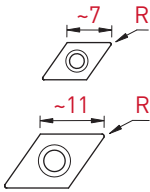
Solid carbide inserts

55°

DCMT-XF3

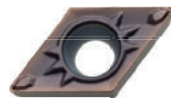
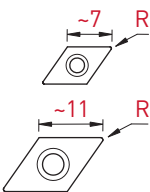
DCMT-XF2

DCMT-MF2

DCMT  
EN-XF3

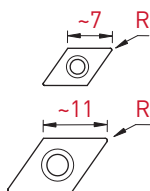
| R   | Art. N°            | PVD |      |
|-----|--------------------|-----|------|
|     |                    | TAC | HTAC |
| 0.2 | DCMT-070202-EN-XF3 | ■   | ■    |
| 0.4 | DCMT-070204-EN-XF3 | ■   | ■    |
| 0.2 | DCMT-11T302-EN-XF3 | ■   | ■    |
| 0.4 | DCMT-11T304-EN-XF3 | ■   | ■    |

| PVD |   |
|-----|---|
| P   | P |
| M   | M |
| N   | N |
| S   | S |

DCMT  
EN-XF2

| R   | Art. N°            | PVD |      | CVD  |
|-----|--------------------|-----|------|------|
|     |                    | TAC | HTAC | HTi5 |
| 0.2 | DCMT-070202-EN-XF2 | ■   | ■    | ■    |
| 0.4 | DCMT-070204-EN-XF2 | ■   | ■    | ■    |
| 0.2 | DCMT-11T302-EN-XF2 | ■   | ■    | ■    |
| 0.4 | DCMT-11T304-EN-XF2 | ■   | ■    | ■    |

| PVD |   | CVD |
|-----|---|-----|
| P   | P | P   |
| M   | M | M   |
| N   | N |     |
| S   | S |     |

DCMT  
EN-MF2

| R   | Art. N°            | PVD |      | CVD |      |
|-----|--------------------|-----|------|-----|------|
|     |                    | TAC | HTAC | Ti5 | HTi5 |
| 0.2 | DCMT-070202-EN-MF2 | ■   | ■    | ■   | ■    |
| 0.4 | DCMT-070204-EN-MF2 | ■   | ■    | ■   | ■    |
| 0.2 | DCMT-11T302-EN-MF2 | ■   | ■    | ■   | ■    |
| 0.4 | DCMT-11T304-EN-MF2 | ■   | ■    | ■   | ■    |
| 0.8 | DCMT-11T308-EN-MF2 | ■   | ■    | ■   | ■    |

| PVD |   | CVD |   |
|-----|---|-----|---|
| P   | P | P   | P |
| M   | M | M   | M |
| N   | N |     |   |
| S   | S |     |   |

Plaquettes en métal dur

VHM-Wendeplatten

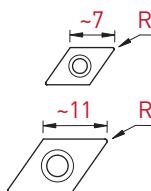
Solid carbide inserts

55°

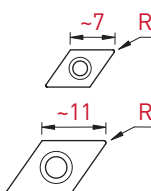
DCMT-MF

DCMT-HF3

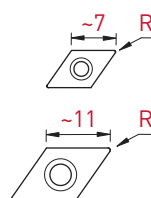
DCMT-HF

DCMT  
EN-MF

| R   | Art. N°           | PVD                                                                                             |                                                                                                 | CVD                                                                                             |                                                                                                 |
|-----|-------------------|-------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
|     |                   | <input type="checkbox"/> P<br><input checked="" type="checkbox"/> M<br><input type="checkbox"/> | <input type="checkbox"/> P<br><input checked="" type="checkbox"/> M<br><input type="checkbox"/> | <input type="checkbox"/> P<br><input checked="" type="checkbox"/> M<br><input type="checkbox"/> | <input type="checkbox"/> P<br><input checked="" type="checkbox"/> M<br><input type="checkbox"/> |
|     |                   | Tmax                                                                                            |                                                                                                 | Ti4                                                                                             |                                                                                                 |
| 0.2 | DCMT-070202-EN-MF | ■                                                                                               |                                                                                                 | ■                                                                                               |                                                                                                 |
| 0.4 | DCMT-070204-EN-MF | ■                                                                                               |                                                                                                 | ■                                                                                               |                                                                                                 |
| 0.2 | DCMT-11T302-EN-MF | ■                                                                                               |                                                                                                 | ■                                                                                               |                                                                                                 |
| 0.4 | DCMT-11T304-EN-MF | ■                                                                                               |                                                                                                 | ■                                                                                               |                                                                                                 |

DCMT  
EN-HF3

| R   | Art. N°            | PVD                                                                                             |                                                                                                 | CVD                                                                                             |                                                                                                 |
|-----|--------------------|-------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
|     |                    | <input type="checkbox"/> P<br><input checked="" type="checkbox"/> M<br><input type="checkbox"/> | <input type="checkbox"/> P<br><input checked="" type="checkbox"/> M<br><input type="checkbox"/> | <input type="checkbox"/> P<br><input checked="" type="checkbox"/> M<br><input type="checkbox"/> | <input type="checkbox"/> P<br><input checked="" type="checkbox"/> M<br><input type="checkbox"/> |
|     |                    | TiX                                                                                             | HTiX                                                                                            | Ti6                                                                                             |                                                                                                 |
| 0.2 | DCMT-070202-EN-HF3 | ■                                                                                               | ■                                                                                               | ■                                                                                               |                                                                                                 |
| 0.4 | DCMT-070204-EN-HF3 | ■                                                                                               | ■                                                                                               | ■                                                                                               |                                                                                                 |
| 0.2 | DCMT-11T302-EN-HF3 | ■                                                                                               | ■                                                                                               | ■                                                                                               |                                                                                                 |
| 0.4 | DCMT-11T304-EN-HF3 | ■                                                                                               | ■                                                                                               | ■                                                                                               |                                                                                                 |
| 0.8 | DCMT-11T308-EN-HF3 | ■                                                                                               | ■                                                                                               | ■                                                                                               |                                                                                                 |

DCMT  
EN-HF

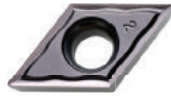
| R   | Art. N°           | PVD                                                                                             |                                                                                                 | CVD                                                                                             |                                                                                                 |                                                                                                 |
|-----|-------------------|-------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
|     |                   | <input type="checkbox"/> P<br><input checked="" type="checkbox"/> M<br><input type="checkbox"/> | <input type="checkbox"/> P<br><input checked="" type="checkbox"/> M<br><input type="checkbox"/> | <input type="checkbox"/> P<br><input checked="" type="checkbox"/> M<br><input type="checkbox"/> | <input type="checkbox"/> P<br><input checked="" type="checkbox"/> M<br><input type="checkbox"/> | <input type="checkbox"/> P<br><input checked="" type="checkbox"/> M<br><input type="checkbox"/> |
|     |                   | Tmax                                                                                            | TAC                                                                                             | Ti4                                                                                             | Ti5                                                                                             | HTi5                                                                                            |
| 0.2 | DCMT-070202-EN-HF |                                                                                                 | ■                                                                                               | ■                                                                                               | ■                                                                                               | ■                                                                                               |
| 0.4 | DCMT-070204-EN-HF | ■                                                                                               | ■                                                                                               | ■                                                                                               | ■                                                                                               | ■                                                                                               |
| 0.8 | DCMT-070208-EN-HF | ■                                                                                               | ■                                                                                               | ■                                                                                               | ■                                                                                               | ■                                                                                               |
| 0.2 | DCMT-11T302-EN-HF |                                                                                                 | ■                                                                                               | ■                                                                                               | ■                                                                                               | ■                                                                                               |
| 0.4 | DCMT-11T304-EN-HF | ■                                                                                               | ■                                                                                               | ■                                                                                               | ■                                                                                               | ■                                                                                               |
| 0.8 | DCMT-11T308-EN-HF | ■                                                                                               | ■                                                                                               | ■                                                                                               | ■                                                                                               | ■                                                                                               |

Plaquettes CERMET

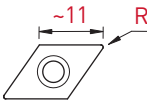
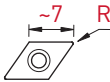
CERMET-Wendeplatten

CERMET inserts

55°

DCGT-X8  
DCGT-KXDCGT  
FN-X8

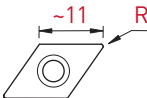
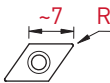
| CERMET                                |                                       |                                         |                                     |
|---------------------------------------|---------------------------------------|-----------------------------------------|-------------------------------------|
| PVD                                   |                                       | non revêtu<br>unbeschichtet<br>uncoated |                                     |
| <input checked="" type="checkbox"/> P | <input checked="" type="checkbox"/> M | <input checked="" type="checkbox"/> P   | <input type="checkbox"/>            |
| <input type="checkbox"/>              | <input type="checkbox"/>              | <input type="checkbox"/>                | <input type="checkbox"/>            |
| CTA                                   |                                       | CN6                                     |                                     |
| R                                     | Art. N°                               |                                         |                                     |
| 0.05                                  | DCGT-0702005-FN-X8                    | <input checked="" type="checkbox"/>     | <input checked="" type="checkbox"/> |
| 0.1                                   | DCGT-070201-FN-X8                     | <input checked="" type="checkbox"/>     | <input checked="" type="checkbox"/> |
| 0.2                                   | DCGT-070202-FN-X8                     | <input checked="" type="checkbox"/>     | <input checked="" type="checkbox"/> |



|      |                    |                                     |                                     |
|------|--------------------|-------------------------------------|-------------------------------------|
| 0.05 | DCGT-11T3005-FN-X8 | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| 0.1  | DCGT-11T301-FN-X8  | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| 0.2  | DCGT-11T302-FN-X8  | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| 0.4  | DCGT-11T304-FN-X8  | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |

DCGT  
ENP-KX

| CERMET                                |                                       |                                         |                                     |
|---------------------------------------|---------------------------------------|-----------------------------------------|-------------------------------------|
| PVD                                   |                                       | non revêtu<br>unbeschichtet<br>uncoated |                                     |
| <input checked="" type="checkbox"/> P | <input checked="" type="checkbox"/> M | <input checked="" type="checkbox"/> P   | <input type="checkbox"/>            |
| <input type="checkbox"/>              | <input type="checkbox"/>              | <input type="checkbox"/>                | <input type="checkbox"/>            |
| CT7                                   |                                       | CN6                                     |                                     |
| R                                     | Art. N°                               |                                         |                                     |
| 0.1                                   | DCGT-070201-ENP-KX                    | <input checked="" type="checkbox"/>     | <input checked="" type="checkbox"/> |
| 0.2                                   | DCGT-070202-ENP-KX                    | <input checked="" type="checkbox"/>     | <input checked="" type="checkbox"/> |
| 0.4                                   | DCGT-070204-ENP-KX                    | <input checked="" type="checkbox"/>     | <input checked="" type="checkbox"/> |

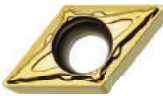


|     |                    |                                     |                                     |
|-----|--------------------|-------------------------------------|-------------------------------------|
| 0.1 | DCGT-11T301-ENP-KX | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| 0.2 | DCGT-11T302-ENP-KX | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| 0.4 | DCGT-11T304-ENP-KX | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |

Plaquettes CERMET  
CERMET-Wendeplatten  
CERMET inserts

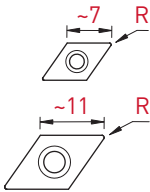
55°

DCMT-KM



DCMT  
EN-KM

| CERMET                                |                                       |                                         |  |
|---------------------------------------|---------------------------------------|-----------------------------------------|--|
| PVD                                   |                                       | non revêtu<br>unbeschichtet<br>uncoated |  |
| <input checked="" type="checkbox"/> P | <input checked="" type="checkbox"/> P | <input checked="" type="checkbox"/> P   |  |
| <input checked="" type="checkbox"/> M | <input checked="" type="checkbox"/> M | <input type="checkbox"/>                |  |
| <input type="checkbox"/>              | <input type="checkbox"/>              | <input type="checkbox"/>                |  |
| <input type="checkbox"/>              | <input type="checkbox"/>              | <input type="checkbox"/>                |  |
| CT7                                   | HCT7                                  | CN6                                     |  |
| <input checked="" type="checkbox"/>   | <input checked="" type="checkbox"/>   | <input checked="" type="checkbox"/>     |  |
| <input checked="" type="checkbox"/>   | <input checked="" type="checkbox"/>   | <input checked="" type="checkbox"/>     |  |
| <input checked="" type="checkbox"/>   | <input checked="" type="checkbox"/>   | <input checked="" type="checkbox"/>     |  |



| R   | Art. N°           |
|-----|-------------------|
| 0.2 | DCMT-070202-EN-KM |
| 0.4 | DCMT-070204-EN-KM |
| 0.2 | DCMT-11T302-EN-KM |
| 0.4 | DCMT-11T304-EN-KM |
| 0.8 | DCMT-11T308-EN-KM |



Porte-outils

Halter

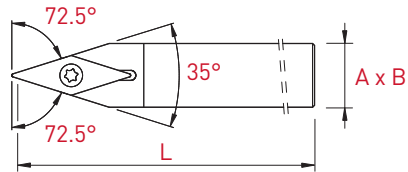
Holders

35°

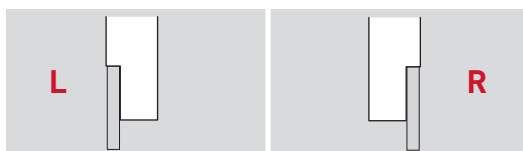
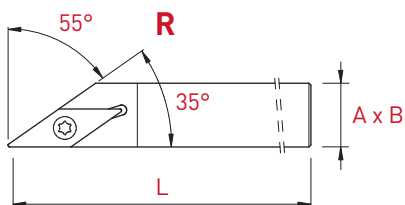
SVV



SW



| Plaquettes<br>WSP<br>Inserts | A x B       | L   | Art. N°        |
|------------------------------|-------------|-----|----------------|
| VC...1103..                  | 8 x 8       | 115 | SVVCN-0808X-11 |
|                              | 10 x 10     | 115 | SVVCN-1010X-11 |
|                              | 12 x 12     | 130 | SVVCN-1212X-11 |
|                              | 12 x 12     | 90  | SVVCN-1212G-11 |
|                              | 12.7 x 12.7 | 130 | SVVCN-12.7X-11 |
|                              | 16 x 16     | 130 | SVVCN-1616X-11 |
|                              | 16 x 16     | 75  | SVVCN-1616F-11 |
|                              | 20 x 20     | 120 | SVVCN-2020X-11 |
| VC...1303..                  | 8 x 10      | 115 | SVVCN-0810X-13 |
|                              | 10 x 10     | 115 | SVVCN-1010X-13 |
|                              | 12 x 12     | 130 | SVVCN-1212X-13 |
|                              | 12 x 12     | 90  | SVVCN-1212G-13 |
|                              | 12.7 x 12.7 | 130 | SVVCN-12.7X-13 |
|                              | 16 x 16     | 130 | SVVCN-1616X-13 |
|                              | 16 x 16     | 75  | SVVCN-1616F-13 |
|                              | 20 x 20     | 120 | SVVCN-2020X-13 |
| VC...1604..                  | 12 x 12     | 130 | SVVCN-1212X-16 |
|                              | 12 x 12     | 90  | SVVCN-1212G-16 |
|                              | 12.7 x 12.7 | 130 | SVVCN-12.7X-16 |
|                              | 16 x 16     | 130 | SVVCN-1616X-16 |
|                              | 16 x 16     | 75  | SVVCN-1616F-16 |
|                              | 20 x 20     | 120 | SVVCN-2020X-16 |

**SVA**

| Plaquettes<br>WSP<br>Inserts | A x B       | L   | Art. N°        | Art. N°        |
|------------------------------|-------------|-----|----------------|----------------|
| VC...1103..                  | 8 x 8       | 115 | SVACL-0808X-11 | SVACR-0808X-11 |
|                              | 10 x 10     | 115 | SVACL-1010X-11 | SVACR-1010X-11 |
|                              | 12 x 12     | 130 | SVACL-1212X-11 | SVACR-1212X-11 |
|                              | 12 x 12     | 90  | SVACL-1212G-11 | SVACR-1212G-11 |
|                              | 12.7 x 12.7 | 130 | SVACL-12.7X-11 | SVACR-12.7X-11 |
|                              | 16 x 16     | 130 | SVACL-1616X-11 | SVACR-1616X-11 |
|                              | 16 x 16     | 75  | SVACL-1616F-11 | SVACR-1616F-11 |
|                              | 20 x 20     | 120 | SVACL-2020X-11 | SVACR-2020X-11 |
| VC...1604..                  | 12 x 12     | 130 | SVACL-1212X-16 | SVACR-1212X-16 |
|                              | 12 x 12     | 90  | SVACL-1212G-16 | SVACR-1212G-16 |
|                              | 12.7 x 12.7 | 130 | SVACL-12.7X-16 | SVACR-12.7X-16 |
|                              | 16 x 16     | 130 | SVACL-1616X-16 | SVACR-1616X-16 |
|                              | 16 x 16     | 75  | SVACL-1616F-16 | SVACR-1616F-16 |
|                              | 20 x 20     | 120 | SVACL-2020X-16 | SVACR-2020X-16 |

Porte-outils

Halter

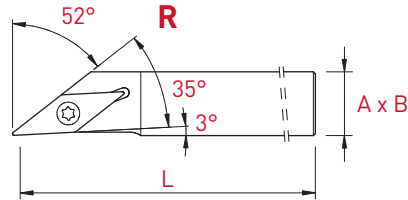
Holders

35°

SVJ



SVJ



L

R

| Plaquettes<br>WSP<br>Inserts | A x B       | L   | Art. N°        | Art. N°        |
|------------------------------|-------------|-----|----------------|----------------|
| VC...-1103..                 | 8 x 8       | 115 | SVJCL-0808X-11 | SVJCR-0808X-11 |
|                              | 10 x 10     | 115 | SVJCL-1010X-11 | SVJCR-1010X-11 |
|                              | 12 x 12     | 130 | SVJCL-1212X-11 | SVJCR-1212X-11 |
|                              | 12 x 12     | 90  | SVJCL-1212G-11 | SVJCR-1212G-11 |
|                              | 12.7 x 12.7 | 130 | SVJCL-12.7X-11 | SVJCR-12.7X-11 |
|                              | 16 x 16     | 130 | SVJCL-1616X-11 | SVJCR-1616X-11 |
|                              | 16 x 16     | 75  | SVJCL-1616F-11 | SVJCR-1616F-11 |
|                              | 20 x 20     | 120 | SVJCL-2020X-11 | SVJCR-2020X-11 |
| VC...-1303..                 | 8 x 10      | 115 | SVJCL-0810X-13 | SVJCR-0810X-13 |
|                              | 10 x 10     | 115 | SVJCL-1010X-13 | SVJCR-1010X-13 |
|                              | 12 x 12     | 130 | SVJCL-1212X-13 | SVJCR-1212X-13 |
|                              | 12 x 12     | 90  | SVJCL-1212G-13 | SVJCR-1212G-13 |
|                              | 12.7 x 12.7 | 130 | SVJCL-12.7X-13 | SVJCR-12.7X-13 |
|                              | 16 x 16     | 130 | SVJCL-1616X-13 | SVJCR-1616X-13 |
|                              | 16 x 16     | 75  | SVJCL-1616F-13 | SVJCR-1616F-13 |
|                              | 20 x 20     | 120 | SVJCL-2020X-13 | SVJCR-2020X-13 |
| VC...-1604..                 | 12 x 12     | 130 | SVJCL-1212X-16 | SVJCR-1212X-16 |
|                              | 12 x 12     | 90  | SVJCL-1212G-16 | SVJCR-1212G-16 |
|                              | 12.7 x 12.7 | 130 | SVJCL-12.7X-16 | SVJCR-12.7X-16 |
|                              | 16 x 16     | 130 | SVJCL-1616X-16 | SVJCR-1616X-16 |
|                              | 16 x 16     | 75  | SVJCL-1616F-16 | SVJCR-1616F-16 |
|                              | 20 x 20     | 120 | SVJCL-2020X-16 | SVJCR-2020X-16 |

Porte-outils avec arrosage intégré

Halter mit integrierter Kühlmittelzufuhr

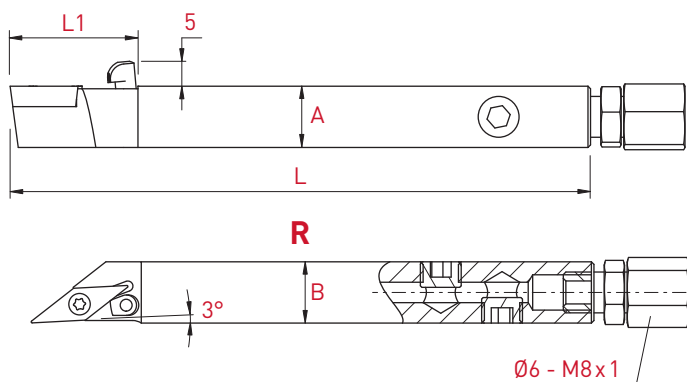
Holders with integrated coolant supply

35°

SVJ-JET



SVJ



L

R

| Plaquettes<br>WSP<br>Inserts | A x B       | L   | L1 | Art. N°            | Art. N°            |
|------------------------------|-------------|-----|----|--------------------|--------------------|
| VC...-1103..                 | 10 x 10     | 110 | 21 | SVJCL-1010J-11-JET | SVJCR-1010J-11-JET |
|                              | 12 x 12     | 110 | 21 | SVJCL-1212J-11-JET | SVJCR-1212J-11-JET |
|                              | 12.7 x 12.7 | 110 | 21 | SVJCL-12.7J-11-JET | SVJCR-12.7J-11-JET |
|                              | 16 x 16     | 110 | 21 | SVJCL-1616J-11-JET | SVJCR-1616J-11-JET |
|                              | 20 x 20     | 110 | 21 | SVJCL-2020J-11-JET | SVJCR-2020J-11-JET |
| VC...-1303..                 | 10 x 10     | 110 | 26 | SVJCL-1010J-13-JET | SVJCR-1010J-13-JET |
|                              | 12 x 12     | 110 | 26 | SVJCL-1212J-13-JET | SVJCR-1212J-13-JET |
|                              | 12.7 x 12.7 | 110 | 26 | SVJCL-12.7J-13-JET | SVJCR-12.7J-13-JET |
|                              | 16 x 16     | 110 | 26 | SVJCL-1616J-13-JET | SVJCR-1616J-13-JET |
|                              | 20 x 20     | 110 | 26 | SVJCL-2020J-13-JET | SVJCR-2020J-13-JET |
| VC...-1604..                 | 12 x 12     | 110 | 30 | SVJCL-1212J-16-JET | SVJCR-1212J-16-JET |
|                              | 12.7 x 12.7 | 110 | 30 | SVJCL-12.7J-16-JET | SVJCR-12.7J-16-JET |
|                              | 16 x 16     | 110 | 30 | SVJCL-1616J-16-JET | SVJCR-1616J-16-JET |
|                              | 20 x 20     | 110 | 30 | SVJCL-2020J-16-JET | SVJCR-2020J-16-JET |

Porte-outils

Halter

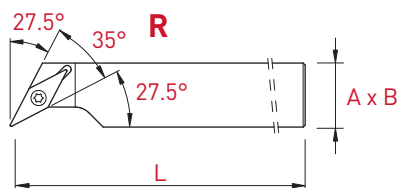
Holders

35°

SVX



SVX



| Plaquettes<br>WSP<br>Inserts | A x B   | L   | Art. N°        | Art. N°        |
|------------------------------|---------|-----|----------------|----------------|
| VC...-1103..                 | 16 x 16 | 130 | SVXCL-1616X-11 | SVXCR-1616X-11 |
|                              | 16 x 16 | 75  | SVXCL-1616F-11 | SVXCR-1616F-11 |
|                              | 20 x 20 | 120 | SVXCL-2020X-11 | SVXCR-2020X-11 |

Porte-outils

Halter

Holders

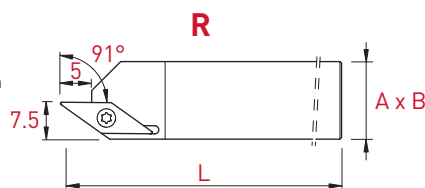
35°

SV-CL/R



SV-CL/R

tournage arrière  
rückwärts drehen  
back turning



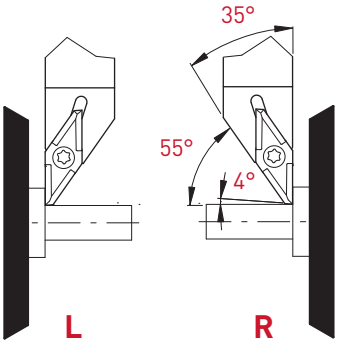
| Plaquettes<br>WSP<br>Inserts | A x B       | L   | Art. N°        | Art. N°        |
|------------------------------|-------------|-----|----------------|----------------|
| VCG...-1103..                | 12 x 12     | 130 | SV-CL-1212X-11 | SV-CR-1212X-11 |
|                              | 12 x 12     | 90  | SV-CL-1212G-11 | SV-CR-1212G-11 |
|                              | 12.7 x 12.7 | 130 | SV-CL-12.7X-11 | SV-CR-12.7X-11 |
|                              | 16 x 16     | 130 | SV-CL-1616X-11 | SV-CR-1616X-11 |
|                              | 16 x 16     | 75  | SV-CL-1616F-11 | SV-CR-1616F-11 |
|                              | 20 x 20     | 120 | SV-CL-2020X-11 | SV-CR-2020X-11 |

Porte-outils compatibles avec plaquettes VCGT ELP/ERP-FL/FR-X10°

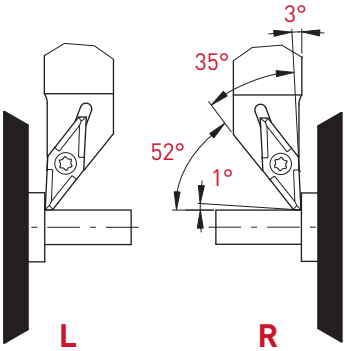
Passende Halter zu den Wendeplatten VCGT ELP/ERP-FL/FR-X10°

Holders compatible with inserts VCGT ELP/ERP-FL/FR-X10°

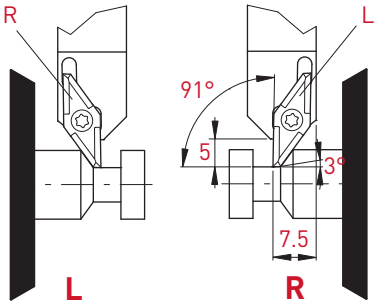
35°



|   | Art. N°      |
|---|--------------|
| R | SVACR-...-11 |
| L | SVACL-...-11 |



|   | Art. N°      |
|---|--------------|
| R | SVJCR-...-11 |
| L | SVJCL-...-11 |



|   | Art. N°      |
|---|--------------|
| R | SV-CR-...-11 |
| L | SV-CL-...-11 |

Porte-outils intérieurs

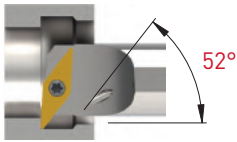
Innenhalter

Internal holders

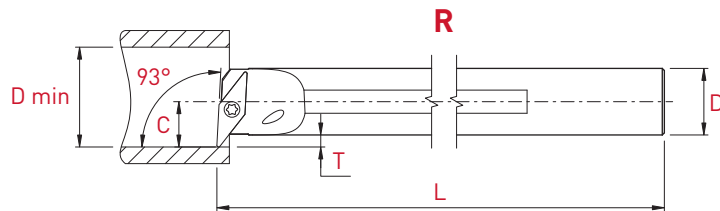
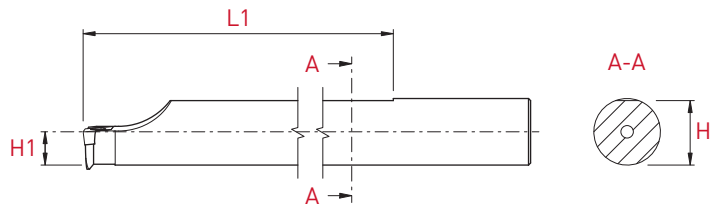
35°

A-SVUCR/L

new



SVU



Acier / Stahl / Steel

L

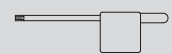
R

| Plaquettes<br>WSP<br>Inserts | D  | Dmin | T   | C  | H1 | L   | L1  | H    | Art. N°       | Art. N°       |
|------------------------------|----|------|-----|----|----|-----|-----|------|---------------|---------------|
| VC..-1103                    | 16 | 21   | 3.1 | 11 | 8  | 150 | 118 | 15.5 | A16M-SVUCL-11 | A16M-SVUCR-11 |

Pièces de rechange  
Ersatzteile  
Spare parts

Art. N°

V-M2.5X5.8-T8



Art. N°

C-T8

Plaquettes en métal dur

VHM-Wendeplatten

Solid carbide inserts

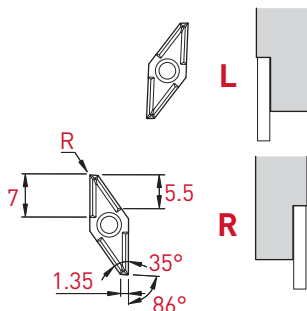
35°

VCGT-L/R-X10

VCGT  
FL / FR-X10

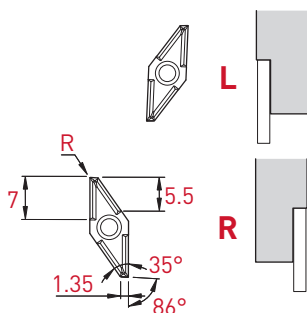
| R    | Art. N°             |
|------|---------------------|
| 0.03 | VCGT-1103003-FL-X10 |
| 0.08 | VCGT-1103008-FL-X10 |
| 0.1  | VCGT-110301-FL-X10  |
| 0.2  | VCGT-110302-FL-X10  |
| 0.03 | VCGT-1103003-FR-X10 |
| 0.08 | VCGT-1103008-FR-X10 |
| 0.1  | VCGT-110301-FR-X10  |
| 0.2  | VCGT-110302-FR-X10  |

| PVD   |     |       |      |     | non revêtu<br>unbeschichtet<br>uncoated |     |
|-------|-----|-------|------|-----|-----------------------------------------|-----|
| P     | P   | P     | P    | P   |                                         |     |
| M     | M   | M     | M    | M   |                                         |     |
| N     | N   | N     | N    | N   |                                         |     |
| S     | S   | S     | S    | S   |                                         |     |
| TiAlN | HTA | TiAlX | HTAX | TiN | K10                                     | K20 |
| ■     | ■   |       |      | ■   | ■                                       | ■   |
| ■     | ■   |       |      | ■   | ■                                       | ■   |
| ■     | ■   |       |      | ■   | ■                                       | ■   |
| ■     | ■   |       |      | ■   | ■                                       | ■   |
| ■     | ■   | ■     | ■    | ■   | ■                                       | ■   |
| ■     | ■   | ■     | ■    | ■   | ■                                       | ■   |
| ■     | ■   | ■     | ■    | ■   | ■                                       | ■   |
| ■     | ■   | ■     | ■    | ■   | ■                                       | ■   |

VCGT  
ELP/ERP-X10

| R    | Art. N°              |
|------|----------------------|
| 0.03 | VCGT-1103003-ELP-X10 |
| 0.08 | VCGT-1103008-ELP-X10 |
| 0.1  | VCGT-110301-ELP-X10  |
| 0.2  | VCGT-110302-ELP-X10  |
| 0.03 | VCGT-1103003-ERP-X10 |
| 0.08 | VCGT-1103008-ERP-X10 |
| 0.1  | VCGT-110301-ERP-X10  |
| 0.2  | VCGT-110302-ERP-X10  |

| PVD   |     |       |      |     | non revêtu<br>unbeschichtet<br>uncoated |     |
|-------|-----|-------|------|-----|-----------------------------------------|-----|
| P     | P   | P     | P    | P   |                                         |     |
| M     | M   | M     | M    | M   |                                         |     |
| N     | N   |       |      | N   |                                         |     |
| S     | S   | S     | S    |     |                                         |     |
| TiAlN | HTA | TiAlX | HTAX | TiN | K10                                     | K20 |
| ■     | ■   |       |      | ■   | ■                                       | ■   |
| ■     | ■   |       |      | ■   | ■                                       | ■   |
| ■     | ■   |       |      | ■   | ■                                       | ■   |
| ■     | ■   |       |      | ■   | ■                                       | ■   |
| ■     | ■   | ■     | ■    | ■   | ■                                       | ■   |
| ■     | ■   | ■     | ■    | ■   | ■                                       | ■   |
| ■     | ■   | ■     | ■    | ■   | ■                                       | ■   |
| ■     | ■   | ■     | ■    | ■   | ■                                       | ■   |



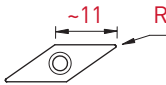


Plaquettes en métal dur

VHM-Wendeplatten

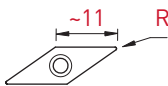
Solid carbide inserts

35°

VCGT-K18  
VCGW-0VCGT  
FN-K18

| R    | Art. N°             | PVD |      | non revêtu<br>unbeschichtet<br>uncoated |
|------|---------------------|-----|------|-----------------------------------------|
|      |                     | HTA | HTiN | K10                                     |
| 0.05 | VCGT-1103005-FN-K18 | ■   | ■    | ■                                       |
| 0.1  | VCGT-110301-FN-K18  | ■   | ■    | ■                                       |
| 0.2  | VCGT-110302-FN-K18  | ■   | ■    | ■                                       |
| 0.4  | VCGT-110304-FN-K18  | ■   | ■    | ■                                       |

| PVD |      | non revêtu<br>unbeschichtet<br>uncoated |
|-----|------|-----------------------------------------|
| P   | P    | <input type="checkbox"/>                |
| M   | M    | <input type="checkbox"/>                |
| N   | N    | <input checked="" type="checkbox"/>     |
| S   |      | <input checked="" type="checkbox"/>     |
| HTA | HTiN | K10                                     |

VCGW  
FN-0

| R    | Art. N°           | PVD |      | non revêtu<br>unbeschichtet<br>uncoated |
|------|-------------------|-----|------|-----------------------------------------|
|      |                   | HTA | HTiN | K10                                     |
| 0.05 | VCGW-1103005-FN-0 | ■   | ■    | ■                                       |
| 0.1  | VCGW-110301-FN-0  | ■   | ■    | ■                                       |
| 0.2  | VCGW-110302-FN-0  | ■   | ■    | ■                                       |
| 0.4  | VCGW-110304-FN-0  | ■   | ■    | ■                                       |

| PVD                      |                          | non revêtu<br>unbeschichtet<br>uncoated |
|--------------------------|--------------------------|-----------------------------------------|
| P                        | P                        | <input type="checkbox"/>                |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>                |
| N                        | N                        | <input checked="" type="checkbox"/>     |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>                |
| HTA                      | HTiN                     | K10                                     |

Plaquettes en métal dur

VHM-Wendeplatten

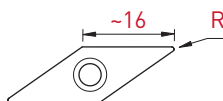
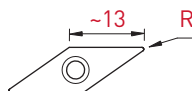
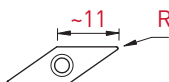
Solid carbide inserts

35°

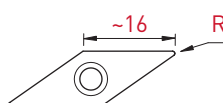
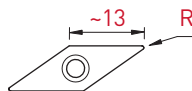
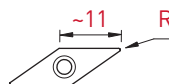
VCGT-X8

VCGT  
FN-X8

| R    | Art. N°            | PVD                       |                         |                           |                          |                         | non revêtu<br>unbeschichtet<br>uncoated |     |
|------|--------------------|---------------------------|-------------------------|---------------------------|--------------------------|-------------------------|-----------------------------------------|-----|
|      |                    | P<br>M<br>N<br>S<br>TiAlN | P<br>M<br>N<br>S<br>HTA | P<br>M<br>N<br>S<br>TiAlX | P<br>M<br>N<br>S<br>HTAX | P<br>M<br>N<br>S<br>TiN | K10                                     | K20 |
| 0.05 | VCGT-1103005-FN-X8 | ■                         | ■                       | ■                         | ■                        | ■                       | ■                                       | ■   |
| 0.08 | VCGT-1103008-FN-X8 | ■                         | ■                       | ■                         | ■                        | ■                       | ■                                       | ■   |
| 0.1  | VCGT-110301-FN-X8  | ■                         | ■                       | ■                         | ■                        | ■                       | ■                                       | ■   |
| 0.15 | VCGT-1103015-FN-X8 | ■                         | ■                       | ■                         | ■                        | ■                       | ■                                       | ■   |
| 0.2  | VCGT-110302-FN-X8  | ■                         | ■                       | ■                         | ■                        | ■                       | ■                                       | ■   |
| 0.4  | VCGT-110304-FN-X8  | ■                         | ■                       | ■                         | ■                        | ■                       | ■                                       | ■   |
| 0.05 | VCGT-1303005-FN-X8 | ■                         | ■                       | ■                         | ■                        | ■                       | ■                                       | ■   |
| 0.1  | VCGT-130301-FN-X8  | ■                         | ■                       | ■                         | ■                        | ■                       | ■                                       | ■   |
| 0.2  | VCGT-130302-FN-X8  | ■                         | ■                       | ■                         | ■                        | ■                       | ■                                       | ■   |
| 0.4  | VCGT-130304-FN-X8  | ■                         | ■                       | ■                         | ■                        | ■                       | ■                                       | ■   |
| 0.05 | VCGT-1604005-FN-X8 | ■                         | ■                       | ■                         | ■                        | ■                       | ■                                       | ■   |
| 0.1  | VCGT-160401-FN-X8  | ■                         | ■                       | ■                         | ■                        | ■                       | ■                                       | ■   |
| 0.2  | VCGT-160402-FN-X8  | ■                         | ■                       | ■                         | ■                        | ■                       | ■                                       | ■   |
| 0.4  | VCGT-160404-FN-X8  | ■                         | ■                       | ■                         | ■                        | ■                       | ■                                       | ■   |

VCGT  
ENP-X8

| R    | Art. N°             | PVD                       |                         | non revêtu<br>unbeschichtet<br>uncoated |
|------|---------------------|---------------------------|-------------------------|-----------------------------------------|
|      |                     | P<br>M<br>N<br>S<br>TiAlN | P<br>M<br>N<br>S<br>TiN | K20                                     |
| 0.05 | VCGT-1103005-ENP-X8 | ■                         | ■                       | ■                                       |
| 0.08 | VCGT-1103008-ENP-X8 | ■                         | ■                       | ■                                       |
| 0.1  | VCGT-110301-ENP-X8  | ■                         | ■                       | ■                                       |
| 0.15 | VCGT-1103015-ENP-X8 | ■                         | ■                       | ■                                       |
| 0.2  | VCGT-110302-ENP-X8  | ■                         | ■                       | ■                                       |
| 0.4  | VCGT-110304-ENP-X8  | ■                         | ■                       | ■                                       |
| 0.05 | VCGT-1303005-ENP-X8 | ■                         | ■                       | ■                                       |
| 0.1  | VCGT-130301-ENP-X8  | ■                         | ■                       | ■                                       |
| 0.2  | VCGT-130302-ENP-X8  | ■                         | ■                       | ■                                       |
| 0.4  | VCGT-130304-ENP-X8  | ■                         | ■                       | ■                                       |
| 0.05 | VCGT-1604005-ENP-X8 | ■                         | ■                       | ■                                       |
| 0.1  | VCGT-160401-ENP-X8  | ■                         | ■                       | ■                                       |
| 0.2  | VCGT-160402-ENP-X8  | ■                         | ■                       | ■                                       |
| 0.4  | VCGT-160404-ENP-X8  | ■                         | ■                       | ■                                       |



Plaquettes en métal dur

VHM-Wendeplatten

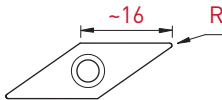
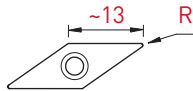
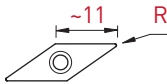
Solid carbide inserts

35°

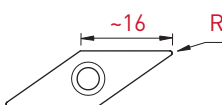
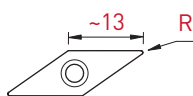
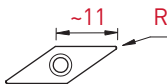
VCGT-X17

VCGT  
FN-X17

| R    | Art. N°             | PVD                       |                         |                          |                         | non revêtu<br>unbeschichtet<br>uncoated |     |
|------|---------------------|---------------------------|-------------------------|--------------------------|-------------------------|-----------------------------------------|-----|
|      |                     | P<br>M<br>N<br>S<br>TiAlN | P<br>M<br>N<br>S<br>HTA | P<br>M<br>N<br>S<br>HTAX | P<br>M<br>N<br>S<br>TiN | K10                                     | K20 |
| 0.05 | VCGT-1103005-FN-X17 | ■                         | ■                       | ■                        | ■                       | ■                                       | ■   |
| 0.08 | VCGT-1103008-FN-X17 | ■                         | ■                       | ■                        | ■                       | ■                                       | ■   |
| 0.1  | VCGT-110301-FN-X17  | ■                         | ■                       | ■                        | ■                       | ■                                       | ■   |
| 0.15 | VCGT-1103015-FN-X17 | ■                         | ■                       | ■                        | ■                       | ■                                       | ■   |
| 0.2  | VCGT-110302-FN-X17  | ■                         | ■                       | ■                        | ■                       | ■                                       | ■   |
| 0.4  | VCGT-110304-FN-X17  | ■                         | ■                       | ■                        | ■                       | ■                                       | ■   |
| 0.05 | VCGT-1303005-FN-X17 | ■                         | ■                       | ■                        | ■                       | ■                                       | ■   |
| 0.1  | VCGT-130301-FN-X17  | ■                         | ■                       | ■                        | ■                       | ■                                       | ■   |
| 0.2  | VCGT-130302-FN-X17  | ■                         | ■                       | ■                        | ■                       | ■                                       | ■   |
| 0.4  | VCGT-130304-FN-X17  | ■                         | ■                       | ■                        | ■                       | ■                                       | ■   |
| 0.05 | VCGT-1604005-FN-X17 | ■                         | ■                       | ■                        | ■                       | ■                                       | ■   |
| 0.1  | VCGT-160401-FN-X17  | ■                         | ■                       | ■                        | ■                       | ■                                       | ■   |
| 0.2  | VCGT-160402-FN-X17  | ■                         | ■                       | ■                        | ■                       | ■                                       | ■   |
| 0.4  | VCGT-160404-FN-X17  | ■                         | ■                       | ■                        | ■                       | ■                                       | ■   |
| 0.8  | VCGT-160408-FN-X17  | ■                         | ■                       | ■                        | ■                       | ■                                       | ■   |

VCGT  
ENP-X17

| R    | Art. N°              | PVD                       |                         | non revêtu<br>unbeschichtet<br>uncoated |
|------|----------------------|---------------------------|-------------------------|-----------------------------------------|
|      |                      | P<br>M<br>N<br>S<br>TiAlN | P<br>M<br>N<br>S<br>TiN |                                         |
| 0.05 | VCGT-1103005-ENP-X17 | ■                         | ■                       | ■                                       |
| 0.08 | VCGT-1103008-ENP-X17 | ■                         | ■                       | ■                                       |
| 0.1  | VCGT-110301-ENP-X17  | ■                         | ■                       | ■                                       |
| 0.15 | VCGT-1103015-ENP-X17 | ■                         | ■                       | ■                                       |
| 0.2  | VCGT-110302-ENP-X17  | ■                         | ■                       | ■                                       |
| 0.4  | VCGT-110304-ENP-X17  | ■                         | ■                       | ■                                       |
| 0.05 | VCGT-1303005-ENP-X17 | ■                         | ■                       | ■                                       |
| 0.1  | VCGT-130301-ENP-X17  | ■                         | ■                       | ■                                       |
| 0.2  | VCGT-130302-ENP-X17  | ■                         | ■                       | ■                                       |
| 0.4  | VCGT-130304-ENP-X17  | ■                         | ■                       | ■                                       |
| 0.05 | VCGT-1604005-ENP-X17 | ■                         | ■                       | ■                                       |
| 0.1  | VCGT-160401-ENP-X17  | ■                         | ■                       | ■                                       |
| 0.2  | VCGT-160402-ENP-X17  | ■                         | ■                       | ■                                       |
| 0.4  | VCGT-160404-ENP-X17  | ■                         | ■                       | ■                                       |
| 0.8  | VCGT-160408-ENP-X17  | ■                         | ■                       | ■                                       |



Plaquettes en métal dur

VHM-Wendeplatten

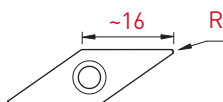
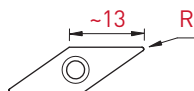
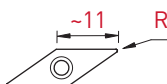
Solid carbide inserts

35°

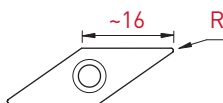
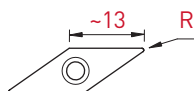
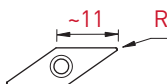
VCGT-X25

VCGT  
FN-X25

| R    | Art. N°             | PVD              |                  |             | non revêtu<br>unbeschichtet<br>uncoated                                                                                 |                                                                                                                         |
|------|---------------------|------------------|------------------|-------------|-------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|
|      |                     | TiAlN            | HTA              | TiN         | K10                                                                                                                     | K20                                                                                                                     |
|      |                     | P<br>M<br>N<br>S | P<br>M<br>N<br>S | P<br>M<br>N | <input type="checkbox"/><br><input type="checkbox"/><br><input checked="" type="checkbox"/><br><input type="checkbox"/> | <input type="checkbox"/><br><input type="checkbox"/><br><input checked="" type="checkbox"/><br><input type="checkbox"/> |
| 0.05 | VCGT-1103005-FN-X25 | ■                | ■                | ■           | ■                                                                                                                       | ■                                                                                                                       |
| 0.1  | VCGT-110301-FN-X25  | ■                | ■                | ■           | ■                                                                                                                       | ■                                                                                                                       |
| 0.2  | VCGT-110302-FN-X25  | ■                | ■                | ■           | ■                                                                                                                       | ■                                                                                                                       |
| 0.4  | VCGT-110304-FN-X25  | ■                | ■                | ■           | ■                                                                                                                       | ■                                                                                                                       |
| 0.05 | VCGT-1303005-FN-X25 | ■                | ■                | ■           | ■                                                                                                                       | ■                                                                                                                       |
| 0.1  | VCGT-130301-FN-X25  | ■                | ■                | ■           | ■                                                                                                                       | ■                                                                                                                       |
| 0.2  | VCGT-130302-FN-X25  | ■                | ■                | ■           | ■                                                                                                                       | ■                                                                                                                       |
| 0.4  | VCGT-130304-FN-X25  | ■                | ■                | ■           | ■                                                                                                                       | ■                                                                                                                       |
| 0.8  | VCGT-130308-FN-X25  | ■                | ■                | ■           | ■                                                                                                                       | ■                                                                                                                       |
| 0.05 | VCGT-1604005-FN-X25 | ■                | ■                | ■           | ■                                                                                                                       | ■                                                                                                                       |
| 0.1  | VCGT-160401-FN-X25  | ■                | ■                | ■           | ■                                                                                                                       | ■                                                                                                                       |
| 0.2  | VCGT-160402-FN-X25  | ■                | ■                | ■           | ■                                                                                                                       | ■                                                                                                                       |
| 0.4  | VCGT-160404-FN-X25  | ■                | ■                | ■           | ■                                                                                                                       | ■                                                                                                                       |
| 0.8  | VCGT-160408-FN-X25  | ■                | ■                | ■           | ■                                                                                                                       | ■                                                                                                                       |

VCGT  
ENP-X25

| R    | Art. N°              | PVD              |                  |             | non revêtu<br>unbeschichtet<br>uncoated                                                                                 |                                                                                                                         |
|------|----------------------|------------------|------------------|-------------|-------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|
|      |                      | TiAlN            | TiAlX            | TiN         | K20                                                                                                                     |                                                                                                                         |
|      |                      | P<br>M<br>N<br>S | P<br>M<br>N<br>S | P<br>M<br>N | <input type="checkbox"/><br><input type="checkbox"/><br><input checked="" type="checkbox"/><br><input type="checkbox"/> | <input type="checkbox"/><br><input type="checkbox"/><br><input checked="" type="checkbox"/><br><input type="checkbox"/> |
| 0.05 | VCGT-1103005-ENP-X25 | ■                | ■                | ■           | ■                                                                                                                       | ■                                                                                                                       |
| 0.1  | VCGT-110301-ENP-X25  | ■                | ■                | ■           | ■                                                                                                                       | ■                                                                                                                       |
| 0.2  | VCGT-110302-ENP-X25  | ■                | ■                | ■           | ■                                                                                                                       | ■                                                                                                                       |
| 0.4  | VCGT-110304-ENP-X25  | ■                | ■                | ■           | ■                                                                                                                       | ■                                                                                                                       |
| 0.05 | VCGT-1303005-ENP-X25 | ■                |                  |             | ■                                                                                                                       | ■                                                                                                                       |
| 0.1  | VCGT-130301-ENP-X25  | ■                |                  |             | ■                                                                                                                       | ■                                                                                                                       |
| 0.2  | VCGT-130302-ENP-X25  | ■                |                  |             | ■                                                                                                                       | ■                                                                                                                       |
| 0.4  | VCGT-130304-ENP-X25  | ■                |                  |             | ■                                                                                                                       | ■                                                                                                                       |
| 0.8  | VCGT-130308-ENP-X25  | ■                |                  |             | ■                                                                                                                       | ■                                                                                                                       |
| 0.05 | VCGT-1604005-ENP-X25 | ■                |                  | ■           | ■                                                                                                                       | ■                                                                                                                       |
| 0.1  | VCGT-160401-ENP-X25  | ■                |                  | ■           | ■                                                                                                                       | ■                                                                                                                       |
| 0.2  | VCGT-160402-ENP-X25  | ■                |                  | ■           | ■                                                                                                                       | ■                                                                                                                       |
| 0.4  | VCGT-160404-ENP-X25  | ■                |                  | ■           | ■                                                                                                                       | ■                                                                                                                       |
| 0.8  | VCGT-160408-ENP-X25  | ■                |                  | ■           | ■                                                                                                                       | ■                                                                                                                       |



Plaquettes en métal dur

VHM-Wendeplatten

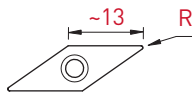
Solid carbide inserts

35°

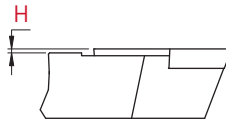
VCGT-X20

VCGT  
ENP-X20

| PVD                                   |                                       |
|---------------------------------------|---------------------------------------|
| <input type="checkbox"/>              | <input type="checkbox"/>              |
| <input checked="" type="checkbox"/> M | <input checked="" type="checkbox"/> M |
| <input checked="" type="checkbox"/> N | <input checked="" type="checkbox"/> N |
| <input checked="" type="checkbox"/> S | <input checked="" type="checkbox"/> S |
| ZTA                                   | HTIX                                  |



| R   | H    | Art. N°             | ZTA | HTIX |
|-----|------|---------------------|-----|------|
| 0.2 | 0.25 | VCGT-130302-ENP-X20 | ■   | ■    |
| 0.4 | 0.25 | VCGT-130304-ENP-X20 | ■   | ■    |
| 0.8 | 0.25 | VCGT-130308-ENP-X20 | ■   | ■    |



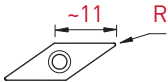
Plaquettes en métal dur  
VHM-Wendeplatten  
Solid carbide inserts

35°

VCMT-XF3  
VCMT-XF2



VCMT  
EN-XF3

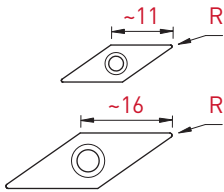


| R   | Art. N°            | PVD |      |
|-----|--------------------|-----|------|
|     |                    | TAC | HTAC |
| 0.2 | VCMT-110302-EN-XF3 | ■   | ■    |
| 0.4 | VCMT-110304-EN-XF3 | ■   | ■    |

| PVD |   |
|-----|---|
| P   | P |
| M   | M |
| N   | N |
| S   | S |



VCMT  
EN-XF2



| R   | Art. N°            | PVD |      | CVD  |
|-----|--------------------|-----|------|------|
|     |                    | TAC | HTAC | HTi5 |
| 0.2 | VCMT-110302-EN-XF2 | ■   | ■    | ■    |
| 0.4 | VCMT-110304-EN-XF2 | ■   | ■    | ■    |
| 0.4 | VCMT-160404-EN-XF2 | ■   | ■    | ■    |

| PVD |   | CVD |
|-----|---|-----|
| P   | P | P   |
| M   | M | M   |
| N   | N |     |
| S   | S |     |

Plaquettes en métal dur

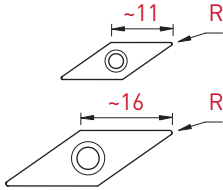
VHM-Wendeplatten

Solid carbide inserts

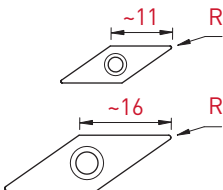
35°

VCMT-MF  
VCMT-HFVCMT  
EN-MF

| R   | Art. N°           | PVD                                                                                                                                                   | CVD                                                                                                                                                  |
|-----|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
|     |                   | <input checked="" type="checkbox"/> P<br><input checked="" type="checkbox"/> M<br><input type="checkbox"/><br><input type="checkbox"/><br><b>Tmax</b> | <input checked="" type="checkbox"/> P<br><input checked="" type="checkbox"/> M<br><input type="checkbox"/><br><input type="checkbox"/><br><b>Ti4</b> |
| 0.2 | VCMT-110302-EN-MF | ■                                                                                                                                                     | ■                                                                                                                                                    |
| 0.4 | VCMT-110304-EN-MF | ■                                                                                                                                                     | ■                                                                                                                                                    |
| 0.4 | VCMT-160404-EN-MF | ■                                                                                                                                                     | ■                                                                                                                                                    |

VCMT  
EN-HF

| R   | Art. N°           | PVD                                                                                                                                                   | CVD                                                                                                                                                  |
|-----|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
|     |                   | <input checked="" type="checkbox"/> P<br><input checked="" type="checkbox"/> M<br><input type="checkbox"/><br><input type="checkbox"/><br><b>Tmax</b> | <input checked="" type="checkbox"/> P<br><input checked="" type="checkbox"/> M<br><input type="checkbox"/><br><input type="checkbox"/><br><b>Ti4</b> |
| 0.4 | VCMT-110304-EN-HF | ■                                                                                                                                                     | ■                                                                                                                                                    |
| 0.8 | VCMT-110308-EN-HF | ■                                                                                                                                                     | ■                                                                                                                                                    |
| 0.4 | VCMT-160404-EN-HF | ■                                                                                                                                                     | ■                                                                                                                                                    |
| 0.8 | VCMT-160408-EN-HF | ■                                                                                                                                                     | ■                                                                                                                                                    |



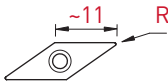
Plaquettes CERMET  
CERMET-Wendeplatten  
CERMET inserts

35°

VCGT-X8



VCGT  
FN-X8



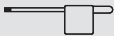
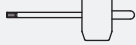
|      |                    | CERMET                                                    |                                                          |
|------|--------------------|-----------------------------------------------------------|----------------------------------------------------------|
|      |                    | PVD                                                       | non revêtu<br>unbeschichtet<br>uncoated                  |
|      |                    | <div><div>P</div><div>M</div><div></div><div></div></div> | <div><div>P</div><div></div><div></div><div></div></div> |
|      |                    | CTA                                                       | CN6                                                      |
| R    | Art. N°            |                                                           |                                                          |
| 0.05 | VCGT-1103005-FN-X8 | ■                                                         | ■                                                        |
| 0.1  | VCGT-110301-FN-X8  | ■                                                         | ■                                                        |
| 0.2  | VCGT-110302-FN-X8  | ■                                                         | ■                                                        |
| 0.4  | VCGT-110304-FN-X8  | ■                                                         | ■                                                        |



## Pièces de rechange et accessoires

## Ersatzteile und Zubehör

## Spare parts and accessories

| Vis et clés de rechange<br>Ersatzschrauben und Schlüssel<br>Spare screws and keys | Porte-outils<br>Halter<br>Holders                     | Vis<br>Schrauben<br>Screw                                                                                   | Clé<br>Schlüssel<br>Key                                                                           |  |                                 |
|-----------------------------------------------------------------------------------|-------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|---------------------------------|
|                                                                                   |                                                       |                                                                                                             |                                                                                                   | Option                                                                             | Serrage<br>Drehmoment<br>Torque |
|                                                                                   | Series SC...-06<br>Series SD...-07<br>Series SV...-11 | <b>V-M2.5X7.8-T8</b><br>   |                                                                                                   | <b>SET-NM-TX8</b>                                                                  | 1.3 Nm                          |
|                                                                                   | Series SV...-13                                       | <b>V-M3X7.3-T8-ISO</b><br> | <b>C-T8</b><br>  |                                                                                    | 2.0 Nm                          |
|                                                                                   | Series SC...-09<br>Series SD...-11<br>Series SV...-16 | <b>V-M4X9-T15-ISO</b><br>  | <b>C-T15</b><br> | <b>SET-NM-TX15</b>                                                                 | 3.0 Nm                          |

| Pièces de rechange JET<br>Ersatzteile JET<br>Spare parts JET | <b>L</b><br>Pour réf.<br>For ref.<br>Für Ref |    |    |    |
|--------------------------------------------------------------|----------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|                                                              |                                              | Art. N°                                                                             | Art. N°                                                                             | Art. N°                                                                             |
|                                                              | S...L-10...-JET                              | <b>JJL-4X12-D1.5</b>                                                                |                                                                                     |                                                                                     |
|                                                              | S...L-12...-JET<br>S...L-12.7...-JET         | <b>JJL-4X14-D1.5</b>                                                                | <b>J-M8X1-D6</b>                                                                    | <b>JB-M8X1</b>                                                                      |
|                                                              | S...L-16...-JET<br>S...L-20...-JET           | <b>JJL-4X17-D1.5</b>                                                                |                                                                                     |                                                                                     |
|                                                              | <b>R</b><br>Pour réf.<br>For ref.<br>Für Ref |  |  |  |
|                                                              |                                              | Art. N°                                                                             | Art. N°                                                                             | Art. N°                                                                             |
|                                                              | S...R-10...-JET                              | <b>JJR-4X12-D1.5</b>                                                                |                                                                                     |                                                                                     |
|                                                              | S...R-12...-JET<br>S...R-12.7...-JET         | <b>JJR-4X14-D1.5</b>                                                                | <b>J-M8X1-D6</b>                                                                    | <b>JB-M8X1</b>                                                                      |
|                                                              | S...R-16...-JET<br>S...R-20...-JET           | <b>JJR-4X17-D1.5</b>                                                                |                                                                                     |                                                                                     |

\* livré avec chaque porte-outil  
 mit jedem Halter geliefert  
 delivered with each holder

Paramètres de coupe indicatifs  
Empfohlene Schnittwerte  
Standard machining data

| ISO-Line<br>G tolerance class | Tough grade,<br>for normal to difficult<br>machining conditions | Wear resistant grade,<br>for finishing<br>and light machining | Acier<br>Stahl<br>Steel                                      |           |                                                                       |           |                                                                    |           | Inox<br>Rostfreistahl<br>Stainless steel   |           |                                               |           |
|-------------------------------|-----------------------------------------------------------------|---------------------------------------------------------------|--------------------------------------------------------------|-----------|-----------------------------------------------------------------------|-----------|--------------------------------------------------------------------|-----------|--------------------------------------------|-----------|-----------------------------------------------|-----------|
|                               |                                                                 |                                                               | Acier de décolletage<br>Automatenstahl<br>Free-cutting steel |           | Acier faiblement allié<br>Leicht legierter Stahl<br>Low alloyed steel |           | Acier fortement allié<br>Hochlegierter Stahl<br>High alloyed steel |           | Austénitique<br>Austenitisch<br>Austenitic |           | Martensitique<br>Martensitisch<br>Martensitic |           |
|                               |                                                                 |                                                               | VC (m/min)                                                   | F (mm/U)  | VC (m/min)                                                            | F (mm/U)  | VC (m/min)                                                         | F (mm/U)  | VC (m/min)                                 | F (mm/U)  | VC (m/min)                                    | F (mm/U)  |
| FN-X8                         | TiAlN                                                           | HTA                                                           | 80-180                                                       | 0.01-0.12 | 60-150                                                                | 0.01-0.10 | 50-120                                                             | 0.01-0.08 | 60-140                                     | 0.01-0.12 | 60-140                                        | 0.01-0.12 |
|                               | TiAlX                                                           | HTAX                                                          | 80-180                                                       | 0.01-0.12 | 60-150                                                                | 0.01-0.10 | 50-120                                                             | 0.01-0.08 | 60-140                                     | 0.01-0.12 | 60-140                                        | 0.01-0.12 |
|                               | TiN                                                             |                                                               | 80-170                                                       | 0.01-0.12 | 60-140                                                                | 0.01-0.10 |                                                                    |           | 60-120                                     | 0.01-0.12 | 60-120                                        | 0.01-0.12 |
|                               | N                                                               | HN                                                            |                                                              |           |                                                                       |           |                                                                    |           |                                            |           |                                               |           |
| ENP-X8                        | TiAlN                                                           | HTA                                                           | 80-180                                                       | 0.03-0.15 | 60-160                                                                | 0.03-0.12 | 50-120                                                             | 0.03-0.10 | 60-140                                     | 0.03-0.12 | 60-140                                        | 0.03-0.15 |
|                               | TiN                                                             |                                                               | 80-170                                                       | 0.03-0.15 | 60-150                                                                | 0.03-0.12 |                                                                    |           | 60-120                                     | 0.03-0.12 | 60-120                                        | 0.03-0.15 |
|                               | N                                                               | HN                                                            |                                                              |           |                                                                       |           |                                                                    |           |                                            |           |                                               |           |
| FN-X17                        | TiAlN                                                           | HTA                                                           | 80-180                                                       | 0.01-0.12 | 60-150                                                                | 0.01-0.10 |                                                                    |           | 60-140                                     | 0.01-0.15 | 60-140                                        | 0.01-0.15 |
|                               | TiAlX                                                           | HTAX                                                          | 80-180                                                       | 0.01-0.12 | 60-150                                                                | 0.01-0.10 | 50-120                                                             | 0.01-0.08 | 60-140                                     | 0.01-0.12 | 60-140                                        | 0.01-0.12 |
|                               | TiN                                                             |                                                               | 80-170                                                       | 0.01-0.12 |                                                                       |           |                                                                    |           | 60-120                                     | 0.01-0.15 | 60-120                                        | 0.01-0.15 |
|                               | N                                                               | HN                                                            |                                                              |           |                                                                       |           |                                                                    |           |                                            |           |                                               |           |
| ENP-X17                       | TiAlN                                                           | HTA                                                           | 80-180                                                       | 0.03-0.15 | 60-160                                                                | 0.03-0.12 | 50-120                                                             | 0.03-0.10 | 60-140                                     | 0.03-0.15 | 60-140                                        | 0.03-0.18 |
|                               | TiAlX                                                           | HTAX                                                          | 80-180                                                       | 0.01-0.12 | 60-150                                                                | 0.01-0.10 | 50-120                                                             | 0.01-0.08 | 60-140                                     | 0.01-0.12 | 60-140                                        | 0.01-0.12 |
|                               | TiN                                                             |                                                               | 80-170                                                       | 0.03-0.15 | 60-150                                                                | 0.03-0.12 |                                                                    |           | 60-120                                     | 0.01-0.15 | 60-120                                        | 0.03-0.18 |
|                               | N                                                               | HN                                                            |                                                              |           |                                                                       |           |                                                                    |           |                                            |           |                                               |           |
| FN-X25                        | TiAlN                                                           | HTA                                                           |                                                              |           |                                                                       |           |                                                                    |           | 60-140                                     | 0.01-0.12 |                                               |           |
|                               | TiN                                                             |                                                               |                                                              |           |                                                                       |           |                                                                    |           | 60-120                                     | 0.01-0.12 |                                               |           |
|                               | N                                                               | HN                                                            |                                                              |           |                                                                       |           |                                                                    |           |                                            |           |                                               |           |
| ENP-X25                       | TiAlN                                                           | HTA                                                           |                                                              |           |                                                                       |           |                                                                    |           | 60-140                                     | 0.03-0.12 | 60-140                                        | 0.03-0.15 |
|                               | TiAlX                                                           |                                                               | 80-180                                                       | 0.01-0.12 | 60-150                                                                | 0.01-0.10 | 50-120                                                             | 0.01-0.08 | 60-140                                     | 0.01-0.12 | 60-140                                        | 0.01-0.12 |
|                               | TiN                                                             |                                                               |                                                              |           |                                                                       |           |                                                                    |           | 60-120                                     | 0.03-0.12 | 60-120                                        | 0.03-0.15 |
|                               | N                                                               | HN                                                            |                                                              |           |                                                                       |           |                                                                    |           |                                            |           |                                               |           |
| ENP-X20                       | ZTA                                                             |                                                               |                                                              |           |                                                                       |           |                                                                    |           | 60-140                                     | 0.03-0.18 | 60-140                                        | 0.03-0.18 |
|                               | HTiX                                                            |                                                               |                                                              |           |                                                                       |           |                                                                    |           | 60-140                                     | 0.03-0.18 | 60-140                                        | 0.03-0.18 |

G tolerance class  
Special 35° VC...-11

|             |       |      |        |           |        |           |        |           |        |           |        |           |
|-------------|-------|------|--------|-----------|--------|-----------|--------|-----------|--------|-----------|--------|-----------|
| FL / FR-X10 | TiAlN | HTA  | 80-180 | 0.01-0.12 | 60-150 | 0.01-0.10 | 50-120 | 0.01-0.08 | 60-140 | 0.01-0.12 | 60-140 | 0.01-0.12 |
|             | TiAlX | HTAX | 80-180 | 0.01-0.12 | 60-150 | 0.01-0.10 | 50-120 | 0.01-0.08 | 60-140 | 0.01-0.12 | 60-140 | 0.01-0.12 |
|             | TiN   |      | 80-170 | 0.01-0.12 | 60-140 | 0.01-0.10 |        |           | 60-120 | 0.01-0.12 | 60-120 | 0.01-0.12 |
|             | N     | HN   |        |           |        |           |        |           |        |           |        |           |
| ELP/ERP-X10 | TiAlN | HTA  | 80-180 | 0.03-0.15 | 60-160 | 0.03-0.12 | 50-120 | 0.03-0.10 | 60-140 | 0.03-0.12 | 60-140 | 0.03-0.15 |
|             | TiAlX | HTAX | 80-180 | 0.03-0.15 | 60-160 | 0.03-0.12 | 50-120 | 0.03-0.10 | 60-140 | 0.03-0.12 | 60-140 | 0.03-0.15 |
|             | TiN   |      | 80-170 | 0.03-0.15 | 60-150 | 0.03-0.12 |        |           | 60-120 | 0.03-0.12 | 60-120 | 0.03-0.15 |
|             | N     | HN   |        |           |        |           |        |           |        |           |        |           |
| FN-K18      |       | HTA  | 80-180 | 0.01-0.10 | 60-150 | 0.01-0.10 |        |           | 60-140 | 0.01-0.10 | 60-140 | 0.01-0.10 |
|             |       | HTiN | 80-170 | 0.01-0.10 | 60-140 | 0.01-0.10 |        |           | 60-120 | 0.01-0.10 | 60-120 | 0.01-0.10 |
|             |       | HN   |        |           |        |           |        |           |        |           |        |           |
| FN-0        |       | HTA  | 80-150 | 0.01-0.10 |        |           |        |           |        |           |        |           |
|             |       | HTiN | 80-140 | 0.01-0.10 |        |           |        |           |        |           |        |           |
|             |       | HN   |        |           |        |           |        |           |        |           |        |           |

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| [N] Alliages d'aluminium et non ferreux<br>Aluminium- und Nichteisenlegierungen<br>Aluminium and non-ferrous alloys |           |            |           |                            |           |                                                       |           | [S] Titane et superalliages<br>Titan und Superlegierungen<br>Titanium and superalloys |           |                |           |                                                  |           |  |  |
|---------------------------------------------------------------------------------------------------------------------|-----------|------------|-----------|----------------------------|-----------|-------------------------------------------------------|-----------|---------------------------------------------------------------------------------------|-----------|----------------|-----------|--------------------------------------------------|-----------|--|--|
| Aluminium                                                                                                           |           | Al-Si      |           | Cuivre<br>Kupfer<br>Copper |           | Laiton & bronze<br>Messing & Bronze<br>Brass & bronze |           | Ti grade 1 - 3                                                                        |           | Ti grade 4 - 6 |           | Superalliages<br>Superlegierungen<br>Superalloys |           |  |  |
| VC (m/min)                                                                                                          | F (mm/U)  | VC (m/min) | F (mm/U)  | VC (m/min)                 | F (mm/U)  | VC (m/min)                                            | F (mm/U)  | VC (m/min)                                                                            | F (mm/U)  | VC (m/min)     | F (mm/U)  | VC (m/min)                                       | F (mm/U)  |  |  |
|                                                                                                                     |           | 150-1600   | 0.01-0.15 | 80-300                     | 0.01-0.12 | 100-400                                               | 0.01-0.15 |                                                                                       |           | 30-60          | 0.01-0.12 | 40-70                                            | 0.01-0.10 |  |  |
|                                                                                                                     |           |            |           |                            |           |                                                       |           | 30-70                                                                                 | 0.01-0.12 | 30-60          | 0.01-0.12 | 40-70                                            | 0.01-0.10 |  |  |
| 120-2200                                                                                                            | 0.01-0.18 | 150-1600   | 0.01-0.15 | 80-300                     | 0.01-0.12 | 100-400                                               | 0.01-0.15 |                                                                                       |           |                |           |                                                  |           |  |  |
| 120-2000                                                                                                            | 0.01-0.18 | 150-1500   | 0.01-0.15 | 80-250                     | 0.01-0.12 | 100-300                                               | 0.01-0.15 | 30-70                                                                                 | 0.01-0.12 |                |           |                                                  |           |  |  |
|                                                                                                                     |           | 150-800    | 0.03-0.18 | 80-300                     | 0.03-0.15 |                                                       |           |                                                                                       |           | 30-60          | 0.03-0.12 | 40-70                                            | 0.03-0.10 |  |  |
|                                                                                                                     |           | 150-800    | 0.03-0.18 | 80-300                     | 0.03-0.15 |                                                       |           |                                                                                       |           |                |           |                                                  |           |  |  |
|                                                                                                                     |           | 150-800    | 0.03-0.18 | 80-250                     | 0.03-0.15 |                                                       |           |                                                                                       |           |                |           |                                                  |           |  |  |
|                                                                                                                     |           | 150-1600   | 0.01-0.18 | 80-300                     | 0.01-0.15 | 100-400                                               | 0.01-0.18 |                                                                                       |           | 30-70          | 0.01-0.15 | 40-80                                            | 0.01-0.12 |  |  |
|                                                                                                                     |           |            |           |                            |           |                                                       |           | 30-70                                                                                 | 0.01-0.12 | 30-60          | 0.01-0.12 | 40-70                                            | 0.01-0.10 |  |  |
| 120-2200                                                                                                            | 0.01-0.25 | 150-1600   | 0.01-0.18 | 80-300                     | 0.01-0.15 | 100-400                                               | 0.01-0.18 |                                                                                       |           |                |           |                                                  |           |  |  |
| 120-2000                                                                                                            | 0.01-0.25 | 150-1500   | 0.01-0.18 | 80-250                     | 0.01-0.15 | 100-300                                               | 0.01-0.18 | 40-80                                                                                 | 0.01-0.15 |                |           |                                                  |           |  |  |
|                                                                                                                     |           | 150-800    | 0.03-0.20 | 80-300                     | 0.03-0.18 |                                                       |           |                                                                                       |           | 30-70          | 0.03-0.15 | 40-80                                            | 0.03-0.12 |  |  |
|                                                                                                                     |           |            |           |                            |           |                                                       |           | 30-70                                                                                 | 0.01-0.12 | 30-60          | 0.01-0.12 | 40-70                                            | 0.01-0.10 |  |  |
|                                                                                                                     |           | 150-800    | 0.03-0.20 | 80-300                     | 0.03-0.18 |                                                       |           |                                                                                       |           |                |           |                                                  |           |  |  |
|                                                                                                                     |           | 150-800    | 0.03-0.20 | 80-250                     | 0.03-0.18 |                                                       |           |                                                                                       |           |                |           |                                                  |           |  |  |
|                                                                                                                     |           | 150-1600   | 0.01-0.22 | 80-300                     | 0.01-0.18 |                                                       |           |                                                                                       |           | 30-60          | 0.01-0.12 | 40-70                                            | 0.01-0.10 |  |  |
| 120-2200                                                                                                            | 0.01-0.30 | 150-1600   | 0.01-0.22 | 80-300                     | 0.01-0.18 |                                                       |           |                                                                                       |           |                |           |                                                  |           |  |  |
| 120-2000                                                                                                            | 0.01-0.30 | 150-1500   | 0.01-0.22 | 80-250                     | 0.01-0.18 |                                                       |           | 30-70                                                                                 | 0.01-0.12 |                |           |                                                  |           |  |  |
|                                                                                                                     |           | 150-800    | 0.03-0.25 | 80-300                     | 0.03-0.20 |                                                       |           |                                                                                       |           | 30-60          | 0.03-0.12 | 40-70                                            | 0.03-0.10 |  |  |
|                                                                                                                     |           |            |           |                            |           |                                                       |           | 30-70                                                                                 | 0.01-0.12 | 30-60          | 0.01-0.12 | 40-70                                            | 0.01-0.10 |  |  |
|                                                                                                                     |           | 150-800    | 0.03-0.25 | 80-300                     | 0.03-0.20 |                                                       |           |                                                                                       |           |                |           |                                                  |           |  |  |
|                                                                                                                     |           | 150-800    | 0.03-0.25 | 80-250                     | 0.03-0.20 |                                                       |           |                                                                                       |           |                |           |                                                  |           |  |  |
|                                                                                                                     |           | 150-800    | 0.03-0.25 | 80-300                     | 0.03-0.20 |                                                       |           |                                                                                       |           | 40-90          | 0.03-0.15 | 40-100                                           | 0.03-0.15 |  |  |
|                                                                                                                     |           | 150-800    | 0.03-0.25 | 80-300                     | 0.03-0.20 |                                                       |           |                                                                                       |           | 40-80          | 0.03-0.15 | 40-90                                            | 0.03-0.15 |  |  |

|          |           |          |           |        |           |         |           |       |           |       |           |       |           |  |  |
|----------|-----------|----------|-----------|--------|-----------|---------|-----------|-------|-----------|-------|-----------|-------|-----------|--|--|
|          |           | 150-1600 | 0.01-0.18 | 80-300 | 0.01-0.15 | 100-400 | 0.01-0.18 |       |           | 30-60 | 0.01-0.12 | 40-70 | 0.01-0.10 |  |  |
|          |           |          |           |        |           |         |           | 30-70 | 0.01-0.12 | 30-60 | 0.01-0.12 | 40-70 | 0.01-0.10 |  |  |
| 120-2200 | 0.01-0.20 | 150-1600 | 0.01-0.18 | 80-300 | 0.01-0.15 | 100-400 | 0.01-0.18 |       |           |       |           |       |           |  |  |
| 120-2000 | 0.01-0.20 | 150-1500 | 0.01-0.18 | 80-250 | 0.01-0.15 | 100-300 | 0.01-0.18 | 30-70 | 0.01-0.12 |       |           |       |           |  |  |
|          |           | 150-1600 | 0.03-0.20 | 80-300 | 0.03-0.18 |         |           |       |           | 30-60 | 0.03-0.12 | 40-70 | 0.03-0.10 |  |  |
|          |           |          |           |        |           |         |           |       |           | 30-60 | 0.03-0.12 | 40-70 | 0.03-0.10 |  |  |
|          |           | 150-1600 | 0.03-0.20 | 80-300 | 0.01-0.18 |         |           |       |           |       |           |       |           |  |  |
|          |           | 150-1500 | 0.03-0.20 | 80-250 | 0.01-0.18 |         |           |       |           |       |           |       |           |  |  |
|          |           | 150-1600 | 0.01-0.12 | 80-300 | 0.01-0.10 |         |           |       |           | 30-70 | 0.01-0.10 | 40-80 | 0.01-0.10 |  |  |
| 120-2200 | 0.01-0.15 | 150-1600 | 0.01-0.12 | 80-300 | 0.01-0.10 |         |           |       |           |       |           |       |           |  |  |
| 120-2000 | 0.01-0.15 | 150-1500 | 0.01-0.12 | 80-250 | 0.01-0.10 |         |           | 40-80 | 0.01-0.10 |       |           |       |           |  |  |
|          |           |          |           |        |           | 100-400 | 0.01-0.18 |       |           |       |           |       |           |  |  |
|          |           |          |           |        |           | 100-400 | 0.01-0.18 |       |           |       |           |       |           |  |  |
|          |           |          |           |        |           | 100-300 | 0.01-0.18 |       |           |       |           |       |           |  |  |

Paramètres de coupe indicatifs

Empfohlene Schnittwerte

Standard machining data

| ISO-Line | Tough grade,<br>for normal to difficult<br>machining conditions | Wear resistant grade,<br>for finishing<br>and light machining | Acier<br>Stahl<br>Steel                                      |           |                                                                       |           |                                                                    |           | Inox<br>Rostfreistahl<br>Stainless steel   |           |                                               |           |
|----------|-----------------------------------------------------------------|---------------------------------------------------------------|--------------------------------------------------------------|-----------|-----------------------------------------------------------------------|-----------|--------------------------------------------------------------------|-----------|--------------------------------------------|-----------|-----------------------------------------------|-----------|
|          |                                                                 |                                                               | Acier de décolletage<br>Automatenstahl<br>Free-cutting steel |           | Acier faiblement allié<br>Leicht legierter Stahl<br>Low alloyed steel |           | Acier fortement allié<br>Hochlegierter Stahl<br>High alloyed steel |           | Austénitique<br>Austenitisch<br>Austenitic |           | Martensitique<br>Martensitisch<br>Martensitic |           |
|          |                                                                 |                                                               | VC (m/min)                                                   | F (mm/U)  | VC (m/min)                                                            | F (mm/U)  | VC (m/min)                                                         | F (mm/U)  | VC (m/min)                                 | F (mm/U)  | VC (m/min)                                    | F (mm/U)  |
| EN-XF3   | TAC                                                             | HTAC                                                          | 100-200                                                      | 0.03-0.15 | 80-160                                                                | 0.03-0.12 | 50-120                                                             | 0.03-0.10 | 60-140                                     | 0.03-0.12 | 60-140                                        | 0.03-0.15 |
| EN-XF2   | TAC                                                             | HTAC                                                          | 100-200                                                      | 0.03-0.15 | 80-160                                                                | 0.03-0.12 | 50-120                                                             | 0.03-0.10 | 60-140                                     | 0.03-0.12 | 60-140                                        | 0.03-0.15 |
|          |                                                                 | HTi5                                                          | 100-250                                                      | 0.03-0.15 | 80-220                                                                | 0.03-0.12 | 50-180                                                             | 0.03-0.10 | 80-200                                     | 0.03-0.12 | 80-200                                        | 0.03-0.15 |
| EN-MF2   | TAC                                                             | HTAC                                                          | 100-200                                                      | 0.04-0.15 | 80-160                                                                | 0.04-0.12 | 50-120                                                             | 0.04-0.10 | 60-140                                     | 0.04-0.12 | 60-140                                        | 0.04-0.15 |
|          |                                                                 | HTi5                                                          | 100-250                                                      | 0.04-0.15 | 80-220                                                                | 0.04-0.12 | 50-180                                                             | 0.04-0.10 | 80-200                                     | 0.04-0.12 | 80-200                                        | 0.04-0.15 |
| EN-MF    | Tmax                                                            |                                                               | 100-220                                                      | 0.04-0.30 | 80-180                                                                | 0.04-0.25 | 50-150                                                             | 0.04-0.20 | 60-150                                     | 0.04-0.25 | 60-150                                        | 0.04-0.25 |
|          | Ti4                                                             |                                                               | 100-250                                                      | 0.05-0.30 | 80-220                                                                | 0.05-0.25 | 50-180                                                             | 0.05-0.20 | 80-200                                     | 0.05-0.25 | 80-200                                        | 0.05-0.25 |
| EN-HF3   | TiX                                                             | HTiX                                                          | 100-220                                                      | 0.06-0.35 | 80-180                                                                | 0.06-0.30 | 50-150                                                             | 0.06-0.25 | 60-150                                     | 0.06-0.25 | 60-150                                        | 0.06-0.25 |
|          | Ti6                                                             |                                                               | 100-250                                                      | 0.06-0.35 | 80-220                                                                | 0.06-0.30 | 50-180                                                             | 0.06-0.25 | 80-200                                     | 0.06-0.25 | 80-200                                        | 0.06-0.25 |
| EN-HF    | Tmax                                                            |                                                               | 100-220                                                      | 0.08-0.40 | 80-180                                                                | 0.08-0.35 | 50-150                                                             | 0.08-0.30 | 60-150                                     | 0.08-0.30 | 60-150                                        | 0.08-0.30 |
|          | TAC                                                             |                                                               | 100-200                                                      | 0.08-0.40 | 80-160                                                                | 0.08-0.35 | 50-140                                                             | 0.08-0.30 | 60-140                                     | 0.08-0.30 | 60-140                                        | 0.08-0.30 |
|          | Ti4                                                             |                                                               | 100-250                                                      | 0.08-0.40 | 80-220                                                                | 0.08-0.35 | 50-180                                                             | 0.08-0.30 | 80-200                                     | 0.08-0.30 | 80-200                                        | 0.08-0.30 |
|          | Ti5                                                             | HTi5                                                          | 100-280                                                      | 0.08-0.40 | 80-250                                                                | 0.08-0.35 | 50-200                                                             | 0.08-0.30 | 80-220                                     | 0.08-0.30 | 80-220                                        | 0.08-0.30 |

| ISO-Line<br>CERMET |     |      |         |           |        |           |        |           |        |           |        |           |
|--------------------|-----|------|---------|-----------|--------|-----------|--------|-----------|--------|-----------|--------|-----------|
| FN-X8<br>CERMET    | CTA |      | 100-350 | 0.01-0.12 | 80-300 | 0.01-0.10 | 70-250 | 0.01-0.08 | 80-250 | 0.01-0.12 | 80-250 | 0.01-0.12 |
|                    | CN6 |      | 100-300 | 0.01-0.12 | 80-250 | 0.01-0.10 | 70-200 | 0.01-0.08 |        |           |        |           |
| ENP-KX<br>CERMET   | CT7 | HCT7 | 100-350 | 0.03-0.20 | 80-300 | 0.03-0.18 | 70-250 | 0.03-0.15 | 80-250 | 0.03-0.18 | 80-250 | 0.03-0.18 |
|                    | CN6 |      | 100-300 | 0.03-0.20 | 80-250 | 0.03-0.18 | 70-200 | 0.03-0.15 |        |           |        |           |
| EN-KM<br>CERMET    | CT7 | HCT7 | 100-350 | 0.03-0.25 | 80-300 | 0.03-0.20 | 70-250 | 0.03-0.18 | 80-250 | 0.03-0.20 | 80-250 | 0.03-0.20 |
|                    | CN6 |      | 100-300 | 0.03-0.25 | 80-250 | 0.03-0.20 | 70-200 | 0.03-0.18 |        |           |        |           |

★★★★★

★★★★

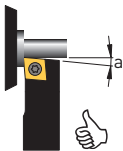
★★★

[illegible]

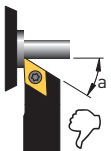
## Conseils d'utilisation

## Anwendungsempfehlungen

## Application recommendations



- pour un meilleur état de surface et une meilleure stabilité d'usinage, choisir une géométrie d'outil permettant un angle "a" le plus petit possible

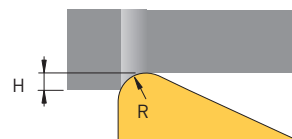


- für bessere Oberflächengüte und Bearbeitungsstabilität, muss die Werkzeuggeometrie mit kleinstmöglichem Winkel "a" ausgewählt werden



- for a better surface finish and better machining stability, choose a tool geometry with angle "a" as small as possible

rapport hauteur de passe / rayon d'outil  
Verhältnis zwischen Spantiefe und Werkzeugradius  
machining depth / tool radius ratio



$$H_{\min} = 0.7 \times R$$

$$R_{\max} = 1.4 \times H$$

**H**

Système de serrage monobloc  
Einteiliges Klemmsystem  
Monobloc top clamp system

**H JET**

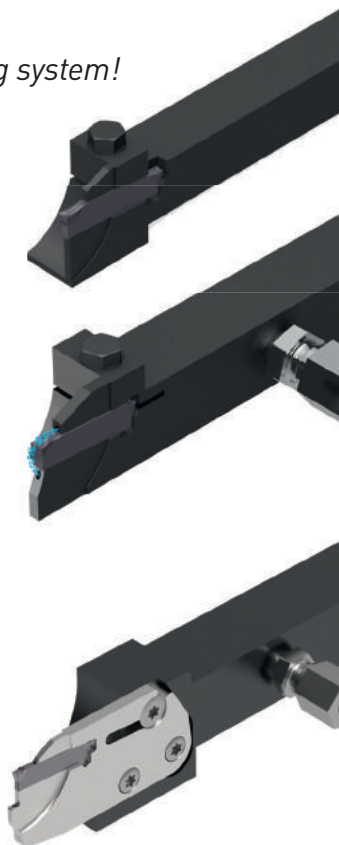
Porte-outils avec arrosage intégré  
Halter mit integrierter Kühlmittelzufuhr  
Holders with integrated coolant supply

**H-HM-JET  
GWS-HM  
MS-HM**

Porte-lames avec arrosage  
Halter für Stechklinge mit Kühlung  
Holder for parting-off blades with coolant

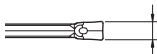
**HM  
HK  
HUK**

Lames  
Stechklinge  
Parting-off blades



**ET 15**

=

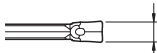


1.5 mm

Ø max 32 mm

**ET 20**

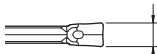
=



2.0 mm

**ET 25**

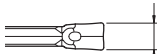
=



2.5 mm

**ET 30**

=

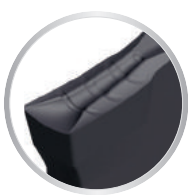


3.0 mm

Ø max 44 mm



**U**



**J**



**T**



**A**

## Index

Informations techniques  
Technisches Informationen  
Technical information > **8.02**

Géométries de coupe  
Spanformgeometrie  
Cutting geometries > **8.04**

Nuances  
Sorten  
Grades > **8.05**

|                                   |                        |                                                  |               |            |
|-----------------------------------|------------------------|--------------------------------------------------|---------------|------------|
| Porte-outils<br>Halter<br>Holders | <b>H Series</b>        | sans arrosage<br>ohne Kühlung<br>without coolant | > <b>8.06</b> |            |
|                                   | <b>H JET Series</b>    | avec arrosage<br>mit Kühlung<br>with coolant     | > <b>8.07</b> |            |
|                                   | <b>H-HM-JET Series</b> | avec arrosage<br>mit Kühlung<br>with coolant     | > <b>8.08</b> | <b>new</b> |
|                                   | <b>GWS Series</b>      | Göltenbodt                                       | > <b>8.09</b> | <b>new</b> |
|                                   | <b>MS Series</b>       | Index                                            | > <b>8.13</b> | <b>new</b> |

Lames  
Stecklingen  
Blades **HM-HK-HUK Series** > **8.14**

**U Series** > **8.20**

Plaquettes de tronçonnage  
Abstechwendeplatten  
Cut off inserts **J Series** > **8.22**

**T Series** > **8.24**

**A Series** > **8.26**

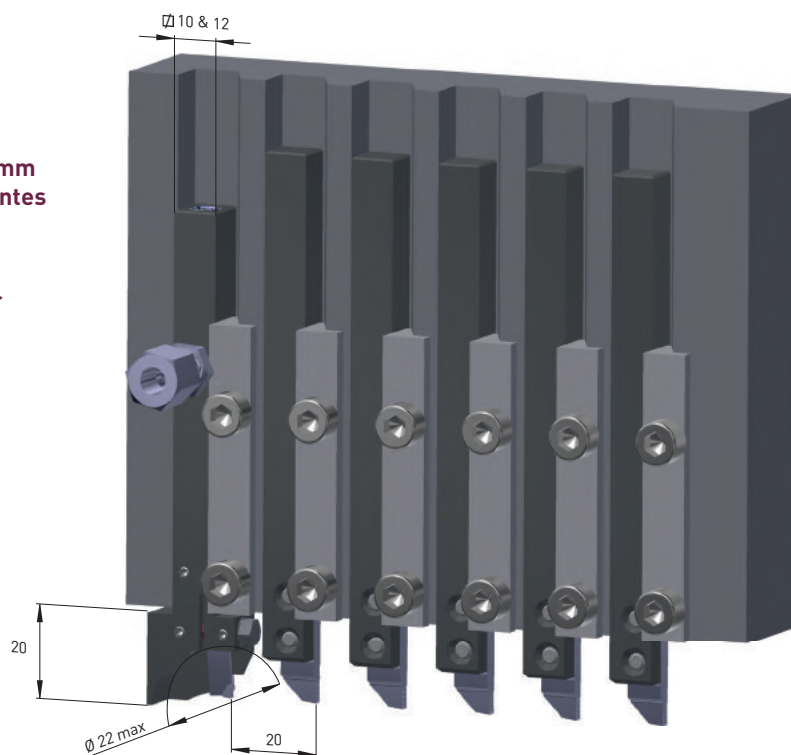
Paramètres de coupe indicatifs  
Empfohlene Schnittwerte  
Standard machining data > **8.28**

**Informations techniques****Technische Informationen****Technical information**

**Compact: seulement 20 mm  
pour les machines courantes**

**Kompakt: nur 20 mm für  
übliche Maschinen**

**Compact: only 20 mm for  
current machines**



**Facilité d'accès**

**Zugangsleichtigkeit**

**Excellent accessibility**



**Changement de la plaquette  
sans démontage**

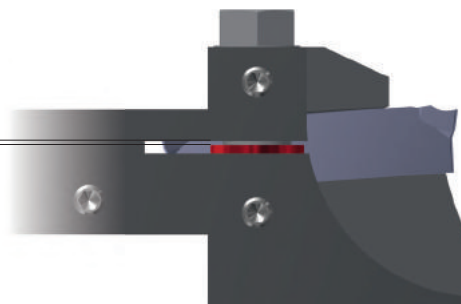
**Veränderung der Platte  
ohne Zerlegung**

**Change of insert  
without disassembly**

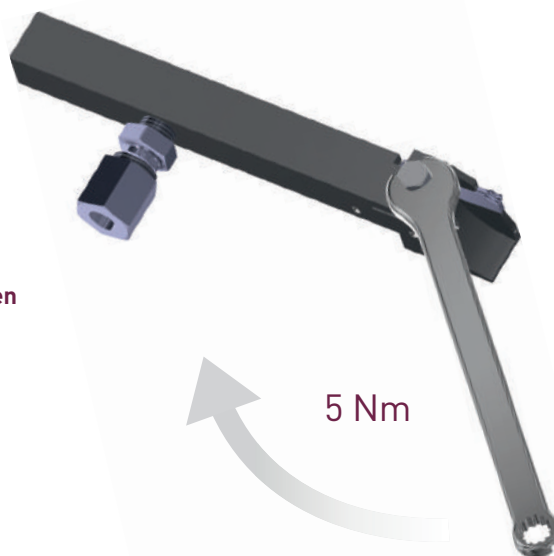


**Butée de serrage**  
**Spannungs-Anschlag**  
**Clamping stop**

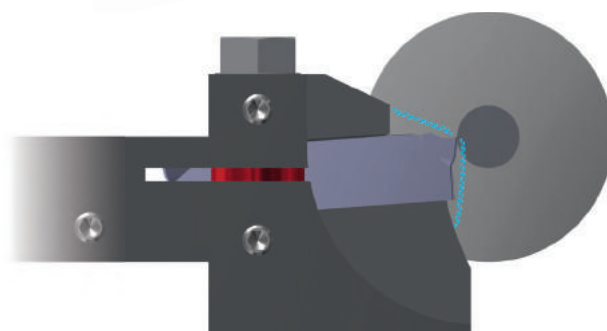
Distance de serrage  
Anschlagabstand  
Distance clamping



**Recommendations de serrage:**  
**n'utiliser que la clé fournie**  
**Spannungsempfehlungen:**  
**nur den gelieferten Schlüssel benutzen**  
**Tightening recommendation:**  
**only use the delivered key**



**Support JET à double lubrification**  
**JET Halter mit doppeltem Schmierung**  
**Jet holder with double lubrication**



## Géométries de coupe

## Spanformgeometrie

## Cutting geometries

UN

UL  
UR



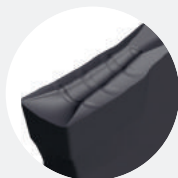
- géométrie positive universelle, faibles efforts de coupe
- bonne maîtrise du copeau
- 1<sup>er</sup> choix pour l'inox

- allgemeine Geometrie, geringe Schnittkräfte
- gute Spankontrolle
- 1. Wahl für rostfreiem Stahl

- all-round geometry, low cutting forces
- efficient chip control
- 1<sup>st</sup> choice for stainless steel

JN

JR



- géométrie universelle
- excellent rétrécissement du copeau pour un meilleur contrôle
- conseillé pour le tronçonnage de pièces à parois minces
- pour acier et inox

- allgemeine Geometrie
- ausgezeichnete Spanversmälnerung für eine bessere Spankontrolle
- für abstechen von dünnwandigen Teilen empfohlen
- für Stahl und rostfreiem Stahl

- all-round geometry
- very efficient arrow for a better chip control
- recommended for parting off of thin-walled parts
- for steel and stainless steel

TN

TR



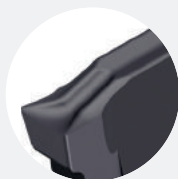
- géométrie négative
- utilisation dans des conditions de rigidité optimale
- pour les matières à haute ténacité
- universel pour les aciers et inox

- negative Geometrie
- bei stabilen Verhältnissen einsetzbar
- für hohe widerstandsfähige Rohstoffe
- allgemein für Stahl und rostfreiem Stahl

- negative geometry
- use in solid cutting conditions
- for high toughness material
- universal for steel and stainless steel

AN

AR



- géométrie fortement positive
- roule-copeau poli avec arêtes de coupe vives
- 1<sup>er</sup> choix pour aluminium et matériaux non ferreux

- stark positive Geometrie
- geschliffene Spanrolle mit scharfe Schneidkanten
- 1. Wahl für Aluminium und Nichteisenmetalle

- very positive geometry
- polished chip roller with sharp cutting edge
- 1<sup>st</sup> choice for aluminium and non-ferrous materials

## Nuances

## Sorten

## Grades

P

M

N

S

**TiAlN**

revêtement PVD  
PVD Beschichtung  
PVD coating

- pour l'usinage des aciers, aciers inoxydables et alliages de titane
- 1<sup>er</sup> choix pour les avances faibles à modérées

- für die Bearbeitung von Stahl, rostfreiem Stahl und Titanlegierungen
- beste Wahl für niedrige bis mittlere Vorschübe

- for machining of steel, stainless steel and titanium alloys
- first choice for low to average cutting speed

P

M

☐☐**Tmax**

revêtement PVD  
PVD Beschichtung  
PVD coating

- nuance pour usinage moyen à lourd des aciers, aciers alliés et inoxydables
- bonne résistance aux températures d'usinage élevées
- 1<sup>er</sup> choix pour le tronçonnage des aciers au carbone et des aciers fortement alliés

- Sorte für mittlere bis hohe Belastung in Stahl und legierter Stahlbearbeitung
- gute Bearbeitungswarmfestigkeit
- für die Bearbeitung von legiertem Kohlenstahl und hoch legiertem Stahl bestens geeignet

- grade for medium to heavy machining of steel, stainless steel and alloyed steel
- high machining heat resistance
- first choice for the machining of carbon steel and high alloyed steel

P

M

☐☐**Zmax**

revêtement PVD  
PVD Beschichtung  
PVD coating

- pour l'usinage des aciers, aciers inoxydables et alliages de titane en conditions défavorables
- bonne résistance aux chocs à des vitesses de coupe moyenne à faible
- 1<sup>er</sup> choix pour le tronçonnage en coupe interrompue

- für die Bearbeitung von Stahl, rostfreiem Stahl und Titanlegierungen in schwierige Bearbeitungsfälle
- gute Bruchfestigkeit mit durchschnittliche bis niedrige Schnittgeschwindigkeit
- für die Bearbeitung in unterbrochenen Schnitte bestens geeignet

- for machining of steel, stainless steel and titanium alloys in unfavourable machining conditions
- good impact resistance with average to low cutting speed
- first choice for machining in interrupted cut

P

M

☐☐**ZTi6**

revêtement CVD  
CVD Beschichtung  
CVD coating

- nuance très tenace
- grande résistance à la température
- 1<sup>er</sup> choix pour les aciers «haute température»
- secondairement pour les aciers inox

- sehr zähe Sorte
- hohe Bearbeitungswarmfestigkeit
- 1. Wahl für „hohe Temperatur“ Stähle
- sekundär für rostfreie Stähle

- very strong grade
- good wear resistance
- 1<sup>st</sup> choice for "high temperature" steels
- secondarily for stainless steels

☐☐

N

S

**AS**

revêtement PVD  
PVD Beschichtung  
PVD coating

- nuance pour métaux non ferreux
- très faible coefficient de frottement
- 1<sup>er</sup> choix pour l'usinage des aluminiums jusqu'à 5% Si, des cuivres et titanes faiblement alliés

- Sorte für Nichteisenmetalle
- sehr geringer Reibwert
- für die Bearbeitung von Aluminium bis 5% Si, Kupfer und niedriglegiertem Titan bestens geeignet

- grade for non-ferrous materials
- very low friction ratio
- first choice for aluminium up to 5% Si, copper and low alloyed titanium

☐☐

N

S

**N**

non-revêtu  
unbeschichtet  
uncoated

- nuance non revêtu
- recommandé pour l'usinage des matières non-ferreuses
- titane, laiton, cuivre, aluminium sans silicium, plastique

- unbeschichtete Sorte
- für die Bearbeitung von Nichteisenmetalle empfohlen
- Titan, Messing, Kupfer, Silicium freies Aluminium, Kunststoff

- uncoated grade
- recommended for machining of non-ferrous materials
- titanium, brass, bronze, aluminium without silicium, plastic

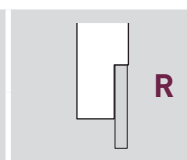
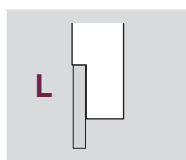
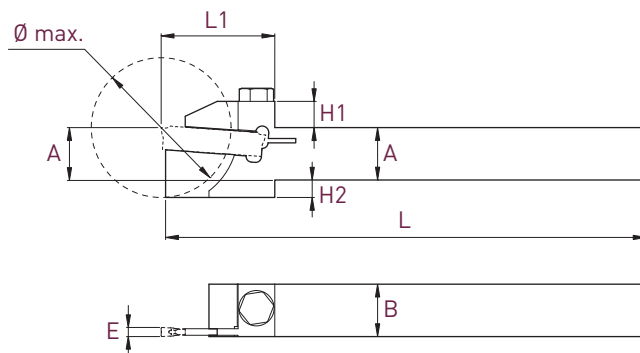
Porte-outils

Halter

Holders

Ø max 44 mm

H Series



Pièces de rechange  
Ersatzteile  
Spare parts



| Plaquettes<br>WSP<br>Inserts           | A x B     | L   | Ø<br>max. | L1 | H1 | H2 | Art. N°         | Art. N°         | Art. N°     | Art. N°    |
|----------------------------------------|-----------|-----|-----------|----|----|----|-----------------|-----------------|-------------|------------|
| <b>E</b><br>1.5<br><b>Type</b><br>ET15 | 10x12     | 110 | 22        | 20 | 5  | 6  | ET15-H1012L-D22 | ET15-H1012R-D22 | V-M5X20-6P6 | C-6PEX-6.0 |
|                                        | 12x12     | 110 | 22        | 20 | 5  | 4  | ET15-H1212L-D22 | ET15-H1212R-D22 |             |            |
|                                        | 12.7x12.7 | 110 | 22        | 20 | 5  | 3  | ET15-H12.7L-D22 | ET15-H12.7R-D22 |             |            |
|                                        | 12x12     | 110 | 32        | 26 | 6  | 4  | ET15-H1212L-D32 | ET15-H1212R-D32 | V-M5X21-6P7 | C-6PEX-7.0 |
|                                        | 12.7x12.7 | 110 | 32        | 26 | 6  | 3  | ET15-H12.7L-D32 | ET15-H12.7R-D32 |             |            |
|                                        | 16x16     | 110 | 32        | 26 | 6  | -  | ET15-H1616L-D32 | ET15-H1616R-D32 |             |            |
| <b>E</b><br>2.0<br><b>Type</b><br>ET20 | 10x12     | 110 | 22        | 20 | 5  | 6  | ET20-H1012L-D22 | ET20-H1012R-D22 | V-M5X20-6P6 | C-6PEX-6.0 |
|                                        | 12x12     | 110 | 22        | 20 | 5  | 4  | ET20-H1212L-D22 | ET20-H1212R-D22 |             |            |
|                                        | 12.7x12.7 | 110 | 22        | 20 | 5  | 3  | ET20-H12.7L-D22 | ET20-H12.7R-D22 |             |            |
|                                        | 12x12     | 110 | 32        | 26 | 6  | 4  | ET20-H1212L-D32 | ET20-H1212R-D32 | V-M5X21-6P7 | C-6PEX-7.0 |
|                                        | 12.7x12.7 | 110 | 32        | 26 | 6  | 3  | ET20-H12.7L-D32 | ET20-H12.7R-D32 |             |            |
|                                        | 16x16     | 110 | 32        | 26 | 6  | -  | ET20-H1616L-D32 | ET20-H1616R-D32 |             |            |
|                                        | 16x16     | 130 | 44        | 35 | 8  | 4  | ET20-H1616L-D44 | ET20-H1616R-D44 | V-M5X27-6P7 | C-6PEX-7.0 |
|                                        | 20x20     | 130 | 44        | 35 | 8  | -  | ET20-H2020L-D44 | ET20-H2020R-D44 |             |            |
| <b>E</b><br>2.5<br><b>Type</b><br>ET25 | 10x12     | 110 | 22        | 20 | 5  | 6  | ET25-H1012L-D22 | ET25-H1012R-D22 | V-M5X20-6P6 | C-6PEX-6.0 |
|                                        | 12x12     | 110 | 22        | 20 | 5  | 4  | ET25-H1212L-D22 | ET25-H1212R-D22 |             |            |
|                                        | 12.7x12.7 | 110 | 22        | 20 | 5  | 3  | ET25-H12.7L-D22 | ET25-H12.7R-D22 |             |            |
|                                        | 12x12     | 110 | 32        | 26 | 6  | 4  | ET25-H1212L-D32 | ET25-H1212R-D32 | V-M5X21-6P7 | C-6PEX-7.0 |
|                                        | 12.7x12.7 | 110 | 32        | 26 | 6  | 3  | ET25-H12.7L-D32 | ET25-H12.7R-D32 |             |            |
|                                        | 16x16     | 110 | 32        | 26 | 6  | -  | ET25-H1616L-D32 | ET25-H1616R-D32 |             |            |
|                                        | 16x16     | 130 | 44        | 35 | 8  | 4  | ET25-H1616L-D44 | ET25-H1616R-D44 | V-M5X27-6P7 | C-6PEX-7.0 |
|                                        | 20x20     | 130 | 44        | 35 | 8  | -  | ET25-H2020L-D44 | ET25-H2020R-D44 |             |            |
| <b>E</b><br>3.0<br><b>Type</b><br>ET30 | 16x16     | 110 | 32        | 26 | 6  | -  | ET30-H1616L-D32 | ET30-H1616R-D32 | V-M5X21-6P7 | C-6PEX-7.0 |
|                                        | 16x16     | 130 | 44        | 35 | 8  | 4  | ET30-H1616L-D44 | ET30-H1616R-D44 |             |            |
|                                        | 20x20     | 130 | 44        | 35 | 8  | -  | ET30-H2020L-D44 | ET30-H2020R-D44 | V-M5X27-6P7 | C-6PEX-7.0 |
|                                        | 25x25     | 140 | 44        | 35 | 8  | -  | ET30-H2525L-D44 | ET30-H2525R-D44 |             |            |

\* livré avec chaque porte-outil  
mit jedem Halter geliefert  
delivered with each holder

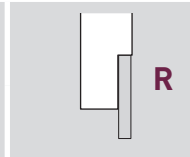
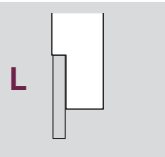
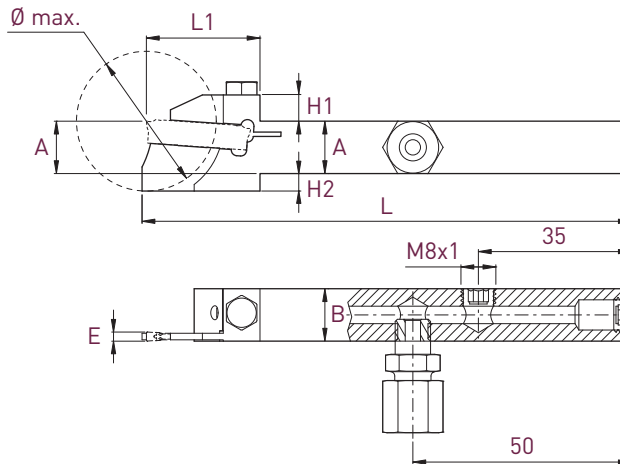
Porte-outils avec arrosage intégré

Halter mit integrierter Kühlmittelzufuhr

Holders with integrated coolant supply

Ø max 44 mm

H JET Series

Pièces de rechange  
Ersatzteile  
Spare parts

| Plaquettes<br>WSP<br>Inserts           | A x B     | L   | Ø<br>max. | L1 | H1 | H2 | Art. N°           | Art. N°           |
|----------------------------------------|-----------|-----|-----------|----|----|----|-------------------|-------------------|
| <b>E</b><br>2.0<br><b>Type</b><br>ET20 | 10x12     | 110 | 22        | 20 | 5  | 6  | ET20-H1012L-JET22 | ET20-H1012R-JET22 |
|                                        | 12x12     | 110 | 22        | 20 | 5  | 4  | ET20-H1212L-JET22 | ET20-H1212R-JET22 |
|                                        | 12.7x12.7 | 110 | 22        | 20 | 5  | 3  | ET20-H12.7L-JET22 | ET20-H12.7R-JET22 |
|                                        | 12x12     | 110 | 32        | 26 | 6  | 4  | ET20-H1212L-JET32 | ET20-H1212R-JET32 |
|                                        | 12.7x12.7 | 110 | 32        | 26 | 6  | 3  | ET20-H12.7L-JET32 | ET20-H12.7R-JET32 |
|                                        | 16x16     | 110 | 32        | 26 | 6  | -  | ET20-H1616L-JET32 | ET20-H1616R-JET32 |
| <b>E</b><br>2.5<br><b>Type</b><br>ET25 | 16x16     | 130 | 44        | 35 | 8  | 4  | ET20-H1616L-JET44 | ET20-H1616R-JET44 |
|                                        | 20x20     | 130 | 44        | 35 | 8  | -  | ET20-H2020L-JET44 | ET20-H2020R-JET44 |
|                                        | 10x12     | 110 | 22        | 20 | 5  | 6  | ET25-H1012L-JET22 | ET25-H1012R-JET22 |
|                                        | 12x12     | 110 | 22        | 20 | 5  | 4  | ET25-H1212L-JET22 | ET25-H1212R-JET22 |
|                                        | 12.7x12.7 | 110 | 22        | 20 | 5  | 3  | ET25-H12.7L-JET22 | ET25-H12.7R-JET22 |
|                                        | 12x12     | 110 | 32        | 26 | 6  | 4  | ET25-H1212L-JET32 | ET25-H1212R-JET32 |
| <b>E</b><br>3.0<br><b>Type</b><br>ET30 | 12.7x12.7 | 110 | 32        | 26 | 6  | 3  | ET25-H12.7L-JET32 | ET25-H12.7R-JET32 |
|                                        | 16x16     | 110 | 32        | 26 | 6  | -  | ET25-H1616L-JET32 | ET25-H1616R-JET32 |
|                                        | 16x16     | 130 | 44        | 35 | 8  | 4  | ET25-H1616L-JET44 | ET25-H1616R-JET44 |
|                                        | 20x20     | 130 | 44        | 35 | 8  | -  | ET25-H2020L-JET44 | ET25-H2020R-JET44 |
|                                        | 16x16     | 110 | 32        | 26 | 6  | -  | ET30-H1616L-JET32 | ET30-H1616R-JET32 |
|                                        | 16x16     | 130 | 44        | 35 | 8  | 4  | ET30-H1616L-JET44 | ET30-H1616R-JET44 |
| <b>E</b><br>3.0<br><b>Type</b><br>ET30 | 20x20     | 130 | 44        | 35 | 8  | -  | ET30-H2020L-JET44 | ET30-H2020R-JET44 |
|                                        | 25x25     | 140 | 44        | 35 | 8  | -  | ET30-H2525L-JET44 | ET30-H2525R-JET44 |

| Art. N°       | Art. N°    |
|---------------|------------|
| V-M5X20-6P6-J | C-6PEX-6.0 |
| V-M5X21-6P7-J | C-6PEX-7.0 |
| V-M5X27-6P7-J | C-6PEX-7.0 |
| V-M5X20-6P6-J | C-6PEX-6.0 |
| V-M5X21-6P7-J | C-6PEX-7.0 |
| V-M5X27-6P7-J | C-6PEX-7.0 |
| V-M5X21-6P7-J | C-6PEX-7.0 |
| V-M5X27-6P7-J | C-6PEX-7.0 |

Pièces de rechange  
Ersatzteile  
Spare parts

Art. N°

Art. N°

J-M8X1-D6

JB-M8X1

\* livré avec chaque porte-outil  
mit jedem Halter geliefert  
delivered with each holder

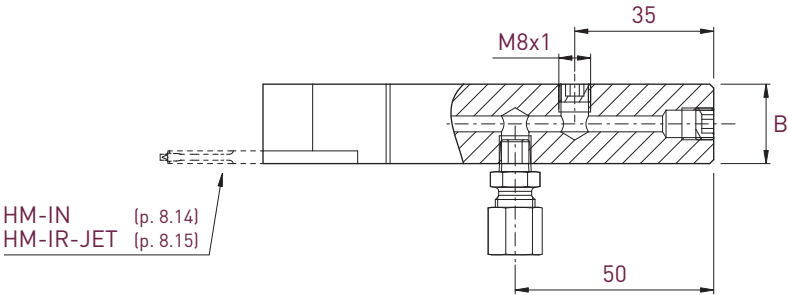
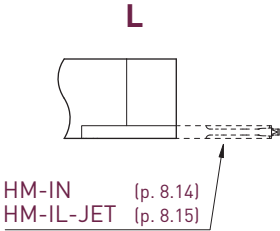
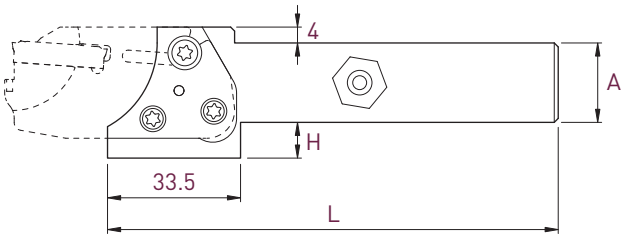
Porte-lames avec arrosage

Halter für Stechklinge mit Kühlung

Holder for parting-off blades with coolant

H-HM-JET Series

new



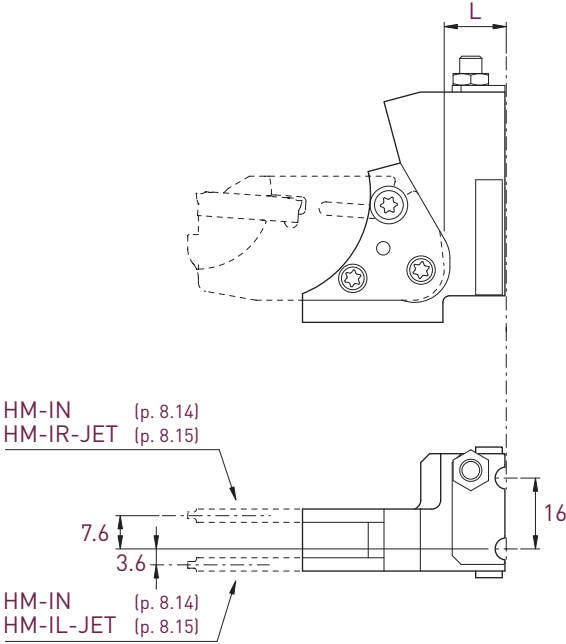
|       |       |    | L             | R             |
|-------|-------|----|---------------|---------------|
| A x B | L     | H  | Art. N°       | Art. N°       |
| 16x16 | 113.5 | 13 | H1616L-HM-JET | H1616R-HM-JET |
| 20x20 | 113.5 | 9  | H2020L-HM-JET | H2020R-HM-JET |
| 25x25 | 138.5 | 4  | H2525L-HM-JET | H2525R-HM-JET |

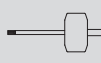
| Pièces de rechange<br>Ersatzteile<br>Spare parts |               |               |           |         |         |
|--------------------------------------------------|---------------|---------------|-----------|---------|---------|
|                                                  | Art. N°       | Art. N°       | Art. N°   | Art. N° | Art. N° |
|                                                  | V-M5X10-T20IP | V-M6X10-T20IP | J-M8X1-D6 | JB-M8X1 | C-T20IP |

Interface Göltenbodd

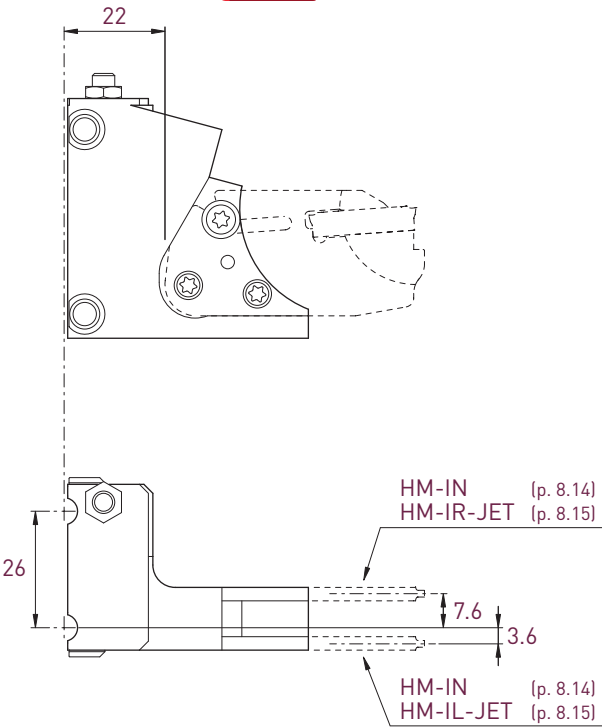
GWS02R-HM Series

new



|           |                          |    |                     | Pièces de rechange<br>Ersatzteile<br>Spare parts                                               |                                                                                                 |                                                                                                  |
|-----------|--------------------------|----|---------------------|------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|
| Interface | Machine<br>compatibility | L  | Art. N°             | <br>Art. N° | <br>Art. N° | <br>Art. N° |
| GWS02     | AS14                     | 14 | GWS02R-02001-HM-JET | V-M5X10-T20IP                                                                                  | V-M6X10-T20IP                                                                                   | C-T20IP                                                                                          |
|           | SAS16                    |    |                     |                                                                                                |                                                                                                 |                                                                                                  |
|           | SBS20                    |    |                     |                                                                                                |                                                                                                 |                                                                                                  |
|           | Others                   | 22 | GWS02R-02002-HM-JET |                                                                                                |                                                                                                 |                                                                                                  |

new



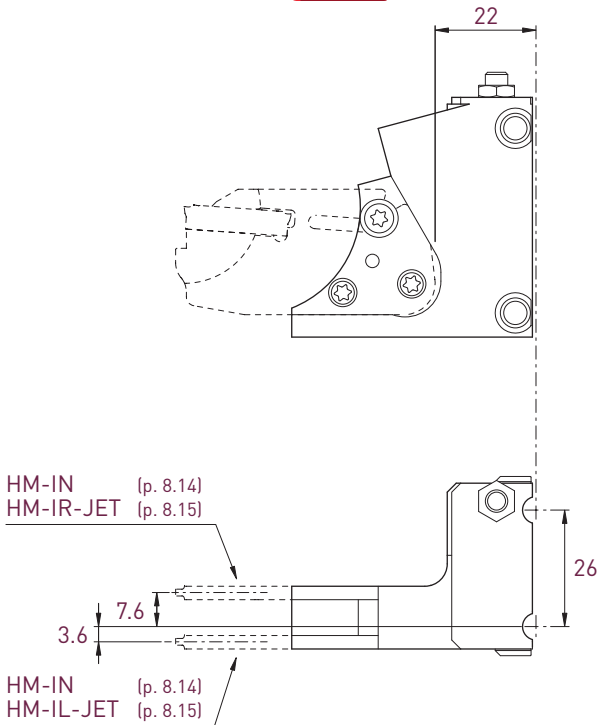
|           |                       |                     | Pièces de rechange<br>Ersatzteile<br>Spare parts                                    |                                                                                      |                                                                                       |
|-----------|-----------------------|---------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|           |                       |                     |  |  |  |
| Interface | Machine compatibility | Art. N°             | Art. N°                                                                             | Art. N°                                                                              | Art. N°                                                                               |
| GWS41     | MultiSwiss 6X16       | GWS41L-41001-HM-JET | V-M5X10-T20IP                                                                       | V-M6X10-T20IP                                                                        | C-T20IP                                                                               |
|           | MultiDeco 20X6        |                     |                                                                                     |                                                                                      |                                                                                       |
|           | MultiDeco 20X8        |                     |                                                                                     |                                                                                      |                                                                                       |
|           | MultiDeco 26X6        |                     |                                                                                     |                                                                                      |                                                                                       |
|           | MultiDeco 32X6        |                     |                                                                                     |                                                                                      |                                                                                       |
|           | MultiAlpha 20X8       |                     |                                                                                     |                                                                                      |                                                                                       |
|           | MultiSigma 24X8       |                     |                                                                                     |                                                                                      |                                                                                       |



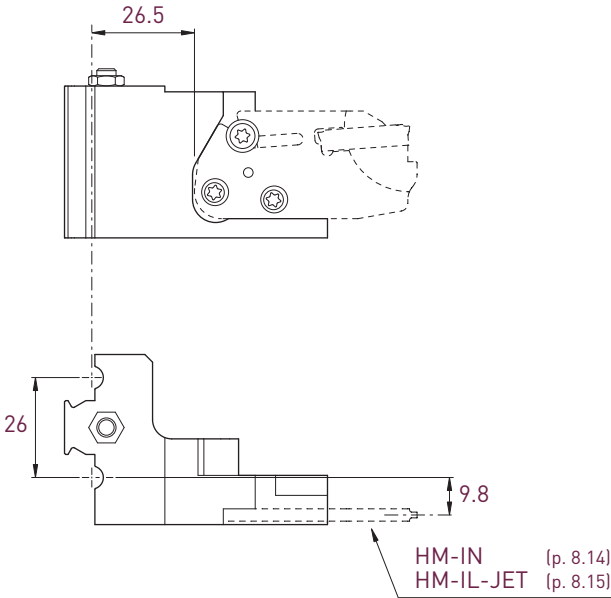
Interface Göltenbott

GWS41R-HM Series

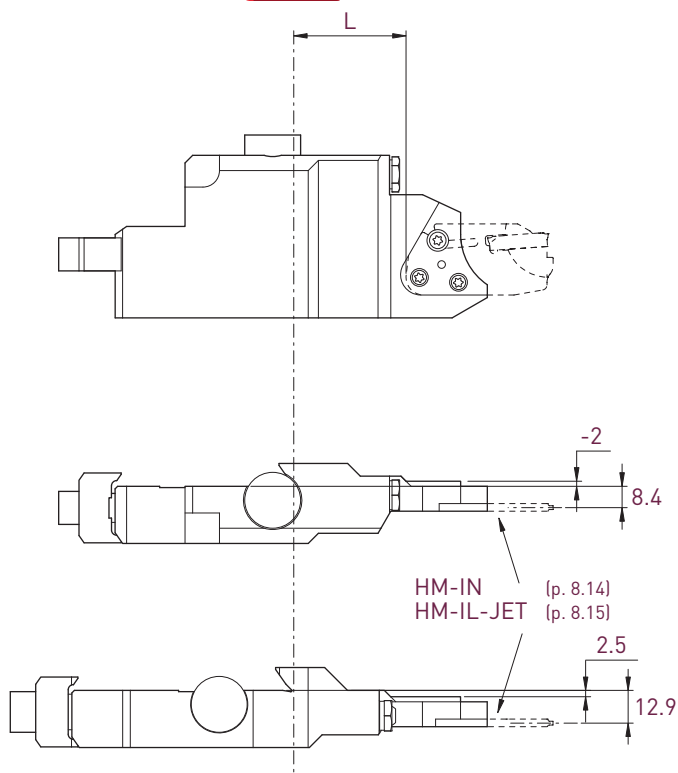
new



|           |                       | Pièces de rechange<br>Ersatzteile<br>Spare parts                                    |               |                                                                                      |         |
|-----------|-----------------------|-------------------------------------------------------------------------------------|---------------|--------------------------------------------------------------------------------------|---------|
|           |                       |  |               |  |         |
| Interface | Machine compatibility | Art. N°                                                                             | Art. N°       | Art. N°                                                                              | Art. N° |
| GWS41     | MultiSwiss 6X16       | GWS41R-41001-HM-JET                                                                 | V-M5X10-T20IP | V-M6X10-T20IP                                                                        | C-T20IP |
|           | MultiDeco 20X6        |                                                                                     |               |                                                                                      |         |
|           | MultiDeco 20X8        |                                                                                     |               |                                                                                      |         |
|           | MultiDeco 26X6        |                                                                                     |               |                                                                                      |         |
|           | MultiDeco 32X6        |                                                                                     |               |                                                                                      |         |
|           | MultiAlpha 20X8       |                                                                                     |               |                                                                                      |         |
|           | MultiSigma 24X8       |                                                                                     |               |                                                                                      |         |



|           |                       |                       | Pièces de rechange<br>Ersatzteile<br>Spare parts                                    |                                                                                      |                                                                                       |
|-----------|-----------------------|-----------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|           |                       |                       |  |  |  |
| Interface | Machine compatibility | Art. N°               | Art. N°                                                                             | Art. N°                                                                              | Art. N°                                                                               |
| GWS202    | MultiSwiss 6X32       | GWS202L-202001-HM-JET | V-M5X10-T20IP                                                                       | V-M6X10-T20IP                                                                        | C-T20IP                                                                               |
|           | MultiSwiss 8X26       |                       |                                                                                     |                                                                                      |                                                                                       |

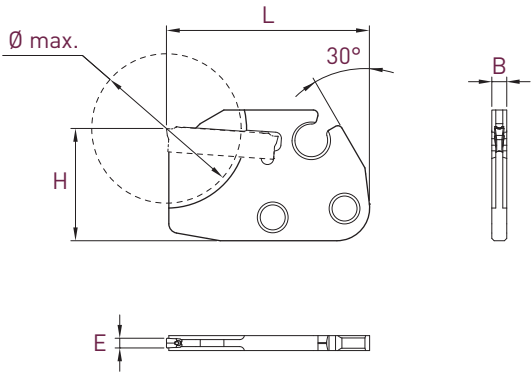
**new****MS22****MS32-40**

Pièces de rechange  
Ersatzteile  
Spare parts

| Machine compatibility | L    | Art. N°                 | Art. N°       | Art. N°       | Art. N° |
|-----------------------|------|-------------------------|---------------|---------------|---------|
| MS22                  | 44.2 | MS22-W5190231-HM-JET    | V-M5X10-T20IP | V-M6X10-T20IP | C-T20IP |
| MS32-40               | 45.5 | MS32-40-W5190233-HM-JET |               |               |         |

Lames pour système modulaire  
Stechklinge für modulares System  
Parting-off blades for modular system

**HM Series**



**N**

| Plaquettes<br>WSP<br>Inserts           | Ø<br>max. | B   | L    | H  | Art. N°           |
|----------------------------------------|-----------|-----|------|----|-------------------|
| <b>E</b><br>1.5<br><b>Type</b><br>ET15 | 20        | 3.2 | 43.5 | 24 | ET15-HM-IN-43-D20 |
|                                        | 32        | 3.2 | 43.5 | 24 | ET15-HM-IN-43-D32 |
| <b>E</b><br>2.0<br><b>Type</b><br>ET20 | 20        | 3.2 | 43.5 | 24 | ET20-HM-IN-43-D20 |
|                                        | 26        | 3.2 | 43.5 | 24 | ET20-HM-IN-43-D26 |
|                                        | 26        | 3.2 | 54   | 24 | ET20-HM-IN-54-D26 |
|                                        | 32        | 3.2 | 43.5 | 24 | ET20-HM-IN-43-D32 |
| <b>E</b><br>3.0<br><b>Type</b><br>ET30 | 32        | 3.2 | 43.5 | 24 | ET30-HM-IN-43-D32 |

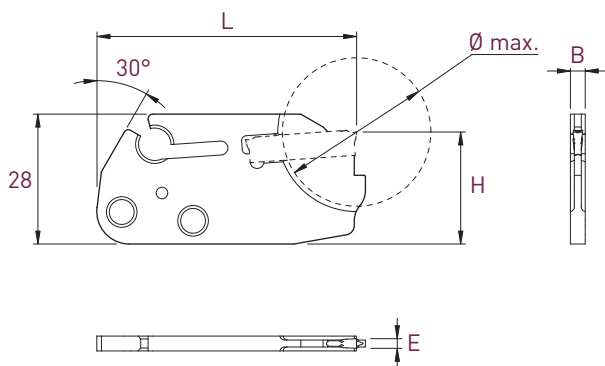
Lames avec arrosage intégré

Stechklinge mit integrierter Kühlmittelzufuhr

Parting-off blades with integrated coolant supply

HM-JET Series

new



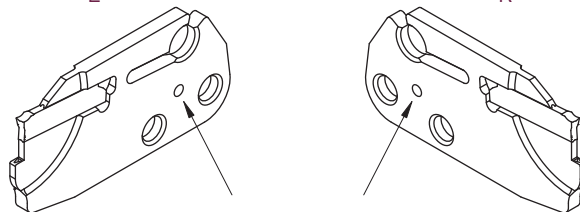
L

R

| Plaquettes<br>WSP<br>Inserts               | Ø<br>max. | B   | L    | H  | Art. N°               | Art. N°               |
|--------------------------------------------|-----------|-----|------|----|-----------------------|-----------------------|
| <b>E</b><br>2.0<br><br><b>Type</b><br>ET20 | 20        | 3.2 | 48.5 | 24 | ET20-HM-IL-48.5-JET20 | ET20-HM-IR-48.5-JET20 |
|                                            | 24        |     | 48.5 |    | ET20-HM-IL-48.5-JET24 | ET20-HM-IR-48.5-JET24 |
|                                            | 32        |     | 45.5 |    | ET20-HM-IL-45.5-JET32 | ET20-HM-IR-45.5-JET32 |
|                                            | 32        |     | 56   |    | ET20-HM-IL-56-JET32   | ET20-HM-IR-56-JET32   |
|                                            | 42        |     | 48.5 |    | ET20-HM-IL-48.5-JET42 | ET20-HM-IR-48.5-JET42 |
| <b>E</b><br>3.0<br><br><b>Type</b><br>ET30 | 32        | 3.2 | 45.5 | 24 | ET30-HM-IL-45.5-JET32 | ET30-HM-IR-45.5-JET32 |
|                                            | 44        |     | 48.5 |    | ET30-HM-IL-48.5-JET42 | ET30-HM-IR-48.5-JET42 |

L

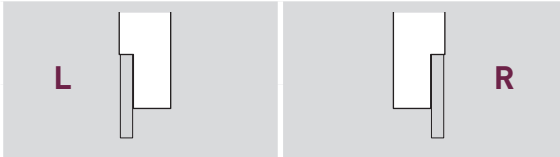
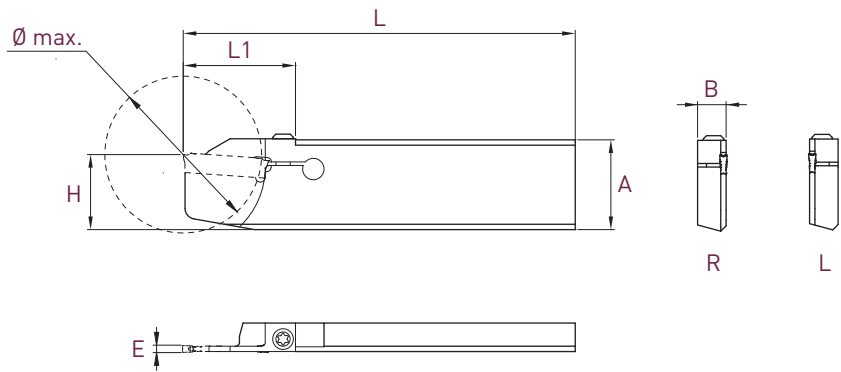
R



Coolant

Lames de tronçonnage  
Stechklinge  
Parting-off blades

HK Series



| Plaquettes<br>WSP<br>Inserts           | A x B | L   | Ø<br>max. | L1   | H  | Art. N°                      | Art. N°                      |
|----------------------------------------|-------|-----|-----------|------|----|------------------------------|------------------------------|
| <b>E</b><br>1.5<br><b>Type</b><br>ET15 | 26x8  | 110 | 20        | 19.5 | 21 | <b>ET15-HK-2608L-110-D20</b> | <b>ET15-HK-2608R-110-D20</b> |
|                                        | 26x8  | 110 | 32        | 25.5 | 21 | <b>ET15-HK-2608L-110-D32</b> | <b>ET15-HK-2608R-110-D32</b> |
| <b>E</b><br>2.0<br><b>Type</b><br>ET20 | 26x8  | 110 | 32        | 25.5 | 21 | <b>ET20-HK-2608L-110-D32</b> | <b>ET20-HK-2608R-110-D32</b> |
|                                        | 26x8  | 110 | 44        | 31.5 | 21 | <b>ET20-HK-2608L-110-D44</b> | <b>ET20-HK-2608R-110-D44</b> |

|                                                  |                                                                                     |   |                                                                                     |   |
|--------------------------------------------------|-------------------------------------------------------------------------------------|---|-------------------------------------------------------------------------------------|---|
| Pièces de rechange<br>Ersatzteile<br>Spare parts |  | * |  | * |
|                                                  | <b>Art. N°</b>                                                                      |   | <b>Art. N°</b>                                                                      |   |
|                                                  | <b>V-M4X14.5-T15-EVOCUT</b>                                                         |   | <b>C-T15</b>                                                                        |   |

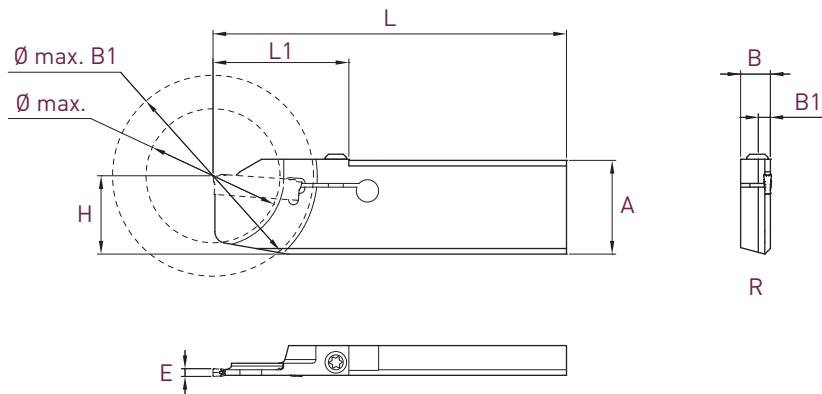
\* livré avec chaque lame  
mit jedem Stechkling geliefert  
delivered with each blade

Lames de tronçonnage avec dégagement pour accès contre-broche

Stecklinge mit Aussparung für Gegenspindel Zugriff

Parting-off blades with recess for subspindle access

HK-RS Series



R

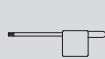
| Plaquettes<br>WSP<br>Inserts    | A x B | L  | Ø<br>max. | Ø<br>max. B1 | B1   | L1   | H  | Art. N°               |
|---------------------------------|-------|----|-----------|--------------|------|------|----|-----------------------|
| <b>E</b><br>1.5<br>Type<br>ET15 | 26x8  | 95 | 36        | 54           | 3.25 | 36.5 | 21 | ET15-HK-2608RS-95-D36 |
| <b>E</b><br>2.0<br>Type<br>ET20 | 26x8  | 95 | 36        | 54           | 3.25 | 36.5 | 21 | ET20-HK-2608RS-95-D36 |

Pièces de rechange  
Ersatzteile  
Spare parts

\*

Art. N°

V-M4X14.5-T15-EVOCUT



\*

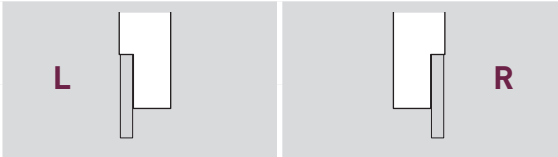
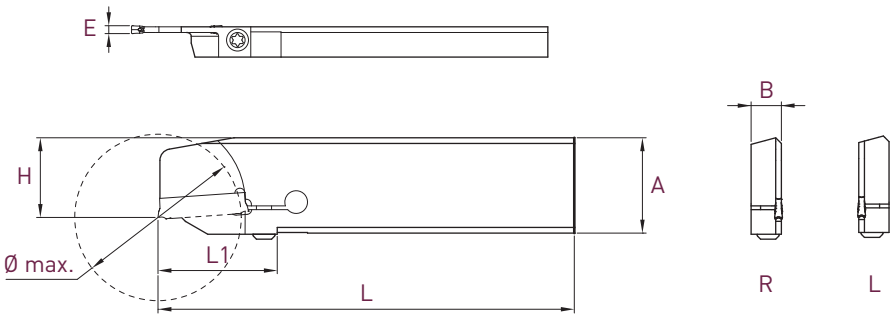
Art. N°

C-T15

\* livré avec chaque lame  
mit jedem Steckling geliefert  
delivered with each blade

Lames de tronçonnage inversées  
Überkopf Stechklinge  
Upside down parting-off blades

HUK Series



| Plaquettes<br>WSP<br>Inserts           | A x B | L   | Ø<br>max. | L1   | H  | Art. N°                | Art. N°                |
|----------------------------------------|-------|-----|-----------|------|----|------------------------|------------------------|
| <b>E</b><br>1.5<br><b>Type</b><br>ET15 | 26x8  | 110 | 20        | 19.5 | 21 | ET15-HUK-2608L-110-D20 | ET15-HUK-2608R-110-D20 |
|                                        | 26x8  | 110 | 32        | 25.5 | 21 | ET15-HUK-2608L-110-D32 | ET15-HUK-2608R-110-D32 |
| <b>E</b><br>2.0<br><b>Type</b><br>ET20 | 26x8  | 110 | 32        | 25.5 | 21 | ET20-HUK-2608L-110-D32 | ET20-HUK-2608R-110-D32 |
|                                        | 26x8  | 110 | 44        | 31.5 | 21 | ET20-HUK-2608L-110-D44 | ET20-HUK-2608R-110-D44 |

|                                                  |                                                                                     |         |
|--------------------------------------------------|-------------------------------------------------------------------------------------|---------|
| Pièces de rechange<br>Ersatzteile<br>Spare parts |  | *       |
|                                                  | Art. N°                                                                             | Art. N° |
|                                                  | V-M4X14.5-T15-EVOCUT                                                                | C-T15   |

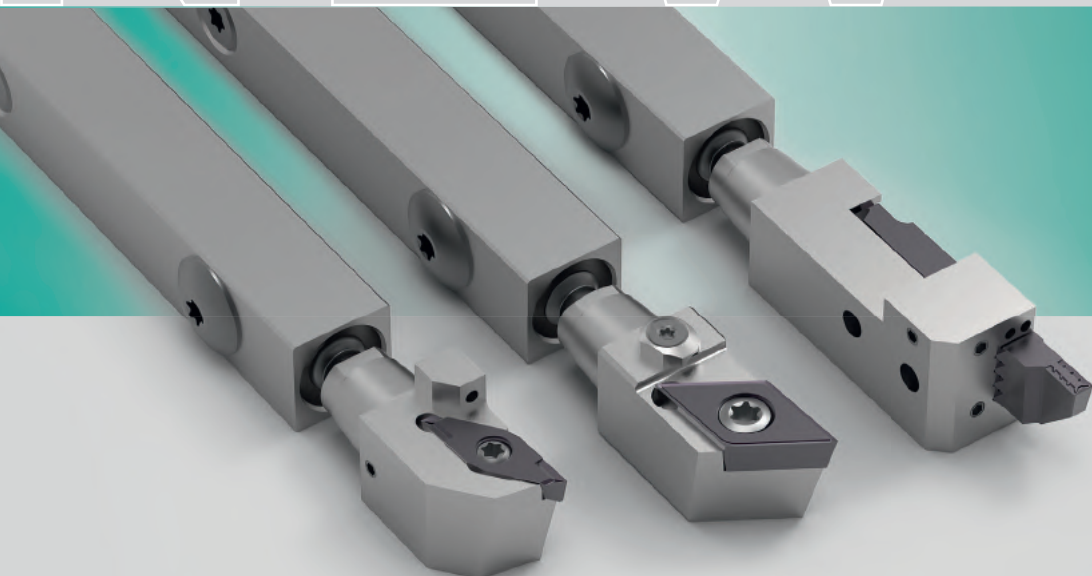
\* livré avec chaque lame  
mit jedem Stechkling geliefert  
delivered with each blade



# SWITCH-LINE



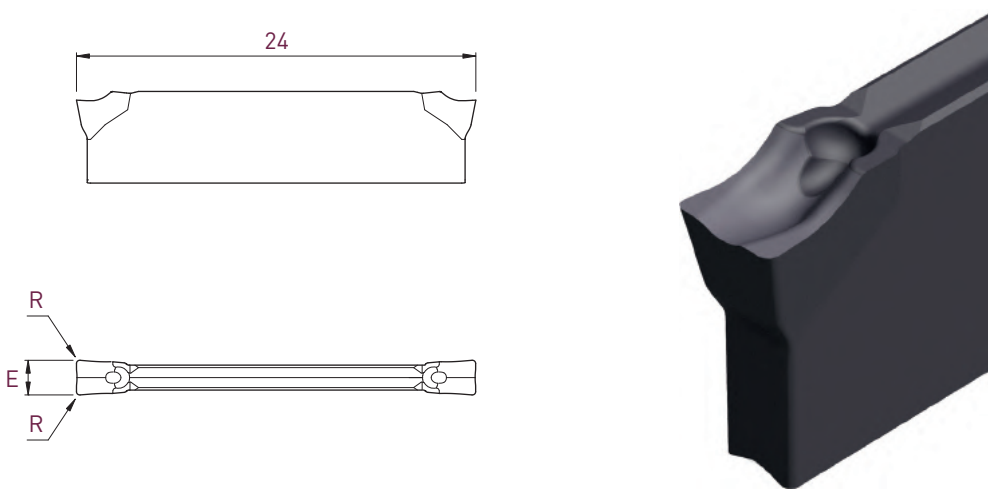
# NEW



DISCOVER THE RANGE SWITCH-LINE IN CHAPTER 11 !

Plaquettes de tronçonnage  
Abstechwendeplatten  
Cut off inserts

UN Series



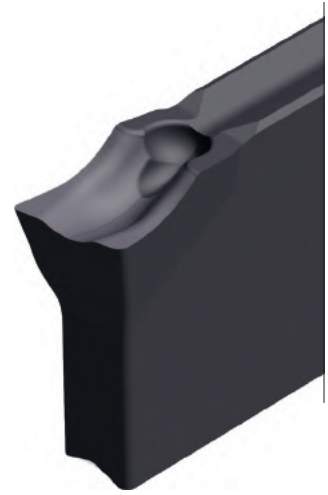
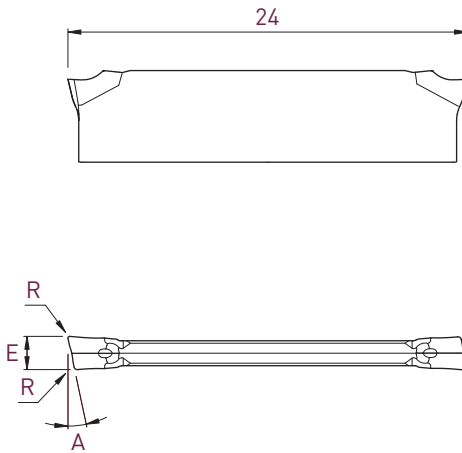
|      |         |     | UN           |                                                                                                                                                                             |
|------|---------|-----|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Type | E ±0.05 | R   | Art. N°      | <div><div>P</div><div>M</div><div>N</div><div>S</div></div> TiAlN <div><div>P</div><div>M</div><div></div><div></div></div> Tmax <div><div>P</div><div>M</div><div></div><div></div></div> Zmax <div><div>P</div><div>M</div><div></div><div></div></div> ZTi6 |
| ET15 | 1.35    | 0   | ET15-UN-000F | ■                                                                                                                                                                                                                                                              |
|      | 1.5     | 0.2 | ET15-UN-002  | ■ ■ ■                                                                                                                                                                                                                                                          |
| ET20 | 1.85    | 0   | ET20-UN-000F | ■                                                                                                                                                                                                                                                              |
|      | 2.0     | 0.2 | ET20-UN-002  | ■ ■ ■ ■                                                                                                                                                                                                                                                        |
| ET25 | 2.35    | 0   | ET25-UN-000F | ■                                                                                                                                                                                                                                                              |
|      | 2.5     | 0.3 | ET25-UN-003  | ■ ■ ■ ■                                                                                                                                                                                                                                                        |
| ET30 | 2.85    | 0   | ET30-UN-000F | ■                                                                                                                                                                                                                                                              |
|      | 3.0     | 0.3 | ET30-UN-003  | ■ ■ ■ ■                                                                                                                                                                                                                                                        |

Plaquettes de tronçonnage

Abstechwendeplatten

Cut off inserts

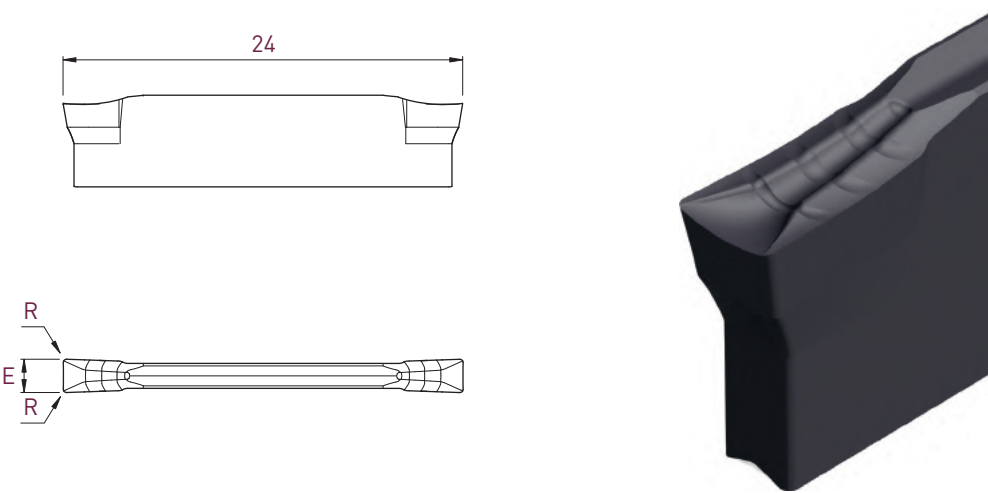
UL-UR Series



|      |         |     |     | UL                                                                                |                                                                   |                                                                | UR                                                                                  |               |                                                                   |                                                                |                                                                |
|------|---------|-----|-----|-----------------------------------------------------------------------------------|-------------------------------------------------------------------|----------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------|-------------------------------------------------------------------|----------------------------------------------------------------|----------------------------------------------------------------|
|      |         |     |     |  |                                                                   |                                                                |  |               |                                                                   |                                                                |                                                                |
| Type | E ±0.05 | A   | R   | Art. N°                                                                           | <div><div>P</div><div>M</div><div>N</div><div>S</div></div> TiAlN | <div><div>P</div><div>M</div><div></div><div></div></div> Tmax | <div><div>P</div><div>M</div><div></div><div></div></div> Zmax                      | Art. N°       | <div><div>P</div><div>M</div><div>N</div><div>S</div></div> TiAlN | <div><div>P</div><div>M</div><div></div><div></div></div> Tmax | <div><div>P</div><div>M</div><div></div><div></div></div> Zmax |
| ET15 | 1.5     | 6°  | 0.2 | -                                                                                 |                                                                   |                                                                |                                                                                     | ET15-UR-602   | ■                                                                 | ■                                                              | ■                                                              |
|      | 1.35    | 8°  | 0   | -                                                                                 |                                                                   |                                                                |                                                                                     | ET15-UR-800F  | ■                                                                 |                                                                |                                                                |
|      | 1.5     | 12° | 0.1 | -                                                                                 |                                                                   |                                                                |                                                                                     | ET15-UR-1201  | ■                                                                 | ■                                                              | ■                                                              |
|      | 1.35    | 15° | 0   | ET15-UL-1500F                                                                     | ■                                                                 |                                                                |                                                                                     | ET15-UR-1500F | ■                                                                 |                                                                |                                                                |
| ET20 | 2.0     | 6°  | 0.2 | -                                                                                 |                                                                   |                                                                |                                                                                     | ET20-UR-602   | ■                                                                 | ■                                                              | ■                                                              |
|      | 1.85    | 8°  | 0   | -                                                                                 |                                                                   |                                                                |                                                                                     | ET20-UR-800F  | ■                                                                 |                                                                |                                                                |
|      | 2.0     | 12° | 0.1 | -                                                                                 |                                                                   |                                                                |                                                                                     | ET20-UR-1201  | ■                                                                 | ■                                                              | ■                                                              |
|      | 1.85    | 15° | 0   | ET20-UL-1500F                                                                     | ■                                                                 |                                                                |                                                                                     | ET20-UR-1500F | ■                                                                 |                                                                |                                                                |
| ET25 | 2.5     | 6°  | 0.2 | -                                                                                 |                                                                   |                                                                |                                                                                     | ET25-UR-602   | ■                                                                 | ■                                                              | ■                                                              |
|      | 2.35    | 8°  | 0   | -                                                                                 |                                                                   |                                                                |                                                                                     | ET25-UR-800F  | ■                                                                 |                                                                |                                                                |
|      | 2.5     | 12° | 0.1 | -                                                                                 |                                                                   |                                                                |                                                                                     | ET25-UR-1201  | ■                                                                 | ■                                                              | ■                                                              |
|      | 2.35    | 15° | 0   | ET25-UL-1500F                                                                     | ■                                                                 |                                                                |                                                                                     | ET25-UR-1500F | ■                                                                 |                                                                |                                                                |
| ET30 | 3.0     | 6°  | 0.3 | -                                                                                 |                                                                   |                                                                |                                                                                     | ET30-UR-603   | ■                                                                 | ■                                                              | ■                                                              |
|      | 2.85    | 8°  | 0   | -                                                                                 |                                                                   |                                                                |                                                                                     | ET30-UR-800F  | ■                                                                 |                                                                |                                                                |
|      | 3.0     | 12° | 0.2 | -                                                                                 |                                                                   |                                                                |                                                                                     | ET30-UR-1202  | ■                                                                 | ■                                                              | ■                                                              |
|      | 2.85    | 15° | 0   | ET30-UL-1500F                                                                     | ■                                                                 |                                                                |                                                                                     | ET30-UR-1500F | ■                                                                 |                                                                |                                                                |

Plaquettes de tronçonnage  
Abstechwendeplatten  
Cut off inserts

JN Series



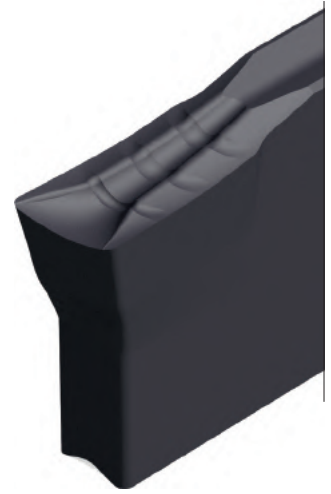
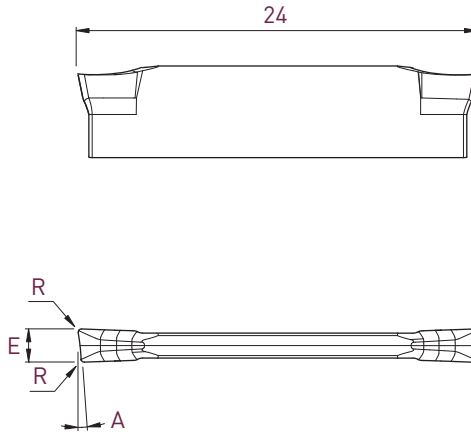
|       |         |      | JN          |                                                                                                                                                                                          |   |   |   |   |   |   |   |   |   |  |  |  |   |  |  |  |       |      |      |      |
|-------|---------|------|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|---|---|---|---|---|---|---|---|--|--|--|---|--|--|--|-------|------|------|------|
| Type  | E ±0.05 | R    | Art. N°     | <table><tr><td>P</td><td>P</td><td>P</td><td>P</td></tr><tr><td>M</td><td>M</td><td>M</td><td>M</td></tr><tr><td>N</td><td></td><td></td><td></td></tr><tr><td>S</td><td></td><td></td><td></td></tr><tr><td>TiAlN</td><td>Tmax</td><td>Zmax</td><td>ZTi6</td></tr></table> | P | P | P | P | M | M | M | M | N |  |  |  | S |  |  |  | TiAlN | Tmax | Zmax | ZTi6 |
| P     | P       | P    | P           |                                                                                                                                                                                                                                                                             |   |   |   |   |   |   |   |   |   |  |  |  |   |  |  |  |       |      |      |      |
| M     | M       | M    | M           |                                                                                                                                                                                                                                                                             |   |   |   |   |   |   |   |   |   |  |  |  |   |  |  |  |       |      |      |      |
| N     |         |      |             |                                                                                                                                                                                                                                                                             |   |   |   |   |   |   |   |   |   |  |  |  |   |  |  |  |       |      |      |      |
| S     |         |      |             |                                                                                                                                                                                                                                                                             |   |   |   |   |   |   |   |   |   |  |  |  |   |  |  |  |       |      |      |      |
| TiAlN | Tmax    | Zmax | ZTi6        |                                                                                                                                                                                                                                                                             |   |   |   |   |   |   |   |   |   |  |  |  |   |  |  |  |       |      |      |      |
| ET15  | 1.5     | 0.2  | ET15-JN-002 | <table><tr><td>■</td><td>■</td><td>■</td><td></td></tr></table>                                                                                                                                                                                                             | ■ | ■ | ■ |   |   |   |   |   |   |  |  |  |   |  |  |  |       |      |      |      |
| ■     | ■       | ■    |             |                                                                                                                                                                                                                                                                             |   |   |   |   |   |   |   |   |   |  |  |  |   |  |  |  |       |      |      |      |
| ET20  | 2.0     | 0.2  | ET20-JN-002 | <table><tr><td>■</td><td>■</td><td>■</td><td>■</td></tr></table>                                                                                                                                                                                                            | ■ | ■ | ■ | ■ |   |   |   |   |   |  |  |  |   |  |  |  |       |      |      |      |
| ■     | ■       | ■    | ■           |                                                                                                                                                                                                                                                                             |   |   |   |   |   |   |   |   |   |  |  |  |   |  |  |  |       |      |      |      |
| ET25  | 2.5     | 0.3  | ET25-JN-003 | <table><tr><td>■</td><td>■</td><td>■</td><td>■</td></tr></table>                                                                                                                                                                                                            | ■ | ■ | ■ | ■ |   |   |   |   |   |  |  |  |   |  |  |  |       |      |      |      |
| ■     | ■       | ■    | ■           |                                                                                                                                                                                                                                                                             |   |   |   |   |   |   |   |   |   |  |  |  |   |  |  |  |       |      |      |      |
| ET30  | 3.0     | 0.3  | ET30-JN-003 | <table><tr><td>■</td><td>■</td><td>■</td><td>■</td></tr></table>                                                                                                                                                                                                            | ■ | ■ | ■ | ■ |   |   |   |   |   |  |  |  |   |  |  |  |       |      |      |      |
| ■     | ■       | ■    | ■           |                                                                                                                                                                                                                                                                             |   |   |   |   |   |   |   |   |   |  |  |  |   |  |  |  |       |      |      |      |

Plaquettes de tronçonnage

Abstechwendeplatten

Cut off inserts

JR Series

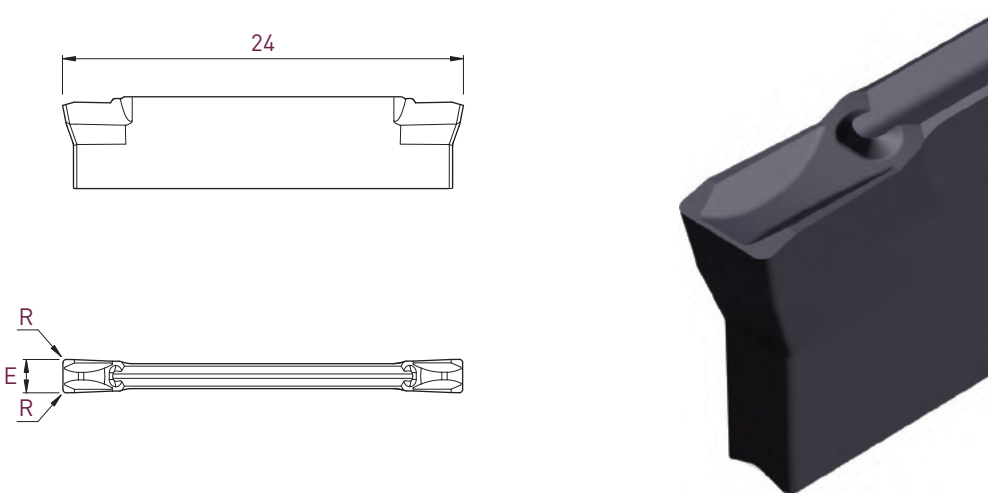


| JR   |              |    |     |             |  |                                                         |                                                         |
|------|--------------|----|-----|-------------|-------------------------------------------------------------------------------------|---------------------------------------------------------|---------------------------------------------------------|
| Type | E $\pm 0.05$ | A  | R   | Art. N°     | <div> <div>P</div> <div>M</div> <div>N</div> <div>S</div> </div> TiAlN              | <div> <div>P</div> <div>M</div> <div></div> </div> Tmax | <div> <div>P</div> <div>M</div> <div></div> </div> Zmax |
| ET15 | 1.5          | 6° | 0.2 | ET15-JR-602 | ■                                                                                   | ■                                                       | ■                                                       |
| ET20 | 2.0          | 6° | 0.2 | ET20-JR-602 | ■                                                                                   | ■                                                       | ■                                                       |
| ET25 | 2.5          | 6° | 0.2 | ET25-JR-602 | ■                                                                                   | ■                                                       | ■                                                       |
| ET30 | 3.0          | 6° | 0.3 | ET30-JR-603 | ■                                                                                   | ■                                                       | ■                                                       |

Plaquettes de tronçonnage  
Abstechwendeplatten  
Cut off inserts

Negative geometry

TN Series



|      |         |     | TN          |                                                                                                                                                                                                                        |
|------|---------|-----|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Type | E ±0.05 | R   | Art. N°     | <div><div>P</div><div>M</div><div>N</div><div></div></div> <div><div>P</div><div>M</div><div></div><div></div></div> <div><div>P</div><div>M</div><div></div><div></div></div> <div><div>P</div><div>M</div><div></div><div></div></div> <div>TiAlN</div> <div>Tmax</div> <div>Zmax</div> <div>ZTi6</div> |
| ET20 | 2.0     | 0.2 | ET20-TN-002 | <div>■</div> <div>■</div> <div>■</div> <div>■</div> <div></div> <div></div> <div></div> <div></div>                                                                                                                                                                                                       |
| ET25 | 2.5     | 0.3 | ET25-TN-003 | <div>■</div> <div>■</div> <div>■</div> <div>■</div> <div></div> <div></div> <div></div> <div></div>                                                                                                                                                                                                       |
| ET30 | 3.0     | 0.3 | ET30-TN-003 | <div>■</div> <div>■</div> <div>■</div> <div>■</div> <div></div> <div></div> <div></div> <div></div>                                                                                                                                                                                                       |

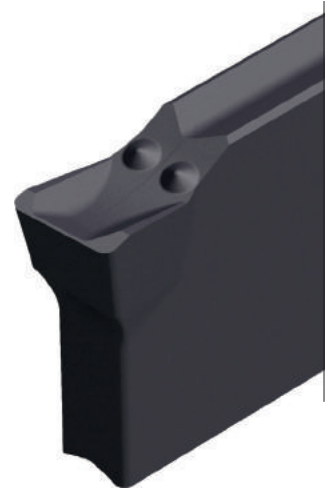
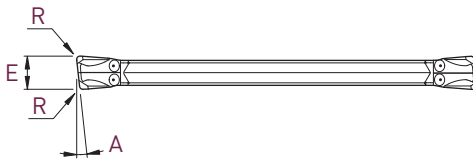
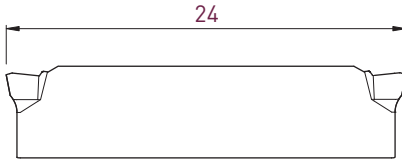
Plaquettes de tronçonnage

Abstechwendeplatten

Cut off inserts

## Negative geometry

TR Series



TR



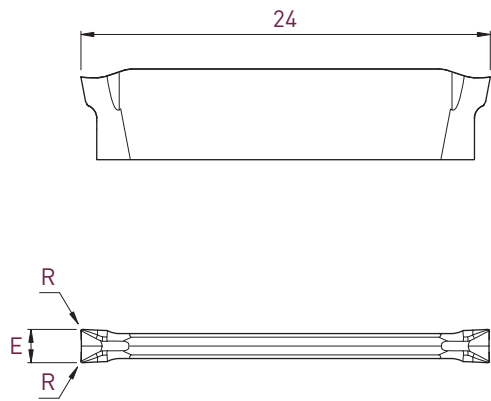
| Type | E $\pm 0.05$ | A  | R   | Art. N°     | <div> <div>P</div> <div>M</div> <div>N</div> </div> TIALN | <div> <div>P</div> <div>M</div> </div> Tmax | <div> <div>P</div> <div>M</div> </div> Zmax | <div> <div>P</div> <div>M</div> </div> ZTi6 |
|------|--------------|----|-----|-------------|-----------------------------------------------------------|---------------------------------------------|---------------------------------------------|---------------------------------------------|
| ET20 | 2.0          | 6° | 0.2 | ET20-TR-602 | ■                                                         | ■                                           | ■                                           |                                             |
| ET25 | 2.5          | 6° | 0.2 | ET25-TR-602 | ■                                                         | ■                                           | ■                                           |                                             |
| ET30 | 3.0          | 6° | 0.3 | ET30-TR-603 | ■                                                         | ■                                           | ■                                           | ■                                           |

Plaquettes de tronçonnage

Abstechwendeplatten

Cut off inserts

AN Series



|      |         |     | AN           |                                                                                     |
|------|---------|-----|--------------|-------------------------------------------------------------------------------------|
| Type | E ±0.05 | R   | Art. N°      | <div><div>M</div><div>N</div><div>S</div><div>T</div><div>A</div><div>N</div></div> |
| ET20 | 2.0     | 0.2 | ET20-AN-002F | <div><div>■</div><div>■</div><div>■</div></div>                                     |
| ET30 | 3.0     | 0.3 | ET30-AN-003F | <div><div>■</div><div>■</div><div>■</div></div>                                     |

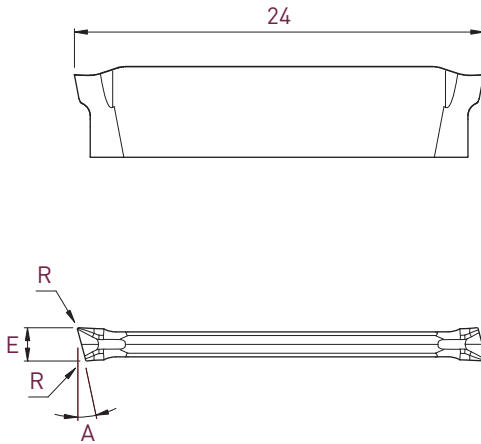


Plaquettes de tronçonnage

Abstechwendeplatten

Cut off inserts

AR Series



AR



| Type | E $\pm 0.05$ | A   | R   | Art. N°       | <div> <div> <div>M</div> <div>N</div> <div>S</div> </div> <div> <div>TiAIN</div> <div>AS</div> <div>N</div> </div> <div> <div></div> <div></div> <div></div> </div> </div> |   |   |
|------|--------------|-----|-----|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|---|
| ET20 | 2.0          | 15° | 0.1 | ET20-AR-1501F | ■                                                                                                                                                                          | ■ | ■ |
| ET30 | 3.0          | 15° | 0.2 | ET30-AR-1502F | ■                                                                                                                                                                          | ■ | ■ |

## Paramètres de coupe indicatifs

## Empfohlene Schnittwerte

## Standard machining data

|                                                            |                                                                                     |         | ET15  | ET20 | ET25 | ET30 | Acier<br>Stahl<br>Steel                                      |           |                                                                       |           |                                                                |           | Inox<br>Rostfreistahl<br>Stainless steel                                                      |           |
|------------------------------------------------------------|-------------------------------------------------------------------------------------|---------|-------|------|------|------|--------------------------------------------------------------|-----------|-----------------------------------------------------------------------|-----------|----------------------------------------------------------------|-----------|-----------------------------------------------------------------------------------------------|-----------|
|                                                            |                                                                                     |         |       |      |      |      | Acier de décolletage<br>Automatenstahl<br>Free-cutting steel |           | Acier faiblement allié<br>Leicht legierter Stahl<br>Low alloyed steel |           | Acier fortement allié<br>Legierter Stahl<br>High alloyed steel |           | Austénitique et martensitique<br>Austenitisch und martensitisch<br>Austenitic and martensitic |           |
|                                                            |                                                                                     |         |       |      |      |      | VC (m/min)                                                   | F (mm/U)  | VC (m/min)                                                            | F (mm/U)  | VC (m/min)                                                     | F (mm/U)  | VC (m/min)                                                                                    | F (mm/U)  |
| Avance standard<br>Standard Vorschub<br>Standard feed rate |    | UN      | TiAlN | ■    | ■    | ■    | 90-140                                                       | 0.04-0.08 | 60-120                                                                | 0.04-0.08 | 50-100                                                         | 0.04-0.08 | 50-120                                                                                        | 0.04-0.08 |
|                                                            |                                                                                     |         | Tmax  | ■    | ■    | ■    | 100-170                                                      | 0.04-0.08 | 70-150                                                                | 0.04-0.08 | 60-120                                                         | 0.04-0.08 | 60-150                                                                                        | 0.04-0.08 |
|                                                            |                                                                                     |         | Zmax  | ■    | ■    | ■    | 80-130*                                                      | 0.04-0.10 | 50-110*                                                               | 0.04-0.10 | 50-90*                                                         | 0.04-0.10 | 50-120*                                                                                       | 0.04-0.10 |
|                                                            |                                                                                     |         | ZTi6  | ■    | ■    | ■    | 110-200                                                      | 0.04-0.08 | 80-160                                                                | 0.04-0.08 | 70-140                                                         | 0.04-0.08 | 70-160                                                                                        | 0.04-0.08 |
|                                                            |    | UR      | TiAlN | ■    | ■    | ■    | 90-140                                                       | 0.04-0.08 | 60-120                                                                | 0.04-0.08 | 50-100                                                         | 0.04-0.08 | 50-120                                                                                        | 0.04-0.08 |
|                                                            |                                                                                     |         | Tmax  | ■    | ■    | ■    | 100-170                                                      | 0.04-0.08 | 70-150                                                                | 0.04-0.08 | 60-120                                                         | 0.04-0.08 | 60-150                                                                                        | 0.04-0.08 |
|                                                            |                                                                                     |         | Zmax  | ■    | ■    | ■    | 80-130*                                                      | 0.04-0.10 | 50-110*                                                               | 0.04-0.10 | 50-90*                                                         | 0.04-0.10 | 50-120*                                                                                       | 0.04-0.10 |
|                                                            |                                                                                     |         | ZTi6  | ■    | ■    | ■    | 110-200                                                      | 0.04-0.08 | 80-160                                                                | 0.04-0.08 | 70-140                                                         | 0.04-0.08 | 70-160                                                                                        | 0.04-0.08 |
|                                                            |    | JN      | TiAlN | ■    | ■    | ■    | 90-140                                                       | 0.04-0.08 | 60-120                                                                | 0.04-0.08 | 50-100                                                         | 0.04-0.08 | 50-120                                                                                        | 0.04-0.08 |
|                                                            |                                                                                     |         | Tmax  | ■    | ■    | ■    | 100-170                                                      | 0.04-0.08 | 70-150                                                                | 0.04-0.08 | 60-120                                                         | 0.04-0.08 | 60-150                                                                                        | 0.04-0.08 |
|                                                            |                                                                                     |         | Zmax  | ■    | ■    | ■    | 80-130*                                                      | 0.04-0.10 | 50-110*                                                               | 0.04-0.10 | 50-90*                                                         | 0.04-0.10 | 50-120*                                                                                       | 0.04-0.10 |
|                                                            |                                                                                     |         | ZTi6  | ■    | ■    | ■    | 110-200                                                      | 0.04-0.08 | 80-160                                                                | 0.04-0.08 | 70-140                                                         | 0.04-0.08 | 70-160                                                                                        | 0.04-0.08 |
|                                                            |    | JR      | TiAlN | ■    | ■    | ■    | 90-140                                                       | 0.04-0.08 | 60-120                                                                | 0.04-0.08 | 50-100                                                         | 0.04-0.08 | 50-120                                                                                        | 0.04-0.08 |
|                                                            |                                                                                     |         | Tmax  | ■    | ■    | ■    | 100-170                                                      | 0.04-0.08 | 70-150                                                                | 0.04-0.08 | 60-120                                                         | 0.04-0.08 | 60-150                                                                                        | 0.04-0.08 |
|                                                            |                                                                                     |         | Zmax  | ■    | ■    | ■    | 80-130*                                                      | 0.04-0.10 | 50-110*                                                               | 0.04-0.10 | 50-90*                                                         | 0.04-0.10 | 50-120*                                                                                       | 0.04-0.10 |
|                                                            |                                                                                     |         | ZTi6  | ■    | ■    | ■    | 110-200                                                      | 0.04-0.08 | 80-160                                                                | 0.04-0.08 | 70-140                                                         | 0.04-0.08 | 70-160                                                                                        | 0.04-0.08 |
|                                                            |    | TN      | TiAlN | ■    | ■    | ■    | 90-150                                                       | 0.08-0.18 | 70-130                                                                | 0.08-0.18 | 50-100                                                         | 0.08-0.15 | 50-120                                                                                        | 0.08-0.20 |
|                                                            |                                                                                     |         | Tmax  | ■    | ■    | ■    | 100-170                                                      | 0.08-0.18 | 70-150                                                                | 0.08-0.18 | 60-120                                                         | 0.08-0.15 | 60-150                                                                                        | 0.08-0.20 |
|                                                            |                                                                                     |         | Zmax  | ■    | ■    | ■    | 80-130*                                                      | 0.08-0.18 | 50-110*                                                               | 0.08-0.18 | 50-90*                                                         | 0.08-0.15 | 50-120*                                                                                       | 0.08-0.20 |
|                                                            |                                                                                     |         | ZTi6  | ■    | ■    | ■    | 110-200                                                      | 0.08-0.18 | 80-160                                                                | 0.08-0.18 | 70-140                                                         | 0.08-0.15 | 70-160                                                                                        | 0.08-0.20 |
|                                                            |  | TR      | TiAlN | ■    | ■    | ■    | 90-150                                                       | 0.08-0.18 | 70-130                                                                | 0.08-0.18 | 50-100                                                         | 0.08-0.15 | 50-120                                                                                        | 0.08-0.20 |
|                                                            |                                                                                     |         | Tmax  | ■    | ■    | ■    | 100-170                                                      | 0.08-0.18 | 70-150                                                                | 0.08-0.18 | 60-120                                                         | 0.08-0.15 | 60-150                                                                                        | 0.08-0.20 |
|                                                            |                                                                                     |         | Zmax  | ■    | ■    | ■    | 80-130*                                                      | 0.08-0.18 | 50-110*                                                               | 0.08-0.18 | 50-90*                                                         | 0.08-0.15 | 50-120*                                                                                       | 0.08-0.20 |
|                                                            |                                                                                     |         | ZTi6  | ■    | ■    | ■    | 110-200                                                      | 0.08-0.18 | 80-160                                                                | 0.08-0.18 | 70-140                                                         | 0.08-0.15 | 70-160                                                                                        | 0.08-0.20 |
| Avance modérée<br>Niedriger Vorschub<br>Low feed rate      |  | UN-000F | TiAlN | ■    | ■    | ■    | 80-120                                                       | 0.02-0.05 | 50-100                                                                | 0.02-0.05 | 40-80                                                          | 0.02-0.05 | 40-100                                                                                        | 0.02-0.05 |
|                                                            |                                                                                     |         | Tmax  | ■    | ■    | ■    | 100-170                                                      | 0.02-0.05 | 70-150                                                                | 0.02-0.05 | 60-120                                                         | 0.02-0.05 | 60-150                                                                                        | 0.02-0.05 |
|                                                            |  | UR/ULF  | TiAlN | ■    | ■    | ■    | 80-120                                                       | 0.02-0.05 | 50-100                                                                | 0.02-0.05 | 40-80                                                          | 0.02-0.05 | 40-100                                                                                        | 0.02-0.05 |
|                                                            |                                                                                     |         | Tmax  | ■    | ■    | ■    | 100-170                                                      | 0.02-0.05 | 70-150                                                                | 0.02-0.05 | 60-120                                                         | 0.02-0.05 | 60-150                                                                                        | 0.02-0.05 |
|                                                            |  | ANF     | N     | ■    | ■    | ■    |                                                              |           |                                                                       |           |                                                                |           |                                                                                               |           |
|                                                            |                                                                                     |         | TiAlN | ■    | ■    | ■    |                                                              |           |                                                                       |           |                                                                |           | 40-80                                                                                         | 0.02-0.05 |
|                                                            |                                                                                     |         | AS    | ■    | ■    | ■    |                                                              |           |                                                                       |           |                                                                |           |                                                                                               |           |
|                                                            |  | ARF     | N     | ■    | ■    | ■    |                                                              |           |                                                                       |           |                                                                |           |                                                                                               |           |
|                                                            |                                                                                     |         | TiAlN | ■    | ■    | ■    |                                                              |           |                                                                       |           |                                                                |           | 40-80                                                                                         | 0.02-0.05 |
|                                                            |                                                                                     |         | AS    | ■    | ■    | ■    |                                                              |           |                                                                       |           |                                                                |           |                                                                                               |           |

\* premier choix en cas  
de coupe interrompue

\*\* arête de coupe vive

\* beste Basis für  
unterbrochene Schnitte

\*\* scharfe Schneidkante

\* first choice  
for interrupted cut

\*\* sharp cutting edge

| [N] Alliages d'aluminium et non ferreux<br>Aluminium- und Nichteisenlegierungen<br>Aluminium and non-ferrous alloys |           |                                                                                |           |                            |           |                                                       |           | [S] Titane<br>Titan<br>Titanium |           |            |           |
|---------------------------------------------------------------------------------------------------------------------|-----------|--------------------------------------------------------------------------------|-----------|----------------------------|-----------|-------------------------------------------------------|-----------|---------------------------------|-----------|------------|-----------|
| Aluminium                                                                                                           |           | Alu silicium max. 5%<br>Aluminiumsilicium max. 5%<br>Aluminium silicon max. 5% |           | Cuivre<br>Kupfer<br>Copper |           | Laiton & bronze<br>Messing & Bronze<br>Brass & bronze |           | Gr. 1 - 3                       |           | Gr. 4 - 5  |           |
| VC (m/min)                                                                                                          | F (mm/U)  | VC (m/min)                                                                     | F (mm/U)  | VC (m/min)                 | F (mm/U)  | VC (m/min)                                            | F (mm/U)  | VC (m/min)                      | F (mm/U)  | VC (m/min) | F (mm/U)  |
| 100-250                                                                                                             | 0.03-0.10 | 100-250                                                                        | 0.03-0.10 | 100-300                    | 0.03-0.10 | 100-300                                               | 0.03-0.10 |                                 |           | 50-100     | 0.04-0.08 |
|                                                                                                                     |           |                                                                                |           |                            |           |                                                       |           |                                 |           |            |           |
|                                                                                                                     |           |                                                                                |           |                            |           |                                                       |           |                                 |           |            |           |
| 100-250                                                                                                             | 0.03-0.10 | 100-250                                                                        | 0.03-0.10 | 100-300                    | 0.03-0.10 | 100-300                                               | 0.03-0.10 |                                 |           | 50-100     | 0.04-0.08 |
|                                                                                                                     |           |                                                                                |           |                            |           |                                                       |           |                                 |           |            |           |
|                                                                                                                     |           |                                                                                |           |                            |           |                                                       |           |                                 |           |            |           |
| 100-250                                                                                                             | 0.03-0.10 | 100-250                                                                        | 0.03-0.10 | 100-300                    | 0.03-0.10 | 100-300                                               | 0.03-0.10 |                                 |           | 50-100     | 0.04-0.08 |
|                                                                                                                     |           |                                                                                |           |                            |           |                                                       |           |                                 |           |            |           |
|                                                                                                                     |           |                                                                                |           |                            |           |                                                       |           |                                 |           |            |           |
| 100-250                                                                                                             | 0.03-0.10 | 100-250                                                                        | 0.03-0.10 | 100-300                    | 0.03-0.10 | 100-300                                               | 0.03-0.10 |                                 |           | 50-100     | 0.04-0.08 |
|                                                                                                                     |           |                                                                                |           |                            |           |                                                       |           |                                 |           |            |           |
|                                                                                                                     |           |                                                                                |           |                            |           |                                                       |           |                                 |           |            |           |
|                                                                                                                     |           |                                                                                |           |                            |           | 150-300                                               | 0.05-0.20 |                                 |           |            |           |
|                                                                                                                     |           |                                                                                |           |                            |           |                                                       |           |                                 |           |            |           |
|                                                                                                                     |           |                                                                                |           |                            |           | 150-300                                               | 0.05-0.20 |                                 |           |            |           |
|                                                                                                                     |           |                                                                                |           |                            |           |                                                       |           |                                 |           |            |           |
|                                                                                                                     |           |                                                                                |           |                            |           |                                                       |           |                                 |           |            |           |
| 100-300                                                                                                             | 0.02-0.06 | 100-200                                                                        | 0.01-0.05 | 100-250                    | 0.01-0.05 | 100-300                                               | 0.02-0.06 |                                 |           | 50-100     | 0.01-0.06 |
|                                                                                                                     |           |                                                                                |           |                            |           |                                                       |           |                                 |           |            |           |
| 100-300                                                                                                             | 0.02-0.06 | 100-200                                                                        | 0.01-0.05 | 100-250                    | 0.01-0.05 | 100-300                                               | 0.02-0.06 |                                 |           | 50-100     | 0.01-0.06 |
|                                                                                                                     |           |                                                                                |           |                            |           |                                                       |           |                                 |           |            |           |
| 80-200                                                                                                              | 0.02-0.06 |                                                                                |           | 80-200                     | 0.01-0.05 | 80-200                                                | 0.02-0.06 | 50-100                          | 0.01-0.06 | 50-100     | 0.01-0.06 |
| 100-250                                                                                                             | 0.02-0.06 | 80-150                                                                         | 0.01-0.05 | 100-200                    | 0.01-0.05 | 80-200                                                | 0.02-0.06 |                                 |           | 30-80      | 0.01-0.06 |
| 100-300                                                                                                             | 0.02-0.06 | 100-200                                                                        | 0.01-0.05 | 100-250                    | 0.01-0.05 | 100-300                                               | 0.02-0.06 | 50-120                          | 0.01-0.06 | 50-120     | 0.01-0.06 |
| 80-200                                                                                                              | 0.02-0.06 |                                                                                |           | 80-200                     | 0.01-0.05 | 80-200                                                | 0.02-0.06 | 50-100                          | 0.01-0.06 | 50-100     | 0.01-0.06 |
| 100-250                                                                                                             | 0.02-0.06 | 80-150                                                                         | 0.01-0.05 | 100-200                    | 0.01-0.05 | 80-200                                                | 0.02-0.06 |                                 |           | 30-80      | 0.01-0.06 |
| 100-300                                                                                                             | 0.02-0.06 | 100-200                                                                        | 0.01-0.05 | 100-250                    | 0.01-0.05 | 100-300                                               | 0.02-0.06 | 50-120                          | 0.01-0.06 | 50-120     | 0.01-0.06 |

★★★★★

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★★★

**H**

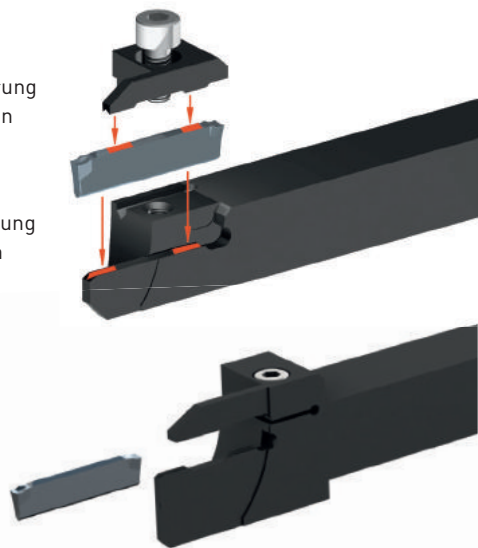
Système de serrage à bride, version courte  
Spannbrücke Klemmsystem, kurze Ausführung  
Independent top clamp system, short version

**HX**

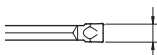
Système de serrage à bride, version longue  
Spannbrücke Klemmsystem, lange Ausführung  
Independent top clamp system, long version

**HZ**

Porte-outils de grande capacité  
Klemmhalter für grössere Durchmesser  
High capacity tool holders

*Very rigid clamping system!***CUT 16**

=

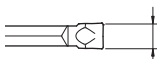


1.6 mm

Ø max 20 mm

**CUT 22**

=

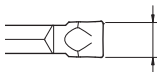


2.2 mm

Ø max 42 mm

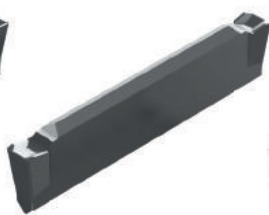
**CUT 31**

=



3.1 mm

Ø max 65 mm

**U****P****T****G**

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## Nuances

## Sorten

## Grades

**TiAlN**

revêtement PVD  
PVD Beschichtung  
PVD coating

- pour l'usinage des aciers, aciers inoxydables et alliages de titane
- 1<sup>er</sup> choix pour les avances faibles à modérées

- für die Bearbeitung von Stahl, rostfreiem Stahl und Titanlegierungen
- beste Wahl für niedrige bis mittlere Vorschübe

- for machining of steel, stainless steel and titanium alloys
- first choice for low to average cutting speed

**Tmax**

revêtement PVD  
PVD Beschichtung  
PVD coating

- nuance pour usinage moyen à lourd des aciers, aciers alliés et inoxydables
- bonne résistance aux températures d'usinage élevées
- 1<sup>er</sup> choix pour le tronçonnage des aciers au carbone et des aciers fortement alliés

- Sorte für mittlere bis hohe Belastung in Stahl und legierter Stahlbearbeitung
- gute Bearbeitungswarmfestigkeit
- für die Bearbeitung von legiertem Kohlenstahl und hoch legiertem Stahl bestens geeignet

- grade for medium to heavy machining of steel, stainless steel and alloyed steel
- high machining heat resistance
- first choice for the machining of carbon steel and high alloyed steel

**Zmax**

revêtement PVD  
PVD Beschichtung  
PVD coating

- pour l'usinage des aciers, aciers inoxydables et alliages de titane en conditions défavorables
- bonne résistance aux chocs à des vitesses de coupe moyenne à faible
- 1<sup>er</sup> choix pour le tronçonnage en coupe interrompue

- für die Bearbeitung von Stahl, rostfreiem Stahl und Titanlegierungen in schwierige Bearbeitungsfälle
- gute Bruchfestigkeit mit durchschnittliche bis niedrige Schnittgeschwindigkeit
- für die Bearbeitung in unterbrochenen Schnitte bestens geeignet

- for machining of steel, stainless steel and titanium alloys in unfavourable machining conditions
- good impact resistance with average to low cutting speed
- first choice for machining in interrupted cut

**HTA**

revêtement PVD  
PVD Beschichtung  
PVD coating

- très bonne résistance à l'usure
- pour le tronçonnage des aciers, aciers inoxydables et alliages de titane
- déconseillé en coupe interrompue

- sehr gute Verschleissfestigkeit
- für die Bearbeitung von Stahl, rostfreiem Stahl und Titanlegierung bestens geeignet
- für unterbrochene Schnitte ungeeignet

- very good wear resistance
- first choice for steel, stainless steel and titanium alloys machining
- not suitable for interrupted cut

**AS**

revêtement PVD  
PVD Beschichtung  
PVD coating

- nuance pour métaux non ferreux
- très faible coefficient de frottement
- 1<sup>er</sup> choix pour l'usinage des aluminiums jusqu'à 5% Si, des cuivres et titanes faiblement alliés

- Sorte für Nichteisenmetalle
- sehr geringer Reibwert
- für die Bearbeitung von Aluminium bis 5% Si, Kupfer und niedriglegiertem Titan bestens geeignet

- grade for non-ferrous materials
- very low friction ratio
- first choice for Aluminium up to 5% Si, copper and low alloyed titanium

**N**

non revêtu  
unbeschichtet  
uncoated

- nuance pour les laitons, pour la géométrie PNW et PRW

- Sorte für Messing, für PNW und PRW Geometrie

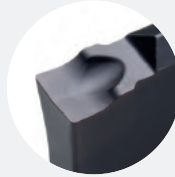
- grade for brass, for PNW and PRW geometry

Géométries de coupe

Spanformgeometrie

Cutting geometries

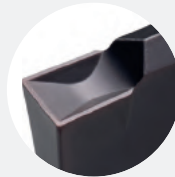
UN

UR  
UL

- géométrie positive universelle, bonne maîtrise du copeau
- allgemeine Geometrie, sehr gute Spankontrolle
- all-round insert with efficient chip control

PN

PR



- géométrie légèrement positive pour les aciers, aciers au carbone, aciers alliés
- leicht positive Geometrie für Stahl, Kohlenstoffstahl, legiertem Stahl
- slightly positive geometry for steel, carbon steel, alloyed steel

PNW  
PRW

- géométrie neutre pour les laiton
- neutrale Geometrie für Messing
- neutral geometry for brasses

TN



- géométrie négative pour de fortes avances dans des conditions de rigidité favorable
- negative Geometrie für hohe Vorschübe in guten Stabilitätsfällen
- negative geometry for high feed rate in case of good stability

GN



- géométrie universelle pour fonçage-tournage, peut également être utilisée en tronçonnage
- allgemeine Geometrie zum einstecken-langdrehen, kann auch zum abstechen verwendet werden
- all-round insert for grooving and turning, can also be used for parting off

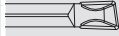
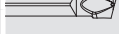
Paramètres de coupe indicatifs

Empfohlene Schnittwerte

Standard machining data

## CUT 16

CUT 16

|                                                                                                                 |                                                                                                            | Acier<br>Stahl<br>Steel                                                                                    |          |                                                                       |           |                                                                |           | Inox<br>Rostfreistahl<br>Stainless steel                                                      |           |           |           |
|-----------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|----------|-----------------------------------------------------------------------|-----------|----------------------------------------------------------------|-----------|-----------------------------------------------------------------------------------------------|-----------|-----------|-----------|
|                                                                                                                 |                                                                                                            | Acier de décolletage<br>Automatenstahl<br>Free-cutting steel                                               |          | Acier faiblement allié<br>Leicht legierter Stahl<br>Low alloyed steel |           | Acier fortement allié<br>Legierter Stahl<br>High alloyed steel |           | Austénitique et martensitique<br>Austenitisch und martensitisch<br>Austenitic and martensitic |           |           |           |
|                                                                                                                 |                                                                                                            | VC (m/min)                                                                                                 | F (mm/U) | VC (m/min)                                                            | F (mm/U)  | VC (m/min)                                                     | F (mm/U)  | VC (m/min)                                                                                    | F (mm/U)  |           |           |
| Avance standard<br>Standard Vorschub<br>Standard feed rate                                                      | <div>CUT16-UN-001</div>   | TiAlN                                                                                                      | 90-140   | 0.03-0.07                                                             | 60-120    | 0.03-0.07                                                      | 50-100    | 0.04-0.08                                                                                     | 50-120    | 0.03-0.07 |           |
|                                                                                                                 |                                                                                                            | Tmax                                                                                                       | 100-170  | 0.03-0.07                                                             | 70-150    | 0.03-0.07                                                      | 60-120    | 0.04-0.08                                                                                     | 60-150    | 0.03-0.07 |           |
|                                                                                                                 |                                                                                                            | Zmax                                                                                                       | 80-130*  | 0.04-0.10                                                             | 50-110*   | 0.04-0.10                                                      | 50-90*    | 0.04-0.08                                                                                     | 50-120*   | 0.04-0.10 |           |
|                                                                                                                 |                                                                                                            | HTA                                                                                                        | 70-120   | 0.03-0.05                                                             | 60-100    | 0.03-0.05                                                      | 50-90     | 0.03-0.05                                                                                     | 50-100    | 0.03-0.06 |           |
|                                                                                                                 |                                                                                                            | AS                                                                                                         |          |                                                                       |           |                                                                |           |                                                                                               |           |           |           |
|                                                                                                                 | <div>CUT16-PR-801</div>   | TiAlN                                                                                                      | 90-140   | 0.03-0.07                                                             | 60-120    | 0.03-0.07                                                      | 50-100    | 0.03-0.07                                                                                     | 50-120    | 0.03-0.07 |           |
|                                                                                                                 |                                                                                                            | Tmax                                                                                                       | 100-170  | 0.03-0.07                                                             | 70-150    | 0.03-0.07                                                      | 60-120    | 0.03-0.07                                                                                     | 60-150    | 0.03-0.07 |           |
|                                                                                                                 | <div>CUT16-PRW-801</div>  | N                                                                                                          |          |                                                                       |           |                                                                |           |                                                                                               |           |           |           |
|                                                                                                                 | Avance modérée<br>Niedriger Vorschub<br>Low feed rate                                                      | <div>CUT16-UN-000F</div>  | TiAlN    | 80-130                                                                | 0.02-0.05 | 50-110                                                         | 0.02-0.05 | 50-90                                                                                         | 0.02-0.05 | 50-80     | 0.02-0.05 |
|                                                                                                                 |                                                                                                            |                                                                                                            | HTA      | 60-100                                                                | 0.01-0.04 | 50-90                                                          | 0.01-0.04 | 50-80                                                                                         | 0.02-0.05 | 50-80     | 0.02-0.05 |
| AS                                                                                                              |                                                                                                            |                                                                                                            |          |                                                                       |           |                                                                |           |                                                                                               |           |           |           |
| <div>CUT16-UL/R-800F</div>     |                                                                                                            | TiAlN                                                                                                      | 80-130   | 0.02-0.05                                                             | 50-110    | 0.02-0.05                                                      | 50-90     | 0.02-0.05                                                                                     | 50-80     | 0.02-0.05 |           |
|                                                                                                                 |                                                                                                            | HTA                                                                                                        | 60-100   | 0.01-0.04                                                             | 50-90     | 0.01-0.04                                                      | 50-80     | 0.02-0.05                                                                                     | 50-80     | 0.02-0.05 |           |
|                                                                                                                 |                                                                                                            | AS                                                                                                         |          |                                                                       |           |                                                                |           |                                                                                               |           |           |           |
| <div>CUT16-UL/R-1500F</div>  |                                                                                                            | TiAlN                                                                                                      | 80-130   | 0.02-0.05                                                             | 50-110    | 0.02-0.05                                                      | 50-90     | 0.02-0.05                                                                                     | 50-80     | 0.02-0.05 |           |
|                                                                                                                 |                                                                                                            | HTA                                                                                                        | 60-100   | 0.01-0.04                                                             | 50-90     | 0.01-0.04                                                      | 50-80     | 0.02-0.05                                                                                     | 50-80     | 0.02-0.05 |           |
|                                                                                                                 |                                                                                                            | AS                                                                                                         |          |                                                                       |           |                                                                |           |                                                                                               |           |           |           |

\*\* arête de coupe vive

\*\* scharfe Schneidkante

\*\* sharp cutting edge



CUT 16

| NAlliages d'aluminium et non ferreux<br>Aluminium- und Nichteisenlegierungen<br>Aluminium and non-ferrous alloys |           |                                                                                |           |                            |           |                                                       |           | S<br>Titane<br>Titan<br>Titanium |           |            |           |
|------------------------------------------------------------------------------------------------------------------|-----------|--------------------------------------------------------------------------------|-----------|----------------------------|-----------|-------------------------------------------------------|-----------|----------------------------------|-----------|------------|-----------|
| Aluminium                                                                                                        |           | Alu silicium max. 5%<br>Aluminiumsilicium max. 5%<br>Aluminium silicon max. 5% |           | Cuivre<br>Kupfer<br>Copper |           | Laiton & bronze<br>Messing & Bronze<br>Brass & bronze |           | Gr. 1 - 3                        |           | Gr. 4 - 5  |           |
| VC (m/min)                                                                                                       | F (mm/U)  | VC (m/min)                                                                     | F (mm/U)  | VC (m/min)                 | F (mm/U)  | VC (m/min)                                            | F (mm/U)  | VC (m/min)                       | F (mm/U)  | VC (m/min) | F (mm/U)  |
| 100-250                                                                                                          | 0.03-0.10 | 100-250                                                                        | 0.03-0.10 | 100-300                    | 0.03-0.10 | 100-300                                               | 0.03-0.10 |                                  |           | 30-60      | 0.04-0.08 |
|                                                                                                                  |           |                                                                                |           |                            |           |                                                       |           |                                  |           |            |           |
|                                                                                                                  |           |                                                                                |           |                            |           |                                                       |           |                                  |           |            |           |
| 100-300                                                                                                          | 0.04-0.10 | 100-250                                                                        | 0.04-0.10 | 100-300                    | 0.03-0.08 | 150-300                                               | 0.03-0.08 |                                  |           | 30-60      | 0.04-0.08 |
| 150-300                                                                                                          | 0.04-0.15 | 100-300                                                                        | 0.04-0.10 | 100-300                    | 0.04-0.10 | 150-300                                               | 0.02-0.08 | 30-60                            | 0.04-0.08 | 30-60      | 0.04-0.08 |
|                                                                                                                  |           |                                                                                |           |                            |           | 150-300                                               | 0.03-0.10 |                                  |           |            |           |
|                                                                                                                  |           |                                                                                |           |                            |           |                                                       |           |                                  |           |            |           |
|                                                                                                                  |           |                                                                                |           |                            |           | 100-500                                               | 0.02-0.10 |                                  |           |            |           |
|                                                                                                                  |           |                                                                                |           |                            |           |                                                       |           |                                  |           |            |           |
| 100-300                                                                                                          | 0.02-0.05 | 100-250                                                                        | 0.01-0.04 | 100-250                    | 0.01-0.04 | 100-300                                               | 0.02-0.05 |                                  |           | 30-60      | 0.01-0.04 |
| 100-300                                                                                                          | 0.02-0.05 | 100-250                                                                        | 0.02-0.05 | 100-250                    | 0.02-0.05 | 100-300                                               | 0.02-0.05 |                                  |           | 30-60      | 0.02-0.06 |
| 100-300                                                                                                          | 0.02-0.05 | 100-250                                                                        | 0.02-0.05 | 100-250                    | 0.02-0.05 | 100-300                                               | 0.02-0.05 | 30-60                            | 0.02-0.06 | 30-60      | 0.02-0.06 |
| 100-300                                                                                                          | 0.02-0.05 | 100-250                                                                        | 0.01-0.04 | 100-250                    | 0.01-0.04 | 100-300                                               | 0.02-0.05 |                                  |           | 30-60      | 0.01-0.04 |
| 100-300                                                                                                          | 0.02-0.05 | 100-250                                                                        | 0.02-0.05 | 100-250                    | 0.02-0.05 | 100-300                                               | 0.02-0.05 |                                  |           | 30-60      | 0.02-0.06 |
| 100-300                                                                                                          | 0.02-0.05 | 100-250                                                                        | 0.02-0.05 | 100-250                    | 0.02-0.05 | 100-300                                               | 0.02-0.05 | 30-60                            | 0.02-0.06 | 30-60      | 0.02-0.06 |
| 100-300                                                                                                          | 0.02-0.05 | 100-250                                                                        | 0.01-0.04 | 100-250                    | 0.01-0.04 | 100-300                                               | 0.02-0.05 |                                  |           | 30-60      | 0.01-0.04 |
| 100-300                                                                                                          | 0.02-0.05 | 100-250                                                                        | 0.02-0.05 | 100-250                    | 0.02-0.05 | 100-300                                               | 0.02-0.05 |                                  |           | 30-60      | 0.02-0.06 |
| 100-300                                                                                                          | 0.02-0.05 | 100-250                                                                        | 0.02-0.05 | 100-250                    | 0.02-0.05 | 100-300                                               | 0.02-0.05 | 30-60                            | 0.02-0.06 | 30-60      | 0.02-0.06 |

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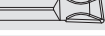
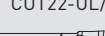
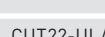
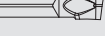
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## Paramètres de coupe indicatifs

## Empfohlene Schnittwerte

## Standard machining data

## CUT 22

|                                                                   |                                                                                                                   |       | Acier<br>Stahl<br>Steel                                      |           |                                                                       |           |                                                                |           | Inox<br>Rostfreistahl<br>Stainless steel                                                      |           |
|-------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|-------|--------------------------------------------------------------|-----------|-----------------------------------------------------------------------|-----------|----------------------------------------------------------------|-----------|-----------------------------------------------------------------------------------------------|-----------|
|                                                                   |                                                                                                                   |       | Acier de décolletage<br>Automatenstahl<br>Free-cutting steel |           | Acier faiblement allié<br>Leicht legierter Stahl<br>Low alloyed steel |           | Acier fortement allié<br>Legierter Stahl<br>High alloyed steel |           | Austénitique et martensitique<br>Austenitisch und martensitisch<br>Austenitic and martensitic |           |
|                                                                   |                                                                                                                   |       | VC (m/min)                                                   | F (mm/U)  | VC (m/min)                                                            | F (mm/U)  | VC (m/min)                                                     | F (mm/U)  | VC (m/min)                                                                                    | F (mm/U)  |
| <b>Avance standard</b><br>Standard Vorschub<br>Standard feed rate | CUT22-UN-002<br>CUT22-UR-802<br> | TiAlN | 90-140                                                       | 0.04-0.08 | 60-120                                                                | 0.04-0.08 | 50-100                                                         | 0.04-0.08 | 50-120                                                                                        | 0.04-0.08 |
|                                                                   |                                                                                                                   | Tmax  | 100-170                                                      | 0.04-0.08 | 70-150                                                                | 0.04-0.08 | 60-120                                                         | 0.04-0.08 | 60-150                                                                                        | 0.04-0.08 |
|                                                                   |                                                                                                                   | Zmax  | 80-130*                                                      | 0.04-0.10 | 50-110*                                                               | 0.04-0.10 | 50-90*                                                         | 0.04-0.08 | 50-120*                                                                                       | 0.04-0.10 |
|                                                                   |                                                                                                                   | HTA   | 70-120                                                       | 0.04-0.06 | 60-100                                                                | 0.04-0.06 | 50-90                                                          | 0.04-0.06 | 50-100                                                                                        | 0.04-0.06 |
|                                                                   |                                                                                                                   | AS    |                                                              |           |                                                                       |           |                                                                |           |                                                                                               |           |
|                                                                   | CUT22-PN-002<br>                 | TiAlN | 90-140                                                       | 0.04-0.10 | 60-120                                                                | 0.04-0.08 | 50-100                                                         | 0.04-0.08 |                                                                                               |           |
|                                                                   |                                                                                                                   | Tmax  | 100-170                                                      | 0.04-0.10 | 70-150                                                                | 0.04-0.10 | 60-120                                                         | 0.04-0.10 |                                                                                               |           |
|                                                                   | CUT22-PNW-002<br>                | N     |                                                              |           |                                                                       |           |                                                                |           |                                                                                               |           |
|                                                                   |                                                                                                                   |       |                                                              |           |                                                                       |           |                                                                |           |                                                                                               |           |
|                                                                   | CUT22-PR-002<br>                 | TiAlN | 90-140                                                       | 0.04-0.08 | 60-120                                                                | 0.04-0.08 | 50-100                                                         | 0.04-0.08 | 50-120                                                                                        | 0.04-0.08 |
|                                                                   |                                                                                                                   | Tmax  | 100-170                                                      | 0.04-0.08 | 70-150                                                                | 0.04-0.08 | 60-120                                                         | 0.04-0.08 | 60-150                                                                                        | 0.04-0.08 |
|                                                                   | CUT22-PRW-002<br>                | N     |                                                              |           |                                                                       |           |                                                                |           |                                                                                               |           |
|                                                                   |                                                                                                                   |       |                                                              |           |                                                                       |           |                                                                |           |                                                                                               |           |
|                                                                   | CUT22-TN-002<br>                 | TiAlN | 90-140                                                       | 0.08-0.18 | 60-120                                                                | 0.08-0.18 | 50-100                                                         | 0.08-0.15 | 50-120                                                                                        | 0.08-0.20 |
|                                                                   |                                                                                                                   | Tmax  | 100-170                                                      | 0.08-0.18 | 70-150                                                                | 0.08-0.18 | 60-120                                                         | 0.08-0.15 | 60-150                                                                                        | 0.08-0.20 |
|                                                                   |                                                                                                                   | Zmax  | 80-130*                                                      | 0.08-0.18 | 50-110*                                                               | 0.08-0.18 | 50-90*                                                         | 0.08-0.15 |                                                                                               |           |
|                                                                   | CUT22-GN-002<br>***<br>        | TiAlN | 90-140                                                       | 0.03-0.12 | 60-120                                                                | 0.03-0.12 | 50-100                                                         | 0.03-0.10 | 50-120                                                                                        | 0.03-0.08 |
|                                                                   |                                                                                                                   | Tmax  | 100-170                                                      | 0.03-0.12 | 70-150                                                                | 0.03-0.12 | 60-120                                                         | 0.03-0.10 | 70-120                                                                                        | 0.03-0.08 |
|                                                                   |                                                                                                                   | AS    |                                                              |           |                                                                       |           |                                                                |           |                                                                                               |           |
| <b>Avance modérée</b><br>Niedriger Vorschub<br>Low feed rate      | CUT22-UN-000F<br>              | TiAlN | 80-130                                                       | 0.02-0.05 | 50-110                                                                | 0.02-0.05 | 50-90                                                          | 0.02-0.05 | 50-80                                                                                         | 0.02-0.05 |
|                                                                   |                                                                                                                   | HTA   | 60-100                                                       | 0.01-0.04 | 50-90                                                                 | 0.01-0.04 | 50-80                                                          | 0.02-0.05 | 50-80                                                                                         | 0.02-0.05 |
|                                                                   |                                                                                                                   | AS    |                                                              |           |                                                                       |           |                                                                |           |                                                                                               |           |
|                                                                   | CUT22-UL/R-800F<br>            | TiAlN | 80-130                                                       | 0.02-0.05 | 50-110                                                                | 0.02-0.05 | 50-90                                                          | 0.02-0.05 | 50-80                                                                                         | 0.02-0.05 |
|                                                                   |                                                                                                                   | HTA   | 60-100                                                       | 0.01-0.04 | 50-90                                                                 | 0.01-0.04 | 50-80                                                          | 0.02-0.05 | 50-80                                                                                         | 0.02-0.05 |
|                                                                   |                                                                                                                   | AS    |                                                              |           |                                                                       |           |                                                                |           |                                                                                               |           |
|                                                                   | CUT22-UL/R-802F<br>            | TiAlN | 80-130                                                       | 0.02-0.05 | 50-110                                                                | 0.02-0.05 | 50-90                                                          | 0.02-0.05 | 50-80                                                                                         | 0.02-0.05 |
|                                                                   |                                                                                                                   | HTA   | 60-100                                                       | 0.01-0.04 | 50-90                                                                 | 0.01-0.04 | 50-80                                                          | 0.02-0.05 | 50-80                                                                                         | 0.02-0.05 |
|                                                                   |                                                                                                                   | AS    |                                                              |           |                                                                       |           |                                                                |           |                                                                                               |           |
|                                                                   | CUT22-UL/R-1500F<br>           | TiAlN | 80-130                                                       | 0.02-0.05 | 50-110                                                                | 0.02-0.05 | 50-90                                                          | 0.02-0.05 | 50-80                                                                                         | 0.02-0.05 |
|                                                                   |                                                                                                                   | HTA   | 60-100                                                       | 0.01-0.04 | 50-90                                                                 | 0.01-0.04 | 50-80                                                          | 0.02-0.05 | 50-80                                                                                         | 0.02-0.05 |
|                                                                   |                                                                                                                   | AS    |                                                              |           |                                                                       |           |                                                                |           |                                                                                               |           |

\* premier choix en cas de coupe interrompue

\*\* arête de coupe vive

\*\*\* géométrie fonçage-tournage (évent. tronçonnage)

\* beste Basis für unterbrochene Schnitte

\*\* scharfe Schneidkante

\*\*\* Geometrie zum einstechen und drehen (event. abstechen)

\* first choice for interrupted cut

\*\* sharp cutting edge

\*\*\* geometry for grooving and turning (event. parting off)

| [N] Alliages d'aluminium et non ferreux<br>Aluminium- und Nichteisenlegierungen<br>Aluminium and non-ferrous alloys |           |                                                                                |           |                            |           |                                                       |           | [S] Titane<br>Titan<br>Titanium |           |            |           |
|---------------------------------------------------------------------------------------------------------------------|-----------|--------------------------------------------------------------------------------|-----------|----------------------------|-----------|-------------------------------------------------------|-----------|---------------------------------|-----------|------------|-----------|
| Aluminium                                                                                                           |           | Alu silicium max. 5%<br>Aluminiumsilicium max. 5%<br>Aluminium silicon max. 5% |           | Cuivre<br>Kupfer<br>Copper |           | Laiton & bronze<br>Messing & Bronze<br>Brass & bronze |           | Gr. 1 - 3                       |           | Gr. 4 - 5  |           |
| VC (m/min)                                                                                                          | F (mm/U)  | VC (m/min)                                                                     | F (mm/U)  | VC (m/min)                 | F (mm/U)  | VC (m/min)                                            | F (mm/U)  | VC (m/min)                      | F (mm/U)  | VC (m/min) | F (mm/U)  |
| 100-250                                                                                                             | 0.03-0.10 | 100-250                                                                        | 0.03-0.10 | 100-300                    | 0.03-0.10 | 100-300                                               | 0.03-0.10 |                                 |           | 30-60      | 0.04-0.08 |
|                                                                                                                     |           |                                                                                |           |                            |           |                                                       |           |                                 |           |            |           |
| 100-300                                                                                                             | 0.04-0.10 | 100-250                                                                        | 0.04-0.10 | 100-300                    | 0.03-0.08 | 150-300                                               | 0.03-0.08 |                                 |           | 30-60      | 0.04-0.08 |
| 150-300                                                                                                             | 0.04-0.15 | 100-300                                                                        | 0.04-0.10 | 100-300                    | 0.04-0.10 | 150-300                                               | 0.02-0.08 | 30-60                           | 0.04-0.08 | 30-60      | 0.04-0.08 |
|                                                                                                                     |           |                                                                                |           |                            |           | 150-300                                               | 0.03-0.10 |                                 |           |            |           |
|                                                                                                                     |           |                                                                                |           |                            |           |                                                       |           |                                 |           |            |           |
|                                                                                                                     |           |                                                                                |           |                            |           | 100-500                                               | 0.02-0.10 |                                 |           |            |           |
|                                                                                                                     |           |                                                                                |           |                            |           | 150-300                                               | 0.03-0.10 |                                 |           |            |           |
|                                                                                                                     |           |                                                                                |           |                            |           |                                                       |           |                                 |           |            |           |
|                                                                                                                     |           |                                                                                |           |                            |           | 100-500                                               | 0.02-0.10 |                                 |           |            |           |
|                                                                                                                     |           |                                                                                |           |                            |           | 150-300                                               | 0.05-0.20 |                                 |           |            |           |
|                                                                                                                     |           |                                                                                |           |                            |           |                                                       |           |                                 |           |            |           |
| 100-300                                                                                                             | 0.03-0.12 | 100-200                                                                        | 0.03-0.10 | 100-200                    | 0.03-0.10 | 100-300                                               | 0.03-0.12 |                                 |           | 30-60      | 0.04-0.08 |
|                                                                                                                     |           |                                                                                |           |                            |           | 100-300                                               | 0.03-0.12 |                                 |           |            |           |
| 100-300                                                                                                             | 0.03-0.12 | 100-200                                                                        | 0.03-0.10 | 100-200                    | 0.03-0.10 | 100-300                                               | 0.03-0.12 | 30-60                           | 0.04-0.08 | 30-60      | 0.04-0.08 |
|                                                                                                                     |           |                                                                                |           |                            |           |                                                       |           |                                 |           |            |           |
| 100-300                                                                                                             | 0.02-0.05 | 100-250                                                                        | 0.01-0.04 | 100-250                    | 0.01-0.04 | 100-300                                               | 0.02-0.05 |                                 |           | 30-60      | 0.01-0.04 |
| 100-300                                                                                                             | 0.02-0.05 | 100-250                                                                        | 0.02-0.05 | 100-250                    | 0.02-0.05 | 100-300                                               | 0.02-0.05 |                                 |           | 30-60      | 0.02-0.06 |
| 100-300                                                                                                             | 0.02-0.05 | 100-250                                                                        | 0.02-0.05 | 100-250                    | 0.02-0.05 | 100-300                                               | 0.02-0.05 | 30-60                           | 0.02-0.06 | 30-60      | 0.02-0.06 |
| 100-300                                                                                                             | 0.02-0.05 | 100-250                                                                        | 0.01-0.04 | 100-250                    | 0.01-0.04 | 100-300                                               | 0.02-0.05 |                                 |           | 30-60      | 0.01-0.04 |
| 100-300                                                                                                             | 0.02-0.05 | 100-250                                                                        | 0.02-0.05 | 100-250                    | 0.02-0.05 | 100-300                                               | 0.02-0.05 |                                 |           | 30-60      | 0.02-0.06 |
| 100-300                                                                                                             | 0.02-0.05 | 100-250                                                                        | 0.02-0.05 | 100-250                    | 0.02-0.05 | 100-300                                               | 0.02-0.05 | 30-60                           | 0.02-0.06 | 30-60      | 0.02-0.06 |
| 100-300                                                                                                             | 0.02-0.05 | 100-250                                                                        | 0.01-0.04 | 100-250                    | 0.01-0.04 | 100-300                                               | 0.02-0.05 |                                 |           | 30-60      | 0.01-0.04 |
| 100-300                                                                                                             | 0.02-0.05 | 100-250                                                                        | 0.02-0.05 | 100-250                    | 0.02-0.05 | 100-300                                               | 0.02-0.05 |                                 |           | 30-60      | 0.02-0.06 |
| 100-300                                                                                                             | 0.02-0.05 | 100-250                                                                        | 0.02-0.05 | 100-250                    | 0.02-0.05 | 100-300                                               | 0.02-0.05 | 30-60                           | 0.02-0.06 | 30-60      | 0.02-0.06 |
| 100-300                                                                                                             | 0.02-0.05 | 100-250                                                                        | 0.01-0.04 | 100-250                    | 0.01-0.04 | 100-300                                               | 0.02-0.05 |                                 |           | 30-60      | 0.01-0.04 |
| 100-300                                                                                                             | 0.02-0.05 | 100-250                                                                        | 0.02-0.05 | 100-250                    | 0.02-0.05 | 100-300                                               | 0.02-0.05 |                                 |           | 30-60      | 0.02-0.06 |
| 100-300                                                                                                             | 0.02-0.05 | 100-250                                                                        | 0.02-0.05 | 100-250                    | 0.02-0.05 | 100-300                                               | 0.02-0.05 | 30-60                           | 0.02-0.06 | 30-60      | 0.02-0.06 |

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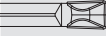
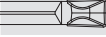
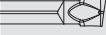
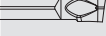
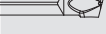
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## Paramètres de coupe indicatifs

## Empfohlene Schnittwerte

## Standard machining data

## CUT 31

| CUT 31                                                     |                                                                                     |                     | P                                                            |          |                                                                       |          |                                                                |          | M                                                                                             |          |           |
|------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------|--------------------------------------------------------------|----------|-----------------------------------------------------------------------|----------|----------------------------------------------------------------|----------|-----------------------------------------------------------------------------------------------|----------|-----------|
|                                                            |                                                                                     |                     | Acier<br>Stahl<br>Steel                                      |          |                                                                       |          |                                                                |          | Inox<br>Rostfreistahl<br>Stainless steel                                                      |          |           |
|                                                            |                                                                                     |                     | Acier de décolletage<br>Automatenstahl<br>Free-cutting steel |          | Acier faiblement allié<br>Leicht legierter Stahl<br>Low alloyed steel |          | Acier fortement allié<br>Legierter Stahl<br>High alloyed steel |          | Austénitique et martensitique<br>Austenitisch und martensitisch<br>Austenitic and martensitic |          |           |
|                                                            |                                                                                     |                     | VC (m/min)                                                   | F (mm/U) | VC (m/min)                                                            | F (mm/U) | VC (m/min)                                                     | F (mm/U) | VC (m/min)                                                                                    | F (mm/U) |           |
| Avance standard<br>Standard Vorschub<br>Standard feed rate |    | CUT31-UN-002        | TiAlN                                                        | 90-140   | 0.04-0.08                                                             | 60-120   | 0.04-0.08                                                      | 50-100   | 0.04-0.08                                                                                     | 50-120   | 0.04-0.10 |
|                                                            |                                                                                     |                     | Tmax                                                         | 100-170  | 0.04-0.08                                                             | 70-150   | 0.04-0.08                                                      | 60-120   | 0.04-0.08                                                                                     | 60-150   | 0.04-0.10 |
|                                                            |                                                                                     |                     | Zmax                                                         | 80-130*  | 0.04-0.10                                                             | 50-110*  | 0.04-0.10                                                      | 50-90*   | 0.04-0.08                                                                                     | 50-120*  | 0.04-0.10 |
|                                                            |                                                                                     |                     | HTA                                                          | 70-120   | 0.04-0.06                                                             | 60-100   | 0.04-0.06                                                      | 50-90    | 0.04-0.06                                                                                     | 50-100   | 0.04-0.06 |
|                                                            |                                                                                     |                     | AS                                                           |          |                                                                       |          |                                                                |          |                                                                                               |          |           |
|                                                            |    | CUT31-PN-002        | TiAlN                                                        | 90-140   | 0.04-0.10                                                             | 60-120   | 0.04-0.08                                                      | 50-100   | 0.04-0.08                                                                                     |          |           |
|                                                            |                                                                                     |                     | Tmax                                                         | 100-170  | 0.04-0.10                                                             | 70-150   | 0.04-0.10                                                      | 60-120   | 0.04-0.10                                                                                     |          |           |
|                                                            |    | CUT31-PNW-002       | N                                                            |          |                                                                       |          |                                                                |          |                                                                                               |          |           |
|                                                            |    | CUT31-PR-802        | TiAlN                                                        | 90-140   | 0.04-0.08                                                             | 60-120   | 0.04-0.08                                                      | 50-100   | 0.04-0.08                                                                                     | 50-120   | 0.04-0.08 |
|                                                            |                                                                                     |                     | Tmax                                                         | 100-170  | 0.04-0.08                                                             | 70-150   | 0.04-0.08                                                      | 60-120   | 0.04-0.08                                                                                     | 60-150   | 0.04-0.08 |
|                                                            |    | CUT31-PRW-802       | N                                                            |          |                                                                       |          |                                                                |          |                                                                                               |          |           |
|                                                            |    | CUT31-TN-002        | TiAlN                                                        | 90-140   | 0.08-0.20                                                             | 60-120   | 0.08-0.20                                                      | 50-100   | 0.08-0.15                                                                                     | 50-120   | 0.08-0.20 |
|                                                            |                                                                                     |                     | Tmax                                                         | 100-170  | 0.08-0.20                                                             | 70-150   | 0.08-0.20                                                      | 60-120   | 0.08-0.15                                                                                     | 60-150   | 0.08-0.20 |
|                                                            |                                                                                     |                     | Zmax                                                         | 80-130*  | 0.08-0.20                                                             | 50-110*  | 0.08-0.20                                                      | 50-90*   | 0.08-0.15                                                                                     |          |           |
|                                                            |  | CUT31-GN-002<br>*** | TiAlN                                                        | 90-140   | 0.04-0.15                                                             | 60-120   | 0.04-0.15                                                      | 50-100   | 0.04-0.10                                                                                     | 50-120   | 0.04-0.10 |
|                                                            |                                                                                     |                     | Tmax                                                         | 100-170  | 0.04-0.15                                                             | 70-150   | 0.04-0.15                                                      | 60-120   | 0.04-0.10                                                                                     | 70-120   | 0.04-0.10 |
|                                                            |                                                                                     |                     | AS                                                           |          |                                                                       |          |                                                                |          |                                                                                               |          |           |
| Avance modérée<br>Niedriger Vorschub<br>Low feed rate      |  | CUT31-UN-000F       | TiAlN                                                        | 80-130   | 0.02-0.05                                                             | 50-110   | 0.02-0.05                                                      | 50-90    | 0.02-0.05                                                                                     | 50-80    | 0.02-0.05 |
|                                                            |                                                                                     |                     | HTA                                                          | 60-100   | 0.01-0.04                                                             | 50-90    | 0.01-0.04                                                      | 50-80    | 0.02-0.05                                                                                     | 50-80    | 0.02-0.05 |
|                                                            |                                                                                     |                     | AS                                                           |          |                                                                       |          |                                                                |          |                                                                                               |          |           |
|                                                            |  | CUT31-UL/R-800F     | TiAlN                                                        | 80-130   | 0.02-0.05                                                             | 50-110   | 0.02-0.05                                                      | 50-90    | 0.02-0.05                                                                                     | 50-80    | 0.02-0.05 |
|                                                            |                                                                                     |                     | HTA                                                          | 60-100   | 0.01-0.04                                                             | 50-90    | 0.01-0.04                                                      | 50-80    | 0.02-0.05                                                                                     | 50-80    | 0.02-0.05 |
|                                                            |                                                                                     |                     | AS                                                           |          |                                                                       |          |                                                                |          |                                                                                               |          |           |
|                                                            |  | CUT31-UL/R-802F     | TiAlN                                                        | 80-130   | 0.02-0.05                                                             | 50-110   | 0.02-0.05                                                      | 50-90    | 0.02-0.05                                                                                     | 50-80    | 0.02-0.05 |
|                                                            |                                                                                     |                     | HTA                                                          | 60-100   | 0.01-0.04                                                             | 50-90    | 0.01-0.04                                                      | 50-80    | 0.02-0.05                                                                                     | 50-80    | 0.02-0.05 |
|                                                            |                                                                                     |                     | AS                                                           |          |                                                                       |          |                                                                |          |                                                                                               |          |           |
|                                                            |  | CUT31-UL/R-1500F    | TiAlN                                                        | 80-130   | 0.02-0.05                                                             | 50-110   | 0.02-0.05                                                      | 50-90    | 0.02-0.05                                                                                     | 50-80    | 0.02-0.05 |
|                                                            |                                                                                     |                     | HTA                                                          | 60-100   | 0.01-0.04                                                             | 50-90    | 0.01-0.04                                                      | 50-80    | 0.02-0.05                                                                                     | 50-80    | 0.02-0.05 |
|                                                            |                                                                                     |                     | AS                                                           |          |                                                                       |          |                                                                |          |                                                                                               |          |           |

\* premier choix en cas  
de coupe interrompue

\*\* arête de coupe vive

\*\*\* géométrie fonçage-tournage  
(évent. tronçonnage)

\* beste Basis für  
unterbrochene Schnitte

\*\* scharfe Schneidkante

\*\*\* Geometrie zum einstechen  
und drehen (event. abstechen)

\* first choice  
for interrupted cut

\*\* sharp cutting edge

\*\*\* geometry for grooving and  
turning (event. parting off)

## CUT 31

| [N] Alliages d'aluminium et non ferreux<br>Aluminium- und Nichteisenlegierungen<br>Aluminium and non-ferrous alloys |           |                                                                                |           |                            |           |                                                       |           | [S] Titane<br>Titan<br>Titanium |           |            |           |
|---------------------------------------------------------------------------------------------------------------------|-----------|--------------------------------------------------------------------------------|-----------|----------------------------|-----------|-------------------------------------------------------|-----------|---------------------------------|-----------|------------|-----------|
| Aluminium                                                                                                           |           | Alu silicium max. 5%<br>Aluminiumsilicium max. 5%<br>Aluminium silicon max. 5% |           | Cuivre<br>Kupfer<br>Copper |           | Laiton & bronze<br>Messing & Bronze<br>Brass & bronze |           | Gr. 1 - 3                       |           | Gr. 4 - 5  |           |
| VC (m/min)                                                                                                          | F (mm/U)  | VC (m/min)                                                                     | F (mm/U)  | VC (m/min)                 | F (mm/U)  | VC (m/min)                                            | F (mm/U)  | VC (m/min)                      | F (mm/U)  | VC (m/min) | F (mm/U)  |
| 100-250                                                                                                             | 0.03-0.10 | 100-250                                                                        | 0.03-0.10 | 100-300                    | 0.03-0.10 | 100-300                                               | 0.03-0.10 |                                 |           | 30-60      | 0.04-0.08 |
|                                                                                                                     |           |                                                                                |           |                            |           |                                                       |           |                                 |           |            |           |
| 100-300                                                                                                             | 0.04-0.10 | 100-250                                                                        | 0.04-0.10 | 100-300                    | 0.03-0.08 | 150-300                                               | 0.03-0.08 |                                 |           | 30-60      | 0.04-0.08 |
| 150-300                                                                                                             | 0.04-0.15 | 100-300                                                                        | 0.04-0.10 | 100-300                    | 0.04-0.10 | 150-300                                               | 0.02-0.08 | 30-60                           | 0.04-0.08 | 30-60      | 0.04-0.08 |
|                                                                                                                     |           |                                                                                |           |                            |           | 150-300                                               | 0.03-0.10 |                                 |           |            |           |
|                                                                                                                     |           |                                                                                |           |                            |           |                                                       |           |                                 |           |            |           |
|                                                                                                                     |           |                                                                                |           |                            |           | 100-500                                               | 0.02-0.15 |                                 |           |            |           |
|                                                                                                                     |           |                                                                                |           |                            |           | 150-300                                               | 0.03-0.10 |                                 |           |            |           |
|                                                                                                                     |           |                                                                                |           |                            |           |                                                       |           |                                 |           |            |           |
|                                                                                                                     |           |                                                                                |           |                            |           | 100-500                                               | 0.02-0.15 |                                 |           |            |           |
|                                                                                                                     |           |                                                                                |           |                            |           | 150-300                                               | 0.05-0.20 |                                 |           |            |           |
|                                                                                                                     |           |                                                                                |           |                            |           |                                                       |           |                                 |           |            |           |
| 100-300                                                                                                             | 0.04-0.15 | 100-200                                                                        | 0.04-0.10 | 100-200                    | 0.04-0.10 | 100-300                                               | 0.04-0.15 |                                 |           | 30-60      | 0.04-0.08 |
|                                                                                                                     |           |                                                                                |           |                            |           | 100-300                                               | 0.04-0.15 |                                 |           |            |           |
| 100-300                                                                                                             | 0.04-0.15 | 100-200                                                                        | 0.04-0.10 | 100-200                    | 0.04-0.10 | 100-300                                               | 0.04-0.15 | 30-60                           | 0.04-0.08 | 30-60      | 0.04-0.08 |
|                                                                                                                     |           |                                                                                |           |                            |           |                                                       |           |                                 |           |            |           |
| 100-300                                                                                                             | 0.02-0.05 | 100-250                                                                        | 0.01-0.04 | 100-250                    | 0.01-0.04 | 100-300                                               | 0.02-0.05 |                                 |           | 30-60      | 0.01-0.04 |
| 100-300                                                                                                             | 0.02-0.05 | 100-250                                                                        | 0.02-0.05 | 100-250                    | 0.02-0.05 | 100-300                                               | 0.02-0.05 |                                 |           | 30-60      | 0.02-0.06 |
| 100-300                                                                                                             | 0.02-0.05 | 100-250                                                                        | 0.02-0.05 | 100-250                    | 0.02-0.05 | 100-300                                               | 0.02-0.05 | 30-60                           | 0.02-0.06 | 30-60      | 0.02-0.06 |
| 100-300                                                                                                             | 0.02-0.05 | 100-250                                                                        | 0.01-0.04 | 100-250                    | 0.01-0.04 | 100-300                                               | 0.02-0.05 |                                 |           | 30-60      | 0.01-0.04 |
| 100-300                                                                                                             | 0.02-0.05 | 100-250                                                                        | 0.02-0.05 | 100-250                    | 0.02-0.05 | 100-300                                               | 0.02-0.05 |                                 |           | 30-60      | 0.02-0.06 |
| 100-300                                                                                                             | 0.02-0.05 | 100-250                                                                        | 0.02-0.05 | 100-250                    | 0.02-0.05 | 100-300                                               | 0.02-0.05 | 30-60                           | 0.02-0.06 | 30-60      | 0.02-0.06 |
| 100-300                                                                                                             | 0.02-0.05 | 100-250                                                                        | 0.01-0.04 | 100-250                    | 0.01-0.04 | 100-300                                               | 0.02-0.05 |                                 |           | 30-60      | 0.01-0.04 |
| 100-300                                                                                                             | 0.02-0.05 | 100-250                                                                        | 0.02-0.05 | 100-250                    | 0.02-0.05 | 100-300                                               | 0.02-0.05 |                                 |           | 30-60      | 0.02-0.06 |
| 100-300                                                                                                             | 0.02-0.05 | 100-250                                                                        | 0.02-0.05 | 100-250                    | 0.02-0.05 | 100-300                                               | 0.02-0.05 | 30-60                           | 0.02-0.06 | 30-60      | 0.02-0.06 |
| 100-300                                                                                                             | 0.02-0.05 | 100-250                                                                        | 0.01-0.04 | 100-250                    | 0.01-0.04 | 100-300                                               | 0.02-0.05 |                                 |           | 30-60      | 0.01-0.04 |
| 100-300                                                                                                             | 0.02-0.05 | 100-250                                                                        | 0.02-0.05 | 100-250                    | 0.02-0.05 | 100-300                                               | 0.02-0.05 |                                 |           | 30-60      | 0.02-0.06 |
| 100-300                                                                                                             | 0.02-0.05 | 100-250                                                                        | 0.02-0.05 | 100-250                    | 0.02-0.05 | 100-300                                               | 0.02-0.05 | 30-60                           | 0.02-0.06 | 30-60      | 0.02-0.06 |

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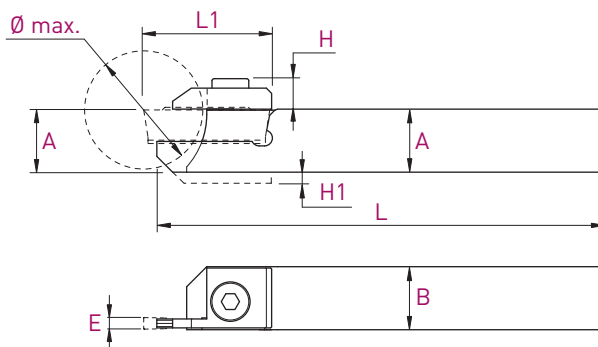
Porte-outils

Halter

Holders

Ø max 34 mm

H Series



| Plaquettes<br>WSP<br>Inserts               | A x B       | L   | Ø<br>max. | L1   | H   | H1 | <div> <div>L</div> <div>R</div> </div> |                 |
|--------------------------------------------|-------------|-----|-----------|------|-----|----|----------------------------------------|-----------------|
|                                            |             |     |           |      |     |    | Art. N°                                | Art. N°         |
| <b>E</b><br>1.6 mm<br><b>Type</b><br>CUT16 | 8 x 10      | 115 | 16        | 19.5 | 6.2 | 2  | CUT16-H0810L                           | CUT16-H0810R    |
|                                            | 10 x 10     | 115 | 16        | 19.5 | 6.2 | -  | CUT16-H1010L                           | CUT16-H1010R    |
|                                            | 12 x 12     | 130 | 16        | 19.5 | 6.2 | -  | CUT16-H1212L                           | CUT16-H1212R    |
|                                            | 12 x 12     | 90  | 16        | 19.5 | 6.2 | -  | CUT16-H1212L-90                        | CUT16-H1212R-90 |
|                                            | 12.7 x 12.7 | 130 | 16        | 19.5 | 6.2 | -  | CUT16-H127127L                         | CUT16-H127127R  |
|                                            | 16 x 16     | 130 | 16        | 19.5 | 6.2 | -  | CUT16-H1616L                           | CUT16-H1616R    |
| <b>E</b><br>2.2 mm<br><b>Type</b><br>CUT22 | 20 x 20     | 120 | 16        | 19.5 | 6.2 | -  | CUT16-H2020L                           | CUT16-H2020R    |
|                                            | 10 x 12     | 115 | 20        | 24   | 6.4 | -  | CUT22-H1012L                           | CUT22-H1012R    |
|                                            | 12 x 12     | 130 | 20        | 24   | 6.4 | -  | CUT22-H1212L                           | CUT22-H1212R    |
|                                            | 12 x 12     | 90  | 20        | 24   | 6.4 | -  | CUT22-H1212L-90                        | CUT22-H1212R-90 |
|                                            | 12.7 x 12.7 | 130 | 20        | 24   | 6.4 | -  | CUT22-H127127L                         | CUT22-H127127R  |
|                                            | 16 x 16     | 130 | 20        | 24   | 6.4 | -  | CUT22-H1616L                           | CUT22-H1616R    |
| <b>E</b><br>3.1 mm<br><b>Type</b><br>CUT31 | 20 x 20     | 120 | 20        | 24   | 6.4 | -  | CUT22-H2020L                           | CUT22-H2020R    |
|                                            | 16 x 16     | 130 | 34        | 35   | 7.8 | -  | CUT31-H1616L                           | CUT31-H1616R    |
|                                            | 20 x 20     | 120 | 34        | 35   | 7.8 | -  | CUT31-H2020L                           | CUT31-H2020R    |
|                                            | 25 x 25     | 140 | 34        | 35   | 7.8 | -  | CUT31-H2525L                           | CUT31-H2525R    |

| Pièces de rechange<br>Ersatzteile<br>Spare parts | L          | R          | Serrage<br>Anzug<br>Torque |
|--------------------------------------------------|------------|------------|----------------------------|
|                                                  | Art. N°    | Art. N°    |                            |
| CUT 16                                           | CUT16L-SET | CUT16R-SET | V-M4X10-BN7<br>3.5 Nm      |
| CUT 22                                           | CUT22L-SET | CUT22R-SET | V-M4X10-BN7<br>3.5 Nm      |
| CUT 31                                           | CUT31L-SET | CUT31R-SET | V-M5X10-BN7<br>4.5 Nm      |

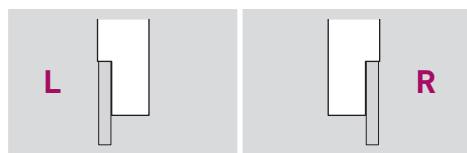
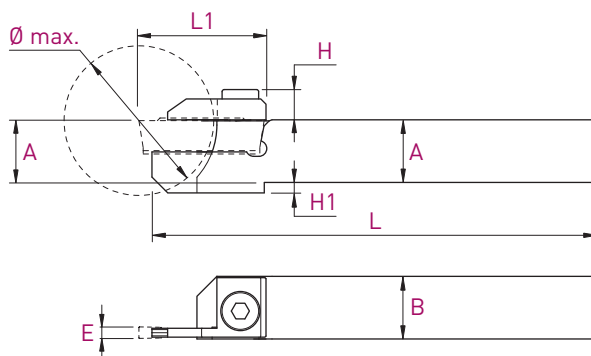
Porte-outils

Halter

Holders

Ø max 42 mm

HX Series



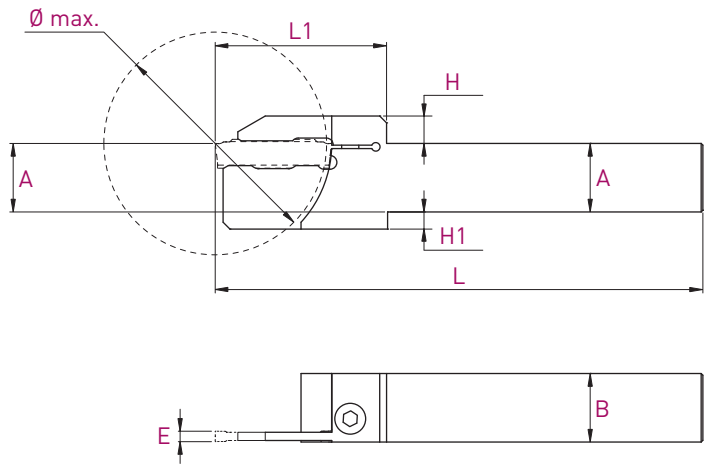
| Plaquettes<br>WSP<br>Inserts               | A x B       | L   | Ø<br>max. | L1 | H   | H1 | Art. N°          | Art. N°          |
|--------------------------------------------|-------------|-----|-----------|----|-----|----|------------------|------------------|
| <b>E</b><br>1.6 mm<br><b>Type</b><br>CUT16 | 10 x 12     | 115 | 20        | 21 | 6.2 | 2  | CUT16-H1012LX    | CUT16-H1012RX    |
|                                            | 12 x 12     | 130 | 20        | 21 | 6.2 | -  | CUT16-H1212LX    | CUT16-H1212RX    |
|                                            | 12 x 12     | 90  | 20        | 21 | 6.2 | -  | CUT16-H1212LX-90 | CUT16-H1212RX-90 |
|                                            | 12.7 x 12.7 | 130 | 20        | 21 | 6.2 | -  | CUT16-H127127LX  | CUT16-H127127RX  |
|                                            | 16 x 16     | 130 | 20        | 21 | 6.2 | -  | CUT16-H1616LX    | CUT16-H1616RX    |
|                                            | 20 x 20     | 120 | 20        | 21 | 6.2 | -  | CUT16-H2020LX    | CUT16-H2020RX    |
| <b>E</b><br>2.2 mm<br><b>Type</b><br>CUT22 | 10 x 12     | 115 | 26        | 25 | 6.4 | 4  | CUT22-H1012LX    | CUT22-H1012RX    |
|                                            | 12 x 12     | 130 | 26        | 25 | 6.4 | 2  | CUT22-H1212LX    | CUT22-H1212RX    |
|                                            | 12 x 12     | 90  | 26        | 25 | 6.4 | 2  | CUT22-H1212LX-90 | CUT22-H1212RX-90 |
|                                            | 12.7 x 12.7 | 130 | 26        | 25 | 6.4 | -  | CUT22-H127127LX  | CUT22-H127127RX  |
|                                            | 16 x 16     | 130 | 26        | 25 | 6.4 | -  | CUT22-H1616LX    | CUT22-H1616RX    |
|                                            | 20 x 20     | 120 | 26        | 25 | 6.4 | -  | CUT22-H2020LX    | CUT22-H2020RX    |
|                                            | 25 x 25     | 140 | 26        | 25 | 6.4 | -  | CUT22-H2525LX    | CUT22-H2525RX    |
| <b>E</b><br>3.1 mm<br><b>Type</b><br>CUT31 | 16 x 16     | 120 | 42        | 37 | 7.8 | 4  | CUT31-H1616LX    | CUT31-H1616RX    |
|                                            | 20 x 20     | 120 | 42        | 37 | 7.8 | -  | CUT31-H2020LX    | CUT31-H2020RX    |
|                                            | 25 x 25     | 140 | 42        | 37 | 7.8 | -  | CUT31-H2525LX    | CUT31-H2525RX    |

| Pièces de rechange<br>Ersatzteile<br>Spare parts | L           | R           |             | Serrage<br>Anzug<br>Torque |
|--------------------------------------------------|-------------|-------------|-------------|----------------------------|
|                                                  | Art. N°     | Art. N°     | Art. N°     |                            |
| CUT 16                                           | CUT16LX-SET | CUT16RX-SET | V-M4X10-BN7 | 3.5 Nm                     |
| CUT 22                                           | CUT22LX-SET | CUT22RX-SET | V-M4X10-BN7 | 3.5 Nm                     |
| CUT 31                                           | CUT31LX-SET | CUT31RX-SET | V-M5X10-BN7 | 4.5 Nm                     |

Porte-outils  
Halter  
Holders

Ø max 65 mm

HZ Series



| Plaquettes<br>WSP<br>Inserts               | A x B   | L   | Ø<br>max. | L1 | H | H1 | <div><div>L</div><div>R</div></div> |                   |
|--------------------------------------------|---------|-----|-----------|----|---|----|-------------------------------------|-------------------|
|                                            |         |     |           |    |   |    | Art. N°                             | Art. N°           |
| <b>E</b><br>2.2 mm<br><b>Type</b><br>CUT22 | 16 x 16 | 130 | 32        | 30 | 7 | -  | CUT22-H1616LZ-D32                   | CUT22-H1616RZ-D32 |
|                                            | 20 x 20 | 130 | 32        | 30 | 7 | -  | CUT22-H2020LZ-D32                   | CUT22-H2020RZ-D32 |
|                                            | 16 x 16 | 130 | 42        | 35 | 7 | 4  | CUT22-H1616LZ-D42                   | CUT22-H1616RZ-D42 |
|                                            | 20 x 20 | 130 | 42        | 35 | 7 | -  | CUT22-H2020LZ-D42                   | CUT22-H2020RZ-D42 |
| <b>E</b><br>3.1 mm<br><b>Type</b><br>CUT31 | 20 x 20 | 140 | 52        | 44 | 8 | 5  | CUT31-H2020LZ-D52                   | CUT31-H2020RZ-D52 |
|                                            | 25 x 25 | 140 | 52        | 44 | 8 | -  | CUT31-H2525LZ-D52                   | CUT31-H2525RZ-D52 |
|                                            | 20 x 20 | 140 | 65        | 50 | 8 | 5  | CUT31-H2020LZ-D65                   | CUT31-H2020RZ-D65 |
|                                            | 25 x 25 | 140 | 65        | 50 | 8 | -  | CUT31-H2525LZ-D65                   | CUT31-H2525RZ-D65 |

| Pièces de rechange<br>Ersatzteile<br>Spare parts |  | Serrage<br>Anzug<br>Torque |
|--------------------------------------------------|-------------------------------------------------------------------------------------|----------------------------|
|                                                  | Art. N°                                                                             |                            |
| CUT 22                                           | V-M4X10-BN7                                                                         | 3.5 Nm                     |
| CUT 31                                           | V-M5X10-BN7                                                                         | 4.5 Nm                     |

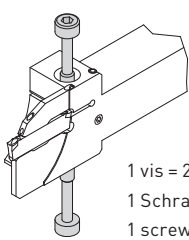
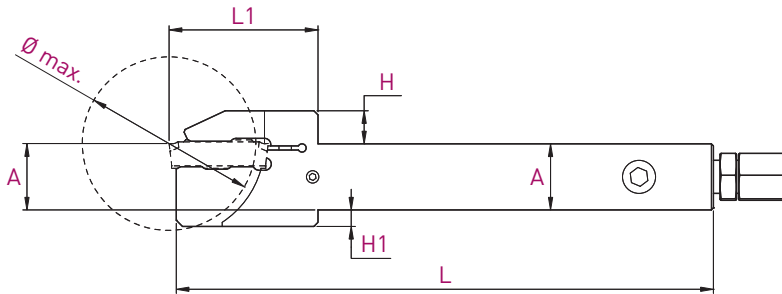


Porte-outils avec arrosage intégré

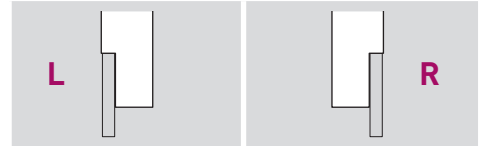
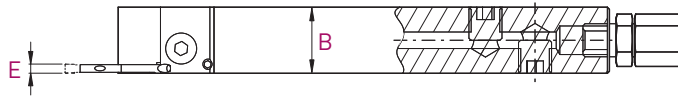
Halter mit integrierter Kühlmittelzufuhr

Holders with integrated coolant supply

HZ-JET Series



1 vis = 2 possibilités de serrage  
1 Schraube = 2 Spannmöglichkeiten  
1 screw = 2 clamp possibilities

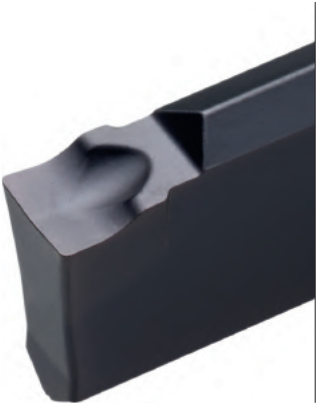
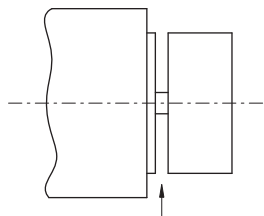
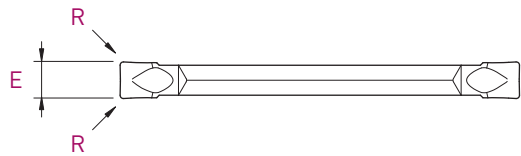
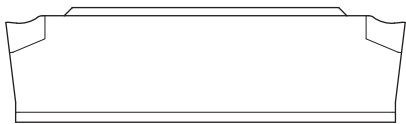


| Plaquettes<br>WSP<br>Inserts | A x B   | L   | Ø<br>max. | L1 | H | H1 | Art. N°             | Art. N°             |
|------------------------------|---------|-----|-----------|----|---|----|---------------------|---------------------|
| <b>E</b><br>2.2 mm           | 16 x 16 | 130 | 42        | 36 | 8 | 4  | CUT22-H1616LZ-JET42 | CUT22-H1616RZ-JET42 |
| <b>Type</b><br>CUT22         | 20 x 20 | 130 | 42        | 36 | 8 | -  | CUT22-H2020LZ-JET42 | CUT22-H2020RZ-JET42 |
| <b>E</b><br>3.1 mm           | 16 x 16 | 140 | 65        | 49 | 9 | 9  | CUT31-H1616LZ-JET65 | CUT31-H1616RZ-JET65 |
| <b>Type</b><br>CUT31         | 20 x 20 | 140 | 65        | 51 | 9 | 5  | CUT31-H2020LZ-JET65 | CUT31-H2020RZ-JET65 |
|                              | 25 x 25 | 140 | 65        | 51 | 9 | -  | CUT31-H2525LZ-JET65 | CUT31-H2525RZ-JET65 |

| Pièces de rechange<br>Ersatzteile<br>Spare parts | Art. N°     | Serrage<br>Anzug<br>Torque | Art. N°   | Art. N° |
|--------------------------------------------------|-------------|----------------------------|-----------|---------|
| CUT 22                                           | V-M4X22-CUT | 3.5 Nm                     | J-M8X1-D6 | JB-M8X1 |
| CUT 31                                           | V-M5X25-CUT | 4.5 Nm                     | J-M8X1-D6 | JB-M8X1 |

Plaquettes de tronçonnage  
Abstechwendeplatten  
Cut off inserts

UN Series



UN



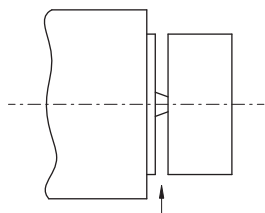
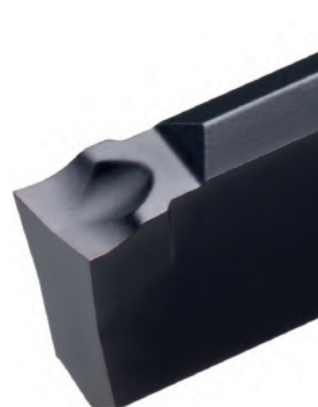
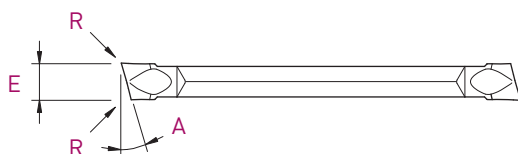
| Type  | E ±0.1 | R    | Art. N°       | TiAlN | Tmax | Zmax | HTA | AS |
|-------|--------|------|---------------|-------|------|------|-----|----|
| CUT16 | 1.6    | 0.02 | CUT16-UN-000F | ■     |      |      | ■   | ■  |
|       | 1.6    | 0.10 | CUT16-UN-001  | ■     | ■    | ■    | ■   | ■  |
| CUT22 | 2.2    | 0.02 | CUT22-UN-000F | ■     |      |      | ■   | ■  |
|       | 2.2    | 0.20 | CUT22-UN-002  | ■     | ■    | ■    | ■   | ■  |
| CUT31 | 3.1    | 0.02 | CUT31-UN-000F | ■     |      |      | ■   | ■  |
|       | 3.1    | 0.20 | CUT31-UN-002  | ■     | ■    | ■    | ■   | ■  |

Plaquettes de tronçonnage

Abstechwendeplatten

Cut off inserts

UL-UR Series



UL



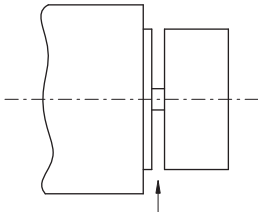
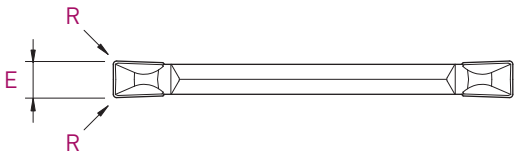
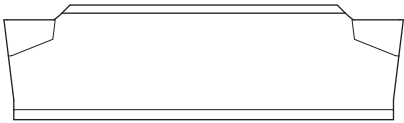
UR



| Type  | E $\pm 0.1$ | A   | R    | Art. N°        | TiAlN | HTA | AS | Art. N°        | TiAlN | Tmax | Zmax | HTA | AS |
|-------|-------------|-----|------|----------------|-------|-----|----|----------------|-------|------|------|-----|----|
| CUT16 | 1.6         | 8°  | 0.02 | CUT16-UL-800F  | ■     | ■   | ■  | CUT16-UR-800F  | ■     |      |      | ■   | ■  |
|       | 1.6         | 15° | 0.02 | CUT16-UL-1500F | ■     | ■   | ■  | CUT16-UR-1500F | ■     |      |      | ■   | ■  |
| CUT22 | 2.2         | 8°  | 0.02 | CUT22-UL-800F  | ■     | ■   | ■  | CUT22-UR-800F  | ■     |      |      | ■   | ■  |
|       | 2.2         | 8°  | 0.20 | -              |       |     |    | CUT22-UR-802   |       | ■    | ■    |     |    |
|       | 2.2         | 8°  | 0.20 | CUT22-UL-802F  | ■     | ■   | ■  | CUT22-UR-802F  | ■     |      |      | ■   | ■  |
|       | 2.2         | 15° | 0.02 | CUT22-UL-1500F | ■     | ■   | ■  | CUT22-UR-1500F | ■     |      |      | ■   | ■  |
| CUT31 | 3.1         | 8°  | 0.02 | CUT31-UL-800F  | ■     | ■   | ■  | CUT31-UR-800F  | ■     |      |      | ■   | ■  |
|       | 3.1         | 8°  | 0.20 | CUT31-UL-802F  | ■     | ■   | ■  | CUT31-UR-802F  | ■     |      |      | ■   | ■  |
|       | 3.1         | 15° | 0.02 | CUT31-UL-1500F | ■     | ■   | ■  | CUT31-UR-1500F | ■     |      |      | ■   | ■  |

Plaquettes de tronçonnage  
Abstechwendeplatten  
Cut off inserts

PN Series



PN



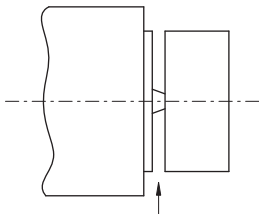
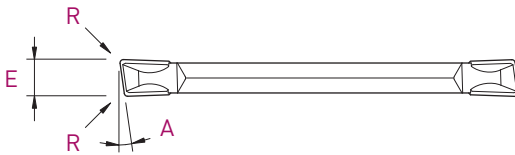
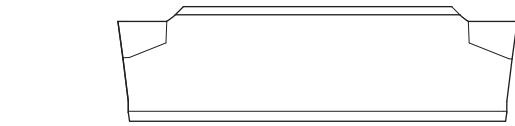
| Type  | E $\pm 0.1$ | R    | Art. N°      | TiAlN | Tmax |
|-------|-------------|------|--------------|-------|------|
| CUT22 | 2.2         | 0.20 | CUT22-PN-002 | ■     | ■    |
| CUT31 | 3.1         | 0.20 | CUT31-PN-002 | ■     | ■    |

Plaquettes de tronçonnage

Abstechwendeplatten

Cut off inserts

PR Series



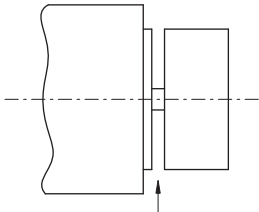
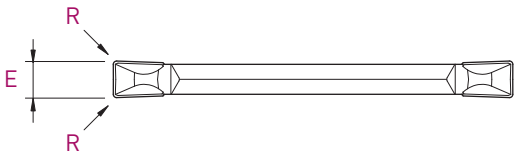
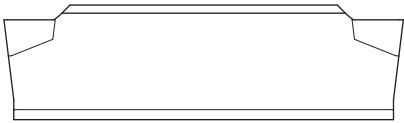
PR



| Type  | E $\pm 0.1$ | A  | R    | Art. N°      | TiAlN | Tmax |
|-------|-------------|----|------|--------------|-------|------|
| CUT16 | 1.6         | 8° | 0.10 | CUT16-PR-801 | ■     | ■    |
| CUT22 | 2.2         | 8° | 0.20 | CUT22-PR-802 | ■     | ■    |
| CUT31 | 3.1         | 8° | 0.20 | CUT31-PR-802 | ■     | ■    |

Plaquettes de tronçonnage  
Abstechwendeplatten  
Cut off inserts

PNW Series

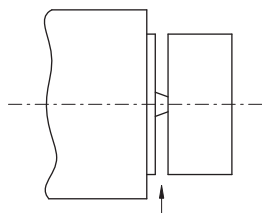
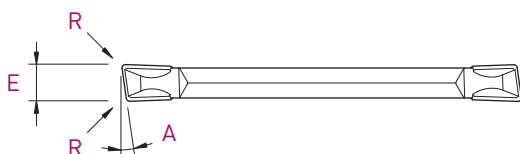
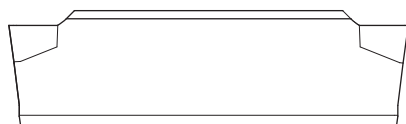


| Type  | E $\pm 0.1$ | R    | Art. N°       | z |
|-------|-------------|------|---------------|---|
| CUT22 | 2.2         | 0.20 | CUT22-PNW-002 | ■ |
| CUT31 | 3.1         | 0.20 | CUT31-PNW-002 | ■ |

Plaquettes de tronçonnage

Abstechwendeplatten

Cut off inserts

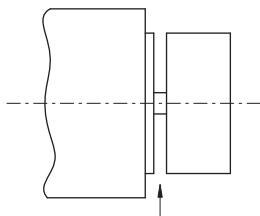
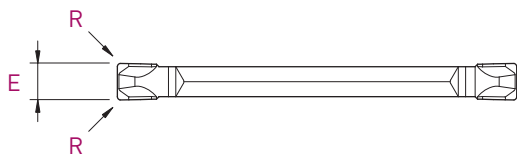
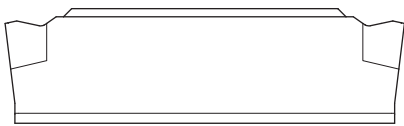
**PRW Series****PRW**

| Type  | E $\pm 0.1$ | A  | R    | Art. N°       | z |
|-------|-------------|----|------|---------------|---|
| CUT16 | 1.6         | 8° | 0.10 | CUT16-PRW-801 | ■ |
| CUT22 | 2.2         | 8° | 0.20 | CUT22-PRW-802 | ■ |
| CUT31 | 3.1         | 8° | 0.20 | CUT31-PRW-802 | ■ |

Plaquettes de tronçonnage  
Abstechwendeplatten  
Cut off inserts

Negative geometry

TN Series



TN



| Type  | E $\pm 0.1$ | R    | Art. N°      | TiAlN | Tmax | Zmax |
|-------|-------------|------|--------------|-------|------|------|
| CUT22 | 2.2         | 0.20 | CUT22-TN-002 | ■     | ■    | ■    |
| CUT31 | 3.1         | 0.20 | CUT31-TN-002 | ■     | ■    | ■    |

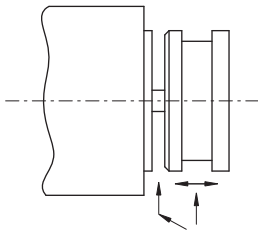
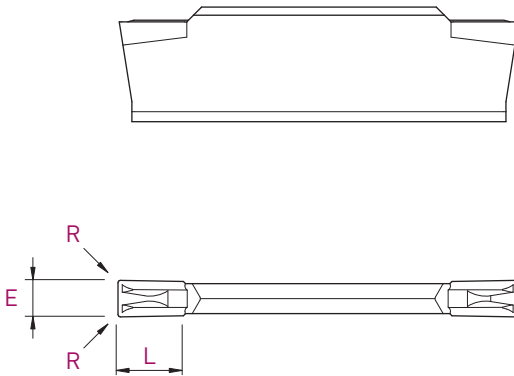


Plaquettes de fonçage, tournage et tronçonnage

WSP zum einstecken, drehen und abstechen

Solid carbide inserts for grooving, turning and cut off

GN Series



GN

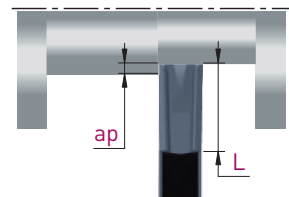
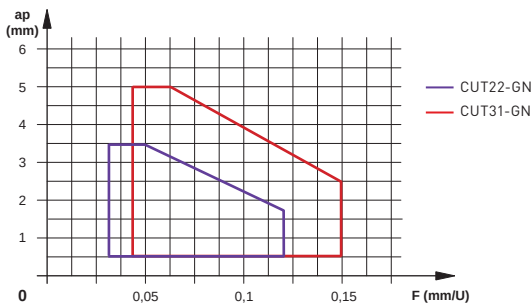


| Type  | E $\pm 0.1$ | L   | R    | Art. N°      | TiAlN | Tmax | AS |
|-------|-------------|-----|------|--------------|-------|------|----|
| CUT22 | 2.2         | 3.5 | 0.15 | CUT22-GN-002 | ■     | ■    | ■  |
| CUT31 | 3.1         | 5.0 | 0.15 | CUT31-GN-002 | ■     | ■    | ■  |

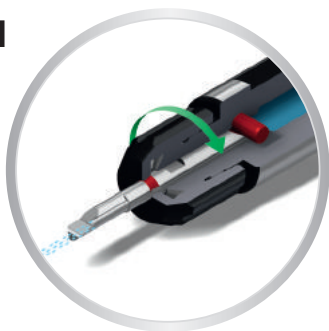
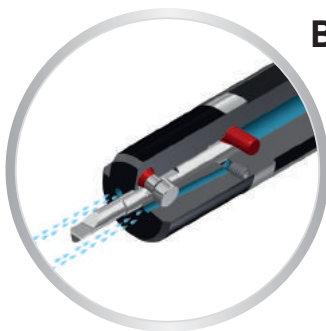
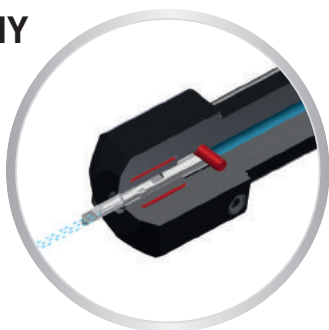
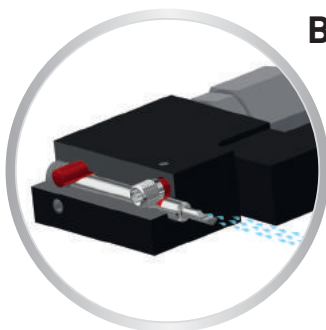
Conseils d'utilisation pour plaquettes type GN

Anwendungsempfehlungen für GN-Wendeleplatten

Application recommendations for GN inserts



ap max = T dans matière à bonne usinabilité  
 ap max = T in Werkstoffe mit gute Zerspanbarkeit  
 ap max = T in material with good machinability

**BH****BHS****BHY****BHK**

## Index

Système de désignation  
Bezeichnungssystem  
Designation system

**Info**> **10.02**

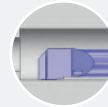
Nuances & paramètres de coupe  
Sorten & Schnittwerte  
Grades & machining data

> **10.08**

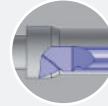
Porte-outils  
Halter  
Holders

**BH / BHS / BHY / BHK**> **10.10**

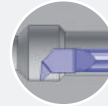
Alésage  
Ausbohren  
Boring

**BA / BAX**> **10.20**

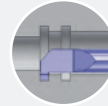
Alésage-copiage  
Ausbohren-kopieren  
Boring chambering

**BCX**> **10.24**

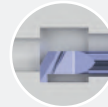
Copiage  
Kopieren  
Chambering

**C45 / C45X**> **10.26**

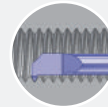
Gorge  
Einstechen  
Grooving

**GX**> **10.30**

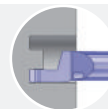
Fonçage-tournage  
Einstechen und drehen  
Grooving and turning

**GTX**> **10.32**

Filetage  
Gewindedrehen  
Threading

**TP60° / TP55° / TM**> **10.34**

Gorge frontale  
Axiales Stechen  
Axial grooving

**FEG / FIG**> **10.40**

Ébauches / Jauges d'alignement / Adaptations machines / Accessoires  
Rohlinge / Richtplatten / Maschinenanpassungen / Zubehöre  
Blanks / Adjusting tools / Machines adapters / Accessories

> **10.42**

Système de désignation des porte-outils

Halter Bezeichnungssystem

Holders designation system

BH-D / BHS  
BHS-D / BHY-D

H



HS



HY

|   |   |   |   |   |    |   |     |
|---|---|---|---|---|----|---|-----|
| B | H | 4 | - | D | 20 | - | 100 |
|---|---|---|---|---|----|---|-----|

Ligne produit d'alésage  
Innendreihen Produktlinie  
Boring product line

Porte-outils  
Halter  
Holders

Ø alésage  
Bohrung Ø  
Bore Ø

Queue cylindrique  
Zylindrischer Schaft  
Cylindrical shank

Ø/∅ queue  
Schaft Ø/∅  
Shank Ø/∅

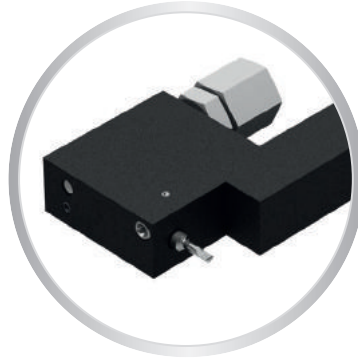
Longueur  
Länge  
Length

Système de désignation des porte-outils

Halter Bezeichnungssystem

Holders designation system

BHK



HK

|   |    |   |   |   |    |   |     |
|---|----|---|---|---|----|---|-----|
| B | HK | 4 | N | - | 20 | - | 32R |
|---|----|---|---|---|----|---|-----|

Barres d'alésages compatibles (longueur L3)  
 Kompatible Bohrstangen (Länge L3)  
 Compatible boring bars (length L3)

∅ queue  
 Schaft ∅  
 Shank ∅

Géométrie du porte-outil  
 Haltergeometrie  
 Tool holder geometry

∅ alésage  
 Bohrung ∅  
 Bore ∅

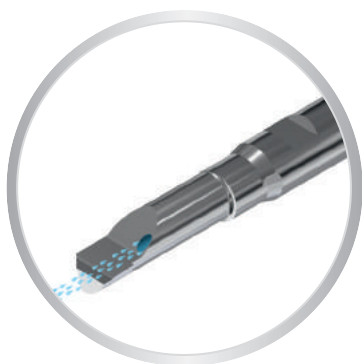
Porte-outils  
 Halter  
 Holders

Ligne produit d'alésage  
 Innendrehen Produktlinie  
 Boring product line

Système de désignation des barres d'alésage

Bohrstangen Bezeichnungssystem

Boring bars designation system

**B****F****B****B****4****R****-****25****-****75****-****BAX****-****R05****-****ZN**

Longueur utile  
Effective Nutzlänge  
Length

Ø minimum  
Minimal Ø  
Minimum Ø

Nuance  
Sorte  
Grade

Indication complémentaire  
Zusätzliche Angabe  
Additional indication

R = rayon / Radius / radius

Exécution R/L  
Ausführung R/L  
Execution R/L

Géométries de coupe  
Schneidgeometrien  
Cutting geometries

Ø queue  
Schaft Ø  
Shank Ø

B = arrosage intégré  
B = integrierter Kühlmittelzufuhr  
B = integrated coolant supply

F = sans arrosage  
F = ohne Kühlung  
F = without coolant

Ligne produit d'alésage  
Innendrehen Produktlinie  
Boring product line

**Porte-outils avec écrou de serrage**

**Halter mit Spannmutter**

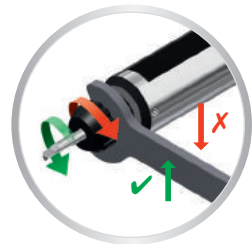
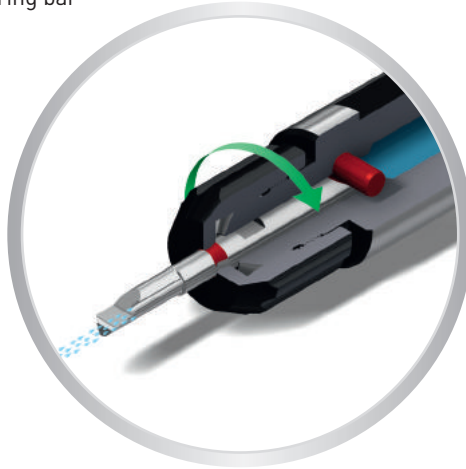
**Tool holders with clamping nut**

**BH-D**

Arrosage par la barre d'alésage

Kühlung durch die Bohrstange

Cooling through the boring bar



**Porte-outils avec arrosage multiple**

**Halter mit mehrfaches Kühlungssystem**

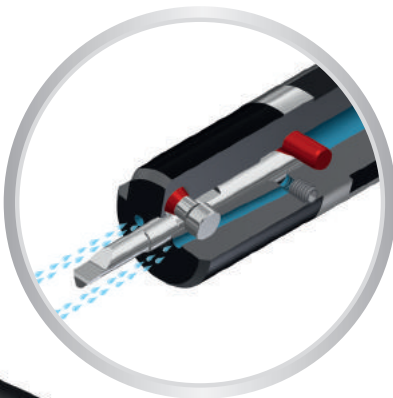
**Tool holders with multiple coolant system**

**BHS-D**

Système de serrage à vis transversale

Querverschraubungsspannsystem

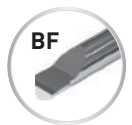
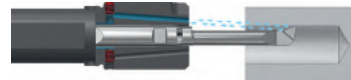
Clamping system with transverse screw



Arrosage sur l'arête de coupe

Kühlung auf der Schneidkante

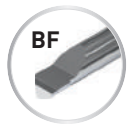
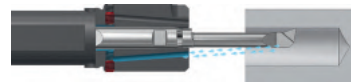
Cooling on the cutting edge



Arrosage favorisant l'évacuation des copeaux

Spanabfuhr fördernde Kühlung

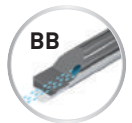
Cooling for better chip outflow



Arrosage par le centre de l'outil

Zentrale Kühlmittelzufuhr

Cooling through the center of the tool



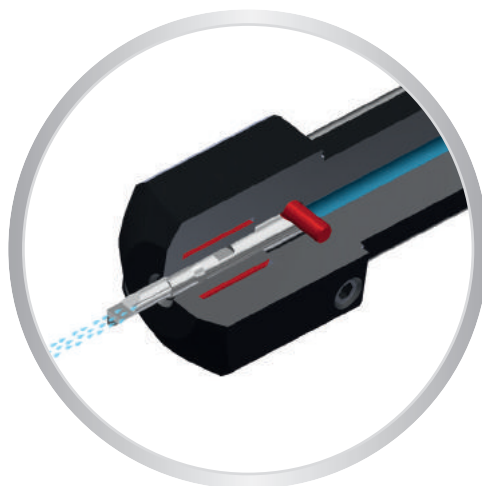
**Porte-outils à serrage hydraulique**  
**Halter mit Hydro-Dehnspann-System**  
**Tool holders with hydraulic clamping system**

BHY



Excellente absorption des vibrations!  
 Ausgezeichnete Schwingungsdämpfung!  
 Excellent vibration absorbtion!

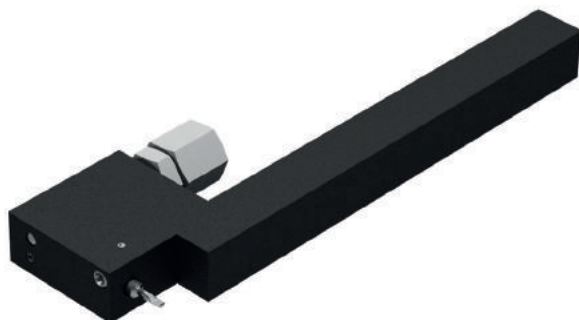
Arrosage par la barre d'alésage  
 Kühlung durch die Bohrstange  
 Cooling through the boring bar



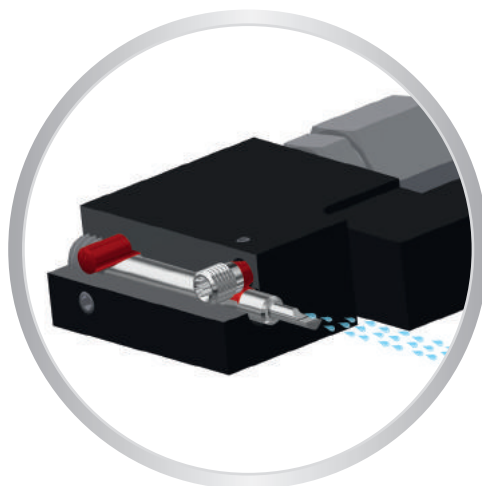
**Porte-outils coudés**  
**Gekröpfte Halter**  
**Cranked tool holders**

BHK

Système de serrage à vis transversale  
 Querverschraubungssystem  
 Clamping system with transverse screw



Arrosage par la barre d'alésage  
 Kühlung durch die Bohrstange  
 Cooling through the boring bar

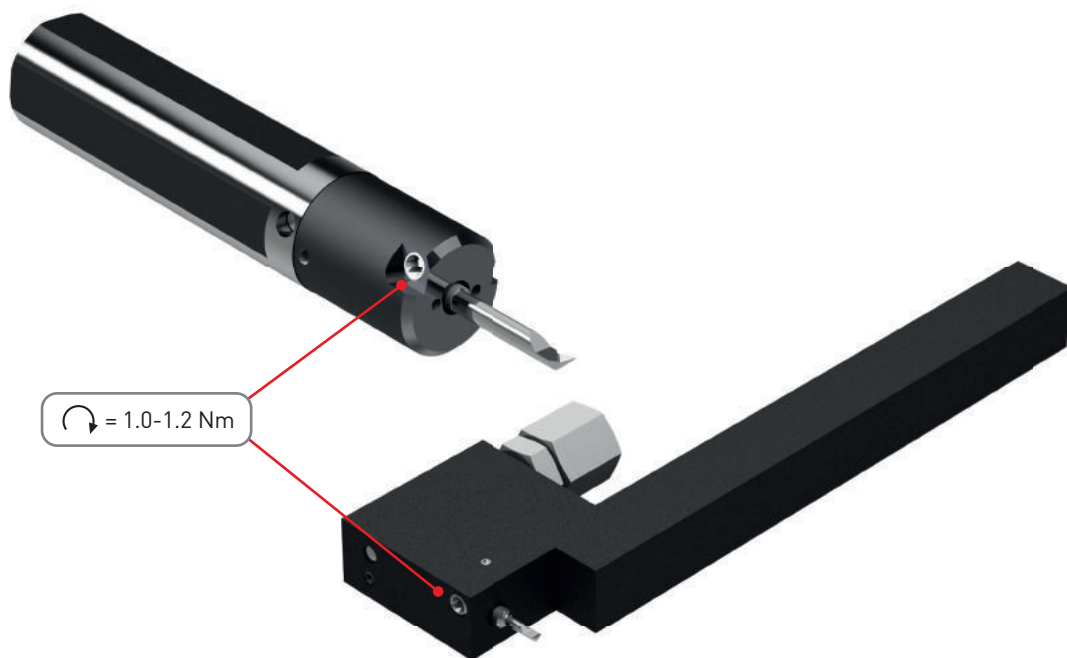




Accessoires de serrage

Spannzubehöre

Clamping accessories



Nous recommandons le serrage des porte-outils types BHS et BHK avec ce type de tournevis dynamométrique.

Wir empfehlen für das Anziehen der Halter Typ BHS und BHK diese Art von Drehmomentschraubendreher.

For holders type BHS and BHK clamping, we recommend this kind of torque screwdriver.建議使用扭力板手



Art. N°

SET-NM1.2-TX8

## Nuances

## Sorten

## Grades

P

M

N

S

**ZTAF**

ZN + revêtement PVD  
ZN + PVD Beschichtung  
ZN + PVD coating

- nuance universelle pour l'usinage des aciers, aciers inoxydables, aciers alliés, alliage de titane
- bonne résistance à la température

- Universalsorte für die Bearbeitung von Stahl, rostfreiem Stahl, Stahllegierung, Titanlegierung
- gute Warmfestigkeit

- universal grade for steel, stainless steel, alloyed steel, titanium alloys
- good heat resistance

P

M

S

**ZTAXF**

ZN + revêtement PVD  
ZN + PVD Beschichtung  
ZN + PVD coating

- nuance très résistante à l'usure et à la température, recommandée pour l'usinage des matières suivantes: Inox 304, 316L, 317L, 904, Phynox
- aciers alliés contenant: Chrome Nickel, Vanadium, Molybdène, ...

- sehr verschleissfeste und temperaturbeständige Sorte. Für folgende Materialien empfohlen: Inox 304, 316L, 317L, 904, Phynox
- legierter Stahl enthaltend: Chrom-Nickel, Vanadium, Molybdän, ...

- very wear and high temperature resistant grade. Recommended for following material: Inox 304, 316L, 317L, 904, Phynox
- alloy steel containing: Chrome-nickel, Vanadium, Molybdenum, ...

P

N

S

**ZN**

non revêtu  
unbeschichtet  
uncoated

- nuance de base micro-grain tenace
- 1<sup>er</sup> choix pour l'usinage des métaux non ferreux

- zähe Basis Feinkornsorte
- beste Wahl für die Bearbeitung von Nichteisenmetalle

- tough base micro-grain grade
- first choice for non-ferrous materials

## Paramètres de coupe

## Schnittwerte

## Machining data

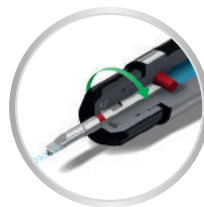
| Matière<br>Werkstoff<br>Material                                               | VC<br>(m/min) | Ø barre d'alésage<br>Bohrstange Ø<br>boring bar Ø |                       |                       |
|--------------------------------------------------------------------------------|---------------|---------------------------------------------------|-----------------------|-----------------------|
|                                                                                |               | Ø1.0 - Ø2.0<br>(mm/U)                             | Ø2.5 - Ø4.0<br>(mm/U) | Ø4.5 - Ø5.5<br>(mm/U) |
| Acier de décolletage<br>Automatenstahl<br>Free-cutting steel (P)               | 60-100        | 0.02-0.03                                         | 0.02-0.08             | 0.03-0.10             |
| Acier faiblement allié<br>Leicht legierter Stahl<br>Low alloyed steel (P)      | 50-80         | 0.01-0.03                                         | 0.02-0.05             | 0.03-0.06             |
| Acier fortement allié<br>Legierter Stahl<br>High alloyed steel (P)             | 40-60         | 0.01-0.02                                         | 0.02-0.04             | 0.02-0.06             |
| Acier inoxydable<br>Rostfreistahl<br>Stainless steel (M)                       | 40-90         | 0.01-0.03                                         | 0.02-0.05             | 0.03-0.08             |
| Aluminium (N)                                                                  | 60-150        | 0.01-0.03                                         | 0.02-0.06             | 0.03-0.10             |
| Cuivre, laiton, bronze<br>Kupfer, Messing, Bronze<br>Copper, brass, bronze (N) | 60-150        | 0.01-0.03                                         | 0.02-0.05             | 0.03-0.08             |
| Titane<br>Titan<br>Titanium (S)                                                | 30-70         | 0.01-0.03                                         | 0.02-0.05             | 0.03-0.10             |

Porte-outils avec écrou de serrage

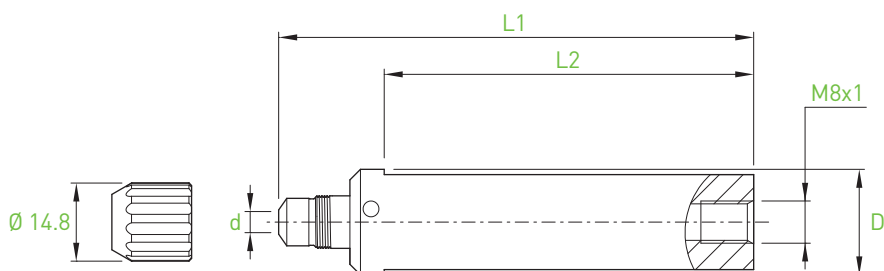
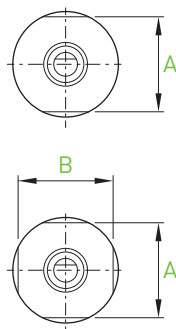
Halter mit Spannmutter

Tool holders with clamping nut

BH4-D



&gt; page 10.05



| d | Bars             | D     | L1  | L2  | A x B     | 2 flats | 4 flats | Art. N°        |
|---|------------------|-------|-----|-----|-----------|---------|---------|----------------|
| 4 | BB4...<br>BF4... | 10    | 75  | 55  | 8.8x8.8   | ■       |         | BH4-D10-75     |
|   |                  | 12    | 75  | 55  | 11.2x11.2 | ■       |         | BH4-D12-75     |
|   |                  | 12.7  | 75  | 55  | 11.2x11.2 | ■       |         | BH4-D12.7-75   |
|   |                  | 15.87 | 75  | 55  | 14x14     | ■       |         | BH4-D15.87-75  |
|   |                  | 16    | 75  | 55  | 14x14     | ■       |         | BH4-D16-75     |
|   |                  | 16    | 75  | 55  | 14x14     |         | ■       | BH4-D16-75-F4  |
|   |                  | 19.05 | 90  | 70  | 17x17     | ■       |         | BH4-D19.05-90  |
|   |                  | 20    | 90  | 70  | 18x18     | ■       |         | BH4-D20-90     |
|   |                  | 20    | 90  | 70  | 18x18     |         | ■       | BH4-D20-90-F4  |
|   |                  | 20    | 160 | 140 | 18x18     |         | ■       | BH4-D20-160-F4 |
|   |                  | 22    | 90  | 70  | 20x20     | ■       |         | BH4-D22-90     |
|   |                  | 22    | 90  | 70  | 20x20     |         | ■       | BH4-D22-90-F4  |
|   |                  | 22    | 130 | 110 | 20x20     |         | ■       | BH4-D22-130-F4 |
|   |                  | 25    | 100 | 80  | 23x23     | ■       |         | BH4-D25-100    |
|   |                  | 25    | 100 | 80  | 23x23     |         | ■       | BH4-D25-100-F4 |
|   |                  | 25    | 170 | 150 | 23x23     |         | ■       | BH4-D25-170-F4 |
|   |                  | 25.4  | 100 | 80  | 23.4x23.4 | ■       |         | BH4-D25.4-100  |
|   |                  | 28    | 100 | 80  | 26x26     | ■       |         | BH4-D28-100    |

Pièces de rechange  
Ersatzteile  
Spare parts

Art. N°



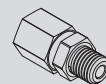
Art. N°

BH4...

BH4-M10

C-BH4-M10

Option



Art. N°

BH4...

J-M8X1-D6

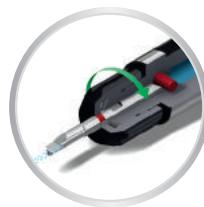
more option  
see JET-Line

Porte-outils avec écrou de serrage

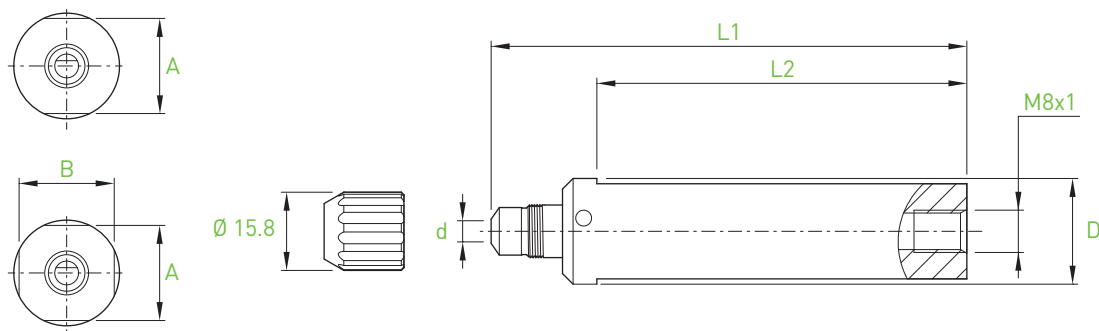
Halter mit Spannmutter

Tool holders with clamping nut

BH6-D



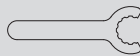
&gt; page 10.05



| d | Bars             | D     | L1  | L2  | A x B     | 2 flats | 4 flats | Art. N°        |
|---|------------------|-------|-----|-----|-----------|---------|---------|----------------|
| 6 | BB6...<br>BF6... | 12    | 75  | 55  | 11.2x11.2 | ■       |         | BH6-D12-75     |
|   |                  | 12.7  | 75  | 55  | 11.2x11.2 | ■       |         | BH6-D12.7-75   |
|   |                  | 15.87 | 75  | 55  | 14x14     | ■       |         | BH6-D15.87-75  |
|   |                  | 16    | 75  | 55  | 14x14     | ■       |         | BH6-D16-75     |
|   |                  | 19.05 | 90  | 70  | 17x17     | ■       |         | BH6-D19.05-90  |
|   |                  | 20    | 90  | 70  | 18x18     | ■       |         | BH6-D20-90     |
|   |                  | 20    | 90  | 70  | 18x18     |         | ■       | BH6-D20-90-F4  |
|   |                  | 20    | 160 | 140 | 18x18     |         | ■       | BH6-D20-160-F4 |
|   |                  | 22    | 90  | 70  | 20x20     | ■       |         | BH6-D22-90     |
|   |                  | 22    | 90  | 70  | 20x20     |         | ■       | BH6-D22-90-F4  |
|   |                  | 22    | 130 | 110 | 20x20     |         | ■       | BH6-D22-130-F4 |
|   |                  | 25    | 100 | 80  | 23x23     | ■       |         | BH6-D25-100    |
|   |                  | 25    | 100 | 80  | 23x23     |         | ■       | BH6-D25-100-F4 |
|   |                  | 25    | 170 | 150 | 23x23     |         | ■       | BH6-D25-170-F4 |
|   |                  | 25.4  | 100 | 80  | 23.4x23.4 | ■       |         | BH6-D25.4-100  |
|   |                  | 28    | 100 | 80  | 26x26     | ■       |         | BH6-D28-100    |

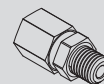
Pièces de rechange  
Ersatzteile  
Spare parts

Art. N°



Art. N°

Option



Art. N°

BH6...

BH6-M12

C-BH6-M12

BH6...

J-M8X1-D6

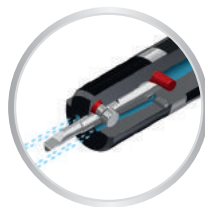
more option  
see JET-Line

■ = disponible / verfügbar / available

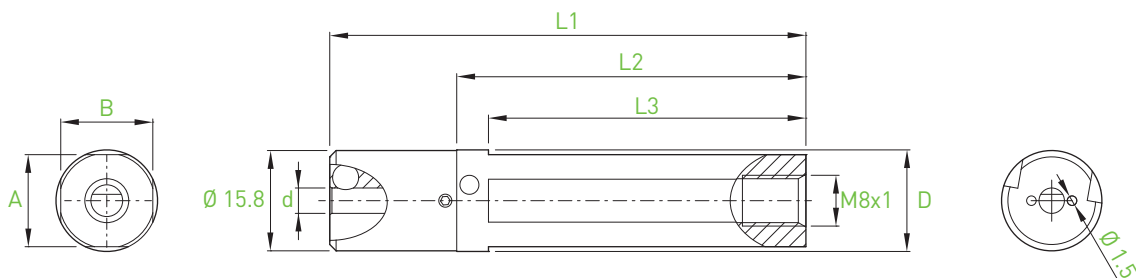
□ = selon disponibilité du stock / jenach Lagerverfügbarkeit / depending the stock availability

Porte-outils avec arrosage multiple  
 Halter mit mehrfaches Kühlungssystem  
 Tool holders with multiple coolant system

BHS4-D

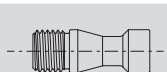


&gt; page 10.05/10.07



| d | Bars             | D     | L1  | L2  | L3  | A x B     | Art. N°           |
|---|------------------|-------|-----|-----|-----|-----------|-------------------|
| 4 | BB4...<br>BF4... | 10    | 75  | 55  | 50  | 9.2x9.2   | BHS4-D10-75-F4    |
|   |                  | 12    | 75  | 55  | 50  | 11x11     | BHS4-D12-75-F4    |
|   |                  | 12.7  | 75  | 55  | 50  | 11.7x11.7 | BHS4-D12.7-75-F4  |
|   |                  | 15.87 | 75  | 55  | 50  | 14.5x14.5 | BHS4-D15.87-75-F4 |
|   |                  | 16    | 75  | 55  | 50  | 14.5x14.5 | BHS4-D16-75-F4    |
|   |                  | 16    | 110 | 90  | 85  | 14.5x14.5 | BHS4-D16-110-F4   |
|   |                  | 19.05 | 90  | 70  | 65  | 17x17     | BHS4-D19.05-90-F4 |
|   |                  | 20    | 90  | 70  | 65  | 18x18     | BHS4-D20-90-F4    |
|   |                  | 20    | 160 | 140 | 135 | 18x18     | BHS4-D20-160-F4   |
|   |                  | 22    | 90  | 70  | 65  | 20x20     | BHS4-D22-90-F4    |
|   |                  | 22    | 130 | 110 | 105 | 20x20     | BHS4-D22-130-F4   |
|   |                  | 25    | 100 | 80  | 75  | 23x23     | BHS4-D25-100-F4   |
|   |                  | 25    | 170 | 150 | 145 | 23x23     | BHS4-D25-170-F4   |
|   |                  | 25.4  | 100 | 80  | 75  | 23x23     | BHS4-D25.4-100-F4 |
|   |                  | 28    | 100 | 80  | 75  | 26x26     | BHS4-D28-100-F4   |

Pièces de rechange  
 Ersatzteile  
 Spare parts



Art. N°



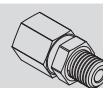
Art. N°

BHS4...

V-BHS-M4X0.5-T8

C-T8

Option



Art. N°



Art. N°

BHS4...

J-M8X1-D6

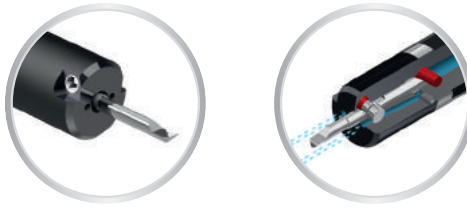
SET-NM1.2-TX8

more option  
 see JET-Line

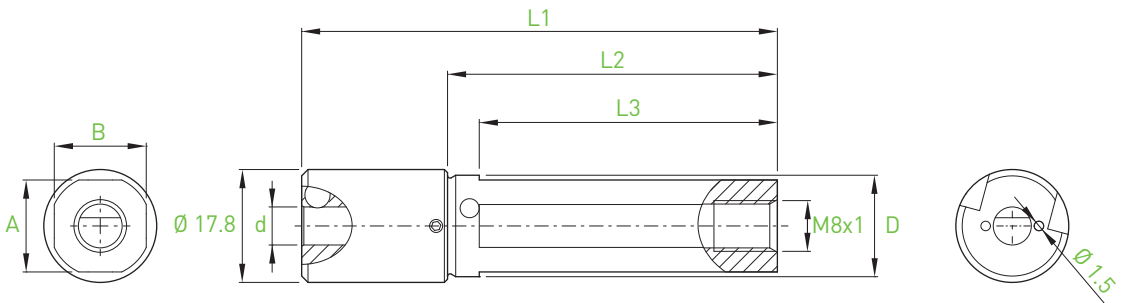
Porte-outils avec arrosage multiple

Halter mit mehrfaches Kühlungssystem

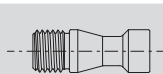
Tool holders with multiple coolant system

**BHS6-D**

&gt; page 10.05/10.07



| d | Bars             | D     | L1  | L2  | L3  | A x B     | Art. N°           |
|---|------------------|-------|-----|-----|-----|-----------|-------------------|
| 6 | BB6...<br>BF6... | 12    | 75  | 52  | 47  | 11x11     | BHS6-D12-75-F4    |
|   |                  | 12.7  | 75  | 52  | 47  | 11.7x11.7 | BHS6-D12.7-75-F4  |
|   |                  | 15.87 | 75  | 52  | 47  | 14.5x14.5 | BHS6-D15.87-75-F4 |
|   |                  | 16    | 75  | 52  | 47  | 14.5x14.5 | BHS6-D16-75-F4    |
|   |                  | 16    | 110 | 87  | 82  | 14.5x14.5 | BHS6-D16-110-F4   |
|   |                  | 19.05 | 90  | 67  | 62  | 17x17     | BHS6-D19.05-90-F4 |
|   |                  | 20    | 90  | 67  | 62  | 18x18     | BHS6-D20-90-F4    |
|   |                  | 20    | 160 | 137 | 132 | 18x18     | BHS6-D20-160-F4   |
|   |                  | 22    | 90  | 67  | 62  | 20x20     | BHS6-D22-90-F4    |
|   |                  | 22    | 130 | 107 | 102 | 20x20     | BHS6-D22-130-F4   |
|   |                  | 25    | 100 | 77  | 72  | 23x23     | BHS6-D25-100-F4   |
|   |                  | 25    | 170 | 147 | 142 | 23x23     | BHS6-D25-170-F4   |
|   |                  | 25.4  | 100 | 77  | 72  | 23x23     | BHS6-D25.4-100-F4 |
|   |                  | 28    | 100 | 77  | 72  | 26x26     | BHS6-D28-100-F4   |

Pièces de rechange  
Ersatzteile  
Spare parts

Art. N°



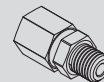
Art. N°

BHS6...

V-BHS-M4X0.5-T8

C-T8

Option



Art. N°



Art. N°

BHS6...

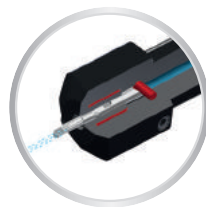
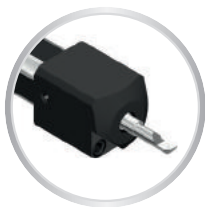
J-M8X1-D6

SET-NM1.2-TX8

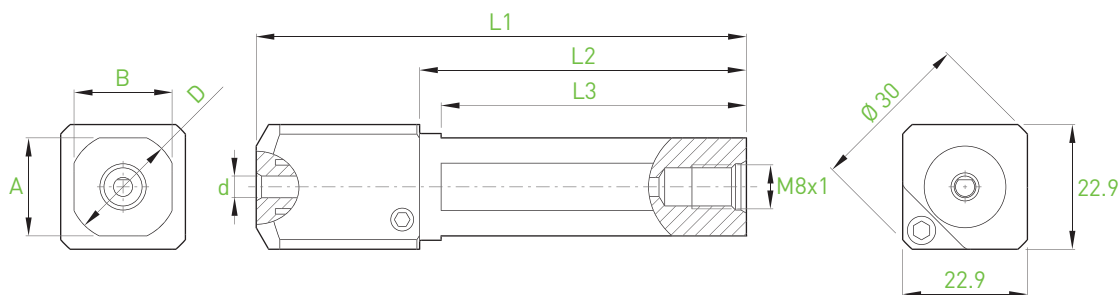
more option  
see JET-Line

Porte-outils à serrage hydraulique  
 Halter mit Hydro-Dehnspann-System  
 Tool holders with hydraulic clamping system

BHY4-D

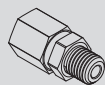


&gt; page 10.06



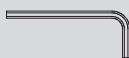
| d | Bars             | D     | L1  | L2 | L3 | A x B     | Art. N°           |
|---|------------------|-------|-----|----|----|-----------|-------------------|
| 4 | BB4...<br>BF4... | 12    | 90  | 60 | 55 | 11.2x11.2 | BHY4-D12-90-F4    |
|   |                  | 16    | 90  | 60 | 55 | 14.5x14.5 | BHY4-D16-90-F4    |
|   |                  | 19.05 | 90  | 60 | 55 | 17x17     | BHY4-D19.05-90-F4 |
|   |                  | 20    | 90  | 60 | 55 | 18x18     | BHY4-D20-90-F4    |
|   |                  | 22    | 90  | 60 | 55 | 20x20     | BHY4-D22-90-F4    |
|   |                  | 25    | 100 | 70 | 65 | 23x23     | BHY4-D25-100-F4   |

Pièces de rechange  
 Ersatzteile  
 Spare parts



Art. N°

J-M8X1-D6  
 more option  
 see JET-Line



Art. N°

C-6P-3.0

BHY4...



Porte-outils à serrage hydraulique

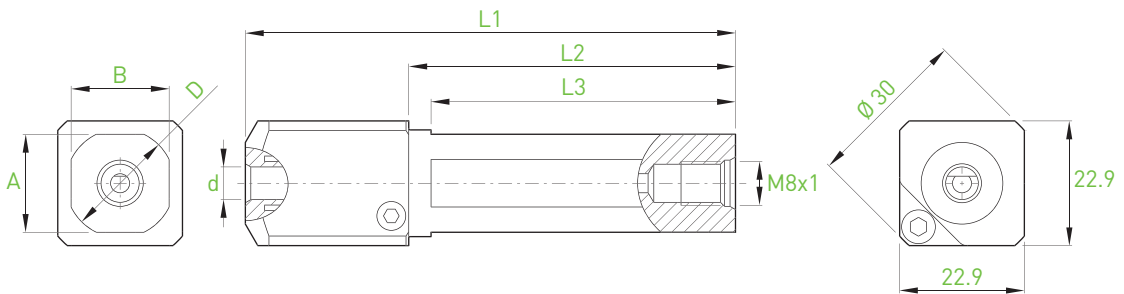
Halter mit Hydro-Dehnspann-System

Tool holders with hydraulic clamping system

**BHY6-D**

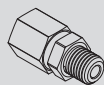


> page 10.06



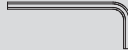
| d | Bars             | D     | L1  | L2 | L3 | A x B     | Art. N°           |
|---|------------------|-------|-----|----|----|-----------|-------------------|
| 6 | BB6...<br>BF6... | 12    | 90  | 60 | 55 | 11.2x11.2 | BHY6-D12-90-F4    |
|   |                  | 16    | 90  | 60 | 55 | 14.5x14.5 | BHY6-D16-90-F4    |
|   |                  | 19.05 | 90  | 60 | 55 | 17x17     | BHY6-D19.05-90-F4 |
|   |                  | 20    | 90  | 60 | 55 | 18x18     | BHY6-D20-90-F4    |
|   |                  | 22    | 90  | 60 | 55 | 20x20     | BHY6-D22-90-F4    |
|   |                  | 25    | 100 | 70 | 65 | 23x23     | BHY6-D25-100-F4   |

Pièces de rechange  
Ersatzteile  
Spare parts



Art. N°

**J-M8X1-D6**  
more option  
see JET-Line



Art. N°

**C-6P-3.0**

BHY6...

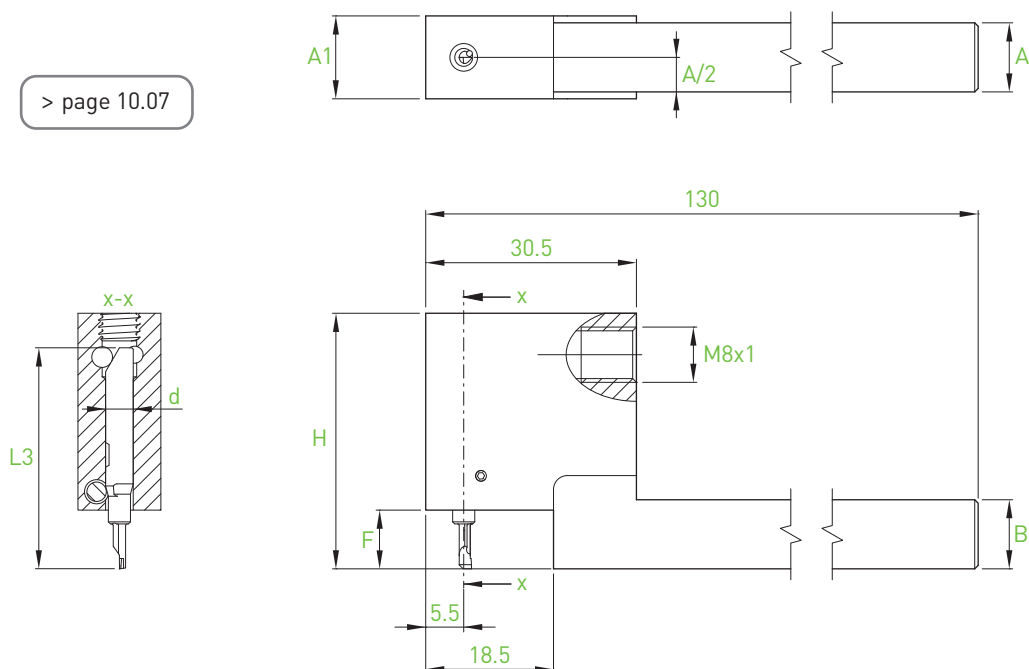
Porte-outils coudés

Kröpfhalter

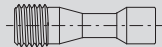
Cranked tool holders

BHK4N

&gt; page 10.07



| d | Bars               | L3 | A x B | F    | H  | A1 | Art. N°         |
|---|--------------------|----|-------|------|----|----|-----------------|
| 4 | BB4R...<br>BF4R... | 32 | 8x8   | 8.5  | 37 | 12 | BHK4N-0808X-32R |
|   |                    |    | 10x10 | 8.5  | 37 | 12 | BHK4N-1010X-32R |
|   |                    |    | 12x12 | 8.5  | 37 | 12 | BHK4N-1212X-32R |
|   |                    |    | 16x16 | 8.5  | 37 | 16 | BHK4N-1616X-32R |
|   |                    | 37 | 8x8   | 13.5 | 42 | 12 | BHK4N-0808X-37R |
|   |                    |    | 10x10 | 13.5 | 42 | 12 | BHK4N-1010X-37R |
|   |                    |    | 12x12 | 13.5 | 42 | 12 | BHK4N-1212X-37R |
|   |                    |    | 16x16 | 13.5 | 42 | 16 | BHK4N-1616X-37R |
|   |                    | 42 | 10x10 | 18.5 | 47 | 12 | BHK4N-1010X-42R |
|   |                    |    | 12x12 | 18.5 | 47 | 12 | BHK4N-1212X-42R |
|   |                    |    | 16x16 | 18.5 | 47 | 16 | BHK4N-1616X-42R |

Pièces de rechange  
Ersatzteile  
Spare parts

Art. N°



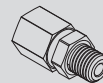
Art. N°

BHK4N...

V-BHK-M4X0.5-T8

C-T8

Option



Art. N°



Art. N°

BHK4N...

J-M8X1-D6

more option  
see JET-Line

SET-NM1.2-TX8

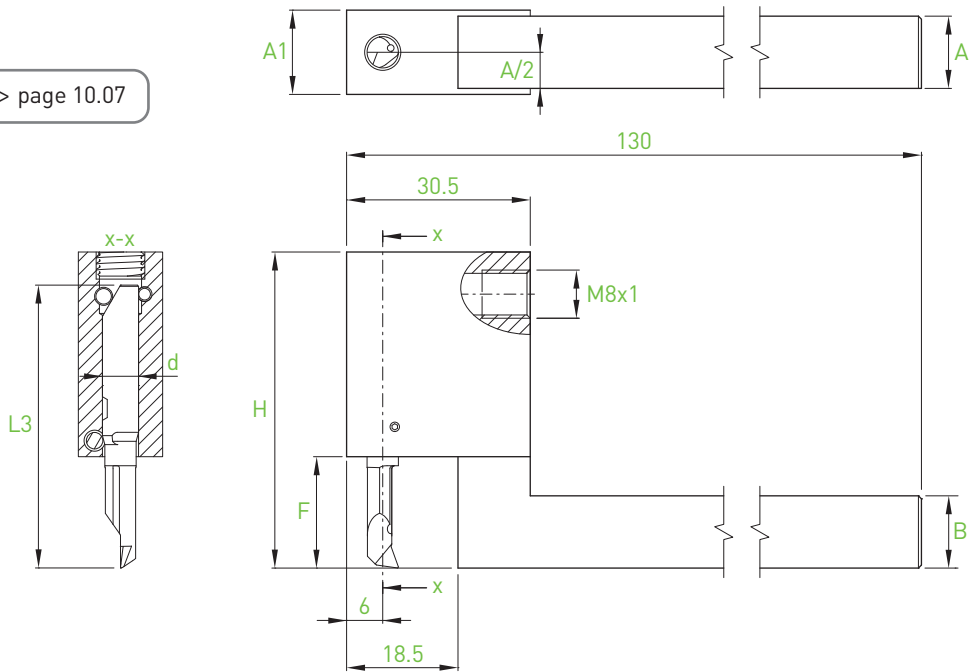
Porte-outils coudés

Kröpfhalter

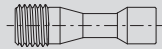
Cranked tool holders

BHK6N

&gt; page 10.07



| d | Bars               | L3 | A x B | F    | H    | A1 | Art. N°         |
|---|--------------------|----|-------|------|------|----|-----------------|
| 6 | BB6R...<br>BF6R... | 47 | 10x10 | 18.5 | 52.5 | 12 | BHK6N-1010X-47R |
|   |                    |    | 12x12 | 18.5 | 52.5 | 12 | BHK6N-1212X-47R |
|   |                    |    | 16x16 | 18.5 | 52.5 | 16 | BHK6N-1616X-47R |
|   |                    | 57 | 10x10 | 28.5 | 62.5 | 12 | BHK6N-1010X-57R |
|   |                    |    | 12x12 | 28.5 | 62.5 | 12 | BHK6N-1212X-57R |
|   |                    |    | 16x16 | 28.5 | 62.5 | 16 | BHK6N-1616X-57R |

Pièces de rechange  
Ersatzteile  
Spare parts

Art. N°



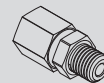
Art. N°

BHK6N...

V-BHK-M4X0.5-T8

C-T8

Option



Art. N°



Art. N°

BHK6N...

J-M8X1-D6

more option  
see JET-Line

SET-NM1.2-TX8

Porte-outils section carrée

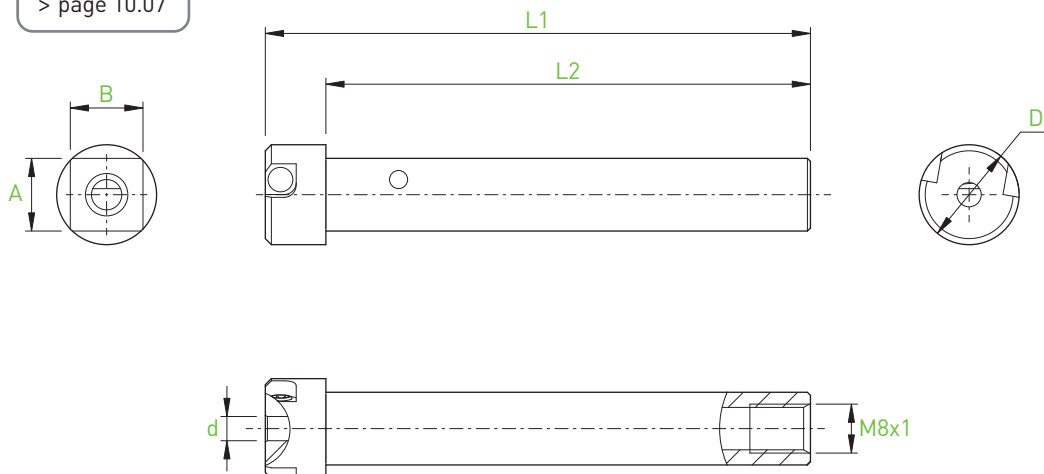
Viereckige Halter

Square holders

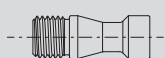
BHS4

new

&gt; page 10.07



| d | Bars          | A x B | L1  | L2 | D    | Art. N°      |
|---|---------------|-------|-----|----|------|--------------|
| 4 | BB4... BF4... | 12x12 | 90  | 80 | 16.5 | BHS4-1212-90 |
|   |               | 16x16 | 100 | 90 | 15.5 | BHS4-1616-90 |

Pièces de rechange  
Ersatzteile  
Spare parts

Art. N°



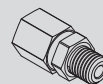
Art. N°

BHS4...

V-BHS-M4X0.5-T8

C-T8

Option



Art. N°



Art. N°

BHS4...

J-M8X1-D6

more option  
see JET-Line

SET-NM1.2-TX8

Porte-outils section carrée

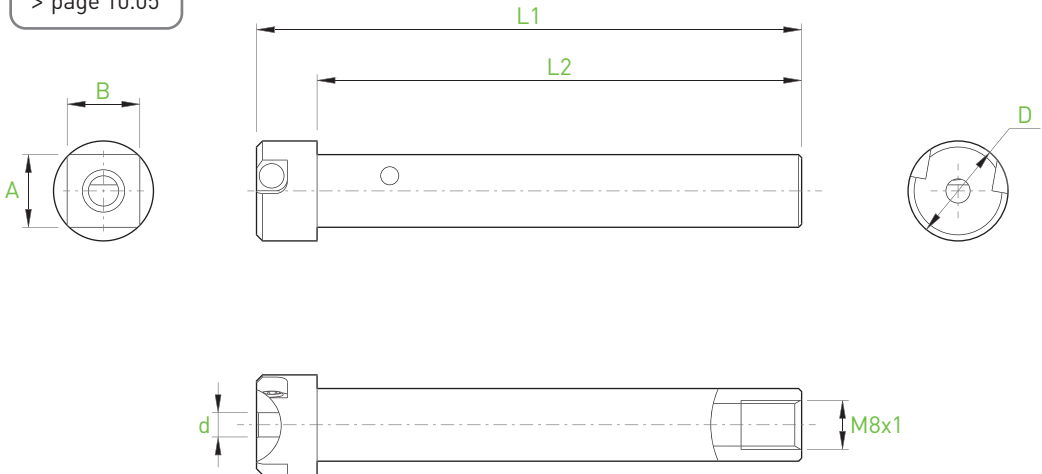
Viereckige Halter

Square holders

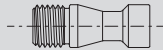
BHS6

new

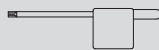
&gt; page 10.05



| d | Bars          | A x B          | L1        | L2      | D         | Art. N°                      |
|---|---------------|----------------|-----------|---------|-----------|------------------------------|
| 6 | BB6... BF6... | 12x12<br>16x16 | 90<br>100 | 80<br>- | 17.5<br>- | BHS6-1212-90<br>BHS6-1616-90 |

Pièces de rechange  
Ersatzteile  
Spare parts

Art. N°



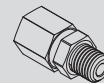
Art. N°

BHS6...

V-BHS-M4X0.5-T8

C-T8

Option



Art. N°



Art. N°

BHS6...

J-M8X1-D6

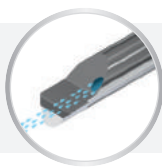
more option  
see JET-Line

SET-NM1.2-TX8

Alésage

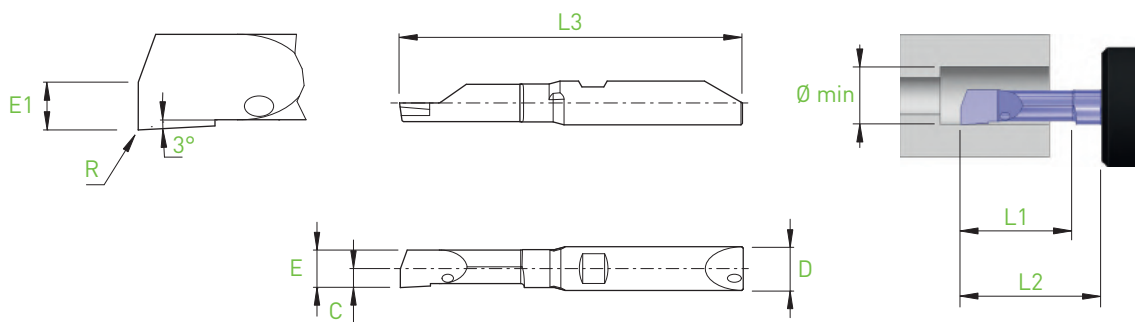
Ausbohren

Boring



BB4...

BA

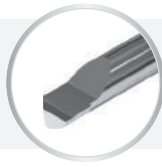


| D h5 | Holder                                  | Ø min | L1   | L2<br>BH4...<br>BHY4... | L2<br>BHS4...<br>BHK4... | E    | E1   | C    | R    | L3 | Art. N°             | R                |                  |                  | L                |                  |                  |
|------|-----------------------------------------|-------|------|-------------------------|--------------------------|------|------|------|------|----|---------------------|------------------|------------------|------------------|------------------|------------------|------------------|
|      |                                         |       |      |                         |                          |      |      |      |      |    |                     | P<br>M<br>N<br>S | P<br>M<br>N<br>S | P<br>M<br>N<br>S | P<br>M<br>N<br>S | P<br>M<br>N<br>S | P<br>M<br>N<br>S |
| 4    | BH4...<br>BHS4...<br>BHY4...<br>BHK4... | 0.3   | 0.9  | 10                      | 8.5                      | 0.27 | 0.13 | 0.15 | 0    | 32 | BB4R/L-0309-BA      | ■                | ■                | ■                | □                | □                |                  |
|      |                                         | 0.4   | 1.2  | 10                      | 8.5                      | 0.36 | 0.18 | 0.20 | 0    | 32 | BB4R/L-0412-BA      | ■                | ■                | ■                | □                | □                |                  |
|      |                                         | 0.5   | 1.5  | 10                      | 8.5                      | 0.45 | 0.22 | 0.25 | 0    | 32 | BB4R/L-0515-BA      | ■                | ■                | ■                | □                | □                |                  |
|      |                                         | 0.6   | 1.8  | 10                      | 8.5                      | 0.54 | 0.27 | 0.30 | 0    | 32 | BB4R/L-0618-BA      | ■                | ■                | ■                | □                | □                | new              |
|      |                                         | 0.7   | 2.1  | 10                      | 8.5                      | 0.63 | 0.31 | 0.35 | 0    | 32 | BB4R/L-0721-BA      | ■                | ■                | ■                | □                | □                | new              |
|      |                                         | 0.8   | 2.4  | 10                      | 8.5                      | 0.72 | 0.36 | 0.40 | 0    | 32 | BB4R/L-0824-BA      | ■                | ■                | ■                | □                | □                | new              |
|      |                                         | 0.9   | 2.7  | 10                      | 8.5                      | 0.81 | 0.40 | 0.45 | 0    | 32 | BB4R/L-0927-BA      | ■                | ■                | ■                | □                | □                | new              |
|      |                                         | 1.0   | 3.0  | 10                      | 8.5                      | 0.90 | 0.45 | 0.60 | 0.02 | 32 | BB4R/L-1030-BA-R02  | ■                | ■                | ■                | □                | □                |                  |
|      |                                         | 1.2   | 3.6  | 10                      | 8.5                      | 1.08 | 0.54 | 0.60 | 0.02 | 32 | BB4R/L-1236-BA-R02  | ■                | ■                | ■                | □                | □                | new              |
|      |                                         | 1.5   | 4.5  | 10                      | 8.5                      | 1.35 | 0.67 | 0.65 | 0.02 | 32 | BB4R/L-1545-BA-R02  | ■                | ■                | ■                | □                | □                |                  |
|      |                                         | 2.0   | 6.0  | 10                      | 8.5                      | 1.80 | 0.90 | 1.15 | 0.02 | 32 | BB4R/L-2060-BA-R02  | ■                | ■                | ■                | □                | □                |                  |
|      |                                         | 2.5   | 7.5  | 10                      | 8.5                      | 2.25 | 1.13 | 1.30 | 0.02 | 32 | BB4R/L-2575-BA-R02  | ■                | ■                | ■                | □                | □                |                  |
|      |                                         | 3.0   | 9.0  | 15                      | 13.5                     | 2.70 | 1.35 | 1.35 | 0.05 | 37 | BB4R/L-3090-BA-R05  | ■                | ■                | ■                | □                | □                |                  |
|      |                                         | 3.5   | 10.5 | 15                      | 13.5                     | 3.15 | 1.58 | 1.60 | 0.05 | 37 | BB4R/L-35105-BA-R05 | ■                | ■                | ■                | □                | □                |                  |

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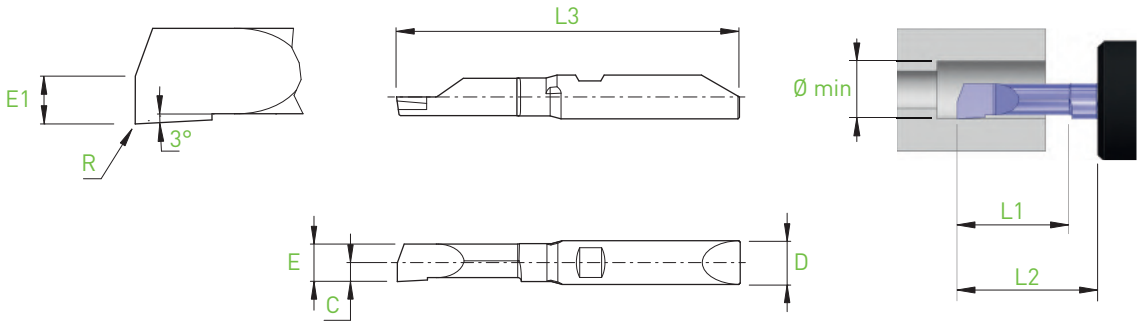
Ausbohren

Boring



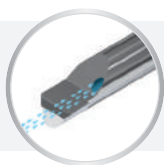
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BA



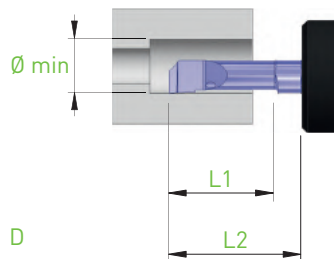
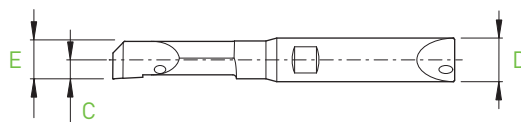
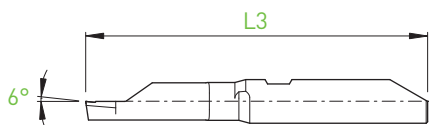
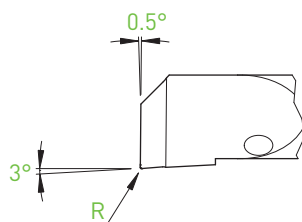
| D h5 | Holder                                  | Ø min | L1   | L2<br>BH4...<br>BHY4... | L2<br>BHS4...<br>BHK4... | E    | E1   | C    | R    | L3 | Art. N°             | R                |                  |                  | L                |                  |                  |
|------|-----------------------------------------|-------|------|-------------------------|--------------------------|------|------|------|------|----|---------------------|------------------|------------------|------------------|------------------|------------------|------------------|
|      |                                         |       |      |                         |                          |      |      |      |      |    |                     | P<br>M<br>N<br>S | P<br>M<br>N<br>S | P<br>M<br>N<br>S | P<br>M<br>N<br>S | P<br>M<br>N<br>S | P<br>M<br>N<br>S |
| 4    | BH4...<br>BHS4...<br>BHY4...<br>BHK4... | 0.3   | 0.9  | 10                      | 8.5                      | 0.27 | 0.13 | 0.15 | 0    | 32 | BF4R/L-0309-BA      | ■                | ■                | ■                | □                | □                | □                |
|      |                                         | 0.4   | 1.2  | 10                      | 8.5                      | 0.36 | 0.18 | 0.20 | 0    | 32 | BF4R/L-0412-BA      | ■                | ■                | ■                | □                | □                | □                |
|      |                                         | 0.5   | 1.5  | 10                      | 8.5                      | 0.45 | 0.22 | 0.25 | 0    | 32 | BF4R/L-0515-BA      | ■                | ■                | ■                | □                | □                | □                |
|      |                                         | 0.6   | 1.8  | 10                      | 8.5                      | 0.54 | 0.27 | 0.30 | 0    | 32 | BF4R/L-0618-BA      | ■                | ■                | ■                | □                | □                | new              |
|      |                                         | 0.7   | 2.1  | 10                      | 8.5                      | 0.63 | 0.31 | 0.35 | 0    | 32 | BF4R/L-0721-BA      | ■                | ■                | ■                | □                | □                | new              |
|      |                                         | 0.8   | 2.4  | 10                      | 8.5                      | 0.72 | 0.36 | 0.40 | 0    | 32 | BF4R/L-0824-BA      | ■                | ■                | ■                | □                | □                | new              |
|      |                                         | 0.9   | 2.7  | 10                      | 8.5                      | 0.81 | 0.40 | 0.45 | 0    | 32 | BF4R/L-0927-BA      | ■                | ■                | ■                | □                | □                | new              |
|      |                                         | 1.0   | 3.0  | 10                      | 8.5                      | 0.90 | 0.45 | 0.60 | 0.02 | 32 | BF4R/L-1030-BA-R02  | ■                | ■                | ■                | □                | □                | □                |
|      |                                         | 1.2   | 3.6  | 10                      | 8.5                      | 1.08 | 0.54 | 0.60 | 0.02 | 32 | BF4R/L-1236-BA-R02  | ■                | ■                | ■                | □                | □                | new              |
|      |                                         | 1.5   | 4.5  | 10                      | 8.5                      | 1.35 | 0.67 | 0.65 | 0.02 | 32 | BF4R/L-1545-BA-R02  | ■                | ■                | ■                | □                | □                | □                |
|      |                                         | 2.0   | 6.0  | 10                      | 8.5                      | 1.80 | 0.90 | 1.15 | 0.02 | 32 | BF4R/L-2060-BA-R02  | ■                | ■                | ■                | □                | □                | □                |
|      |                                         | 2.5   | 7.5  | 10                      | 8.5                      | 2.25 | 1.13 | 1.30 | 0.02 | 32 | BF4R/L-2575-BA-R02  | ■                | ■                | ■                | □                | □                | □                |
|      |                                         | 3.0   | 9.0  | 15                      | 13.5                     | 2.70 | 1.35 | 1.35 | 0.05 | 37 | BF4R/L-3090-BA-R05  | ■                | ■                | ■                | □                | □                | □                |
|      |                                         | 3.5   | 10.5 | 15                      | 13.5                     | 3.15 | 1.58 | 1.60 | 0.05 | 37 | BF4R/L-35105-BA-R05 | ■                | ■                | ■                | □                | □                | □                |

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Boring



BB4... / BB6...

BAX



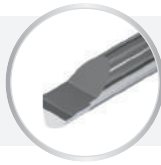
|      |                                         |       |      |                         |                          |      |      |                      |    |                      | R                                                           |                                                             |                                                             | L                                                           |                                                             |
|------|-----------------------------------------|-------|------|-------------------------|--------------------------|------|------|----------------------|----|----------------------|-------------------------------------------------------------|-------------------------------------------------------------|-------------------------------------------------------------|-------------------------------------------------------------|-------------------------------------------------------------|
|      |                                         |       |      | L2<br>BH4...<br>BHY4... | L2<br>BHS4...<br>BHK4... |      |      |                      |    |                      | <div><div>P</div><div>M</div><div>N</div><div>S</div></div> | <div><div>P</div><div>M</div><div>N</div><div>S</div></div> | <div><div>P</div><div>M</div><div>N</div><div>S</div></div> | <div><div>P</div><div>M</div><div>N</div><div>S</div></div> | <div><div>P</div><div>M</div><div>N</div><div>S</div></div> |
| D h5 | Holder                                  | Ø min | L1   |                         |                          | E    | C    | R                    | L3 | Art. N°              | ZTAF                                                        | ZTAXF                                                       | ZN                                                          | ZTAF                                                        | ZN                                                          |
| 4    | BH4...<br>BHS4...<br>BHY4...<br>BHK4... | 0.5   | 1.5  | 10                      | 8.5                      | 0.45 | 0.25 | 0                    | 32 | BB4R/L-0515-BAX      | ■                                                           | ■                                                           | ■                                                           | □                                                           | □                                                           |
|      |                                         | 0.6   | 1.8  | 10                      | 8.5                      | 0.54 | 0.30 | 0                    | 32 | BB4R/L-0618-BAX      | ■                                                           | ■                                                           | ■                                                           | □                                                           | □                                                           |
|      |                                         | 0.7   | 2.1  | 10                      | 8.5                      | 0.63 | 0.35 | 0                    | 32 | BB4R/L-0721-BAX      | ■                                                           | ■                                                           | ■                                                           | □                                                           | □                                                           |
|      |                                         | 0.8   | 2.4  | 10                      | 8.5                      | 0.72 | 0.40 | 0                    | 32 | BB4R/L-0824-BAX      | ■                                                           | ■                                                           | ■                                                           | □                                                           | □                                                           |
|      |                                         | 0.9   | 2.7  | 10                      | 8.5                      | 0.81 | 0.45 | 0                    | 32 | BB4R/L-0927-BAX      | ■                                                           | ■                                                           | ■                                                           | □                                                           | □                                                           |
|      |                                         | 1.0   | 3.0  | 10                      | 8.5                      | 0.90 | 0.60 | 0.02                 | 32 | BB4R/L-1030-BAX-R02  | ■                                                           | ■                                                           | ■                                                           | □                                                           | □                                                           |
|      |                                         |       | 5.0  | 10                      | 8.5                      | 0.90 | 0.60 | 0.02                 | 32 | BB4R/L-1050-BAX-R02  | ■                                                           | ■                                                           | ■                                                           | □                                                           | □                                                           |
|      |                                         | 1.5   | 4.5  | 10                      | 8.5                      | 1.35 | 0.65 | 0.02                 | 32 | BB4R/L-1545-BAX-R02  | ■                                                           | ■                                                           | ■                                                           | □                                                           | □                                                           |
|      |                                         |       | 7.5  | 10                      | 8.5                      | 1.35 | 0.65 | 0.02                 | 32 | BB4R/L-1575-BAX-R02  | ■                                                           | ■                                                           | ■                                                           | □                                                           | □                                                           |
|      |                                         | 2.0   | 6.0  | 10                      | 8.5                      | 1.80 | 1.15 | 0.02                 | 32 | BB4R/L-2060-BAX-R02  | ■                                                           | ■                                                           | ■                                                           | □                                                           | □                                                           |
|      |                                         |       | 10.0 | 15                      | 13.5                     | 1.80 | 1.15 | 0.02                 | 37 | BB4R/L-20100-BAX-R02 | ■                                                           | ■                                                           | ■                                                           | □                                                           | □                                                           |
|      |                                         | 2.5   | 7.5  | 10                      | 8.5                      | 2.25 | 1.30 | 0.05                 | 32 | BB4R/L-2575-BAX-R05  | ■                                                           | ■                                                           | ■                                                           | □                                                           | □                                                           |
|      |                                         |       | 12.5 | 15                      | 13.5                     | 2.25 | 1.30 | 0.05                 | 37 | BB4R/L-25125-BAX-R05 | ■                                                           | ■                                                           | ■                                                           | □                                                           | □                                                           |
|      |                                         | 3.0   | 9.0  | 15                      | 13.5                     | 2.70 | 1.35 | 0.05                 | 37 | BB4R/L-3090-BAX-R05  | ■                                                           | ■                                                           | ■                                                           | □                                                           | □                                                           |
|      |                                         |       | 15.0 | 20                      | 18.5                     | 2.70 | 1.35 | 0.05                 | 42 | BB4R/L-30150-BAX-R05 | ■                                                           | ■                                                           | ■                                                           | □                                                           | □                                                           |
|      |                                         | 3.5   | 10.5 | 15                      | 13.5                     | 3.15 | 1.60 | 0.05                 | 37 | BB4R/L-35105-BAX-R05 | ■                                                           | ■                                                           | ■                                                           | □                                                           | □                                                           |
| 17.5 | 20                                      |       | 18.5 | 3.15                    | 1.60                     | 0.05 | 42   | BB4R/L-35175-BAX-R05 | ■  | ■                    | ■                                                           | □                                                           | □                                                           |                                                             |                                                             |
| D h5 | Holder                                  | Ø min | L1   | L2<br>BH6...<br>BHY6... | L2<br>BHS6...<br>BHK6... | E    | C    | R                    | L3 | Art. N°              | ZTAF                                                        | ZTAXF                                                       | ZN                                                          | ZTAF                                                        | ZN                                                          |
| 6    | BH6...<br>BHS6...<br>BHY6...<br>BHK6... | 4.0   | 12.0 | 20                      | 18.5                     | 3.80 | 2.20 | 0.05                 | 47 | BB6R/L-40120-BAX-R05 | ■                                                           | ■                                                           | ■                                                           | □                                                           | □                                                           |
|      |                                         |       | 20.0 | 30                      | 28.5                     | 3.80 | 2.20 | 0.05                 | 57 | BB6R/L-40200-BAX-R05 | ■                                                           | ■                                                           | ■                                                           | □                                                           | □                                                           |
|      |                                         | 4.5   | 13.5 | 20                      | 18.5                     | 4.28 | 2.30 | 0.05                 | 47 | BB6R/L-45135-BAX-R05 | ■                                                           | ■                                                           | ■                                                           | □                                                           | □                                                           |
|      |                                         |       | 22.5 | 30                      | 28.5                     | 4.28 | 2.30 | 0.05                 | 57 | BB6R/L-45225-BAX-R05 | ■                                                           | ■                                                           | ■                                                           | □                                                           | □                                                           |
|      |                                         | 5.0   | 15.0 | 20                      | 18.5                     | 4.75 | 2.40 | 0.05                 | 47 | BB6R/L-50150-BAX-R05 | ■                                                           | ■                                                           | ■                                                           | □                                                           | □                                                           |
|      |                                         |       | 25.0 | 30                      | 28.5                     | 4.75 | 2.40 | 0.05                 | 57 | BB6R/L-50250-BAX-R05 | ■                                                           | ■                                                           | ■                                                           | □                                                           | □                                                           |
|      |                                         | 5.5   | 16.5 | 20                      | 18.5                     | 5.15 | 2.60 | 0.05                 | 47 | BB6R/L-55165-BAX-R05 | ■                                                           | ■                                                           | ■                                                           | □                                                           | □                                                           |
|      |                                         |       | 27.5 | 30                      | 28.5                     | 5.15 | 2.60 | 0.05                 | 57 | BB6R/L-55275-BAX-R05 | ■                                                           | ■                                                           | ■                                                           | □                                                           | □                                                           |



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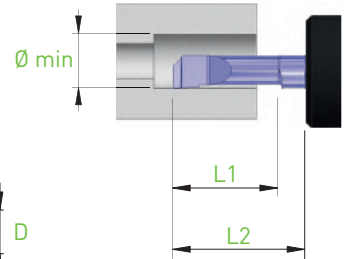
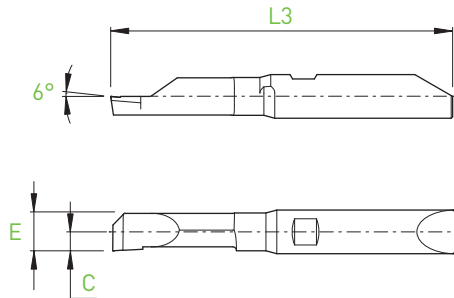
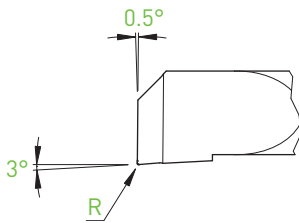
Ausbohren

Boring



BF4... / BF6...

BAX



|      |                                         |       |      |                         |                          |      |      |      |    |                      | R                                                                |                                                                   |                                                               | L                                                                |                                                               |
|------|-----------------------------------------|-------|------|-------------------------|--------------------------|------|------|------|----|----------------------|------------------------------------------------------------------|-------------------------------------------------------------------|---------------------------------------------------------------|------------------------------------------------------------------|---------------------------------------------------------------|
|      |                                         |       |      | L2<br>BH4...<br>BHY4... | L2<br>BHS4...<br>BHK4... |      |      |      |    |                      | <div><div>P</div><div>M</div><div>N</div><div>S</div></div> ZTAF | <div><div>P</div><div>M</div><div>N</div><div>S</div></div> ZTAXF | <div><div>P</div><div></div><div>N</div><div>S</div></div> ZN | <div><div>P</div><div>M</div><div>N</div><div>S</div></div> ZTAF | <div><div>P</div><div></div><div>N</div><div>S</div></div> ZN |
| D h5 | Holder                                  | Ø min | L1   |                         |                          | E    | C    | R    | L3 | Art. N°              |                                                                  |                                                                   |                                                               |                                                                  |                                                               |
| 4    | BH4...<br>BHS4...<br>BHY4...<br>BHK4... | 0.5   | 1.5  | 10                      | 8.5                      | 0.45 | 0.25 | 0    | 32 | BF4R/L-0515-BAX      | ■                                                                | ■                                                                 | ■                                                             | □                                                                | □                                                             |
|      |                                         | 0.6   | 1.8  | 10                      | 8.5                      | 0.54 | 0.30 | 0    | 32 | BF4R/L-0618-BAX      | ■                                                                | ■                                                                 | ■                                                             | □                                                                | □                                                             |
|      |                                         | 0.7   | 2.1  | 10                      | 8.5                      | 0.63 | 0.35 | 0    | 32 | BF4R/L-0721-BAX      | ■                                                                | ■                                                                 | ■                                                             | □                                                                | □                                                             |
|      |                                         | 0.8   | 2.4  | 10                      | 8.5                      | 0.72 | 0.40 | 0    | 32 | BF4R/L-0824-BAX      | ■                                                                | ■                                                                 | ■                                                             | □                                                                | □                                                             |
|      |                                         | 0.9   | 2.7  | 10                      | 8.5                      | 0.81 | 0.45 | 0    | 32 | BF4R/L-0927-BAX      | ■                                                                | ■                                                                 | ■                                                             | □                                                                | □                                                             |
|      |                                         | 1.0   | 3.0  | 10                      | 8.5                      | 0.90 | 0.60 | 0.02 | 32 | BF4R/L-1030-BAX-R02  | ■                                                                | ■                                                                 | ■                                                             | □                                                                | □                                                             |
|      |                                         |       | 5.0  | 10                      | 8.5                      | 0.90 | 0.60 | 0.02 | 32 | BF4R/L-1050-BAX-R02  | ■                                                                | ■                                                                 | ■                                                             | □                                                                | □                                                             |
|      |                                         | 1.5   | 4.5  | 10                      | 8.5                      | 1.35 | 0.65 | 0.02 | 32 | BF4R/L-1545-BAX-R02  | ■                                                                | ■                                                                 | ■                                                             | □                                                                | □                                                             |
|      |                                         |       | 7.5  | 10                      | 8.5                      | 1.35 | 0.65 | 0.02 | 32 | BF4R/L-1575-BAX-R02  | ■                                                                | ■                                                                 | ■                                                             | □                                                                | □                                                             |
|      |                                         | 2.0   | 6.0  | 10                      | 8.5                      | 1.80 | 1.15 | 0.02 | 32 | BF4R/L-2060-BAX-R02  | ■                                                                | ■                                                                 | ■                                                             | □                                                                | □                                                             |
|      |                                         |       | 10.0 | 15                      | 13.5                     | 1.80 | 1.15 | 0.02 | 37 | BF4R/L-20100-BAX-R02 | ■                                                                | ■                                                                 | ■                                                             | □                                                                | □                                                             |
|      |                                         | 2.5   | 7.5  | 10                      | 8.5                      | 2.25 | 1.30 | 0.05 | 32 | BF4R/L-2575-BAX-R05  | ■                                                                | ■                                                                 | ■                                                             | □                                                                | □                                                             |
|      |                                         |       | 12.5 | 15                      | 13.5                     | 2.25 | 1.30 | 0.05 | 37 | BF4R/L-25125-BAX-R05 | ■                                                                | ■                                                                 | ■                                                             | □                                                                | □                                                             |
|      |                                         | 3.0   | 9.0  | 15                      | 13.5                     | 2.70 | 1.35 | 0.05 | 37 | BF4R/L-3090-BAX-R05  | ■                                                                | ■                                                                 | ■                                                             | □                                                                | □                                                             |
|      |                                         |       | 15.0 | 20                      | 18.5                     | 2.70 | 1.35 | 0.05 | 42 | BF4R/L-30150-BAX-R05 | ■                                                                | ■                                                                 | ■                                                             | □                                                                | □                                                             |
|      |                                         | 3.5   | 10.5 | 15                      | 13.5                     | 3.15 | 1.60 | 0.05 | 37 | BF4R/L-35105-BAX-R05 | ■                                                                | ■                                                                 | ■                                                             | □                                                                | □                                                             |
|      |                                         |       | 17.5 | 20                      | 18.5                     | 3.15 | 1.60 | 0.05 | 42 | BF4R/L-35175-BAX-R05 | ■                                                                | ■                                                                 | ■                                                             | □                                                                | □                                                             |

| D h5 | Holder                                  | Ø min | L1   | L2<br>BH6...<br>BHY6... | L2<br>BHS6...<br>BHK6... | E    | C    | R    | L3 | Art. N°              | ZTAF | ZTAXF | ZN | ZTAF | ZN |
|------|-----------------------------------------|-------|------|-------------------------|--------------------------|------|------|------|----|----------------------|------|-------|----|------|----|
| 6    | BH6...<br>BHS6...<br>BHY6...<br>BHK6... | 4.0   | 12.0 | 20                      | 18.5                     | 3.80 | 2.20 | 0.05 | 47 | BF6R/L-40120-BAX-R05 | ■    | ■     | ■  | □    | □  |
|      |                                         |       | 20.0 | 30                      | 28.5                     | 3.80 | 2.20 | 0.05 | 57 | BF6R/L-40200-BAX-R05 | ■    | ■     | ■  | □    | □  |
|      |                                         | 4.5   | 13.5 | 20                      | 18.5                     | 4.28 | 2.30 | 0.05 | 47 | BF6R/L-45135-BAX-R05 | ■    | ■     | ■  | □    | □  |
|      |                                         |       | 22.5 | 30                      | 28.5                     | 4.28 | 2.30 | 0.05 | 57 | BF6R/L-45225-BAX-R05 | ■    | ■     | ■  | □    | □  |
|      |                                         | 5.0   | 15.0 | 20                      | 18.5                     | 4.75 | 2.40 | 0.05 | 47 | BF6R/L-50150-BAX-R05 | ■    | ■     | ■  | □    | □  |
|      |                                         |       | 25.0 | 30                      | 28.5                     | 4.75 | 2.40 | 0.05 | 57 | BF6R/L-50250-BAX-R05 | ■    | ■     | ■  | □    | □  |
|      |                                         | 5.5   | 16.5 | 20                      | 18.5                     | 5.15 | 2.60 | 0.05 | 47 | BF6R/L-55165-BAX-R05 | ■    | ■     | ■  | □    | □  |
|      |                                         |       | 27.5 | 30                      | 28.5                     | 5.15 | 2.60 | 0.05 | 57 | BF6R/L-55275-BAX-R05 | ■    | ■     | ■  | □    | □  |

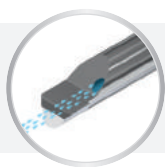
■ = disponible / verfügbar / available

□ = selon disponibilité du stock / jenach Lagerverfügbarkeit / depending the stock availability

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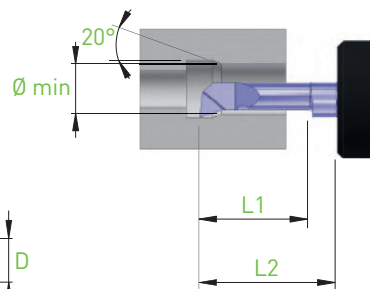
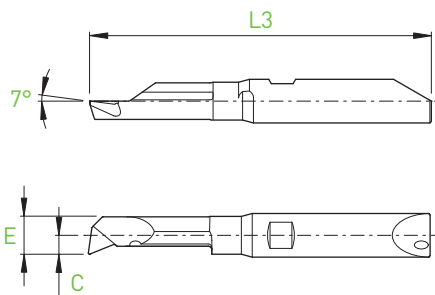
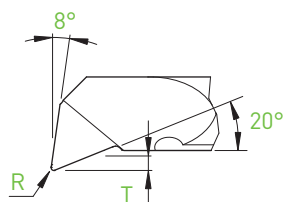
Ausbohren-kopieren

Boring chamfering



BB4... / BB6...

BCX

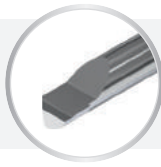


| D h5 | Holder                                  | Ø min | L1   | L2<br>BH4...<br>BHY4... | L2<br>BHS4...<br>BHK4... | T    | E    | C    | R    | L3 | Art. N°              | R    |       | L  |      |
|------|-----------------------------------------|-------|------|-------------------------|--------------------------|------|------|------|------|----|----------------------|------|-------|----|------|
|      |                                         |       |      |                         |                          |      |      |      |      |    |                      | P    | M     | N  | S    |
| 4    | BH4...<br>BHS4...<br>BHY4...<br>BHK4... | 1.0   | 3.0  | 10                      | 8.5                      | 0.15 | 0.90 | 0.70 | 0.05 | 32 | BB4R/L-1030-BCX-R05  | ZTAF | ZTAXF | ZN | ZTAF |
|      |                                         |       | 5.0  | 10                      | 8.5                      | 0.15 | 0.90 | 0.70 | 0.05 | 32 | BB4R/L-1050-BCX-R05  |      |       |    |      |
|      |                                         | 1.5   | 4.5  | 10                      | 8.5                      | 0.23 | 1.35 | 0.75 | 0.05 | 32 | BB4R/L-1545-BCX-R05  |      |       |    |      |
|      |                                         |       | 7.5  | 10                      | 8.5                      | 0.23 | 1.35 | 0.75 | 0.05 | 32 | BB4R/L-1575-BCX-R05  |      |       |    |      |
|      |                                         | 2.0   | 6.0  | 10                      | 8.5                      | 0.30 | 1.80 | 1.15 | 0.05 | 32 | BB4R/L-2060-BCX-R05  |      |       |    |      |
|      |                                         |       | 10.0 | 15                      | 13.5                     | 0.30 | 1.80 | 1.15 | 0.05 | 37 | BB4R/L-20100-BCX-R05 |      |       |    |      |
|      |                                         | 2.5   | 7.5  | 10                      | 8.5                      | 0.38 | 2.25 | 1.30 | 0.10 | 32 | BB4R/L-2575-BCX-R10  |      |       |    |      |
|      |                                         |       | 12.5 | 15                      | 13.5                     | 0.38 | 2.25 | 1.30 | 0.10 | 37 | BB4R/L-25125-BCX-R10 |      |       |    |      |
|      |                                         | 3.0   | 9.0  | 15                      | 13.5                     | 0.45 | 2.70 | 1.35 | 0.10 | 37 | BB4R/L-3090-BCX-R10  |      |       |    |      |
|      |                                         |       | 15.0 | 20                      | 18.5                     | 0.45 | 2.70 | 1.35 | 0.10 | 42 | BB4R/L-30150-BCX-R10 |      |       |    |      |
|      |                                         | 3.5   | 10.5 | 15                      | 13.5                     | 0.53 | 3.15 | 1.60 | 0.10 | 37 | BB4R/L-35105-BCX-R10 |      |       |    |      |
|      |                                         |       | 17.5 | 20                      | 18.5                     | 0.53 | 3.15 | 1.60 | 0.10 | 42 | BB4R/L-35175-BCX-R10 |      |       |    |      |
| 6    | BH6...<br>BHS6...<br>BHY6...<br>BHK6... | 4.0   | 12.0 | 20                      | 18.5                     | 0.60 | 3.80 | 2.20 | 0.15 | 47 | BB6R/L-40120-BCX-R15 |      |       |    |      |
|      |                                         |       | 20.0 | 30                      | 28.5                     | 0.60 | 3.80 | 2.20 | 0.15 | 57 | BB6R/L-40200-BCX-R15 |      |       |    |      |
|      |                                         | 4.5   | 13.5 | 20                      | 18.5                     | 0.68 | 4.28 | 2.30 | 0.15 | 47 | BB6R/L-45135-BCX-R15 |      |       |    |      |
|      |                                         |       | 22.5 | 30                      | 28.5                     | 0.68 | 4.28 | 2.30 | 0.15 | 57 | BB6R/L-45225-BCX-R15 |      |       |    |      |
|      |                                         | 5.0   | 15.0 | 20                      | 18.5                     | 0.75 | 4.75 | 2.40 | 0.15 | 47 | BB6R/L-50150-BCX-R15 |      |       |    |      |
|      |                                         |       | 25.0 | 30                      | 28.5                     | 0.75 | 4.75 | 2.40 | 0.15 | 57 | BB6R/L-50250-BCX-R15 |      |       |    |      |
|      |                                         | 5.5   | 16.5 | 20                      | 18.5                     | 0.83 | 5.15 | 2.60 | 0.15 | 47 | BB6R/L-55165-BCX-R15 |      |       |    |      |
|      |                                         |       | 27.5 | 30                      | 28.5                     | 0.83 | 5.15 | 2.60 | 0.15 | 57 | BB6R/L-55275-BCX-R15 |      |       |    |      |
|      |                                         |       |      |                         |                          |      |      |      |      |    |                      | ZTAF | ZTAXF | ZN | ZTAF |
|      |                                         |       |      |                         |                          |      |      |      |      |    |                      |      |       |    |      |
|      |                                         |       |      |                         |                          |      |      |      |      |    |                      |      |       |    |      |
|      |                                         |       |      |                         |                          |      |      |      |      |    |                      |      |       |    |      |
|      |                                         |       |      |                         |                          |      |      |      |      |    |                      |      |       |    |      |
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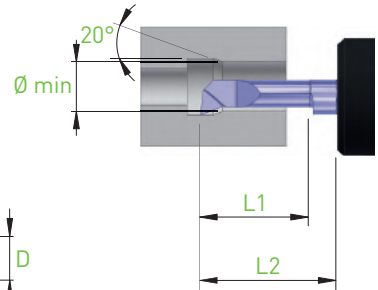
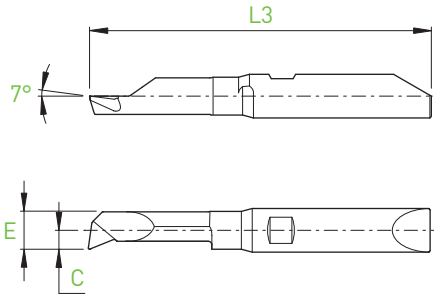
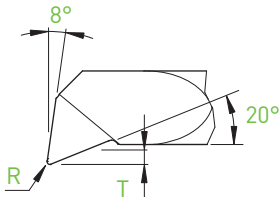
Ausbohren-kopieren

Boring chamfering



BF4... / BF6...

BCX

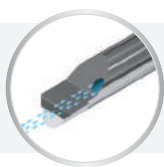


|      |                                         |       |      |                         |                          |      |      |      |      |    |                      | R                                                           |                                                             |                                                             | L                                                           |                                                             |
|------|-----------------------------------------|-------|------|-------------------------|--------------------------|------|------|------|------|----|----------------------|-------------------------------------------------------------|-------------------------------------------------------------|-------------------------------------------------------------|-------------------------------------------------------------|-------------------------------------------------------------|
|      |                                         |       |      | L2<br>BH4...<br>BHY4... | L2<br>BHS4...<br>BHK4... |      |      |      |      |    |                      | <div><div>P</div><div>M</div><div>N</div><div>S</div></div> | <div><div>P</div><div>M</div><div>N</div><div>S</div></div> | <div><div>P</div><div>M</div><div>N</div><div>S</div></div> | <div><div>P</div><div>M</div><div>N</div><div>S</div></div> | <div><div>P</div><div>M</div><div>N</div><div>S</div></div> |
| D h5 | Holder                                  | Ø min | L1   |                         |                          | T    | E    | C    | R    | L3 | Art. N°              | ZTAF                                                        | ZTAXF                                                       | ZN                                                          | ZTAF                                                        | ZN                                                          |
| 4    | BH4...<br>BHS4...<br>BHY4...<br>BHK4... | 1.0   | 3.0  | 10                      | 8.5                      | 0.15 | 0.90 | 0.70 | 0.05 | 32 | BF4R/L-1030-BCX-R05  | ■                                                           | ■                                                           | ■                                                           | □                                                           | □                                                           |
|      |                                         |       | 5.0  | 10                      | 8.5                      | 0.15 | 0.90 | 0.70 | 0.05 | 32 | BF4R/L-1050-BCX-R05  | ■                                                           | ■                                                           | ■                                                           | □                                                           | □                                                           |
|      |                                         | 1.5   | 4.5  | 10                      | 8.5                      | 0.23 | 1.35 | 0.75 | 0.05 | 32 | BF4R/L-1545-BCX-R05  | ■                                                           | ■                                                           | ■                                                           | □                                                           | □                                                           |
|      |                                         |       | 7.5  | 10                      | 8.5                      | 0.23 | 1.35 | 0.75 | 0.05 | 32 | BF4R/L-1575-BCX-R05  | ■                                                           | ■                                                           | ■                                                           | □                                                           | □                                                           |
|      |                                         | 2.0   | 6.0  | 10                      | 8.5                      | 0.30 | 1.80 | 1.15 | 0.05 | 32 | BF4R/L-2060-BCX-R05  | ■                                                           | ■                                                           | ■                                                           | □                                                           | □                                                           |
|      |                                         |       | 10.0 | 15                      | 13.5                     | 0.30 | 1.80 | 1.15 | 0.05 | 37 | BF4R/L-20100-BCX-R05 | ■                                                           | ■                                                           | ■                                                           | □                                                           | □                                                           |
|      |                                         | 2.5   | 7.5  | 10                      | 8.5                      | 0.38 | 2.25 | 1.30 | 0.10 | 32 | BF4R/L-2575-BCX-R10  | ■                                                           | ■                                                           | ■                                                           | □                                                           | □                                                           |
|      |                                         |       | 12.5 | 15                      | 13.5                     | 0.38 | 2.25 | 1.30 | 0.10 | 37 | BF4R/L-25125-BCX-R10 | ■                                                           | ■                                                           | ■                                                           | □                                                           | □                                                           |
|      |                                         | 3.0   | 9.0  | 15                      | 13.5                     | 0.45 | 2.70 | 1.35 | 0.10 | 37 | BF4R/L-3090-BCX-R10  | ■                                                           | ■                                                           | ■                                                           | □                                                           | □                                                           |
|      |                                         |       | 15.0 | 20                      | 18.5                     | 0.45 | 2.70 | 1.35 | 0.10 | 42 | BF4R/L-30150-BCX-R10 | ■                                                           | ■                                                           | ■                                                           | □                                                           | □                                                           |
|      |                                         | 3.5   | 10.5 | 15                      | 13.5                     | 0.53 | 3.15 | 1.60 | 0.10 | 37 | BF4R/L-35105-BCX-R10 | ■                                                           | ■                                                           | ■                                                           | □                                                           | □                                                           |
|      |                                         |       | 17.5 | 20                      | 18.5                     | 0.53 | 3.15 | 1.60 | 0.10 | 42 | BF4R/L-35175-BCX-R10 | ■                                                           | ■                                                           | ■                                                           | □                                                           | □                                                           |
| D h5 | Holder                                  | Ø min | L1   | L2<br>BH6...<br>BHY6... | L2<br>BHS6...<br>BHK6... | T    | E    | C    | R    | L3 | Art. N°              | ZTAF                                                        | ZTAXF                                                       | ZN                                                          | ZTAF                                                        | ZN                                                          |
| 6    | BH6...<br>BHS6...<br>BHY6...<br>BHK6... | 4.0   | 12.0 | 20                      | 18.5                     | 0.60 | 3.80 | 2.20 | 0.15 | 47 | BF6R/L-40120-BCX-R15 | ■                                                           | ■                                                           | ■                                                           | □                                                           | □                                                           |
|      |                                         |       | 20.0 | 30                      | 28.5                     | 0.60 | 3.80 | 2.20 | 0.15 | 57 | BF6R/L-40200-BCX-R15 | ■                                                           | ■                                                           | ■                                                           | □                                                           | □                                                           |
|      |                                         | 4.5   | 13.5 | 20                      | 18.5                     | 0.68 | 4.28 | 2.30 | 0.15 | 47 | BF6R/L-45135-BCX-R15 | ■                                                           | ■                                                           | ■                                                           | □                                                           | □                                                           |
|      |                                         |       | 22.5 | 30                      | 28.5                     | 0.68 | 4.28 | 2.30 | 0.15 | 57 | BF6R/L-45225-BCX-R15 | ■                                                           | ■                                                           | ■                                                           | □                                                           | □                                                           |
|      |                                         | 5.0   | 15.0 | 20                      | 18.5                     | 0.75 | 4.75 | 2.40 | 0.15 | 47 | BF6R/L-50150-BCX-R15 | ■                                                           | ■                                                           | ■                                                           | □                                                           | □                                                           |
|      |                                         |       | 25.0 | 30                      | 28.5                     | 0.75 | 4.75 | 2.40 | 0.15 | 57 | BF6R/L-50250-BCX-R15 | ■                                                           | ■                                                           | ■                                                           | □                                                           | □                                                           |
|      |                                         | 5.5   | 16.5 | 20                      | 18.5                     | 0.83 | 5.15 | 2.60 | 0.15 | 47 | BF6R/L-55165-BCX-R15 | ■                                                           | ■                                                           | ■                                                           | □                                                           | □                                                           |
|      |                                         |       | 27.5 | 30                      | 28.5                     | 0.83 | 5.15 | 2.60 | 0.15 | 57 | BF6R/L-55275-BCX-R15 | ■                                                           | ■                                                           | ■                                                           | □                                                           | □                                                           |

■ = disponible / verfügbar / available

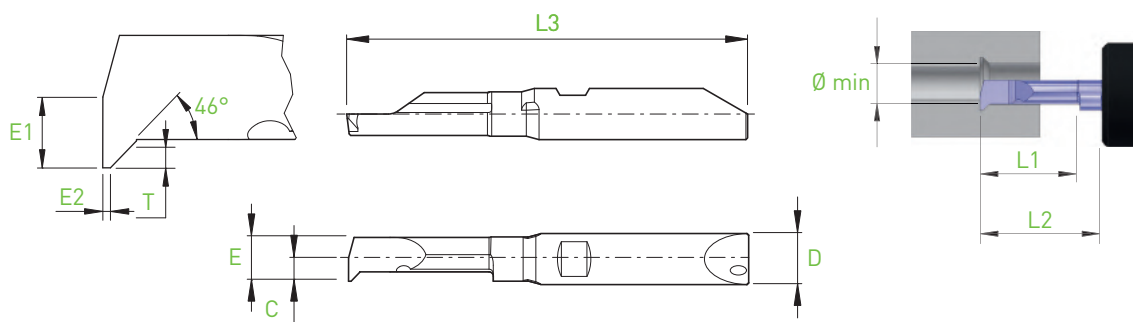
□ = selon disponibilité du stock / jenach Lagerverfügbarkeit / depending the stock availability

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Kopieren  
Chamfering



BB4... / BB6...

C45

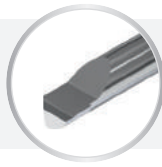


|      |                                         |       |      |                         |                          |      |      |      |      |      |    |                      | R                                                                                   |                                                                                     | L                                                                                   |                                                                                     |                                                                                     |
|------|-----------------------------------------|-------|------|-------------------------|--------------------------|------|------|------|------|------|----|----------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| D h5 | Holder                                  | Ø min | L1   | L2<br>BH4...<br>BHY4... | L2<br>BHS4...<br>BHK4... | T    | E    | E1   | C    | E2   | L3 | Art. N°              |  |  |  |  |  |
|      |                                         |       |      |                         |                          |      |      |      |      |      |    |                      |  |  |  |  |  |
|      |                                         |       |      |                         |                          |      |      |      |      |      |    |                      | ZTAF                                                                                | ZTAXF                                                                               | ZN                                                                                  | ZTAF                                                                                | ZN                                                                                  |
| 4    | BH4...<br>BHS4...<br>BHY4...<br>BHK4... | 0.3   | 0.6  | 10                      | 8.5                      | 0.05 | 0.27 | 0.13 | 0.15 | 0.03 | 32 | BB4R/L-0306-C45-E03  | ■                                                                                   | ■                                                                                   | ■                                                                                   | □                                                                                   | □                                                                                   |
|      |                                         | 0.4   | 0.8  | 10                      | 8.5                      | 0.07 | 0.36 | 0.18 | 0.20 | 0.03 | 32 | BB4R/L-0408-C45-E03  | ■                                                                                   | ■                                                                                   | ■                                                                                   | □                                                                                   | □                                                                                   |
|      |                                         | 0.5   | 1.0  | 10                      | 8.5                      | 0.08 | 0.45 | 0.22 | 0.25 | 0.03 | 32 | BB4R/L-0510-C45-E03  | ■                                                                                   | ■                                                                                   | ■                                                                                   | □                                                                                   | □                                                                                   |
|      |                                         | 0.6   | 1.2  | 10                      | 8.5                      | 0.10 | 0.54 | 0.27 | 0.30 | 0.03 | 32 | BB4R/L-0612-C45-E03  | ■                                                                                   | ■                                                                                   | ■                                                                                   | □                                                                                   | □                                                                                   |
|      |                                         | 0.7   | 1.2  | 10                      | 8.5                      | 0.12 | 0.63 | 0.32 | 0.35 | 0.03 | 32 | BB4R/L-0714-C45-E03  | ■                                                                                   | ■                                                                                   | ■                                                                                   | □                                                                                   | □                                                                                   |
|      |                                         | 0.8   | 1.6  | 10                      | 8.5                      | 0.14 | 0.72 | 0.36 | 0.40 | 0.05 | 32 | BB4R/L-0816-C45-E05  | ■                                                                                   | ■                                                                                   | ■                                                                                   | □                                                                                   | □                                                                                   |
|      |                                         | 0.9   | 1.8  | 10                      | 8.5                      | 0.15 | 0.81 | 0.41 | 0.45 | 0.05 | 32 | BB4R/L-0918-C45-E05  | ■                                                                                   | ■                                                                                   | ■                                                                                   | □                                                                                   | □                                                                                   |
|      |                                         | 1.0   | 3.0  | 10                      | 8.5                      | 0.17 | 0.90 | 0.45 | 0.70 | 0.10 | 32 | BB4R/L-1030-C45-E10  | ■                                                                                   | ■                                                                                   | ■                                                                                   | □                                                                                   | □                                                                                   |
|      |                                         | 1.2   | 3.6  | 10                      | 8.5                      | 0.20 | 1.08 | 0.54 | 0.70 | 0.10 | 32 | BB4R/L-1236-C45-E10  | ■                                                                                   | ■                                                                                   | ■                                                                                   | □                                                                                   | new                                                                                 |
|      |                                         | 1.5   | 4.5  | 10                      | 8.5                      | 0.25 | 1.35 | 0.67 | 0.75 | 0.10 | 32 | BB4R/L-1545-C45-E10  | ■                                                                                   | ■                                                                                   | ■                                                                                   | □                                                                                   | □                                                                                   |
|      |                                         | 2.0   | 6.0  | 10                      | 8.5                      | 0.34 | 1.80 | 0.90 | 1.15 | 0.20 | 32 | BB4R/L-2060-C45-E20  | ■                                                                                   | ■                                                                                   | ■                                                                                   | □                                                                                   | □                                                                                   |
|      |                                         | 2.5   | 7.5  | 10                      | 8.5                      | 0.43 | 2.25 | 1.13 | 1.30 | 0.20 | 32 | BB4R/L-2575-C45-E20  | ■                                                                                   | ■                                                                                   | ■                                                                                   | □                                                                                   | □                                                                                   |
| 6    | BH6...<br>BHS6...<br>BHY6...<br>BHK6... | 3.0   | 9.0  | 15                      | 13.5                     | 0.51 | 2.70 | 1.35 | 1.35 | 0.30 | 37 | BB4R/L-3090-C45-E30  | ■                                                                                   | ■                                                                                   | ■                                                                                   | □                                                                                   | □                                                                                   |
|      |                                         | 3.5   | 10.5 | 15                      | 13.5                     | 0.60 | 3.15 | 1.58 | 1.60 | 0.30 | 37 | BB4R/L-35105-C45-E30 | ■                                                                                   | ■                                                                                   | ■                                                                                   | □                                                                                   | □                                                                                   |
| D h5 | Holder                                  | Ø min | L1   | L2<br>BH6...<br>BHY6... | L2<br>BHS6...<br>BHK6... | T    | E    | E1   | C    | E2   | L3 | Art. N°              | ZTAF                                                                                | ZTAXF                                                                               | ZN                                                                                  | ZTAF                                                                                | ZN                                                                                  |
| 6    | BH6...<br>BHS6...<br>BHY6...<br>BHK6... | 4.0   | 12.0 | 20                      | 18.5                     | 0.68 | 3.80 | 1.90 | 2.30 | 0.40 | 47 | BB6R/L-40120-C45-E40 | ■                                                                                   | ■                                                                                   | ■                                                                                   | □                                                                                   | □                                                                                   |
|      |                                         | 5.0   | 15.0 | 20                      | 18.5                     | 0.85 | 4.75 | 2.37 | 2.50 | 0.50 | 47 | BB6R/L-50150-C45-E50 | ■                                                                                   | ■                                                                                   | ■                                                                                   | □                                                                                   | □                                                                                   |

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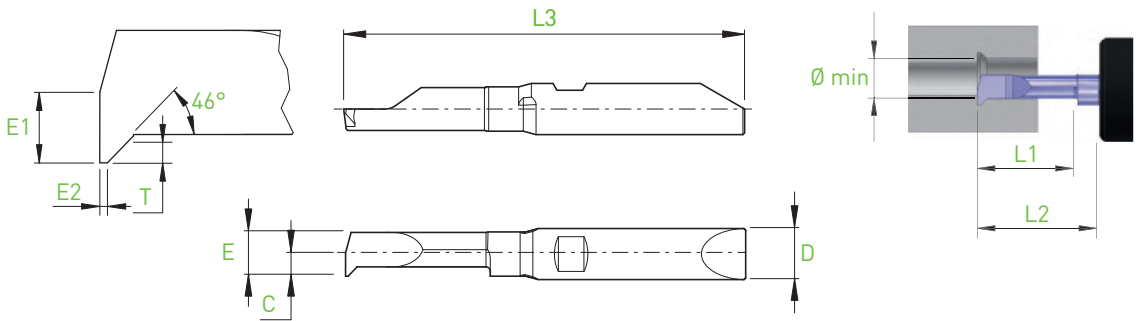
Kopieren

Chamfering



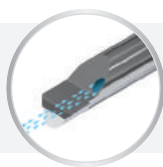
BF4... / BF6...

C45



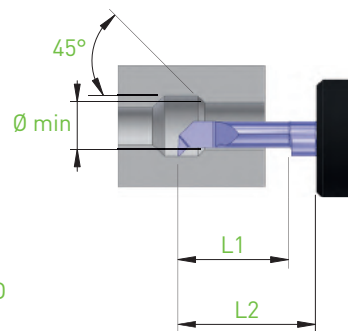
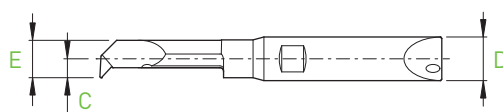
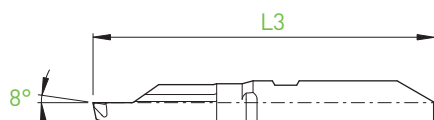
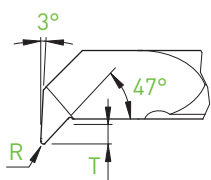
|      |                                         |       |      |                         |                          |      |      |      |      |                      |    |                      | R                                                           |                                                             | L                                                           |                                                             |                                                             |
|------|-----------------------------------------|-------|------|-------------------------|--------------------------|------|------|------|------|----------------------|----|----------------------|-------------------------------------------------------------|-------------------------------------------------------------|-------------------------------------------------------------|-------------------------------------------------------------|-------------------------------------------------------------|
| D h5 | Holder                                  | Ø min | L1   | L2<br>BH4...<br>BHY4... | L2<br>BHS4...<br>BHK4... | T    | E    | E1   | C    | E2                   | L3 | Art. N°              | <div><div>P</div><div>M</div><div>N</div><div>S</div></div> | <div><div>P</div><div>M</div><div>N</div><div>S</div></div> | <div><div>P</div><div>M</div><div>N</div><div>S</div></div> | <div><div>P</div><div>M</div><div>N</div><div>S</div></div> | <div><div>P</div><div>M</div><div>N</div><div>S</div></div> |
|      |                                         |       |      |                         |                          |      |      |      |      |                      |    |                      | ZTAF                                                        | ZTAXF                                                       | ZN                                                          | ZTAF                                                        | ZN                                                          |
| 4    | BH4...<br>BHS4...<br>BHY4...<br>BHK4... | 0.3   | 0.6  | 10                      | 8.5                      | 0.05 | 0.27 | 0.13 | 0.15 | 0.03                 | 32 | BF4R/L-0306-C45-E03  | ■                                                           | ■                                                           | ■                                                           | □                                                           | □                                                           |
|      |                                         | 0.4   | 0.8  | 10                      | 8.5                      | 0.07 | 0.36 | 0.18 | 0.20 | 0.03                 | 32 | BF4R/L-0408-C45-E03  | ■                                                           | ■                                                           | ■                                                           | □                                                           | □                                                           |
|      |                                         | 0.5   | 1.0  | 10                      | 8.5                      | 0.08 | 0.45 | 0.22 | 0.25 | 0.03                 | 32 | BF4R/L-0510-C45-E03  | ■                                                           | ■                                                           | ■                                                           | □                                                           | □                                                           |
|      |                                         | 0.6   | 1.2  | 10                      | 8.5                      | 0.10 | 0.54 | 0.27 | 0.30 | 0.03                 | 32 | BF4R/L-0612-C45-E03  | ■                                                           | ■                                                           | ■                                                           | □                                                           | □                                                           |
|      |                                         | 0.7   | 1.2  | 10                      | 8.5                      | 0.12 | 0.63 | 0.32 | 0.35 | 0.03                 | 32 | BF4R/L-0714-C45-E03  | ■                                                           | ■                                                           | ■                                                           | □                                                           | □                                                           |
|      |                                         | 0.8   | 1.6  | 10                      | 8.5                      | 0.14 | 0.72 | 0.36 | 0.40 | 0.05                 | 32 | BF4R/L-0816-C45-E05  | ■                                                           | ■                                                           | ■                                                           | □                                                           | □                                                           |
|      |                                         | 0.9   | 1.8  | 10                      | 8.5                      | 0.15 | 0.81 | 0.41 | 0.45 | 0.05                 | 32 | BF4R/L-0918-C45-E05  | ■                                                           | ■                                                           | ■                                                           | □                                                           | □                                                           |
|      |                                         | 1.0   | 3.0  | 10                      | 8.5                      | 0.17 | 0.90 | 0.45 | 0.70 | 0.10                 | 32 | BF4R/L-1030-C45-E10  | ■                                                           | ■                                                           | ■                                                           | □                                                           | □                                                           |
|      |                                         | 1.2   | 3.6  | 10                      | 8.5                      | 0.20 | 1.08 | 0.54 | 0.70 | 0.10                 | 32 | BF4R/L-1236-C45-E10  | ■                                                           | ■                                                           | ■                                                           | □                                                           | new                                                         |
|      |                                         | 1.5   | 4.5  | 10                      | 8.5                      | 0.25 | 1.35 | 0.67 | 0.75 | 0.10                 | 32 | BF4R/L-1545-C45-E10  | ■                                                           | ■                                                           | ■                                                           | □                                                           | □                                                           |
|      |                                         | 2.0   | 6.0  | 10                      | 8.5                      | 0.34 | 1.80 | 0.90 | 1.15 | 0.20                 | 32 | BF4R/L-2060-C45-E20  | ■                                                           | ■                                                           | ■                                                           | □                                                           | □                                                           |
|      |                                         | 2.5   | 7.5  | 10                      | 8.5                      | 0.43 | 2.25 | 1.13 | 1.30 | 0.20                 | 32 | BF4R/L-2575-C45-E20  | ■                                                           | ■                                                           | ■                                                           | □                                                           | □                                                           |
| 3.0  | 9.0                                     | 15    | 13.5 | 0.51                    | 2.70                     | 1.35 | 1.35 | 0.30 | 37   | BF4R/L-3090-C45-E30  | ■  | ■                    | ■                                                           | □                                                           | □                                                           |                                                             |                                                             |
| 3.5  | 10.5                                    | 15    | 13.5 | 0.60                    | 3.15                     | 1.58 | 1.60 | 0.30 | 37   | BF4R/L-35105-C45-E30 | ■  | ■                    | ■                                                           | □                                                           | □                                                           |                                                             |                                                             |
| D h5 | Holder                                  | Ø min | L1   | L2<br>BH6...<br>BHY6... | L2<br>BHS6...<br>BHK6... | T    | E    | E1   | C    | E2                   | L3 | Art. N°              | ZTAF                                                        | ZTAXF                                                       | ZN                                                          | ZTAF                                                        | ZN                                                          |
|      |                                         |       |      |                         |                          |      |      |      |      |                      |    |                      |                                                             |                                                             |                                                             |                                                             |                                                             |
| 6    | BH6...<br>BHS6...<br>BHY6...<br>BHK6... | 4.0   | 12.0 | 20                      | 18.5                     | 0.68 | 3.80 | 1.90 | 2.30 | 0.40                 | 47 | BF6R/L-40120-C45-E40 | ■                                                           | ■                                                           | ■                                                           | □                                                           | □                                                           |
|      |                                         | 5.0   | 15.0 | 20                      | 18.5                     | 0.85 | 4.75 | 2.37 | 2.50 | 0.50                 | 47 | BF6R/L-50150-C45-E50 | ■                                                           | ■                                                           | ■                                                           | □                                                           | □                                                           |

Copiage  
Kopieren  
Chamfering



BB4... / BB6...

C45X

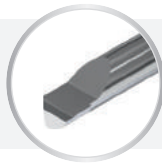


| D <sub>h5</sub> | Holder                                  | Ø min | L1   | L2<br>BH4...<br>BHY4... | L2<br>BHS4...<br>BHK4... | T    | E    | C    | R    | L3 | Art. N°               | R    |       | L    |      |
|-----------------|-----------------------------------------|-------|------|-------------------------|--------------------------|------|------|------|------|----|-----------------------|------|-------|------|------|
|                 |                                         |       |      |                         |                          |      |      |      |      |    |                       | PTSM | PTSM  | PTSM | PTSM |
| 4               | BH4...<br>BHS4...<br>BHY4...<br>BHK4... | 2.5   | 7.5  | 10                      | 8.5                      | 0.50 | 2.25 | 1.35 | 0.10 | 32 | BB4R/L-2575-C45X-R10  | ■    | ■     | ■    | □    |
|                 |                                         |       | 12.5 | 15                      | 13.5                     | 0.50 | 2.25 | 1.35 | 0.10 | 37 | BB4R/L-25125-C45X-R10 | ■    | ■     | ■    | □    |
|                 |                                         | 3.0   | 9.0  | 15                      | 13.5                     | 0.60 | 2.70 | 1.45 | 0.10 | 37 | BB4R/L-3090-C45X-R10  | ■    | ■     | ■    | □    |
|                 |                                         |       | 15.0 | 20                      | 18.5                     | 0.60 | 2.70 | 1.45 | 0.10 | 42 | BB4R/L-30150-C45X-R10 | ■    | ■     | ■    | □    |
|                 |                                         | 3.5   | 10.5 | 15                      | 13.5                     | 0.70 | 3.15 | 1.60 | 0.10 | 37 | BB4R/L-35105-C45X-R10 | ■    | ■     | ■    | □    |
|                 |                                         |       | 17.5 | 20                      | 18.5                     | 0.70 | 3.15 | 1.60 | 0.10 | 42 | BB4R/L-35175-C45X-R10 | ■    | ■     | ■    | □    |
| D <sub>h5</sub> | Holder                                  | Ø min | L1   | L2<br>BH6...<br>BHY6... | L2<br>BHS6...<br>BHK6... | T    | E    | C    | R    | L3 | Art. N°               | R    |       | L    |      |
|                 |                                         |       |      |                         |                          |      |      |      |      |    |                       | ZTAF | ZTAXF | ZN   | ZTAF |
| 6               | BH6...<br>BHS6...<br>BHY6...<br>BHK6... | 4.0   | 12.0 | 20                      | 18.5                     | 0.80 | 3.80 | 2.30 | 0.15 | 47 | BB6R/L-40120-C45X-R15 | ■    | ■     | ■    | □    |
|                 |                                         |       | 20.0 | 30                      | 28.5                     | 0.80 | 3.80 | 2.30 | 0.15 | 57 | BB6R/L-40200-C45X-R15 | ■    | ■     | ■    | □    |
|                 |                                         | 4.5   | 13.5 | 20                      | 18.5                     | 0.90 | 4.28 | 2.40 | 0.15 | 47 | BB6R/L-45135-C45X-R15 | ■    | ■     | ■    | □    |
|                 |                                         |       | 22.5 | 30                      | 28.5                     | 0.90 | 4.28 | 2.40 | 0.15 | 57 | BB6R/L-45225-C45X-R15 | ■    | ■     | ■    | □    |
|                 |                                         | 5.0   | 15.0 | 20                      | 18.5                     | 1.00 | 4.75 | 2.50 | 0.15 | 47 | BB6R/L-50150-C45X-R15 | ■    | ■     | ■    | □    |
|                 |                                         |       | 25.0 | 30                      | 28.5                     | 1.00 | 4.75 | 2.50 | 0.15 | 57 | BB6R/L-50250-C45X-R15 | ■    | ■     | ■    | □    |
|                 |                                         | 5.5   | 16.5 | 20                      | 18.5                     | 1.10 | 5.15 | 2.60 | 0.15 | 47 | BB6R/L-55165-C45X-R15 | ■    | ■     | ■    | □    |
|                 |                                         |       | 27.5 | 30                      | 28.5                     | 1.10 | 5.15 | 2.60 | 0.15 | 57 | BB6R/L-55275-C45X-R15 | ■    | ■     | ■    | □    |
|                 |                                         |       |      |                         |                          |      |      |      |      |    |                       |      |       |      |      |
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Copiage

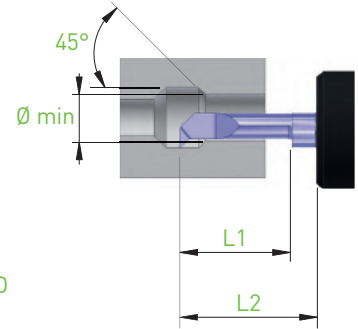
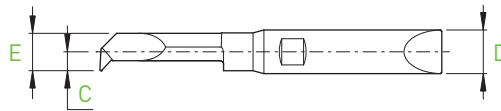
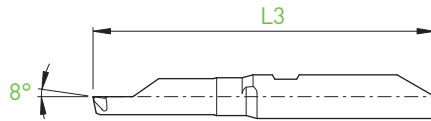
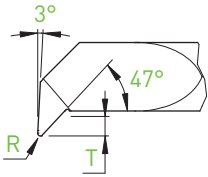
Kopieren

Chambering



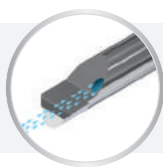
BF4... / BF6...

C45X



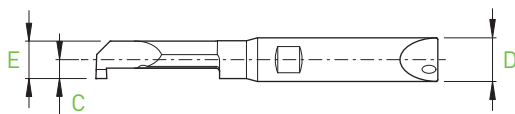
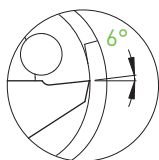
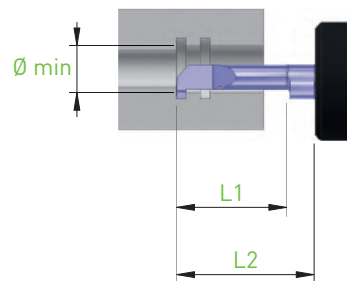
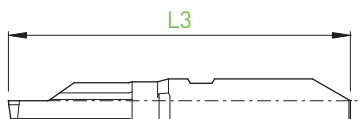
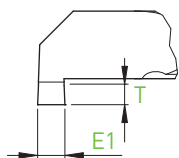
|      |                                         |       |      |                         |                          |      |      |      |      |    |                       | R                                      | L                                       |                                      |                                        |                                      |
|------|-----------------------------------------|-------|------|-------------------------|--------------------------|------|------|------|------|----|-----------------------|----------------------------------------|-----------------------------------------|--------------------------------------|----------------------------------------|--------------------------------------|
| D h5 | Holder                                  | Ø min | L1   | L2<br>BH4...<br>BHY4... | L2<br>BHS4...<br>BHK4... | T    | E    | C    | R    | L3 | Art. N°               | <div>P<br/>M<br/>N<br/>S</div><br>ZTAF | <div>P<br/>M<br/>N<br/>S</div><br>ZTAXF | <div>P<br/>M<br/>N<br/>S</div><br>ZN | <div>P<br/>M<br/>N<br/>S</div><br>ZTAF | <div>P<br/>M<br/>N<br/>S</div><br>ZN |
| 4    | BH4...<br>BHS4...<br>BHY4...<br>BHK4... | 2.5   | 7.5  | 10                      | 8.5                      | 0.50 | 2.25 | 1.35 | 0.10 | 32 | BF4R/L-2575-C45X-R10  | ■                                      | ■                                       | ■                                    | □                                      | □                                    |
|      |                                         |       | 12.5 | 15                      | 13.5                     | 0.50 | 2.25 | 1.35 | 0.10 | 37 | BF4R/L-25125-C45X-R10 | ■                                      | ■                                       | ■                                    | □                                      | □                                    |
|      |                                         | 3.0   | 9.0  | 15                      | 13.5                     | 0.60 | 2.70 | 1.45 | 0.10 | 37 | BF4R/L-3090-C45X-R10  | ■                                      | ■                                       | ■                                    | □                                      | □                                    |
|      |                                         |       | 15.0 | 20                      | 18.5                     | 0.60 | 2.70 | 1.45 | 0.10 | 42 | BF4R/L-30150-C45X-R10 | ■                                      | ■                                       | ■                                    | □                                      | □                                    |
|      |                                         | 3.5   | 10.5 | 15                      | 13.5                     | 0.70 | 3.15 | 1.60 | 0.10 | 37 | BF4R/L-35105-C45X-R10 | ■                                      | ■                                       | ■                                    | □                                      | □                                    |
|      |                                         |       | 17.5 | 20                      | 18.5                     | 0.70 | 3.15 | 1.60 | 0.10 | 42 | BF4R/L-35175-C45X-R10 | ■                                      | ■                                       | ■                                    | □                                      | □                                    |
| D h5 | Holder                                  | Ø min | L1   | L2<br>BH6...<br>BHY6... | L2<br>BHS6...<br>BHK6... | T    | E    | C    | R    | L3 | Art. N°               | ZTAF                                   | ZTAXF                                   | ZN                                   | ZTAF                                   | ZN                                   |
| 6    | BH6...<br>BHS6...<br>BHY6...<br>BHK6... | 4.0   | 12.0 | 20                      | 18.5                     | 0.80 | 3.80 | 2.30 | 0.15 | 47 | BF6R/L-40120-C45X-R15 | ■                                      | ■                                       | ■                                    | □                                      | □                                    |
|      |                                         |       | 20.0 | 30                      | 28.5                     | 0.80 | 3.80 | 2.30 | 0.15 | 57 | BF6R/L-40200-C45X-R15 | ■                                      | ■                                       | ■                                    | □                                      | □                                    |
|      |                                         | 4.5   | 13.5 | 20                      | 18.5                     | 0.90 | 4.28 | 2.40 | 0.15 | 47 | BF6R/L-45135-C45X-R15 | ■                                      | ■                                       | ■                                    | □                                      | □                                    |
|      |                                         |       | 22.5 | 30                      | 28.5                     | 0.90 | 4.28 | 2.40 | 0.15 | 57 | BF6R/L-45225-C45X-R15 | ■                                      | ■                                       | ■                                    | □                                      | □                                    |
|      |                                         | 5.0   | 15.0 | 20                      | 18.5                     | 1.00 | 4.75 | 2.50 | 0.15 | 47 | BF6R/L-50150-C45X-R15 | ■                                      | ■                                       | ■                                    | □                                      | □                                    |
|      |                                         |       | 25.0 | 30                      | 28.5                     | 1.00 | 4.75 | 2.50 | 0.15 | 57 | BF6R/L-50250-C45X-R15 | ■                                      | ■                                       | ■                                    | □                                      | □                                    |
|      |                                         | 5.5   | 16.5 | 20                      | 18.5                     | 1.10 | 5.15 | 2.60 | 0.15 | 47 | BF6R/L-55165-C45X-R15 | ■                                      | ■                                       | ■                                    | □                                      | □                                    |
|      |                                         |       | 27.5 | 30                      | 28.5                     | 1.10 | 5.15 | 2.60 | 0.15 | 57 | BF6R/L-55275-C45X-R15 | ■                                      | ■                                       | ■                                    | □                                      | □                                    |

Gorge  
Einstecken  
Grooving



BB4... / BB6...

GX



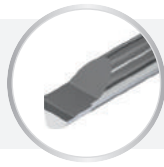
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|-----------------|-----------------------------------------|-------|------|-------------------------|--------------------------|------|------|------|------|----|--------------------|------|-------|----|------|----|
| D <sub>h5</sub> | Holder                                  | Ø min | L1   | L2<br>BH4...<br>BHY4... | L2<br>BHS4...<br>BHK4... | E1   | T    | E    | C    | L3 | Art. N°            | ZTAF | ZTAXF | ZN | ZTAF | ZN |
| 4               | BH4...<br>BHS4...<br>BHY4...<br>BHK4... | 3.0   | 9.0  | 15                      | 13.5                     | 0.50 | 0.60 | 2.70 | 1.45 | 37 | BB4R/L-3090-G050X  | ■    | ■     | ■  | □    | □  |
|                 |                                         |       | 15.0 | 20                      | 18.5                     | 0.50 | 0.60 | 2.70 | 1.45 | 42 | BB4R/L-30150-G050X | ■    | ■     | ■  | □    | □  |
|                 |                                         | 3.5   | 10.5 | 15                      | 13.5                     | 0.75 | 0.70 | 3.15 | 1.60 | 37 | BB4R/L-35105-G075X | ■    | ■     | ■  | □    | □  |
|                 |                                         |       | 17.5 | 20                      | 18.5                     | 0.75 | 0.70 | 3.15 | 1.60 | 42 | BB4R/L-35175-G075X | ■    | ■     | ■  | □    | □  |
| D <sub>h5</sub> | Holder                                  | Ø min | L1   | L2<br>BH6...<br>BHY6... | L2<br>BHS6...<br>BHK6... | E1   | T    | E    | C    | L3 | Art. N°            | ZTAF | ZTAXF | ZN | ZTAF | ZN |
| 6               | BH6...<br>BHS6...<br>BHY6...<br>BHK6... | 4.0   | 12.0 | 20                      | 18.5                     | 1.00 | 0.80 | 3.80 | 2.20 | 47 | BB6R/L-40120-G100X | ■    | ■     | ■  | □    | □  |
|                 |                                         |       | 20.0 | 30                      | 28.5                     | 1.00 | 0.80 | 3.80 | 2.20 | 57 | BB6R/L-40200-G100X | ■    | ■     | ■  | □    | □  |
|                 |                                         | 4.5   | 13.5 | 20                      | 18.5                     | 1.00 | 0.90 | 4.28 | 2.40 | 47 | BB6R/L-45135-G100X | ■    | ■     | ■  | □    | □  |
|                 |                                         |       |      |                         |                          | 1.50 |      |      |      |    | BB6R/L-45135-G150X | ■    | ■     | ■  | □    | □  |
|                 |                                         |       | 22.5 | 30                      | 28.5                     | 1.00 | 0.90 | 4.28 | 2.40 | 57 | BB6R/L-45225-G100X | ■    | ■     | ■  | □    | □  |
|                 |                                         |       |      |                         |                          | 1.50 |      |      |      |    | BB6R/L-45225-G150X | ■    | ■     | ■  | □    | □  |
|                 |                                         | 5.0   | 15.0 | 20                      | 18.5                     | 1.00 | 1.00 | 4.75 | 2.50 | 47 | BB6R/L-50150-G100X | ■    | ■     | ■  | □    | □  |
|                 |                                         |       |      |                         |                          | 1.50 |      |      |      |    | BB6R/L-50150-G150X | ■    | ■     | ■  | □    | □  |
|                 |                                         |       | 25.0 | 30                      | 28.5                     | 1.00 | 1.00 | 4.75 | 2.50 | 57 | BB6R/L-50250-G100X | ■    | ■     | ■  | □    | □  |
|                 |                                         |       |      |                         |                          | 1.50 |      |      |      |    | BB6R/L-50250-G150X | ■    | ■     | ■  | □    | □  |
|                 |                                         |       |      |                         |                          | 1.00 |      |      |      |    | BB6R/L-55165-G100X | ■    | ■     | ■  | □    | □  |
|                 |                                         |       |      |                         |                          | 1.50 |      |      |      |    | BB6R/L-55165-G150X | ■    | ■     | ■  | □    | □  |
|                 |                                         | 5.5   | 16.5 | 20                      | 18.5                     | 2.00 | 1.10 | 5.15 | 2.60 | 47 | BB6R/L-55165-G200X | ■    | ■     | ■  | □    | □  |
|                 |                                         |       |      |                         |                          | 1.00 |      |      |      |    | BB6R/L-55275-G100X | ■    | ■     | ■  | □    | □  |
|                 |                                         |       |      |                         |                          | 1.50 |      |      |      |    | BB6R/L-55275-G150X | ■    | ■     | ■  | □    | □  |
|                 |                                         |       |      |                         |                          | 2.00 |      |      |      |    | BB6R/L-55275-G200X | ■    | ■     | ■  | □    | □  |



Gorge

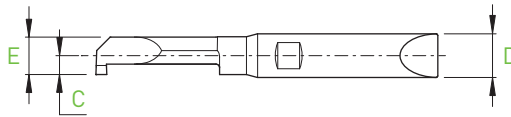
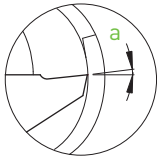
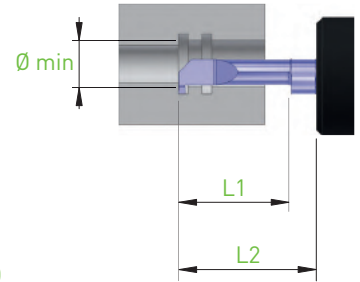
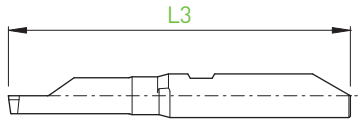
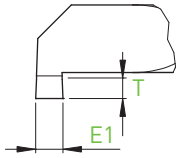
Einstecken

Grooving



BF4... / BF6...

GX

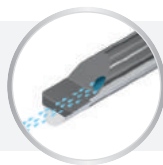


|      |                                         |       |      |                         |                          |      |                    |      |                    |      |      |                    | R                                                                |                                                                   | L                                                              |                                                                  |                                                                |     |  |  |
|------|-----------------------------------------|-------|------|-------------------------|--------------------------|------|--------------------|------|--------------------|------|------|--------------------|------------------------------------------------------------------|-------------------------------------------------------------------|----------------------------------------------------------------|------------------------------------------------------------------|----------------------------------------------------------------|-----|--|--|
| D h5 | Holder                                  | Ø min | L1   | L2<br>BH4...<br>BHY4... | L2<br>BHS4...<br>BHK4... | E1   | T                  | E    | a                  | C    | L3   | Art. N°            | <div><div>P</div><div>M</div><div>N</div><div>S</div></div> ZTAF | <div><div>P</div><div>M</div><div>N</div><div>S</div></div> ZTAXF | <div><div>P</div><div>M</div><div>N</div><div>S</div></div> ZN | <div><div>P</div><div>M</div><div>N</div><div>S</div></div> ZTAF | <div><div>P</div><div>M</div><div>N</div><div>S</div></div> ZN |     |  |  |
| 4    | BH4...<br>BHS4...<br>BHY4...<br>BHK4... | 0.5   | 1.0  | 10                      | 8.5                      | 0.15 | 0.10               | 0.45 | 3°                 | 0.25 | 32   | BF4R/L-0510-G015X  | ■                                                                | ■                                                                 | ■                                                              | □                                                                | □                                                              | new |  |  |
|      |                                         | 0.7   | 1.4  | 10                      | 8.5                      | 0.20 | 0.14               | 0.63 |                    | 0.35 | 32   | BF4R/L-0714-G020X  | ■                                                                | ■                                                                 | ■                                                              | □                                                                | □                                                              | new |  |  |
|      |                                         | 1.0   | 2.0  | 10                      | 8.5                      | 0.30 | 0.20               | 0.90 |                    | 0.60 | 32   | BF4R/L-1020-G030X  | ■                                                                | ■                                                                 | ■                                                              | □                                                                | □                                                              | new |  |  |
|      |                                         | 1.5   | 3.0  | 10                      | 8.5                      | 0.40 | 0.30               | 1.35 | 6°                 | 0.80 | 32   | BF4R/L-1530-G040X  | ■                                                                | ■                                                                 | ■                                                              | □                                                                | □                                                              | new |  |  |
|      |                                         | 2.0   | 6.0  | 10                      | 8.5                      | 0.40 | 0.40               | 1.80 |                    | 1.15 | 32   | BF4R/L-2060-G040X  | ■                                                                | ■                                                                 | ■                                                              | □                                                                | □                                                              | new |  |  |
|      |                                         | 2.5   | 7.5  | 10                      | 8.5                      | 0.50 | 0.50               | 2.25 |                    | 1.15 | 32   | BF4R/L-2575-G050X  | ■                                                                | ■                                                                 | ■                                                              | □                                                                | □                                                              | new |  |  |
|      |                                         | 3.0   | 9.0  | 15                      | 13.5                     | 0.50 | 0.60               | 2.70 |                    | 1.45 | 37   | BF4R/L-3090-G050X  | ■                                                                | ■                                                                 | ■                                                              | □                                                                | □                                                              |     |  |  |
|      |                                         |       | 15.0 | 20                      | 18.5                     | 0.50 | 0.60               | 2.70 |                    | 1.45 | 42   | BF4R/L-30150-G050X | ■                                                                | ■                                                                 | ■                                                              | □                                                                | □                                                              |     |  |  |
|      |                                         | 3.5   | 10.5 | 15                      | 13.5                     | 0.75 | 0.70               | 3.15 |                    | 1.60 | 37   | BF4R/L-35105-G075X | ■                                                                | ■                                                                 | ■                                                              | □                                                                | □                                                              |     |  |  |
| 17.5 | 20                                      |       | 18.5 | 0.75                    | 0.70                     | 3.15 | 1.60               | 42   | BF4R/L-35175-G075X | ■    | ■    | ■                  | □                                                                | □                                                                 |                                                                |                                                                  |                                                                |     |  |  |
| D h5 | Holder                                  | Ø min | L1   | L2<br>BH6...<br>BHY6... | L2<br>BHS6...<br>BHK6... | E1   | T                  | E    | a                  | C    | L3   | Art. N°            | ZTAF                                                             | ZTAXF                                                             | ZN                                                             | ZTAF                                                             | ZN                                                             |     |  |  |
| 6    | BH6...<br>BHS6...<br>BHY6...<br>BHK6... | 4.0   | 12.0 | 20                      | 18.5                     | 1.00 | 0.80               | 3.80 | 6°                 | 2.20 | 47   | BF6R/L-40120-G100X | ■                                                                | ■                                                                 | ■                                                              | □                                                                | □                                                              |     |  |  |
|      |                                         |       | 20.0 | 30                      | 28.5                     | 1.00 | 0.80               | 3.80 |                    | 2.20 | 57   | BF6R/L-40200-G100X | ■                                                                | ■                                                                 | ■                                                              | □                                                                | □                                                              |     |  |  |
|      |                                         | 4.5   | 13.5 | 20                      | 18.5                     | 1.00 | 0.90               | 4.28 |                    | 2.40 | 47   | BF6R/L-45135-G100X | ■                                                                | ■                                                                 | ■                                                              | □                                                                | □                                                              |     |  |  |
|      |                                         |       | 22.5 | 30                      | 28.5                     | 1.50 | 0.90               | 4.28 |                    | 2.40 | 57   | BF6R/L-45135-G150X | ■                                                                | ■                                                                 | ■                                                              | □                                                                | □                                                              |     |  |  |
|      |                                         |       |      |                         |                          | 1.00 |                    |      |                    |      |      | BF6R/L-45225-G100X | ■                                                                | ■                                                                 | ■                                                              | □                                                                | □                                                              |     |  |  |
|      |                                         |       | 5.0  | 15.0                    | 20                       | 18.5 | 1.50               | 1.00 |                    | 4.75 | 2.40 | 57                 | BF6R/L-45225-G150X                                               | ■                                                                 | ■                                                              | ■                                                                | □                                                              | □   |  |  |
|      |                                         | 1.00  |      |                         |                          |      | BF6R/L-50150-G100X |      |                    |      |      |                    | ■                                                                | ■                                                                 | ■                                                              | □                                                                | □                                                              |     |  |  |
|      |                                         | 25.0  |      | 30                      | 28.5                     | 1.50 | 1.00               | 4.75 |                    | 2.50 | 57   | BF6R/L-50150-G150X | ■                                                                | ■                                                                 | ■                                                              | □                                                                | □                                                              |     |  |  |
|      |                                         |       |      |                         |                          | 1.00 |                    |      |                    |      |      | BF6R/L-50250-G100X | ■                                                                | ■                                                                 | ■                                                              | □                                                                | □                                                              |     |  |  |
|      |                                         | 5.5   | 16.5 | 20                      | 18.5                     | 1.50 | 1.10               | 5.15 |                    | 2.60 | 47   | BF6R/L-50250-G150X | ■                                                                | ■                                                                 | ■                                                              | □                                                                | □                                                              |     |  |  |
|      |                                         |       |      |                         |                          | 1.50 |                    |      |                    |      |      | BF6R/L-55165-G100X | ■                                                                | ■                                                                 | ■                                                              | □                                                                | □                                                              |     |  |  |
|      |                                         |       | 27.5 | 30                      | 28.5                     | 2.00 | 1.10               | 5.15 |                    | 2.60 | 57   | BF6R/L-55165-G150X | ■                                                                | ■                                                                 | ■                                                              | □                                                                | □                                                              |     |  |  |
|      |                                         |       |      |                         |                          | 1.00 |                    |      |                    |      |      | BF6R/L-55165-G200X | ■                                                                | ■                                                                 | ■                                                              | □                                                                | □                                                              |     |  |  |
|      |                                         |       |      |                         |                          | 1.50 |                    |      |                    |      |      |                    | BF6R/L-55275-G100X                                               | ■                                                                 | ■                                                              | ■                                                                | □                                                              | □   |  |  |
|      |                                         |       |      |                         |                          | 2.00 |                    |      |                    |      |      |                    | BF6R/L-55275-G150X                                               | ■                                                                 | ■                                                              | ■                                                                | □                                                              | □   |  |  |
|      |                                         |       |      |                         |                          |      |                    |      |                    |      |      |                    |                                                                  |                                                                   |                                                                |                                                                  |                                                                |     |  |  |
|      |                                         |       |      |                         |                          |      |                    |      |                    |      |      |                    |                                                                  |                                                                   |                                                                |                                                                  |                                                                |     |  |  |
|      |                                         |       |      |                         |                          |      |                    |      |                    |      |      |                    |                                                                  |                                                                   |                                                                |                                                                  |                                                                |     |  |  |
|      |                                         |       |      |                         |                          |      |                    |      |                    |      |      |                    |                                                                  |                                                                   |                                                                |                                                                  |                                                                |     |  |  |
|      |                                         |       |      |                         |                          |      |                    |      |                    |      |      |                    |                                                                  |                                                                   |                                                                |                                                                  |                                                                |     |  |  |
|      |                                         |       |      |                         |                          |      |                    |      |                    |      |      |                    |                                                                  |                                                                   |                                                                |                                                                  |                                                                |     |  |  |
|      |                                         |       |      |                         |                          |      |                    |      |                    |      |      |                    |                                                                  |                                                                   |                                                                |                                                                  |                                                                |     |  |  |
|      |                                         |       |      |                         |                          |      |                    |      |                    |      |      |                    |                                                                  |                                                                   |                                                                |                                                                  |                                                                |     |  |  |

■ = disponible / verfügbar / available

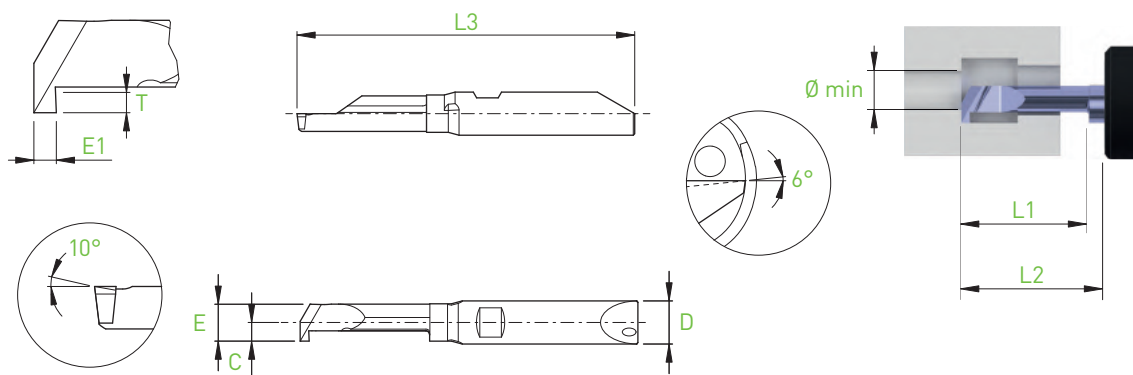
□ = selon disponibilité du stock / jenach Lagerverfügbarkeit / depending the stock availability

Fonçage-tournage  
Einstechen und drehen  
Grooving and turning



BB4... / BB6...

GTX

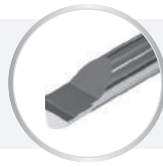


| D h5 | Holder                                  | Ø min | L1   | L2<br>BH4...<br>BHY4... | L2<br>BHS4...<br>BHK4... | E1   | T    | E    | C    | L3 | Art. N°             | R    |       | L  |    |
|------|-----------------------------------------|-------|------|-------------------------|--------------------------|------|------|------|------|----|---------------------|------|-------|----|----|
|      |                                         |       |      |                         |                          |      |      |      |      |    |                     | P    | P     | P  | P  |
| 4    | BH4...<br>BHS4...<br>BHY4...<br>BHK4... | 3.0   | 9.0  | 15                      | 13.5                     | 1.00 | 0.60 | 2.7  | 1.45 | 37 | BB4R/L-3090-GT100X  | ■    | ■     | □  | □  |
|      |                                         |       | 15.0 | 20                      | 18.5                     | 1.00 | 0.60 | 2.7  | 1.45 | 42 | BB4R/L-30150-GT100X | ■    | ■     | □  | □  |
|      |                                         | 3.5   | 10.5 | 15                      | 13.5                     | 1.00 | 0.70 | 3.15 | 1.6  | 37 | BB4R/L-35105-GT100X | ■    | ■     | □  | □  |
|      |                                         |       | 17.5 | 20                      | 18.5                     | 1.00 | 0.70 | 3.15 | 1.6  | 42 | BB4R/L-35175-GT100X | ■    | ■     | □  | □  |
|      |                                         |       |      |                         |                          |      |      |      |      |    |                     | ■    | ■     | □  | □  |
|      |                                         |       |      |                         |                          |      |      |      |      |    |                     | ■    | ■     | □  | □  |
| D h5 | Holder                                  | Ø min | L1   | L2<br>BH6...<br>BHY6... | L2<br>BHS6...<br>BHK6... | E1   | T    | E    | C    | L3 | Art. N°             | R    |       | L  |    |
|      |                                         |       |      |                         |                          |      |      |      |      |    |                     | ZTAF | ZTAXF | ZN | ZN |
| 6    | BH6...<br>BHS6...<br>BHY6...<br>BHK6... | 4.0   | 14.0 | 20                      | 18.5                     | 1.25 | 0.80 | 3.8  | 2.2  | 47 | BB6R/L-40140-GT125X | ■    | ■     | □  | □  |
|      |                                         |       | 22.0 | 30                      | 28.5                     | 1.25 | 0.80 | 3.8  | 2.2  | 57 | BB6R/L-40220-GT125X | ■    | ■     | □  | □  |
|      |                                         | 4.5   | 16.0 | 20                      | 18.5                     | 1.25 | 0.90 | 4.28 | 2.4  | 47 | BB6R/L-45160-GT125X | ■    | ■     | □  | □  |
|      |                                         |       | 25.0 | 30                      | 28.5                     | 1.25 | 0.90 | 4.28 | 2.4  | 57 | BB6R/L-45250-GT125X | ■    | ■     | □  | □  |
|      |                                         | 5.0   | 17.5 | 20                      | 18.5                     | 1.25 | 1.00 | 4.75 | 2.5  | 47 | BB6R/L-50175-GT125X | ■    | ■     | □  | □  |
|      |                                         |       | 27.5 | 30                      | 28.5                     | 1.25 | 1.00 | 4.75 | 2.5  | 57 | BB6R/L-50275-GT125X | ■    | ■     | □  | □  |
|      |                                         | 5.5   | 17.5 | 20                      | 18.5                     | 1.25 | 1.10 | 5.15 | 2.6  | 47 | BB6R/L-55175-GT125X | ■    | ■     | □  | □  |
|      |                                         |       | 27.5 | 30                      | 28.5                     | 1.25 | 1.10 | 5.15 | 2.6  | 57 | BB6R/L-55275-GT125X | ■    | ■     | □  | □  |
|      |                                         |       |      |                         |                          |      |      |      |      |    |                     | ■    | ■     | □  | □  |
|      |                                         |       |      |                         |                          |      |      |      |      |    |                     | ■    | ■     | □  | □  |

Fonçage-tournage

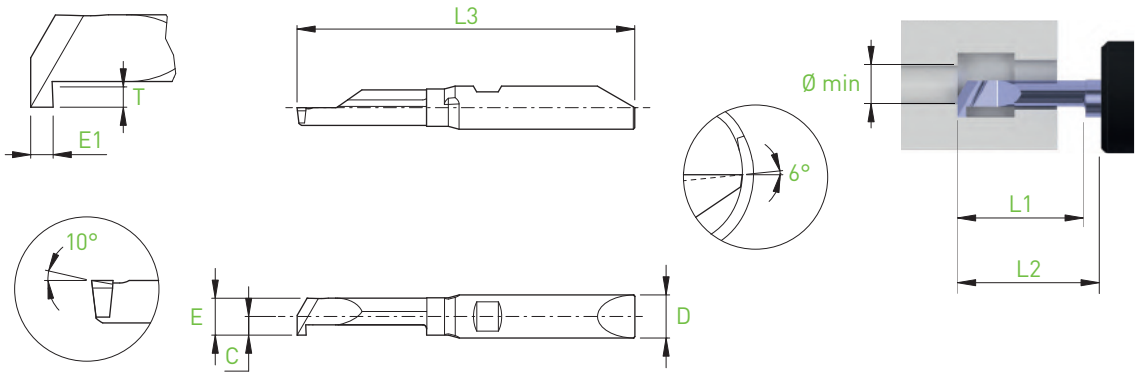
Einstecken und drehen

Grooving and turning



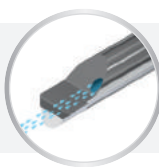
BF4... / BF6...

GTX



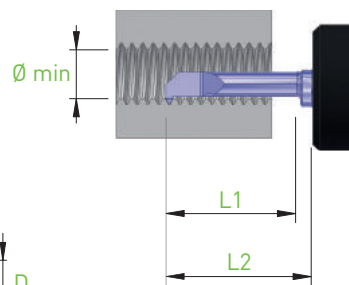
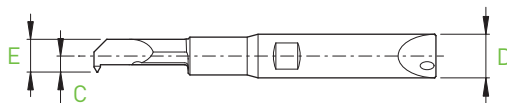
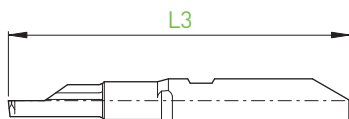
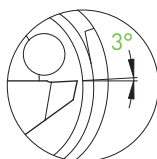
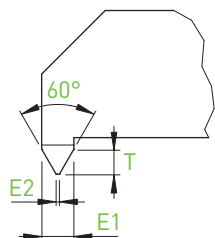
|      |                                         |       |      |                         |                          |      |      |      |      |    |                     | R                                                           |                                                             |                                                             | L                                                           |                                                             |
|------|-----------------------------------------|-------|------|-------------------------|--------------------------|------|------|------|------|----|---------------------|-------------------------------------------------------------|-------------------------------------------------------------|-------------------------------------------------------------|-------------------------------------------------------------|-------------------------------------------------------------|
|      |                                         |       |      | L2<br>BH4...<br>BHY4... | L2<br>BHS4...<br>BHK4... |      |      |      |      |    |                     | <div><div>P</div><div>M</div><div>N</div><div>S</div></div> | <div><div>P</div><div>M</div><div>N</div><div>S</div></div> | <div><div>P</div><div>M</div><div>N</div><div>S</div></div> | <div><div>P</div><div>M</div><div>N</div><div>S</div></div> | <div><div>P</div><div>M</div><div>N</div><div>S</div></div> |
| D h5 | Holder                                  | Ø min | L1   |                         |                          | E1   | T    | E    | C    | L3 | Art. N°             | ZTAF                                                        | ZTAXF                                                       | ZN                                                          | ZTAF                                                        | ZN                                                          |
| 4    | BH4...<br>BHS4...<br>BHY4...<br>BHK4... | 3.0   | 9.0  | 15                      | 13.5                     | 1.00 | 0.60 | 2.7  | 1.45 | 37 | BF4R/L-3090-GT100X  | ■                                                           | ■                                                           | ■                                                           | □                                                           | □                                                           |
|      |                                         |       | 15.0 | 20                      | 18.5                     | 1.00 | 0.60 | 2.7  | 1.45 | 42 | BF4R/L-30150-GT100X | ■                                                           | ■                                                           | ■                                                           | □                                                           | □                                                           |
|      |                                         | 3.5   | 10.5 | 15                      | 13.5                     | 1.00 | 0.70 | 3.15 | 1.6  | 37 | BF4R/L-35105-GT100X | ■                                                           | ■                                                           | ■                                                           | □                                                           | □                                                           |
|      |                                         |       | 17.5 | 20                      | 18.5                     | 1.00 | 0.70 | 3.15 | 1.6  | 42 | BF4R/L-35175-GT100X | ■                                                           | ■                                                           | ■                                                           | □                                                           | □                                                           |
| D h5 | Holder                                  | Ø min | L1   | L2<br>BH6...<br>BHY6... | L2<br>BHS6...<br>BHK6... | E1   | T    | E    | C    | L3 | Art. N°             | ZTAF                                                        | ZTAXF                                                       | ZN                                                          | ZTAF                                                        | ZN                                                          |
| 6    | BH6...<br>BHS6...<br>BHY6...<br>BHK6... | 4.0   | 14.0 | 20                      | 18.5                     | 1.25 | 0.80 | 3.8  | 2.2  | 47 | BF6R/L-40140-GT125X | ■                                                           | ■                                                           | ■                                                           | □                                                           | □                                                           |
|      |                                         |       | 22.0 | 30                      | 28.5                     | 1.25 | 0.80 | 3.8  | 2.2  | 57 | BF6R/L-40220-GT125X | ■                                                           | ■                                                           | ■                                                           | □                                                           | □                                                           |
|      |                                         | 4.5   | 16.0 | 20                      | 18.5                     | 1.25 | 0.90 | 4.28 | 2.4  | 47 | BF6R/L-45160-GT125X | ■                                                           | ■                                                           | ■                                                           | □                                                           | □                                                           |
|      |                                         |       | 25.0 | 30                      | 28.5                     | 1.25 | 0.90 | 4.28 | 2.4  | 57 | BF6R/L-45250-GT125X | ■                                                           | ■                                                           | ■                                                           | □                                                           | □                                                           |
|      |                                         | 5.0   | 17.5 | 20                      | 18.5                     | 1.25 | 1.00 | 4.75 | 2.5  | 47 | BF6R/L-50175-GT125X | ■                                                           | ■                                                           | ■                                                           | □                                                           | □                                                           |
|      |                                         |       | 27.5 | 30                      | 28.5                     | 1.25 | 1.00 | 4.75 | 2.5  | 57 | BF6R/L-50275-GT125X | ■                                                           | ■                                                           | ■                                                           | □                                                           | □                                                           |
|      |                                         | 5.5   | 17.5 | 20                      | 18.5                     | 1.25 | 1.10 | 5.15 | 2.6  | 47 | BF6R/L-55175-GT125X | ■                                                           | ■                                                           | ■                                                           | □                                                           | □                                                           |
|      |                                         |       | 27.5 | 30                      | 28.5                     | 1.25 | 1.10 | 5.15 | 2.6  | 57 | BF6R/L-55275-GT125X | ■                                                           | ■                                                           | ■                                                           | □                                                           | □                                                           |

Filetage  
Gewindedrehen  
Threading



BB4... / BB6...

TP60

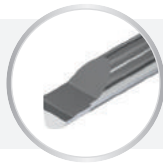


| D <sub>h5</sub> | Holder                                  | Ø <sub>min</sub> | L1   | L2<br>BH4...<br>BHY4... | L2<br>BHS4...<br>BHK4... | P (mm)    | P (TPI) | E1   | E2<br>(0/-0.01) | T    | E    | C    | L3 | Art. N°           | R    |    | L    |    |
|-----------------|-----------------------------------------|------------------|------|-------------------------|--------------------------|-----------|---------|------|-----------------|------|------|------|----|-------------------|------|----|------|----|
|                 |                                         |                  |      |                         |                          |           |         |      |                 |      |      |      |    |                   | ZTAF | ZN | ZTAF | ZN |
| 4               | BH4...<br>BHS4...<br>BHY4...<br>BHK4... | 1.25             | 3.2  | 10                      | 8.5                      | 0.20-0.35 | 80      | 0.30 | 0.02            | 0.25 | 1.10 | 0.80 | 32 | BB4R/L-1232-TP60  | ■    | ■  | □    | □  |
|                 |                                         | 1.6              | 4.0  | 10                      | 8.5                      | 0.25-0.40 | 72-64   | 0.35 | 0.03            | 0.28 | 1.41 | 0.90 | 32 | BB4R/L-1640-TP60  | ■    | ■  | □    | □  |
|                 |                                         | 2.5              | 6.0  | 10                      | 8.5                      | 0.35-0.50 | 56-48   | 0.44 | 0.04            | 0.34 | 2.25 | 1.35 | 32 | BB4R/L-2560-TP60  | ■    | ■  | □    | □  |
|                 |                                         |                  | 9.0  | 15                      | 13.5                     | 0.35-0.50 | 56-48   | 0.44 | 0.04            | 0.34 | 2.25 | 1.35 | 37 | BB4R/L-2590-TP60  | ■    | ■  | □    | □  |
|                 |                                         | 3.3              | 8.0  | 15                      | 13.5                     | 0.50-0.75 | 40-36   | 0.62 | 0.06            | 0.48 | 2.97 | 1.50 | 37 | BB4R/L-3380-TP60  | ■    | ■  | □    | □  |
|                 |                                         |                  | 12.0 | 15                      | 13.5                     | 0.50-0.75 | 40-36   | 0.62 | 0.06            | 0.48 | 2.97 | 1.50 | 37 | BB4R/L-33120-TP60 | ■    | ■  | □    | □  |
| D <sub>h5</sub> | Holder                                  | Ø <sub>min</sub> | L1   | L2<br>BH6...<br>BHY6... | L2<br>BHS6...<br>BHK6... | P (mm)    | P (TPI) | E1   | E2<br>(0/-0.01) | T    | E    | C    | L3 | Art. N°           | R    |    | L    |    |
|                 |                                         |                  |      |                         |                          |           |         |      |                 |      |      |      |    |                   | ZTAF | ZN | ZTAF | ZN |
| 6               | BH6...<br>BHS6...<br>BHY6...<br>BHK6... | 4.2              | 10.0 | 20                      | 18.5                     | 0.50-0.80 | 36-32   | 0.70 | 0.06            | 0.55 | 3.78 | 2.10 | 47 | BB6R/L-42100-TP60 | ■    | ■  | □    | □  |
|                 |                                         |                  | 15.0 | 20                      | 18.5                     | 0.50-0.80 | 36-32   | 0.70 | 0.06            | 0.55 | 3.78 | 2.10 | 47 | BB6R/L-42150-TP60 | ■    | ■  | □    | □  |
|                 |                                         | 5.0              | 12.0 | 20                      | 18.5                     | 0.75-1.00 | 28-24   | 0.89 | 0.09            | 0.69 | 4.50 | 2.20 | 47 | BB6R/L-50120-TP60 | ■    | ■  | □    | □  |
|                 |                                         |                  | 18.0 | 20                      | 18.5                     | 0.75-1.00 | 28-24   | 0.89 | 0.09            | 0.69 | 4.50 | 2.20 | 47 | BB6R/L-50180-TP60 | ■    | ■  | □    | □  |

Filetage

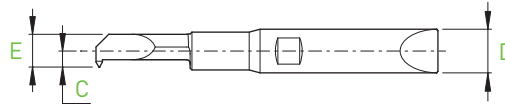
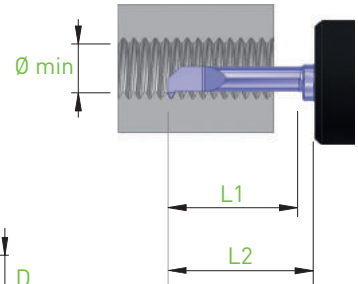
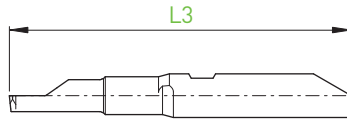
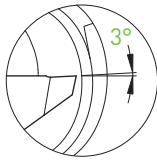
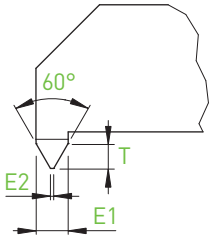
Gewindedrehen

Threading



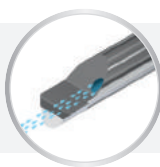
BF4... / BF6...

TP60



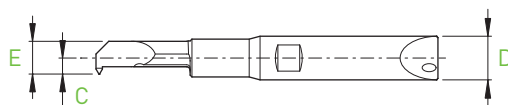
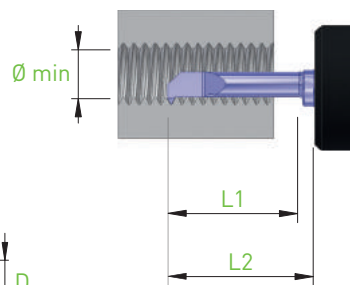
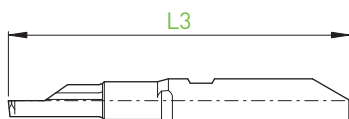
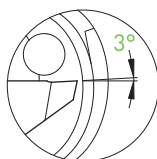
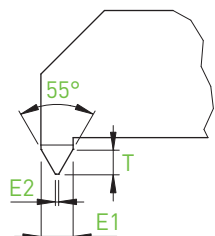
|         |                                         |          |      |                         |                          |           |         |      |                 |      |      |      |    |                   | R                                                    |                                                   | L                                                    |                                                   |
|---------|-----------------------------------------|----------|------|-------------------------|--------------------------|-----------|---------|------|-----------------|------|------|------|----|-------------------|------------------------------------------------------|---------------------------------------------------|------------------------------------------------------|---------------------------------------------------|
| D<br>h5 | Holder                                  | Ø<br>min | L1   | L2<br>BH4...<br>BHY4... | L2<br>BHS4...<br>BHK4... | P (mm)    | P (TPI) | E1   | E2<br>(0/-0.01) | T    | E    | C    | L3 | Art. N°           | <div><div>P</div><div>M</div><div>S</div></div> ZTAF | <div><div>P</div><div></div><div>S</div></div> ZN | <div><div>P</div><div>M</div><div>S</div></div> ZTAF | <div><div>P</div><div></div><div>S</div></div> ZN |
| 4       | BH4...<br>BHS4...<br>BHY4...<br>BHK4... | 1.25     | 3.2  | 10                      | 8.5                      | 0.20-0.35 | 80      | 0.30 | 0.02            | 0.25 | 1.10 | 0.80 | 32 | BF4R/L-1232-TP60  | ■                                                    | ■                                                 | □                                                    | □                                                 |
|         |                                         | 1.6      | 4.0  | 10                      | 8.5                      | 0.25-0.40 | 72-64   | 0.35 | 0.03            | 0.28 | 1.41 | 0.90 | 32 | BF4R/L-1640-TP60  | ■                                                    | ■                                                 | □                                                    | □                                                 |
|         |                                         | 2.5      | 6.0  | 10                      | 8.5                      | 0.35-0.50 | 56-48   | 0.44 | 0.04            | 0.34 | 2.25 | 1.35 | 32 | BF4R/L-2560-TP60  | ■                                                    | ■                                                 | □                                                    | □                                                 |
|         |                                         |          | 9.0  | 15                      | 13.5                     | 0.35-0.50 | 56-48   | 0.44 | 0.04            | 0.34 | 2.25 | 1.35 | 37 | BF4R/L-2590-TP60  | ■                                                    | ■                                                 | □                                                    | □                                                 |
|         |                                         | 3.3      | 8.0  | 15                      | 13.5                     | 0.50-0.75 | 40-36   | 0.62 | 0.06            | 0.48 | 2.97 | 1.50 | 37 | BF4R/L-3380-TP60  | ■                                                    | ■                                                 | □                                                    | □                                                 |
|         |                                         |          | 12.0 | 15                      | 13.5                     | 0.50-0.75 | 40-36   | 0.62 | 0.06            | 0.48 | 2.97 | 1.50 | 37 | BF4R/L-33120-TP60 | ■                                                    | ■                                                 | □                                                    | □                                                 |
| D<br>h5 | Holder                                  | Ø<br>min | L1   | L2<br>BH6...<br>BHY6... | L2<br>BHS6...<br>BHK6... | P (mm)    | P (TPI) | E1   | E2<br>(0/-0.01) | T    | E    | C    | L3 | Art. N°           | ZTAF                                                 | ZN                                                | ZTAF                                                 | ZN                                                |
| 6       | BH6...<br>BHS6...<br>BHY6...<br>BHK6... | 4.2      | 10.0 | 20                      | 18.5                     | 0.50-0.80 | 36-32   | 0.70 | 0.06            | 0.55 | 3.78 | 2.10 | 47 | BF6R/L-42100-TP60 | ■                                                    | ■                                                 | □                                                    | □                                                 |
|         |                                         |          | 15.0 | 20                      | 18.5                     | 0.50-0.80 | 36-32   | 0.70 | 0.06            | 0.55 | 3.78 | 2.10 | 47 | BF6R/L-42150-TP60 | ■                                                    | ■                                                 | □                                                    | □                                                 |
|         |                                         | 5.0      | 12.0 | 20                      | 18.5                     | 0.75-1.00 | 28-24   | 0.89 | 0.09            | 0.69 | 4.50 | 2.20 | 47 | BF6R/L-50120-TP60 | ■                                                    | ■                                                 | □                                                    | □                                                 |
|         |                                         |          | 18.0 | 20                      | 18.5                     | 0.75-1.00 | 28-24   | 0.89 | 0.09            | 0.69 | 4.50 | 2.20 | 47 | BF6R/L-50180-TP60 | ■                                                    | ■                                                 | □                                                    | □                                                 |

Filetage  
Gewindedrehen  
Threading



BB4... / BB6...

TP55

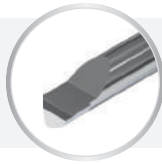


| D <sub>h5</sub> | Holder                                  | Ø<br>min | L1   | L2<br>BH4...<br>BHY4... | L2<br>BHS4...<br>BHK4... | P<br>(TPI) | E1   | E2<br>[0/-0.02] | T    | E    | C    | L3 | Art. N°           | R    |    | L    |    |
|-----------------|-----------------------------------------|----------|------|-------------------------|--------------------------|------------|------|-----------------|------|------|------|----|-------------------|------|----|------|----|
|                 |                                         |          |      |                         |                          |            |      |                 |      |      |      |    |                   | ZTAF | ZN | ZTAF | ZN |
| 4               | BH4...<br>BHS4...<br>BHY4...<br>BHK4... | 1.85     | 4.5  | 10                      | 8.5                      | 48         | 0.54 | 0.09            | 0.44 | 1.67 | 0.97 | 32 | BB4R/L-1845-TP55  | ■    | ■  | □    | □  |
|                 |                                         | 2.55     | 6.0  | 10                      | 8.5                      | 40         | 0.64 | 0.10            | 0.52 | 2.25 | 1.35 | 32 | BB4R/L-2560-TP55  | ■    | ■  | □    | □  |
| 6               | BH6...<br>BHS6...<br>BHY6...<br>BHK6... | Ø<br>min | L1   | L2<br>BH6...<br>BHY6... | L2<br>BHS6...<br>BHK6... | P<br>(TPI) | E1   | E2<br>[0/-0.02] | T    | E    | C    | L3 | Art. N°           | ZTAF |    | ZTAF |    |
|                 |                                         |          |      |                         |                          |            |      |                 |      |      |      |    |                   |      |    |      |    |
| 6               | BH6...<br>BHS6...<br>BHY6...<br>BHK6... | 3.70     | 11.0 | 20                      | 18.5                     | 32-24      | 1.08 | 0.13            | 0.91 | 3.33 | 1.83 | 47 | BB6R/L-37110-TP55 | ■    | ■  | □    | □  |
|                 |                                         | 5.10     | 15.0 | 20                      | 18.5                     | 26-20      | 1.30 | 0.16            | 1.09 | 4.60 | 2.05 | 47 | BB6R/L-51150-TP55 | ■    | ■  | □    | □  |
|                 |                                         | 5.50     | 16.0 | 20                      | 18.5                     | 22-16      | 1.48 | 0.19            | 1.24 | 5.15 | 2.60 | 47 | BB6R/L-55160-TP55 | ■    | ■  | □    | □  |
|                 |                                         |          |      |                         |                          |            |      |                 |      |      |      |    |                   |      |    |      |    |

Filetage

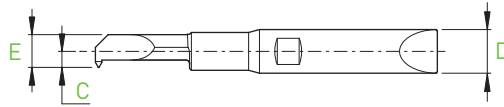
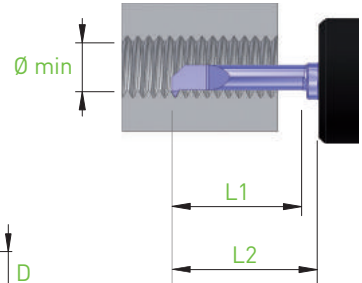
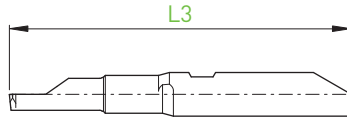
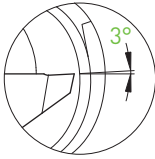
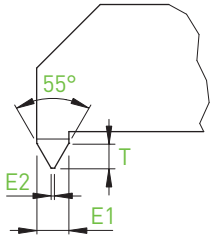
Gewindedrehen

Threading



BF4... / BF6...

TP55

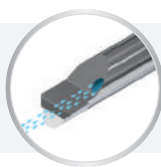


| D <sub>h5</sub> | Holder                                  | Ø<br>min | L1   | L2<br>BH4...<br>BHY4... | L2<br>BHS4...<br>BHK4... | P<br>(TPI) | E1   | E2<br>[0/-0.02] | T    | E    | C    | L3 | Art. N°           | R    |    | L    |    |
|-----------------|-----------------------------------------|----------|------|-------------------------|--------------------------|------------|------|-----------------|------|------|------|----|-------------------|------|----|------|----|
|                 |                                         |          |      |                         |                          |            |      |                 |      |      |      |    |                   | ZTAF | ZN | ZTAF | ZN |
| 4               | BH4...<br>BHS4...<br>BHY4...<br>BHK4... | 1.85     | 4.5  | 10                      | 8.5                      | 48         | 0.54 | 0.09            | 0.44 | 1.67 | 0.97 | 32 | BF4R/L-1845-TP55  | ■    | ■  | □    | □  |
|                 |                                         | 2.55     | 6.0  | 10                      | 8.5                      | 40         | 0.64 | 0.10            | 0.52 | 2.25 | 1.35 | 32 | BF4R/L-2560-TP55  | ■    | ■  | □    | □  |
| 6               | BH6...<br>BHS6...<br>BHY6...<br>BHK6... | Ø<br>min | L1   | L2<br>BH6...<br>BHY6... | L2<br>BHS6...<br>BHK6... | P<br>(TPI) | E1   | E2<br>[0/-0.02] | T    | E    | C    | L3 | Art. N°           | ZTAF | ZN | ZTAF | ZN |
|                 |                                         |          |      |                         |                          |            |      |                 |      |      |      |    |                   |      |    |      |    |
| 6               | BH6...<br>BHS6...<br>BHY6...<br>BHK6... | 3.70     | 11.0 | 20                      | 18.5                     | 32-24      | 1.08 | 0.13            | 0.91 | 3.33 | 1.83 | 47 | BF6R/L-37110-TP55 | ■    | ■  | □    | □  |
|                 |                                         | 5.10     | 15.0 | 20                      | 18.5                     | 26-20      | 1.30 | 0.16            | 1.09 | 4.60 | 2.05 | 47 | BF6R/L-51150-TP55 | ■    | ■  | □    | □  |
|                 |                                         | 5.50     | 16.0 | 20                      | 18.5                     | 22-16      | 1.48 | 0.19            | 1.24 | 5.15 | 2.60 | 47 | BF6R/L-55160-TP55 | ■    | ■  | □    | □  |

Filetage

Gewindedrehen

Threading



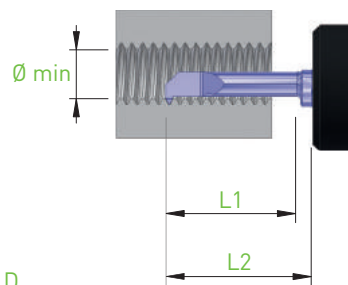
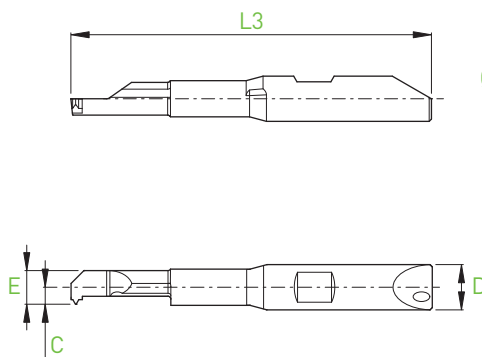
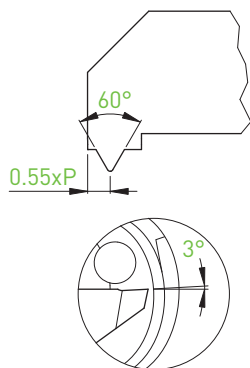
BB4... / BB6...

TM

Profil complet métrique

Metrisches Vollprofil

Metric full profile



R

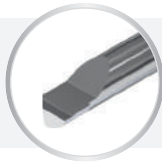
| D h5 | Holder                                  | M (min) | Ø min | P (mm) | L1   | L2<br>BH4...<br>BHY4... | L2<br>BHS4...<br>BHK4... | E    | C    | L3 | Art. N°            | ZTAF | ZN |
|------|-----------------------------------------|---------|-------|--------|------|-------------------------|--------------------------|------|------|----|--------------------|------|----|
| 4    | BH4...<br>BHS4...<br>BHY4...<br>BHK4... | M3x0.5  | 2.50  | 0.50   | 6.0  | 10                      | 8.5                      | 2.25 | 1.35 | 32 | BB4R-2560-TM-0.50  | ■    | ■  |
|      |                                         | M4x0.7  | 3.30  | 0.70   | 8.0  | 15                      | 13.5                     | 2.97 | 1.50 | 37 | BB4R-3380-TM-0.70  | ■    | ■  |
| D h5 | Holder                                  | M (min) | Ø min | P (mm) | L1   | L2<br>BH6...<br>BHY6... | L2<br>BHS6...<br>BHK6... | E    | C    | L3 | Art. N°            | ZTAF | ZN |
| 6    | BH6...<br>BHS6...<br>BHY6...<br>BHK6... | M5x0.8  | 4.20  | 0.80   | 10.0 | 20                      | 18.5                     | 3.78 | 2.10 | 47 | BB6R-42100-TM-0.80 | ■    | ■  |
|      |                                         | M6x1.0  | 5.00  | 1.00   | 12.0 | 20                      | 18.5                     | 4.50 | 2.20 | 47 | BB6R-50120-TM-1.00 | ■    | ■  |



Filetage

Gewindedrehen

Threading



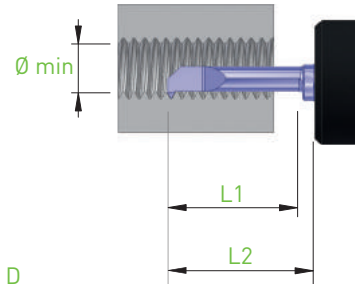
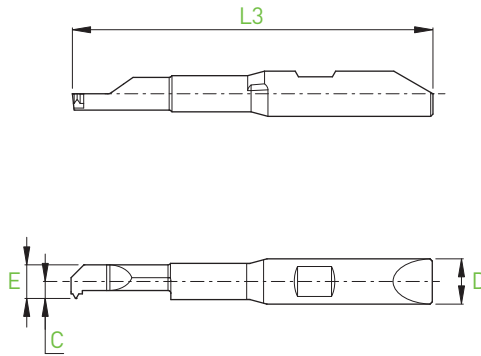
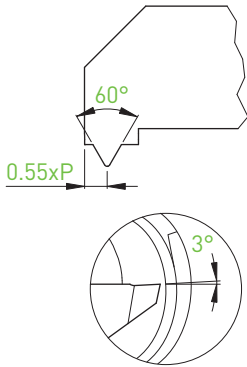
BF4... / BF6...

TM

Profil complet métrique

Metrisches Vollprofil

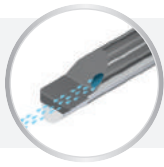
Metric full profile



R

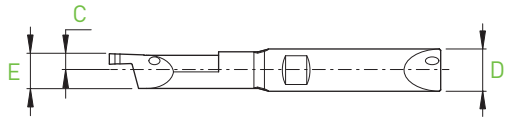
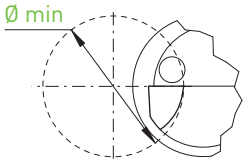
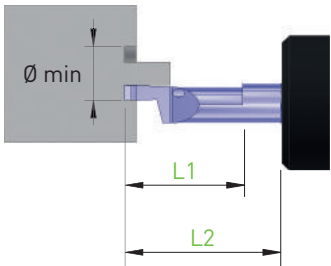
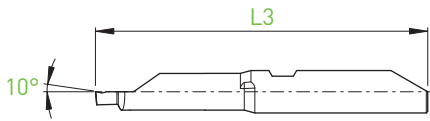
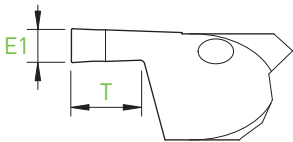
| D h5 | Holder                                  | M (min) | Ø min | P (mm) | L1   | L2<br>BH4...<br>BHY4... | L2<br>BHS4...<br>BHK4... | E    | C    | L3 | Art. N°            | ZTAF | ZN |
|------|-----------------------------------------|---------|-------|--------|------|-------------------------|--------------------------|------|------|----|--------------------|------|----|
| 4    | BH4...<br>BHS4...<br>BHY4...<br>BHK4... | M3x0.5  | 2.50  | 0.50   | 6.0  | 10                      | 8.5                      | 2.25 | 1.35 | 32 | BF4R-2560-TM-0.50  | ■    | ■  |
|      |                                         | M4x0.7  | 3.30  | 0.70   | 8.0  | 15                      | 13.5                     | 2.97 | 1.50 | 37 | BF4R-3380-TM-0.70  | ■    | ■  |
| D h5 | Holder                                  | M (min) | Ø min | P (mm) | L1   | L2<br>BH6...<br>BHY6... | L2<br>BHS6...<br>BHK6... | E    | C    | L3 | Art. N°            | ZTAF | ZN |
| 6    | BH6...<br>BHS6...<br>BHY6...<br>BHK6... | M5x0.8  | 4.20  | 0.80   | 10.0 | 20                      | 18.5                     | 3.78 | 2.10 | 47 | BF6R-42100-TM-0.80 | ■    | ■  |
|      |                                         | M6x1.0  | 5.00  | 1.00   | 12.0 | 20                      | 18.5                     | 4.50 | 2.20 | 47 | BF6R-50120-TM-1.00 | ■    | ■  |

Gorge frontale extérieure  
Aussen axiales stechen  
External axial grooving



BB6...

FEG

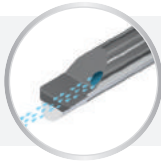


|      |                                         |       |      |                         |                          |      |      |      |      |    | R                  |                                                                             |                                                                          |
|------|-----------------------------------------|-------|------|-------------------------|--------------------------|------|------|------|------|----|--------------------|-----------------------------------------------------------------------------|--------------------------------------------------------------------------|
| D h5 | Holder                                  | Ø min | L1   | L2<br>BH6...<br>BHY6... | L2<br>BHS6...<br>BHK6... | T    | E    | C    | E1   | L3 | Art. N°            | <div><div>P</div><div>M</div><div>N</div><div>S</div></div> <div>ZTAF</div> | <div><div>P</div><div></div><div>N</div><div>S</div></div> <div>ZN</div> |
| 6    | BH6...<br>BHS6...<br>BHY6...<br>BHK6... | 5.0   | 15.0 | 20                      | 18.5                     | 3.00 | 4.90 | 2.30 | 1.50 | 47 | BB6R-50150-FEG150X | <div><div>■</div><div>■</div></div>                                         |                                                                          |

Gorge frontale intérieure

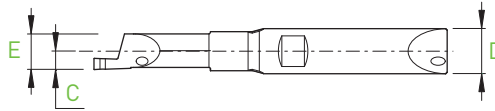
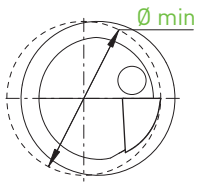
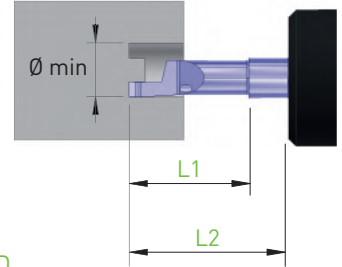
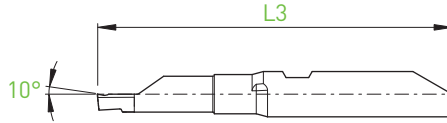
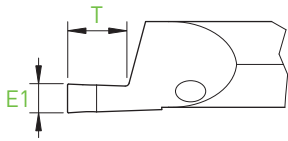
Innen axiales stechen

Internal axial grooving



BB6...

FIG



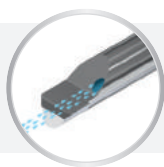
R

| D h5 | Holder                                  | Ø min | L1   | L2<br>BH6...<br>BHY6... | L2<br>BHS6...<br>BHK6... | T    | E    | C    | E1   | L3 | Art. N°            | ZTAF | ZN |
|------|-----------------------------------------|-------|------|-------------------------|--------------------------|------|------|------|------|----|--------------------|------|----|
| 6    | BH6...<br>BHS6...<br>BHY6...<br>BHK6... | 5.0   | 15.0 | 20                      | 18.5                     | 3.00 | 4.75 | 2.45 | 1.50 | 47 | BB6R-50150-FIG150X | ■    | ■  |

Ébauches avec arrosage

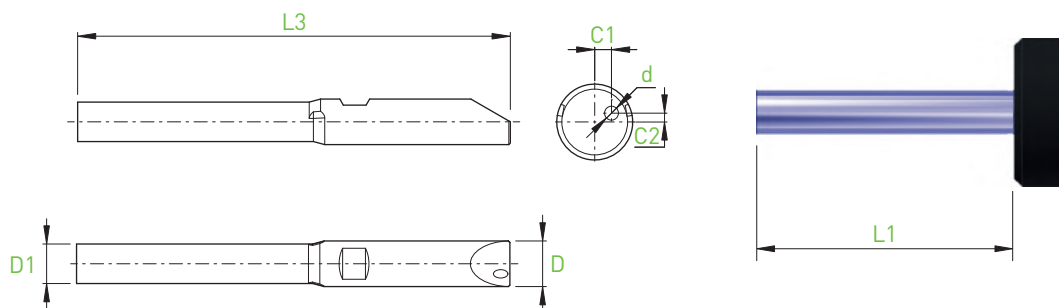
Rohlinge mit Kühlung

Blanks with coolant



BB4... / BB6...

BB\_E



| D h5 | Holder                                  | L1<br>BH4...<br>BHY4... | L1<br>BHS4...<br>BHK4... | D1   | C1   | C2   | d    | L3 | Art. N°  | NZ |
|------|-----------------------------------------|-------------------------|--------------------------|------|------|------|------|----|----------|----|
| 4    | BH4...<br>BHS4...<br>BHY4...<br>BHK4... | 20.0                    | 18.5                     | 3.20 | 0.84 | 0.55 | 0.85 | 42 | BB4R-E42 | ■  |
| D h5 | Holder                                  | L1<br>BH6...<br>BHY6... | L1<br>BHS6...<br>BHK6... | D1   | C1   | C2   | d    | L3 | Art. N°  | NZ |
| 6    | BH6...<br>BHS6...<br>BHY6...<br>BHK6... | 30.0                    | 28.5                     | 5.20 | 1.33 | 0.70 | 1.10 | 57 | BB6R-E57 | ■  |

Ébauches

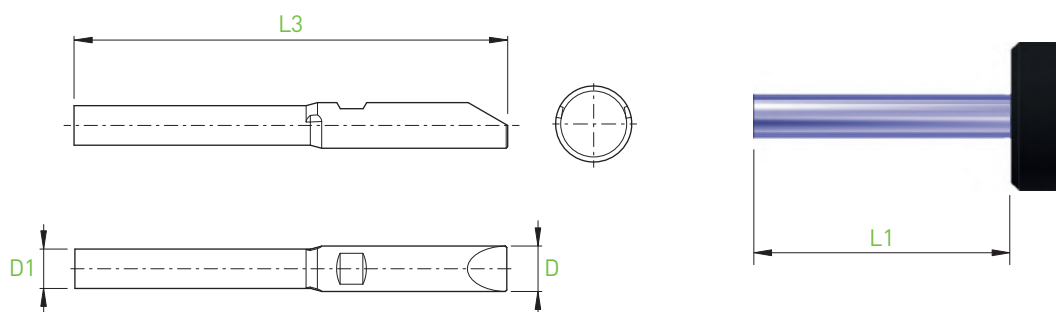
Rohlinge

Blanks



BF4... / BF6...

BF\_E



| D <sub>h5</sub> | Holder                                  | L1<br>BH4...<br>BHY4... | L1<br>BHS4...<br>BHK4... | D1   | L3 | Art. N° | NZ |
|-----------------|-----------------------------------------|-------------------------|--------------------------|------|----|---------|----|
| 4               | BH4...<br>BHS4...<br>BHY4...<br>BHK4... | 20.0                    | 18.5                     | 3.20 | 42 | BF4-E42 | ■  |
| D <sub>h5</sub> | Holder                                  | L1<br>BH6...<br>BHY6... | L1<br>BHS6...<br>BHK6... | D1   | L3 | Art. N° | NZ |
| 6               | BH6...<br>BHS6...<br>BHY6...<br>BHK6... | 30.0                    | 28.5                     | 5.20 | 57 | BF6-E57 | ■  |

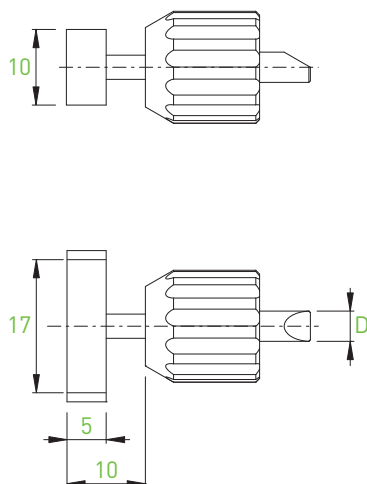
Jauges d'alignement

Richtplatten

Adjusting tools

MASTER

BH4 / BH6



| D <sub>h5</sub> | Art. N°    |   |
|-----------------|------------|---|
| 4               | BH4-MASTER | ■ |
| 6               | BH6-MASTER | ■ |

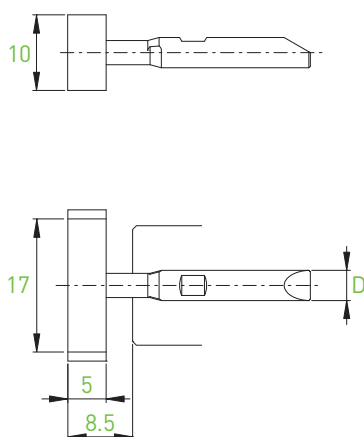
Jauges d'alignement

Richtplatten

Adjusting tools

MASTER

BHSY...



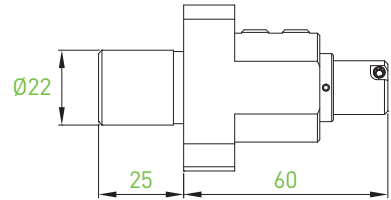
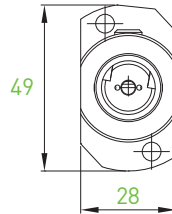
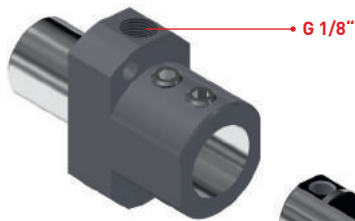
| D <sub>h5</sub> | Art. N°      |   |
|-----------------|--------------|---|
| 4               | BHSY4-MASTER | ■ |
| 6               | BHSY6-MASTER | ■ |

Porte-outils avec arrosage pour contre-opération - Machines STAR

Halter mit Kühlungssystem für Gegenbearbeitung – STAR-Maschinen

Backworking holders with through coolant – STAR-Machines

**BH4 / BH6**  
**BHS4 / BHS6**



Art. N°

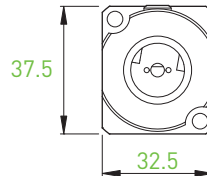
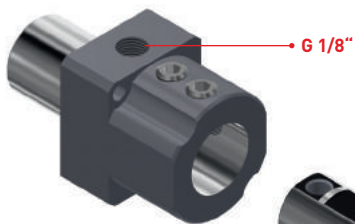
BWD1-2022-STAR-SRR

Art. N°

BHS4-D20-55-BWD1  
BHS6-D20-55-BWD1

Types of STAR machines

SR10J (T22+T24)  
SB16/20 Types C + D + E (T21-T24)  
SB20R Types E + G + N (T21-T24)  
SR20J / JN (T21-T24)  
SR20R / II / III (T21-T24)  
SR20R IV (T21-T24)  
SR32J/JN (T21-T24)  
SW12RII (T21-T24)  
SV20R (T21-T24)  
ECAS12/20 (T21-T24)  
SW20 (T21-T23)



Art. N°

BWD1-2022-STAR-SW

Art. N°

BHS4-D20-55-BWD1  
BHS6-D20-55-BWD1

Types of STAR machines

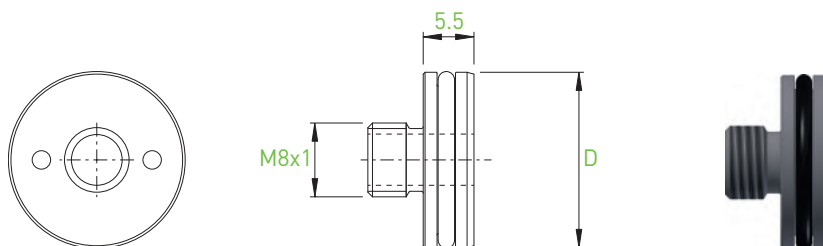
SW12RII (T21-T28)  
SW20 (T21-T23 + T25-T27)  
SV20R (T21-T28)  
SR-20R IV (T21-T28)  
SB12/20R (T22-T24)  
SR38 (T21-T28)

Bagues d'étanchéité

Dichtungsringe

Sealing rings密封環

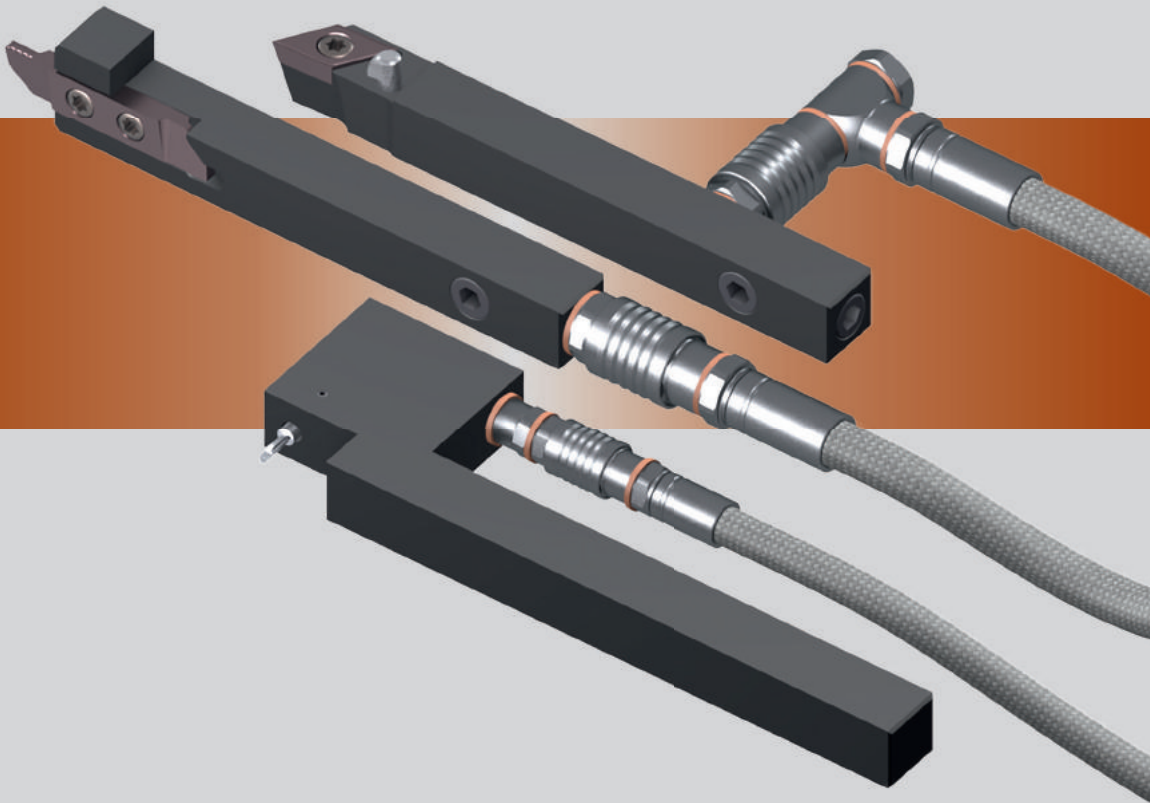
JB



| D     | Art. N°        |   |
|-------|----------------|---|
| 19.05 | JB-M8X1-D19.05 | ■ |
| 20    | JB-M8X1-D20    | ■ |
| 22    | JB-M8X1-D22    | ■ |
| 25    | JB-M8X1-D25    | ■ |
| 25.4  | JB-M8X1-D25.4  | ■ |

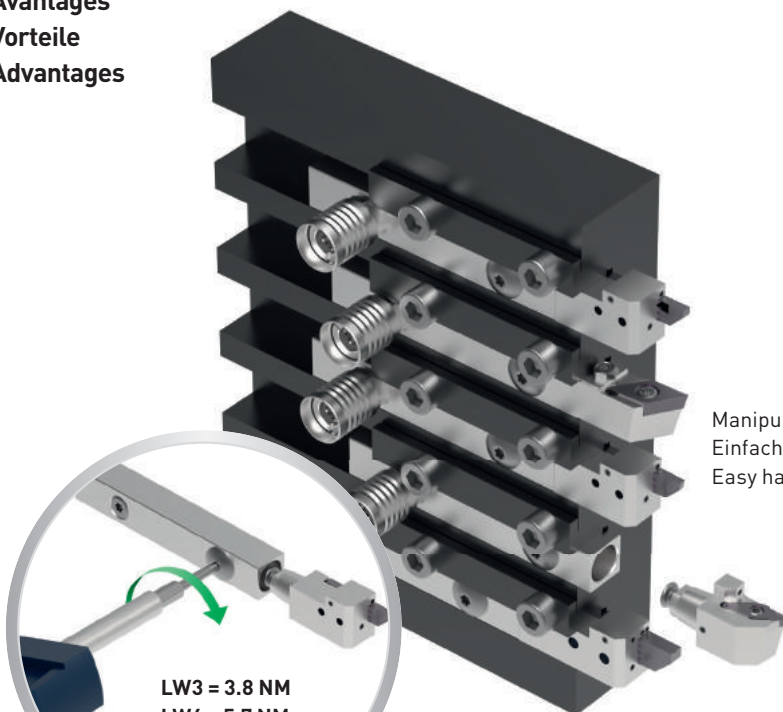


# JET-LINE



**DISCOVER JET-LINE IN CHAPTER 16!**

Avantages  
Vorteile  
Advantages

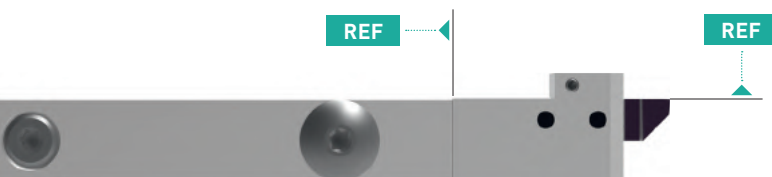
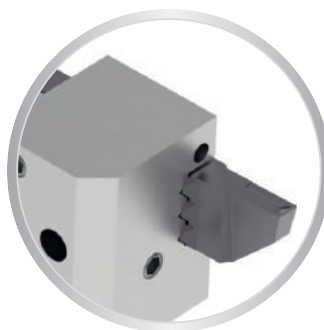


Manipulation facilitée  
Einfache Handhabung  
Easy handling

LW3 = 3.8 NM  
LW4 = 5.7 NM

Changement rapide  
Schneller Wechsel  
Quick change

Lubrification intégrée  
Integrierte Kühlung  
Integrated coolant



Excellente répétitivité  
Ausgezeichnete  
Wiederholgenauigkeit  
Excellent repeatability

## Index

INFO

&gt; 11.02

Supports carrés  
Viereckige Halter  
Square holders



&gt; 11.05

## Têtes interchangeables | Wechselköpfe | Interchangeable heads

TOP-Line



LW-730-740

&gt; 11.06

LW-750-760

&gt; 11.07

LW-770-780

&gt; 11.08

TURN-Line



88°

LW-310-320

&gt; 11.09

LW-310-BC/320-BC

&gt; 11.10

85°

LW-330-340

&gt; 11.11

ISO-Line



80°

LW-SCL

&gt; 11.12

LW-SCM

&gt; 11.13

55°

LW-SDJ

&gt; 11.14

LW-SDN

&gt; 11.15

LW-SDH

&gt; 11.16

35°

LW-SVJ

&gt; 11.17

LW-SVV

&gt; 11.18

Supports cylindriques  
Zylindrische Halter  
Cylinder holders



&gt; 11.19

Têtes interchangeables porte-pince  
Spannzangenwechsellköpfe  
Interchangeable head gripper holder



&gt; 11.20

Porte-outils  
Halter  
Holders



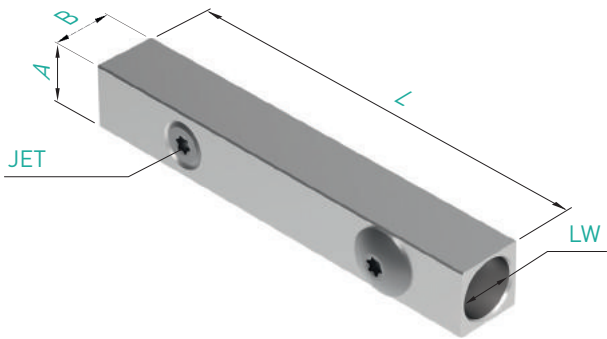
&gt; 11.21

Désignations - Carrés

Bezeichnungen - Quadrat

Designation - Square

INFO



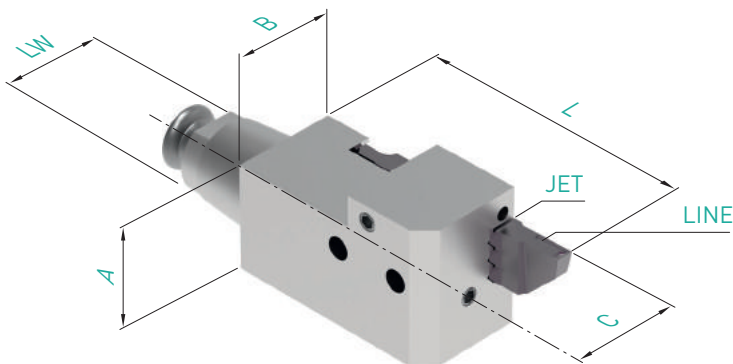
| LW        | A x B   | L                           | JET                                                           |
|-----------|---------|-----------------------------|---------------------------------------------------------------|
| Interface | Section | Longueur<br>Länge<br>Length | Arrosage intégré<br>Integrierte Kühlung<br>Integrated coolant |

Désignations - Têtes interchangeables

Bezeichnungen - Wechselköpfe

Designation - Interchangeable heads

INFO



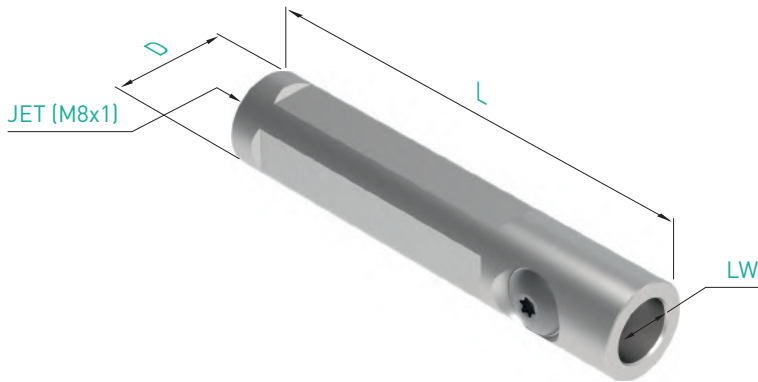
| LW        | LINE  | A x B   | C                                                      | L                           | JET                                                           |
|-----------|-------|---------|--------------------------------------------------------|-----------------------------|---------------------------------------------------------------|
| Interface | Serie | Section | Localisation axe<br>Achselokalisation<br>Axis location | Longueur<br>Länge<br>Length | Arrosage intégré<br>Integrierte Kühlung<br>Integrated coolant |

Désignations - Cylindres

Bezeichnungen - Zylinder

Designations - Cylinder

INFO



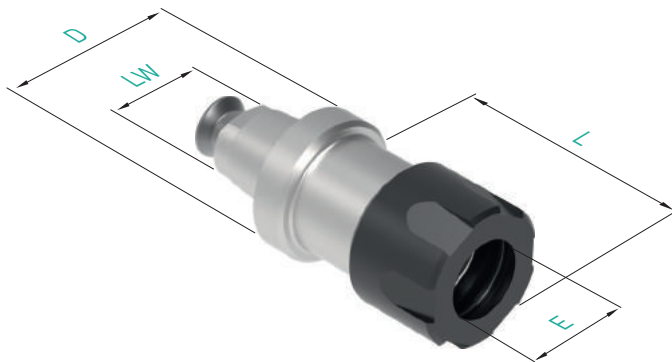
| LW        | D | L                           | JET                                                           |
|-----------|---|-----------------------------|---------------------------------------------------------------|
| Interface | Ø | Longueur<br>Länge<br>Length | Arrosage intégré<br>Integrierte Kühlung<br>Integrated coolant |

Désignations - Têtes porte-pinces

Bezeichnungen - Spannzangenköpfe

Designation - Gripper holder heads

INFO



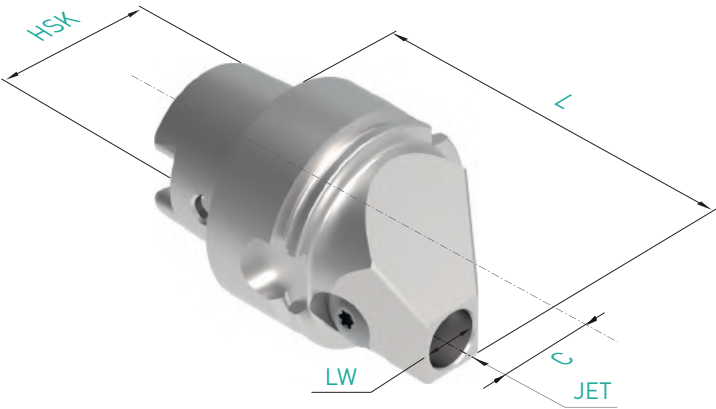
| LW        | E                                            | D | L                           |
|-----------|----------------------------------------------|---|-----------------------------|
| Interface | Pince type<br>Spannzange Typ<br>Gripper type | Ø | Longueur<br>Länge<br>Length |

Désignations - HSK

Bezeichnungen - HSK

Designation - HSK

INFO



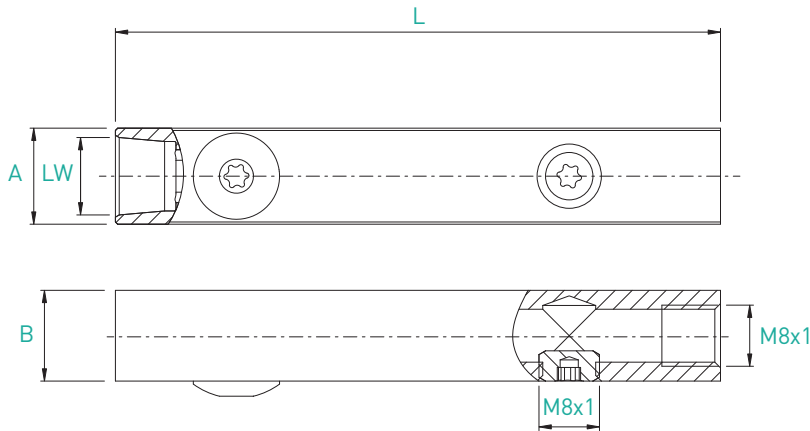
| HSK               | LW                                                                                           | C                                                              | L                           | JET                                                           | X                                                                                                   |
|-------------------|----------------------------------------------------------------------------------------------|----------------------------------------------------------------|-----------------------------|---------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|
| Machine interface | Interface tête interchangeable<br>Wechselkopfschnittstelle<br>Interchangeable head interface | Localisation axe<br>Achsellokalisierung<br>Axis location<br>LW | Longueur<br>Länge<br>Length | Arrosage intégré<br>Integrierte Kühlung<br>Integrated coolant | Spécificité fabricant machine<br>Spezifität Maschinenhersteller<br>Specificity machine manufacturer |

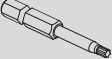
Supports carrés

Viereckige Halter

Square holders

LW-JET



|     |          |    |                  | Pièces recharges<br>Ersatzteile<br>Spare parts                                     |                                                                                    | Options                                                                            |                                                                                      |
|-----|----------|----|------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
|     |          |    |                  |  |  |  |  |
| LW  | A x B    | L  | Art. N°          | Art. N°                                                                            | Art. N°                                                                            | Art. N°                                                                            | Art. N°                                                                              |
| LW3 | 12x12    | 80 | LW3-1212-80-JET  | JB-M8X1                                                                            | LW3-ER1.012.014                                                                    | CD-NM3.8                                                                           | TX15-E6.3                                                                            |
| LW3 | 12.7x12  | 80 | LW3-12.7-80-JET  |                                                                                    |                                                                                    |                                                                                    |                                                                                      |
| LW4 | 15.87x16 | 25 | LW4-15.87-80-JET | JB-M8X1                                                                            | LW4-ER1.014.019                                                                    | CD-NM5.7                                                                           | TX20-E6.3                                                                            |
| LW4 | 16x16    | 25 | LW4-1616-80-JET  |                                                                                    |                                                                                    |                                                                                    |                                                                                      |



Utilisation clé dynamométrique recommandée  
Benutzung eines Drehmomentschlüssels empfohlen  
Recommended use of dynamometric key

|         |  |  |
|---------|--|---------------------------------------------------------------------------------------|
| Options |  | Art. N°                                                                               |
|         |  | M8X1                                                                                  |
|         |  | voir JET-LINE<br>siehe JET-LINE<br>see JET-LINE                                       |

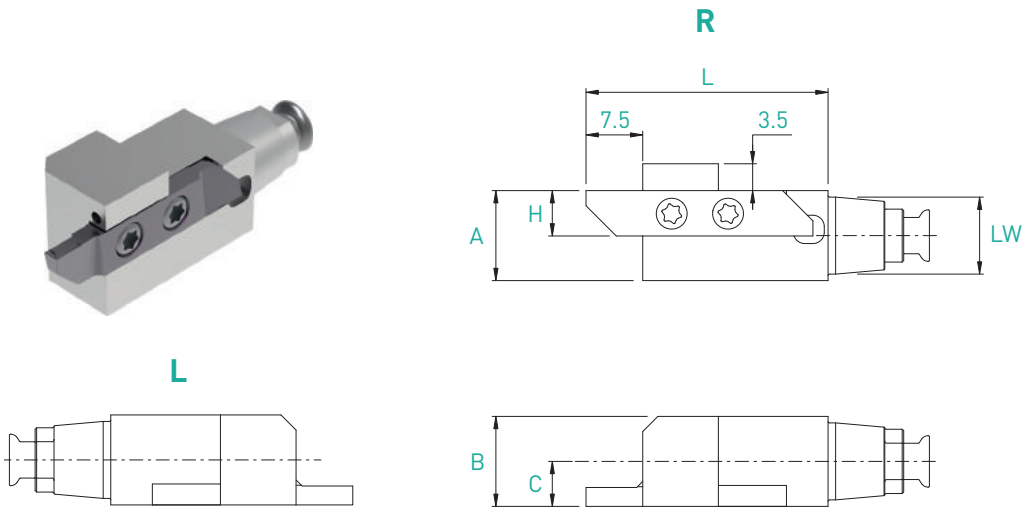
Têtes interchangeables

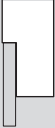
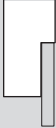
Wechselköpfe

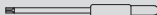
Interchangeable heads

TOP-Line

LW-730/740-JET



|                        |     |       |   |   |    |  |  |
|------------------------|-----|-------|---|---|----|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
| Plaquettes WSP Inserts | LW  | A x B | H | C | L  | Art. N°                                                                           | Art. N°                                                                            |
| 73_-74_                | LW3 | 12x12 | 6 | 6 | 32 | LW3-730-12-0632-JET                                                               | LW3-740-12-0632-JET                                                                |
|                        | LW4 | 16x16 | 8 | 8 | 32 | LW4-730-16-0832-JET                                                               | LW4-740-16-0832-JET                                                                |

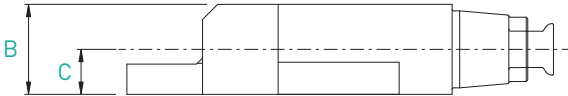
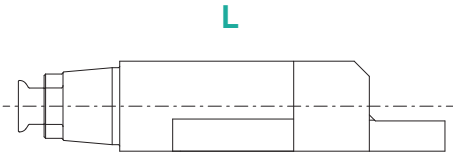
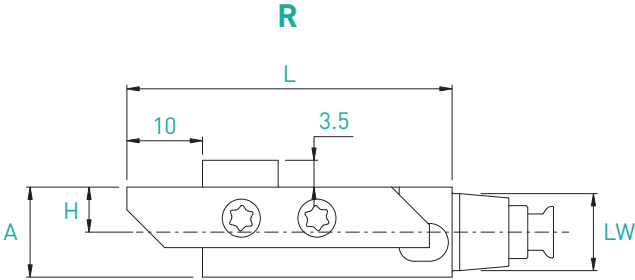
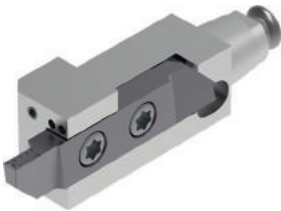
| Pièces de rechange<br>Ersatzteile<br>Spare parts |     |  |  |  |
|--------------------------------------------------|-----|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|                                                  | LW  | Art. N°                                                                             | Art. N°                                                                             | Art. N°                                                                               |
|                                                  | LW3 | V-M3X7-T8                                                                           | C-T8                                                                                | LW3-U00.ER1.000                                                                       |
|                                                  | LW4 |                                                                                     |                                                                                     | LW4-U00.ER1.000                                                                       |



- Têtes interchangeables
- Wechselköpfe
- Interchangeable heads

TOP-Line

LW-750/760-JET



L

R

| Plaquettes<br>WSP<br>Inserts | LW         | A x B          | H      | C      | L        | Art. N°                                    | Art. N°                                    |
|------------------------------|------------|----------------|--------|--------|----------|--------------------------------------------|--------------------------------------------|
|                              |            |                |        |        |          | LW3-750-12-0643-JET<br>LW4-750-16-0843-JET | LW3-760-12-0643-JET<br>LW4-760-16-0843-JET |
| 75_-76_                      | LW3<br>LW4 | 12x12<br>16x16 | 6<br>8 | 6<br>8 | 43<br>43 |                                            |                                            |

Pièces de rechange  
Ersatzteile  
Spare parts

LW

LW3  
LW4



Art. N°

Art. N°

Art. N°

V-M4X9-T15

C-T15

LW3-U00.ER1.000  
LW4-U00.ER1.000

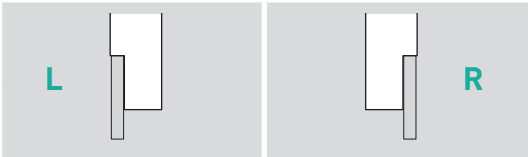
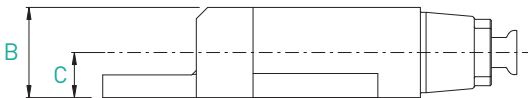
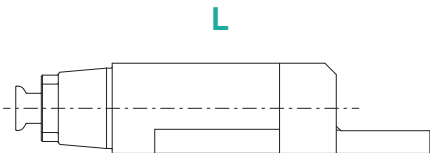
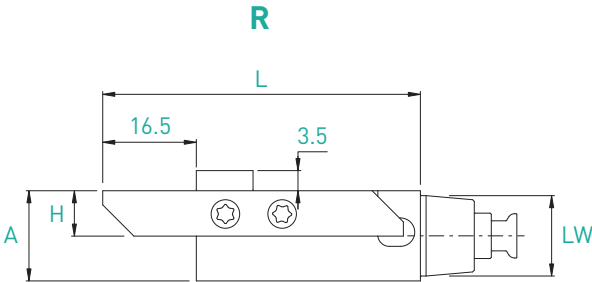
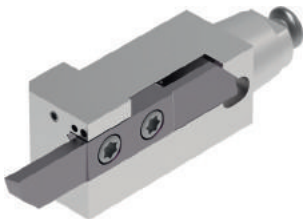
Têtes interchangeables

Wechselköpfe

Interchangeable heads

TOP-Line

LW-770/780-JET



| Plaquettes<br>WSP<br>Inserts | LW  | A x B | H | C | L  | Art. N°             | Art. N°             |
|------------------------------|-----|-------|---|---|----|---------------------|---------------------|
| 77_-78_                      | LW4 | 16x16 | 8 | 8 | 56 | LW4-770-16-0856-JET | LW4-780-16-0856-JET |

| Pièces de rechange<br>Ersatzteile<br>Spare parts |  |  |  |
|--------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|                                                  | Art. N°                                                                             | Art. N°                                                                             | Art. N°                                                                               |
| LW                                               | V-M4X9-T15                                                                          | C-T15                                                                               | LW4-U00.ER1.000                                                                       |

Têtes interchangeables

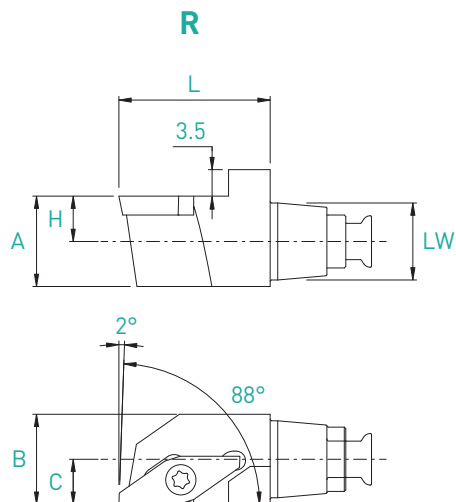
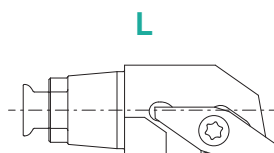
Wechselköpfe

Interchangeable heads

TURN-Line

88°

LW-310/320-JET



L

R

| Plaquettes<br>WSP<br>Inserts | LW  | A x B | H | C | L  | Art. N°             | Art. N°             |
|------------------------------|-----|-------|---|---|----|---------------------|---------------------|
| 31_-32_                      | LW3 | 12x12 | 6 | 6 | 20 | LW3-310-12-0620-JET | LW3-320-12-0620-JET |
|                              | LW4 | 16x16 | 8 | 8 | 25 | LW4-310-16-0825-JET | LW4-320-16-0825-JET |

Pièces de rechange  
Ersatzteile  
Spare parts

LW

LW3

LW4



Art. N°

V-M2.5X7.8-T8



Art. N°

C-T8



Art. N°

LW3-U00.ER1.000

LW4-U00.ER1.000

Têtes interchangeables

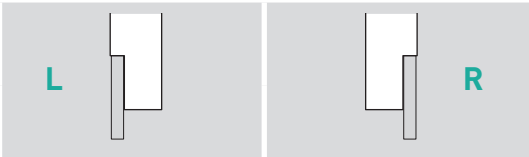
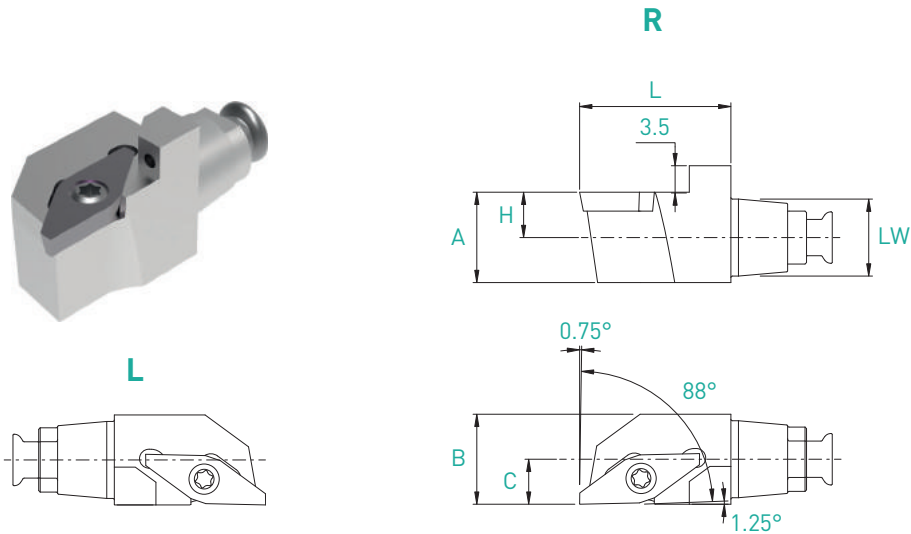
Wechselköpfe

Interchangeable heads

TURN-Line

88°

LW-310-BC/320-BC-JET



| Plaquettes<br>WSP<br>Inserts | LW  | A x B | H | C | L  | Art. N°                | Art. N°                |
|------------------------------|-----|-------|---|---|----|------------------------|------------------------|
| 31_-32_                      | LW3 | 12x12 | 6 | 6 | 20 | LW3-310-12-0620-BC-JET | LW3-320-12-0620-BC-JET |
|                              | LW4 | 16x16 | 8 | 8 | 25 | LW4-310-16-0825-BC-JET | LW4-320-16-0825-BC-JET |

| Pièces de rechange<br>Ersatzteile<br>Spare parts |            |  |  |  |
|--------------------------------------------------|------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|                                                  | LW         | Art. N°                                                                             | Art. N°                                                                             | Art. N°                                                                               |
|                                                  | LW3<br>LW4 | V-M2.5X7.8-T8                                                                       | C-T8                                                                                | LW3-U00.ER1.000<br>LW4-U00.ER1.000                                                    |

Têtes interchangeables

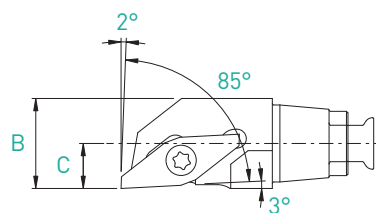
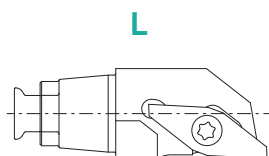
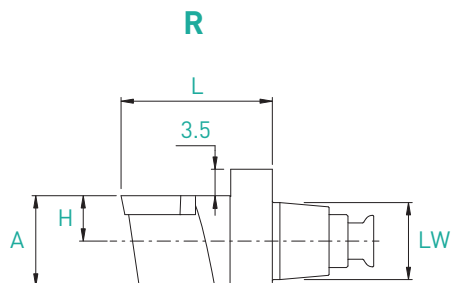
Wechselköpfe

Interchangeable heads

TURN-Line

85°

LW-330/340-JET



L

R

| Plaquettes<br>WSP<br>Inserts | LW  | A x B | H | C | L  | Art. N°             | Art. N°             |
|------------------------------|-----|-------|---|---|----|---------------------|---------------------|
| 33_-34_                      | LW3 | 12x12 | 6 | 6 | 20 | LW3-330-12-0620-JET | LW3-340-12-0620-JET |
|                              | LW4 | 16x16 | 8 | 8 | 25 | LW4-330-16-0825-JET | LW4-340-16-0825-JET |

Pièces de rechange  
Ersatzteile  
Spare parts

LW

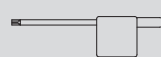
LW3

LW4



Art. N°

V-M2.5X7.8-T8



Art. N°

C-T8



Art. N°

LW3-U00.ER1.000

LW4-U00.ER1.000

Têtes interchangeables

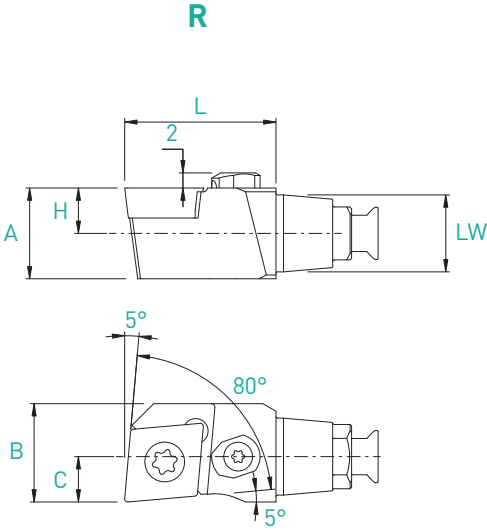
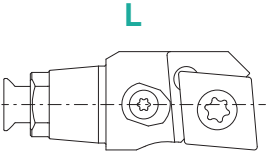
Wechselköpfe

Interchangeable heads

ISO-Line

80°

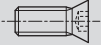
LW-SCL-JET



L

R

| Plaquettes<br>WSP<br>Inserts | LW  | A x B | H | C | L  | <div><div></div><div></div></div> |                          |
|------------------------------|-----|-------|---|---|----|-----------------------------------|--------------------------|
|                              |     |       |   |   |    | Art. N°                           | Art. N°                  |
| CC...-0602..                 | LW3 | 12x12 | 6 | 6 | 20 | LW3-SCLCL-12-0620-06-JET          | LW3-SCLCR-12-0620-06-JET |
|                              | LW4 | 16x16 | 8 | 8 | 25 | LW4-SCLCL-16-0825-06-JET          | LW4-SCLCR-16-0825-06-JET |
| CC...-09T3..                 | LW3 | 12x12 | 6 | 6 | 20 | LW3-SCLCL-12-0620-09-JET          | LW3-SCLCR-12-0620-09-JET |
|                              | LW4 | 16x16 | 8 | 8 | 25 | LW4-SCLCL-16-0825-09-JET          | LW4-SCLCR-16-0825-09-JET |

| Pièces de<br>rechange<br>Ersatzteile<br>Spare parts | Plaquettes<br>WSP<br>Inserts | LW         |  |  |  |  |
|-----------------------------------------------------|------------------------------|------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|                                                     |                              |            | Art. N°                                                                             | Art. N°                                                                             | Art. N°                                                                             | Art. N°                                                                               |
|                                                     | CC...-0602..                 | LW3<br>LW4 | V-M2.5X7.8-T8                                                                       | C-T8                                                                                | LWX-ER1.007.002                                                                     | LW3-U00.ER1.000<br>LW4-U00.ER1.000                                                    |
|                                                     | CC...-09T3..                 | LW3<br>LW4 | V-M4X9-T15-ISO                                                                      | C-T15                                                                               |                                                                                     | LW3-U00.ER1.000<br>LW4-U00.ER1.000                                                    |

Têtes interchangeables

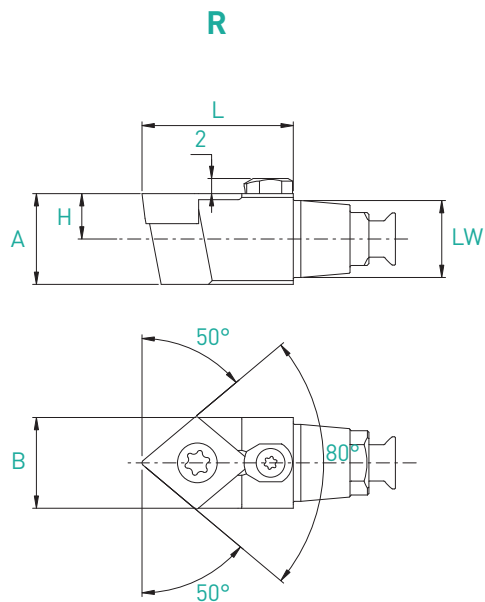
Wechselköpfe

Interchangeable heads

ISO-Line

80°

LW-SCM-JET



| Plaquettes<br>WSP<br>Inserts | LW  | A x B | H | L  | Art. N°                  |
|------------------------------|-----|-------|---|----|--------------------------|
| CC...-0602..                 | LW3 | 12x12 | 6 | 20 | LW3-SCMCN-12-0020-06-JET |
|                              | LW4 | 16x16 | 8 | 25 | LW4-SCMCN-16-0025-06-JET |
| CC...-09T3..                 | LW3 | 12x12 | 6 | 20 | LW3-SCMCN-12-0020-09-JET |
|                              | LW4 | 16x16 | 8 | 25 | LW4-SCMCN-16-0025-09-JET |

| Pièces de<br>rechange<br>Ersatzteile<br>Spare parts | Plaquettes<br>WSP<br>Inserts |     |  |  |  |  |
|-----------------------------------------------------|------------------------------|-----|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
|                                                     |                              | LW  | Art. N°                                                                             | Art. N°                                                                             | Art. N°                                                                             | Art. N°                                                                              |
|                                                     |                              |     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |
|                                                     | CC..-0602..                  | LW3 | V-M2.5X7.8-T8                                                                       | C-T8                                                                                | LWX-ER1.007.002                                                                     | LW3-U00.ER1.000                                                                      |
|                                                     |                              | LW4 |                                                                                     |                                                                                     |                                                                                     | LW4-U00.ER1.000                                                                      |
|                                                     | CC..-09T3..                  | LW3 | V-M4X9-T15-ISO                                                                      | C-T15                                                                               |                                                                                     | LW3-U00.ER1.000                                                                      |
|                                                     |                              | LW4 |                                                                                     |                                                                                     |                                                                                     | LW4-U00.ER1.000                                                                      |

Têtes interchangeables

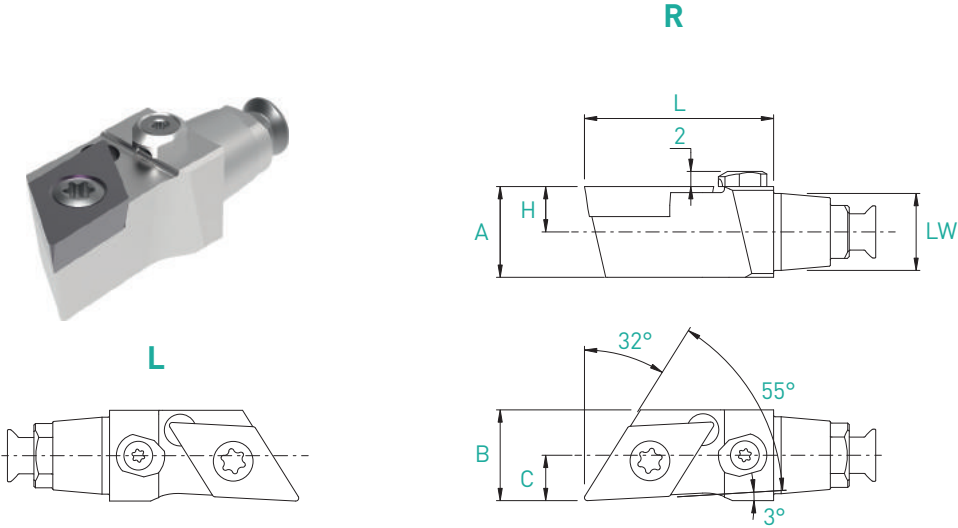
Wechselköpfe

Interchangeable heads

ISO-Line

55°

LW-SDJ-JET



|                        |     |       |   |   |    |  |  |
|------------------------|-----|-------|---|---|----|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
| Plaquettes WSP Inserts | LW  | A x B | H | C | L  | Art. N°                                                                           | Art. N°                                                                            |
| DC...-0702..           | LW3 | 12x12 | 6 | 6 | 20 | LW3-SDJCL-12-0620-07-JET                                                          | LW3-SDJCR-12-0620-07-JET                                                           |
|                        | LW4 | 16x16 | 8 | 8 | 25 | LW4-SDJCL-16-0825-07-JET                                                          | LW4-SDJCR-16-0825-07-JET                                                           |
| DC...-11T3..           | LW3 | 12x12 | 6 | 6 | 25 | LW3-SDJCL-12-0625-11-JET                                                          | LW3-SDJCR-12-0625-11-JET                                                           |
|                        | LW4 | 16x16 | 8 | 8 | 25 | LW4-SDJCL-16-0825-11-JET                                                          | LW4-SDJCR-16-0825-11-JET                                                           |

| Pièces de rechange<br>Ersatzteile<br>Spare parts | Plaquettes WSP<br>Inserts | LW             |  |  |  |  |
|--------------------------------------------------|---------------------------|----------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|                                                  |                           |                | Art. N°                                                                             | Art. N°                                                                             | Art. N°                                                                             | Art. N°                                                                               |
|                                                  | DC...-0702..              | LW3<br>LW4     | V-M2.5X7.8-T8                                                                       | C-T8                                                                                | LWX-ER1.007.002                                                                     | LW3-U00.ER1.000<br>LW4-U00.ER1.000                                                    |
| DC...-11T3..                                     | LW3<br>LW4                | V-M4X9-T15-ISO | C-T15                                                                               | LW3-U00.ER1.000<br>LW4-U00.ER1.000                                                  |                                                                                     |                                                                                       |



Têtes interchangeables

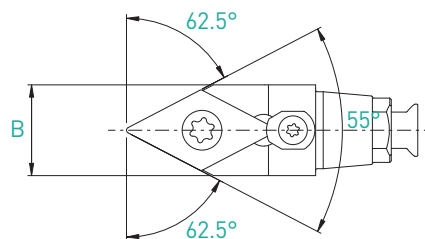
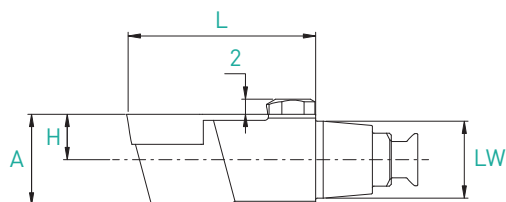
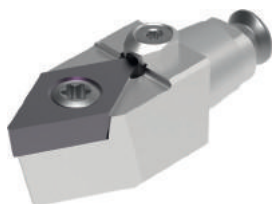
Wechselköpfe

Interchangeable heads

ISO-Line

55°

LW-SDN-JET



| Plaquettes<br>WSP<br>Inserts | LW  | A x B | H | L  | Art. N°                  |
|------------------------------|-----|-------|---|----|--------------------------|
| DC...-0702                   | LW3 | 12x12 | 6 | 20 | LW3-SDNCN-12-0020-07-JET |
|                              | LW4 | 16x16 | 8 | 25 | LW4-SDNCN-16-0025-07-JET |
| DC...-11T3                   | LW3 | 12x12 | 6 | 25 | LW3-SDNCN-12-0025-11-JET |
|                              | LW4 | 16x16 | 8 | 25 | LW4-SDNCN-16-0025-11-JET |

| Pièces de<br>rechange<br>Ersatzteile<br>Spare parts | Plaquettes<br>WSP<br>Inserts |                 |  |  |  |  |
|-----------------------------------------------------|------------------------------|-----------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
|                                                     |                              | LW              | Art. N°                                                                             | Art. N°                                                                             | Art. N°                                                                             | Art. N°                                                                              |
|                                                     | DC...-0702                   | LW3             | V-M2.5X7.8-T8                                                                       | C-T8                                                                                | LWX-ER1.007.002                                                                     | LW3-U00.ER1.000                                                                      |
|                                                     |                              | LW4             |                                                                                     |                                                                                     |                                                                                     | LW4-U00.ER1.000                                                                      |
|                                                     | DC...-11T3                   | LW3             | V-M4X9-T15-ISO                                                                      | C-T15                                                                               |                                                                                     | LW3-U00.ER1.000                                                                      |
| LW4                                                 |                              | LW4-U00.ER1.000 |                                                                                     |                                                                                     |                                                                                     |                                                                                      |

Têtes interchangeables

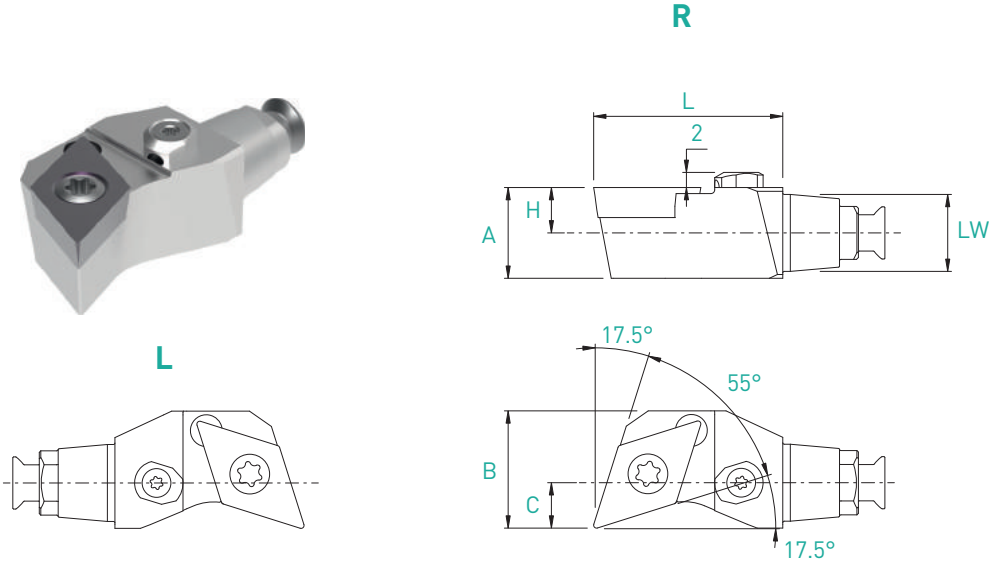
Wechselköpfe

Interchangeable heads

ISO-Line

55°

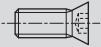
LW-SDH-JET



L

R

| Plaquettes<br>WSP<br>Inserts | LW  | A x B   | H | C | L  | <div><div>L</div><div>R</div></div> |                          |
|------------------------------|-----|---------|---|---|----|-------------------------------------|--------------------------|
|                              |     |         |   |   |    | Art. N°                             | Art. N°                  |
| DC...-0702..                 | LW3 | 12x15.5 | 6 | 6 | 20 | LW3-SDHCL-12-0620-07-JET            | LW3-SDHCR-12-0620-07-JET |
|                              | LW4 | 16x16   | 8 | 8 | 25 | LW4-SDHCL-16-0825-07-JET            | LW4-SDHCR-16-0825-07-JET |
| DC...-11T3..                 | LW3 | 12x15.5 | 6 | 6 | 25 | LW3-SDHCL-12-0625-11-JET            | LW3-SDHCR-12-0625-11-JET |
|                              | LW4 | 16x16   | 8 | 8 | 25 | LW4-SDHCL-16-0825-11-JET            | LW4-SDHCR-16-0825-11-JET |

| Pièces de<br>rechange<br>Ersatzteile<br>Spare parts | Plaquettes<br>WSP<br>Inserts | LW         |  |  |  |  |
|-----------------------------------------------------|------------------------------|------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|                                                     |                              |            | Art. N°                                                                             | Art. N°                                                                             | Art. N°                                                                             | Art. N°                                                                               |
|                                                     | DC...-0702..                 | LW3<br>LW4 | V-M2.5X7.8-T8                                                                       | C-T8                                                                                | LWX-ER1.007.002                                                                     | LW3-U00.ER1.000<br>LW4-U00.ER1.000                                                    |
|                                                     | DC...-11T3..                 | LW3<br>LW4 | V-M4X9-T15-ISO                                                                      | C-T15                                                                               |                                                                                     | LW3-U00.ER1.000<br>LW4-U00.ER1.000                                                    |

Têtes interchangeables

Wechselköpfe

Interchangeable heads

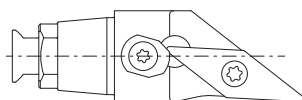
ISO-Line

35°

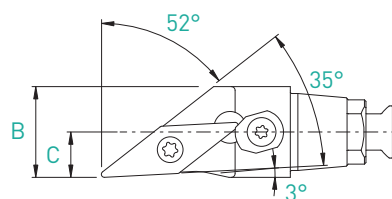
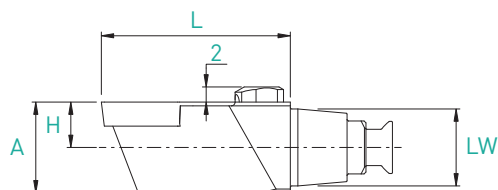
LW-SVJ-JET



L



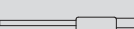
R



L

R

| Plaquettes<br>WSP<br>Inserts | LW  | A x B | H | C | L  | Art. N°                  | Art. N°                  |
|------------------------------|-----|-------|---|---|----|--------------------------|--------------------------|
| VC...-1103..                 | LW3 | 12x12 | 6 | 6 | 25 | LW3-SVJCL-12-0625-11-JET | LW3-SVJCR-12-0625-11-JET |
|                              | LW4 | 16x16 | 8 | 8 | 25 | LW4-SVJCL-16-0825-11-JET | LW4-SVJCR-16-0825-11-JET |
| VC...-1303..                 | LW3 | 12x12 | 6 | 6 | 30 | LW3-SVJCL-12-0630-13-JET | LW3-SVJCR-12-0630-13-JET |
|                              | LW4 | 16x16 | 8 | 8 | 30 | LW4-SVJCL-16-0830-13-JET | LW4-SVJCR-16-0830-13-JET |
| VC...-1604..                 | LW4 | 16x16 | 8 | 8 | 35 | LW4-SVJCL-16-0835-16-JET | LW4-SVJCR-16-0835-16-JET |

| Pièces de<br>rechange<br>Ersatzteile<br>Spare parts | Plaquettes<br>WSP<br>Inserts | LW             |  |  |  |  |
|-----------------------------------------------------|------------------------------|----------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
|                                                     |                              |                | Art. N°                                                                             | Art. N°                                                                             | Art. N°                                                                             | Art. N°                                                                              |
|                                                     | VC...-1103..                 | LW3            | V-M2.5X7.8-T8                                                                       | C-T8                                                                                | LWX-ER1.007.002                                                                     | LW3-U00.ER1.000                                                                      |
|                                                     |                              | LW4            |                                                                                     |                                                                                     |                                                                                     | LW4-U00.ER1.000                                                                      |
|                                                     | VC...-1303..                 | LW3            | V-M4X9-T15-ISO                                                                      | C-T15                                                                               |                                                                                     | LW3-U00.ER1.000                                                                      |
|                                                     |                              | LW4            |                                                                                     |                                                                                     |                                                                                     | LW4-U00.ER1.000                                                                      |
| VC...-1604..                                        | LW4                          | V-M4X9-T15-ISO | C-T15                                                                               | LW4-U00.ER1.000                                                                     |                                                                                     |                                                                                      |

Têtes interchangeables

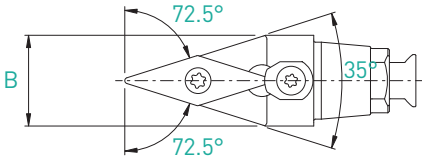
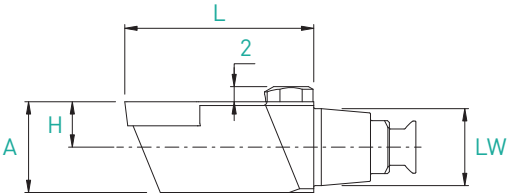
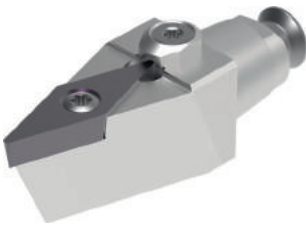
Wechselköpfe

Interchangeable heads

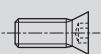
ISO-Line

35°

LW-SVV-JET



| Plaquettes WSP Inserts | LW  | A x B | H | L  | Art. N°                  |
|------------------------|-----|-------|---|----|--------------------------|
| VC..-1103..            | LW3 | 12x12 | 6 | 25 | LW3-SVVCN-12-0025-11-JET |
|                        | LW4 | 16x16 | 8 | 25 | LW4-SVVCN-16-0025-11-JET |
| VC..-1303..            | LW3 | 12x12 | 6 | 30 | LW3-SVVCN-12-0030-13-JET |
|                        | LW4 | 16x16 | 8 | 30 | LW4-SVVCN-16-0030-13-JET |
| VC..-1604..            | LW4 | 16x16 | 8 | 35 | LW4-SVVCN-16-0035-16-JET |

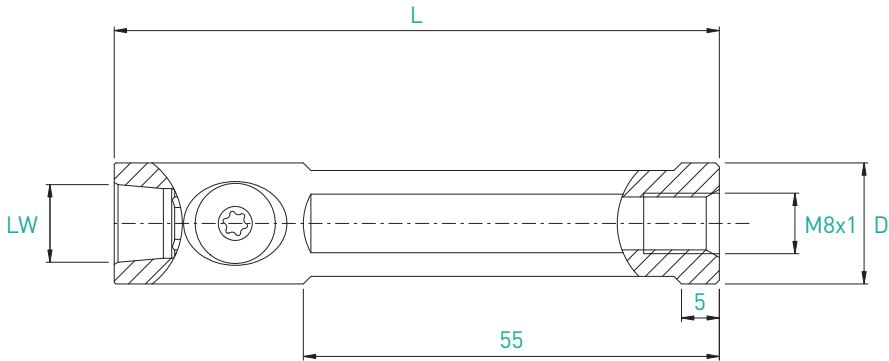
| Pièces de rechange<br>Ersatzteile<br>Spare parts | Plaquettes WSP Inserts | LW  |  |  |  |  |
|--------------------------------------------------|------------------------|-----|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|                                                  |                        |     | Art. N°                                                                             | Art. N°                                                                             | Art. N°                                                                             | Art. N°                                                                               |
|                                                  | VC..-1103..            | LW3 | V-M2.5X7.8-T8                                                                       | C-T8                                                                                | LWX-ER1.007.002                                                                     | LW3-U00.ER1.000                                                                       |
|                                                  |                        | LW4 |                                                                                     |                                                                                     |                                                                                     | LW4-U00.ER1.000                                                                       |
|                                                  | VC..-1303..            | LW3 | V-M3X7.3-T8-ISO                                                                     | C-T15                                                                               | LWX-ER1.007.002                                                                     | LW3-U00.ER1.000                                                                       |
|                                                  |                        | LW4 |                                                                                     |                                                                                     |                                                                                     | LW4-U00.ER1.000                                                                       |
|                                                  | VC..-1604..            | LW4 | V-M4X9-T15-ISO                                                                      |                                                                                     |                                                                                     | LW4-U00.ER1.000                                                                       |

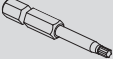
Supports cylindriques

Zylindrische Halter

Cylinder holders

LW-D



|     |       |    |    |                   | Pièces rechanges<br>Ersatzteile<br>Spare parts                                     |                                                                                    | Options                                                                             |                                                                                      |
|-----|-------|----|----|-------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
|     |       |    |    |                   |  |  |  |  |
| LW  | D     | L  | L1 | Art. N°           | Art. N°                                                                            | Art. N°                                                                            | Art. N°                                                                             | Art. N°                                                                              |
| LW3 | 16    | 80 | 55 | LW3-D16-80-JET    | LW3-ER1.012.014                                                                    | JB-M8X1                                                                            | CD-NM3.8                                                                            | TX15-E6.3                                                                            |
| LW4 | 19.05 | 80 | 55 | LW4-D19.05-80-JET | LW4-ER1.014.018                                                                    |                                                                                    | CD-NM5.7                                                                            | TX20-E6.3                                                                            |
|     | 20    | 80 | 55 | LW4-D20-80-JET    | LW4-ER1.014.019                                                                    |                                                                                    |                                                                                     |                                                                                      |
|     | 22    | 80 | 55 | LW4-D22-80-JET    | LW4-ER1.014.019                                                                    |                                                                                    |                                                                                     |                                                                                      |
|     | 25    | 80 | 55 | LW4-D25-80-JET    | LW4-ER1.015.023                                                                    |                                                                                    |                                                                                     |                                                                                      |
|     | 25.4  | 80 | 55 | LW4-D25.4-80-JET  |                                                                                    |                                                                                    |                                                                                     |                                                                                      |



Utilisation clé dynamométrique recommandée  
Benutzung eines Drehmomentschlüssels empfohlen  
Recommended use of dynamometric key

Options raccords



Art. N°

M8X1

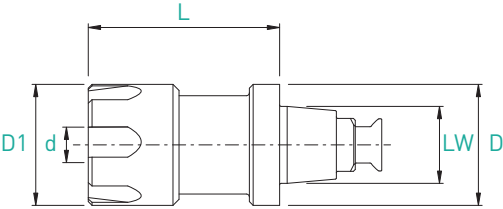
voir JET-LINE  
siehe JET-LINE  
see JET-LINE

Têtes interchangeables porte-pince

Spannzangenwechselköpfe

Interchangeable heads gripper holder

LW-E



Pièces rechanges

Ersatzteile

Spare parts



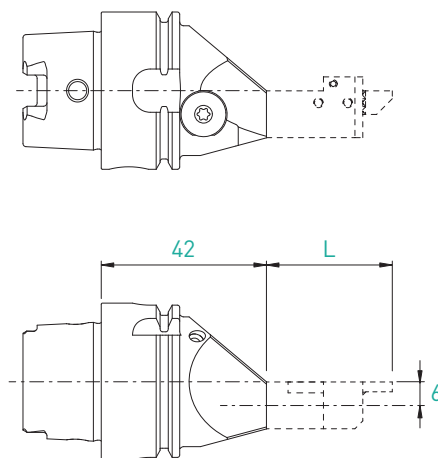
| LW  | D  | D1 | L  | Pince type | d      | Art. N°        | Art. N°         | Art. N°        |
|-----|----|----|----|------------|--------|----------------|-----------------|----------------|
| LW3 | 16 | 16 | 26 | ER11       | 0.5-7  | LW3-E11-D16-26 | E11-ER1.001-012 | LW3-U00.ER1.00 |
| LW4 | 19 | 16 | 26 | ER11       | 0.5-7  | LW4-E11-D19-26 |                 | LW4-U00.ER1.00 |
|     | 19 | 22 | 35 | ER16       | 0.5-10 | LW4-E16-D19-35 | E16-ER1.001-018 |                |

Porte-outils

Halter

Holders

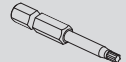
HSK-40-LW3



BUMOTEC S191

| LW  | Compatibility | Page        | L  | Art. N°              | Art. N°                   |
|-----|---------------|-------------|----|----------------------|---------------------------|
| LW3 | LW3-740..     | 11.06       | 32 | HSK-T40-LW3-0642-JET | HSK-A40-LW3-0642-JET-BU** |
|     | LW3-760..     | 11.07       | 43 |                      |                           |
|     | LW3-320-340.. | 11.09/11.11 | 20 |                      |                           |
|     | LW3-SCLCR..   | 11.12       | 20 |                      |                           |
|     | LW3-SCMCN..   | 11.13       | 20 |                      |                           |
|     | LW3-SDJCR..   | 11.14       | 20 |                      |                           |
|     | LW3-SDNCN..   | 11.15       | 20 |                      |                           |
|     | LW3-SDHCR..   | 11.16       | 20 |                      |                           |
|     | LW3-SVJCR..   | 11,17       | 25 |                      |                           |

\*\* Pour machines Bumotec

| Pièces rechanges<br>Ersatzteile<br>Spare parts                                      | Options                                                                             |                                                                                      |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
|  |  |  |
| Art. N°                                                                             | Art. N°                                                                             | Art. N°                                                                              |
| LW3-ER1.012.014                                                                     | CD-NM3.8                                                                            | C-TX15-E6.3                                                                          |

APPLITEC



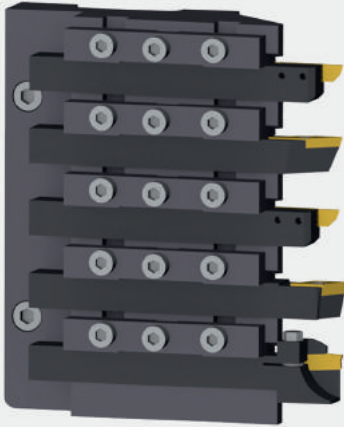


Système d'outils modulaires

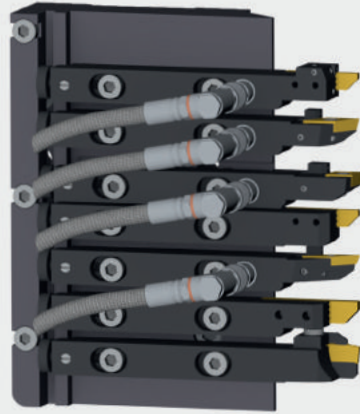
Modulares Werkzeugsystem

Modular tooling system

Original system



MODU-Line system



Système d'outils modulaires  
pour tours automatiques

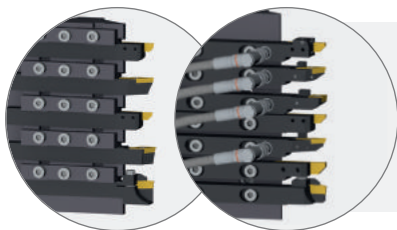
Modulares Werkzeugsystem  
für Langdrehautomaten

Modular tooling system for  
sliding headstock automatic lathes

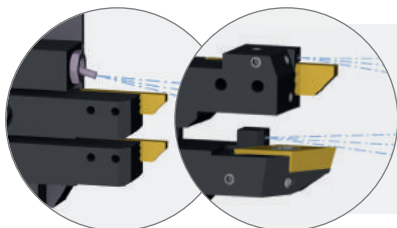
## Les avantages

## Die Vorteile

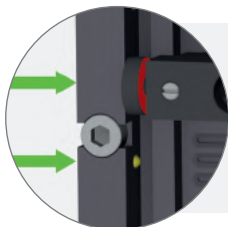
## The advantages



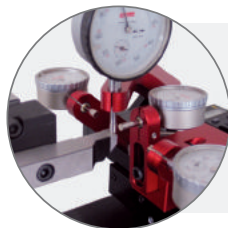
Plus d'outils disponibles  
Höhere Werkzeuganzahl  
More available tools



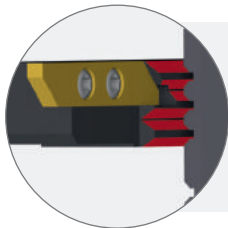
Système d'arrosage efficace  
Effizientes Kühlmittelzufuhrsystem  
Efficient coolant supply system



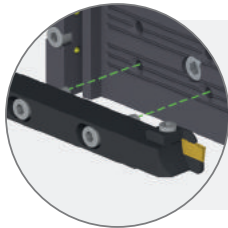
Repositionnement précis, poussée axiale automatique  
Präzise Nachpositionierung, automatischer Axialschub  
Precise repositionning, automatic axial thrust



Possibilité de pré réglage et de réglage de la longueur des outils  
Voreinstellbar auf feste oder einstellbare Länge  
Presetting on fixed or adjustable length



Système de fixation robuste et rigide  
Robustes und starres Spannsystem  
Strong and stable clamping system



Changement d'outil simple et rapide  
Einfacher und schneller Werkzeugwechsel  
Easy and quick tool replacement

## Index

Adaptations disponibles pour les machines suivantes:  
 Verfügbare Anpassungen für folgende Maschinen:  
 Available adapters for the following machines:

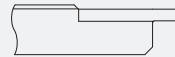
**Citizen - Hanwha -  
 Manurhin - Metafil -** > **12.06**  
**Star - Tornos - Tsugami**

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 Halter  
 Holders

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**ML12****ML16**

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## Cut off line



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TURN-Line &gt; 12.76

ISO-Line &gt; 12.77

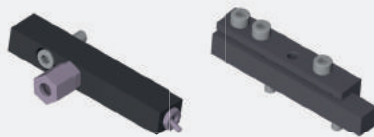
EVOCUT-Line &gt; 12.78

CUT-Line &gt; 12.79

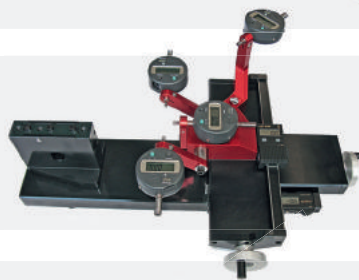
PRO-Line &gt; 12.80

ECO-Line &gt; 12.81

Modules d'arrosage et de serrage  
 Kühlmittelzufuhr- und Spannelemente  
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## Adaptations disponibles pour les machines suivantes

## Verfügbare Anpassungen für folgende Maschinen

## Available adapters for the following machines

| Fabricant<br>Hersteller<br>Manufacturer | Machine<br>Maschine<br>Machine      | Adaptations<br>Anpassungen<br>Adapters | Type<br>Typ<br>Type | Page<br>Seite<br>Page |
|-----------------------------------------|-------------------------------------|----------------------------------------|---------------------|-----------------------|
| Citizen                                 | C12/C16                             | ML12-CITIZEN-C16                       | ML12                | 12.06                 |
|                                         | L12-1M7                             | ML12-CITIZEN-L12-1M7                   |                     | 12.07                 |
|                                         | L12-2M10                            | ML12-CITIZEN-L12-2M10                  |                     | 12.08                 |
|                                         | M16V/VIII                           | ML12-CITIZEN-M16V/VIII                 |                     | 12.09                 |
|                                         | R04                                 | ML12-CITIZEN-R04-QTF3101-3T            |                     | 12.12                 |
|                                         |                                     | ML12-CITIZEN-R04-QTF5008-4T            |                     | 12.10                 |
|                                         |                                     | ML12-CITIZEN-R04-QTF5108-4T            |                     |                       |
|                                         | R07                                 | ML12-CITIZEN-R07-QTF4008-5T            |                     | 12.13                 |
|                                         |                                     | ML12-CITIZEN-R07-QTF4108-6T            |                     |                       |
|                                         |                                     | ML12-CITIZEN-R07-QTF4208-3T            |                     | 12.14                 |
|                                         |                                     | ML12-CITIZEN-R07-QTF4608-4T            |                     |                       |
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|                                         | L20E-1M8/L20X-1M10/<br>L20-2M8/2M12 | ML16-CITIZEN-L20E                      |                     | 12.17                 |
| Hanwha                                  | XD20M                               | ML12-HANWHA-XD20M                      | ML12                | 12.18                 |
|                                         | SL12/16                             | ML16-HANWHA-SL12/16                    | ML16                | 12.19                 |
| Manuhrin                                | KMX 426/526/626/<br>Swingg 20-26 MM | ML16-KMX26-DUO                         | ML16                | 12.20                 |
|                                         |                                     | ML16-KMX26-JET                         |                     |                       |
| Metafil                                 | D3/D10/D13                          | ML12-D10-3T                            | ML12                | 12.21                 |
| Star                                    | SB-12RG                             | ML12-STAR-SB-12RG                      | ML12                | 12.22                 |
|                                         | SR-10J                              | ML12-STAR-SR-10J                       |                     | 12.23                 |
|                                         | SW-12RII                            | ML12-STAR-SW-12RII-2T                  |                     | 12.24                 |
|                                         |                                     | ML12-STAR-SW-12RII-8T                  |                     |                       |
|                                         | SA-12/SA-16/SA-16R                  | ML16-STAR-SA-16                        | ML16                | 12.25                 |
|                                         | SB-16                               | ML16-STAR-SB-16                        |                     | 12.26                 |
|                                         | SB-16/20RG                          | ML16-STAR-SB-16/20RG                   |                     | 12.27                 |
|                                         | SB-20C/E                            | ML16-STAR-SB-20                        |                     | 12.28                 |
|                                         | SR-16R/SR-20R/SR-20RII              | ML16-STAR-SR-20R                       |                     | 12.29                 |
|                                         | SR-20J/SR-20RIII                    | ML16-STAR-SR-20J                       |                     | 12.30                 |
|                                         | SR-20JII-A/B                        | ML16-STAR-SR-20JII-A/B <b>new</b>      |                     | 12.31                 |
|                                         | SR-20RIV                            | ML16-STAR-SR-20RIV-2T                  |                     | 12.32                 |
|                                         |                                     | ML16-STAR-SR-20RIV-6T                  |                     |                       |
|                                         | SR-32J                              | ML16-STAR-SR-32J                       |                     | 12.33                 |
|                                         | SV-12/20                            | ML16-STAR-SV-12/20 <b>new</b>          |                     | 12.35                 |
|                                         | SV-20R                              | ML16-STAR-SV-20R                       |                     | 12.35                 |
|                                         | SW-20R                              | ML16-STAR-SW-20R-2T                    |                     | 12.36                 |
|                                         |                                     | ML16-STAR-SW-20R-6T                    |                     |                       |

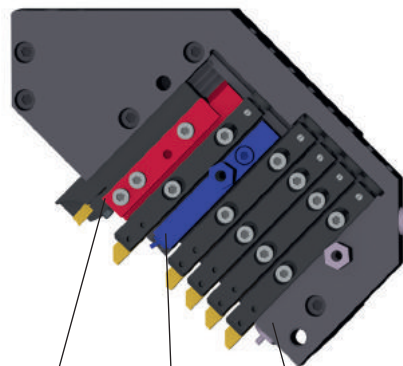
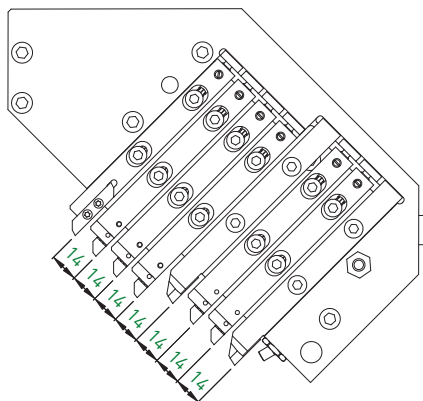
**Adaptations disponibles pour les machines suivantes****Verfügbare Anpassungen für folgende Maschinen****Available adapters for the following machines**

| Fabricant<br>Hersteller<br>Manufacturer | Machine<br>Maschine<br>Machine | Adaptations<br>Anpassungen<br>Adapters | Type<br>Typ<br>Type | Page<br>Seite<br>Page |
|-----------------------------------------|--------------------------------|----------------------------------------|---------------------|-----------------------|
| Tornos                                  | DECO7/10 - EvoDECO 10          | ML12-DECO10-DUO                        | ML12                | 12.37                 |
|                                         |                                | ML12-DECO10-JET                        |                     |                       |
|                                         | SWISS-NANO /SWISS-NANO 7       | ML12-SWISS-NANO-2T                     |                     | 12.40                 |
|                                         |                                | ML12-SWISS-NANO-3T                     |                     |                       |
|                                         |                                | ML12-SWISS-NANO-6T                     |                     |                       |
|                                         | SWISS-NANO 7                   | ML12-SWISS-NANO-4T                     |                     | 12.38                 |
|                                         | DT13                           | ML12-DT13-2020206-9T                   |                     | 12.41                 |
|                                         | CT20                           | ML12-CT20-2020019-7T                   |                     | 12.42                 |
|                                         | GT13                           | ML12-GT13-390224-5T                    | 12.43               |                       |
|                                         |                                | ML12-GT13-390223-7T                    |                     |                       |
|                                         | GT26                           | ML16-GT26-386210-5T                    | ML16                | 12.44                 |
|                                         | GT32                           | ML16-GT26-386209-6T                    |                     | 12.46                 |
|                                         |                                | ML16-GT32-389210-4T                    |                     |                       |
|                                         |                                | ML16-GT32-389209-5T                    |                     |                       |
|                                         | DECO13- EvoDECO16              | ML16-DECO13-DUO                        |                     | 12.48                 |
|                                         |                                | ML16-DECO13-JET                        |                     |                       |
|                                         | DECO20/26 - EvoDECO20/32       | ML16-DECO13-DUO                        |                     | 12.50                 |
|                                         |                                | ML16-DECO13-JET                        |                     |                       |
|                                         | SIGMA20/32                     | ML16-DECO20-DUO                        |                     | 12.51                 |
|                                         |                                | ML16-DECO20-JET                        |                     |                       |
|                                         | SWISS ST26                     | ML16-S20-DUO                           |                     | 12.52                 |
|                                         |                                | ML16-S20-JET                           |                     |                       |
|                                         | DT26                           | ML16-SWISS-ST26-DUO                    |                     | 12.53                 |
| ML16-SWISS-ST26-JET                     |                                |                                        |                     |                       |
|                                         | ML16-DT26-2020206-7T           | 12.54                                  |                     |                       |
| Tsugami                                 | B074                           | ML12-B074-1-6T                         | ML12                | 12.55                 |
|                                         | B075                           | ML12-B075-1-8T                         |                     | 12.56                 |
|                                         | P034                           | ML12-P034-1-5T                         |                     | 12.57                 |
|                                         |                                | ML12-P034-1-7T                         |                     | 12.58                 |
|                                         |                                | ML12-P034-2-4T                         |                     | 12.57                 |
|                                         |                                | ML12-P034-2-10T                        |                     | 12.58                 |

## Citizen C12 / C16

+ 2 outils (max 8)  
 + 2 Werkzeuge (max 8)  
 + 2 tools (max 8)

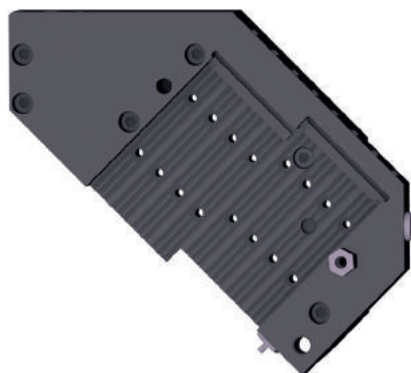
## ML12



Outil 12 mm possible avec module de serrage  
 Werkzeug 12 mm mit Spannelement möglich  
 Tool 12mm possible with clamping unit

Module d'arrosage (prend la place d'un outil)  
 Kühlmittelzufuhrelement (nimmt den Platz eines Werkzeuges)  
 Coolant supply unit (takes the place of one tool)

Arrosage intégré  
 Integrierter Kühlmittel  
 Integrated coolant



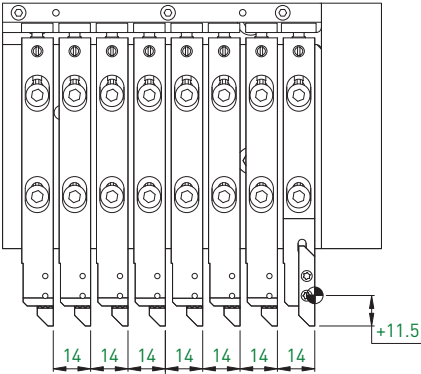
### Accessoires Zubehöre Accessories

| Art. N°          | Porte-outils<br>Halter<br>Holders | Pages<br>Seiten<br>Pages | Module de serrage<br>Spannelement<br>Clamping unit | Module d'arrosage<br>Kühlmittelzufuhrelement<br>Coolant supply unit | Page<br>Seite<br>Page |
|------------------|-----------------------------------|--------------------------|----------------------------------------------------|---------------------------------------------------------------------|-----------------------|
| ML12-CITIZEN-C16 | ML12                              | > 12.63                  | ML12-FIX-12/14                                     | ML12-JET-5/16                                                       | 12.82                 |

Citizen L12-1M7

- + 2 outils (max 8)
- + 2 Werkzeuge (max 8)
- + 2 tools (max 8)

ML12

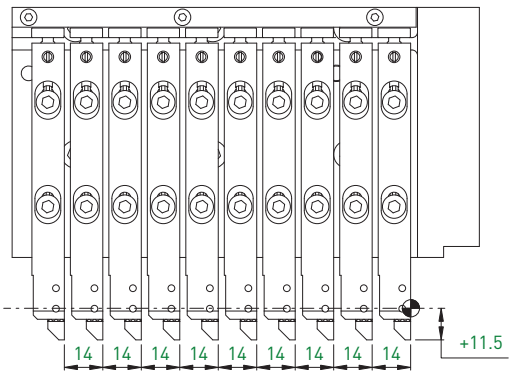


|                      |                                   |                          | Accessoires<br>Zubehöre<br>Accessories             |                                                                     |                       |
|----------------------|-----------------------------------|--------------------------|----------------------------------------------------|---------------------------------------------------------------------|-----------------------|
| Art. N°              | Porte-outils<br>Halter<br>Holders | Pages<br>Seiten<br>Pages | Module de serrage<br>Spannelement<br>Clamping unit | Module d'arrosage<br>Kühlmittelzufuhrelement<br>Coolant supply unit | Page<br>Seite<br>Page |
| ML12-CITIZEN-L12-1M7 | ML12                              | > 12.63                  | -                                                  | ML12-JET-5/16                                                       | 12.82                 |

Citizen L12-2M10

- + 3 outils (max 10)
- + 3 Werkzeuge (max 10)
- + 3 tools (max 10)

ML12

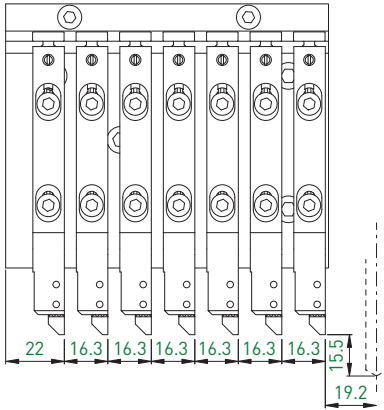


|                       |                                   |                          | Accessoires<br>Zubehöre<br>Accessories             |                                                                     |                       |
|-----------------------|-----------------------------------|--------------------------|----------------------------------------------------|---------------------------------------------------------------------|-----------------------|
| Art. N°               | Porte-outils<br>Halter<br>Holders | Pages<br>Seiten<br>Pages | Module de serrage<br>Spannelement<br>Clamping unit | Module d'arrosage<br>Kühlmittelzufuhrelement<br>Coolant supply unit | Page<br>Seite<br>Page |
| ML12-CITIZEN-L12-2M10 | ML12                              | > 12.63                  | -                                                  | ML12-JET-5/16                                                       | 12.82                 |



**Citizen M16 V/VIII**

+ 2 outils (max 7)  
 + 2 Werkzeuge (max 7)  
 + 2 tools (max 7)

**ML12**

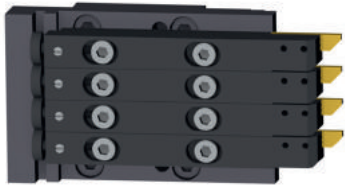
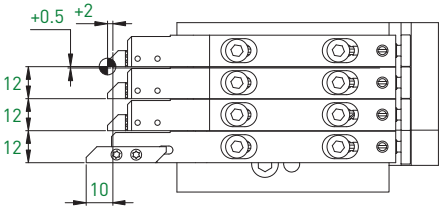
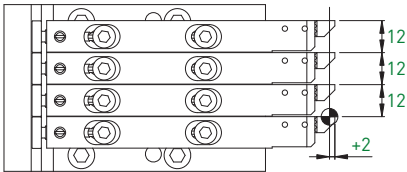
Accessoires  
 Zubehör  
 Accessories

| Art. N°                | Porte-outils<br>Halter<br>Holders | Pages<br>Seiten<br>Pages | Module de serrage<br>Spannelement<br>Clamping unit | Module d'arrosage<br>Kühlmittelzufuhrelement<br>Coolant supply unit | Page<br>Seite<br>Page |
|------------------------|-----------------------------------|--------------------------|----------------------------------------------------|---------------------------------------------------------------------|-----------------------|
| ML12-CITIZEN-M16V/VIII | ML12                              | > 12.63                  | -                                                  | <a href="#">ML12-JET-5/16</a>                                       | 12.82                 |

Citizen R04

- + 1 outil (max 8)
- + 1 Werkzeug (max 8)
- + 1 tool (max 8)

ML12



ML12-CITIZEN-R04-QTF5008-4T



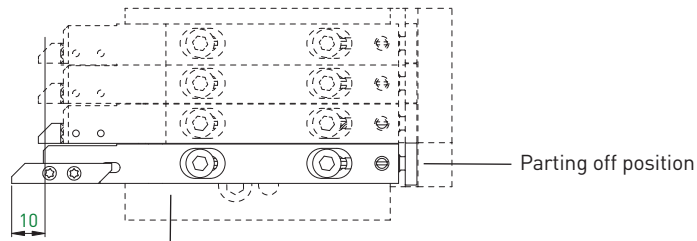
ML12-CITIZEN-R04-QTF5108-4T

|                      |                                                            |                                   |                          | Accessoires<br>Zubehöre<br>Accessories             |                                                                     |                       |
|----------------------|------------------------------------------------------------|-----------------------------------|--------------------------|----------------------------------------------------|---------------------------------------------------------------------|-----------------------|
| Type<br>Type<br>Type | Art. N°                                                    | Porte-outils<br>Halter<br>Holders | Pages<br>Seiten<br>Pages | Module de serrage<br>Spannelement<br>Clamping unit | Module d'arrosage<br>Kühlmittelzufuhrelement<br>Coolant supply unit | Page<br>Seite<br>Page |
| 4T                   | ML12-CITIZEN-R04-QTF5008-4T<br>ML12-CITIZEN-R04-QTF5108-4T | ML12                              | > 12.63                  | -                                                  | ML12-JET-5/16                                                       | 12.82                 |

Citizen R04

Porte-outils spéciaux de tronçonnage  
 Spezial Abstechwerkzeughalter  
 Special parting off tool holders

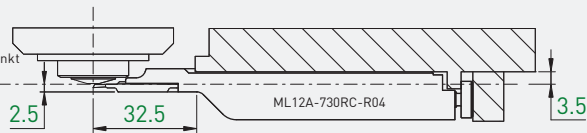
ML12



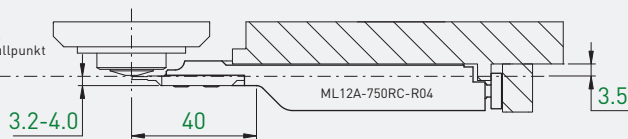
ML12-CITIZEN-R04-QTF5108-4T

avec canon  
 mit Führungsbuchse  
 with guide bush

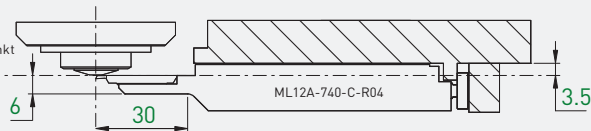
Ligne d'outil  
 Werkzeugnullpunkt  
 Tool ref. line



Ligne d'outil  
 Werkzeugnullpunkt  
 Tool ref. line



Ligne d'outil  
 Werkzeugnullpunkt  
 Tool ref. line

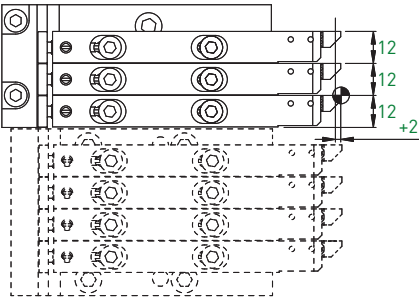


| Type de machine<br>Maschinen-Typ<br>Type of machine | Porte-outils<br>Halter<br>Holders | Art. N°         | Plaquettes<br>Wendeplatten<br>Inserts | Pages<br>Seiten<br>Pages |
|-----------------------------------------------------|-----------------------------------|-----------------|---------------------------------------|--------------------------|
| Citizen R04                                         | ML12                              | ML12A-730RC-R04 | 731R... / 731RSF                      | > TOP-Line<br>TOP-Watch  |
|                                                     |                                   | ML12A-750RC-R04 | 751R... / 751RDSF                     |                          |
|                                                     |                                   | ML12A-740-C-R04 | 741 / 741SF                           |                          |

Citizen R04

- + 3 outils (max 3)
- + 3 Werkzeuge (max 3)
- + 3 tools (max 3)

ML12

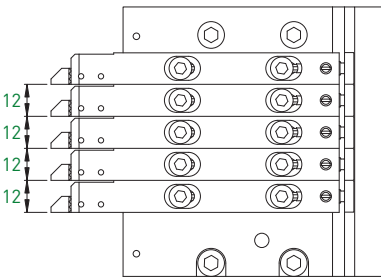
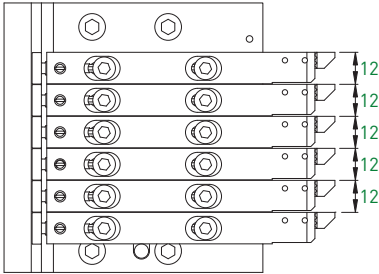


|                             |                                   |                          | Accessoires<br>Zubehöre<br>Accessories             |                                                                     |                       |
|-----------------------------|-----------------------------------|--------------------------|----------------------------------------------------|---------------------------------------------------------------------|-----------------------|
| Art. N°                     | Porte-outils<br>Halter<br>Holders | Pages<br>Seiten<br>Pages | Module de serrage<br>Spannelement<br>Clamping unit | Module d'arrosage<br>Kühlmittelzufuhrelement<br>Coolant supply unit | Page<br>Seite<br>Page |
| ML12-CITIZEN-R04-QTF3101-3T | ML12                              | > 12.63                  | -                                                  | ML12-JET-5/16                                                       | 12.82                 |

Citizen R07

- + 1 outil (max 11)
- + 1 Werkzeug (max 11)
- + 1 tool (max 11)

ML12



ML12-CITIZEN-R07-QTF4108-6T

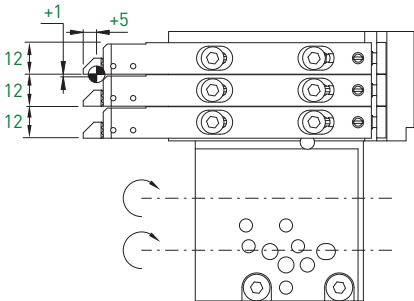
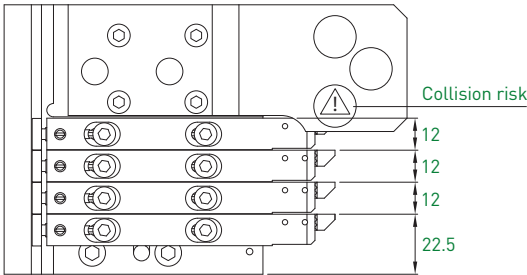
ML12-CITIZEN-R07-QTF4008-5T

|                     |                             |                                   |                          | Accessoires<br>Zubehöre<br>Accessories             |                                                                     |                       |
|---------------------|-----------------------------|-----------------------------------|--------------------------|----------------------------------------------------|---------------------------------------------------------------------|-----------------------|
| Type<br>Typ<br>Type | Art. N°                     | Porte-outils<br>Halter<br>Holders | Pages<br>Seiten<br>Pages | Module de serrage<br>Spannelement<br>Clamping unit | Module d'arrosage<br>Kühlmittelzufuhrelement<br>Coolant supply unit | Page<br>Seite<br>Page |
| 5T                  | ML12-CITIZEN-R07-QTF4008-5T | ML12                              | > 12.63                  | -                                                  | ML12-JET-5/16                                                       | 12.82                 |
| 6T                  | ML12-CITIZEN-R07-QTF4108-6T |                                   |                          |                                                    |                                                                     |                       |

Citizen R07

- + 1 outil (max 7)
- + 1 Werkzeug (max 7)
- + 1 tool (max 7)

ML12



ML12-CITIZEN-R07-QTF4608-4T

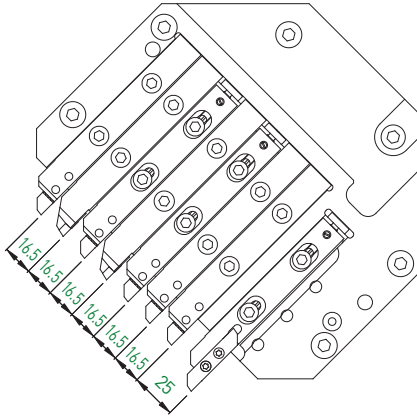
ML12-CITIZEN-R07-QTF4208-3T

|                      |                             |                                   |                          | Accessoires<br>Zubehöre<br>Accessories             |                                                                     |                       |
|----------------------|-----------------------------|-----------------------------------|--------------------------|----------------------------------------------------|---------------------------------------------------------------------|-----------------------|
| Type<br>Type<br>Type | Art. N°                     | Porte-outils<br>Halter<br>Holders | Pages<br>Seiten<br>Pages | Module de serrage<br>Spannelement<br>Clamping unit | Module d'arrosage<br>Kühlmittelzufuhrelement<br>Coolant supply unit | Page<br>Seite<br>Page |
| 3T                   | ML12-CITIZEN-R07-QTF4208-3T | ML12                              | > 12.63                  | -                                                  | ML12-JET-5/16                                                       | 12.82                 |
| 4T                   | ML12-CITIZEN-R07-QTF4608-4T |                                   |                          |                                                    |                                                                     |                       |

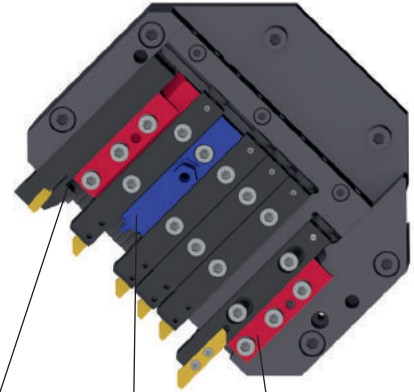
**Citizen** K12 / K16  
K12E / K16E

+ 2 outils (max 8)  
+ 2 Werkzeuge (max 8)  
+ 2 tools (max 8)

**ML16**



Outil  $\nabla$  16 mm possible avec module de serrage  
Werkzeug  $\nabla$  16 mm mit Spannelement möglich  
Tool  $\nabla$  16 mm possible with clamping unit



Module d'arrosage (prend la place d'un outil)  
Kühlmittelzufuhrelement (nimmt den Platz eines Werkzeuges)  
Coolant supply unit (takes the place of one tool)

1 serrage ML16-FIX-16 pour outil  $\nabla$  16 mm inclus  
1 Spannung ML16-FIX-16 für Werkzeug  $\nabla$  16 mm inbegriffen  
1 clamping ML16-FIX-16 for tool  $\nabla$  16 mm included



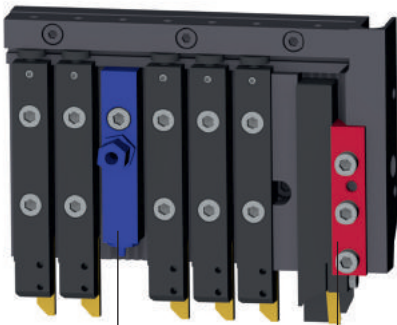
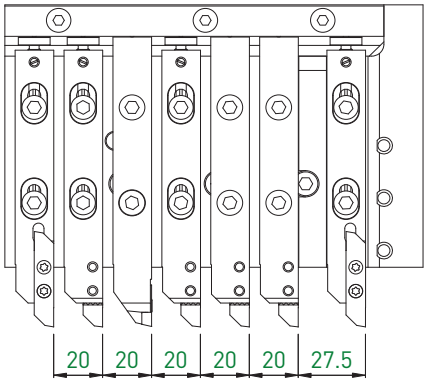
Accessoires  
Zubehöre  
Accessories

| Art. N°          | Porte-outils<br>Halter<br>Holders | Pages<br>Seiten<br>Pages | Module de serrage<br>Spannelement<br>Clamping unit | Module d'arrosage<br>Kühlmittelzufuhrelement<br>Coolant supply unit | Page<br>Seite<br>Page |
|------------------|-----------------------------------|--------------------------|----------------------------------------------------|---------------------------------------------------------------------|-----------------------|
| ML16-CITIZEN-K16 | ML16                              | > 12.63                  | ML16-FIX-16/16.5                                   | ML16-JET-7/16                                                       | 12.82                 |

Citizen L16 / L20-5M1 / 5M7

- + 1 outil (max 7)
- + 1 Werkzeug (max 7)
- + 1 tool (max 7)

ML16



Module d'arrosage (prend la place d'un outil)  
Kühlmittelzufuhrelement (nimmt den Platz eines Werkzeuges)  
Coolant supply unit (takes the place of one tool)

- 1 serrage ML16-FIX-16 pour outil 16 mm inclus
- 1 Spannung ML16-FIX-16 für Werkzeug 16 mm inbegriffen
- 1 clamping ML16-FIX-16 for tool 16 mm included



|                  |                                   |                          | Accessoires<br>Zubehöre<br>Accessories             |                                                                     |                       |
|------------------|-----------------------------------|--------------------------|----------------------------------------------------|---------------------------------------------------------------------|-----------------------|
| Art. N°          | Porte-outils<br>Halter<br>Holders | Pages<br>Seiten<br>Pages | Module de serrage<br>Spannelement<br>Clamping unit | Module d'arrosage<br>Kühlmittelzufuhrelement<br>Coolant supply unit | Page<br>Seite<br>Page |
| ML16-CITIZEN-L20 | ML16                              | > 12.63                  | -                                                  | ML16-JET-7/16                                                       | 12.82                 |



**L20E-1M8**

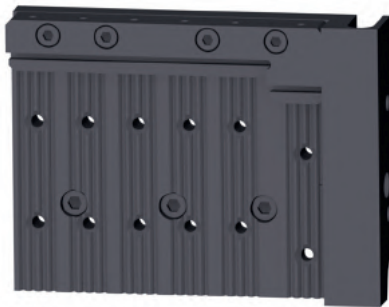
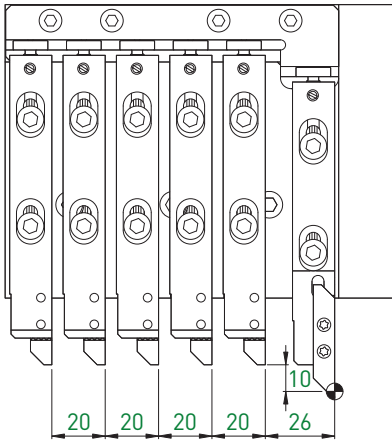
+ 1 outil (max 6)

**Citizen L20X-1M10**

+ 1 Werkzeug (max 6)

**ML16****L20-2M8/2M12**

+ 1 tool (max 6)



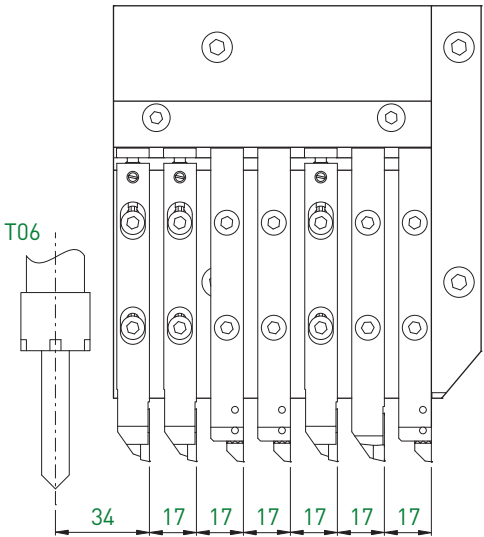
Accessoires  
Zubehöre  
Accessories

| Art. N°           | Porte-outils<br>Halter<br>Holders | Pages<br>Seiten<br>Pages | Module de serrage<br>Spannelement<br>Clamping unit | Module d'arrosage<br>Kühlmittelzufuhrelement<br>Coolant supply unit | Page<br>Seite<br>Page |
|-------------------|-----------------------------------|--------------------------|----------------------------------------------------|---------------------------------------------------------------------|-----------------------|
| ML16-CITIZEN-L20E | ML16                              | > 12.63                  | -                                                  | <a href="#">ML16-JET-7/16</a>                                       | 12.82                 |

Hanwha XD20M

- + 2 outils (max 7)
- + 2 Werkzeuge (max 7)
- + 2 tools (max 7)

ML12

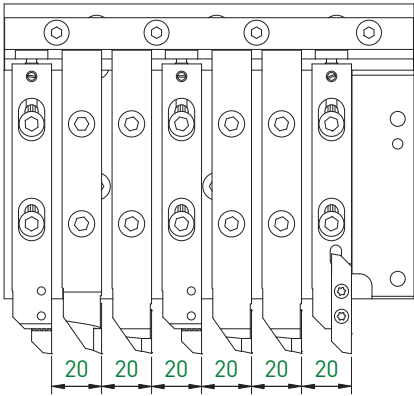


|                   |                                   |                          | Accessoires<br>Zubehöre<br>Accessories             |                                                                     |                       |
|-------------------|-----------------------------------|--------------------------|----------------------------------------------------|---------------------------------------------------------------------|-----------------------|
| Art. N°           | Porte-outils<br>Halter<br>Holders | Pages<br>Seiten<br>Pages | Module de serrage<br>Spannelement<br>Clamping unit | Module d'arrosage<br>Kühlmittelzufuhrelement<br>Coolant supply unit | Page<br>Seite<br>Page |
| ML12-HANWHA-XD20M | ML12                              | > 12.63                  | -                                                  | ML12-JET-5/16                                                       | 12.82                 |

**Hanwha SL12 / 16**

- + 1 outil (max 7)
- + 1 Werkzeug (max 7)
- + 1 tool (max 7)

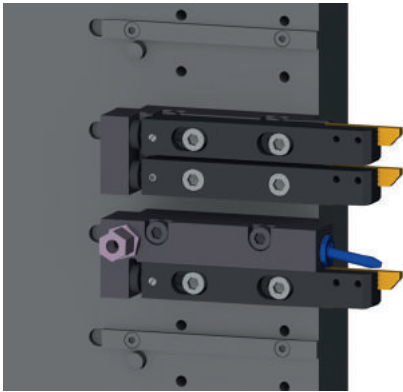
**ML16**



|                     |                                   |                          | Accessoires<br>Zubehöre<br>Accessories             |                                                                     |                       |
|---------------------|-----------------------------------|--------------------------|----------------------------------------------------|---------------------------------------------------------------------|-----------------------|
| Art. N°             | Porte-outils<br>Halter<br>Holders | Pages<br>Seiten<br>Pages | Module de serrage<br>Spannelement<br>Clamping unit | Module d'arrosage<br>Kühlmittelzufuhrelement<br>Coolant supply unit | Page<br>Seite<br>Page |
| ML16-HANWHA-SL12/16 | ML16                              | > 12.63                  | -                                                  | ML16-JET-7/16                                                       | 12.82                 |

Manurhin **KMX 426/526/626**  
Swing 20-26 MM

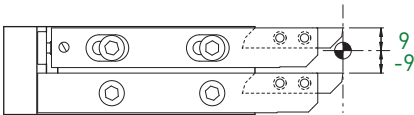
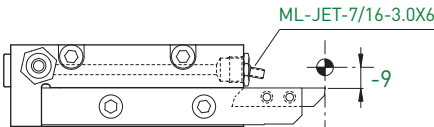
**ML16**



Jet



Duo



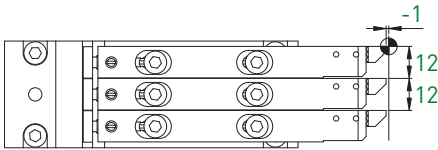
Jet



Duo

|                     |                |                                   |                          | Accessoires<br>Zubehöre<br>Accessories             |                                                                     |                       |
|---------------------|----------------|-----------------------------------|--------------------------|----------------------------------------------------|---------------------------------------------------------------------|-----------------------|
| Type<br>Typ<br>Type | Art. N°        | Porte-outils<br>Halter<br>Holders | Pages<br>Seiten<br>Pages | Module de serrage<br>Spannelement<br>Clamping unit | Module d'arrosage<br>Kühlmittelzufuhrelement<br>Coolant supply unit | Page<br>Seite<br>Page |
| Jet                 | ML16-KMX26-JET | ML16                              | > 12.63                  | -                                                  | ML-JET-7/16...                                                      | 12.82                 |
| Duo                 | ML16-KMX26-DUO |                                   |                          |                                                    | ML16-JET-7/16                                                       |                       |

|             |                      |      |
|-------------|----------------------|------|
| D3          | + 1 outil (max 3)    | ML12 |
| Metafil D10 | + 1 Werkzeug (max 3) |      |
| D13         | + 1 tool (max 3)     |      |

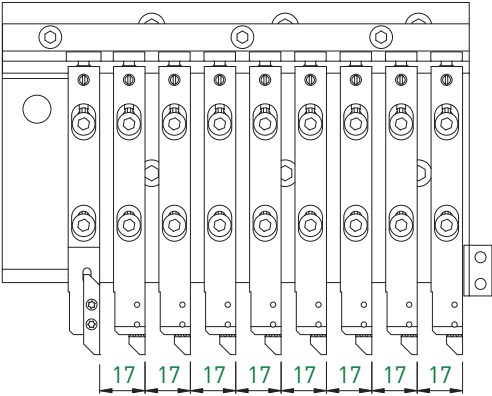


|             |                                   |                          | Accessoires<br>Zubehöre<br>Accessories             |                                                                     |                       |
|-------------|-----------------------------------|--------------------------|----------------------------------------------------|---------------------------------------------------------------------|-----------------------|
| Art. N°     | Porte-outils<br>Halter<br>Holders | Pages<br>Seiten<br>Pages | Module de serrage<br>Spannelement<br>Clamping unit | Module d'arrosage<br>Kühlmittelzufuhrelement<br>Coolant supply unit | Page<br>Seite<br>Page |
| ML12-D10-3T | ML12                              | > 12.63                  | -                                                  | ML12-JET-5/16                                                       | 12.82                 |

Star SB-12RG

- + 2 outils (max 9)
- + 2 Werkzeuge (max 9)
- + 2 tools (max 9)

ML12

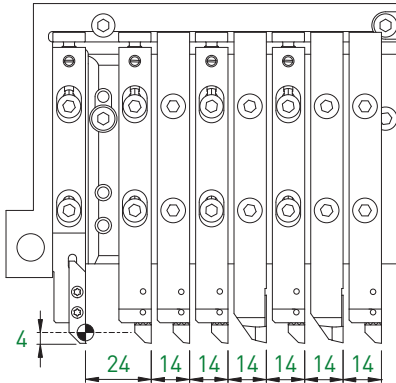


|                   |                                   |                          | Accessoires<br>Zubehöre<br>Accessories             |                                                                     |                       |
|-------------------|-----------------------------------|--------------------------|----------------------------------------------------|---------------------------------------------------------------------|-----------------------|
| Art. N°           | Porte-outils<br>Halter<br>Holders | Pages<br>Seiten<br>Pages | Module de serrage<br>Spannelement<br>Clamping unit | Module d'arrosage<br>Kühlmittelzufuhrelement<br>Coolant supply unit | Page<br>Seite<br>Page |
| ML12-STAR-SB-12RG | ML12                              | > 12.63                  | -                                                  | ML12-JET-5/16                                                       | 12.82                 |

## Star SR-10J

- + 2 outils (max 8)
- + 2 Werkzeuge (max 8)
- + 2 tools (max 8)

ML12



- 1 serrage ML12-FIX-12 pour outil  $\square$  12 mm inclus
- 1 Spannung ML12-FIX-12 für Werkzeug  $\square$  12 mm inbegriffen
- 1 clamping ML12-FIX-12 for tool  $\square$  12 mm included

Module d'arrosage (prend la place d'un outil)  
 Kühlmittelzufuhrelement (nimmt den Platz eines Werkzeuges)  
 Coolant supply unit (takes the place of one tool)



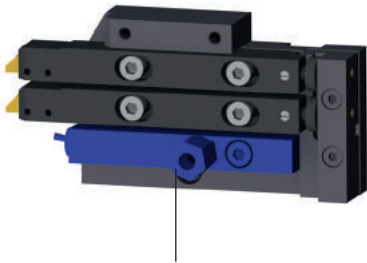
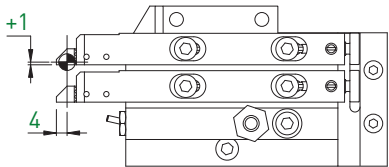
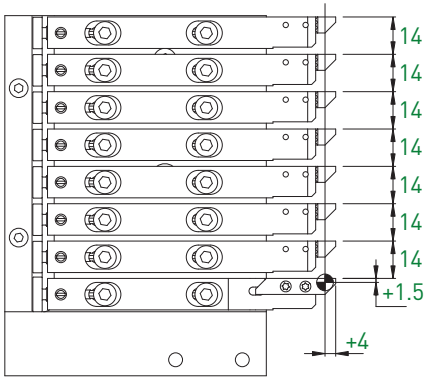
Accessoires  
 Zubehör  
 Accessories

| Art. N°          | Porte-outils<br>Halter<br>Holders | Pages<br>Seiten<br>Pages | Module de serrage<br>Spannelement<br>Clamping unit | Module d'arrosage<br>Kühlmittelzufuhrelement<br>Coolant supply unit | Page<br>Seite<br>Page |
|------------------|-----------------------------------|--------------------------|----------------------------------------------------|---------------------------------------------------------------------|-----------------------|
| ML12-STAR-SR-10J | ML12                              | > 12.63                  | ML12-FIX-12/14                                     | ML12-JET-5/16                                                       | 12.82                 |

Star SW-12RII

- + 2 outils (max 10)
- + 2 Werkzeuge (max 10)
- + 2 tools (max 10)

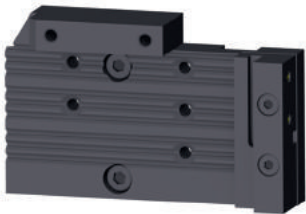
ML12



Position uniquement utilisable avec module d'arrosage, en option  
Position nur mit Kühlmittelzufuhrelement verwendbar, optional  
Position only with coolant supply unit usable, optional



ML12-STAR-SW-12RII-8T

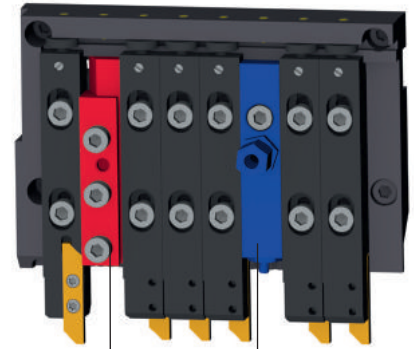
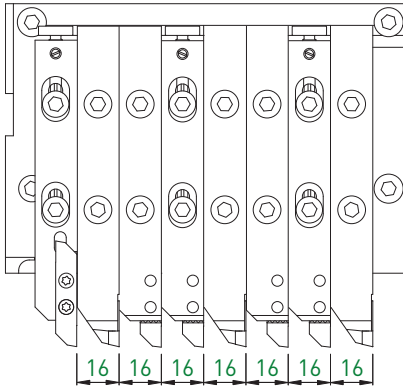


ML12-STAR-SW-12RII-2T

|                     |                       |                                   |                          | Accessoires<br>Zubehöre<br>Accessories             |                                                                     |                       |
|---------------------|-----------------------|-----------------------------------|--------------------------|----------------------------------------------------|---------------------------------------------------------------------|-----------------------|
| Type<br>Typ<br>Type | Art. N°               | Porte-outils<br>Halter<br>Holders | Pages<br>Seiten<br>Pages | Module de serrage<br>Spannelement<br>Clamping unit | Module d'arrosage<br>Kühlmittelzufuhrelement<br>Coolant supply unit | Page<br>Seite<br>Page |
| 2T                  | ML12-STAR-SW-12RII-2T | ML12                              | > 12.63                  | -                                                  | ML12-JET-5/16                                                       | 12.82                 |
| 8T                  | ML12-STAR-SW-12RII-8T |                                   |                          |                                                    |                                                                     |                       |

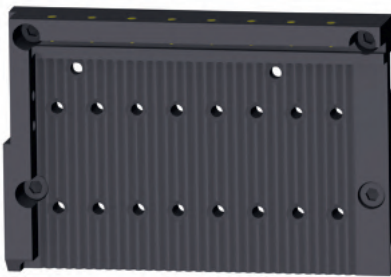


|             |               |                       |
|-------------|---------------|-----------------------|
|             | <b>SA-12</b>  | + 2 outils (max 8)    |
| <b>Star</b> | <b>SA-16</b>  | + 2 Werkzeuge (max 8) |
|             | <b>SA-16R</b> | + 2 tools (max 8)     |

**ML16**

Outil  $\nabla$  16 mm possible avec module de serrage  
 Werkzeug  $\nabla$  16 mm mit Spannelement möglich  
 Tool  $\nabla$  16 mm possible with clamping unit

Module d'arrosage (prend la place d'un outil)  
 Kühlmittelzufuhrelement (nimmt den Platz eines Werkzeuges)  
 Coolant supply unit (takes the place of one tool)



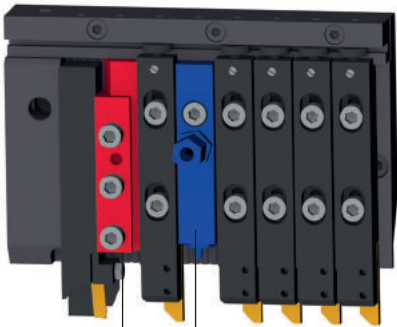
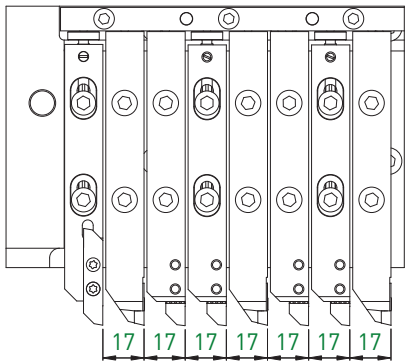
Accessoires  
 Zubehör  
 Accessories

| Art. N°                | Porte-outils<br>Halter<br>Holders | Pages<br>Seiten<br>Pages | Module de serrage<br>Spannelement<br>Clamping unit | Module d'arrosage<br>Kühlmittelzufuhrelement<br>Coolant supply unit | Page<br>Seite<br>Page |
|------------------------|-----------------------------------|--------------------------|----------------------------------------------------|---------------------------------------------------------------------|-----------------------|
| <b>ML16-STAR-SA-16</b> | ML16                              | > 12.63                  | <b>ML16-FIX-16/16</b>                              | <b>ML16-JET-7/16</b>                                                | 12.82                 |

Star SB-16

- + 3 outils (max 8)
- + 3 Werkzeuge (max 8)
- + 3 tools (max 8)

ML16



Outil 17 mm possible avec module de serrage  
Werkzeug 17 mm mit Spannelement möglich  
Tool 17 mm possible with clamping unit

Module d'arrosage (prend la place d'un outil)  
Kühlmittelzufuhrelement (nimmt den Platz eines Werkzeuges)  
Coolant supply unit (takes the place of one tool)

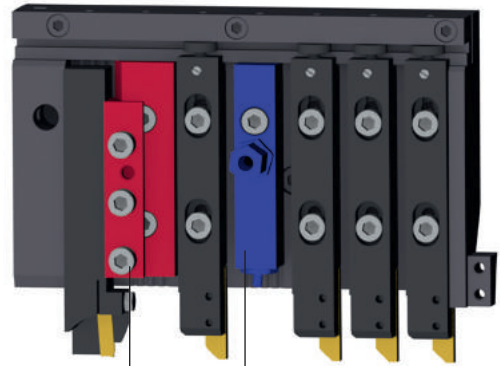
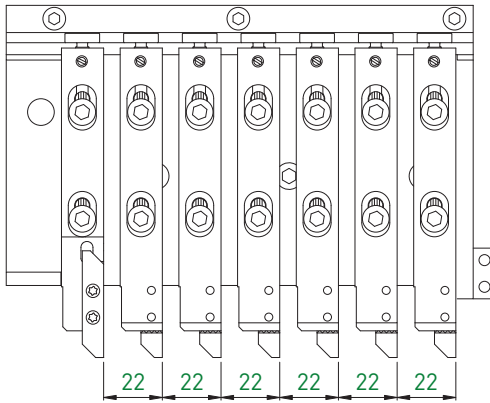


|                 |                                   |                          | Accessoires<br>Zubehöre<br>Accessories             |                                                                     |                       |
|-----------------|-----------------------------------|--------------------------|----------------------------------------------------|---------------------------------------------------------------------|-----------------------|
| Art. N°         | Porte-outils<br>Holder<br>Holders | Pages<br>Seiten<br>Pages | Module de serrage<br>Spannelement<br>Clamping unit | Module d'arrosage<br>Kühlmittelzufuhrelement<br>Coolant supply unit | Page<br>Seite<br>Page |
| ML16-STAR-SB-16 | ML16                              | > 12.63                  | ML16-FIX-16/17                                     | ML16-JET-7/16                                                       | 12.82                 |

Star SB-16/20RG

- + 1 outil (max 7)
- + 1 Werkzeug (max 7)
- + 1 tool (max 7)

ML16



Outil 16 mm possible avec module de serrage  
 Werkzeug 16 mm mit Spannelement möglich  
 Tool 16 mm possible with clamping unit

Module d'arrosage (prend la place d'un outil)  
 Kühlmittelzufuhrelement (nimmt den Platz eines Werkzeuges)  
 Coolant supply unit (takes the place of one tool)



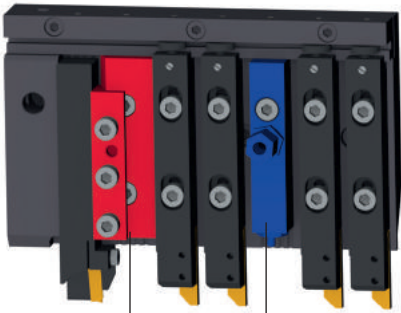
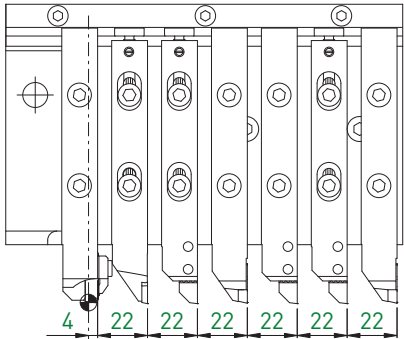
Accessoires  
 Zubehör  
 Accessories

| Art. N°              | Porte-outils<br>Halter<br>Holders | Pages<br>Seiten<br>Pages | Module de serrage<br>Spannelement<br>Clamping unit | Module d'arrosage<br>Kühlmittelzufuhrelement<br>Coolant supply unit | Page<br>Seite<br>Page |
|----------------------|-----------------------------------|--------------------------|----------------------------------------------------|---------------------------------------------------------------------|-----------------------|
| ML16-STAR-SB-16/20RG | ML16                              | > 12.63                  | ML16-FIX-16/22                                     | ML16-JET-7/16                                                       | 12.82                 |

Star SB-20C/E

- + 1 outil (max 7)
- + 1 Werkzeug (max 7)
- + 1 tool (max 7)

ML16



Outil 16 mm possible avec module de serrage  
Werkzeug 16 mm mit Spannelement möglich  
Tool 16 mm possible with clamping unit

Module d'arrosage (prend la place d'un outil)  
Kühlmittelzufuhrelement (nimmt den Platz eines Werkzeuges)  
Coolant supply unit (takes the place of one tool)



|                   |                                   |                          | Accessoires<br>Zubehöre<br>Accessories             |                                                                     |                       |
|-------------------|-----------------------------------|--------------------------|----------------------------------------------------|---------------------------------------------------------------------|-----------------------|
| Art. N°           | Porte-outils<br>Halter<br>Holders | Pages<br>Seiten<br>Pages | Module de serrage<br>Spannelement<br>Clamping unit | Module d'arrosage<br>Kühlmittelzufuhrelement<br>Coolant supply unit | Page<br>Seite<br>Page |
| ML16-STAR-SB20C/E | ML16                              | > 12.63                  | ML16-FIX-16/22                                     | ML16-JET-7/16                                                       | 12.82                 |

SR-16R

+ 3 outils (max 9)

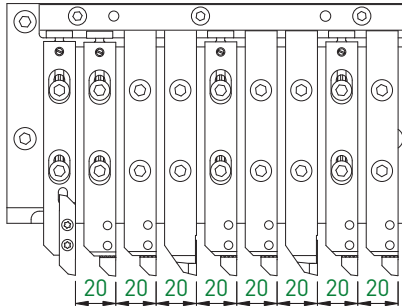
Star SR-20R

+ 3 Werkzeuge (max 9)

ML16

SR-20RII

+ 3 tools (max 9)



Outil 16 mm possible avec module de serrage  
 Werkzeug 16 mm mit Spannelement möglich  
 Tool 16 mm possible with clamping unit

Module d'arrosage (prend la place d'un outil)  
 Kühlmittelzufuhrelement (nimmt den Platz eines Werkzeuges)  
 Coolant supply unit (takes the place of one tool)



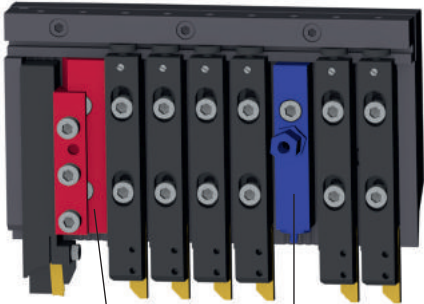
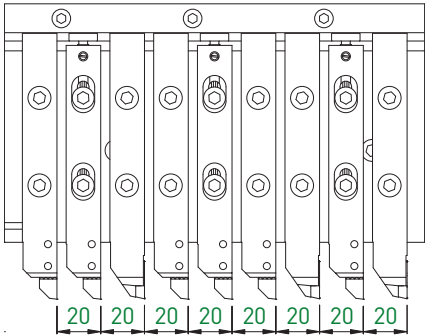
Accessoires  
 Zubehör  
 Accessories

| Art. N°          | Porte-outils<br>Halter<br>Holders | Pages<br>Seiten<br>Pages | Module de serrage<br>Spannelement<br>Clamping unit | Module d'arrosage<br>Kühlmittelzufuhrelement<br>Coolant supply unit | Page<br>Seite<br>Page |
|------------------|-----------------------------------|--------------------------|----------------------------------------------------|---------------------------------------------------------------------|-----------------------|
| ML16-STAR-SR-20R | ML16                              | > 12.63                  | ML16-FIX-16/20                                     | ML16-JET-7/16                                                       | 12.82                 |

Star **SR-20RIII**  
**SR-20J**

- + 3 outils (max 9)
- + 3 Werkzeuge (max 9)
- + 3 tools (max 9)

**ML16**



Outil 16 mm possible avec module de serrage  
Werkzeug 16 mm mit Spannelement möglich  
Tool 16 mm possible with clamping unit

Module d'arrosage (prend la place d'un outil)  
Kühlmittelzufuhrelement (nimmt den Platz eines Werkzeuges)  
Coolant supply unit (takes the place of one tool)



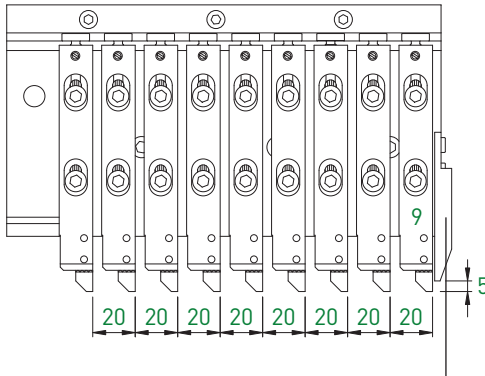
|                     |                                   |                          | Accessoires<br>Zubehöre<br>Accessories             |                                                                     |                       |
|---------------------|-----------------------------------|--------------------------|----------------------------------------------------|---------------------------------------------------------------------|-----------------------|
| Art. N°             | Porte-outils<br>Holder<br>Holders | Pages<br>Seiten<br>Pages | Module de serrage<br>Spannelement<br>Clamping unit | Module d'arrosage<br>Kühlmittelzufuhrelement<br>Coolant supply unit | Page<br>Seite<br>Page |
| ML16-STAR-SR-20RIII | ML16                              | > 12.63                  | ML16-FIX-16/20                                     | ML16-JET-7/16                                                       | 12.82                 |
| ML16-STAR-SR-20J    |                                   |                          |                                                    |                                                                     |                       |

## Star SR20JII type A/B

+ 3 outils (max 9)  
 + 3 Werkzeuge (max 9)  
 + 3 tools (max 9)

ML16

new



Risque de collision avec outil 9  
 Kollisionsrisiko mit Werkzeug 9  
 Collision risk with tool 9



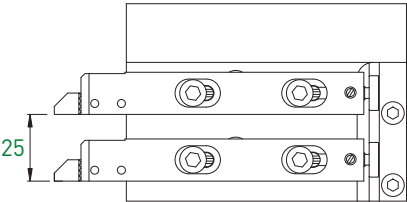
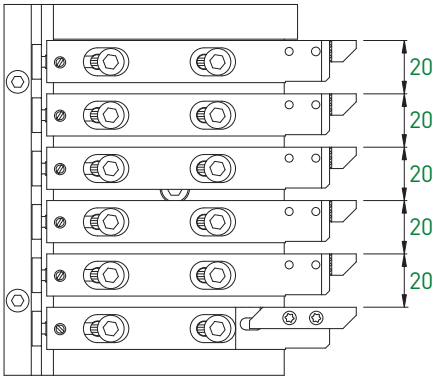
Accessoires  
 Zubehör  
 Accessories

| Art. N°               | Porte-outils<br>Halter<br>Holders | Pages<br>Seiten<br>Pages | Module de serrage<br>Spannelement<br>Clamping unit | Module d'arrosage<br>Kühlmittelzufuhrelement<br>Coolant supply unit | Page<br>Seite<br>Page |
|-----------------------|-----------------------------------|--------------------------|----------------------------------------------------|---------------------------------------------------------------------|-----------------------|
| ML16-STAR-SR20JII-A/B | ML16                              | > 12.63                  | ML16-FIX-16/20                                     | ML16-JET-7/16                                                       | 12.82                 |

Star SR-20RIV

- + 1 outil (max 8)
- + 1 Werkzeug (max 8)
- + 1 tool (max 8)

ML16



ML16-STAR-SR-20RIV-6T

ML16-STAR-SR-20RIV-2T

|                     |                       |                                   |                          | Accessoires<br>Zubehöre<br>Accessories             |                                                                     |                       |
|---------------------|-----------------------|-----------------------------------|--------------------------|----------------------------------------------------|---------------------------------------------------------------------|-----------------------|
| Type<br>Typ<br>Type | Art. N°               | Porte-outils<br>Halter<br>Holders | Pages<br>Seiten<br>Pages | Module de serrage<br>Spannelement<br>Clamping unit | Module d'arrosage<br>Kühlmittelzufuhrelement<br>Coolant supply unit | Page<br>Seite<br>Page |
| 2T                  | ML16-STAR-SR-20RIV-2T | ML16                              | > 12.63                  | -                                                  | ML16-JET-7/16                                                       | 12.82                 |
| 6T                  | ML16-STAR-SR-20RIV-6T |                                   |                          |                                                    |                                                                     |                       |



Star SR-32J

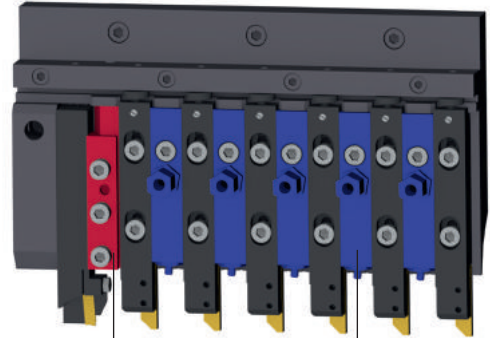
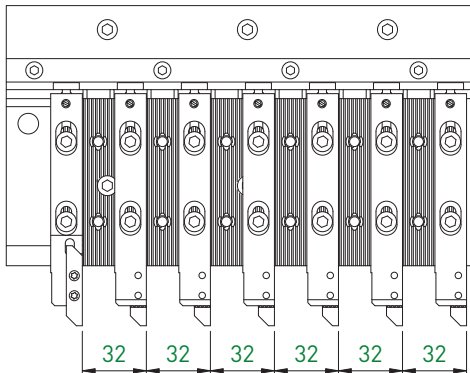
Ø max  
32 mm

+ 1 outil (max 7)  
+ 1 Werkzeug (max 7)  
+ 1 tool (max 7)

Ø max  
16 mm

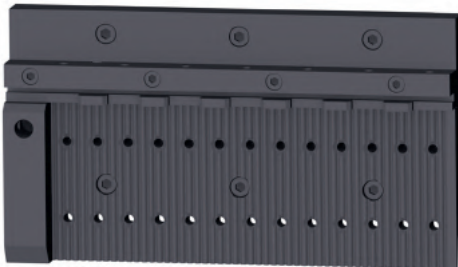
+ 7 outils (max 13)  
+ 7 Werkzeuge (max 13)  
+ 7 tools (max 13)

ML16



Outil 16 mm possible avec module de serrage  
Werkzeug 16 mm mit Spannelement möglich  
Tool 16 mm possible with clamping unit

Module d'arrosage (prend la place d'un outil)  
Kühlmittelzufuhrelement (nimmt den Platz eines Werkzeuges)  
Coolant supply unit (takes the place of one tool)



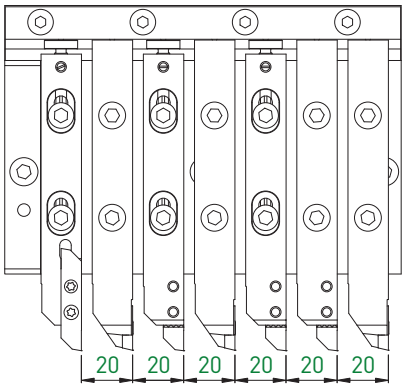
Accessoires  
Zubehöre  
Accessories

| Art. N°          | Porte-outils<br>Halter<br>Holders | Pages<br>Seiten<br>Pages | Module de serrage<br>Spannelement<br>Clamping unit | Module d'arrosage<br>Kühlmittelzufuhrelement<br>Coolant supply unit | Page<br>Seite<br>Page |
|------------------|-----------------------------------|--------------------------|----------------------------------------------------|---------------------------------------------------------------------|-----------------------|
| ML16-STAR-SR-32J | ML16                              | > 12.63                  | ML16-FIX-16/16                                     | ML16-JET-7/16                                                       | 12.82                 |

Star SV-12 / 20

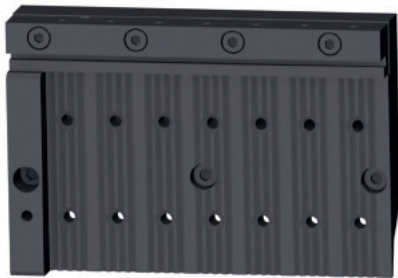
- + 2 outils (max 7)
- + 2 Werkzeuge (max 7)
- + 2 tools (max 7)

ML16



Outil 16 mm possible avec module de serrage  
Werkzeug 16 mm mit Spannelement möglich  
Tool 16 mm possible with clamping unit

Module d'arrosage (prend la place d'un outil)  
Kühlmittelzufuhrelement (nimmt den Platz eines Werkzeuges)  
Coolant supply unit (takes the place of one tool)



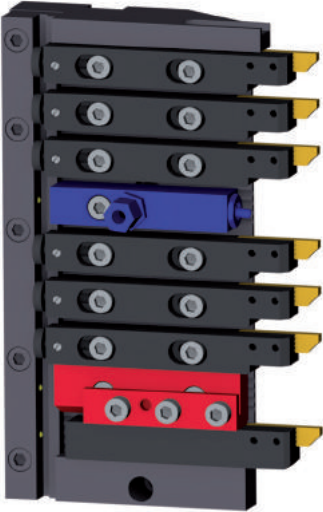
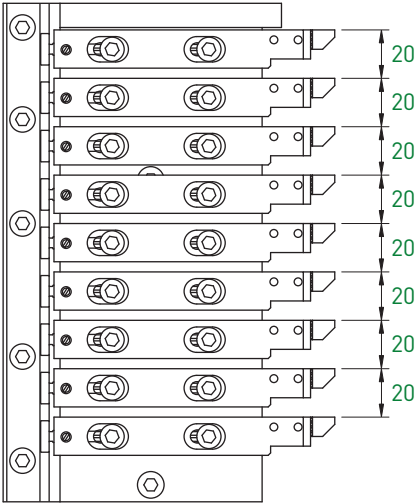
|                    |                                   |                          | Accessoires<br>Zubehöre<br>Accessories             |                                                                     |                       |
|--------------------|-----------------------------------|--------------------------|----------------------------------------------------|---------------------------------------------------------------------|-----------------------|
| Art. N°            | Porte-outils<br>Halter<br>Holders | Pages<br>Seiten<br>Pages | Module de serrage<br>Spannelement<br>Clamping unit | Module d'arrosage<br>Kühlmittelzufuhrelement<br>Coolant supply unit | Page<br>Seite<br>Page |
| ML16-STAR-SV-12/20 | ML16                              | > 12.63                  | ML16-FIX-16/20                                     | ML16-JET-7/16                                                       | 12.82                 |

Star SV-20R

- + 2 outils (max 9)
- + 2 Werkzeuge (max 9)
- + 2 tools (max 9)

ML16

new

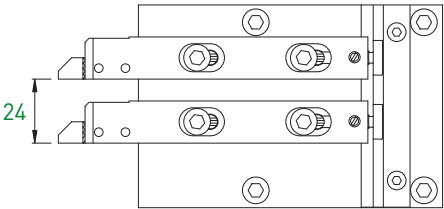
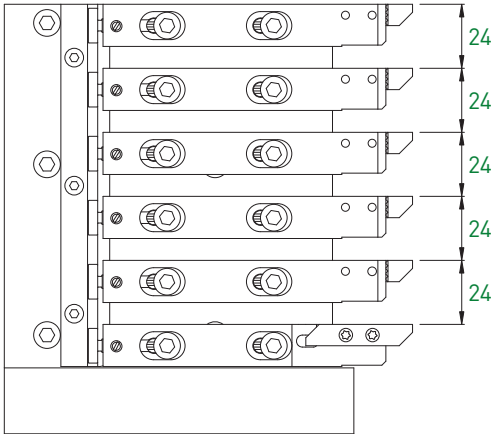


|                  |                                   |                          | Accessoires<br>Zubehöre<br>Accessories             |                                                                     |                       |
|------------------|-----------------------------------|--------------------------|----------------------------------------------------|---------------------------------------------------------------------|-----------------------|
| Art. N°          | Porte-outils<br>Holder<br>Holders | Pages<br>Seiten<br>Pages | Module de serrage<br>Spannelement<br>Clamping unit | Module d'arrosage<br>Kühlmittelzufuhrelement<br>Coolant supply unit | Page<br>Seite<br>Page |
| ML16-STAR-SV-20R | ML16                              | > 12.63                  | ML16-FIX-16/20                                     | ML16-JET-7/16                                                       | 12.82                 |

Star SW-20R

- + 1 outil (max 8)
- + 1 Werkzeug (max 8)
- + 1 tool (max 8)

ML16



ML16-STAR-SW-20R-6T

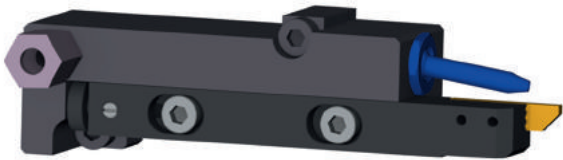
ML16-STAR-SW-20R-2T

|                     |                     |                                   |                          | Accessoires<br>Zubehöre<br>Accessories             |                                                                      |                       |
|---------------------|---------------------|-----------------------------------|--------------------------|----------------------------------------------------|----------------------------------------------------------------------|-----------------------|
| Type<br>Typ<br>Type | Art. N°             | Porte-outils<br>Halter<br>Holders | Pages<br>Seiten<br>Pages | Module de serrage<br>Spannelement<br>Clamping unit | Module d'arrosage<br>Kühlmittelezufuhrelement<br>Coolant supply unit | Page<br>Seite<br>Page |
| 2T                  | ML16-STAR-SW-20R-2T | ML16                              | > 62                     | -                                                  | ML16-JET-7/16                                                        | 12.82                 |
| 6T                  | ML16-STAR-SW-20R-6T |                                   |                          | ML16-FIX-16/24                                     |                                                                      |                       |

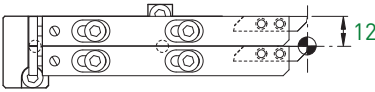
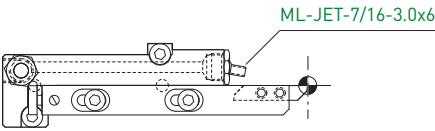
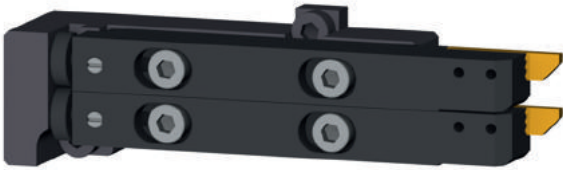
Tornos  
DECO 7 / 10  
EvoDECO 10

ML12

Jet



Duo



Jet



Duo

Accessoires  
Zubehöre  
Accessories

| Type<br>Typ<br>Type | Art. N°         | Porte-outils<br>Halter<br>Holders | Pages<br>Seiten<br>Pages | Module de serrage<br>Spannelement<br>Clamping unit | Module d'arrosage<br>Kühlmittelfzufuhrelement<br>Coolant supply unit | Page<br>Seite<br>Page |
|---------------------|-----------------|-----------------------------------|--------------------------|----------------------------------------------------|----------------------------------------------------------------------|-----------------------|
| Jet                 | ML12-DEC010-JET | ML12                              | > 12.63                  | -                                                  | ML-JET-7/16...                                                       | 12.82                 |
| Duo                 | ML12-DEC010-DUO |                                   |                          |                                                    | ML12-JET-5/16                                                        |                       |

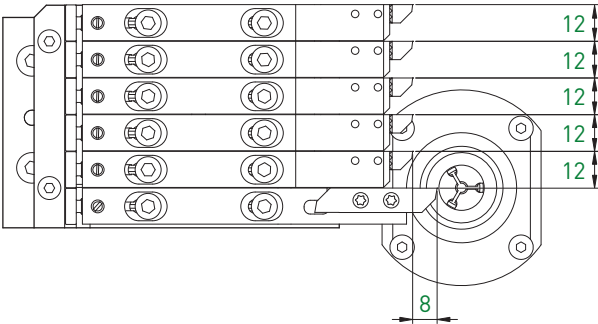
Tornos

SwissNano

SwissNano 7

- + 2 outils (max 6)
- + 2 Werkzeuge (max 6)
- + 2 tools (max 6)

ML12



6T



6T

Accessoires

Zubehöre

Accessories

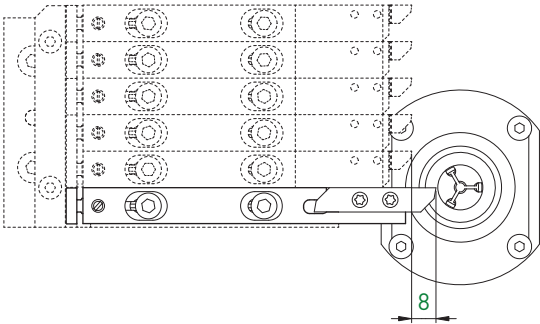
| Type<br>Typ<br>Type | Art. N°            | Porte-outils<br>Halter<br>Holders | Pages<br>Seiten<br>Pages | Module de serrage<br>Spannelement<br>Clamping unit | Module d'arrosage<br>Kühlmittelfzufuhrelement<br>Coolant supply unit | Page<br>Seite<br>Page |
|---------------------|--------------------|-----------------------------------|--------------------------|----------------------------------------------------|----------------------------------------------------------------------|-----------------------|
| 6T                  | ML12-SWISS-NANO-6T | ML12                              | > 12.63                  | -                                                  | ML12-JET-5/16                                                        | 12.82                 |

Tornos

SwissNano

SwissNano 7

ML12



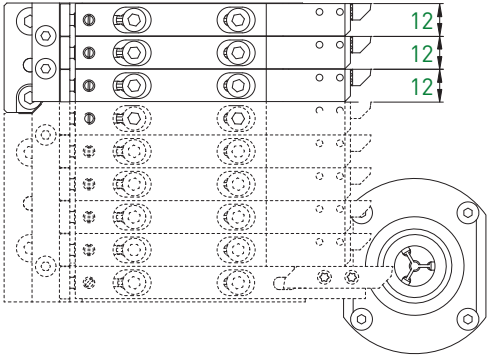
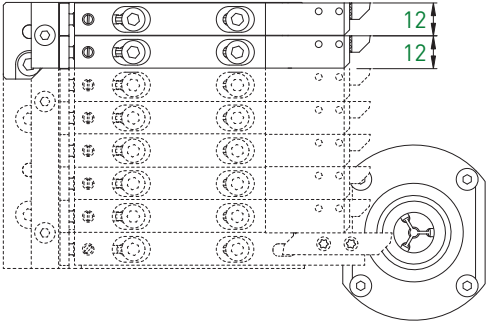
**Tornos** **SwissNano**  
**SwissNano 7**

Porte-outils spéciaux de tronçonnage  
Spezial Abstechwerkzeughalter  
Special parting off tool holders

**ML12**

| avec canon<br>mit Führungsbuchse<br>with guide bush                                         | avec pince<br>mit Spannzange<br>with collet |
|---------------------------------------------------------------------------------------------|---------------------------------------------|
| <p>Ligne d'outil<br/>Werkzeugnullpunkt<br/>Tool ref. line</p> <p>ML12A-730RC-Swiss-Nano</p> |                                             |
| <p>Ligne d'outil<br/>Werkzeugnullpunkt<br/>Tool ref. line</p> <p>ML12A-750RC-Swiss-Nano</p> |                                             |
| <p>Ligne d'outil<br/>Werkzeugnullpunkt<br/>Tool ref. line</p> <p>ML12A-740-C-Swiss-Nano</p> |                                             |
| <p>Ligne d'outil<br/>Werkzeugnullpunkt<br/>Tool ref. line</p> <p>ML12A-770RC-Swiss-Nano</p> |                                             |

| Type de machine<br>Maschinen-Typ<br>Type of machine | Porte-outils<br>Halter<br>Holders | Art. N°                | Plaquettes<br>Wendeplatten<br>Inserts | Pages<br>Seiten<br>Pages |
|-----------------------------------------------------|-----------------------------------|------------------------|---------------------------------------|--------------------------|
| SwissNano                                           | ML12                              | ML12A-730RC-SWISS-NANO | 731R... / 731RSF                      | > TOP-Line<br>TOP-Watch  |
|                                                     |                                   | ML12A-750RC-SWISS-NANO | 751R... / 751RDSF                     |                          |
|                                                     |                                   | ML12A-740-C-SWISS-NANO | 741... / 741SF                        |                          |
|                                                     |                                   | ML12A-770RC-SWISS-NANO | 771R...                               |                          |

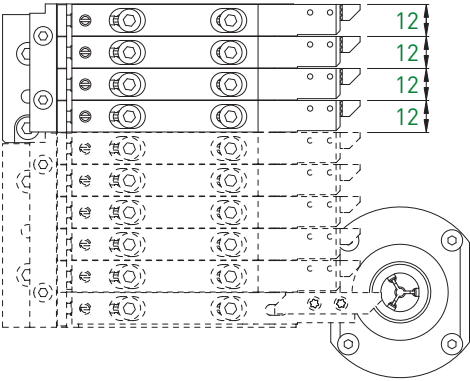


|                     |                    |                                   |                          | Accessoires<br>Zubehöre<br>Accessories             |                                                                      |                       |
|---------------------|--------------------|-----------------------------------|--------------------------|----------------------------------------------------|----------------------------------------------------------------------|-----------------------|
| Type<br>Typ<br>Type | Art. N°            | Porte-outils<br>Halter<br>Holders | Pages<br>Seiten<br>Pages | Module de serrage<br>Spannelement<br>Clamping unit | Module d'arrosage<br>Kühlmittelfzufuhrelement<br>Coolant supply unit | Page<br>Seite<br>Page |
| 2T                  | ML12-SWISS-NANO-2T | ML12                              | > 12.63                  | -                                                  | ML12-JET-5/16                                                        | 12.82                 |
| 3T                  | ML12-SWISS-NANO-3T |                                   |                          |                                                    |                                                                      |                       |



Tornos SwissNano 7

ML12



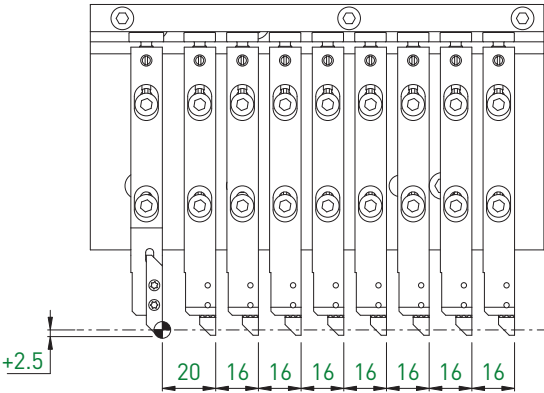
Accessoires  
Zubehöre  
Accessories

| Type<br>Typ<br>Type | Art. N°              | Porte-outils<br>Halter<br>Holders | Pages<br>Seiten<br>Pages | Module de serrage<br>Spannelement<br>Clamping unit | Module d'arrosage<br>Kühlmittelfzufuhrelement<br>Coolant supply unit | Page<br>Seite<br>Page |
|---------------------|----------------------|-----------------------------------|--------------------------|----------------------------------------------------|----------------------------------------------------------------------|-----------------------|
| 4T                  | ML12-SWISS-NANO-7-4T | ML12                              | > 12.63                  | -                                                  | ML12-JET-5/16                                                        | 12.82                 |

Tornos DT 13

- + 3 outils (max 9)
- + 3 Werkzeuge (max 9)
- + 3 tools (max 9)

ML12

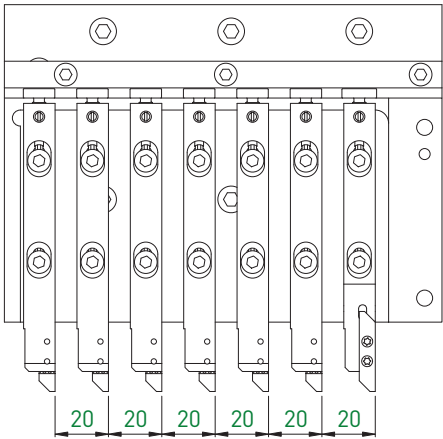


|                     |                      |                                   |                          | Accessoires<br>Zubehöre<br>Accessories             |                                                                   |                       |
|---------------------|----------------------|-----------------------------------|--------------------------|----------------------------------------------------|-------------------------------------------------------------------|-----------------------|
| Type<br>Typ<br>Type | Art. N°              | Porte-outils<br>Halter<br>Holders | Pages<br>Seiten<br>Pages | Module de serrage<br>Spannelement<br>Clamping unit | Module d'arrosage<br>Kühlmittelfuhrelement<br>Coolant supply unit | Page<br>Seite<br>Page |
| 9T                  | ML12-DT13-2020206-9T | ML12                              | > 12.63                  | -                                                  | ML12-JET-5/16                                                     | 12.82                 |

Tornos CT 20

- + 1 outil (max 7)
- + 1 Werkzeug (max 7)
- + 1 tool (max 7)

ML12



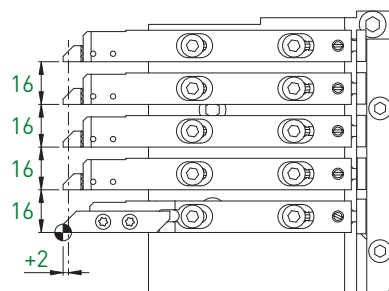
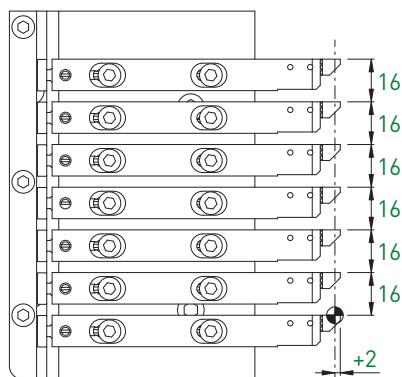
Accessoires  
Zubehöre  
Accessories

| Type<br>Typ<br>Type | Art. N°              | Porte-outils<br>Halter<br>Holders | Pages<br>Seiten<br>Pages | Module de serrage<br>Spannelement<br>Clamping unit | Module d'arrosage<br>Kühlmittelfuhrelement<br>Coolant supply unit | Page<br>Seite<br>Page |
|---------------------|----------------------|-----------------------------------|--------------------------|----------------------------------------------------|-------------------------------------------------------------------|-----------------------|
| 7T                  | ML12-CT20-2020019-7T | ML12                              | > 12.63                  | -                                                  | ML12-JET-5/16                                                     | 12.82                 |

**Tornos GT 13**

+ 5 outils (max 12)  
 + 5 Werkzeuge (max 12)  
 + 5 tools (max 12)

**ML12**



Tornos GT 13

ML12



ML12-GT13-390223-7T



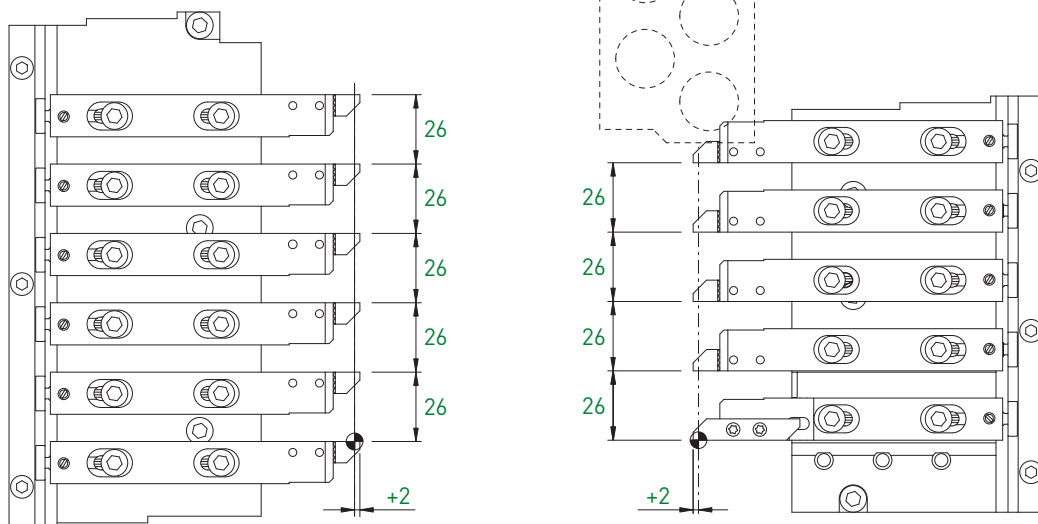
ML12-GT13-390224-5T

|                     |                     |                                   |                          | Accessoires<br>Zubehöre<br>Accessories             |                                                                     |                       |
|---------------------|---------------------|-----------------------------------|--------------------------|----------------------------------------------------|---------------------------------------------------------------------|-----------------------|
| Type<br>Typ<br>Type | Art. N°             | Porte-outils<br>Halter<br>Holders | Pages<br>Seiten<br>Pages | Module de serrage<br>Spannelement<br>Clamping unit | Module d'arrosage<br>Kühlmittelzufuhrelement<br>Coolant supply unit | Page<br>Seite<br>Page |
| 5T                  | ML12-GT13-390224-5T | ML12                              | > 12.63                  | -                                                  | ML12-JET-5/16                                                       | 12.82                 |
| 7T                  | ML12-GT13-390223-7T |                                   |                          |                                                    |                                                                     |                       |

**Tornos GT 26**

+ 2 outils (max 11)  
+ 2 Werkzeuge (max 11)  
+ 2 tools (max 11)

**ML16**



1 serrage ML16-FIX-16 pour outil  $\square$  16 mm inclus  
1 Spannung ML16-FIX-16 für Werkzeug  $\square$  16 mm inbegriffen  
1 clamping ML16-FIX-16 for tool  $\square$  16 mm included

Tornos GT 26

ML16



ML16-GT26-386209-6T



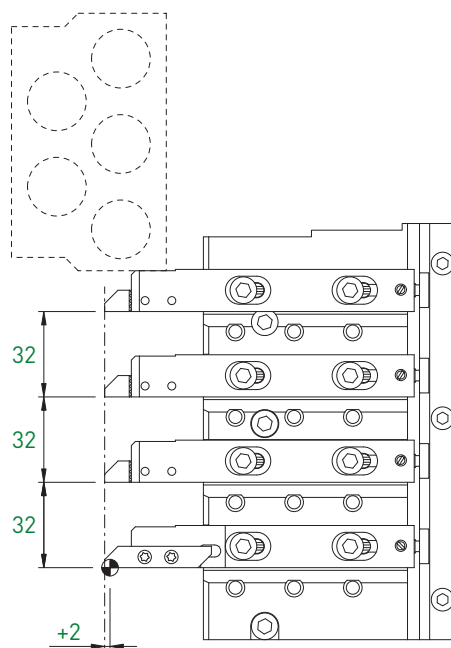
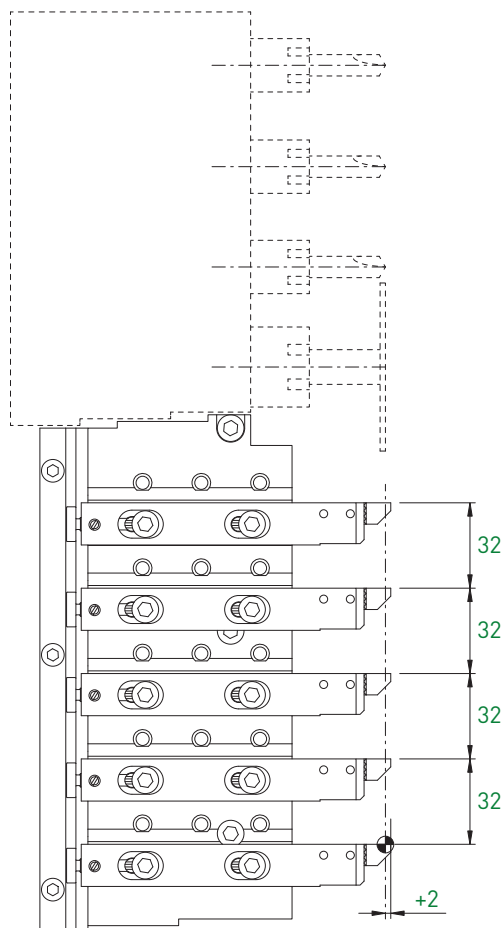
ML16-GT26-386210-5T

|                     |                     |                                   |                          | Accessoires<br>Zubehöre<br>Accessories             |                                                                     |                       |
|---------------------|---------------------|-----------------------------------|--------------------------|----------------------------------------------------|---------------------------------------------------------------------|-----------------------|
| Type<br>Typ<br>Type | Art. N°             | Porte-outils<br>Halter<br>Holders | Pages<br>Seiten<br>Pages | Module de serrage<br>Spannelement<br>Clamping unit | Module d'arrosage<br>Kühlmittelzufuhrelement<br>Coolant supply unit | Page<br>Seite<br>Page |
| 5T                  | ML16-GT26-386210-5T | ML16                              | > 12.63                  | -                                                  | ML16-JET-7/16                                                       | 12.82                 |
| 6T                  | ML16-GT26-386209-6T |                                   |                          |                                                    |                                                                     |                       |

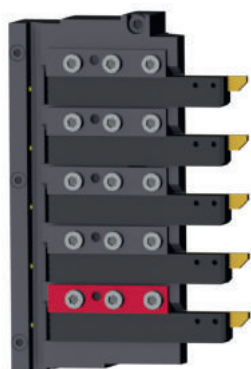
## Tornos GT 32

max + 9 outils  
+ 9 Werkzeuge  
+ 9 tools

## ML16



Holder ML16



Holder □16



Holder ML16



Holder □16



Tornos GT 32

ML16



ML16-GT32-386209-5T



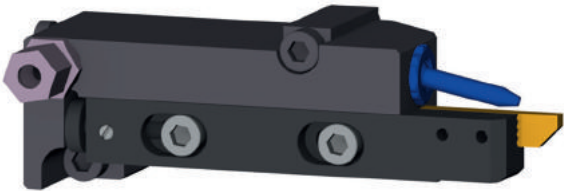
ML16-GT32-386210-4T

|                     |                     |                                   |                          | Accessoires<br>Zubehöre<br>Accessories             |                       |                                                                     |                          |
|---------------------|---------------------|-----------------------------------|--------------------------|----------------------------------------------------|-----------------------|---------------------------------------------------------------------|--------------------------|
| Type<br>Typ<br>Type | Art. N°             | Porte-outils<br>Halter<br>Holders | Pages<br>Seiten<br>Pages | Module de serrage<br>Spannelement<br>Clamping unit |                       | Module d'arrosage<br>Kühlmittelzufuhrelement<br>Coolant supply unit | Pages<br>Seiten<br>Pages |
| 4T                  | ML16-GT32-386210-4T | ML16                              | > 12.63                  | 1x inclus<br>1x inbegriffen<br>1x included         | Option<br>ML16-FIX-16 | ML16-JET-7/16                                                       | 12.82                    |
| 5T                  | ML16-GT32-386209-5T |                                   |                          |                                                    |                       |                                                                     |                          |

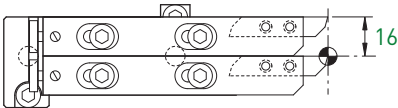
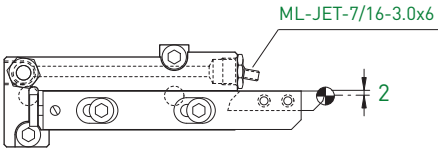
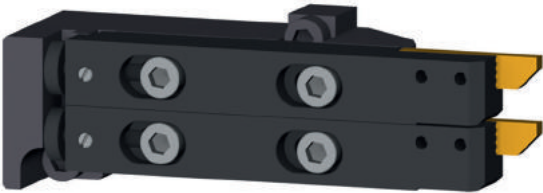
Tornos **DECO 13**  
**EvoDECO 16**

**ML16**

Jet



Duo



Jet



Duo



Accessoires  
Zubehöre  
Accessories

| Type<br>Typ<br>Type | Art. N°                | Porte-outils<br>Halter<br>Holders | Pages<br>Seiten<br>Pages | Module de serrage<br>Spannelement<br>Clamping unit | Module d'arrosage<br>Kühlmittelfzufuhrelement<br>Coolant supply unit | Page<br>Seite<br>Page |
|---------------------|------------------------|-----------------------------------|--------------------------|----------------------------------------------------|----------------------------------------------------------------------|-----------------------|
| Jet                 | <b>ML16-DECO13-JET</b> | ML16                              | > 12.63                  | -                                                  | <a href="#">ML-JET-7/16...</a>                                       | 12.82                 |
| Duo                 | <b>ML16-DECO13-DUO</b> |                                   |                          |                                                    | <a href="#">ML16-JET-7/16</a>                                        | 12.82                 |

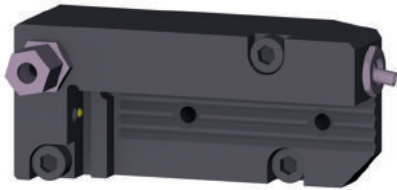
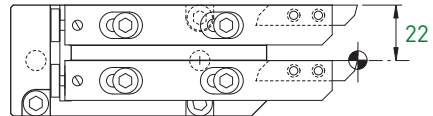
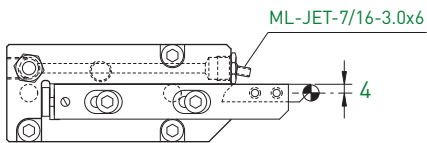
Tornos **DECO 20 / 26**  
**EvoDECO 20 / 32**

**ML16**

Jet



Duo



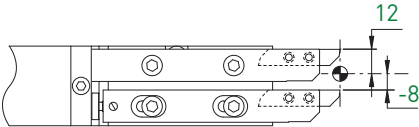
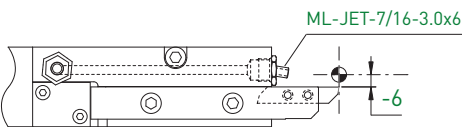
Jet



Duo

Accessoires  
Zubehöre  
Accessories

| Type<br>Typ<br>Type | Art. N°                | Porte-outils<br>Halter<br>Holders | Pages<br>Seiten<br>Pages | Module de serrage<br>Spannelement<br>Clamping unit | Module d'arrosage<br>Kühlmittelzufuhrelement<br>Coolant supply unit | Page<br>Seite<br>Page |
|---------------------|------------------------|-----------------------------------|--------------------------|----------------------------------------------------|---------------------------------------------------------------------|-----------------------|
| Jet                 | <b>ML16-DEC020-JET</b> | ML16                              | > 12.63                  | -                                                  | <b>ML-JET-7/16...</b>                                               | 12.82                 |
| Duo                 | <b>ML16-DEC020-DUO</b> |                                   |                          |                                                    | <b>ML16-JET-7/16</b>                                                | 12.82                 |



Jet



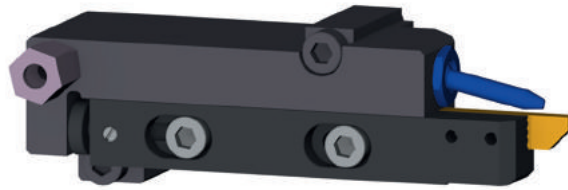
Duo

|                     |              |                                   |                          | Accessoires<br>Zubehöre<br>Accessories             |                                                                      |                       |
|---------------------|--------------|-----------------------------------|--------------------------|----------------------------------------------------|----------------------------------------------------------------------|-----------------------|
| Type<br>Typ<br>Type | Art. N°      | Porte-outils<br>Halter<br>Holders | Pages<br>Seiten<br>Pages | Module de serrage<br>Spannelement<br>Clamping unit | Module d'arrosage<br>Kühlmittelezufuhrelement<br>Coolant supply unit | Page<br>Seite<br>Page |
| Jet                 | ML16-S20-JET | ML16                              | > 12.63                  | -                                                  | ML-JET-7/16...                                                       | 12.82                 |
| Duo                 | ML16-S20-DUO |                                   |                          |                                                    | ML16-JET-7/16                                                        | 12.82                 |

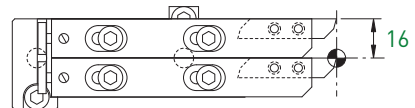
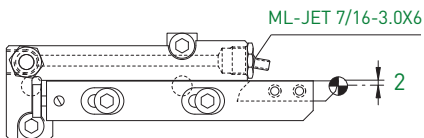
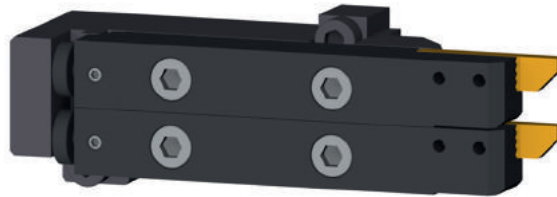
## Tornos Swiss ST 26

ML16

Jet



Duo



Jet



Duo

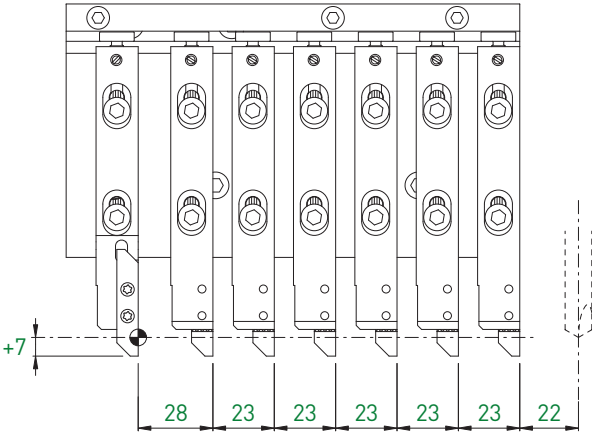
Accessoires  
Zubehöre  
Accessories

| Type<br>Typ<br>Type | Art. N°                    | Porte-outils<br>Halter<br>Holders | Pages<br>Seiten<br>Pages | Module de serrage<br>Spannelement<br>Clamping unit | Module d'arrosage<br>Kühlmittelzufuhrelement<br>Coolant supply unit | Page<br>Seite<br>Page |
|---------------------|----------------------------|-----------------------------------|--------------------------|----------------------------------------------------|---------------------------------------------------------------------|-----------------------|
| Jet                 | <b>ML16-SWISS-ST26-JET</b> | ML16                              | > 12.63                  | -                                                  | <a href="#">ML-JET-7/16...</a>                                      | 12.82                 |
| Duo                 | <b>ML16-SWISS-ST26-DUO</b> |                                   |                          |                                                    | <a href="#">ML16-JET-7/16</a>                                       | 12.82                 |

Tornos DT 26

- + 1 outil (max 7)
- + 1 Werkzeug (max 7)
- + 1 tool (max 7)

ML16



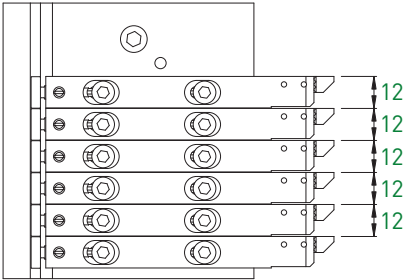
Accessoires  
Zubehöre  
Accessories

| Type<br>Typ<br>Type | Art. N°              | Porte-outils<br>Halter<br>Holders | Pages<br>Seiten<br>Pages | Module de serrage<br>Spannelement<br>Clamping unit | Module d'arrosage<br>Kühlmittelzufuhrelement<br>Coolant supply unit | Page<br>Seite<br>Page |
|---------------------|----------------------|-----------------------------------|--------------------------|----------------------------------------------------|---------------------------------------------------------------------|-----------------------|
| 7T                  | ML16-DT26-2020206-7T | ML16                              | > 12.63                  | -                                                  | ML16-JET-7/16                                                       | 12.82                 |

Tsugami B074

- + 3 outils (max 6)
- + 3 Werkzeuge (max 6)
- + 3 tools (max 6)

ML12

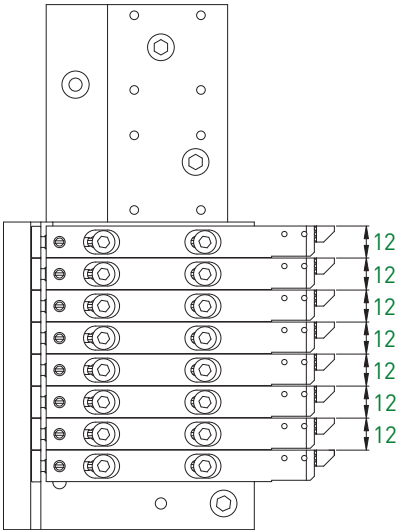


|                     |                |                                   |                          | Accessoires<br>Zubehöre<br>Accessories             |                                                                     |                       |
|---------------------|----------------|-----------------------------------|--------------------------|----------------------------------------------------|---------------------------------------------------------------------|-----------------------|
| Type<br>Typ<br>Type | Art. N°        | Porte-outils<br>Halter<br>Holders | Pages<br>Seiten<br>Pages | Module de serrage<br>Spannelement<br>Clamping unit | Module d'arrosage<br>Kühlmittelzufuhrelement<br>Coolant supply unit | Page<br>Seite<br>Page |
| 6T                  | ML12-B074-1-6T | ML12                              | > 12.63                  | -                                                  | ML12-JET-5/16                                                       | 12.82                 |

Tsugami B075

- + 5 outils (max 8)
- + 5 Werkzeuge (max 8)
- + 5 tools (max 8)

ML12

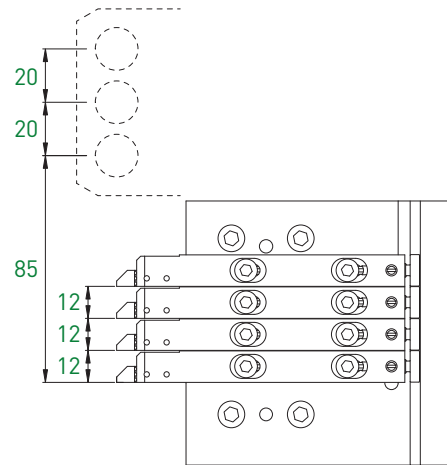
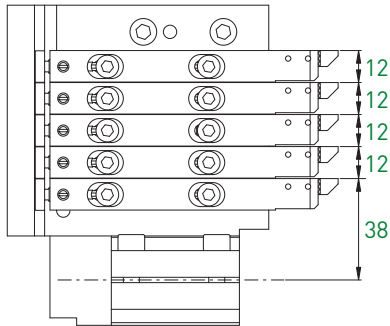


|                     |                |                                   |                          | Accessoires<br>Zubehöre<br>Accessories             |                                                                     |                       |
|---------------------|----------------|-----------------------------------|--------------------------|----------------------------------------------------|---------------------------------------------------------------------|-----------------------|
| Type<br>Typ<br>Type | Art. N°        | Porte-outils<br>Halter<br>Holders | Pages<br>Seiten<br>Pages | Module de serrage<br>Spannelement<br>Clamping unit | Module d'arrosage<br>Kühlmittelzufuhrelement<br>Coolant supply unit | Page<br>Seite<br>Page |
| 8T                  | ML12-B075-1-8T | ML12                              | > 12.63                  | -                                                  | ML12-JET-5/16                                                       | 12.82                 |



**Tsugami P034**

+ 3 outils (max 9)  
 + 3 Werkzeuge (max 9)  
 + 3 tools (max 9)

**ML12**

ML12-P034-1-5T

ML12-P034-2-4T

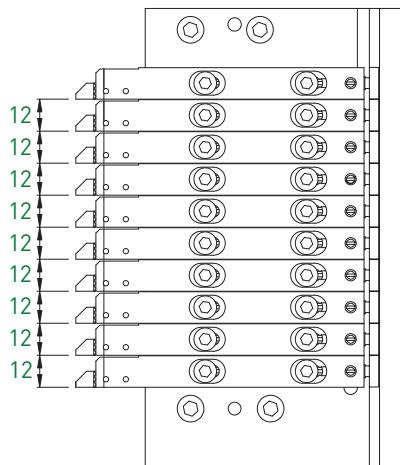
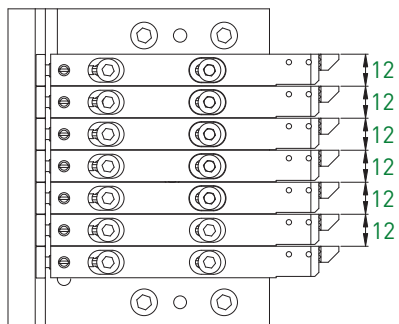
Accessoires  
 Zubehöre  
 Accessories

| Type<br>Typ<br>Type | Art. N°        | Porte-outils<br>Halter<br>Holders | Pages<br>Seiten<br>Pages | Module de serrage<br>Spannelement<br>Clamping unit | Module d'arrosage<br>Kühlmittelzufuhrelement<br>Coolant supply unit | Page<br>Seite<br>Page |
|---------------------|----------------|-----------------------------------|--------------------------|----------------------------------------------------|---------------------------------------------------------------------|-----------------------|
| 4T                  | ML12-P034-2-4T | ML12                              | > 12.63                  | -                                                  | ML12-JET-5/16                                                       | 12.82                 |
| 5T                  | ML12-P034-1-5T |                                   |                          |                                                    |                                                                     |                       |

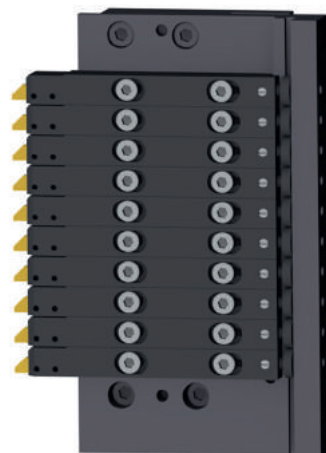
**Tsugami P034**

max + 17 outils  
+ 17 Werkzeuge  
+ 17 tools

**ML12**



ML12-P034-1-7T



ML12-P034-2-10T

Tsugami P034

ML12



ML12-P034-1-7T



ML12-P034-2-10T

|                     |                 |                                   |                          | Accessoires<br>Zubehöre<br>Accessories             |                                                                     |                       |
|---------------------|-----------------|-----------------------------------|--------------------------|----------------------------------------------------|---------------------------------------------------------------------|-----------------------|
| Type<br>Typ<br>Type | Art. N°         | Porte-outils<br>Halter<br>Holders | Pages<br>Seiten<br>Pages | Module de serrage<br>Spannelement<br>Clamping unit | Module d'arrosage<br>Kühlmittelzufuhrelement<br>Coolant supply unit | Page<br>Seite<br>Page |
| 7T                  | ML12-P034-1-7T  | ML12                              | > 12.63                  | -                                                  | ML12-JET-5/16                                                       | 12.82                 |
| 10T                 | ML12-P034-2-10T |                                   |                          |                                                    |                                                                     |                       |

Informations techniques

Technische Informationen

Technical information

Porte-outils

Halter

Holders

## Les différents types de porte-outils Die verschiedenen Haltertypen The various types of holders

### Type Standard

ML12A-740



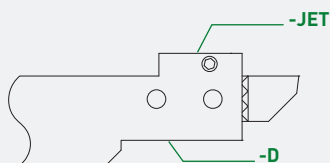
### Type -D

ML12A-740-D



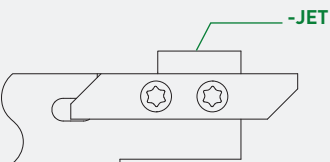
### Type -JET-D

ML12A-740-JET-D



### Type -JET

ML12A-740-JET



Informations techniques

Technische Informationen

Technical information

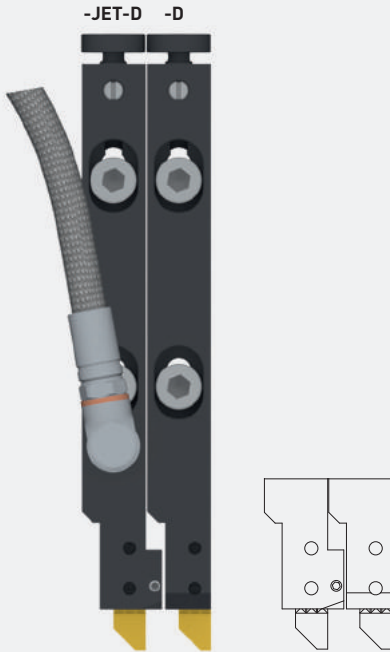
Porte-outils

Halter

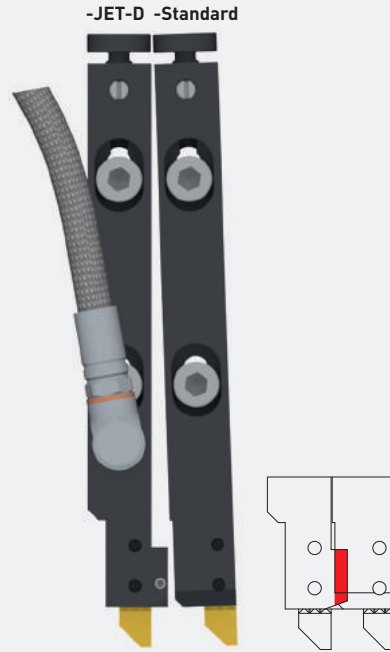
Holders

Compatibilité  
Kompatibilität  
Compatibility

OK



NOT OK



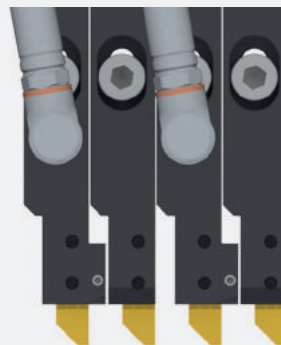
MIX

-Standard -JET-D -D



TYPE D

-JET-D -D -JET-D -D



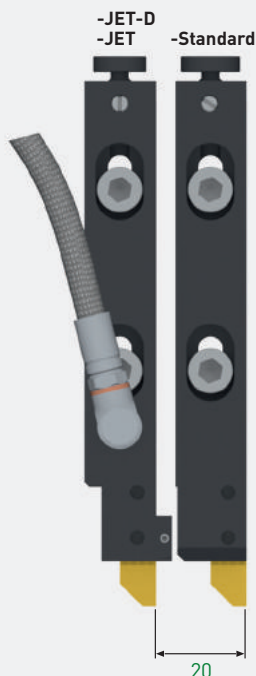
## Exceptions Ausnahmen Exceptions

### Exception ML12



≥ 15 mm = Total compatibility

### Exception ML16



≥ 20 mm = Total compatibility

### Brochure JET-Line:

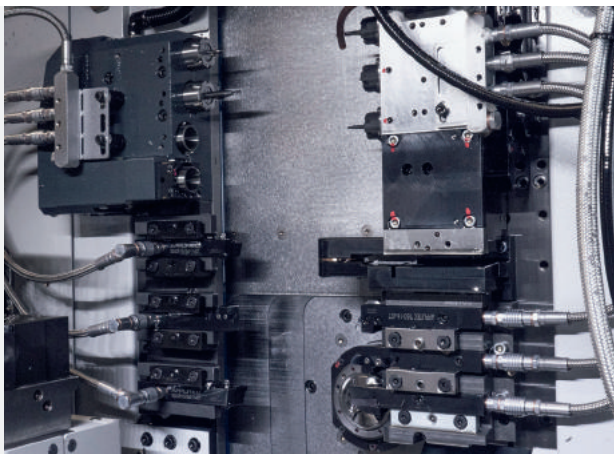
Système de distribution du liquide de refroidissement pour haute pression

### JET-Line Broschüre:

Kühlmittelverteilungssystem für hohen Druck

### JET-Line brochure:

Coolant distribution system for high pressure



Porte-outils

Halter

Holders

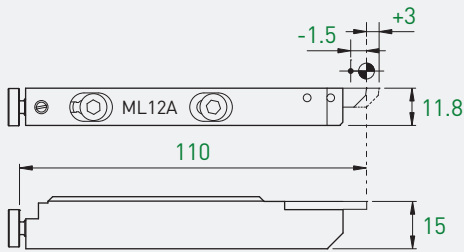
ML12 / ML16

Système de fixation  
Befestigungssystem  
Clamping system

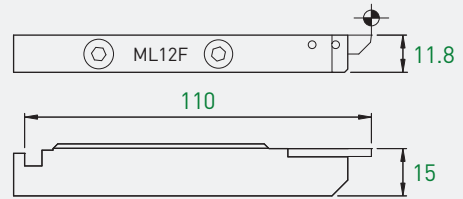
**A** = réglable  
einstellbar  
adjustable

**F** = longueur fixe  
fixlänge  
fixed length

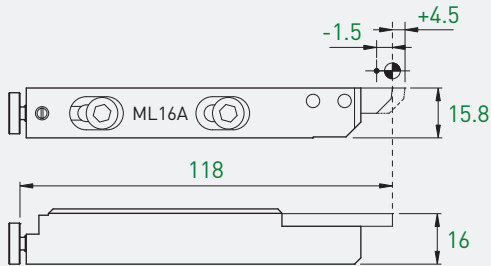
ML12A



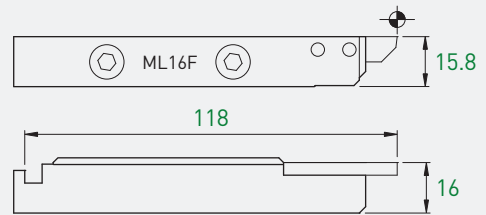
ML12F



ML16A



ML16F



Porte-plaquettes

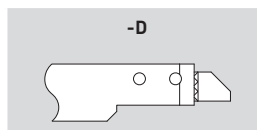
WSP-Halter

Insert holders

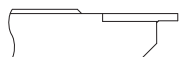
TOP-Line



TOP-Line  
731-737

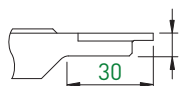


| Art. N° | Art. N°                  | Art. N° |
|---------|--------------------------|---------|
| ML12    | ML12                     | ML12    |
| -       | ML12A-730-C-D <b>new</b> | -       |



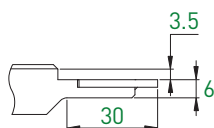
TOP-Line  
741-747

| Standard  | -D          | -JET-D          |
|-----------|-------------|-----------------|
| ML12      | ML12        | ML12            |
| ML12A-740 | ML12A-740-D | ML12A-740-JET-D |
| ML12F-740 | ML12F-740-D | -               |
| ML16      | ML16        | ML16            |
| ML16A-740 | ML16A-740-D | ML16A-740-JET-D |
| ML16F-740 | -           | -               |



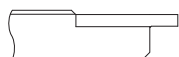
TOP-Line  
741-747

| ML12        | ML12          | ML12              |
|-------------|---------------|-------------------|
| ML12A-740-C | ML12A-740-C-D | ML12A-740-C-JET-D |
| ML12F-740-C | ML12F-740-C-D | -                 |



TOP-Line  
741

| ML12                   | ML12 | ML12 |
|------------------------|------|------|
| ML12A-740-C-R04        | -    | -    |
| ML12A-740-C-SWISS-NANO | -    | -    |



TOP-Line  
761-767

| ML12      | ML12        | ML12            |
|-----------|-------------|-----------------|
| ML12A-760 | ML12A-760-D | ML12A-760-JET-D |
| ML12F-760 | ML12F-760-D | -               |
| ML16      | ML16        | ML16            |
| ML16A-760 | ML16A-760-D | ML16A-760-JET-D |
| ML16F-760 | -           | -               |



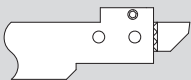
Porte-plaquettes

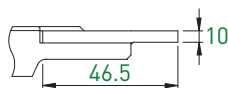
WSP-Halter

Insert holders

TOP-Line

TOP-Line  
761-767

| Standard                                                                          | -D                                                                                | -JET-D                                                                             |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
|  |  |  |
| Art. N°                                                                           | Art. N°                                                                           | Art. N°                                                                            |
| ML16                                                                              | ML16                                                                              | ML16                                                                               |
| ML16A-760-C                                                                       | ML16A-760-C-D                                                                     | -                                                                                  |
| ML16F-760-C                                                                       | -                                                                                 | -                                                                                  |

TOP-Line  
781

| ML16 | ML16          | ML16 |
|------|---------------|------|
| -    | ML16A-780-C-D | -    |

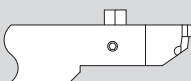
Porte-plaquettes

WSP-Halter

Insert holders

TURN-Line

TURN-Line  
347-349

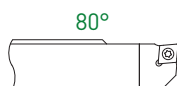
| Standard                                                                            | -D                                                                                  | -JET-D                                                                               |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
|  |  |  |
| Art. N°                                                                             | Art. N°                                                                             | Art. N°                                                                              |
| ML12                                                                                | ML12                                                                                | ML12                                                                                 |
| ML12A-340                                                                           | ML12A-340-D                                                                         | ML12A-340-JET-D                                                                      |
| ML12F-340                                                                           | ML12F-340-D                                                                         | -                                                                                    |
| ML16                                                                                | ML16                                                                                | ML16                                                                                 |
| ML16A-340                                                                           | ML16A-340-D                                                                         | ML16A-340-JET-D                                                                      |
| ML16F-340                                                                           | -                                                                                   | -                                                                                    |

Porte-plaquettes

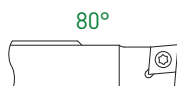
WSP-Halter

Insert holders

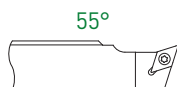
ISO-Line



ISO-Line  
CC...-0602..



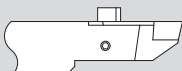
ISO-Line  
CC...-09T3..



ISO-Line  
DC...-0702..



ISO-Line  
DC...-0702..

| Standard                                                                          | -D                                                                                | -JET-D                                                                             |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
|  |  |  |
| Art. N°                                                                           | Art. N°                                                                           | Art. N°                                                                            |
| <b>ML12</b>                                                                       | <b>ML12</b>                                                                       | <b>ML12</b>                                                                        |
| ML12A-SCLCR06                                                                     | ML12A-SCLCR06-D                                                                   | ML12A-SCLCR06-JET-D                                                                |
| ML12F-SCLCR06                                                                     | ML12F-SCLCR06-D                                                                   | -                                                                                  |
| <b>ML16</b>                                                                       | <b>ML16</b>                                                                       | <b>ML16</b>                                                                        |
| ML16A-SCLCR06                                                                     | ML16A-SCLCR06-D                                                                   | ML16A-SCLCR06-JET-D                                                                |
| ML16F-SCLCR06                                                                     | ML16F-SCLCR06-D                                                                   | -                                                                                  |

|               |                 |                     |
|---------------|-----------------|---------------------|
| <b>ML12</b>   | <b>ML12</b>     | <b>ML12</b>         |
| ML12A-SCLCR09 | ML12A-SCLCR09-D | ML12A-SCLCR09-JET-D |
| ML12F-SCLCR09 | ML12F-SCLCR09-D | -                   |
| <b>ML16</b>   | <b>ML16</b>     | <b>ML16</b>         |
| ML16A-SCLCR09 | ML16A-SCLCR09-D | ML16A-SCLCR09-JET-D |
| ML16F-SCLCR09 | ML16F-SCLCR09-D | -                   |

|               |             |             |
|---------------|-------------|-------------|
| <b>ML16</b>   | <b>ML16</b> | <b>ML16</b> |
| ML16A-SDHCR07 | -           | -           |

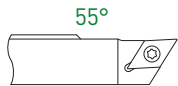
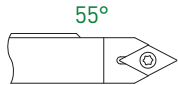
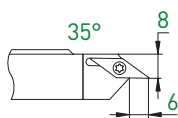
|               |                 |                     |
|---------------|-----------------|---------------------|
| <b>ML12</b>   | <b>ML12</b>     | <b>ML12</b>         |
| ML12A-SDJCR07 | ML12A-SDJCR07-D | ML12A-SDJCR07-JET-D |
| ML12F-SDJCR07 | ML12F-SDJCR07-D | -                   |
| <b>ML16</b>   | <b>ML16</b>     | <b>ML16</b>         |
| ML16A-SDJCR07 | ML16A-SDJCR07-D | ML16A-SDJCR07-JET-D |
| ML16F-SDJCR07 | ML16F-SDJCR07-D | -                   |

Porte-plaquettes

WSP-Halter

Insert holders

ISO-Line

ISO-Line  
DC...-11T3..ISO-Line  
DC...-11T3..ISO-Line  
VC...-1103..ISO-Line  
VC...-1103..

| Standard      | -D              | -JET-D              |
|---------------|-----------------|---------------------|
|               |                 |                     |
| Art. N°       | Art. N°         | Art. N°             |
| <b>ML12</b>   | <b>ML12</b>     | <b>ML12</b>         |
| ML12A-SDJCR11 | ML12A-SDJCR11-D | ML12A-SDJCR11-JET-D |
| ML12F-SDJCR11 | ML12F-SDJCR11-D | -                   |
| <b>ML16</b>   | <b>ML16</b>     | <b>ML16</b>         |
| ML16A-SDJCR11 | ML16A-SDJCR11-D | ML16A-SDJCR11-JET-D |
| ML16F-SDJCR11 | ML16F-SDJCR11-D | -                   |

|               |                 |             |
|---------------|-----------------|-------------|
| <b>ML12</b>   | <b>ML12</b>     | <b>ML12</b> |
| ML12A-SDNCN11 | ML12A-SDNCN11-D | -           |
| ML12F-SDNCN11 | ML12F-SDNCN11-D | -           |
| <b>ML16</b>   | <b>ML16</b>     | <b>ML16</b> |
| ML16A-SDNCN11 | ML16A-SDNCN11-D | -           |
| ML16F-SDNCN11 | ML16F-SDNCN11-D | -           |

|               |                 |                     |
|---------------|-----------------|---------------------|
| <b>ML12</b>   | <b>ML12</b>     | <b>ML12</b>         |
| ML12A-SVJCR11 | ML12A-SVJCR11-D | ML12A-SVJCR11-JET-D |
| ML12F-SVJCR11 | ML12F-SVJCR11-D | -                   |
| <b>ML16</b>   | <b>ML16</b>     | <b>ML16</b>         |
| ML16A-SVJCR11 | ML16A-SVJCR11-D | ML16A-SVJCR11-JET-D |
| ML16F-SVJCR11 | ML16F-SVJCR11-D | -                   |

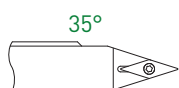
|               |                 |             |
|---------------|-----------------|-------------|
| <b>ML12</b>   | <b>ML12</b>     | <b>ML12</b> |
| ML12A-SV-CR11 | ML12A-SV-CR11-D | -           |
| <b>ML16</b>   | <b>ML16</b>     | <b>ML16</b> |
| ML16A-SV-CR11 | ML16A-SV-CR11-D | -           |

Porte-plaquettes

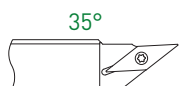
WSP-Halter

Insert holders

## ISO-Line



ISO-Line  
VC...-1103..



ISO-Line  
VC...-1303..

| Standard      | -D              | -JET-D              |
|---------------|-----------------|---------------------|
|               |                 |                     |
| Art. N°       | Art. N°         | Art. N°             |
| ML12          | ML12            | ML12                |
| ML12A-SVVCN11 | ML12A-SVVCN11-D | ML12A-SVVCN11-JET-D |
| ML12F-SVVCN11 | ML12F-SVVCN11-D | -                   |
| ML16          | ML16            | ML16                |
| ML16A-SVVCN11 | ML16A-SVVCN11-D | -                   |
| ML16F-SVVCN11 | ML16F-SVVCN11-D | -                   |

|      |                 |                     |
|------|-----------------|---------------------|
| ML12 | ML12            | ML12                |
| -    | ML12A-SVJCR13-D | -                   |
| ML16 | ML16            | ML16                |
| -    | ML16A-SVJCR13-D | ML16A-SVJCR13-JET-D |

Porte-plaquettes

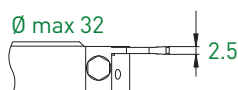
WSP-Halter

Insert holders

## EVOCUT-Line



EVOCUT-Line  
ET20..



EVOCUT-Line  
ET25..

| Art. N° | Art. N° | Art. N°          |
|---------|---------|------------------|
| ML16    | ML16    | ML16             |
| -       | -       | ML16A-ET20-JET32 |

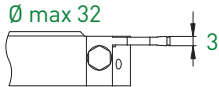
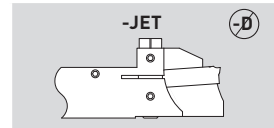
|      |      |                  |
|------|------|------------------|
| ML16 | ML16 | ML16             |
| -    | -    | ML16A-ET25-JET32 |

Porte-plaquettes

WSP-Halter

Insert holders

EVOCUT-Line

EVOCUT-Line  
ET30..

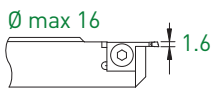
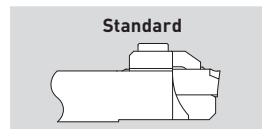
| Art. N° | Art. N° | Art. N°          |
|---------|---------|------------------|
| ML16    | ML16    | ML16             |
| -       | -       | ML16A-ET30-JET32 |

Porte-plaquettes

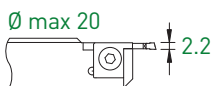
WSP-Halter

Insert holders

CUT-Line

CUT-Line  
CUT16..

| Art. N°     | Art. N° | Art. N° |
|-------------|---------|---------|
| ML12        | ML12    | ML12    |
| ML12A-CUT16 | -       | -       |
| ML12F-CUT16 | -       | -       |
| ML16        | ML16    | ML16    |
| ML16A-CUT16 | -       | -       |
| ML16F-CUT16 | -       | -       |

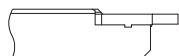
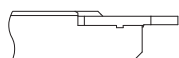
CUT-Line  
CUT22..

|             |      |      |
|-------------|------|------|
| ML12        | ML12 | ML12 |
| ML12A-CUT22 | -    | -    |
| ML12F-CUT22 | -    | -    |
| ML16        | ML16 | ML16 |
| ML16A-CUT22 | -    | -    |
| ML16F-CUT22 | -    | -    |

Porte-plaquettes

WSP-Halter

Insert holders

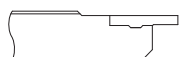
**PRO-Line**

 PRO-Line  
642-647

 PRO-Line  
661

|         | -D          | -JET-D          |
|---------|-------------|-----------------|
| Art. N° | Art. N°     | Art. N°         |
| ML12    | ML12        | ML12            |
| -       | ML12A-640-D | ML12A-640-JET-D |
| ML16    | ML16        | ML16            |
| -       | ML16A-640-D | ML16A-640-JET-D |
| ML12    | ML12        | ML12            |
| -       | ML12A-660-D | ML12A-660-JET-D |
| ML16    | ML16        | ML16            |
| -       | ML16A-660-D | ML16A-660-JET-D |

Porte-plaquettes

WSP-Halter

Insert holders

**ECO-Line**

 ECO-Line  
261-266

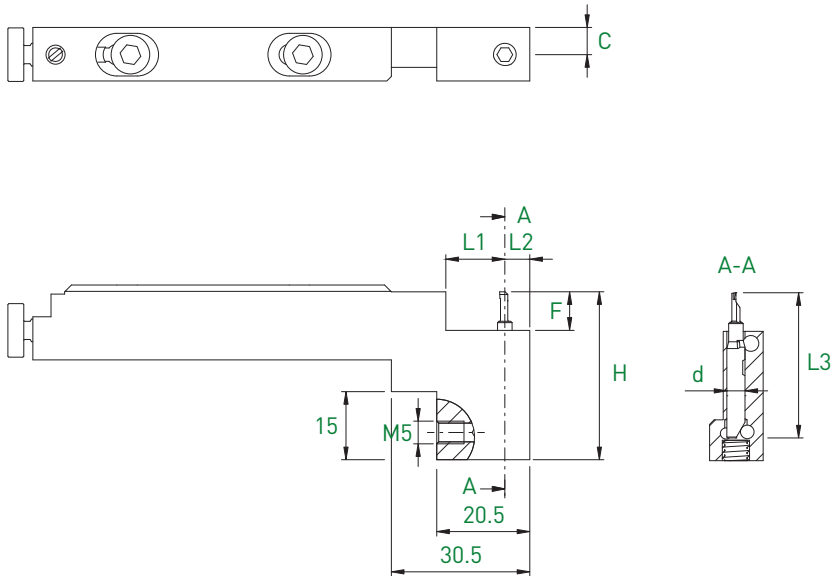
| Standard  | -D          | -JET-D          |
|-----------|-------------|-----------------|
| Art. N°   | Art. N°     | Art. N°         |
| ML12      | ML12        | ML12            |
| ML12A-260 | ML12A-260-D | ML12A-260-JET-D |
| ML12F-260 | ML12F-260-D | -               |
| ML16      | ML16        | ML16            |
| ML16A-260 | ML16A-260-D | ML16A-260-JET-D |
| ML16F-260 | -           | -               |

Porte-outils

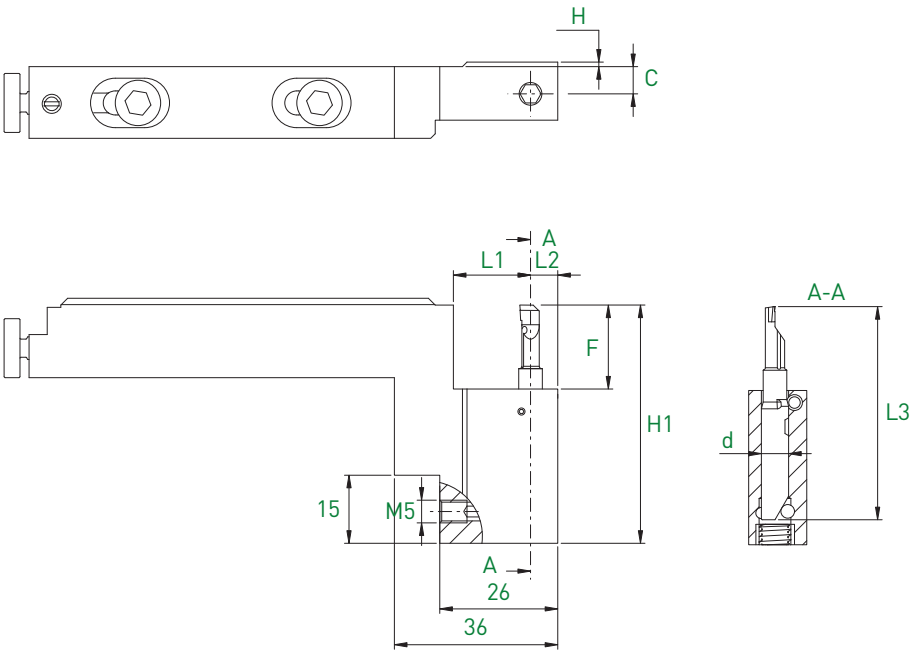
Halter

Holders

IN-Line



|   |                    |    |      |    |   |    |     | ML12              |
|---|--------------------|----|------|----|---|----|-----|-------------------|
| d | Compatible bars    | L3 | F    | H  | C | L1 | L2  | Art. N°           |
| 4 | BB4R...<br>BF4R... | 32 | 8.5  | 37 | 6 | 13 | 5.5 | ML12A-BHK4N-32R-D |
|   |                    | 37 | 13.5 | 42 | 6 | 13 | 5.5 | ML12A-BHK4N-37R-D |
|   |                    | 42 | 18.5 | 47 | 6 | 13 | 5.5 | ML12A-BHK4N-42R-D |



|   |                    |    |      |    |   |   |      |     | ML16              |
|---|--------------------|----|------|----|---|---|------|-----|-------------------|
| d | Compatible bars    | L3 | F    | H1 | C | H | L1   | L2  | Art. N°           |
| 4 | BB4R...<br>BF4R... | 32 | 8.5  | 37 | 6 | - | 17.5 | 5.5 | ML16A-BHK4N-32R-D |
|   |                    | 37 | 13.5 | 42 | 6 | - | 17.5 | 5.5 | ML16A-BHK4N-37R-D |
|   |                    | 42 | 18.5 | 47 | 6 | - | 17.5 | 5.5 | ML16A-BHK4N-42R-D |

|   |                    |    |      |      |   |   |    |    | ML16              |
|---|--------------------|----|------|------|---|---|----|----|-------------------|
| d | Compatible bars    | L3 | F    | H1   | C | H | L1 | L2 | Art. N°           |
| 6 | BB4R...<br>BF4R... | 47 | 18.5 | 52.5 | 6 | 1 | 17 | 6  | ML16A-BHK6N-47R-D |
|   |                    | 57 | 28.5 | 62.5 | 6 | 1 | 17 | 6  | ML16A-BHK6N-57R-D |

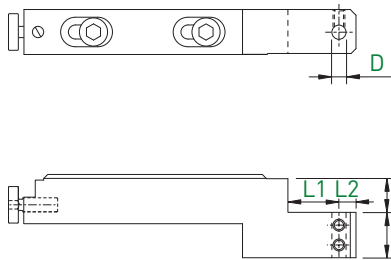


Porte-outils

Halter

Holders

TOOLING-Line



|    |   |    |    |    | ML12            |
|----|---|----|----|----|-----------------|
| F  | D | E  | L1 | L2 | Art. N°         |
| 8  | 3 | 12 | 13 | 6  | ML12A-2440-8-3  |
| 8  | 4 | 12 | 13 | 6  | ML12A-2440-8-4  |
| 8  | 5 | 12 | 13 | 6  | ML12A-2440-8-5  |
| 12 | 6 | 12 | 13 | 6  | ML12A-2440-12-6 |

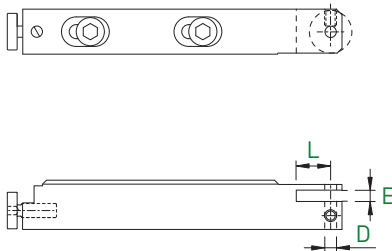
|    |   |    |    |    | ML16            |
|----|---|----|----|----|-----------------|
| F  | D | E  | L1 | L2 | Art. N°         |
| 12 | 3 | 16 | 18 | 6  | ML16A-2440-12-3 |
| 12 | 4 | 16 | 18 | 6  | ML16A-2440-12-4 |
| 12 | 5 | 16 | 18 | 6  | ML16A-2440-12-5 |
| 12 | 6 | 16 | 18 | 6  | ML16A-2440-12-6 |
| 18 | 8 | 16 | 18 | 6  | ML16A-2440-18-8 |

Porte-molettes

Rändelhalter

Knurl holders

TOOLING-Line



|   |   |   | ML12          |
|---|---|---|---------------|
| E | D | L | Art. N°       |
| 4 | 4 | 8 | ML12A-2402-44 |

|   |   |    | ML16          |
|---|---|----|---------------|
| E | D | L  | Art. N°       |
| 4 | 4 | 11 | ML16A-2402-44 |

## Porte-plaquettes – Coupe déportée & contre-opération

## WSP-Halter – Versetztes Schneiden & Gegenspindel

## Insert holders – Cut off line & cut on subspindle

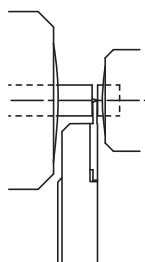
Coupe à droite déportée ou usinage  
à gauche sur contre-broche

Rechtsschneidend versetzt oder  
linksschneidend auf Gegenspindel

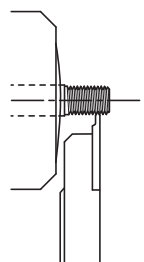
Right hand cut off line or left hand  
cut on subspindle



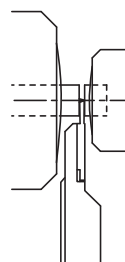
TURN-Line  
ISO-Line



TOP-Line  
EVOCUT-Line  
CUT-Line  
PRO-Line  
ECO-Line



TOP-Line  
EVOCUT-Line  
CUT-Line  
PRO-Line  
ECO-Line



TOP-Line  
PRO-Line  
ECO-Line

## Porte-plaquettes – Coupe déportée & contre-opération

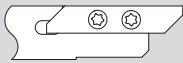
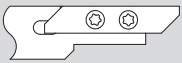
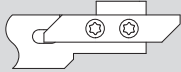
## WSP-Halter – Versetztes Schneiden & Gegenspindel

## Insert holders – Cut off line & cut on subspindle

TOP-Line



TOP-Line  
731-737

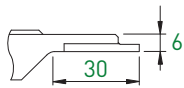
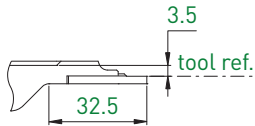
| Standard                                                                            | -D                                                                                  | -JET-D                                                                               |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
|  |  |  |
| Art. N°                                                                             | Art. N°                                                                             | Art. N°                                                                              |
| ML12                                                                                | ML12                                                                                | ML12                                                                                 |
| ML12A-730-V                                                                         | ML12A-730-V-D                                                                       | ML12A-730-V-JET-D                                                                    |
| ML16                                                                                | ML16                                                                                | ML16                                                                                 |
| ML16A-730-V                                                                         | ML16A-730-V-D                                                                       | ML16A-730-V-JET-D                                                                    |

Porte-plaquettes – Coupe déportée &amp; contre-opération

WSP-Halter – Versetztes Schneiden &amp; Gegenspindel

Insert holders – Cut off line &amp; cut on subspindle

TOP-Line

TOP-Line  
731RTOP-Line  
731RTOP-Line  
751-757TOP-Line  
751R

| Standard    | -D      | -JET            |
|-------------|---------|-----------------|
| Art. N°     | Art. N° | Art. N°         |
| ML12        | ML12    | ML12            |
| ML12A-730RC | -       | ML12A-730RC-JET |

| ML16        | ML16          | ML16              |
|-------------|---------------|-------------------|
| ML16A-730RC | ML16A-730RC-D | ML16A-730RC-JET-D |

| ML12                   | ML12 | ML12 |
|------------------------|------|------|
| ML12A-730RC-R04        | -    | -    |
| ML12A-730RC-SWISS-NANO | -    | -    |

| ML12        | ML12          | ML12              |
|-------------|---------------|-------------------|
| ML12A-750-V | ML12A-750-V-D | ML12A-750-V-JET-D |
| ML16        | ML16          | ML16              |
| ML16A-750-V | ML16A-750-V-D | ML16A-750-V-JET-D |

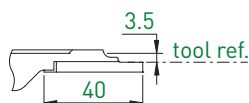
| ML12        | ML12          | ML12              |
|-------------|---------------|-------------------|
| ML12A-750RC | -             | ML12A-750RC-JET   |
| ML16        | ML16          | ML16              |
| ML16A-750RC | ML16A-750RC-D | ML16A-750RC-JET-D |

Porte-plaquettes – Coupe déportée & contre-opération

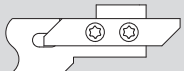
WSP-Halter – Versetztes Schneiden & Gegenspindel

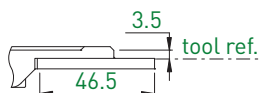
Insert holders – Cut off line & cut on subspindle

TOP-Line



TOP-Line  
751R

| Standard                                                                          | -D                                                                                | -JET-D                                                                             |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
|  |  |  |
| Art. N°                                                                           | Art. N°                                                                           | Art. N°                                                                            |
| ML12                                                                              | ML12                                                                              | ML12                                                                               |
| ML12A-750RC-R04                                                                   | -                                                                                 | -                                                                                  |
| ML12A-750RC-SWISS-NANO                                                            | -                                                                                 | -                                                                                  |



TOP-Line  
771R

| ML12                   | ML12 | ML12 |
|------------------------|------|------|
| ML12A-770RC-SWISS-NANO | -    | -    |

Porte-plaquettes – Contre-opération

WSP-Halter – Gegenspindel

Insert holders – Cut on subspindle

TURN-Line



TURN-Line  
337-339

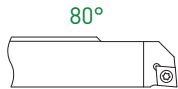
| Standard                                                                            | -D                                                                                  | -JET-D                                                                               |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
|  |  |  |
| Art. N°                                                                             | Art. N°                                                                             | Art. N°                                                                              |
| ML12                                                                                | ML12                                                                                | ML12                                                                                 |
| ML12A-330-V                                                                         | ML12A-330-V-D                                                                       | ML12A-330-V-JET-D                                                                    |
| ML16                                                                                | ML16                                                                                | ML16                                                                                 |
| ML16A-330-V                                                                         | ML16A-330-V-D                                                                       | ML16A-330-V-JET-D                                                                    |

Porte-plaquettes – Contre-opération

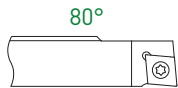
WSP-Halter – Gegenspindel

Insert holders – Cut on subspindle

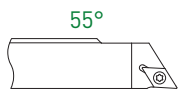
ISO-Line

ISO-Line  
CC...0602..

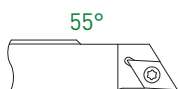
| Standard                                                                          | -D                                                                                | -JET-D                                                                             |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
|  |  |  |
| Art. N°                                                                           | Art. N°                                                                           | Art. N°                                                                            |
| ML12                                                                              | ML12                                                                              | ML12                                                                               |
| -                                                                                 | ML12A-SCLCL06-V-D                                                                 | ML12A-SCLCL06-V-JET-D                                                              |
| ML16                                                                              | ML16                                                                              | ML16                                                                               |
| -                                                                                 | ML16A-SCLCL06-V-D                                                                 | ML16A-SCLCL06-V-JET-D                                                              |

ISO-Line  
CC...9T3..

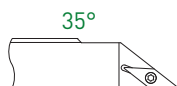
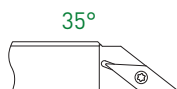
|      |                   |                       |
|------|-------------------|-----------------------|
| ML12 | ML12              | ML12                  |
| -    | ML12A-SCLCL09-V-D | ML12A-SCLCL09-V-JET-D |
| ML16 | ML16              | ML16                  |
| -    | ML16A-SCLCL09-V-D | ML16A-SCLCL09-V-JET-D |

ISO-Line  
DC...0702..

|      |                   |                       |
|------|-------------------|-----------------------|
| ML12 | ML12              | ML12                  |
| -    | ML12A-SDJCL07-V-D | ML12A-SDJCL07-V-JET-D |
| ML16 | ML16              | ML16                  |
| -    | ML16A-SDJCL07-V-D | ML16A-SDJCL07-V-JET-D |

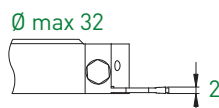
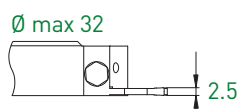
ISO-Line  
DC...11T3..

|                 |                   |                       |
|-----------------|-------------------|-----------------------|
| ML12            | ML12              | ML12                  |
| ML12A-SDJCL11-V | ML12A-SDJCL11-V-D | ML12A-SDJCL11-V-JET-D |
| ML16            | ML16              | ML16                  |
| ML16A-SDJCL11-V | ML16A-SDJCL11-V-D | ML16A-SDJCL11-V-JET-D |

**Porte-plaquettes – Contre-opération**
**WSP-Halter – Gegenspindel**
**Insert holders – Cut on subspindle**
**ISO-Line**

 ISO-Line  
VC...1103..

 ISO-Line  
VC...1303..

| Standard        | -D                | -JET-D                |
|-----------------|-------------------|-----------------------|
|                 |                   |                       |
| Art. N°         | Art. N°           | Art. N°               |
| ML12            | ML12              | ML12                  |
| ML12A-SVJCL11-V | ML12A-SVJCL11-V-D | ML12A-SVJCL11-V-JET-D |
| ML16            | ML16              | ML16                  |
| ML16A-SVJCL11-V | ML16A-SVJCL11-V-D | ML16A-SVJCL11-V-JET-D |

|      |                   |                       |
|------|-------------------|-----------------------|
| ML12 | ML12              | ML12                  |
| -    | ML12A-SVJCL13-V-D | -                     |
| ML16 | ML16              | ML16                  |
| -    | ML16A-SVJCL13-V-D | ML16A-SVJCL13-V-JET-D |

**Porte-plaquettes – Coupe déportée**
**WSP-Halter – Versetztes Schneiden**
**Insert holders – Cut off line**
**EVOCUT-Line**

 EVOCUT-Line  
ET20

 EVOCUT-Line  
ET25

| -JET               |
|--------------------|
|                    |
| Art. N°            |
| ML16               |
| -                  |
| ML16A-ET20-V-JET32 |

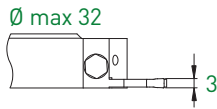
| Art. N° | Art. N° | Art. N°            |
|---------|---------|--------------------|
| ML16    | ML16    | ML16               |
| -       | -       | ML16A-ET20-V-JET32 |
| ML16    | ML16    | ML16               |
| -       | -       | ML16A-ET25-V-JET32 |

Porte-plaquettes – Coupe déportée

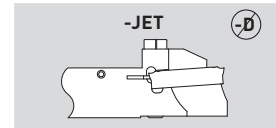
WSP-Halter – Versetztes Schneiden

Insert holders – Cut off line

EVOCUT-Line

EVOCUT-Line  
ET30

| ML16 | ML16 | ML16               |
|------|------|--------------------|
| -    | -    | ML16A-ET30-V-JET32 |

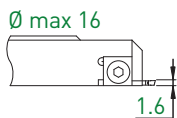


Porte-plaquettes – Coupe déportée

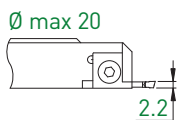
WSP-Halter – Versetztes Schneiden

Insert holders – Cut off line

CUT-Line

CUT-Line  
CUT16

| Standard      |         |         |
|---------------|---------|---------|
|               |         |         |
| Art. N°       | Art. N° | Art. N° |
| ML12          | ML12    | ML12    |
| ML12A-CUT16-V | -       | -       |
| ML12F-CUT16-V | -       | -       |
| ML16          | ML16    | ML16    |
| ML16A-CUT16-V | -       | -       |
| ML16F-CUT16-V | -       | -       |

CUT-Line  
CUT22

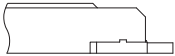
| ML12          | ML12 | ML12 |
|---------------|------|------|
| ML12A-CUT22-V | -    | -    |
| ML12F-CUT22-V | -    | -    |
| ML16          | ML16 | ML16 |
| ML16A-CUT22-V | -    | -    |
| ML16F-CUT22-V | -    | -    |

Porte-plaquettes – Coupe déportée & contre-opération

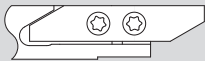
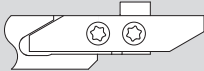
WSP-Halter – Versetztes Schneiden & Gegenspindel

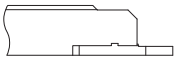
Insert holders – Cut off line & cut on subspindle

PRO-Line



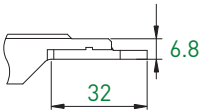
PRO-Line  
632-636

| Standard                                                                          | -D                                                                                | -JET-D                                                                             |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
|  |  |  |
| Art. N°                                                                           | Art. N°                                                                           | Art. N°                                                                            |
| ML12                                                                              | ML12                                                                              | ML12                                                                               |
| -                                                                                 | ML12A-630-V-D                                                                     | ML12A-630-V-JET-D                                                                  |
| ML16                                                                              | ML16                                                                              | ML16                                                                               |
| -                                                                                 | ML16A-630-V-D                                                                     | ML16A-630-V-JET-D                                                                  |



PRO-Line  
651R

|      |               |                   |
|------|---------------|-------------------|
| ML12 | ML12          | ML12              |
| -    | ML12A-650-V-D | ML12A-650-V-JET-D |
| ML16 | ML16          | ML16              |
| -    | ML16A-650-V-D | ML16A-650-V-JET-D |



PRO-Line  
651R

|             |               |                   |
|-------------|---------------|-------------------|
| ML12        | ML12          | ML12              |
| ML12A-650RC | ML12A-650RC-D | -                 |
| ML16        | ML16          | ML16              |
| -           | ML16A-650RC-D | ML16A-650RC-JET-D |

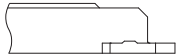


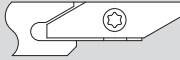
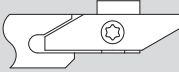
Porte-plaquettes – Coupe déportée &amp; contre-opération

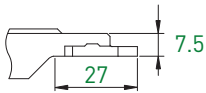
WSP-Halter – Versetztes Schneiden &amp; Gegenspindel

Insert holders – Cut off line &amp; cut on subspindle

ECO-Line

ECO-Line  
251-261

| Standard                                                                          | -D                                                                                | -JET-D                                                                             |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
|  |  |  |
| Art. N°                                                                           | Art. N°                                                                           | Art. N°                                                                            |
| ML12                                                                              | ML12                                                                              | ML12                                                                               |
| ML12A-250-V                                                                       | ML12A-250-V-D                                                                     | ML12A-250-V-JET-D                                                                  |
| ML16                                                                              | ML16                                                                              | ML16                                                                               |
| ML16A-250-V                                                                       | ML16A-250-V-D                                                                     | ML16A-250-V-JET-D                                                                  |

ECO-Line  
251R

|      |               |      |
|------|---------------|------|
| ML12 | ML12          | ML12 |
| -    | ML12A-250RC-D | -    |
| ML16 | ML16          | ML16 |
| -    | ML16A-250RC-D | -    |

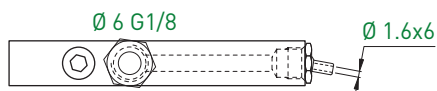
**Modules d'arrosage**

**Kühlmittelzufuhrelemente**

**Coolant supply units**

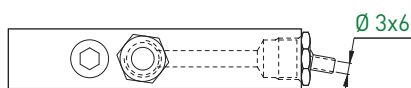
**ML12 / ML16**

ML12



| Raccord<br>Anschluss<br>Connection | Buses d'arrosage<br>Kühlmitteldüse<br>Coolant nozzles | ML12<br>Art. N° |
|------------------------------------|-------------------------------------------------------|-----------------|
| Ø 6 G 1/8                          | 5/16"                                                 | ML12-JET-5/16   |

ML16



| Raccord<br>Anschluss<br>Connection | Buses d'arrosage<br>Kühlmitteldüse<br>Coolant nozzles | ML16<br>Art. N° |
|------------------------------------|-------------------------------------------------------|-----------------|
| Ø 6 G 1/8                          | 7/16"                                                 | ML16-JET-7/16   |

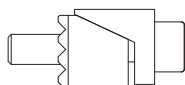
buses optionnelles voir page 12.81  
zusätzliche Düsen siehe Seite 12.81  
optional nozzles see page 12.81

**Modules de serrage**

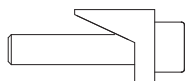
**Spannelemente**

**Clamping units**

**ML12 / ML16**



| ML12<br>Art. N° | ML16<br>Art. N°  |
|-----------------|------------------|
| ML12-FIX-12/14  | ML16-FIX-16/16   |
| -               | ML16-FIX-16/16.5 |
| -               | ML16-FIX-16/17   |
| -               | ML16-FIX-16/20   |
| -               | ML16-FIX-16/22   |
| -               | ML16-FIX-16/24   |



| ML12<br>Art. N° | ML16<br>Art. N° |
|-----------------|-----------------|
| ML12-FIX-12     | ML16-FIX-16     |

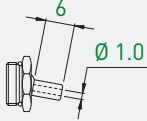
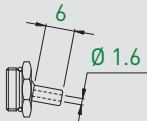
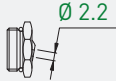
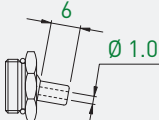
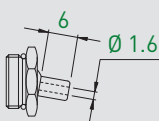
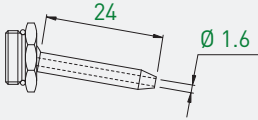
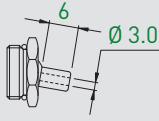
Buses d'arrosage

Kühlmitteldüsen

Coolant nozzles

5/16" / 7/16"

JET

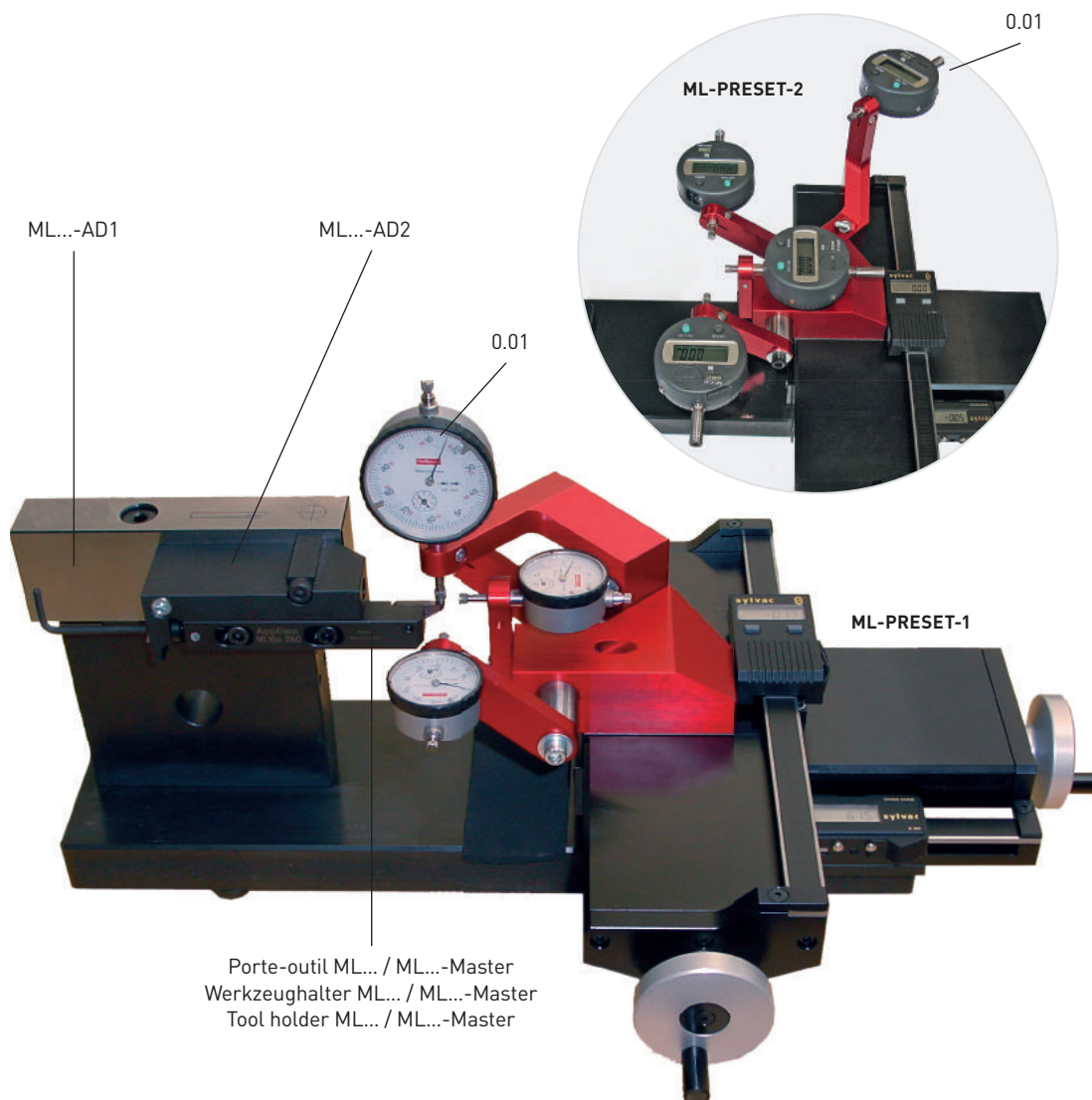
| 5/16"                                                                               | Art. N°            | Références compatibles<br>Kompatible Artikeln<br>Compatible items                                                                                                 |
|-------------------------------------------------------------------------------------|--------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    | ML-JET 5/16-1.0X6  | ML12-JET-5/1.6                                                                                                                                                    |
|    | ML-JET 5/16-1.6X6  | une buse <b>ML-JET-5/16-1.6x6</b> est comprise<br>eine Düse <b>ML-JET-5/16-1.6x6</b> ist inbegriffen<br>a nozzle <b>ML-JET-5/16-1.6x6</b> is included             |
|    | ML-JET 5/16-2.2X0  |                                                                                                                                                                   |
| 7/16"                                                                               | Art. N°            | Références compatibles<br>Kompatible Artikeln<br>Compatible items                                                                                                 |
|   | ML-JET 7/16-1.0X6  |                                                                                                                                                                   |
|  | ML-JET 7/16-1.6X6  | ML16-KMX26-JET<br>ML16-JET-7/16<br>ML12-DEC010-JET<br>ML16-DEC013-JET<br>ML16-DEC020-JET<br>ML16-S20-JET<br>ML16-SWISS-ST26-JET                                   |
|  | ML-JET-7/16-1.6X24 | une buse <b>ML-JET-7/16-3.0x6</b> est comprise avec chaque article ci-dessus<br>eine Düse <b>ML-JET 7/16-3.0x6</b> ist mit jedem vorstehenden Artikel inbegriffen |
|  | ML-JET-7/16-3.0X6  | a nozzle <b>ML-JET 7/16-3.0x6</b> is included with each above item                                                                                                |

Banc de préréglage

Voreinstellgerät

Presetting device

**ML12 / ML16**

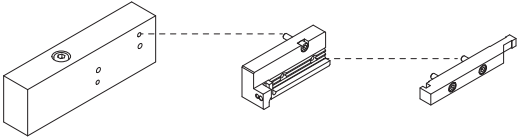
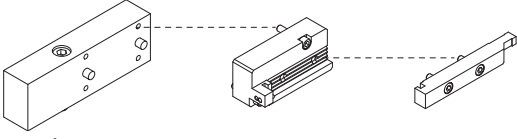
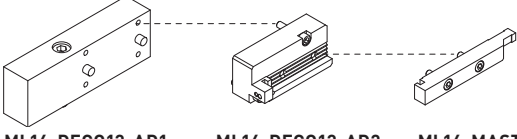


Art. N°

ML-PRESET-1

ML-PRESET-2

**Banc de préréglage****Voreinstellgerät****Presetting device****ML12 / ML16**

| Type<br>Typ<br>Type | Fabricant<br>Hersteller<br>Manufacturer | Machines<br>Maschinen<br>Machines | Adaptateurs et jauges d'étalonnage<br>Adapter und Einstelllehre<br>Adaptators and master gauges                                                          |
|---------------------|-----------------------------------------|-----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| ML12                | CITIZEN                                 | C12/C16                           | <br><b>ML12-AD1</b> <b>ML12-AD2</b> <b>ML12-MASTER</b>                 |
|                     |                                         | L12-1M7                           |                                                                                                                                                          |
|                     |                                         | L12-2M10                          |                                                                                                                                                          |
|                     |                                         | M16 V/VIII                        |                                                                                                                                                          |
|                     |                                         | R04                               |                                                                                                                                                          |
|                     |                                         | R07                               |                                                                                                                                                          |
|                     | HANWHA                                  | XD20M                             |                                                                                                                                                          |
|                     | METAFIL                                 | D3/D10/D13                        |                                                                                                                                                          |
|                     |                                         | SB-12RG                           |                                                                                                                                                          |
|                     | STAR                                    | SR10-J                            |                                                                                                                                                          |
|                     |                                         | SW-12RII                          |                                                                                                                                                          |
|                     |                                         | DEC07/10 - EvoDECO 10             |                                                                                                                                                          |
|                     | TORNOS                                  | SwissNano/SwissNano 7             |                                                                                                                                                          |
|                     |                                         | DT13                              |                                                                                                                                                          |
|                     |                                         | CT20                              |                                                                                                                                                          |
|                     |                                         | GT13                              |                                                                                                                                                          |
|                     | TSUGAMI                                 | B074                              |                                                                                                                                                          |
|                     |                                         | B075                              |                                                                                                                                                          |
|                     |                                         | P034                              |                                                                                                                                                          |
| ML16                | CITIZEN                                 | K12/K16/K12E/K16E                 | <br><b>ML16/20-AD1</b> <b>ML16-AD2</b> <b>ML16-MASTER</b>            |
|                     |                                         | L16/L20                           |                                                                                                                                                          |
|                     |                                         | L20E                              |                                                                                                                                                          |
|                     | HANWHA                                  | SL12/16                           |                                                                                                                                                          |
|                     | MANUHRIN                                | KMX 426/526/626/Swing 20-26 MM    |                                                                                                                                                          |
|                     |                                         | SA-12/SA-16/SA-16R                |                                                                                                                                                          |
|                     |                                         | SB-16                             |                                                                                                                                                          |
|                     |                                         | SB-16/20RG                        |                                                                                                                                                          |
|                     |                                         | SB-20C/E                          |                                                                                                                                                          |
|                     |                                         | SR-20J/SR-20RIII                  |                                                                                                                                                          |
|                     |                                         | SR-20JII-A/B                      |                                                                                                                                                          |
|                     |                                         | SR-16R/SR-20R/SR-20RII            |                                                                                                                                                          |
|                     |                                         | SR-20RIII/SR-20J                  |                                                                                                                                                          |
|                     |                                         | SR-20RIV                          |                                                                                                                                                          |
|                     |                                         | SR-32J                            |                                                                                                                                                          |
|                     |                                         | SV-12/20/ SV-20R                  |                                                                                                                                                          |
|                     |                                         | SW-20R                            |                                                                                                                                                          |
|                     | TORNOS                                  | DECO20/26 - EvoDECO20/32          |                                                                                                                                                          |
|                     |                                         | SIGMA20/32                        |                                                                                                                                                          |
|                     |                                         | DT26                              |                                                                                                                                                          |
|                     |                                         | GT26                              |                                                                                                                                                          |
|                     |                                         | GT32                              |                                                                                                                                                          |
|                     | TORNOS                                  | DEC013-EvoDEC016                  | <br><b>ML16-DEC013-AD1</b> <b>ML16-DEC013-AD2</b> <b>ML16-MASTER</b> |
|                     |                                         | ST26                              |                                                                                                                                                          |

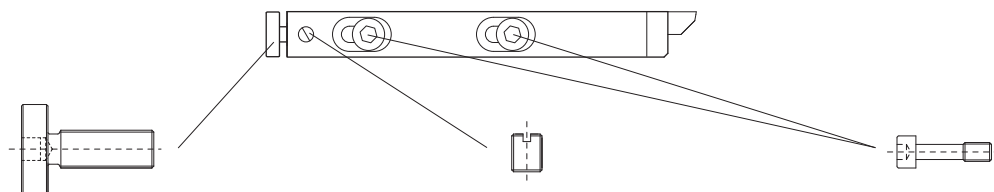
**Pièces de rechange**

**Ersatzteile**

**Spare parts**

**ML12 / ML16**

## ML12



Vis de réglage  
Einstellungsschraube  
Setting screw

**Art. N°**

**ML12A-M5X0.5**

Vis de blocage  
Blockierschraube  
Locking screw

**Art. N°**

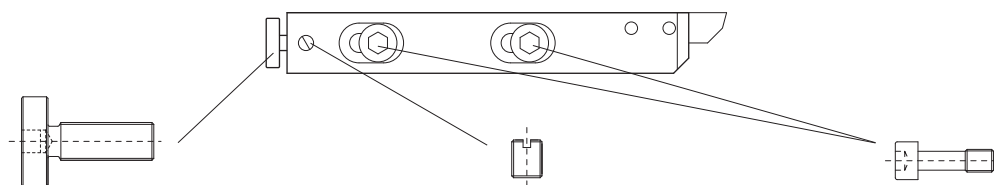
**ML-M4X4-T**

Vis de fixation  
Befestigungsschraube  
Fixing screw

**Art. N°**

**ML12-M5XL20**

## ML16



Vis de réglage  
Einstellungsschraube  
Setting screw

**Art. N°**

**ML16A-M5X0.5**

Vis de blocage  
Blockierschraube  
Locking screw

**Art. N°**

**ML-M4X4-T**

Vis de fixation  
Befestigungsschraube  
Fixing screw

**Art. N°**

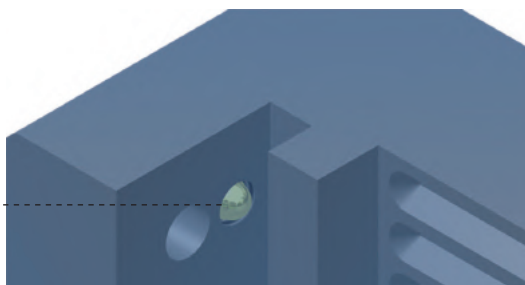
**ML16/20-M6XL20**

**Art. N°**

**ML-205004**



Butée à ressort  
Federnde Schraube  
Spring bumper



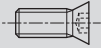
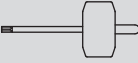
Pièces de rechange

Ersatzteile

Spare parts

ML12 / ML16

Vis et clés pour le serrage des plaquettes  
Schrauben und Schlüssel für WSP-Befestigung  
Screws and keys for insert clamping

| Porte-outils<br>Halter<br>Holders |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| ML...250                          | V-M4X9-T15                                                                        | C-T15                                                                             | -                                                                                 | -                                                                                 | -                                                                                   |
| ML...260                          |                                                                                   |                                                                                   | -                                                                                 | -                                                                                 | -                                                                                   |
| ML...330                          | V-M2.5X7.8-T8                                                                     | C-T8                                                                              | -                                                                                 | -                                                                                 | -                                                                                   |
| ML...340                          |                                                                                   |                                                                                   | -                                                                                 | -                                                                                 | -                                                                                   |
| ML...630                          | V-M4X9-T15                                                                        | C-T15                                                                             | -                                                                                 | -                                                                                 | -                                                                                   |
| ML...640                          |                                                                                   |                                                                                   | -                                                                                 | -                                                                                 | -                                                                                   |
| ML...650                          | V-M4X6.5-T15                                                                      | C-T15                                                                             | -                                                                                 | -                                                                                 | -                                                                                   |
| ML...650RC                        |                                                                                   |                                                                                   | -                                                                                 | -                                                                                 | -                                                                                   |
| ML...660                          | V-M4X9-T15                                                                        | C-T15                                                                             | -                                                                                 | -                                                                                 | -                                                                                   |
| ML...730                          | V-M3X7-T8                                                                         |                                                                                   | -                                                                                 | -                                                                                 | -                                                                                   |
| ML...730RC                        | V-M3X5.5-T8                                                                       | C-T8                                                                              | -                                                                                 | -                                                                                 | -                                                                                   |
| ML...730RC-R04                    | V-M3X4.5-T8                                                                       |                                                                                   | -                                                                                 | -                                                                                 | -                                                                                   |
| ML...730RC-SWISS-NANO             | V-M3X7-T8                                                                         | C-T8                                                                              | -                                                                                 | -                                                                                 | -                                                                                   |
|                                   | V-M3X4.5-T8                                                                       |                                                                                   | -                                                                                 | -                                                                                 | -                                                                                   |
| ML...740                          | V-M3X7-T8                                                                         | C-T15                                                                             | -                                                                                 | -                                                                                 | -                                                                                   |
| ML...750                          | V-M4X9-T15                                                                        |                                                                                   | -                                                                                 | -                                                                                 | -                                                                                   |
| ML...750RC                        | V-M4X7.3-T15                                                                      | C-T15                                                                             | -                                                                                 | -                                                                                 | -                                                                                   |
| ML...750RC-R04                    | V-M4X5.6-T15                                                                      |                                                                                   | -                                                                                 | -                                                                                 | -                                                                                   |
|                                   | V-M4X7.3-T15                                                                      | C-T15                                                                             | -                                                                                 | -                                                                                 | -                                                                                   |
| ML...750RC-SWISS-NANO             | V-M4X5.6-T15                                                                      |                                                                                   | -                                                                                 | -                                                                                 | -                                                                                   |
|                                   | V-M4X7.3-T15                                                                      | C-T15                                                                             | -                                                                                 | -                                                                                 | -                                                                                   |
| ML...760                          | V-M4X9-T15                                                                        |                                                                                   | -                                                                                 | -                                                                                 | -                                                                                   |
| ML...770RC-SWISS-NANO             | V-M4X7.3-T15                                                                      | C-T8                                                                              | -                                                                                 | -                                                                                 | -                                                                                   |
| ML...780                          | V-M4X9-T15                                                                        |                                                                                   | -                                                                                 | -                                                                                 | -                                                                                   |
| ML...SC...06                      | V-M2.5X5.8-T8                                                                     | C-T8                                                                              | -                                                                                 | -                                                                                 | -                                                                                   |
| ML...SC...09                      | V-M4X7-T15-ISO                                                                    | C-T15                                                                             | -                                                                                 | -                                                                                 | -                                                                                   |
| ML...-SD...07                     | V-M2.5X7.8-T8                                                                     | C-T8                                                                              | -                                                                                 | -                                                                                 | -                                                                                   |
| ML...-SD...07-D                   | V-M2.5X5.8-T8                                                                     |                                                                                   | -                                                                                 | -                                                                                 | -                                                                                   |
| ML12...-SDJ...11                  | V-M4X7-T15-ISO                                                                    | C-T15                                                                             | -                                                                                 | -                                                                                 | -                                                                                   |
| ML12...-SDN...11                  | V-M4X9-T15-ISO                                                                    |                                                                                   | -                                                                                 | -                                                                                 | -                                                                                   |
| ML16...-SD...11                   | V-M4X9-T15-ISO                                                                    | C-T8                                                                              | -                                                                                 | -                                                                                 | -                                                                                   |
| ML...-SV...11                     | V-M2.5X7.8-T8                                                                     |                                                                                   | -                                                                                 | -                                                                                 | -                                                                                   |
| ML...-SV...13                     | V-M3X7.3-T8-ISO                                                                   | C-T8                                                                              | -                                                                                 | -                                                                                 | -                                                                                   |
| ML...-CUT16                       | -                                                                                 | -                                                                                 | CUT16RS-SET                                                                       | -                                                                                 | -                                                                                   |
| ML...-CUT16-V                     | -                                                                                 | -                                                                                 | CUT16LS-SET                                                                       | -                                                                                 | -                                                                                   |
| ML...-CUT22                       | -                                                                                 | -                                                                                 | CUT22RS-SET                                                                       | -                                                                                 | -                                                                                   |
| ML...-CUT16-V                     | -                                                                                 | -                                                                                 | CUT22LS-SET                                                                       | -                                                                                 | -                                                                                   |
| ML16...-ET... JET32               | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                   |
| ML16...-ET... V-JET32             | -                                                                                 | -                                                                                 | -                                                                                 | V-M5X21-6P7-J                                                                     | C-6PEX-7.0                                                                          |
| ML...-BHK                         | V-BHK-M4X0.5-T8                                                                   | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                   |

**Outils et porte-outils  
traditionnels pour le  
décolletage et la  
mécanique de précision**

- Porte-outils
- Forets à centrer
- Burins intérieurs
- Porte-molettes
- Molettes MD

**Übliche Werkzeuge  
und Halter für  
Decolletage und  
Präzisionsmechanik**

- Werkzeughalter
- Zentrierbohrer
- Innendrehwerkzeuge
- Rändelhalter
- Rändelrädchen

**Usual tools and  
tool holders for  
automatic lathes and  
precision mechanics**

- Tool holders
- Centring drills
- Internal turning tools
- Knurl holders
- Knurling wheels





## Index

Porte-outils  
Werkzeughalter  
Tool holders

**Type 14xx / 24xx**

&gt; 13.02

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Monoblockwerkzeughalter für Tornos Maschinen  
Monobloc tool holders for Tornos machines

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&gt; 13.12

Forets à centrer plats  
Zentrierflachbohrer  
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Knurl holders

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&gt; 13.18

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Vollhartmetall Rändelrädchen  
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**Type 1107**

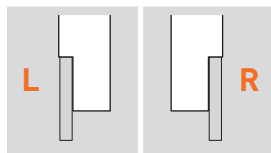
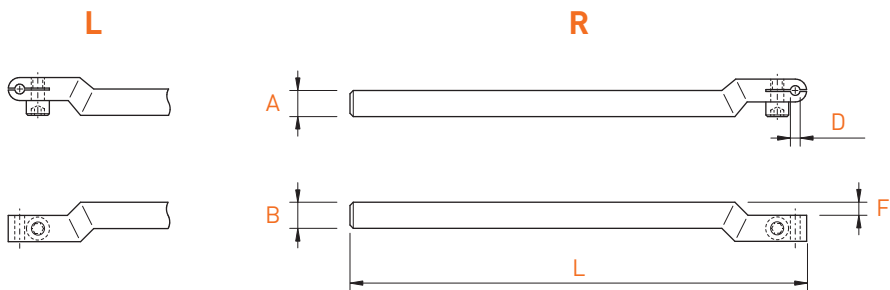
&gt; 13.19

Porte-outils

Werkzeughalter

Tool holders

1400-J / 2400-J



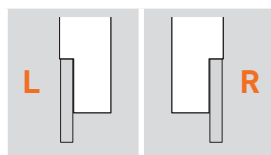
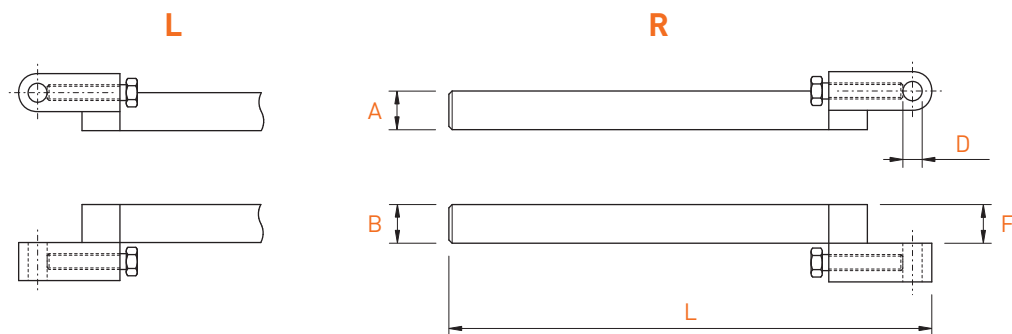
| A x B | L   | F | D   | Art. N°    | Art. N°    |
|-------|-----|---|-----|------------|------------|
| 6 x 6 | 132 | 3 | 1.5 | 1400-J-615 | 2400-J-615 |
| 6 x 6 | 132 | 3 | 2.0 | 1400-J-620 | 2400-J-620 |
| 6 x 6 | 132 | 3 | 3.0 | 1400-J-630 | 2400-J-630 |
| 7 x 7 | 140 | 3 | 1.5 | 1400-J-715 | 2400-J-715 |
| 7 x 7 | 140 | 3 | 2.0 | 1400-J-720 | 2400-J-720 |
| 7 x 7 | 140 | 3 | 3.0 | 1400-J-730 | 2400-J-730 |
| 8 x 8 | 140 | 4 | 1.5 | 1400-J-815 | 2400-J-815 |
| 8 x 8 | 140 | 4 | 2.0 | 1400-J-820 | 2400-J-820 |
| 8 x 8 | 140 | 4 | 3.0 | 1400-J-830 | 2400-J-830 |

Porte-outils

Werkzeughalter

Tool holders

1401-K / 2401-K



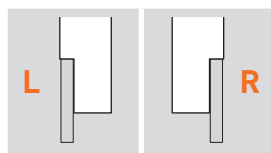
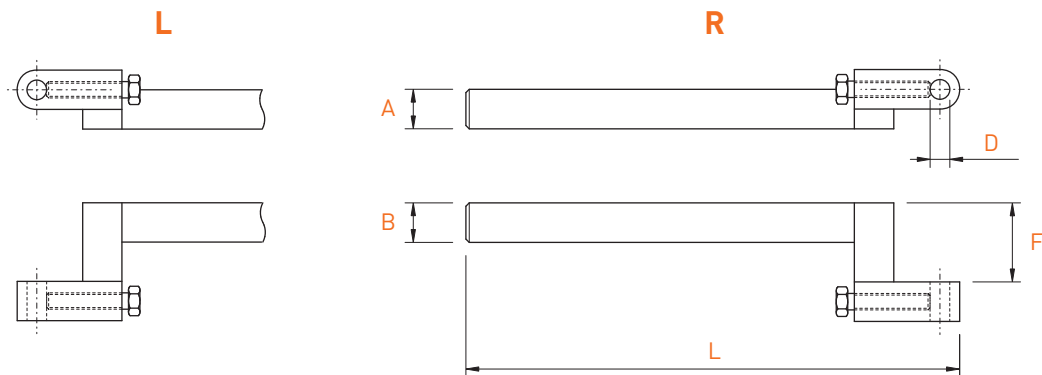
| A x B   | L   | F  | D   | Art. N°     | Art. N°     |
|---------|-----|----|-----|-------------|-------------|
| 7 x 7   | 146 | 7  | 2.0 | 1401-K-720  | -           |
| 7 x 7   | 146 | 7  | 3.0 | 1401-K-730  | 2401-K-730  |
| 7 x 7   | 146 | 7  | 4.0 | 1401-K-740  | 2401-K-740  |
| 8 x 8   | 146 | 8  | 2.0 | 1401-K-820  | -           |
| 8 x 8   | 146 | 8  | 3.0 | 1401-K-830  | 2401-K-830  |
| 8 x 8   | 146 | 8  | 4.0 | 1401-K-840  | 2401-K-840  |
| 8 x 8   | 146 | 8  | 5.0 | 1401-K-850  | 2401-K-850  |
| 8 x 8   | 146 | 8  | 6.0 | 1401-K-860  | 2401-K-860  |
| 10 x 10 | 150 | 10 | 3.0 | -           | 2401-K-1030 |
| 10 x 10 | 150 | 10 | 4.0 | 1401-K-1040 | 2401-K-1040 |
| 10 x 10 | 150 | 10 | 5.0 | 1401-K-1050 | 2401-K-1050 |
| 10 x 10 | 150 | 10 | 6.0 | 1401-K-1060 | 2401-K-1060 |
| 10 x 10 | 150 | 10 | 7.0 | 1401-K-1070 | 2401-K-1070 |
| 12 x 12 | 150 | 12 | 3.0 | -           | 2401-K-1230 |
| 12 x 12 | 150 | 12 | 4.0 | 1401-K-1240 | 2401-K-1240 |
| 12 x 12 | 150 | 12 | 5.0 | 1401-K-1250 | 2401-K-1250 |
| 12 x 12 | 150 | 12 | 6.0 | 1401-K-1260 | 2401-K-1260 |
| 12 x 12 | 150 | 12 | 8.0 | 1401-K-1280 | 2401-K-1280 |
| 14 x 14 | 150 | 14 | 4.0 | 1401-K-1440 | 2401-K-1440 |
| 14 x 14 | 150 | 14 | 6.0 | 1401-K-1460 | 2401-K-1460 |
| 14 x 14 | 150 | 14 | 8.0 | 1401-K-1480 | 2401-K-1480 |

Porte-outils

Werkzeughalter

Tool holders

1420 / 2420

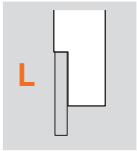
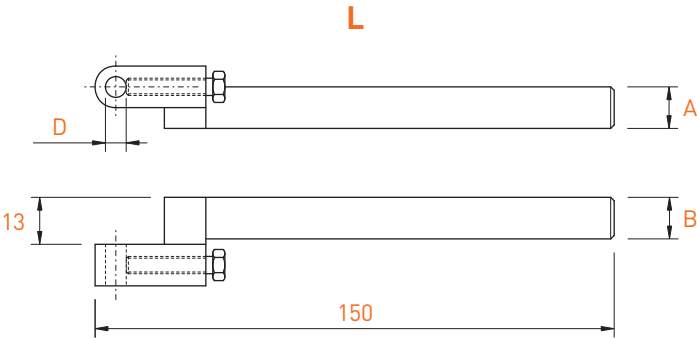


| A x B   | L   | F  | D   | Art. N°    | Art. N°    |
|---------|-----|----|-----|------------|------------|
| 7 x 7   | 146 | 12 | 4.0 | 1420-7124  | 2420-7124  |
| 8 x 8   | 146 | 12 | 4.0 | 1420-8124  | 2420-8124  |
| 8 x 8   | 146 | 14 | 3.0 | 1420-8143  | 2420-8143  |
| 8 x 8   | 146 | 15 | 5.0 | 1420-8155  | 2420-8155  |
| 8 x 8   | 146 | 20 | 5.0 | 1420-8205  | 2420-8205  |
| 10 x 10 | 150 | 20 | 6.0 | 1420-10206 | 2420-10206 |
| 12 x 12 | 150 | 18 | 6.0 | 1420-12186 | 2420-12186 |
| 12 x 12 | 150 | 18 | 8.0 | 1420-12188 | -          |
| 12 x 12 | 150 | 24 | 8.0 | 1420-12248 | 2420-12248 |
| 14 x 14 | 150 | 20 | 8.0 | 1420-14208 | 2420-14208 |
| 14 x 14 | 150 | 24 | 8.0 | 1420-14248 | 2420-14248 |

Porte-outils  
Werkzeughalter  
Tool holders

12 x 12

1460

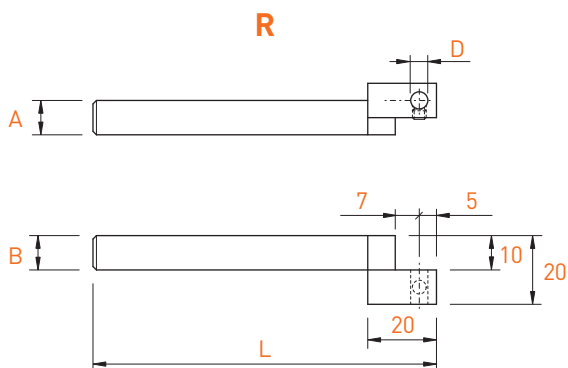


| A x B   | D   | Art. N° |
|---------|-----|---------|
| 12 x 12 | 4.0 | 1460-4  |
| 12 x 12 | 5.0 | 1460-5  |
| 12 x 12 | 6.0 | 1460-6  |
| 12 x 12 | 8.0 | 1460-8  |

Porte-outils  
Werkzeughalter  
Tool holders

Ø 10 x 10

2450-SP

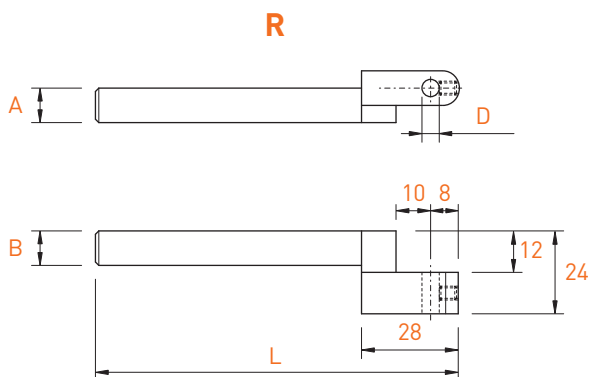


| A x B   | L   | D   | Art. N°       |
|---------|-----|-----|---------------|
| 10 x 10 | 100 | 3.0 | 2450-SP-3     |
| 10 x 10 | 100 | 4.0 | 2450-SP-4     |
| 10 x 10 | 100 | 5.0 | 2450-SP-5     |
| 10 x 10 | 100 | 6.0 | 2450-SP-6     |
| 10 x 10 | 120 | 3.0 | 2450-SP-3-120 |
| 10 x 10 | 120 | 4.0 | 2450-SP-4-120 |
| 10 x 10 | 120 | 5.0 | 2450-SP-5-120 |
| 10 x 10 | 120 | 6.0 | 2450-SP-6-120 |

Porte-outils  
Werkzeughalter  
Tool holders

Ø 10 x 10

2470



| A x B   | L   | D   | Art. N° |
|---------|-----|-----|---------|
| 10 x 10 | 105 | 3.0 | 2470-3  |
| 10 x 10 | 105 | 4.0 | 2470-4  |
| 10 x 10 | 105 | 5.0 | 2470-5  |
| 10 x 10 | 105 | 6.0 | 2470-6  |
| 10 x 10 | 105 | 7.0 | 2470-7  |

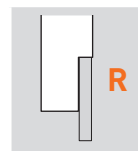
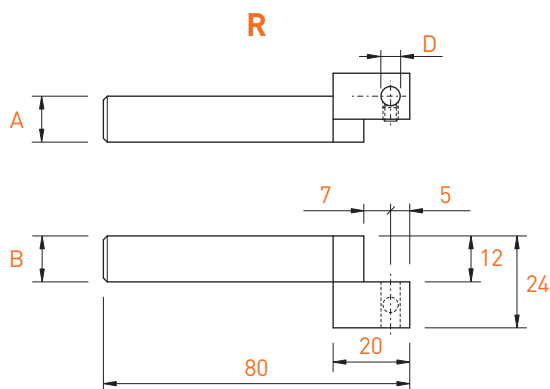
Porte-outils

Werkzeughalter

Tool holders

Ø 12 x 12

2450



| A x B   | D   | Art. N° |
|---------|-----|---------|
| 12 x 12 | 3.0 | 2450-3  |
| 12 x 12 | 4.0 | 2450-4  |
| 12 x 12 | 5.0 | 2450-5  |
| 12 x 12 | 6.0 | 2450-6  |
| 12 x 12 | 8.0 | 2450-8  |

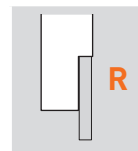
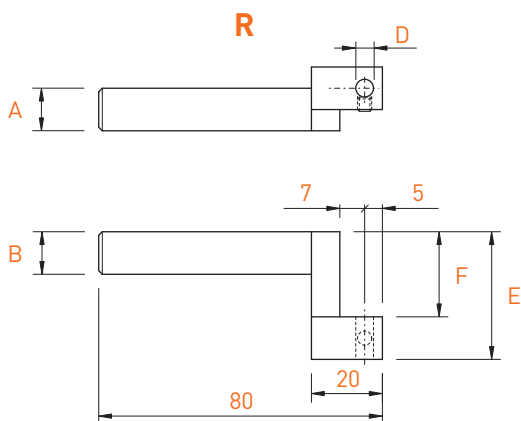
Porte-outils

Werkzeughalter

Tool holders

Ø 12 x 12

2460



| A x B   | F  | E  | D   | Art. N°  |
|---------|----|----|-----|----------|
| 12 x 12 | 16 | 28 | 4.0 | 2460-284 |
| 12 x 12 | 16 | 28 | 6.0 | 2460-286 |
| 12 x 12 | 16 | 28 | 8.0 | 2460-288 |
| 12 x 12 | 20 | 32 | 4.0 | 2460-324 |
| 12 x 12 | 20 | 32 | 6.0 | 2460-326 |
| 12 x 12 | 20 | 32 | 8.0 | 2460-328 |
| 12 x 12 | 24 | 36 | 4.0 | 2460-364 |
| 12 x 12 | 24 | 36 | 6.0 | 2460-366 |
| 12 x 12 | 24 | 36 | 8.0 | 2460-368 |

Porte-outils

Werkzeughalter

Tool holders

2405



| A x B   | L   | F  | D   | Art. N°     |
|---------|-----|----|-----|-------------|
| 8 x 8   | 120 | 8  | 3.0 | 2405-K-830  |
| 8 x 8   | 120 | 8  | 4.0 | 2405-K-840  |
| 8 x 8   | 120 | 8  | 5.0 | 2405-K-850  |
| 8 x 8   | 120 | 8  | 6.0 | 2405-K-860  |
| 10 x 10 | 100 | 10 | 4.0 | 2405-K-1040 |
| 10 x 10 | 100 | 10 | 5.0 | 2405-K-1050 |
| 10 x 10 | 100 | 10 | 6.0 | 2405-K-1060 |
| 12 x 12 | 150 | 12 | 4.0 | 2405-K-1240 |
| 12 x 12 | 150 | 12 | 6.0 | 2405-K-1260 |
| 12 x 12 | 150 | 12 | 8.0 | 2405-K-1280 |

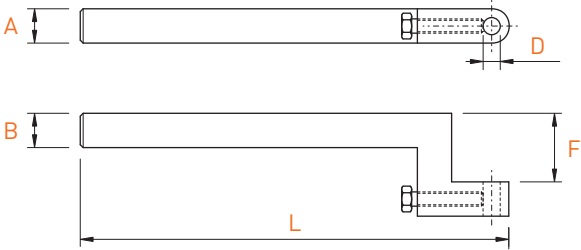


Porte-outils

Werkzeughalter

Tool holders

2425



| A x B   | L   | F  | D   | Art. N°    |
|---------|-----|----|-----|------------|
| 8 x 8   | 120 | 12 | 4.0 | 2425-8124  |
| 8 x 8   | 120 | 15 | 5.0 | 2425-8155  |
| 8 x 8   | 120 | 20 | 5.0 | 2425-8205  |
| 10 x 10 | 100 | 15 | 6.0 | 2425-10156 |
| 10 x 10 | 100 | 20 | 6.0 | 2425-10206 |
| 12 x 12 | 150 | 18 | 6.0 | 2425-12186 |
| 12 x 12 | 150 | 24 | 8.0 | 2425-12248 |

Porte-outils  
Werkzeughalter  
Tool holders

□ 12 x 16

2441

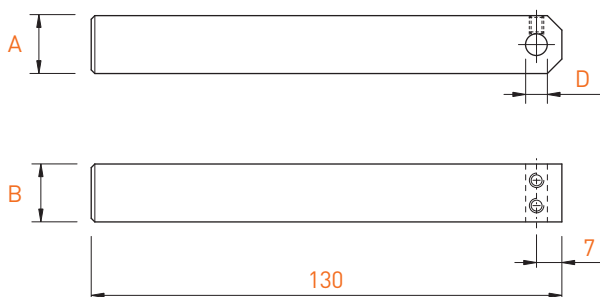


| A x B   | D   | Art. N°  |
|---------|-----|----------|
| 12 x 16 | 3.0 | 2441-0-3 |
| 12 x 16 | 4.0 | 2441-0-4 |
| 12 x 16 | 5.0 | 2441-0-5 |
| 12 x 16 | 6.0 | 2441-0-6 |

Porte-outils  
Werkzeughalter  
Tool holders

□ 16 x 16

2440-0



| A x B   | D   | Art. N°  |
|---------|-----|----------|
| 16 x 16 | 3.0 | 2440-0-3 |
| 16 x 16 | 4.0 | 2440-0-4 |
| 16 x 16 | 5.0 | 2440-0-5 |
| 16 x 16 | 6.0 | 2440-0-6 |

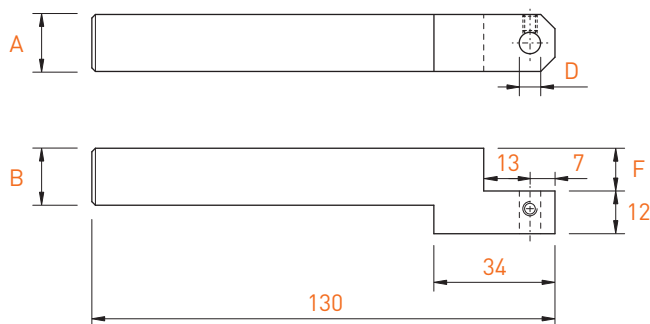
Porte-outils

Werkzeughalter

Tool holders

 $\varnothing 16 \times 16$ 

2440-8 / 2440-12



| A x B   | F  | D   | Art. N°   |
|---------|----|-----|-----------|
| 16 x 16 | 8  | 3.0 | 2440-8-3  |
| 16 x 16 | 8  | 4.0 | 2440-8-4  |
| 16 x 16 | 8  | 5.0 | 2440-8-5  |
| 16 x 16 | 8  | 6.0 | 2440-8-6  |
| 16 x 16 | 8  | 8.0 | 2440-8-8  |
| 16 x 16 | 12 | 3.0 | 2440-12-3 |
| 16 x 16 | 12 | 4.0 | 2440-12-4 |
| 16 x 16 | 12 | 5.0 | 2440-12-5 |
| 16 x 16 | 12 | 6.0 | 2440-12-6 |
| 16 x 16 | 12 | 8.0 | 2440-12-8 |

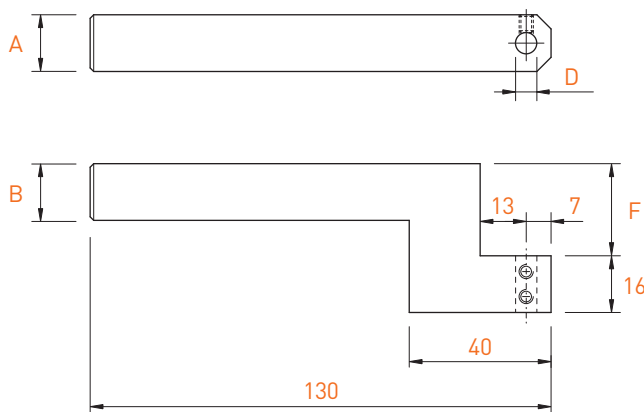
Porte-outils

Werkzeughalter

Tool holders

 $\varnothing 16 \times 16$ 

2440-18 / 2440-26



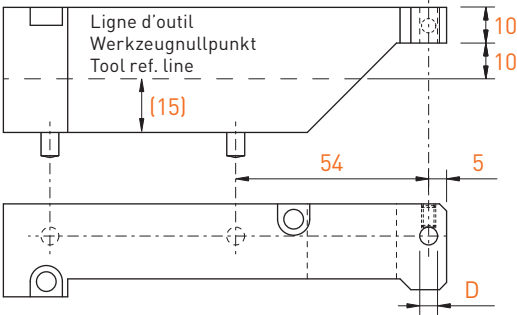
| A x B   | F  | D   | Art. N°   |
|---------|----|-----|-----------|
| 16 x 16 | 18 | 4.0 | 2440-18-4 |
| 16 x 16 | 18 | 5.0 | 2440-18-5 |
| 16 x 16 | 18 | 6.0 | 2440-18-6 |
| 16 x 16 | 18 | 8.0 | 2440-18-8 |
| 16 x 16 | 26 | 4.0 | 2440-26-4 |
| 16 x 16 | 26 | 5.0 | 2440-26-5 |
| 16 x 16 | 26 | 6.0 | 2440-26-6 |
| 16 x 16 | 26 | 8.0 | 2440-26-8 |

Porte-outils pour machines Tornos DECO 7/10 / EvoDECO 10

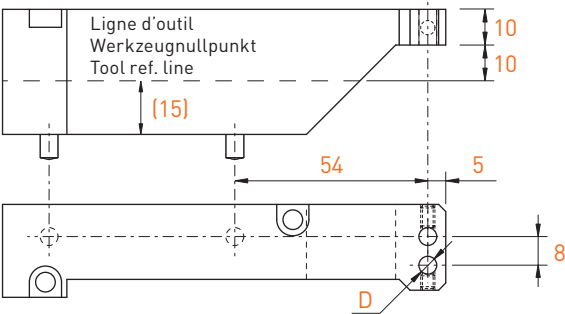
Werkzeughalter für Tornos DECO 7/10 / EvoDECO 10 Maschinen

Tool holders for Tornos DECO 7/10 / EvoDECO 10 machines

2435 / 2435-T



| D   | Art. N° |
|-----|---------|
| 3.0 | 2435-3  |
| 4.0 | 2435-4  |
| 5.0 | 2435-5  |
| 6.0 | 2435-6  |



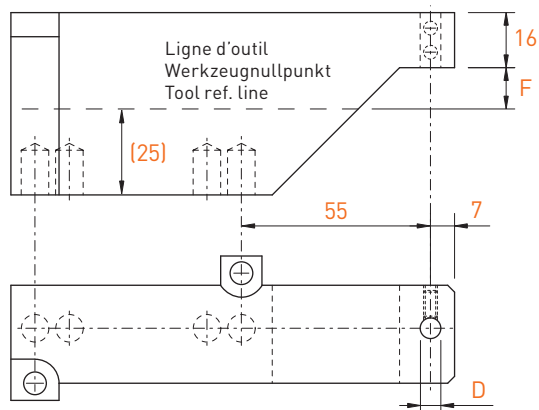
| D   | Art. N°  |
|-----|----------|
| 3.0 | 2435-3-T |
| 4.0 | 2435-4-T |
| 5.0 | 2435-5-T |
| 6.0 | 2435-6-T |

**Porte-outils pour machines Tornos DECO 13 / EvoDECO 16**

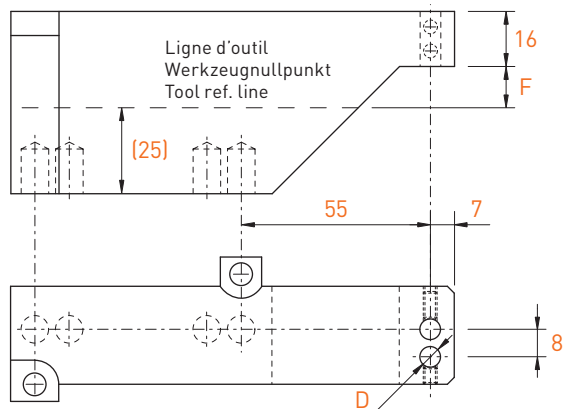
**Werkzeughalter für Tornos DECO 13 / EvoDECO 16 Maschinen**

**Tool holders for Tornos DECO 13 / EvoDECO 16 machines**

**2436 / 2436T**



| F  | D   | Art. N°   |
|----|-----|-----------|
| 12 | 3.0 | 2436-12-3 |
| 12 | 4.0 | 2436-12-4 |
| 12 | 5.0 | 2436-12-5 |
| 12 | 6.0 | 2436-12-6 |
| 12 | 8.0 | 2436-12-8 |
| 18 | 3.0 | 2436-18-3 |
| 18 | 4.0 | 2436-18-4 |
| 18 | 5.0 | 2436-18-5 |
| 18 | 6.0 | 2436-18-6 |
| 18 | 8.0 | 2436-18-8 |



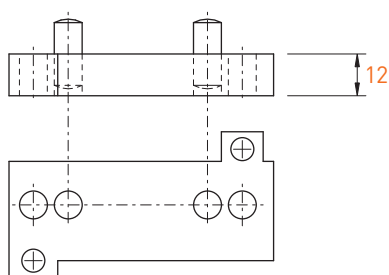
| F  | D   | Art. N°    |
|----|-----|------------|
| 12 | 3.0 | 2436T-12-3 |
| 12 | 4.0 | 2436T-12-4 |
| 12 | 5.0 | 2436T-12-5 |
| 12 | 6.0 | 2436T-12-6 |
| 18 | 3.0 | 2436T-18-3 |
| 18 | 4.0 | 2436T-18-4 |
| 18 | 5.0 | 2436T-18-5 |
| 18 | 6.0 | 2436T-18-6 |

**Entretoise**

**Erhöhungsplatte**

**Spacer**

**2436-S12**



Art. N°

2436-S12

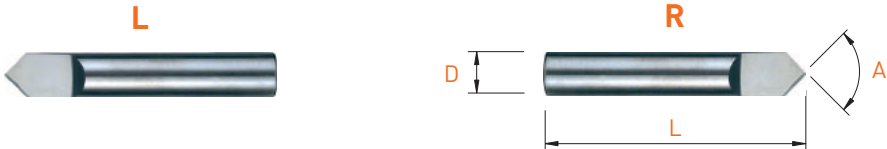
Forets à centrer plats

Zentrierflachbohrer

Centering flat drills

90°

1200 / 2200



| MD<br>VHM<br>HM |    |    | L         | R         |
|-----------------|----|----|-----------|-----------|
| A               | D  | L  | Art. N°   | Art. N°   |
| 90°             | 3  | 17 | 1200-317  | 2200-317  |
| 90°             | 3  | 38 | 1200-338  | 2200-338  |
| 90°             | 4  | 40 | 1200-440  | 2200-440  |
| 90°             | 5  | 50 | 1200-550  | 2200-550  |
| 90°             | 6  | 50 | 1200-650  | 2200-650  |
| 90°             | 8  | 58 | 1200-858  | 2200-858  |
| 90°             | 10 | 66 | 1200-1066 | 2200-1066 |
| 90°             | 12 | 73 | 1200-1273 | 2200-1273 |

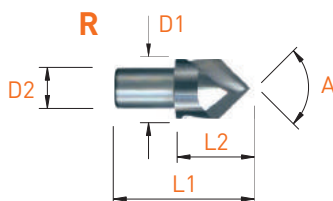
Forets à centrer hélicoïdaux

Zentrierspiralbohrer

Centering twist drills

90°

1500 / 2520



|     |    |    |    |    | HSS         |             | MD / VHM / HM |         |
|-----|----|----|----|----|-------------|-------------|---------------|---------|
|     |    |    |    |    | L           | R           | L             | R       |
| A   | D1 | D2 | L1 | L2 | Art. N°     | Art. N°     | Art. N°       | Art. N° |
| 90° | 5  | 4  | 17 | 8  | 1500-5-HSS  | 2520-5-HSS  | 1500-5        | 2520-5  |
| 90° | 7  | 5  | 17 | 8  | 1500-7-HSS  | 2520-7-HSS  | 1500-7        | 2520-7  |
| 90° | 10 | 6  | 22 | 10 | 1500-10-HSS | 2520-10-HSS | 1500-10       | 2520-10 |
| 90° | 12 | 8  | 26 | 12 | 1500-12-HSS | 2520-12-HSS | 1500-12       | 2520-12 |

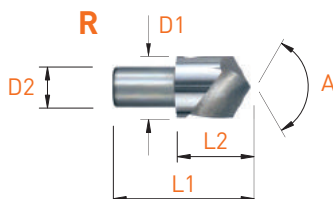
Forets à centrer hélicoïdaux

Zentrierspiralbohrer

Centering twist drills

120°

1510 / 2530

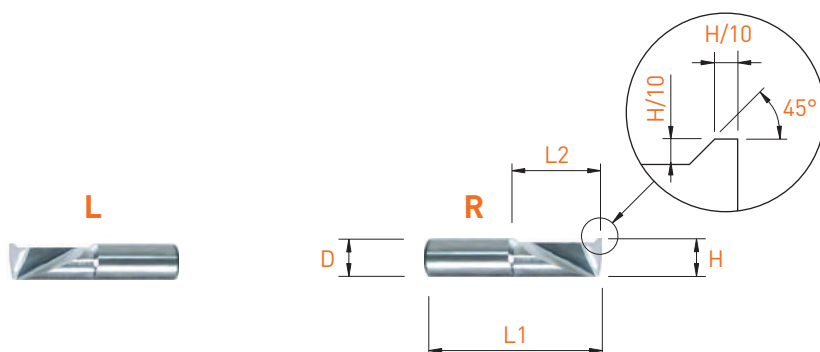


|      |    |    |    |    | L       |         |
|------|----|----|----|----|---------|---------|
|      |    |    |    |    | R       |         |
| A    | D1 | D2 | L1 | L2 | Art. N° | Art. N° |
| 120° | 5  | 4  | 17 | 8  | 1510-5  | 2530-5  |
| 120° | 7  | 5  | 17 | 8  | 1510-7  | 2530-7  |
| 120° | 10 | 6  | 22 | 10 | 1510-10 | 2530-10 |
| 120° | 12 | 8  | 26 | 12 | 1510-12 | 2530-12 |

Burins intérieurs en métal dur

Vollhartmetall Innendrehwerkzeuge

Solid carbide internal turning tools

**1600 / 2620**


| MD<br>VHM<br>HM |           |   |    | L  | R         |           |
|-----------------|-----------|---|----|----|-----------|-----------|
|                 | H 0/-0.05 | D | L1 | L2 | Art. N°   | Art. N°   |
|                 | 2         | 3 | 13 | 4  | 1600-2-4  | 2620-2-4  |
|                 | 3         | 3 | 15 | 6  | 1600-3-6  | 2620-3-6  |
|                 | 4         | 4 | 17 | 8  | 1600-4-8  | 2620-4-8  |
|                 | 4         | 4 | 21 | 12 | 1600-4-12 | 2620-4-12 |
|                 | 5         | 5 | 21 | 10 | 1600-5-10 | 2620-5-10 |
|                 | 5         | 5 | 26 | 15 | 1600-5-15 | 2620-5-15 |
|                 | 6         | 6 | 25 | 12 | 1600-6-12 | 2620-6-12 |
|                 | 6         | 6 | 31 | 18 | 1600-6-18 | 2620-6-18 |
|                 | 8         | 8 | 32 | 16 | 1600-8-16 | 2620-8-16 |
|                 | 8         | 8 | 40 | 24 | 1600-8-24 | 2620-8-24 |

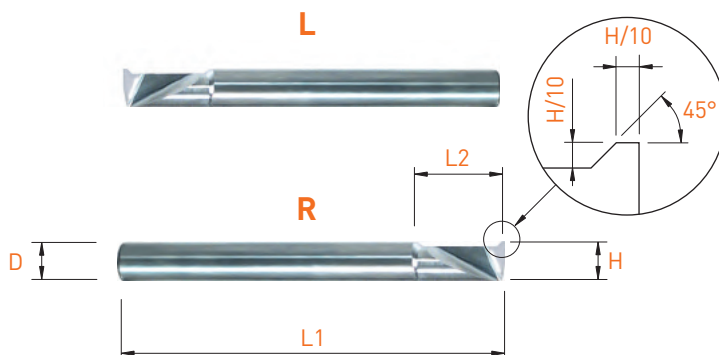


Burins intérieurs en métal dur

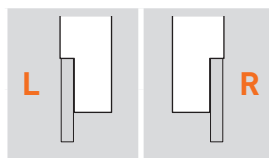
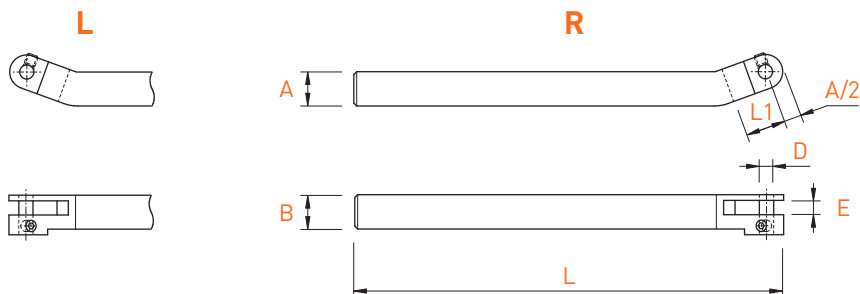
Vollhartmetall Innendrehwerkzeuge

Solid carbide internal turning tools

1610 / 2630



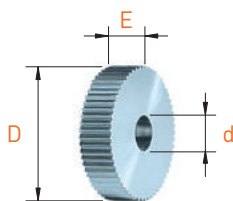
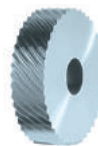
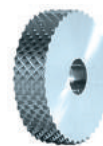
| MD<br>VHM<br>HM |           |    |    | L  | R          |
|-----------------|-----------|----|----|----|------------|
|                 | H 0/-0.05 | D  | L1 | L2 | Art. N°    |
|                 | 2         | 3  | 38 | 4  | 1610-2-4   |
|                 | 3         | 3  | 38 | 6  | 1610-3-6   |
|                 | 4         | 4  | 40 | 8  | 1610-4-8   |
|                 | 4         | 4  | 40 | 12 | 1610-4-12  |
|                 | 5         | 5  | 50 | 10 | 1610-5-10  |
|                 | 5         | 5  | 54 | 15 | 1610-5-15  |
|                 | 6         | 6  | 50 | 12 | 1610-6-12  |
|                 | 6         | 6  | 57 | 18 | 1610-6-18  |
|                 | 8         | 8  | 58 | 16 | 1610-8-16  |
|                 | 8         | 8  | 63 | 24 | 1610-8-24  |
|                 | 10        | 10 | 72 | 30 | -          |
|                 | 12        | 12 | 83 | 36 | -          |
|                 |           |    |    |    | 2630-2-4   |
|                 |           |    |    |    | 2630-3-6   |
|                 |           |    |    |    | 2630-4-8   |
|                 |           |    |    |    | 2630-4-12  |
|                 |           |    |    |    | 2630-5-10  |
|                 |           |    |    |    | 2630-5-15  |
|                 |           |    |    |    | 2630-6-12  |
|                 |           |    |    |    | 2630-6-18  |
|                 |           |    |    |    | 2630-8-16  |
|                 |           |    |    |    | 2630-8-24  |
|                 |           |    |    |    | 2630-10-30 |
|                 |           |    |    |    | 2630-12-36 |

**Porte-molettes**
**Rändelhalter**
**Knurl holders**
**1402 / 2402**

 Pièces de rechange  
Ersatzteile  
Spare parts


\*

| A x B   | L   | E | D | L1 | A/2 | Art. N°   | Art. N°   | Art. N°        |
|---------|-----|---|---|----|-----|-----------|-----------|----------------|
| 6 x 6   | 132 | 2 | 3 | 10 | 3   | 1402-623  | 2402-623  | GP-3X10-A6H2.5 |
| 6 x 6   | 132 | 3 | 3 | 10 | 3   | 1402-633  | 2402-633  | GP-3X10-A6H2.5 |
| 7 x 7   | 140 | 2 | 3 | 10 | 3.5 | 1402-723  | 2402-723  | GP-3X12-A6H2.5 |
| 7 x 7   | 140 | 3 | 3 | 10 | 3.5 | 1402-733  | 2402-733  | GP-3X12-A6H2.5 |
| 7 x 7   | 140 | 4 | 3 | 10 | 3.5 | 1402-743  | 2402-743  | GP-3X12-A6H2.5 |
| 7 x 7   | 140 | 2 | 4 | 10 | 3.5 | 1402-724  | 2402-724  | GP-4X12-A6H3.5 |
| 7 x 7   | 140 | 3 | 4 | 10 | 3.5 | 1402-734  | 2402-734  | GP-4X12-A6H3.5 |
| 7 x 7   | 140 | 4 | 4 | 10 | 3.5 | 1402-744  | 2402-744  | GP-4X12-A6H3.5 |
| 8 x 8   | 140 | 2 | 3 | 10 | 4   | 1402-823  | 2402-823  | GP-3X12-A6H2.5 |
| 8 x 8   | 140 | 3 | 3 | 10 | 4   | 1402-833  | 2402-833  | GP-3X12-A6H2.5 |
| 8 x 8   | 140 | 4 | 3 | 10 | 4   | 1402-843  | 2402-843  | GP-3X12-A6H2.5 |
| 8 x 8   | 140 | 2 | 4 | 10 | 4   | 1402-824  | 2402-824  | GP-4X12-A6H3.5 |
| 8 x 8   | 140 | 3 | 4 | 10 | 4   | 1402-834  | 2402-834  | GP-4X12-A6H3.5 |
| 8 x 8   | 140 | 4 | 4 | 10 | 4   | 1402-844  | 2402-844  | GP-4X12-A6H3.5 |
| 10 x 10 | 150 | 3 | 3 | 10 | 5   | 1402-1033 | 2402-1033 | GP-3X14-A8H2.5 |
| 10 x 10 | 150 | 4 | 3 | 10 | 5   | 1402-1043 | 2402-1043 | GP-3X14-A8H2.5 |
| 10 x 10 | 150 | 3 | 4 | 10 | 5   | 1402-1034 | 2402-1034 | GP-4X14-A8H3.5 |
| 10 x 10 | 150 | 4 | 4 | 10 | 5   | 1402-1044 | 2402-1044 | GP-4X14-A8H3.5 |
| 10 x 10 | 150 | 5 | 4 | 10 | 5   | 1402-1054 | -         | GP-4X14-A8H3.5 |
| 12 x 12 | 150 | 4 | 4 | 12 | 6   | 1402-1244 | 2402-1244 | GP-4X14-A8H3.5 |
| 12 x 12 | 150 | 5 | 4 | 12 | 6   | 1402-1254 | 2402-1254 | GP-4X14-A8H3.5 |
| 12 x 12 | 150 | 4 | 5 | 12 | 6   | 1402-1245 | 2402-1245 | GP-5X14-A8H4.5 |
| 12 x 12 | 150 | 5 | 5 | 12 | 6   | 1402-1255 | 2402-1255 | GP-5X14-A8H4.5 |
| 16 x 16 | 150 | 4 | 4 | 12 | 8   | 1402-1644 | 2402-1644 | GP-4X16-A8H3.5 |
| 16 x 16 | 150 | 4 | 5 | 12 | 8   | -         | 2402-1645 | GP-5X16-A9H4.5 |
| 16 x 16 | 150 | 5 | 5 | 12 | 8   | -         | 2402-1655 | GP-5X16-A9H4.5 |
| 16 x 16 | 150 | 6 | 4 | 12 | 8   | -         | 2402-1664 | GP-4X16-A8H3.5 |
| 16 x 16 | 150 | 6 | 6 | 12 | 8   | -         | 2402-1666 | GP-6X16-A9H5.5 |
| 16 x 16 | 150 | 8 | 6 | 12 | 8   | -         | 2402-1686 | GP-6X16-A9H5.5 |

\* livré avec chaque porte-outil / mit jedem Halter geliefert / delivered with each holder

**Molettes en métal dur****Vollhartmetall Rändelrädchen****Solid carbide knurling wheels****1107****AA****BL****BR****GE**

| Molettes standards<br>Standard Rändelrädchen<br>Standard knurls                              | D  | E | d | Pas (tous les 0.1 mm)<br>Teilung (alle 0.1 mm)<br>Pitch (every 0.1 mm) |
|----------------------------------------------------------------------------------------------|----|---|---|------------------------------------------------------------------------|
| AA [0°]<br><br>BL 15° / BR 15°<br>BL 30° / BR 30°<br>BL 45° / BR 45°<br><br>GE 30°<br>GE 45° | 8  | 2 | 3 | 0.2 - 0.6                                                              |
|                                                                                              | 8  | 2 | 4 | 0.2 - 0.6                                                              |
|                                                                                              | 8  | 3 | 3 | 0.2 - 0.6                                                              |
|                                                                                              | 8  | 3 | 4 | 0.2 - 0.6                                                              |
|                                                                                              | 8  | 4 | 3 | 0.2 - 0.6                                                              |
|                                                                                              | 8  | 4 | 4 | 0.2 - 0.6                                                              |
|                                                                                              | 10 | 2 | 3 | 0.2 - 0.8                                                              |
|                                                                                              | 10 | 2 | 4 | 0.2 - 0.8                                                              |
|                                                                                              | 10 | 3 | 3 | 0.2 - 0.8                                                              |
|                                                                                              | 10 | 3 | 4 | 0.2 - 0.8                                                              |
|                                                                                              | 10 | 4 | 3 | 0.2 - 0.8                                                              |
|                                                                                              | 10 | 4 | 4 | 0.2 - 0.8                                                              |
|                                                                                              | 12 | 4 | 4 | 0.3 - 1.0                                                              |
|                                                                                              | 15 | 4 | 4 | 0.4 - 1.0                                                              |
|                                                                                              | 15 | 4 | 5 | 0.4 - 1.0                                                              |
|                                                                                              | 15 | 5 | 4 | 0.4 - 1.0                                                              |
|                                                                                              | 15 | 5 | 5 | 0.4 - 1.0                                                              |
|                                                                                              | 20 | 4 | 5 | 0.5 - 1.2                                                              |
|                                                                                              | 20 | 5 | 5 | 0.5 - 1.2                                                              |
|                                                                                              | 20 | 6 | 6 | 0.5 - 1.2                                                              |
|                                                                                              | 20 | 8 | 6 | 0.5 - 1.2                                                              |

| Molettes "Quick"<br>"Quick"-Rändelrädchen<br>"Quick"-knurling wheels | D    | E   | d | Pas (tous les 0.1 mm)<br>Teilung (alle 0.1 mm)<br>Pitch (every 0.1 mm) |
|----------------------------------------------------------------------|------|-----|---|------------------------------------------------------------------------|
| AA [0°]                                                              | 8.9  | 2.5 | 4 | 0.2 - 0.8                                                              |
| BL 15° / BR 15°                                                      | 14.5 | 3   | 5 | 0.4 - 1.0                                                              |
| BL 30° / BR 30°                                                      | 21.5 | 5   | 8 | 0.5 - 1.2                                                              |

Exécutions spéciales sur demande  
Sonderausführungen auf Anfrage  
Special executions on request

APPLITEC



**Index**

Nuances  
Sorten  
Grades

> **14.02**

Micro-fraises de précision  
Mikropräzisionsfräser  
Precision micro end mills



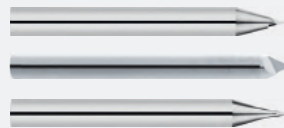
> **14.04**

Fraises en bout de finition  
Schlicht Schaftfräser  
Finishing end mills



> **14.51**

Fraises à graver  
Gravierfräser  
Engraving mills



> **14.98**

Micro-forets et centreurs  
Mikrobohrer und Zentrierbohrer  
Micro drills and centering drills



> **14.104**

Informations techniques et symboles  
Technische Informationen und Symbole  
Technical information and symbols

> **14.126**

Nuances

Sorten

Grades

**N**

Non revêtu  
Unbeschichtet  
Uncoated

- Carbures de haute qualité et spécifiques selon les groupes produits
- Tous les carbures ont une excellente dureté et résistance à la flexion exceptionnelle
- Acuité d'arête maximale grâce à une finition super polie
- Idéal pour l'usinage en super finition de matières non ferreuses ou faiblement alliées

- Hochqualität und spezifische Hartmetalle gemäß den Produktgruppen
- Alle Hartmetalle haben eine ausgezeichnete Härte und außergewöhnliche Biegefestigkeit
- Maximale Kantenschärfe durch hochpoliertes Finish
- Ideal für superfinish Bearbeitung von Nichteisen- oder niedriglegierten Materialien

- High quality and specific carbides according to the product groups in our catalog
- All carbides have excellent hardness and exceptional flexural strength
- Maximum edge sharpness thanks to a super polished tool finish
- Ideal for super-finish machining of non-ferrous or low-alloy materials

**TiAlN**

Revêtement PDV à couche mince  
Dünnschicht PVD Beschichtung  
Thin PVD coating

- Revêtement de dernière génération couche mince et lisse
- Idéal pour tous les aciers et aciers inoxydables
- Bonne condition pour les grades de titane et alliage de nickel
- Excellente variante universelle pour un fraisage en finition ou ébauche
- Très bonne résistance à la température

- Neuesten Generation Beschichtung, dünne und glatte Schicht
- Hervorragend für alle Stähle und rostfreie Stähle
- Guter Zustand für Titan- und Nickellegierungssorten
- Ausgezeichnete Universalsorte zum Schlicht- oder Schruppfräsen
- Sehr gute Temperaturbeständigkeit

- Latest generation coating thin and smooth layer
- Specially adapted for our tools Ideal for all basic steels and stainless steels
- Good condition for Titan grades and Nickel alloy
- Excellent universal variant for finishing or rough milling
- Very good temperature resistance

**new****STF**

Revêtement PDV à couche mince  
Dünnschicht PVD Beschichtung  
Thin PVD coating

- Revêtement haute performance
- Premier choix pour les alliages de chrome/nickel, inox, titane, zirkonium
- Spécialement adapté aux matières extrêmes en générale

- Hochleistungsbeschichtung
- Erste Wahl für Chrom/ Nickel, rostfreier Stahl, Titan, Zirkoniumlegierungen
- Speziell angepasst für extreme Materialien im Allgemeinen

- High performance coating
- First choice for chrome/nickel, stainless steel, titan, zirkonium alloys
- Specially adapted to extreme materials in general

Nuances

Sorten

Grades

**TiCN**

Revêtement PDV à couche mince  
Dünnschicht PVD Beschichtung  
Thin PVD coating

- Revêtement de dernière génération, excellente adhérence couche mince et lisse
- Idéal pour le fraisage en finition de tous les aciers et aciers inoxydables
- Excellente nuance pour les outils de petits diamètres (0.02-0.90 mm)

- Neuesten Generation Beschichtung, dünne und glatte Schicht
- Hervorragend für Schlichtfräsen aller Stähle und rostfreien Stähle
- Ausgezeichnete Sorte für Werkzeuge mit kleinem Durchmesser (0.02-0.90 mm)

- Latest generation coating excellent adhesion thin and smooth layer
- Specially adapted for small diameters (0.02-0.90 mm)
- Ideal for finish milling for all steels and stainless steel

**DLC**

Revêtement DLC à couche mince  
Dünnschicht DLC Beschichtung  
Thin DLC coating

- Revêtement très haute performance couche extra mince
- Très faible coefficient de frottement
- Premier choix pour toutes les matières précieuses, non ferreuse et abrasives, telles que or, argent, laiton sans plomb, cuivre, aluminium, fibre de carbone, nacre et divers polymères...
- Angles de coupe parfaitement lisses et excellente acuité d'arrêt
- Durée de vie de l'outil démultipliée

- Extra Dünnschicht Hochleistungsbeschichtung
- Sehr geringer Reibwert
- Erste Wahl für alle edlen, NE- und abrasiven Materialien wie Gold, Silber, bleifreies Messing, Kupfer, Aluminium, Kohlefaser, Perlmutter und diverse Polymere...
- Perfekt glatte Schnittwinkel und hervorragende Kantenschärfe
- Erhöhte Lebensdauer des Werkzeugs

- Very high-performance coating extra thin layer
- Very low ratio
- First choice for all precious, non-ferrous and abrasive materials, such as gold, silver, lead-free brass, copper, aluminum, carbon fiber, mother-of-pearl and various polymers...
- Perfectly smooth cutting angles and excellent edge sharpness
- Increased tool life

## Micro-fraises de précision

## Mikropräzisionsfräser

## Precision micro end mills

Index

Paramètres de coupe indicatif  
Empfohlene Schnittwerte  
Standard machining data

14.06

|  Sharp Corner<br> Radius Corner | Micro-fraises avec angles vifs<br>Mikropräzisionsfräser mit scharfkantigen Ecken<br>Micro end mills with sharp corners |             |          |              |             |             |                  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|-------------|----------|--------------|-------------|-------------|------------------|
|                                                                                                                                                                                                   | Z                                                                                                                      | $\lambda$   | L2       | D1           | D2          | Type        | page             |
|                                                                                                                   | Z=1                                                                                                                    | 0°          | 2x D1    | Ø0.20 - 3.00 | Ø3h4 / Ø4h5 | 3170-2      | 14.07            |
|                                                                                                                                                                                                   |                                                                                                                        |             | 2x D1    | Ø0.20 - 3.00 | Ø3h4 / Ø4h5 | 3170R-2     | 14.08            |
|                                                                                                                                                                                                   |                                                                                                                        |             | 3x D1    | Ø0.20 - 3.00 | Ø3h4 / Ø4h5 | 3170R-3     | 14.09            |
|                                                                                                                                                                                                   |                                                                                                                        |             | 4x D1    | Ø0.30 - 3.00 | Ø3h4 / Ø4h5 | 3170R-4     | 14.10            |
|                                                                                                                   | Z=2                                                                                                                    | 30°         | 0.75x D1 | Ø0.20 - 2.00 | Ø3h4        | 3271-0.75   | 14.11            |
|                                                                                                                                                                                                   |                                                                                                                        |             | 1x D1    | Ø0.30 - 2.50 | Ø3h4        | 3271-1      | 14.12            |
|                                                                                                                                                                                                   |                                                                                                                        |             | 1.5x D1  | Ø0.10 - 2.00 | Ø3h4        | 3271-1.5    | 14.13            |
|                                                                                                                                                                                                   |                                                                                                                        |             | 2x D1    | Ø0.10 - 2.00 | Ø3h4        | 3271-2      | 14.14            |
|                                                                                                                                                                                                   |                                                                                                                        |             | 3x D1    | Ø0.10 - 2.90 | Ø3h4        | 3271-3      | 14.15            |
|                                                                                                                                                                                                   |                                                                                                                        |             | 5x D1    | Ø0.30 - 2.50 | Ø3h4        | 3271-5      | 14.16            |
|                                                                                                                                                                                                   |                                                                                                                        |             | 8x D1    | Ø0.40 - 2.50 | Ø3h4 / Ø4h5 | 3271-8      | 14.17            |
|                                                                                                                                                                                                   |                                                                                                                        |             | 2x D1    | Ø0.20 - 3.00 | Ø3h4 / Ø6h5 | 3270S-3X    | 14.18 <b>new</b> |
|                                                                                                                                                                                                   |                                                                                                                        |             | 2x D1    | Ø0.30 - 3.00 | Ø3h4 / Ø6h5 | 3270S-6X    | 14.19 <b>new</b> |
|                                                                                                                                                                                                   |                                                                                                                        |             | 2x D1    | Ø0.40 - 3.00 | Ø3h4 / Ø6h5 | 3270S-9X    | 14.20 <b>new</b> |
|                                                                                                                                                                                                   |                                                                                                                        |             | 2x D1    | Ø0.30 - 3.00 | Ø3h4 / Ø6h5 | 3279T-3X    | 14.21 <b>new</b> |
|                                                                                                                                                                                                   |                                                                                                                        |             | 2x D1    | Ø0.30 - 3.00 | Ø3h4 / Ø6h5 | 3279T-6X    | 14.22 <b>new</b> |
|                                                                                                                                                                                                   |                                                                                                                        |             | 2x D1    | Ø0.40 - 3.00 | Ø3h4 / Ø6h5 | 3279T-9X    | 14.23 <b>new</b> |
|                                                                                                                 | Z=3                                                                                                                    | 30°         | 1.3x D1  | Ø0.30 - 2.90 | Ø3h4        | 3371-1.3    | 14.24            |
|                                                                                                                                                                                                   |                                                                                                                        |             | 2x D1    | Ø0.30 - 2.90 | Ø3h4        | 3371-2      | 14.25            |
|                                                                                                                                                                                                   |                                                                                                                        |             | 3x D1    | Ø0.30 - 2.90 | Ø3h4        | 3371-3      | 14.26            |
|                                                                                                                                                                                                   |                                                                                                                        |             | 4x D1    | Ø0.30 - 2.90 | Ø3h4        | 3371-4      | 14.27            |
|                                                                                                                                                                                                   |                                                                                                                        |             | 5x D1    | Ø0.50 - 2.50 | Ø3h4        | 3371-5      | 14.28            |
|                                                                                                                                                                                                   |                                                                                                                        |             | 8x D1    | Ø0.50 - 2.50 | Ø3h4 / Ø4h5 | 3371-8      | 14.29            |
|                                                                                                                                                                                                   |                                                                                                                        | 45°         | 2.5x D1  | Ø0.30 - 2.90 | Ø3h4        | 3375-2.5    | 14.30            |
|                                                                                                                                                                                                   |                                                                                                                        | 36°-38°-40° | 1.5x D1  | Ø0.30 - 2.50 | Ø3h4        | DHD3371-1.5 | 14.31            |
|                                                                                                                                                                                                   |                                                                                                                        |             | 3x D1    | Ø0.30 - 2.50 | Ø3h4        | DHD3371-3   | 14.32            |
|                                                                                                                                                                                                   |                                                                                                                        | 30°         | 2x D1    | Ø0.30 - 3.00 | Ø3h4 / Ø6h5 | 3370S-3X    | 14.33 <b>new</b> |
|                                                                                                                                                                                                   |                                                                                                                        |             | 2x D1    | Ø0.30 - 3.00 | Ø3h4 / Ø6h5 | 3370S-6X    | 14.34 <b>new</b> |
|                                                                                                                                                                                                   |                                                                                                                        |             | 2x D1    | Ø0.40 - 3.00 | Ø3h4 / Ø6h5 | 3370S-9X    | 14.35 <b>new</b> |
|                                                                                                                                                                                                   |                                                                                                                        |             | 2x D1    | Ø0.30 - 3.00 | Ø3h4 / Ø6h5 | 3379T-3X    | 14.36 <b>new</b> |
|                                                                                                                                                                                                   |                                                                                                                        |             | 2x D1    | Ø0.30 - 3.00 | Ø3h4 / Ø6h5 | 3379T-6X    | 14.37 <b>new</b> |
|                                                                                                                                                                                                   |                                                                                                                        |             | 2x D1    | Ø0.40 - 3.00 | Ø3h4 / Ø6h5 | 3379T-9X    | 14.38 <b>new</b> |
|                                                                                                                 | Z=4                                                                                                                    | 30°         | 1.5x D1  | Ø0.30 - 2.90 | Ø3h4        | 3471-1.5    | 14.39            |
|                                                                                                                                                                                                   |                                                                                                                        | 35°-38°     | 3x D1    | Ø0.30 - 2.90 | Ø3h4        | 3471-3      | 14.40            |
|                                                                                                                                                                                                   |                                                                                                                        |             | 3x D1    | Ø0.50 - 2.50 | Ø3h4        | DHP3471-3   | 14.41            |
|                                                                                                                                                                                                   |                                                                                                                        |             | 2x D1    | Ø0.30 - 2.90 | Ø3h4        | 3472-2      | 14.42            |
|                                                                                                                                                                                                   |                                                                                                                        | 40°         | 4x D1    | Ø0.40 - 2.90 | Ø3h4        | 3472-4      | 14.43            |

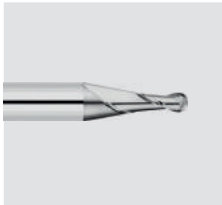


Micro-fraises de précision

Mikropräzisionsfräser

Precision micro end mills

Index

| U                                                                                 | Micro-fraises hémisphériques<br>Vollradius Mikropräzisionsfräser<br>Ball nose micro end mills |           |          |              |             |           |                  |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|-----------|----------|--------------|-------------|-----------|------------------|
|                                                                                   | Z                                                                                             | $\lambda$ | L2       | Range        | D2          | Type      | page             |
|  | Z = 2                                                                                         | 30°       | 0.75x D1 | Ø0.20 - 2.50 | Ø3h4        | 3278-0.75 | 14.44            |
|                                                                                   |                                                                                               |           | 1x D1    | Ø0.20 - 2.90 | Ø3h4        | 3278-1    | 14.45            |
|                                                                                   |                                                                                               |           | 1.5x D1  | Ø0.20 - 2.90 | Ø3h4        | 3278-1.5  | 14.46            |
|                                                                                   |                                                                                               |           | 3x D1    | Ø0.20 - 2.90 | Ø3h4        | 3278-3    | 14.47            |
|                                                                                   |                                                                                               |           | 1.5x D1  | Ø0.20 - 3.00 | Ø3h4 / Ø6h5 | 3278H-3X  | 14.48 <b>new</b> |
|                                                                                   |                                                                                               |           | 1.5x D1  | Ø0.30 - 3.00 | Ø3h4 / Ø6h5 | 3278H-6X  | 14.49 <b>new</b> |
|                                                                                   |                                                                                               |           | 1.5x D1  | Ø0.40 - 3.00 | Ø3h4 / Ø6h5 | 3278H-9X  | 14.50 <b>new</b> |

## Micro-fraises de précision

## Mikropräzisionsfräser

## Precision micro end mills

## Paramètres de coupe indicatifs

## Empfohlene Schnittwerte

## Standard machining data

| Matière<br>Werkstoff<br>Material                                           |                           | VC        | 0.10 - 0.50   | 0.60 - 1.50   | 1.60 - 2.90   | Z   | TiAlN | STF | TiCN | DLC |
|----------------------------------------------------------------------------|---------------------------|-----------|---------------|---------------|---------------|-----|-------|-----|------|-----|
|                                                                            |                           | (m/min)   | fz (mm)       | fz (mm)       | fz (mm)       |     |       |     |      |     |
| Acier de décolletage<br>Automatenstahl<br>Free-cutting steel               | P                         | 80 - 130  | 0.003 - 0.005 | 0.006 - 0.010 | 0.013 - 0.020 | -   | ***   | *** | **   | -   |
| Acier<br>Stahl<br>Steel                                                    | < 600 N/mm <sup>2</sup> P | 70 - 100  | 0.003 - 0.005 | 0.006 - 0.010 | 0.013 - 0.020 | -   | ***   | *** | **   | -   |
| Acier<br>Stahl<br>Steel                                                    | < 800 N/mm <sup>2</sup> P | 70 - 100  | 0.003 - 0.005 | 0.006 - 0.010 | 0.013 - 0.020 | -   | ***   | *** | **   | -   |
| Acier<br>Stahl<br>Steel                                                    | > 800 N/mm <sup>2</sup> P | 50 - 80   | 0.003 - 0.005 | 0.006 - 0.010 | 0.013 - 0.020 | -   | ***   | *** | **   | -   |
| Acier trempé<br>Gehärteter Stahl<br>Hardened steel                         | -55HRC H                  | 60 - 90   | 0.001 - 0.002 | 0.003 - 0.005 | 0.007 - 0.010 | -   | ***   | *** | *    | -   |
| Acier trempé<br>Gehärteter Stahl<br>Hardened steel                         | +55HRC H                  | 40 - 70   | 0.001 - 0.002 | 0.003 - 0.005 | 0.007 - 0.010 | -   | ***   | *** | *    | -   |
| Inox<br>Rostfreistahl<br>Stainless steel                                   | M                         | 40 - 80   | 0.003 - 0.005 | 0.006 - 0.010 | 0.013 - 0.020 | -   | ***   | *** | **   | -   |
| Aluminium                                                                  | N                         | 200 - 300 | 0.002 - 0.005 | 0.005 - 0.010 | 0.010 - 0.030 | *** | -     | -   | **   | *** |
| Cuivre, laiton, bronze<br>Kupfer, Messing, Bronze<br>Copper, brass, bronze | N                         | 100 - 200 | 0.001 - 0.005 | 0.006 - 0.010 | 0.010 - 0.015 | *** | **    | **  | **   | *** |
| Matière synthétique<br>Synthetisches Material<br>Synthetic material        | N                         | 200 - 700 | 0.002 - 0.004 | 0.006 - 0.015 | 0.015 - 0.050 | *** | **    | **  | **   | *** |
| Métaux précieux<br>Edelmetalle<br>Precious metals                          | N                         | 90 - 140  | 0.002 - 0.003 | 0.004 - 0.012 | 0.012 - 0.025 | *** | **    | **  | *    | *** |
| Titane<br>Titan<br>Titanium                                                | S                         | 25 - 70   | 0.001 - 0.003 | 0.004 - 0.010 | 0.006 - 0.015 | -   | ***   | *** | **   | -   |
| Alliage de nickel<br>Nickel-Legierung<br>Nickel alloy                      | S                         | 40 - 70   | 0.001 - 0.003 | 0.004 - 0.008 | 0.008 - 0.012 | -   | ***   | *** | **   | -   |
| Matière exotique<br>Exotisches material<br>Exotic material                 | O                         | 15 - 25   | 0.001 - 0.002 | 0.003 - 0.005 | 0.006 - 0.010 | -   | ***   | *** | **   | *** |

Avec revêtement, augmenter les valeurs de 20-30%

Mit Beschichtung, Daten um 20-30% erhöhen

With coating, increase data by 20-30%

\* Bien / Gut / Good

\*\* Très bien / Sehr Gut / Very good

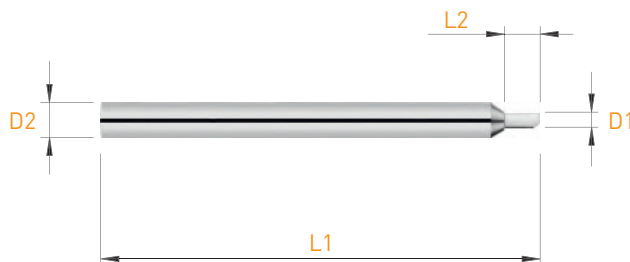
\*\*\* Excellent / Ausgezeichnet / Excellent

Micro-fraises de précision

Mikropräzisionsfräser

Precision micro end mills

3170-2



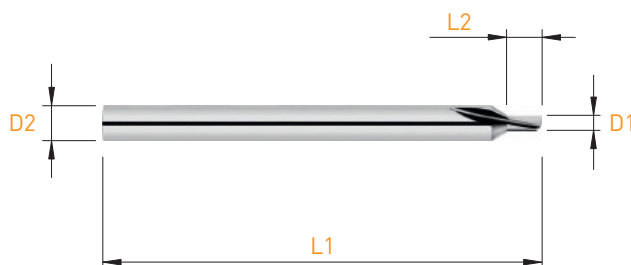
| D1<br>+0.005 / -0.010 | L2   | D2<br>h4 Ø3.0<br>h5 Ø4.0 | L1 | Art. N°     | Z | TiAlN | STF | TiCN | DLC |
|-----------------------|------|--------------------------|----|-------------|---|-------|-----|------|-----|
| 0.20                  | 0.40 | 3.00                     | 39 | 3170-2-0.20 | ■ |       |     |      |     |
| 0.30                  | 0.60 | 3.00                     | 39 | 3170-2-0.30 | ■ | ■     | ■   | ■    | ■   |
| 0.40                  | 0.80 | 3.00                     | 39 | 3170-2-0.40 | ■ | ■     | ■   | ■    | ■   |
| 0.50                  | 1.00 | 3.00                     | 39 | 3170-2-0.50 | ■ | ■     | ■   | ■    | ■   |
| 0.60                  | 1.20 | 3.00                     | 39 | 3170-2-0.60 | ■ | ■     | ■   | ■    | ■   |
| 0.70                  | 1.40 | 3.00                     | 39 | 3170-2-0.70 | ■ | ■     | ■   | ■    | ■   |
| 0.80                  | 1.60 | 3.00                     | 39 | 3170-2-0.80 | ■ | ■     | ■   | ■    | ■   |
| 0.90                  | 1.80 | 3.00                     | 39 | 3170-2-0.90 | ■ | ■     | ■   | ■    | ■   |
| 1.00                  | 2.00 | 3.00                     | 39 | 3170-2-1.00 | ■ | ■     | ■   | ■    | ■   |
| 1.10                  | 2.20 | 3.00                     | 39 | 3170-2-1.10 | ■ | ■     | ■   | ■    | ■   |
| 1.20                  | 2.40 | 3.00                     | 39 | 3170-2-1.20 | ■ | ■     | ■   | ■    | ■   |
| 1.30                  | 2.60 | 3.00                     | 39 | 3170-2-1.30 | ■ | ■     | ■   | ■    | ■   |
| 1.40                  | 2.80 | 3.00                     | 39 | 3170-2-1.40 | ■ | ■     | ■   | ■    | ■   |
| 1.50                  | 3.00 | 3.00                     | 39 | 3170-2-1.50 | ■ | ■     | ■   | ■    | ■   |
| 1.60                  | 3.20 | 3.00                     | 39 | 3170-2-1.60 | ■ | ■     | ■   | ■    | ■   |
| 1.70                  | 3.40 | 3.00                     | 39 | 3170-2-1.70 | ■ | ■     | ■   | ■    | ■   |
| 1.80                  | 3.60 | 3.00                     | 39 | 3170-2-1.80 | ■ | ■     | ■   | ■    | ■   |
| 1.90                  | 3.80 | 3.00                     | 39 | 3170-2-1.90 | ■ | ■     | ■   | ■    | ■   |
| 2.00                  | 4.00 | 3.00                     | 39 | 3170-2-2.00 | ■ | ■     | ■   | ■    | ■   |
| 2.10                  | 4.20 | 3.00                     | 39 | 3170-2-2.10 | ■ | ■     | ■   | ■    | ■   |
| 2.20                  | 4.40 | 3.00                     | 39 | 3170-2-2.20 | ■ | ■     | ■   | ■    | ■   |
| 2.30                  | 4.60 | 3.00                     | 39 | 3170-2-2.30 | ■ | ■     | ■   | ■    | ■   |
| 2.40                  | 4.80 | 3.00                     | 39 | 3170-2-2.40 | ■ | ■     | ■   | ■    | ■   |
| 2.50                  | 5.00 | 3.00                     | 39 | 3170-2-2.50 | ■ | ■     | ■   | ■    | ■   |
| 2.60                  | 5.20 | 3.00                     | 39 | 3170-2-2.60 | ■ | ■     | ■   | ■    | ■   |
| 2.70                  | 5.40 | 3.00                     | 39 | 3170-2-2.70 | ■ | ■     | ■   | ■    | ■   |
| 2.80                  | 5.60 | 3.00                     | 39 | 3170-2-2.80 | ■ | ■     | ■   | ■    | ■   |
| 2.90                  | 5.80 | 3.00                     | 39 | 3170-2-2.90 | ■ | ■     | ■   | ■    | ■   |
| 3.00                  | 6.00 | 4.00                     | 40 | 3170-2-3.00 | ■ | ■     | ■   | ■    | ■   |

Micro-fraises de précision

Mikropräzisionsfräser

Precision micro end mills

3170R-2



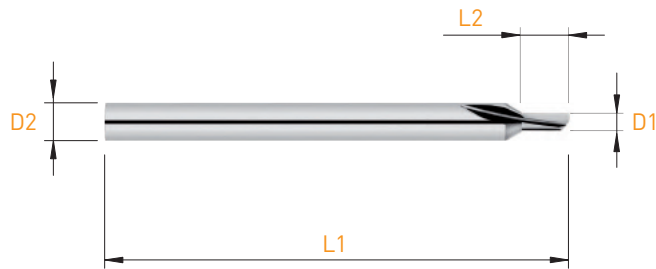
| D1<br>+0.005 / -0.010 | L2   | D2<br>h4 Ø3.0<br>h5 Ø4.0 | L1 | Art. N°      | Z | TiAlN | STF | TiCN | DLC |
|-----------------------|------|--------------------------|----|--------------|---|-------|-----|------|-----|
| 0.20                  | 0.40 | 3.00                     | 39 | 3170R-2-0.20 | ■ |       |     |      |     |
| 0.30                  | 0.60 | 3.00                     | 39 | 3170R-2-0.30 | ■ | ■     | ■   | ■    | ■   |
| 0.40                  | 0.80 | 3.00                     | 39 | 3170R-2-0.40 | ■ | ■     | ■   | ■    | ■   |
| 0.50                  | 1.00 | 3.00                     | 39 | 3170R-2-0.50 | ■ | ■     | ■   | ■    | ■   |
| 0.60                  | 1.20 | 3.00                     | 39 | 3170R-2-0.60 | ■ | ■     | ■   | ■    | ■   |
| 0.70                  | 1.40 | 3.00                     | 39 | 3170R-2-0.70 | ■ | ■     | ■   | ■    | ■   |
| 0.80                  | 1.60 | 3.00                     | 39 | 3170R-2-0.80 | ■ | ■     | ■   | ■    | ■   |
| 0.90                  | 1.80 | 3.00                     | 39 | 3170R-2-0.90 | ■ | ■     | ■   | ■    | ■   |
| 1.00                  | 2.00 | 3.00                     | 39 | 3170R-2-1.00 | ■ | ■     | ■   | ■    | ■   |
| 1.10                  | 2.20 | 3.00                     | 39 | 3170R-2-1.10 | ■ | ■     | ■   | ■    | ■   |
| 1.20                  | 2.40 | 3.00                     | 39 | 3170R-2-1.20 | ■ | ■     | ■   | ■    | ■   |
| 1.30                  | 2.60 | 3.00                     | 39 | 3170R-2-1.30 | ■ | ■     | ■   | ■    | ■   |
| 1.40                  | 2.80 | 3.00                     | 39 | 3170R-2-1.40 | ■ | ■     | ■   | ■    | ■   |
| 1.50                  | 3.00 | 3.00                     | 39 | 3170R-2-1.50 | ■ | ■     | ■   | ■    | ■   |
| 1.60                  | 3.20 | 3.00                     | 39 | 3170R-2-1.60 | ■ | ■     | ■   | ■    | ■   |
| 1.70                  | 3.40 | 3.00                     | 39 | 3170R-2-1.70 | ■ | ■     | ■   | ■    | ■   |
| 1.80                  | 3.60 | 3.00                     | 39 | 3170R-2-1.80 | ■ | ■     | ■   | ■    | ■   |
| 1.90                  | 3.80 | 3.00                     | 39 | 3170R-2-1.90 | ■ | ■     | ■   | ■    | ■   |
| 2.00                  | 4.00 | 3.00                     | 39 | 3170R-2-2.00 | ■ | ■     | ■   | ■    | ■   |
| 2.10                  | 4.10 | 3.00                     | 39 | 3170R-2-2.10 | ■ | ■     | ■   | ■    | ■   |
| 2.20                  | 4.40 | 3.00                     | 39 | 3170R-2-2.20 | ■ | ■     | ■   | ■    | ■   |
| 2.30                  | 4.60 | 3.00                     | 39 | 3170R-2-2.30 | ■ | ■     | ■   | ■    | ■   |
| 2.40                  | 4.80 | 3.00                     | 39 | 3170R-2-2.40 | ■ | ■     | ■   | ■    | ■   |
| 2.50                  | 5.00 | 3.00                     | 39 | 3170R-2-2.50 | ■ | ■     | ■   | ■    | ■   |
| 2.60                  | 5.20 | 3.00                     | 39 | 3170R-2-2.60 | ■ | ■     | ■   | ■    | ■   |
| 2.70                  | 5.40 | 3.00                     | 39 | 3170R-2-2.70 | ■ | ■     | ■   | ■    | ■   |
| 2.80                  | 5.60 | 3.00                     | 39 | 3170R-2-2.80 | ■ | ■     | ■   | ■    | ■   |
| 2.90                  | 5.80 | 3.00                     | 39 | 3170R-2-2.90 | ■ | ■     | ■   | ■    | ■   |
| 3.00                  | 6.00 | 4.00                     | 40 | 3170R-2-3.00 | ■ | ■     | ■   | ■    | ■   |

Micro-fraises de précision

Mikropräzisionsfräser

Precision micro end mills

3170R-3



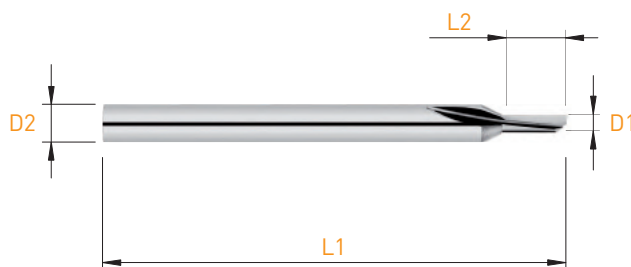
| D1<br>+0.005 / -0.010 | L2   | D2<br>h4 Ø3.0<br>h5 Ø4.0 | L1 | Art. N°      | Z | TiAlN | STF | TiCN | DLC |
|-----------------------|------|--------------------------|----|--------------|---|-------|-----|------|-----|
| 0.20                  | 0.60 | 3.00                     | 39 | 3170R-3-0.20 | ■ |       |     |      |     |
| 0.30                  | 0.90 | 3.00                     | 39 | 3170R-3-0.30 | ■ | ■     | ■   | ■    | ■   |
| 0.40                  | 1.20 | 3.00                     | 39 | 3170R-3-0.40 | ■ | ■     | ■   | ■    | ■   |
| 0.50                  | 1.50 | 3.00                     | 39 | 3170R-3-0.50 | ■ | ■     | ■   | ■    | ■   |
| 0.60                  | 1.80 | 3.00                     | 39 | 3170R-3-0.60 | ■ | ■     | ■   | ■    | ■   |
| 0.70                  | 2.10 | 3.00                     | 39 | 3170R-3-0.70 | ■ | ■     | ■   | ■    | ■   |
| 0.80                  | 2.40 | 3.00                     | 39 | 3170R-3-0.80 | ■ | ■     | ■   | ■    | ■   |
| 0.90                  | 2.70 | 3.00                     | 39 | 3170R-3-0.90 | ■ | ■     | ■   | ■    | ■   |
| 1.00                  | 3.00 | 3.00                     | 39 | 3170R-3-1.00 | ■ | ■     | ■   | ■    | ■   |
| 1.10                  | 3.30 | 3.00                     | 39 | 3170R-3-1.10 | ■ | ■     | ■   | ■    | ■   |
| 1.20                  | 3.60 | 3.00                     | 39 | 3170R-3-1.20 | ■ | ■     | ■   | ■    | ■   |
| 1.30                  | 3.90 | 3.00                     | 39 | 3170R-3-1.30 | ■ | ■     | ■   | ■    | ■   |
| 1.40                  | 4.20 | 3.00                     | 39 | 3170R-3-1.40 | ■ | ■     | ■   | ■    | ■   |
| 1.50                  | 4.50 | 3.00                     | 39 | 3170R-3-1.50 | ■ | ■     | ■   | ■    | ■   |
| 2.00                  | 6.00 | 3.00                     | 39 | 3170R-3-2.00 | ■ | ■     | ■   | ■    | ■   |
| 2.50                  | 7.50 | 3.00                     | 39 | 3170R-3-2.50 | ■ | ■     | ■   | ■    | ■   |
| 3.00                  | 9.00 | 4.00                     | 40 | 3170R-3-3.00 | ■ | ■     | ■   | ■    | ■   |

Micro-fraises de précision

Mikropräzisionsfräser

Precision micro end mills

3170R-4



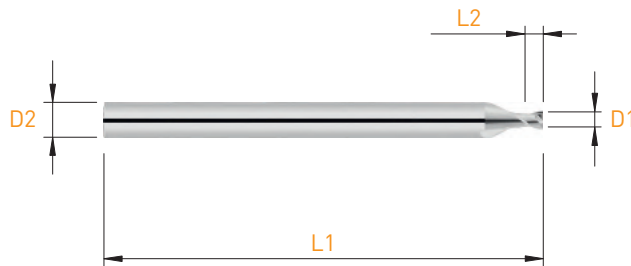
| D1<br>+0.005 / -0.010 | L2    | D2<br>h4 Ø3.0<br>h5 Ø4.0 | L1 | Art. N°      | Z | TiAlN | STF | TiCN | DLC |
|-----------------------|-------|--------------------------|----|--------------|---|-------|-----|------|-----|
| 0.30                  | 1.20  | 3.00                     | 39 | 3170R-4-0.30 | ■ | ■     | ■   | ■    | ■   |
| 0.40                  | 1.60  | 3.00                     | 39 | 3170R-4-0.40 | ■ | ■     | ■   | ■    | ■   |
| 0.50                  | 2.00  | 3.00                     | 39 | 3170R-4-0.50 | ■ | ■     | ■   | ■    | ■   |
| 0.60                  | 2.40  | 3.00                     | 39 | 3170R-4-0.60 | ■ | ■     | ■   | ■    | ■   |
| 0.70                  | 2.80  | 3.00                     | 39 | 3170R-4-0.70 | ■ | ■     | ■   | ■    | ■   |
| 0.80                  | 3.20  | 3.00                     | 39 | 3170R-4-0.80 | ■ | ■     | ■   | ■    | ■   |
| 0.90                  | 3.60  | 3.00                     | 39 | 3170R-4-0.90 | ■ | ■     | ■   | ■    | ■   |
| 1.00                  | 4.00  | 3.00                     | 39 | 3170R-4-1.00 | ■ | ■     | ■   | ■    | ■   |
| 1.10                  | 4.40  | 3.00                     | 39 | 3170R-4-1.10 | ■ | ■     | ■   | ■    | ■   |
| 1.20                  | 4.80  | 3.00                     | 39 | 3170R-4-1.20 | ■ | ■     | ■   | ■    | ■   |
| 1.30                  | 5.20  | 3.00                     | 39 | 3170R-4-1.30 | ■ | ■     | ■   | ■    | ■   |
| 1.40                  | 5.60  | 3.00                     | 39 | 3170R-4-1.40 | ■ | ■     | ■   | ■    | ■   |
| 1.50                  | 6.00  | 3.00                     | 39 | 3170R-4-1.50 | ■ | ■     | ■   | ■    | ■   |
| 2.00                  | 8.00  | 3.00                     | 39 | 3170R-4-2.00 | ■ | ■     | ■   | ■    | ■   |
| 2.50                  | 10.00 | 3.00                     | 39 | 3170R-4-2.50 | ■ | ■     | ■   | ■    | ■   |
| 3.00                  | 12.00 | 4.00                     | 40 | 3170R-4-3.00 | ■ | ■     | ■   | ■    | ■   |

Micro-fraises de précision

Mikropräzisionsfräser

Precision micro end mills

3271-0.75



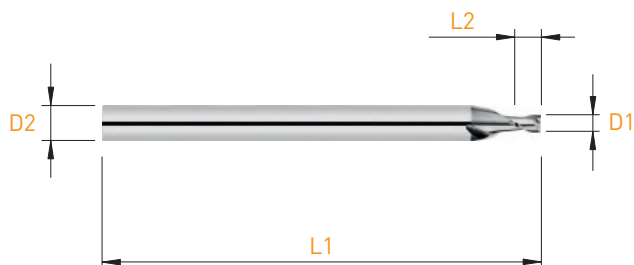
| D1<br>+0.005 / -0.010 | L2   | D2 h4 | L1 | Art. N°        | Z | TiAlN | STF | TiCN | DLC |
|-----------------------|------|-------|----|----------------|---|-------|-----|------|-----|
| 0.20                  | 0.15 | 3.00  | 39 | 3271-0.75-0.20 | ■ |       |     |      |     |
| 0.30                  | 0.25 | 3.00  | 39 | 3271-0.75-0.30 | ■ | ■     | ■   | ■    | ■   |
| 0.40                  | 0.30 | 3.00  | 39 | 3271-0.75-0.40 | ■ | ■     | ■   | ■    | ■   |
| 0.50                  | 0.37 | 3.00  | 39 | 3271-0.75-0.50 | ■ | ■     | ■   | ■    | ■   |
| 0.60                  | 0.45 | 3.00  | 39 | 3271-0.75-0.60 | ■ | ■     | ■   | ■    | ■   |
| 0.70                  | 0.53 | 3.00  | 39 | 3271-0.75-0.70 | ■ | ■     | ■   | ■    | ■   |
| 0.80                  | 0.60 | 3.00  | 39 | 3271-0.75-0.80 | ■ | ■     | ■   | ■    | ■   |
| 0.90                  | 0.70 | 3.00  | 39 | 3271-0.75-0.90 | ■ | ■     | ■   | ■    | ■   |
| 1.00                  | 0.75 | 3.00  | 39 | 3271-0.75-1.00 | ■ | ■     | ■   | ■    | ■   |
| 1.10                  | 0.90 | 3.00  | 39 | 3271-0.75-1.10 | ■ | ■     | ■   | ■    | ■   |
| 1.20                  | 0.90 | 3.00  | 39 | 3271-0.75-1.20 | ■ | ■     | ■   | ■    | ■   |
| 1.30                  | 1.00 | 3.00  | 39 | 3271-0.75-1.30 | ■ | ■     | ■   | ■    | ■   |
| 1.40                  | 1.10 | 3.00  | 39 | 3271-0.75-1.40 | ■ | ■     | ■   | ■    | ■   |
| 1.50                  | 1.15 | 3.00  | 39 | 3271-0.75-1.50 | ■ | ■     | ■   | ■    | ■   |
| 1.60                  | 1.20 | 3.00  | 39 | 3271-0.75-1.60 | ■ | ■     | ■   | ■    | ■   |
| 1.70                  | 1.30 | 3.00  | 39 | 3271-0.75-1.70 | ■ | ■     | ■   | ■    | ■   |
| 1.80                  | 1.40 | 3.00  | 39 | 3271-0.75-1.80 | ■ | ■     | ■   | ■    | ■   |
| 1.90                  | 1.45 | 3.00  | 39 | 3271-0.75-1.90 | ■ | ■     | ■   | ■    | ■   |
| 2.00                  | 1.50 | 3.00  | 39 | 3271-0.75-2.00 | ■ | ■     | ■   | ■    | ■   |

Micro-fraises de précision

Mikropräzisionsfräser

Precision micro end mills

3271-1



| D1<br>+0.005 / -0.010 | L2   | D2 h4 | L1 | Art. N°     | Z | TiAlN | STF | TiCN | DLC |
|-----------------------|------|-------|----|-------------|---|-------|-----|------|-----|
| 0.30                  | 0.30 | 3.00  | 39 | 3271-1-0.30 | ■ | ■     | ■   | ■    | ■   |
| 0.40                  | 0.40 | 3.00  | 39 | 3271-1-0.40 | ■ | ■     | ■   | ■    | ■   |
| 0.50                  | 0.50 | 3.00  | 39 | 3271-1-0.50 | ■ | ■     | ■   | ■    | ■   |
| 0.60                  | 0.60 | 3.00  | 39 | 3271-1-0.60 | ■ | ■     | ■   | ■    | ■   |
| 0.70                  | 0.70 | 3.00  | 39 | 3271-1-0.70 | ■ | ■     | ■   | ■    | ■   |
| 0.80                  | 0.80 | 3.00  | 39 | 3271-1-0.80 | ■ | ■     | ■   | ■    | ■   |
| 0.90                  | 0.90 | 3.00  | 39 | 3271-1-0.90 | ■ | ■     | ■   | ■    | ■   |
| 1.00                  | 1.00 | 3.00  | 39 | 3271-1-1.00 | ■ | ■     | ■   | ■    | ■   |
| 1.10                  | 1.10 | 3.00  | 39 | 3271-1-1.10 | ■ | ■     | ■   | ■    | ■   |
| 1.20                  | 1.20 | 3.00  | 39 | 3271-1-1.20 | ■ | ■     | ■   | ■    | ■   |
| 1.30                  | 1.30 | 3.00  | 39 | 3271-1-1.30 | ■ | ■     | ■   | ■    | ■   |
| 1.40                  | 1.40 | 3.00  | 39 | 3271-1-1.40 | ■ | ■     | ■   | ■    | ■   |
| 1.50                  | 1.50 | 3.00  | 39 | 3271-1-1.50 | ■ | ■     | ■   | ■    | ■   |
| 1.60                  | 1.60 | 3.00  | 39 | 3271-1-1.60 | ■ | ■     | ■   | ■    | ■   |
| 1.70                  | 1.70 | 3.00  | 39 | 3271-1-1.70 | ■ | ■     | ■   | ■    | ■   |
| 1.80                  | 1.80 | 3.00  | 39 | 3271-1-1.80 | ■ | ■     | ■   | ■    | ■   |
| 1.90                  | 1.90 | 3.00  | 39 | 3271-1-1.90 | ■ | ■     | ■   | ■    | ■   |
| 2.00                  | 2.00 | 3.00  | 39 | 3271-1-2.00 | ■ | ■     | ■   | ■    | ■   |
| 2.50                  | 2.50 | 3.00  | 39 | 3271-1-2.50 | ■ | ■     | ■   | ■    | ■   |

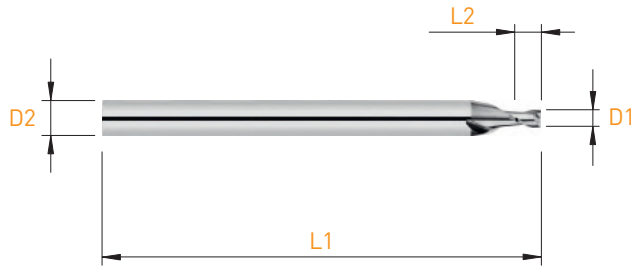


Micro-fraises de précision

Mikropräzisionsfräser

Precision micro end mills

3271-1.5



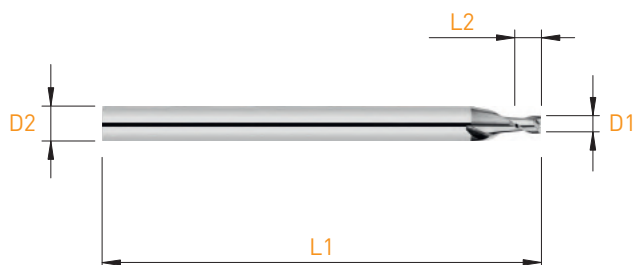
| D1<br>+0.005 / -0.010 | L2   | D2 h4 | L1 | Art. N°       | Z | TiAlN | STF | TiCN | DLC |
|-----------------------|------|-------|----|---------------|---|-------|-----|------|-----|
| 0.10                  | 0.15 | 3.00  | 39 | 3271-1.5-0.10 | ■ |       |     |      |     |
| 0.15                  | 0.20 | 3.00  | 39 | 3271-1.5-0.15 | ■ |       |     |      |     |
| 0.20                  | 0.30 | 3.00  | 39 | 3271-1.5-0.20 | ■ |       |     |      |     |
| 0.25                  | 0.35 | 3.00  | 39 | 3271-1.5-0.25 | ■ |       |     |      |     |
| 0.30                  | 0.45 | 3.00  | 39 | 3271-1.5-0.30 | ■ | ■     | ■   | ■    | ■   |
| 0.40                  | 0.60 | 3.00  | 39 | 3271-1.5-0.40 | ■ | ■     | ■   | ■    | ■   |
| 0.45                  | 0.70 | 3.00  | 39 | 3271-1.5-0.45 | ■ | ■     | ■   | ■    | ■   |
| 0.50                  | 0.75 | 3.00  | 39 | 3271-1.5-0.50 | ■ | ■     | ■   | ■    | ■   |
| 0.60                  | 0.90 | 3.00  | 39 | 3271-1.5-0.60 | ■ | ■     | ■   | ■    | ■   |
| 0.70                  | 1.05 | 3.00  | 39 | 3271-1.5-0.70 | ■ | ■     | ■   | ■    | ■   |
| 0.80                  | 1.20 | 3.00  | 39 | 3271-1.5-0.80 | ■ | ■     | ■   | ■    | ■   |
| 0.90                  | 1.35 | 3.00  | 39 | 3271-1.5-0.90 | ■ | ■     | ■   | ■    | ■   |
| 1.00                  | 1.50 | 3.00  | 39 | 3271-1.5-1.00 | ■ | ■     | ■   | ■    | ■   |
| 1.10                  | 1.65 | 3.00  | 39 | 3271-1.5-1.10 | ■ | ■     | ■   | ■    | ■   |
| 1.20                  | 1.80 | 3.00  | 39 | 3271-1.5-1.20 | ■ | ■     | ■   | ■    | ■   |
| 1.30                  | 1.95 | 3.00  | 39 | 3271-1.5-1.30 | ■ | ■     | ■   | ■    | ■   |
| 1.40                  | 2.10 | 3.00  | 39 | 3271-1.5-1.40 | ■ | ■     | ■   | ■    | ■   |
| 1.50                  | 2.25 | 3.00  | 39 | 3271-1.5-1.50 | ■ | ■     | ■   | ■    | ■   |
| 1.60                  | 2.40 | 3.00  | 39 | 3271-1.5-1.60 | ■ | ■     | ■   | ■    | ■   |
| 1.70                  | 2.55 | 3.00  | 39 | 3271-1.5-1.70 | ■ | ■     | ■   | ■    | ■   |
| 1.80                  | 2.70 | 3.00  | 39 | 3271-1.5-1.80 | ■ | ■     | ■   | ■    | ■   |
| 1.90                  | 2.85 | 3.00  | 39 | 3271-1.5-1.90 | ■ | ■     | ■   | ■    | ■   |
| 2.00                  | 3.00 | 3.00  | 39 | 3271-1.5-2.00 | ■ | ■     | ■   | ■    | ■   |

Micro-fraises de précision

Mikropräzisionsfräser

Precision micro end mills

3271-2



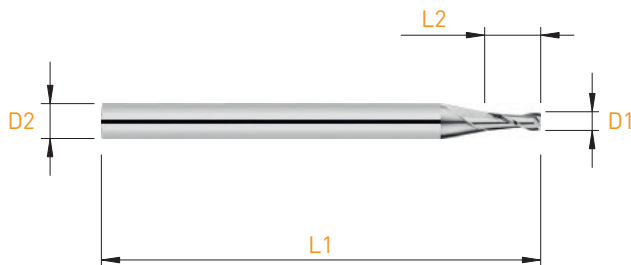
| D1<br>+0.005 / -0.010 | L2   | D2 h4 | L1 | Art. N°     | Z | TiAlN | STF | TiCN | DLC |
|-----------------------|------|-------|----|-------------|---|-------|-----|------|-----|
| 0.10                  | 0.20 | 3.00  | 39 | 3271-2-0.10 | ■ |       |     |      |     |
| 0.15                  | 0.30 | 3.00  | 39 | 3271-2-0.15 | ■ |       |     |      |     |
| 0.20                  | 0.40 | 3.00  | 39 | 3271-2-0.20 | ■ |       |     |      |     |
| 0.25                  | 0.50 | 3.00  | 39 | 3271-2-0.25 | ■ |       |     |      |     |
| 0.30                  | 0.60 | 3.00  | 39 | 3271-2-0.30 | ■ | ■     | ■   | ■    | ■   |
| 0.40                  | 0.80 | 3.00  | 39 | 3271-2-0.40 | ■ | ■     | ■   | ■    | ■   |
| 0.50                  | 1.00 | 3.00  | 39 | 3271-2-0.50 | ■ | ■     | ■   | ■    | ■   |
| 0.60                  | 1.20 | 3.00  | 39 | 3271-2-0.60 | ■ | ■     | ■   | ■    | ■   |
| 0.70                  | 1.40 | 3.00  | 39 | 3271-2-0.70 | ■ | ■     | ■   | ■    | ■   |
| 0.80                  | 1.60 | 3.00  | 39 | 3271-2-0.80 | ■ | ■     | ■   | ■    | ■   |
| 0.90                  | 1.80 | 3.00  | 39 | 3271-2-0.90 | ■ | ■     | ■   | ■    | ■   |
| 1.00                  | 2.00 | 3.00  | 39 | 3271-2-1.00 | ■ | ■     | ■   | ■    | ■   |
| 1.10                  | 2.20 | 3.00  | 39 | 3271-2-1.10 | ■ | ■     | ■   | ■    | ■   |
| 1.20                  | 2.40 | 3.00  | 39 | 3271-2-1.20 | ■ | ■     | ■   | ■    | ■   |
| 1.30                  | 2.60 | 3.00  | 39 | 3271-2-1.30 | ■ | ■     | ■   | ■    | ■   |
| 1.40                  | 2.80 | 3.00  | 39 | 3271-2-1.40 | ■ | ■     | ■   | ■    | ■   |
| 1.50                  | 3.00 | 3.00  | 39 | 3271-2-1.50 | ■ | ■     | ■   | ■    | ■   |
| 1.60                  | 3.20 | 3.00  | 39 | 3271-2-1.60 | ■ | ■     | ■   | ■    | ■   |
| 1.70                  | 3.40 | 3.00  | 39 | 3271-2-1.70 | ■ | ■     | ■   | ■    | ■   |
| 1.80                  | 3.60 | 3.00  | 39 | 3271-2-1.80 | ■ | ■     | ■   | ■    | ■   |
| 1.90                  | 3.80 | 3.00  | 39 | 3271-2-1.90 | ■ | ■     | ■   | ■    | ■   |
| 2.00                  | 4.00 | 3.00  | 39 | 3271-2-2.00 | ■ | ■     | ■   | ■    | ■   |

## Micro-fraises de précision

## Mikropräzisionsfräser

## Precision micro end mills

3271-3



| D1<br>+0.005 / -0.010 | L2   | D2 h4 | L1 | Art. N°     | Z | TiCN | STF | TiCN | DLC |
|-----------------------|------|-------|----|-------------|---|------|-----|------|-----|
| 0.10                  | 0.25 | 3.00  | 39 | 3271-3-0.10 | ■ |      |     |      |     |
| 0.15                  | 0.45 | 3.00  | 39 | 3271-3-0.15 | ■ |      |     |      |     |
| 0.20                  | 0.50 | 3.00  | 39 | 3271-3-0.20 | ■ |      |     |      |     |
| 0.25                  | 0.75 | 3.00  | 39 | 3271-3-0.25 | ■ |      |     |      |     |
| 0.30                  | 1.00 | 3.00  | 39 | 3271-3-0.30 | ■ | ■    | ■   | ■    | ■   |
| 0.35                  | 1.10 | 3.00  | 39 | 3271-3-0.35 | ■ | ■    | ■   | ■    | ■   |
| 0.40                  | 1.20 | 3.00  | 39 | 3271-3-0.40 | ■ | ■    | ■   | ■    | ■   |
| 0.50                  | 1.50 | 3.00  | 39 | 3271-3-0.50 | ■ | ■    | ■   | ■    | ■   |
| 0.60                  | 2.00 | 3.00  | 39 | 3271-3-0.60 | ■ | ■    | ■   | ■    | ■   |
| 0.65                  | 2.00 | 3.00  | 39 | 3271-3-0.65 | ■ | ■    | ■   | ■    | ■   |
| 0.70                  | 2.00 | 3.00  | 39 | 3271-3-0.70 | ■ | ■    | ■   | ■    | ■   |
| 0.75                  | 2.00 | 3.00  | 39 | 3271-3-0.75 | ■ | ■    | ■   | ■    | ■   |
| 0.80                  | 2.50 | 3.00  | 39 | 3271-3-0.80 | ■ | ■    | ■   | ■    | ■   |
| 0.90                  | 2.50 | 3.00  | 39 | 3271-3-0.90 | ■ | ■    | ■   | ■    | ■   |
| 0.95                  | 3.00 | 3.00  | 39 | 3271-3-0.95 | ■ | ■    | ■   | ■    | ■   |
| 1.00                  | 3.00 | 3.00  | 39 | 3271-3-1.00 | ■ | ■    | ■   | ■    | ■   |
| 1.05                  | 3.00 | 3.00  | 39 | 3271-3-1.05 | ■ | ■    | ■   | ■    | ■   |
| 1.10                  | 3.00 | 3.00  | 39 | 3271-3-1.10 | ■ | ■    | ■   | ■    | ■   |
| 1.15                  | 3.50 | 3.00  | 39 | 3271-3-1.15 | ■ | ■    | ■   | ■    | ■   |
| 1.20                  | 4.00 | 3.00  | 39 | 3271-3-1.20 | ■ | ■    | ■   | ■    | ■   |
| 1.30                  | 4.00 | 3.00  | 39 | 3271-3-1.30 | ■ | ■    | ■   | ■    | ■   |
| 1.35                  | 4.00 | 3.00  | 39 | 3271-3-1.35 | ■ | ■    | ■   | ■    | ■   |
| 1.40                  | 4.00 | 3.00  | 39 | 3271-3-1.40 | ■ | ■    | ■   | ■    | ■   |
| 1.45                  | 4.40 | 3.00  | 39 | 3271-3-1.45 | ■ | ■    | ■   | ■    | ■   |
| 1.50                  | 4.50 | 3.00  | 39 | 3271-3-1.50 | ■ | ■    | ■   | ■    | ■   |
| 1.55                  | 4.50 | 3.00  | 39 | 3271-3-1.55 | ■ | ■    | ■   | ■    | ■   |
| 1.60                  | 4.50 | 3.00  | 39 | 3271-3-1.60 | ■ | ■    | ■   | ■    | ■   |
| 1.65                  | 5.00 | 3.00  | 39 | 3271-3-1.65 | ■ | ■    | ■   | ■    | ■   |
| 1.70                  | 5.00 | 3.00  | 39 | 3271-3-1.70 | ■ | ■    | ■   | ■    | ■   |
| 1.75                  | 5.30 | 3.00  | 39 | 3271-3-1.75 | ■ | ■    | ■   | ■    | ■   |

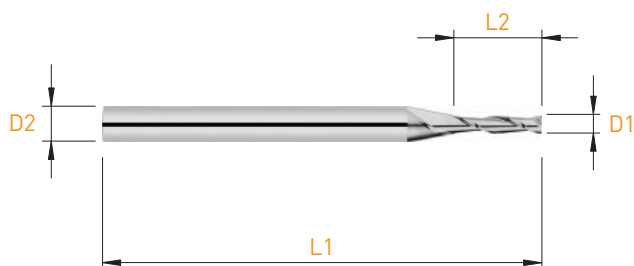
| D1<br>+0.005 / -0.010 | L2   | D2 h4 | L1 | Art. N°     | Z | TiCN | STF | TiCN | DLC |
|-----------------------|------|-------|----|-------------|---|------|-----|------|-----|
| 1.80                  | 6.00 | 3.00  | 39 | 3271-3-1.80 | ■ | ■    | ■   | ■    | ■   |
| 1.85                  | 6.00 | 3.00  | 39 | 3271-3-1.85 | ■ | ■    | ■   | ■    | ■   |
| 1.90                  | 6.00 | 3.00  | 39 | 3271-3-1.90 | ■ | ■    | ■   | ■    | ■   |
| 1.95                  | 6.00 | 3.00  | 39 | 3271-3-1.95 | ■ | ■    | ■   | ■    | ■   |
| 2.00                  | 6.00 | 3.00  | 39 | 3271-3-2.00 | ■ | ■    | ■   | ■    | ■   |
| 2.10                  | 6.00 | 3.00  | 39 | 3271-3-2.10 | ■ | ■    | ■   | ■    | ■   |
| 2.20                  | 6.50 | 3.00  | 39 | 3271-3-2.20 | ■ | ■    | ■   | ■    | ■   |
| 2.30                  | 7.00 | 3.00  | 39 | 3271-3-2.30 | ■ | ■    | ■   | ■    | ■   |
| 2.40                  | 7.00 | 3.00  | 39 | 3271-3-2.40 | ■ | ■    | ■   | ■    | ■   |
| 2.50                  | 7.50 | 3.00  | 39 | 3271-3-2.50 | ■ | ■    | ■   | ■    | ■   |
| 2.60                  | 7.50 | 3.00  | 39 | 3271-3-2.60 | ■ | ■    | ■   | ■    | ■   |
| 2.70                  | 8.00 | 3.00  | 39 | 3271-3-2.70 | ■ | ■    | ■   | ■    | ■   |
| 2.80                  | 8.00 | 3.00  | 39 | 3271-3-2.80 | ■ | ■    | ■   | ■    | ■   |
| 2.90                  | 8.00 | 3.00  | 39 | 3271-3-2.90 | ■ | ■    | ■   | ■    | ■   |

Micro-fraises de précision

Mikropräzisionsfräser

Precision micro end mills

3271-5



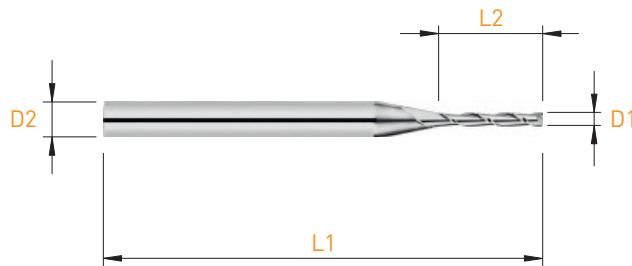
| D1<br>+0.005 / -0.010 | L2    | D2 h4 | L1 | Art. N°     | Z | TiAlN | STF | TiCN | DLC |
|-----------------------|-------|-------|----|-------------|---|-------|-----|------|-----|
| 0.30                  | 1.50  | 3.00  | 39 | 3271-5-0.30 | ■ | ■     | ■   | ■    | ■   |
| 0.35                  | 1.80  | 3.00  | 39 | 3271-5-0.35 | ■ | ■     | ■   | ■    | ■   |
| 0.40                  | 2.00  | 3.00  | 39 | 3271-5-0.40 | ■ | ■     | ■   | ■    | ■   |
| 0.50                  | 2.50  | 3.00  | 39 | 3271-5-0.50 | ■ | ■     | ■   | ■    | ■   |
| 0.55                  | 2.80  | 3.00  | 39 | 3271-5-0.55 | ■ | ■     | ■   | ■    | ■   |
| 0.60                  | 3.00  | 3.00  | 39 | 3271-5-0.60 | ■ | ■     | ■   | ■    | ■   |
| 0.65                  | 3.30  | 3.00  | 39 | 3271-5-0.65 | ■ | ■     | ■   | ■    | ■   |
| 0.70                  | 3.50  | 3.00  | 39 | 3271-5-0.70 | ■ | ■     | ■   | ■    | ■   |
| 0.75                  | 3.80  | 3.00  | 39 | 3271-5-0.75 | ■ | ■     | ■   | ■    | ■   |
| 0.80                  | 4.00  | 3.00  | 39 | 3271-5-0.80 | ■ | ■     | ■   | ■    | ■   |
| 0.85                  | 4.30  | 3.00  | 39 | 3271-5-0.85 | ■ | ■     | ■   | ■    | ■   |
| 0.90                  | 4.50  | 3.00  | 39 | 3271-5-0.90 | ■ | ■     | ■   | ■    | ■   |
| 0.95                  | 4.80  | 3.00  | 39 | 3271-5-0.95 | ■ | ■     | ■   | ■    | ■   |
| 1.00                  | 5.00  | 3.00  | 39 | 3271-5-1.00 | ■ | ■     | ■   | ■    | ■   |
| 1.10                  | 5.50  | 3.00  | 39 | 3271-5-1.10 | ■ | ■     | ■   | ■    | ■   |
| 1.20                  | 6.00  | 3.00  | 39 | 3271-5-1.20 | ■ | ■     | ■   | ■    | ■   |
| 1.50                  | 7.50  | 3.00  | 39 | 3271-5-1.50 | ■ | ■     | ■   | ■    | ■   |
| 2.00                  | 10.00 | 3.00  | 39 | 3271-5-2.00 | ■ | ■     | ■   | ■    | ■   |
| 2.50                  | 12.50 | 3.00  | 39 | 3271-5-2.50 | ■ | ■     | ■   | ■    | ■   |

Micro-fraises de précision

Mikropräzisionsfräser

Precision micro end mills

3271-8



| D1<br>+0.005 / -0.010 | L2    | D2<br>h4 Ø3.0<br>h5 Ø4.0 | L1 | Art. N°     | Z | TiAlN | STF | TiCN | DLC |
|-----------------------|-------|--------------------------|----|-------------|---|-------|-----|------|-----|
| 0.40                  | 3.20  | 3.00                     | 39 | 3271-8-0.40 | ■ | ■     | ■   | ■    | ■   |
| 0.50                  | 4.00  | 3.00                     | 39 | 3271-8-0.50 | ■ | ■     | ■   | ■    | ■   |
| 0.60                  | 5.00  | 3.00                     | 39 | 3271-8-0.60 | ■ | ■     | ■   | ■    | ■   |
| 0.70                  | 5.60  | 3.00                     | 39 | 3271-8-0.70 | ■ | ■     | ■   | ■    | ■   |
| 0.80                  | 6.00  | 3.00                     | 39 | 3271-8-0.80 | ■ | ■     | ■   | ■    | ■   |
| 0.90                  | 7.20  | 3.00                     | 39 | 3271-8-0.90 | ■ | ■     | ■   | ■    | ■   |
| 1.00                  | 8.00  | 3.00                     | 39 | 3271-8-1.00 | ■ | ■     | ■   | ■    | ■   |
| 1.20                  | 9.00  | 3.00                     | 39 | 3271-8-1.20 | ■ | ■     | ■   | ■    | ■   |
| 1.50                  | 12.00 | 4.00                     | 50 | 3271-8-1.50 | ■ | ■     | ■   | ■    | ■   |
| 2.00                  | 16.00 | 4.00                     | 50 | 3271-8-2.00 | ■ | ■     | ■   | ■    | ■   |
| 2.50                  | 20.00 | 4.00                     | 50 | 3271-8-2.50 | ■ | ■     | ■   | ■    | ■   |

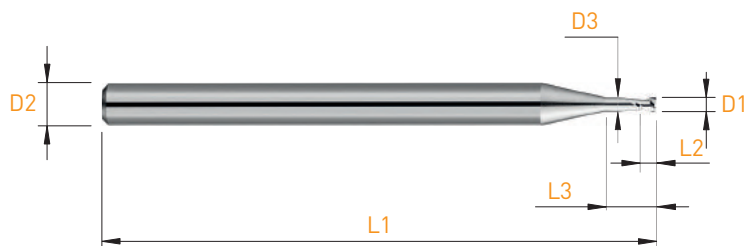
Micro-fraises de précision

Mikropräzisionsfräser

Precision micro end mills

3270S-3X

new



| D1<br>+0.005 / -0.010 | L2   | L3   | D3   | D2<br>h4 Ø3.0<br>h5 Ø6.0 | L1 | Art. N°       | Z | TiAIN | STF | TiCN | DLC |
|-----------------------|------|------|------|--------------------------|----|---------------|---|-------|-----|------|-----|
| 0.20                  | 0.40 | 0.60 | 0.17 | 3.00                     | 39 | 3270S-3X-0.20 | ■ |       |     |      |     |
| 0.30                  | 0.60 | 0.90 | 0.27 | 3.00                     | 39 | 3270S-3X-0.30 | ■ | ■     | ■   | ■    | ■   |
| 0.40                  | 0.80 | 1.20 | 0.37 | 3.00                     | 39 | 3270S-3X-0.40 | ■ | ■     | ■   | ■    | ■   |
| 0.50                  | 1.00 | 1.50 | 0.45 | 3.00                     | 39 | 3270S-3X-0.50 | ■ | ■     | ■   | ■    | ■   |
| 0.60                  | 1.20 | 1.80 | 0.55 | 3.00                     | 39 | 3270S-3X-0.60 | ■ | ■     | ■   | ■    | ■   |
| 0.70                  | 1.40 | 2.10 | 0.65 | 3.00                     | 39 | 3270S-3X-0.70 | ■ | ■     | ■   | ■    | ■   |
| 0.80                  | 1.60 | 2.40 | 0.75 | 3.00                     | 39 | 3270S-3X-0.80 | ■ | ■     | ■   | ■    | ■   |
| 0.90                  | 1.80 | 2.70 | 0.85 | 3.00                     | 39 | 3270S-3X-0.90 | ■ | ■     | ■   | ■    | ■   |
| 1.00                  | 2.00 | 3.00 | 0.95 | 3.00                     | 39 | 3270S-3X-1.00 | ■ | ■     | ■   | ■    | ■   |
| 1.10                  | 2.20 | 3.30 | 1.05 | 3.00                     | 39 | 3270S-3X-1.10 | ■ | ■     | ■   | ■    | ■   |
| 1.20                  | 2.40 | 3.60 | 1.15 | 3.00                     | 39 | 3270S-3X-1.20 | ■ | ■     | ■   | ■    | ■   |
| 1.30                  | 2.60 | 3.90 | 1.25 | 3.00                     | 39 | 3270S-3X-1.30 | ■ | ■     | ■   | ■    | ■   |
| 1.40                  | 2.80 | 4.20 | 1.35 | 3.00                     | 39 | 3270S-3X-1.40 | ■ | ■     | ■   | ■    | ■   |
| 1.50                  | 3.00 | 4.50 | 1.45 | 3.00                     | 39 | 3270S-3X-1.50 | ■ | ■     | ■   | ■    | ■   |
| 1.60                  | 3.20 | 4.80 | 1.55 | 3.00                     | 39 | 3270S-3X-1.60 | ■ | ■     | ■   | ■    | ■   |
| 1.70                  | 3.40 | 5.10 | 1.65 | 3.00                     | 39 | 3270S-3X-1.70 | ■ | ■     | ■   | ■    | ■   |
| 1.80                  | 3.60 | 5.40 | 1.75 | 3.00                     | 39 | 3270S-3X-1.80 | ■ | ■     | ■   | ■    | ■   |
| 1.90                  | 3.80 | 5.70 | 1.85 | 3.00                     | 39 | 3270S-3X-1.90 | ■ | ■     | ■   | ■    | ■   |
| 2.00                  | 4.00 | 6.00 | 1.95 | 6.00                     | 50 | 3270S-3X-2.00 | ■ | ■     | ■   | ■    | ■   |
| 2.10                  | 4.20 | 6.30 | 2.05 | 6.00                     | 50 | 3270S-3X-2.10 | ■ | ■     | ■   | ■    | ■   |
| 2.20                  | 4.40 | 6.60 | 2.15 | 6.00                     | 50 | 3270S-3X-2.20 | ■ | ■     | ■   | ■    | ■   |
| 2.30                  | 4.60 | 6.90 | 2.25 | 6.00                     | 50 | 3270S-3X-2.30 | ■ | ■     | ■   | ■    | ■   |
| 2.40                  | 4.80 | 7.20 | 2.35 | 6.00                     | 50 | 3270S-3X-2.40 | ■ | ■     | ■   | ■    | ■   |
| 2.50                  | 5.00 | 7.50 | 2.45 | 6.00                     | 50 | 3270S-3X-2.50 | ■ | ■     | ■   | ■    | ■   |
| 3.00                  | 6.00 | 9.00 | 2.95 | 6.00                     | 50 | 3270S-3X-3.00 | ■ | ■     | ■   | ■    | ■   |

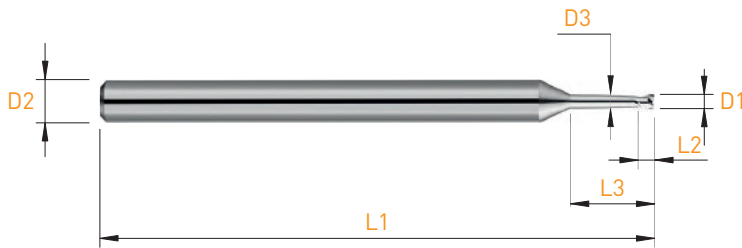
Micro-fraises de précision

Mikropräzisionsfräser

Precision micro end mills

3270S-6X

new



| D1<br>+0.005 / -0.010 | L2   | L3    | D3   | D2<br>h4 Ø3.0<br>h5 Ø6.0 | L1 | Art. N°       | Z | TiAIN | STF | TiCN | DLC |
|-----------------------|------|-------|------|--------------------------|----|---------------|---|-------|-----|------|-----|
| 0.30                  | 0.60 | 1.80  | 0.27 | 3.00                     | 39 | 3270S-6X-0.30 | ■ | ■     | ■   | ■    | ■   |
| 0.40                  | 0.80 | 2.40  | 0.37 | 3.00                     | 39 | 3270S-6X-0.40 | ■ | ■     | ■   | ■    | ■   |
| 0.50                  | 1.00 | 3.00  | 0.45 | 3.00                     | 39 | 3270S-6X-0.50 | ■ | ■     | ■   | ■    | ■   |
| 0.60                  | 1.20 | 3.60  | 0.55 | 3.00                     | 39 | 3270S-6X-0.60 | ■ | ■     | ■   | ■    | ■   |
| 0.70                  | 1.40 | 4.20  | 0.65 | 3.00                     | 39 | 3270S-6X-0.70 | ■ | ■     | ■   | ■    | ■   |
| 0.80                  | 1.60 | 4.80  | 0.75 | 3.00                     | 39 | 3270S-6X-0.80 | ■ | ■     | ■   | ■    | ■   |
| 0.90                  | 1.80 | 5.40  | 0.85 | 3.00                     | 39 | 3270S-6X-0.90 | ■ | ■     | ■   | ■    | ■   |
| 1.00                  | 2.00 | 6.00  | 0.95 | 3.00                     | 39 | 3270S-6X-1.00 | ■ | ■     | ■   | ■    | ■   |
| 1.10                  | 2.20 | 6.60  | 1.05 | 3.00                     | 39 | 3270S-6X-1.10 | ■ | ■     | ■   | ■    | ■   |
| 1.20                  | 2.40 | 7.20  | 1.15 | 3.00                     | 39 | 3270S-6X-1.20 | ■ | ■     | ■   | ■    | ■   |
| 1.30                  | 2.60 | 7.80  | 1.25 | 3.00                     | 39 | 3270S-6X-1.30 | ■ | ■     | ■   | ■    | ■   |
| 1.40                  | 2.80 | 8.40  | 1.35 | 3.00                     | 39 | 3270S-6X-1.40 | ■ | ■     | ■   | ■    | ■   |
| 1.50                  | 3.00 | 9.00  | 1.45 | 3.00                     | 39 | 3270S-6X-1.50 | ■ | ■     | ■   | ■    | ■   |
| 1.60                  | 3.20 | 9.60  | 1.55 | 3.00                     | 39 | 3270S-6X-1.60 | ■ | ■     | ■   | ■    | ■   |
| 1.70                  | 3.40 | 10.20 | 1.65 | 3.00                     | 39 | 3270S-6X-1.70 | ■ | ■     | ■   | ■    | ■   |
| 1.80                  | 3.60 | 10.80 | 1.75 | 3.00                     | 39 | 3270S-6X-1.80 | ■ | ■     | ■   | ■    | ■   |
| 1.90                  | 3.80 | 11.40 | 1.85 | 3.00                     | 39 | 3270S-6X-1.90 | ■ | ■     | ■   | ■    | ■   |
| 2.00                  | 4.00 | 12.00 | 1.95 | 6.00                     | 50 | 3270S-6X-2.00 | ■ | ■     | ■   | ■    | ■   |
| 2.10                  | 4.20 | 12.60 | 2.05 | 6.00                     | 50 | 3270S-6X-2.10 | ■ | ■     | ■   | ■    | ■   |
| 2.20                  | 4.40 | 13.20 | 2.15 | 6.00                     | 50 | 3270S-6X-2.20 | ■ | ■     | ■   | ■    | ■   |
| 2.30                  | 4.60 | 13.80 | 2.25 | 6.00                     | 50 | 3270S-6X-2.30 | ■ | ■     | ■   | ■    | ■   |
| 2.40                  | 4.80 | 14.40 | 2.35 | 6.00                     | 50 | 3270S-6X-2.40 | ■ | ■     | ■   | ■    | ■   |
| 2.50                  | 5.00 | 15.00 | 2.45 | 6.00                     | 50 | 3270S-6X-2.50 | ■ | ■     | ■   | ■    | ■   |
| 3.00                  | 6.00 | 18.00 | 2.95 | 6.00                     | 50 | 3270S-6X-3.00 | ■ | ■     | ■   | ■    | ■   |

Micro-fraises de précision

Mikropräzisionsfräser

Precision micro end mills

3270S-9X

new



| D1<br>+0.005 / -0.010 | L2   | L3    | D3   | D2<br>h4 Ø3.0<br>h5 Ø6.0 | L1 | Art. N°       | Z | TiAIN | STF | TiCN | DLC |
|-----------------------|------|-------|------|--------------------------|----|---------------|---|-------|-----|------|-----|
| 0.40                  | 0.80 | 3.60  | 0.37 | 3.00                     | 39 | 3270S-9X-0.40 | ■ | ■     | ■   | ■    | ■   |
| 0.50                  | 1.00 | 4.50  | 0.45 | 3.00                     | 39 | 3270S-9X-0.50 | ■ | ■     | ■   | ■    | ■   |
| 0.60                  | 1.20 | 5.40  | 0.55 | 3.00                     | 39 | 3270S-9X-0.60 | ■ | ■     | ■   | ■    | ■   |
| 0.70                  | 1.40 | 6.30  | 0.65 | 3.00                     | 39 | 3270S-9X-0.70 | ■ | ■     | ■   | ■    | ■   |
| 0.80                  | 1.60 | 7.20  | 0.75 | 3.00                     | 39 | 3270S-9X-0.80 | ■ | ■     | ■   | ■    | ■   |
| 0.90                  | 1.80 | 8.10  | 0.85 | 3.00                     | 39 | 3270S-9X-0.90 | ■ | ■     | ■   | ■    | ■   |
| 1.00                  | 2.00 | 9.00  | 0.95 | 3.00                     | 39 | 3270S-9X-1.00 | ■ | ■     | ■   | ■    | ■   |
| 1.10                  | 2.20 | 9.90  | 1.05 | 3.00                     | 39 | 3270S-9X-1.10 | ■ | ■     | ■   | ■    | ■   |
| 1.20                  | 2.40 | 10.80 | 1.15 | 3.00                     | 39 | 3270S-9X-1.20 | ■ | ■     | ■   | ■    | ■   |
| 1.30                  | 2.60 | 11.70 | 1.25 | 3.00                     | 39 | 3270S-9X-1.30 | ■ | ■     | ■   | ■    | ■   |
| 1.40                  | 2.80 | 12.60 | 1.35 | 3.00                     | 39 | 3270S-9X-1.40 | ■ | ■     | ■   | ■    | ■   |
| 1.50                  | 3.00 | 13.50 | 1.45 | 3.00                     | 39 | 3270S-9X-1.50 | ■ | ■     | ■   | ■    | ■   |
| 1.60                  | 3.20 | 14.40 | 1.55 | 3.00                     | 39 | 3270S-9X-1.60 | ■ | ■     | ■   | ■    | ■   |
| 1.70                  | 3.40 | 15.30 | 1.65 | 3.00                     | 39 | 3270S-9X-1.70 | ■ | ■     | ■   | ■    | ■   |
| 1.80                  | 3.60 | 16.20 | 1.75 | 3.00                     | 39 | 3270S-9X-1.80 | ■ | ■     | ■   | ■    | ■   |
| 1.90                  | 3.80 | 17.10 | 1.85 | 3.00                     | 39 | 3270S-9X-1.90 | ■ | ■     | ■   | ■    | ■   |
| 2.00                  | 4.00 | 18.00 | 1.95 | 6.00                     | 50 | 3270S-9X-2.00 | ■ | ■     | ■   | ■    | ■   |
| 2.10                  | 4.20 | 18.90 | 2.05 | 6.00                     | 50 | 3270S-9X-2.10 | ■ | ■     | ■   | ■    | ■   |
| 2.20                  | 4.40 | 19.80 | 2.15 | 6.00                     | 50 | 3270S-9X-2.20 | ■ | ■     | ■   | ■    | ■   |
| 2.30                  | 4.60 | 20.70 | 2.25 | 6.00                     | 50 | 3270S-9X-2.30 | ■ | ■     | ■   | ■    | ■   |
| 2.40                  | 4.80 | 21.60 | 2.35 | 6.00                     | 50 | 3270S-9X-2.40 | ■ | ■     | ■   | ■    | ■   |
| 2.50                  | 5.00 | 22.50 | 2.45 | 6.00                     | 50 | 3270S-9X-2.50 | ■ | ■     | ■   | ■    | ■   |
| 3.00                  | 6.00 | 27.00 | 2.95 | 6.00                     | 50 | 3270S-9X-3.00 | ■ | ■     | ■   | ■    | ■   |



Micro-fraises de précision

Mikropräzisionsfräser

Precision micro end mills

3279T-3X

new



| D1<br>+0.005 / -0.010 | R<br>+/- 0.02 | L2   | L3   | D3   | D2<br>h4 Ø3.0<br>h5 Ø6.0 | L1 | Art. N°       | Z | TiAlN | STF | TiCN | DLC |
|-----------------------|---------------|------|------|------|--------------------------|----|---------------|---|-------|-----|------|-----|
| 0.30                  | 0.05          | 0.60 | 0.90 | 0.27 | 3.00                     | 39 | 3279T-3X-0.30 | ■ | ■     | ■   | ■    | ■   |
| 0.40                  | 0.05          | 0.80 | 1.20 | 0.37 | 3.00                     | 39 | 3279T-3X-0.40 | ■ | ■     | ■   | ■    | ■   |
| 0.50                  | 0.05          | 1.00 | 1.50 | 0.45 | 3.00                     | 39 | 3279T-3X-0.50 | ■ | ■     | ■   | ■    | ■   |
| 0.60                  | 0.05          | 1.20 | 1.80 | 0.55 | 3.00                     | 39 | 3279T-3X-0.60 | ■ | ■     | ■   | ■    | ■   |
| 0.70                  | 0.05          | 1.40 | 2.10 | 0.65 | 3.00                     | 39 | 3279T-3X-0.70 | ■ | ■     | ■   | ■    | ■   |
| 0.80                  | 0.05          | 1.60 | 2.40 | 0.75 | 3.00                     | 39 | 3279T-3X-0.80 | ■ | ■     | ■   | ■    | ■   |
| 0.90                  | 0.05          | 1.80 | 2.70 | 0.85 | 3.00                     | 39 | 3279T-3X-0.90 | ■ | ■     | ■   | ■    | ■   |
| 1.00                  | 0.10          | 2.00 | 3.00 | 0.95 | 3.00                     | 39 | 3279T-3X-1.00 | ■ | ■     | ■   | ■    | ■   |
| 1.10                  | 0.10          | 2.20 | 3.30 | 1.05 | 3.00                     | 39 | 3279T-3X-1.10 | ■ | ■     | ■   | ■    | ■   |
| 1.20                  | 0.10          | 2.40 | 3.60 | 1.15 | 3.00                     | 39 | 3279T-3X-1.20 | ■ | ■     | ■   | ■    | ■   |
| 1.30                  | 0.10          | 2.60 | 3.90 | 1.25 | 3.00                     | 39 | 3279T-3X-1.30 | ■ | ■     | ■   | ■    | ■   |
| 1.40                  | 0.10          | 2.80 | 4.20 | 1.35 | 3.00                     | 39 | 3279T-3X-1.40 | ■ | ■     | ■   | ■    | ■   |
| 1.50                  | 0.20          | 3.00 | 4.50 | 1.45 | 3.00                     | 39 | 3279T-3X-1.50 | ■ | ■     | ■   | ■    | ■   |
| 1.60                  | 0.20          | 3.20 | 4.80 | 1.55 | 3.00                     | 39 | 3279T-3X-1.60 | ■ | ■     | ■   | ■    | ■   |
| 1.70                  | 0.20          | 3.40 | 5.10 | 1.65 | 3.00                     | 39 | 3279T-3X-1.70 | ■ | ■     | ■   | ■    | ■   |
| 1.80                  | 0.20          | 3.60 | 5.40 | 1.75 | 3.00                     | 39 | 3279T-3X-1.80 | ■ | ■     | ■   | ■    | ■   |
| 1.90                  | 0.20          | 3.80 | 5.70 | 1.85 | 3.00                     | 39 | 3279T-3X-1.90 | ■ | ■     | ■   | ■    | ■   |
| 2.00                  | 0.20          | 4.00 | 6.00 | 1.95 | 6.00                     | 50 | 3279T-3X-2.00 | ■ | ■     | ■   | ■    | ■   |
| 2.10                  | 0.20          | 4.20 | 6.30 | 2.05 | 6.00                     | 50 | 3279T-3X-2.10 | ■ | ■     | ■   | ■    | ■   |
| 2.20                  | 0.20          | 4.40 | 6.60 | 2.15 | 6.00                     | 50 | 3279T-3X-2.20 | ■ | ■     | ■   | ■    | ■   |
| 2.30                  | 0.20          | 4.60 | 6.90 | 2.25 | 6.00                     | 50 | 3279T-3X-2.30 | ■ | ■     | ■   | ■    | ■   |
| 2.40                  | 0.20          | 4.80 | 7.20 | 2.35 | 6.00                     | 50 | 3279T-3X-2.40 | ■ | ■     | ■   | ■    | ■   |
| 2.50                  | 0.20          | 5.00 | 7.50 | 2.45 | 6.00                     | 50 | 3279T-3X-2.50 | ■ | ■     | ■   | ■    | ■   |
| 3.00                  | 0.20          | 6.00 | 9.00 | 2.95 | 6.00                     | 50 | 3279T-3X-3.00 | ■ | ■     | ■   | ■    | ■   |

Micro-fraises de précision

Mikropräzisionsfräser

Precision micro end mills

3279T-6X

new



| D1<br>+0.005 / -0.010 | R<br>+/- 0.02 | L2   | L3    | D3   | D2<br>h4 Ø3.0<br>h5 Ø6.0 | L1 | Art. N°       | Z | TiAlN | STF | TiCN | DLC |
|-----------------------|---------------|------|-------|------|--------------------------|----|---------------|---|-------|-----|------|-----|
| 0.30                  | 0.05          | 0.60 | 1.80  | 0.27 | 3.00                     | 39 | 3279T-6X-0.30 | ■ | ■     | ■   | ■    | ■   |
| 0.40                  | 0.05          | 0.80 | 2.40  | 0.37 | 3.00                     | 39 | 3279T-6X-0.40 | ■ | ■     | ■   | ■    | ■   |
| 0.50                  | 0.05          | 1.00 | 3.00  | 0.45 | 3.00                     | 39 | 3279T-6X-0.50 | ■ | ■     | ■   | ■    | ■   |
| 0.60                  | 0.05          | 1.20 | 3.60  | 0.55 | 3.00                     | 39 | 3279T-6X-0.60 | ■ | ■     | ■   | ■    | ■   |
| 0.70                  | 0.05          | 1.40 | 4.20  | 0.65 | 3.00                     | 39 | 3279T-6X-0.70 | ■ | ■     | ■   | ■    | ■   |
| 0.80                  | 0.05          | 1.60 | 4.80  | 0.75 | 3.00                     | 39 | 3279T-6X-0.80 | ■ | ■     | ■   | ■    | ■   |
| 0.90                  | 0.05          | 1.80 | 5.40  | 0.85 | 3.00                     | 39 | 3279T-6X-0.90 | ■ | ■     | ■   | ■    | ■   |
| 1.00                  | 0.10          | 2.00 | 6.00  | 0.95 | 3.00                     | 39 | 3279T-6X-1.00 | ■ | ■     | ■   | ■    | ■   |
| 1.10                  | 0.10          | 2.20 | 6.60  | 1.05 | 3.00                     | 39 | 3279T-6X-1.10 | ■ | ■     | ■   | ■    | ■   |
| 1.20                  | 0.10          | 2.40 | 7.20  | 1.15 | 3.00                     | 39 | 3279T-6X-1.20 | ■ | ■     | ■   | ■    | ■   |
| 1.30                  | 0.10          | 2.60 | 7.80  | 1.25 | 3.00                     | 39 | 3279T-6X-1.30 | ■ | ■     | ■   | ■    | ■   |
| 1.40                  | 0.10          | 2.80 | 8.40  | 1.35 | 3.00                     | 39 | 3279T-6X-1.40 | ■ | ■     | ■   | ■    | ■   |
| 1.50                  | 0.20          | 3.00 | 9.00  | 1.45 | 3.00                     | 39 | 3279T-6X-1.50 | ■ | ■     | ■   | ■    | ■   |
| 1.60                  | 0.20          | 3.20 | 9.60  | 1.55 | 3.00                     | 39 | 3279T-6X-1.60 | ■ | ■     | ■   | ■    | ■   |
| 1.70                  | 0.20          | 3.40 | 10.20 | 1.65 | 3.00                     | 39 | 3279T-6X-1.70 | ■ | ■     | ■   | ■    | ■   |
| 1.80                  | 0.20          | 3.60 | 10.80 | 1.75 | 3.00                     | 39 | 3279T-6X-1.80 | ■ | ■     | ■   | ■    | ■   |
| 1.90                  | 0.20          | 3.80 | 11.40 | 1.85 | 3.00                     | 39 | 3279T-6X-1.90 | ■ | ■     | ■   | ■    | ■   |
| 2.00                  | 0.20          | 4.00 | 12.00 | 1.95 | 6.00                     | 50 | 3279T-6X-2.00 | ■ | ■     | ■   | ■    | ■   |
| 2.10                  | 0.20          | 4.20 | 12.60 | 2.05 | 6.00                     | 50 | 3279T-6X-2.10 | ■ | ■     | ■   | ■    | ■   |
| 2.20                  | 0.20          | 4.40 | 13.20 | 2.15 | 6.00                     | 50 | 3279T-6X-2.20 | ■ | ■     | ■   | ■    | ■   |
| 2.30                  | 0.20          | 4.60 | 13.80 | 2.25 | 6.00                     | 50 | 3279T-6X-2.30 | ■ | ■     | ■   | ■    | ■   |
| 2.40                  | 0.20          | 4.80 | 14.40 | 2.35 | 6.00                     | 50 | 3279T-6X-2.40 | ■ | ■     | ■   | ■    | ■   |
| 2.50                  | 0.20          | 5.00 | 15.00 | 2.45 | 6.00                     | 50 | 3279T-6X-2.50 | ■ | ■     | ■   | ■    | ■   |
| 3.00                  | 0.20          | 6.00 | 18.00 | 2.95 | 6.00                     | 50 | 3279T-6X-3.00 | ■ | ■     | ■   | ■    | ■   |

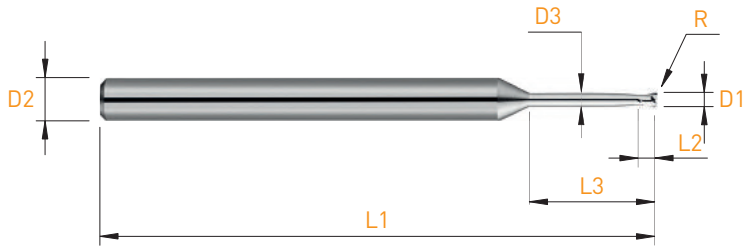
Micro-fraises de précision

Mikropräzisionsfräser

Precision micro end mills

3279T-9X

new



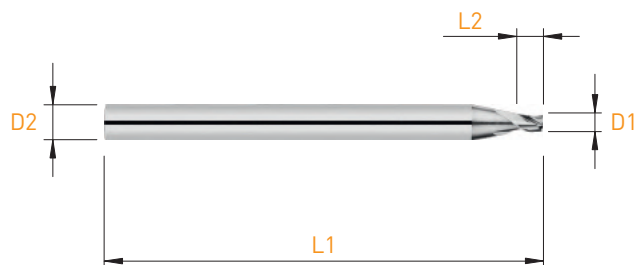
| D1<br>+0.005 / -0.010 | R<br>+/- 0.02 | L2   | L3    | D3   | D2<br>h4 Ø3.0<br>h5 Ø6.0 | L1 | Art. N°       | Z | TiAlN | STF | TiCN | DLC |
|-----------------------|---------------|------|-------|------|--------------------------|----|---------------|---|-------|-----|------|-----|
| 0.40                  | 0.05          | 0.80 | 3.60  | 0.37 | 3.00                     | 39 | 3279T-9X-0.40 | ■ | ■     | ■   | ■    | ■   |
| 0.50                  | 0.05          | 1.00 | 4.50  | 0.45 | 3.00                     | 39 | 3279T-9X-0.50 | ■ | ■     | ■   | ■    | ■   |
| 0.60                  | 0.05          | 1.20 | 5.40  | 0.55 | 3.00                     | 39 | 3279T-9X-0.60 | ■ | ■     | ■   | ■    | ■   |
| 0.70                  | 0.05          | 1.40 | 6.30  | 0.65 | 3.00                     | 39 | 3279T-9X-0.70 | ■ | ■     | ■   | ■    | ■   |
| 0.80                  | 0.05          | 1.60 | 7.20  | 0.75 | 3.00                     | 39 | 3279T-9X-0.80 | ■ | ■     | ■   | ■    | ■   |
| 0.90                  | 0.05          | 1.80 | 8.10  | 0.85 | 3.00                     | 39 | 3279T-9X-0.90 | ■ | ■     | ■   | ■    | ■   |
| 1.00                  | 0.10          | 2.00 | 9.00  | 0.95 | 3.00                     | 39 | 3279T-9X-1.00 | ■ | ■     | ■   | ■    | ■   |
| 1.10                  | 0.10          | 2.20 | 9.90  | 1.05 | 3.00                     | 39 | 3279T-9X-1.10 | ■ | ■     | ■   | ■    | ■   |
| 1.20                  | 0.10          | 2.40 | 10.80 | 1.15 | 3.00                     | 39 | 3279T-9X-1.20 | ■ | ■     | ■   | ■    | ■   |
| 1.30                  | 0.10          | 2.60 | 11.70 | 1.25 | 3.00                     | 39 | 3279T-9X-1.30 | ■ | ■     | ■   | ■    | ■   |
| 1.40                  | 0.10          | 2.80 | 12.60 | 1.35 | 3.00                     | 39 | 3279T-9X-1.40 | ■ | ■     | ■   | ■    | ■   |
| 1.50                  | 0.20          | 3.00 | 13.50 | 1.45 | 3.00                     | 39 | 3279T-9X-1.50 | ■ | ■     | ■   | ■    | ■   |
| 1.60                  | 0.20          | 3.20 | 14.40 | 1.55 | 3.00                     | 39 | 3279T-9X-1.60 | ■ | ■     | ■   | ■    | ■   |
| 1.70                  | 0.20          | 3.40 | 15.30 | 1.65 | 3.00                     | 39 | 3279T-9X-1.70 | ■ | ■     | ■   | ■    | ■   |
| 1.80                  | 0.20          | 3.60 | 16.20 | 1.75 | 3.00                     | 39 | 3279T-9X-1.80 | ■ | ■     | ■   | ■    | ■   |
| 1.90                  | 0.20          | 3.80 | 17.10 | 1.85 | 3.00                     | 39 | 3279T-9X-1.90 | ■ | ■     | ■   | ■    | ■   |
| 2.00                  | 0.20          | 4.00 | 18.00 | 1.95 | 6.00                     | 50 | 3279T-9X-2.00 | ■ | ■     | ■   | ■    | ■   |
| 2.10                  | 0.20          | 4.20 | 18.90 | 2.05 | 6.00                     | 50 | 3279T-9X-2.10 | ■ | ■     | ■   | ■    | ■   |
| 2.20                  | 0.20          | 4.40 | 19.80 | 2.15 | 6.00                     | 50 | 3279T-9X-2.20 | ■ | ■     | ■   | ■    | ■   |
| 2.30                  | 0.20          | 4.60 | 20.70 | 2.25 | 6.00                     | 50 | 3279T-9X-2.30 | ■ | ■     | ■   | ■    | ■   |
| 2.40                  | 0.20          | 4.80 | 21.60 | 2.35 | 6.00                     | 50 | 3279T-9X-2.40 | ■ | ■     | ■   | ■    | ■   |
| 2.50                  | 0.20          | 5.00 | 22.50 | 2.45 | 6.00                     | 50 | 3279T-9X-2.50 | ■ | ■     | ■   | ■    | ■   |
| 3.00                  | 0.20          | 6.00 | 27.00 | 2.95 | 6.00                     | 50 | 3279T-9X-3.00 | ■ | ■     | ■   | ■    | ■   |

Micro-fraises de précision

Mikropräzisionsfräser

Precision micro end mills

3371-1.3



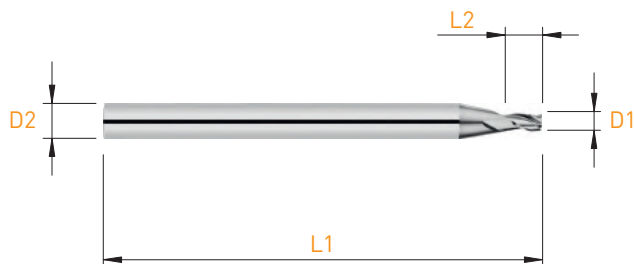
| D1<br>+0.005 / -0.010 | L2   | D2 h4 | L1 | Art. N°       | Z | TiAlN | STF | TiCN | DLC |
|-----------------------|------|-------|----|---------------|---|-------|-----|------|-----|
| 0.30                  | 0.40 | 3.00  | 39 | 3371-1.3-0.30 | ■ | ■     | ■   | ■    | ■   |
| 0.35                  | 0.50 | 3.00  | 39 | 3371-1.3-0.35 | ■ | ■     | ■   | ■    | ■   |
| 0.40                  | 0.50 | 3.00  | 39 | 3371-1.3-0.40 | ■ | ■     | ■   | ■    | ■   |
| 0.45                  | 0.60 | 3.00  | 39 | 3371-1.3-0.45 | ■ | ■     | ■   | ■    | ■   |
| 0.50                  | 0.70 | 3.00  | 39 | 3371-1.3-0.50 | ■ | ■     | ■   | ■    | ■   |
| 0.60                  | 0.80 | 3.00  | 39 | 3371-1.3-0.60 | ■ | ■     | ■   | ■    | ■   |
| 0.70                  | 0.90 | 3.00  | 39 | 3371-1.3-0.70 | ■ | ■     | ■   | ■    | ■   |
| 0.80                  | 1.00 | 3.00  | 39 | 3371-1.3-0.80 | ■ | ■     | ■   | ■    | ■   |
| 0.90                  | 1.30 | 3.00  | 39 | 3371-1.3-0.90 | ■ | ■     | ■   | ■    | ■   |
| 1.00                  | 1.30 | 3.00  | 39 | 3371-1.3-1.00 | ■ | ■     | ■   | ■    | ■   |
| 1.10                  | 1.50 | 3.00  | 39 | 3371-1.3-1.10 | ■ | ■     | ■   | ■    | ■   |
| 1.20                  | 1.60 | 3.00  | 39 | 3371-1.3-1.20 | ■ | ■     | ■   | ■    | ■   |
| 1.30                  | 1.80 | 3.00  | 39 | 3371-1.3-1.30 | ■ | ■     | ■   | ■    | ■   |
| 1.40                  | 1.80 | 3.00  | 39 | 3371-1.3-1.40 | ■ | ■     | ■   | ■    | ■   |
| 1.50                  | 2.00 | 3.00  | 39 | 3371-1.3-1.50 | ■ | ■     | ■   | ■    | ■   |
| 1.55                  | 2.00 | 3.00  | 39 | 3371-1.3-1.55 | ■ | ■     | ■   | ■    | ■   |
| 1.60                  | 2.00 | 3.00  | 39 | 3371-1.3-1.60 | ■ | ■     | ■   | ■    | ■   |
| 1.65                  | 2.00 | 3.00  | 39 | 3371-1.3-1.65 | ■ | ■     | ■   | ■    | ■   |
| 1.70                  | 2.00 | 3.00  | 39 | 3371-1.3-1.70 | ■ | ■     | ■   | ■    | ■   |
| 1.80                  | 2.40 | 3.00  | 39 | 3371-1.3-1.80 | ■ | ■     | ■   | ■    | ■   |
| 1.90                  | 2.40 | 3.00  | 39 | 3371-1.3-1.90 | ■ | ■     | ■   | ■    | ■   |
| 2.00                  | 2.60 | 3.00  | 39 | 3371-1.3-2.00 | ■ | ■     | ■   | ■    | ■   |
| 2.05                  | 2.70 | 3.00  | 39 | 3371-1.3-2.05 | ■ | ■     | ■   | ■    | ■   |
| 2.20                  | 3.00 | 3.00  | 39 | 3371-1.3-2.20 | ■ | ■     | ■   | ■    | ■   |
| 2.50                  | 3.30 | 3.00  | 39 | 3371-1.3-2.50 | ■ | ■     | ■   | ■    | ■   |
| 2.80                  | 3.50 | 3.00  | 39 | 3371-1.3-2.80 | ■ | ■     | ■   | ■    | ■   |
| 2.90                  | 3.50 | 3.00  | 39 | 3371-1.3-2.90 | ■ | ■     | ■   | ■    | ■   |

Micro-fraises de précision

Mikropräzisionsfräser

Precision micro end mills

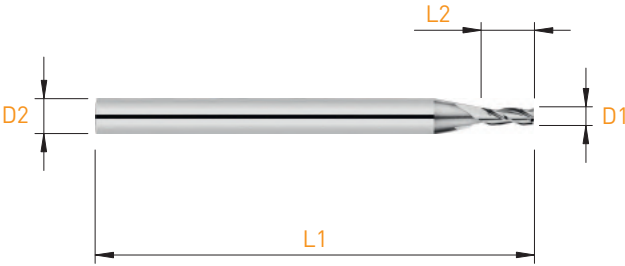
3371-2



| D1<br>+0.005 / -0.010 | L2   | D2 h4 | L1 | Art. N°     | Z | TiAlN | STF | TiCN | DLC |
|-----------------------|------|-------|----|-------------|---|-------|-----|------|-----|
| 0.30                  | 0.60 | 3.00  | 39 | 3371-2-0.30 | ■ | ■     | ■   | ■    | ■   |
| 0.35                  | 0.70 | 3.00  | 39 | 3371-2-0.35 | ■ | ■     | ■   | ■    | ■   |
| 0.40                  | 0.80 | 3.00  | 39 | 3371-2-0.40 | ■ | ■     | ■   | ■    | ■   |
| 0.45                  | 0.90 | 3.00  | 39 | 3371-2-0.45 | ■ | ■     | ■   | ■    | ■   |
| 0.50                  | 1.00 | 3.00  | 39 | 3371-2-0.50 | ■ | ■     | ■   | ■    | ■   |
| 0.60                  | 1.20 | 3.00  | 39 | 3371-2-0.60 | ■ | ■     | ■   | ■    | ■   |
| 0.70                  | 1.40 | 3.00  | 39 | 3371-2-0.70 | ■ | ■     | ■   | ■    | ■   |
| 0.75                  | 1.50 | 3.00  | 39 | 3371-2-0.75 | ■ | ■     | ■   | ■    | ■   |
| 0.80                  | 1.60 | 3.00  | 39 | 3371-2-0.80 | ■ | ■     | ■   | ■    | ■   |
| 0.90                  | 1.80 | 3.00  | 39 | 3371-2-0.90 | ■ | ■     | ■   | ■    | ■   |
| 0.95                  | 1.90 | 3.00  | 39 | 3371-2-0.95 | ■ | ■     | ■   | ■    | ■   |
| 1.00                  | 2.00 | 3.00  | 39 | 3371-2-1.00 | ■ | ■     | ■   | ■    | ■   |
| 1.10                  | 2.20 | 3.00  | 39 | 3371-2-1.10 | ■ | ■     | ■   | ■    | ■   |
| 1.20                  | 2.40 | 3.00  | 39 | 3371-2-1.20 | ■ | ■     | ■   | ■    | ■   |
| 1.30                  | 2.60 | 3.00  | 39 | 3371-2-1.30 | ■ | ■     | ■   | ■    | ■   |
| 1.40                  | 2.80 | 3.00  | 39 | 3371-2-1.40 | ■ | ■     | ■   | ■    | ■   |
| 1.50                  | 3.00 | 3.00  | 39 | 3371-2-1.50 | ■ | ■     | ■   | ■    | ■   |
| 1.60                  | 3.20 | 3.00  | 39 | 3371-2-1.60 | ■ | ■     | ■   | ■    | ■   |
| 1.70                  | 3.40 | 3.00  | 39 | 3371-2-1.70 | ■ | ■     | ■   | ■    | ■   |
| 1.80                  | 3.60 | 3.00  | 39 | 3371-2-1.80 | ■ | ■     | ■   | ■    | ■   |
| 1.90                  | 3.80 | 3.00  | 39 | 3371-2-1.90 | ■ | ■     | ■   | ■    | ■   |
| 2.00                  | 4.00 | 3.00  | 39 | 3371-2-2.00 | ■ | ■     | ■   | ■    | ■   |
| 2.10                  | 4.20 | 3.00  | 39 | 3371-2-2.10 | ■ | ■     | ■   | ■    | ■   |
| 2.20                  | 4.40 | 3.00  | 39 | 3371-2-2.20 | ■ | ■     | ■   | ■    | ■   |
| 2.30                  | 4.60 | 3.00  | 39 | 3371-2-2.30 | ■ | ■     | ■   | ■    | ■   |
| 2.40                  | 4.80 | 3.00  | 39 | 3371-2-2.40 | ■ | ■     | ■   | ■    | ■   |
| 2.50                  | 5.00 | 3.00  | 39 | 3371-2-2.50 | ■ | ■     | ■   | ■    | ■   |
| 2.60                  | 5.20 | 3.00  | 39 | 3371-2-2.60 | ■ | ■     | ■   | ■    | ■   |
| 2.70                  | 5.40 | 3.00  | 39 | 3371-2-2.70 | ■ | ■     | ■   | ■    | ■   |
| 2.80                  | 5.60 | 3.00  | 39 | 3371-2-2.80 | ■ | ■     | ■   | ■    | ■   |
| 2.90                  | 5.80 | 3.00  | 39 | 3371-2-2.90 | ■ | ■     | ■   | ■    | ■   |

Micro-fraises de précision  
Mikropräzisionsfräser  
Precision micro end mills

3371-3



MD  
VHM  
HM

$\lambda$  30°

Sharp  
Corner

3xD1

Z=3

| D1<br>+0.005 / -0.010 | L2   | D2 h4 | L1 | Art. N°     | Z | TiAlN | STF | TiCN | DLC |
|-----------------------|------|-------|----|-------------|---|-------|-----|------|-----|
| 0.30                  | 0.90 | 3.00  | 39 | 3371-3-0.30 | ■ | ■     | ■   | ■    | ■   |
| 0.40                  | 1.20 | 3.00  | 39 | 3371-3-0.40 | ■ | ■     | ■   | ■    | ■   |
| 0.45                  | 1.40 | 3.00  | 39 | 3371-3-0.45 | ■ | ■     | ■   | ■    | ■   |
| 0.50                  | 1.50 | 3.00  | 39 | 3371-3-0.50 | ■ | ■     | ■   | ■    | ■   |
| 0.55                  | 1.80 | 3.00  | 39 | 3371-3-0.55 | ■ | ■     | ■   | ■    | ■   |
| 0.60                  | 2.00 | 3.00  | 39 | 3371-3-0.60 | ■ | ■     | ■   | ■    | ■   |
| 0.65                  | 2.00 | 3.00  | 39 | 3371-3-0.65 | ■ | ■     | ■   | ■    | ■   |
| 0.70                  | 2.00 | 3.00  | 39 | 3371-3-0.70 | ■ | ■     | ■   | ■    | ■   |
| 0.75                  | 2.00 | 3.00  | 39 | 3371-3-0.75 | ■ | ■     | ■   | ■    | ■   |
| 0.80                  | 2.50 | 3.00  | 39 | 3371-3-0.80 | ■ | ■     | ■   | ■    | ■   |
| 0.85                  | 2.50 | 3.00  | 39 | 3371-3-0.85 | ■ | ■     | ■   | ■    | ■   |
| 0.90                  | 2.50 | 3.00  | 39 | 3371-3-0.90 | ■ | ■     | ■   | ■    | ■   |
| 0.95                  | 2.90 | 3.00  | 39 | 3371-3-0.95 | ■ | ■     | ■   | ■    | ■   |
| 1.00                  | 3.00 | 3.00  | 39 | 3371-3-1.00 | ■ | ■     | ■   | ■    | ■   |
| 1.05                  | 3.20 | 3.00  | 39 | 3371-3-1.05 | ■ | ■     | ■   | ■    | ■   |
| 1.10                  | 3.30 | 3.00  | 39 | 3371-3-1.10 | ■ | ■     | ■   | ■    | ■   |
| 1.15                  | 3.50 | 3.00  | 39 | 3371-3-1.15 | ■ | ■     | ■   | ■    | ■   |
| 1.20                  | 4.00 | 3.00  | 39 | 3371-3-1.20 | ■ | ■     | ■   | ■    | ■   |
| 1.25                  | 4.00 | 3.00  | 39 | 3371-3-1.25 | ■ | ■     | ■   | ■    | ■   |
| 1.30                  | 4.00 | 3.00  | 39 | 3371-3-1.30 | ■ | ■     | ■   | ■    | ■   |
| 1.35                  | 4.00 | 3.00  | 39 | 3371-3-1.35 | ■ | ■     | ■   | ■    | ■   |
| 1.40                  | 4.00 | 3.00  | 39 | 3371-3-1.40 | ■ | ■     | ■   | ■    | ■   |
| 1.45                  | 4.50 | 3.00  | 39 | 3371-3-1.45 | ■ | ■     | ■   | ■    | ■   |
| 1.50                  | 4.50 | 3.00  | 39 | 3371-3-1.50 | ■ | ■     | ■   | ■    | ■   |
| 1.60                  | 4.50 | 3.00  | 39 | 3371-3-1.60 | ■ | ■     | ■   | ■    | ■   |
| 1.65                  | 5.00 | 3.00  | 39 | 3371-3-1.65 | ■ | ■     | ■   | ■    | ■   |
| 1.70                  | 5.00 | 3.00  | 39 | 3371-3-1.70 | ■ | ■     | ■   | ■    | ■   |
| 1.80                  | 6.00 | 3.00  | 39 | 3371-3-1.80 | ■ | ■     | ■   | ■    | ■   |
| 1.85                  | 6.00 | 3.00  | 39 | 3371-3-1.85 | ■ | ■     | ■   | ■    | ■   |
| 1.90                  | 6.00 | 3.00  | 39 | 3371-3-1.90 | ■ | ■     | ■   | ■    | ■   |
| 1.95                  | 6.00 | 3.00  | 39 | 3371-3-1.95 | ■ | ■     | ■   | ■    | ■   |

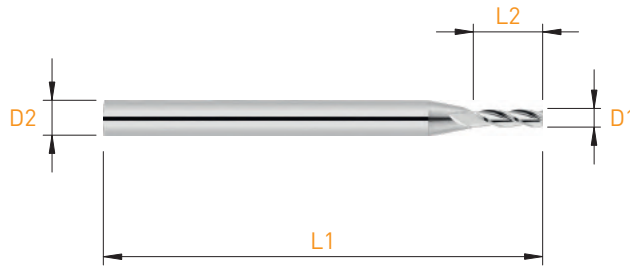
| D1<br>+0.005 / -0.010 | L2   | D2 h4 | L1 | Art. N°     | Z | TiAlN | STF | TiCN | DLC |
|-----------------------|------|-------|----|-------------|---|-------|-----|------|-----|
| 2.00                  | 6.00 | 3.00  | 39 | 3371-3-2.00 | ■ | ■     | ■   | ■    | ■   |
| 2.10                  | 6.00 | 3.00  | 39 | 3371-3-2.10 | ■ | ■     | ■   | ■    | ■   |
| 2.20                  | 6.50 | 3.00  | 39 | 3371-3-2.20 | ■ | ■     | ■   | ■    | ■   |
| 2.30                  | 7.00 | 3.00  | 39 | 3371-3-2.30 | ■ | ■     | ■   | ■    | ■   |
| 2.40                  | 7.00 | 3.00  | 39 | 3371-3-2.40 | ■ | ■     | ■   | ■    | ■   |
| 2.50                  | 7.50 | 3.00  | 39 | 3371-3-2.50 | ■ | ■     | ■   | ■    | ■   |
| 2.60                  | 7.50 | 3.00  | 39 | 3371-3-2.60 | ■ | ■     | ■   | ■    | ■   |
| 2.70                  | 8.00 | 3.00  | 39 | 3371-3-2.70 | ■ | ■     | ■   | ■    | ■   |
| 2.80                  | 8.00 | 3.00  | 39 | 3371-3-2.80 | ■ | ■     | ■   | ■    | ■   |
| 2.90                  | 8.50 | 3.00  | 39 | 3371-3-2.90 | ■ | ■     | ■   | ■    | ■   |

Micro-fraises de précision

Mikropräzisionsfräser

Precision micro end mills

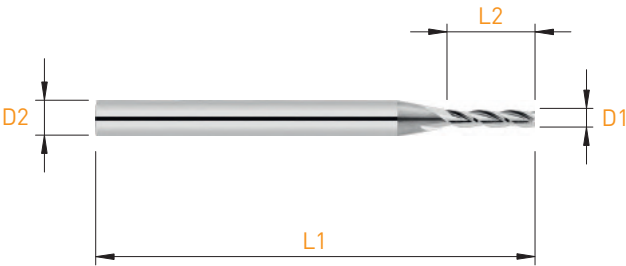
3371-4



| D1<br>+0.005 / -0.010 | L2    | D2 h4 | L1 | Art. N°     | Z | TiAIN | STF | TiCN | DLC |
|-----------------------|-------|-------|----|-------------|---|-------|-----|------|-----|
| 0.30                  | 1.20  | 3.00  | 39 | 3371-4-0.30 | ■ | ■     | ■   | ■    | ■   |
| 0.40                  | 1.60  | 3.00  | 39 | 3371-4-0.40 | ■ | ■     | ■   | ■    | ■   |
| 0.50                  | 2.00  | 3.00  | 39 | 3371-4-0.50 | ■ | ■     | ■   | ■    | ■   |
| 0.60                  | 2.40  | 3.00  | 39 | 3371-4-0.60 | ■ | ■     | ■   | ■    | ■   |
| 0.70                  | 2.80  | 3.00  | 39 | 3371-4-0.70 | ■ | ■     | ■   | ■    | ■   |
| 0.80                  | 3.20  | 3.00  | 39 | 3371-4-0.80 | ■ | ■     | ■   | ■    | ■   |
| 0.90                  | 3.60  | 3.00  | 39 | 3371-4-0.90 | ■ | ■     | ■   | ■    | ■   |
| 1.00                  | 4.00  | 3.00  | 39 | 3371-4-1.00 | ■ | ■     | ■   | ■    | ■   |
| 1.10                  | 4.40  | 3.00  | 39 | 3371-4-1.10 | ■ | ■     | ■   | ■    | ■   |
| 1.20                  | 4.80  | 3.00  | 39 | 3371-4-1.20 | ■ | ■     | ■   | ■    | ■   |
| 1.30                  | 5.20  | 3.00  | 39 | 3371-4-1.30 | ■ | ■     | ■   | ■    | ■   |
| 1.40                  | 5.60  | 3.00  | 39 | 3371-4-1.40 | ■ | ■     | ■   | ■    | ■   |
| 1.50                  | 6.00  | 3.00  | 39 | 3371-4-1.50 | ■ | ■     | ■   | ■    | ■   |
| 1.60                  | 6.40  | 3.00  | 39 | 3371-4-1.60 | ■ | ■     | ■   | ■    | ■   |
| 1.70                  | 6.80  | 3.00  | 39 | 3371-4-1.70 | ■ | ■     | ■   | ■    | ■   |
| 1.80                  | 7.20  | 3.00  | 39 | 3371-4-1.80 | ■ | ■     | ■   | ■    | ■   |
| 1.90                  | 7.60  | 3.00  | 39 | 3371-4-1.90 | ■ | ■     | ■   | ■    | ■   |
| 2.00                  | 8.00  | 3.00  | 39 | 3371-4-2.00 | ■ | ■     | ■   | ■    | ■   |
| 2.10                  | 8.40  | 3.00  | 39 | 3371-4-2.10 | ■ | ■     | ■   | ■    | ■   |
| 2.20                  | 8.80  | 3.00  | 39 | 3371-4-2.20 | ■ | ■     | ■   | ■    | ■   |
| 2.30                  | 9.20  | 3.00  | 39 | 3371-4-2.30 | ■ | ■     | ■   | ■    | ■   |
| 2.40                  | 9.60  | 3.00  | 39 | 3371-4-2.40 | ■ | ■     | ■   | ■    | ■   |
| 2.50                  | 10.00 | 3.00  | 39 | 3371-4-2.50 | ■ | ■     | ■   | ■    | ■   |
| 2.60                  | 10.40 | 3.00  | 39 | 3371-4-2.60 | ■ | ■     | ■   | ■    | ■   |
| 2.70                  | 10.80 | 3.00  | 39 | 3371-4-2.70 | ■ | ■     | ■   | ■    | ■   |
| 2.80                  | 11.20 | 3.00  | 39 | 3371-4-2.80 | ■ | ■     | ■   | ■    | ■   |
| 2.90                  | 11.60 | 3.00  | 39 | 3371-4-2.90 | ■ | ■     | ■   | ■    | ■   |

Micro-fraises de précision  
Mikropräzisionsfräser  
Precision micro end mills

3371-5



| D1<br>+0.005 / -0.010 | L2    | D2 h4 | L1 | Art. N°     | N | TiAlN | STF | TiCN | DLC |
|-----------------------|-------|-------|----|-------------|---|-------|-----|------|-----|
| 0.50                  | 2.50  | 3.00  | 39 | 3371-5-0.50 | ■ | ■     | ■   | ■    | ■   |
| 0.60                  | 3.00  | 3.00  | 39 | 3371-5-0.60 | ■ | ■     | ■   | ■    | ■   |
| 0.70                  | 3.50  | 3.00  | 39 | 3371-5-0.70 | ■ | ■     | ■   | ■    | ■   |
| 0.80                  | 4.00  | 3.00  | 39 | 3371-5-0.80 | ■ | ■     | ■   | ■    | ■   |
| 0.90                  | 4.50  | 3.00  | 39 | 3371-5-0.90 | ■ | ■     | ■   | ■    | ■   |
| 1.00                  | 5.00  | 3.00  | 39 | 3371-5-1.00 | ■ | ■     | ■   | ■    | ■   |
| 1.10                  | 5.50  | 3.00  | 39 | 3371-5-1.10 | ■ | ■     | ■   | ■    | ■   |
| 1.20                  | 6.00  | 3.00  | 39 | 3371-5-1.20 | ■ | ■     | ■   | ■    | ■   |
| 1.50                  | 7.50  | 3.00  | 39 | 3371-5-1.50 | ■ | ■     | ■   | ■    | ■   |
| 2.00                  | 10.00 | 3.00  | 39 | 3371-5-2.00 | ■ | ■     | ■   | ■    | ■   |
| 2.50                  | 12.50 | 3.00  | 39 | 3371-5-2.50 | ■ | ■     | ■   | ■    | ■   |

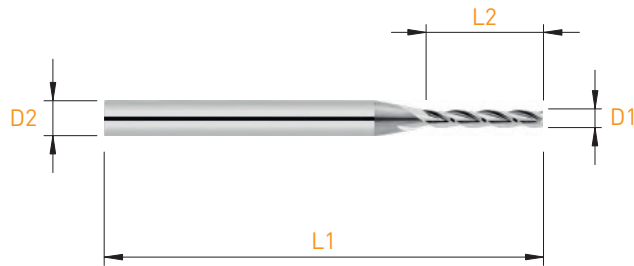


Micro-fraises de précision

Mikropräzisionsfräser

Precision micro end mills

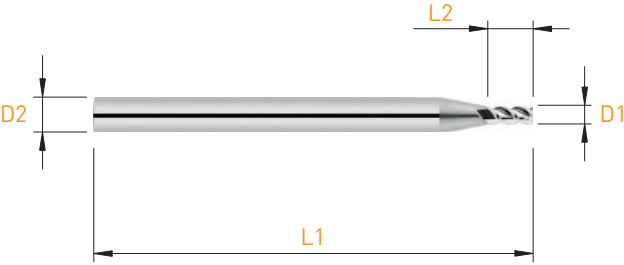
3371-8



| D1<br>+0.005 / -0.010 | L2    | D2<br>h4 Ø3.0<br>h5 Ø4.0 | L1 | Art. N°     | Z | TiAlN | STF | TiCN | DLC |
|-----------------------|-------|--------------------------|----|-------------|---|-------|-----|------|-----|
| 0.50                  | 4.00  | 3.00                     | 39 | 3371-8-0.50 | ■ | ■     | ■   | ■    | ■   |
| 0.60                  | 5.00  | 3.00                     | 39 | 3371-8-0.60 | ■ | ■     | ■   | ■    | ■   |
| 0.70                  | 5.60  | 3.00                     | 39 | 3371-8-0.70 | ■ | ■     | ■   | ■    | ■   |
| 0.80                  | 6.00  | 3.00                     | 39 | 3371-8-0.80 | ■ | ■     | ■   | ■    | ■   |
| 0.90                  | 7.20  | 3.00                     | 39 | 3371-8-0.90 | ■ | ■     | ■   | ■    | ■   |
| 1.00                  | 8.00  | 3.00                     | 39 | 3371-8-1.00 | ■ | ■     | ■   | ■    | ■   |
| 1.20                  | 9.00  | 3.00                     | 39 | 3371-8-1.20 | ■ | ■     | ■   | ■    | ■   |
| 1.30                  | 11.00 | 3.00                     | 39 | 3371-8-1.30 | ■ | ■     | ■   | ■    | ■   |
| 1.50                  | 12.00 | 4.00                     | 50 | 3371-8-1.50 | ■ | ■     | ■   | ■    | ■   |
| 2.00                  | 16.00 | 4.00                     | 50 | 3371-8-2.00 | ■ | ■     | ■   | ■    | ■   |
| 2.50                  | 20.00 | 4.00                     | 50 | 3371-8-2.50 | ■ | ■     | ■   | ■    | ■   |

Micro-fraises de précision  
Mikropräzisionsfräser  
Precision micro end mills

3375-2.5



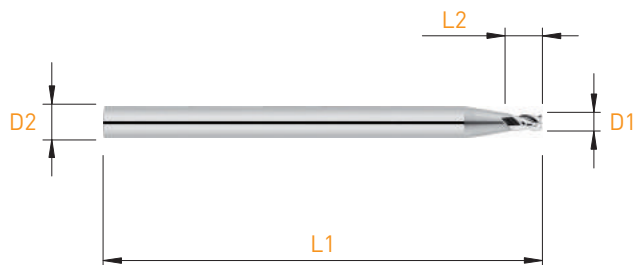
| D1<br>+0.005 / -0.010 | L2   | D2 h4 | L1 | Art. N°       | N | TiAlN | STF | TiCN | DLC |
|-----------------------|------|-------|----|---------------|---|-------|-----|------|-----|
| 0.30                  | 0.80 | 3.00  | 39 | 3375-2.5-0.30 | ■ | ■     | ■   | ■    | ■   |
| 0.40                  | 1.00 | 3.00  | 39 | 3375-2.5-0.40 | ■ | ■     | ■   | ■    | ■   |
| 0.50                  | 1.30 | 3.00  | 39 | 3375-2.5-0.50 | ■ | ■     | ■   | ■    | ■   |
| 0.60                  | 1.50 | 3.00  | 39 | 3375-2.5-0.60 | ■ | ■     | ■   | ■    | ■   |
| 0.70                  | 1.70 | 3.00  | 39 | 3375-2.5-0.70 | ■ | ■     | ■   | ■    | ■   |
| 0.80                  | 2.00 | 3.00  | 39 | 3375-2.5-0.80 | ■ | ■     | ■   | ■    | ■   |
| 0.90                  | 2.30 | 3.00  | 39 | 3375-2.5-0.90 | ■ | ■     | ■   | ■    | ■   |
| 1.00                  | 2.50 | 3.00  | 39 | 3375-2.5-1.00 | ■ | ■     | ■   | ■    | ■   |
| 1.10                  | 2.80 | 3.00  | 39 | 3375-2.5-1.10 | ■ | ■     | ■   | ■    | ■   |
| 1.20                  | 3.00 | 3.00  | 39 | 3375-2.5-1.20 | ■ | ■     | ■   | ■    | ■   |
| 1.30                  | 3.30 | 3.00  | 39 | 3375-2.5-1.30 | ■ | ■     | ■   | ■    | ■   |
| 1.40                  | 3.50 | 3.00  | 39 | 3375-2.5-1.40 | ■ | ■     | ■   | ■    | ■   |
| 1.50                  | 3.80 | 3.00  | 39 | 3375-2.5-1.50 | ■ | ■     | ■   | ■    | ■   |
| 1.60                  | 4.00 | 3.00  | 39 | 3375-2.5-1.60 | ■ | ■     | ■   | ■    | ■   |
| 1.70                  | 4.30 | 3.00  | 39 | 3375-2.5-1.70 | ■ | ■     | ■   | ■    | ■   |
| 1.80                  | 4.50 | 3.00  | 39 | 3375-2.5-1.80 | ■ | ■     | ■   | ■    | ■   |
| 1.90                  | 4.80 | 3.00  | 39 | 3375-2.5-1.90 | ■ | ■     | ■   | ■    | ■   |
| 2.00                  | 5.00 | 3.00  | 39 | 3375-2.5-2.00 | ■ | ■     | ■   | ■    | ■   |
| 2.10                  | 5.30 | 3.00  | 39 | 3375-2.5-2.10 | ■ | ■     | ■   | ■    | ■   |
| 2.20                  | 5.50 | 3.00  | 39 | 3375-2.5-2.20 | ■ | ■     | ■   | ■    | ■   |
| 2.30                  | 5.80 | 3.00  | 39 | 3375-2.5-2.30 | ■ | ■     | ■   | ■    | ■   |
| 2.40                  | 6.00 | 3.00  | 39 | 3375-2.5-2.40 | ■ | ■     | ■   | ■    | ■   |
| 2.50                  | 6.30 | 3.00  | 39 | 3375-2.5-2.50 | ■ | ■     | ■   | ■    | ■   |
| 2.60                  | 6.50 | 3.00  | 39 | 3375-2.5-2.60 | ■ | ■     | ■   | ■    | ■   |
| 2.70                  | 6.80 | 3.00  | 39 | 3375-2.5-2.70 | ■ | ■     | ■   | ■    | ■   |
| 2.80                  | 7.00 | 3.00  | 39 | 3375-2.5-2.80 | ■ | ■     | ■   | ■    | ■   |
| 2.90                  | 7.30 | 3.00  | 39 | 3375-2.5-2.90 | ■ | ■     | ■   | ■    | ■   |

Micro-fraises de précision

Mikropräzisionsfräser

Precision micro end mills

DHD3371-1.5



DHD

Denture à pas irrégulier, angle d'hélice différent pour chaque dent  
 Ungleiche Teilung, unterschiedlicher Drallwinkel  
 Uneven tooth pitch, different helix angle per tooth

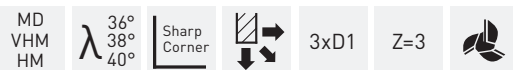
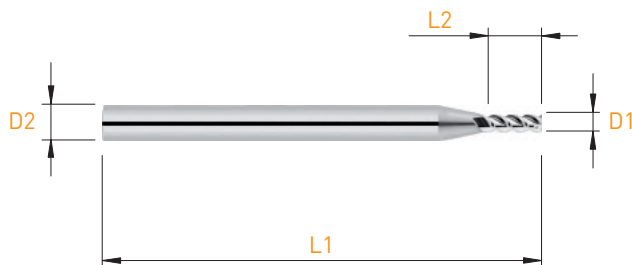
| D1<br>+0.005 / -0.010 | L2   | D2 h4 | L1 | Art. N°          | Z | TIAIN | STF | TICN | DLC |
|-----------------------|------|-------|----|------------------|---|-------|-----|------|-----|
| 0.30                  | 0.45 | 3.00  | 39 | DHD3371-1.5-0.30 | ■ | ■     | ■   | ■    | ■   |
| 0.40                  | 0.60 | 3.00  | 39 | DHD3371-1.5-0.40 | ■ | ■     | ■   | ■    | ■   |
| 0.50                  | 0.75 | 3.00  | 39 | DHD3371-1.5-0.50 | ■ | ■     | ■   | ■    | ■   |
| 0.60                  | 0.90 | 3.00  | 39 | DHD3371-1.5-0.60 | ■ | ■     | ■   | ■    | ■   |
| 0.70                  | 1.05 | 3.00  | 39 | DHD3371-1.5-0.70 | ■ | ■     | ■   | ■    | ■   |
| 0.80                  | 1.20 | 3.00  | 39 | DHD3371-1.5-0.80 | ■ | ■     | ■   | ■    | ■   |
| 0.90                  | 1.35 | 3.00  | 39 | DHD3371-1.5-0.90 | ■ | ■     | ■   | ■    | ■   |
| 1.00                  | 1.50 | 3.00  | 39 | DHD3371-1.5-1.00 | ■ | ■     | ■   | ■    | ■   |
| 1.10                  | 1.65 | 3.00  | 39 | DHD3371-1.5-1.10 | ■ | ■     | ■   | ■    | ■   |
| 1.20                  | 1.80 | 3.00  | 39 | DHD3371-1.5-1.20 | ■ | ■     | ■   | ■    | ■   |
| 1.30                  | 1.95 | 3.00  | 39 | DHD3371-1.5-1.30 | ■ | ■     | ■   | ■    | ■   |
| 1.40                  | 2.10 | 3.00  | 39 | DHD3371-1.5-1.40 | ■ | ■     | ■   | ■    | ■   |
| 1.50                  | 2.25 | 3.00  | 39 | DHD3371-1.5-1.50 | ■ | ■     | ■   | ■    | ■   |
| 1.60                  | 2.40 | 3.00  | 39 | DHD3371-1.5-1.60 | ■ | ■     | ■   | ■    | ■   |
| 1.70                  | 2.55 | 3.00  | 39 | DHD3371-1.5-1.70 | ■ | ■     | ■   | ■    | ■   |
| 1.80                  | 2.70 | 3.00  | 39 | DHD3371-1.5-1.80 | ■ | ■     | ■   | ■    | ■   |
| 1.90                  | 2.85 | 3.00  | 39 | DHD3371-1.5-1.90 | ■ | ■     | ■   | ■    | ■   |
| 2.00                  | 3.00 | 3.00  | 39 | DHD3371-1.5-2.00 | ■ | ■     | ■   | ■    | ■   |
| 2.50                  | 3.75 | 3.00  | 39 | DHD3371-1.5-2.50 | ■ | ■     | ■   | ■    | ■   |

Micro-fraises de précision

Mikropräzisionsfräser

Precision micro end mills

DHD3371-3



DHD

Denture à pas irrégulier, angle d'hélice différent pour chaque dent  
 Ungleiche Teilung, unterschiedlicher Drallwinkel  
 Uneven tooth pitch, different helix angle per tooth

| D1<br>+0.005 / -0.010 | L2   | D2 h4 | L1 | Art. N°        | Z | TiAlN | STF | TiCN | DLC |
|-----------------------|------|-------|----|----------------|---|-------|-----|------|-----|
| 0.30                  | 0.90 | 3.00  | 39 | DHD3371-3-0.30 | ■ | ■     | ■   | ■    | ■   |
| 0.40                  | 1.20 | 3.00  | 39 | DHD3371-3-0.40 | ■ | ■     | ■   | ■    | ■   |
| 0.50                  | 1.50 | 3.00  | 39 | DHD3371-3-0.50 | ■ | ■     | ■   | ■    | ■   |
| 0.60                  | 1.80 | 3.00  | 39 | DHD3371-3-0.60 | ■ | ■     | ■   | ■    | ■   |
| 0.70                  | 2.10 | 3.00  | 39 | DHD3371-3-0.70 | ■ | ■     | ■   | ■    | ■   |
| 0.80                  | 2.40 | 3.00  | 39 | DHD3371-3-0.80 | ■ | ■     | ■   | ■    | ■   |
| 0.90                  | 2.70 | 3.00  | 39 | DHD3371-3-0.90 | ■ | ■     | ■   | ■    | ■   |
| 1.00                  | 3.00 | 3.00  | 39 | DHD3371-3-1.00 | ■ | ■     | ■   | ■    | ■   |
| 1.10                  | 3.30 | 3.00  | 39 | DHD3371-3-1.10 | ■ | ■     | ■   | ■    | ■   |
| 1.20                  | 3.60 | 3.00  | 39 | DHD3371-3-1.20 | ■ | ■     | ■   | ■    | ■   |
| 1.30                  | 3.90 | 3.00  | 39 | DHD3371-3-1.30 | ■ | ■     | ■   | ■    | ■   |
| 1.40                  | 4.20 | 3.00  | 39 | DHD3371-3-1.40 | ■ | ■     | ■   | ■    | ■   |
| 1.50                  | 4.50 | 3.00  | 39 | DHD3371-3-1.50 | ■ | ■     | ■   | ■    | ■   |
| 1.60                  | 4.80 | 3.00  | 39 | DHD3371-3-1.60 | ■ | ■     | ■   | ■    | ■   |
| 1.70                  | 5.10 | 3.00  | 39 | DHD3371-3-1.70 | ■ | ■     | ■   | ■    | ■   |
| 1.80                  | 5.40 | 3.00  | 39 | DHD3371-3-1.80 | ■ | ■     | ■   | ■    | ■   |
| 1.90                  | 5.70 | 3.00  | 39 | DHD3371-3-1.90 | ■ | ■     | ■   | ■    | ■   |
| 2.00                  | 6.00 | 3.00  | 39 | DHD3371-3-2.00 | ■ | ■     | ■   | ■    | ■   |
| 2.50                  | 7.50 | 3.00  | 39 | DHD3371-3-2.50 | ■ | ■     | ■   | ■    | ■   |

Micro-fraises de précision

Mikropräzisionsfräser

Precision micro end mills

3370S-3X

new



| D1<br>+0.005 / -0.010 | L2   | L3   | D3   | D2<br>h4 Ø3.0<br>h5 Ø6.0 | L1 | Art. N°       | Z | TiAIN | STF | TiCN | DLC |
|-----------------------|------|------|------|--------------------------|----|---------------|---|-------|-----|------|-----|
| 0.30                  | 0.60 | 0.90 | 0.27 | 3.00                     | 39 | 3370S-3X-0.30 | ■ | ■     | ■   | ■    | ■   |
| 0.40                  | 0.80 | 1.20 | 0.37 | 3.00                     | 39 | 3370S-3X-0.40 | ■ | ■     | ■   | ■    | ■   |
| 0.50                  | 1.00 | 1.50 | 0.45 | 3.00                     | 39 | 3370S-3X-0.50 | ■ | ■     | ■   | ■    | ■   |
| 0.60                  | 1.20 | 1.80 | 0.55 | 3.00                     | 39 | 3370S-3X-0.60 | ■ | ■     | ■   | ■    | ■   |
| 0.70                  | 1.40 | 2.10 | 0.65 | 3.00                     | 39 | 3370S-3X-0.70 | ■ | ■     | ■   | ■    | ■   |
| 0.80                  | 1.60 | 2.40 | 0.75 | 3.00                     | 39 | 3370S-3X-0.80 | ■ | ■     | ■   | ■    | ■   |
| 0.90                  | 1.80 | 2.70 | 0.85 | 3.00                     | 39 | 3370S-3X-0.90 | ■ | ■     | ■   | ■    | ■   |
| 1.00                  | 2.00 | 3.00 | 0.95 | 3.00                     | 39 | 3370S-3X-1.00 | ■ | ■     | ■   | ■    | ■   |
| 1.10                  | 2.20 | 3.30 | 1.05 | 3.00                     | 39 | 3370S-3X-1.10 | ■ | ■     | ■   | ■    | ■   |
| 1.20                  | 2.40 | 3.60 | 1.15 | 3.00                     | 39 | 3370S-3X-1.20 | ■ | ■     | ■   | ■    | ■   |
| 1.30                  | 2.60 | 3.90 | 1.25 | 3.00                     | 39 | 3370S-3X-1.30 | ■ | ■     | ■   | ■    | ■   |
| 1.40                  | 2.80 | 4.20 | 1.35 | 3.00                     | 39 | 3370S-3X-1.40 | ■ | ■     | ■   | ■    | ■   |
| 1.50                  | 3.00 | 4.50 | 1.45 | 3.00                     | 39 | 3370S-3X-1.50 | ■ | ■     | ■   | ■    | ■   |
| 1.60                  | 3.20 | 4.80 | 1.55 | 3.00                     | 39 | 3370S-3X-1.60 | ■ | ■     | ■   | ■    | ■   |
| 1.70                  | 3.40 | 5.10 | 1.65 | 3.00                     | 39 | 3370S-3X-1.70 | ■ | ■     | ■   | ■    | ■   |
| 1.80                  | 3.60 | 5.40 | 1.75 | 3.00                     | 39 | 3370S-3X-1.80 | ■ | ■     | ■   | ■    | ■   |
| 1.90                  | 3.80 | 5.70 | 1.85 | 3.00                     | 39 | 3370S-3X-1.90 | ■ | ■     | ■   | ■    | ■   |
| 2.00                  | 4.00 | 6.00 | 1.95 | 6.00                     | 50 | 3370S-3X-2.00 | ■ | ■     | ■   | ■    | ■   |
| 2.10                  | 4.20 | 6.30 | 2.05 | 6.00                     | 50 | 3370S-3X-2.10 | ■ | ■     | ■   | ■    | ■   |
| 2.20                  | 4.40 | 6.60 | 2.15 | 6.00                     | 50 | 3370S-3X-2.20 | ■ | ■     | ■   | ■    | ■   |
| 2.30                  | 4.60 | 6.90 | 2.25 | 6.00                     | 50 | 3370S-3X-2.30 | ■ | ■     | ■   | ■    | ■   |
| 2.40                  | 4.80 | 7.20 | 2.35 | 6.00                     | 50 | 3370S-3X-2.40 | ■ | ■     | ■   | ■    | ■   |
| 2.50                  | 5.00 | 7.50 | 2.45 | 6.00                     | 50 | 3370S-3X-2.50 | ■ | ■     | ■   | ■    | ■   |
| 3.00                  | 6.00 | 9.00 | 2.95 | 6.00                     | 50 | 3370S-3X-3.00 | ■ | ■     | ■   | ■    | ■   |

Micro-fraises de précision

Mikropräzisionsfräser

Precision micro end mills

3370S-6X

new



| D1<br>+0.005 / -0.010 | L2   | L3    | D3   | D2<br>h4 Ø3.0<br>h5 Ø6.0 | L1 | Art. N°       | Z | TiAIN | STF | TiCN | DLC |
|-----------------------|------|-------|------|--------------------------|----|---------------|---|-------|-----|------|-----|
| 0.30                  | 0.60 | 1.80  | 0.27 | 3.00                     | 39 | 3370S-6X-0.30 | ■ | ■     | ■   | ■    | ■   |
| 0.40                  | 0.80 | 2.40  | 0.37 | 3.00                     | 39 | 3370S-6X-0.40 | ■ | ■     | ■   | ■    | ■   |
| 0.50                  | 1.00 | 3.00  | 0.45 | 3.00                     | 39 | 3370S-6X-0.50 | ■ | ■     | ■   | ■    | ■   |
| 0.60                  | 1.20 | 3.60  | 0.55 | 3.00                     | 39 | 3370S-6X-0.60 | ■ | ■     | ■   | ■    | ■   |
| 0.70                  | 1.40 | 4.20  | 0.65 | 3.00                     | 39 | 3370S-6X-0.70 | ■ | ■     | ■   | ■    | ■   |
| 0.80                  | 1.60 | 4.80  | 0.75 | 3.00                     | 39 | 3370S-6X-0.80 | ■ | ■     | ■   | ■    | ■   |
| 0.90                  | 1.80 | 5.40  | 0.85 | 3.00                     | 39 | 3370S-6X-0.90 | ■ | ■     | ■   | ■    | ■   |
| 1.00                  | 2.00 | 6.00  | 0.95 | 3.00                     | 39 | 3370S-6X-1.00 | ■ | ■     | ■   | ■    | ■   |
| 1.10                  | 2.20 | 6.60  | 1.05 | 3.00                     | 39 | 3370S-6X-1.10 | ■ | ■     | ■   | ■    | ■   |
| 1.20                  | 2.40 | 7.20  | 1.15 | 3.00                     | 39 | 3370S-6X-1.20 | ■ | ■     | ■   | ■    | ■   |
| 1.30                  | 2.60 | 7.80  | 1.25 | 3.00                     | 39 | 3370S-6X-1.30 | ■ | ■     | ■   | ■    | ■   |
| 1.40                  | 2.80 | 8.40  | 1.35 | 3.00                     | 39 | 3370S-6X-1.40 | ■ | ■     | ■   | ■    | ■   |
| 1.50                  | 3.00 | 9.00  | 1.45 | 3.00                     | 39 | 3370S-6X-1.50 | ■ | ■     | ■   | ■    | ■   |
| 1.60                  | 3.20 | 9.60  | 1.55 | 3.00                     | 39 | 3370S-6X-1.60 | ■ | ■     | ■   | ■    | ■   |
| 1.70                  | 3.40 | 10.20 | 1.65 | 3.00                     | 39 | 3370S-6X-1.70 | ■ | ■     | ■   | ■    | ■   |
| 1.80                  | 3.60 | 10.80 | 1.75 | 3.00                     | 39 | 3370S-6X-1.80 | ■ | ■     | ■   | ■    | ■   |
| 1.90                  | 3.80 | 11.40 | 1.85 | 3.00                     | 39 | 3370S-6X-1.90 | ■ | ■     | ■   | ■    | ■   |
| 2.00                  | 4.00 | 12.00 | 1.95 | 6.00                     | 50 | 3370S-6X-2.00 | ■ | ■     | ■   | ■    | ■   |
| 2.10                  | 4.20 | 12.60 | 2.05 | 6.00                     | 50 | 3370S-6X-2.10 | ■ | ■     | ■   | ■    | ■   |
| 2.20                  | 4.40 | 13.20 | 2.15 | 6.00                     | 50 | 3370S-6X-2.20 | ■ | ■     | ■   | ■    | ■   |
| 2.30                  | 4.60 | 13.80 | 2.25 | 6.00                     | 50 | 3370S-6X-2.30 | ■ | ■     | ■   | ■    | ■   |
| 2.40                  | 4.80 | 14.40 | 2.35 | 6.00                     | 50 | 3370S-6X-2.40 | ■ | ■     | ■   | ■    | ■   |
| 2.50                  | 5.00 | 15.00 | 2.45 | 6.00                     | 50 | 3370S-6X-2.50 | ■ | ■     | ■   | ■    | ■   |
| 3.00                  | 6.00 | 18.00 | 2.95 | 6.00                     | 50 | 3370S-6X-3.00 | ■ | ■     | ■   | ■    | ■   |

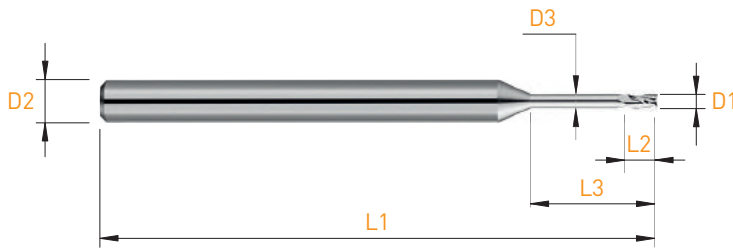
Micro-fraises de précision

Mikropräzisionsfräser

Precision micro end mills

3370S-9X

new



| D1<br>+0.005 / -0.010 | L2   | L3    | D3   | D2<br>h4 Ø3.0<br>h5 Ø6.0 | L1 | Art. N°       | Z | TiAlN | STF | TiCN | DLC |
|-----------------------|------|-------|------|--------------------------|----|---------------|---|-------|-----|------|-----|
| 0.40                  | 0.80 | 3.60  | 0.37 | 3.00                     | 39 | 3370S-9X-0.40 | ■ | ■     | ■   | ■    | ■   |
| 0.50                  | 1.00 | 4.50  | 0.45 | 3.00                     | 39 | 3370S-9X-0.50 | ■ | ■     | ■   | ■    | ■   |
| 0.60                  | 1.20 | 5.40  | 0.55 | 3.00                     | 39 | 3370S-9X-0.60 | ■ | ■     | ■   | ■    | ■   |
| 0.70                  | 1.40 | 6.30  | 0.65 | 3.00                     | 39 | 3370S-9X-0.70 | ■ | ■     | ■   | ■    | ■   |
| 0.80                  | 1.60 | 7.20  | 0.75 | 3.00                     | 39 | 3370S-9X-0.80 | ■ | ■     | ■   | ■    | ■   |
| 0.90                  | 1.80 | 8.10  | 0.85 | 3.00                     | 39 | 3370S-9X-0.90 | ■ | ■     | ■   | ■    | ■   |
| 1.00                  | 2.00 | 9.00  | 0.95 | 3.00                     | 39 | 3370S-9X-1.00 | ■ | ■     | ■   | ■    | ■   |
| 1.10                  | 2.20 | 9.90  | 1.05 | 3.00                     | 39 | 3370S-9X-1.10 | ■ | ■     | ■   | ■    | ■   |
| 1.20                  | 2.40 | 10.80 | 1.15 | 3.00                     | 39 | 3370S-9X-1.20 | ■ | ■     | ■   | ■    | ■   |
| 1.30                  | 2.60 | 11.70 | 1.25 | 3.00                     | 39 | 3370S-9X-1.30 | ■ | ■     | ■   | ■    | ■   |
| 1.40                  | 2.80 | 12.60 | 1.35 | 3.00                     | 39 | 3370S-9X-1.40 | ■ | ■     | ■   | ■    | ■   |
| 1.50                  | 3.00 | 13.50 | 1.45 | 3.00                     | 39 | 3370S-9X-1.50 | ■ | ■     | ■   | ■    | ■   |
| 1.60                  | 3.20 | 14.40 | 1.55 | 3.00                     | 39 | 3370S-9X-1.60 | ■ | ■     | ■   | ■    | ■   |
| 1.70                  | 3.40 | 15.30 | 1.65 | 3.00                     | 39 | 3370S-9X-1.70 | ■ | ■     | ■   | ■    | ■   |
| 1.80                  | 3.60 | 16.20 | 1.75 | 3.00                     | 39 | 3370S-9X-1.80 | ■ | ■     | ■   | ■    | ■   |
| 1.90                  | 3.80 | 17.10 | 1.85 | 3.00                     | 39 | 3370S-9X-1.90 | ■ | ■     | ■   | ■    | ■   |
| 2.00                  | 4.00 | 18.00 | 1.95 | 6.00                     | 50 | 3370S-9X-2.00 | ■ | ■     | ■   | ■    | ■   |
| 2.10                  | 4.20 | 18.90 | 2.05 | 6.00                     | 50 | 3370S-9X-2.10 | ■ | ■     | ■   | ■    | ■   |
| 2.20                  | 4.40 | 19.80 | 2.15 | 6.00                     | 50 | 3370S-9X-2.20 | ■ | ■     | ■   | ■    | ■   |
| 2.30                  | 4.60 | 20.70 | 2.25 | 6.00                     | 50 | 3370S-9X-2.30 | ■ | ■     | ■   | ■    | ■   |
| 2.40                  | 4.80 | 21.60 | 2.35 | 6.00                     | 50 | 3370S-9X-2.40 | ■ | ■     | ■   | ■    | ■   |
| 2.50                  | 5.00 | 22.50 | 2.45 | 6.00                     | 50 | 3370S-9X-2.50 | ■ | ■     | ■   | ■    | ■   |
| 3.00                  | 6.00 | 27.00 | 2.95 | 6.00                     | 50 | 3370S-9X-3.00 | ■ | ■     | ■   | ■    | ■   |

Micro-fraises de précision

Mikropräzisionsfräser

Precision micro end mills

3379T-3X

new



| D1<br>+0.005 / -0.010 | R<br>+/- 0.02 | L2   | L3   | D3   | D2<br>h4 Ø3.0<br>h5 Ø6.0 | L1 | Art. N°       | Z | TiAlN | STF | TiCN | DLC |
|-----------------------|---------------|------|------|------|--------------------------|----|---------------|---|-------|-----|------|-----|
| 0.30                  | 0.05          | 0.60 | 0.90 | 0.27 | 3.00                     | 39 | 3379T-3X-0.30 | ■ | ■     | ■   | ■    | ■   |
| 0.40                  | 0.05          | 0.80 | 1.20 | 0.37 | 3.00                     | 39 | 3379T-3X-0.40 | ■ | ■     | ■   | ■    | ■   |
| 0.50                  | 0.05          | 1.00 | 1.50 | 0.45 | 3.00                     | 39 | 3379T-3X-0.50 | ■ | ■     | ■   | ■    | ■   |
| 0.60                  | 0.05          | 1.20 | 1.80 | 0.55 | 3.00                     | 39 | 3379T-3X-0.60 | ■ | ■     | ■   | ■    | ■   |
| 0.70                  | 0.05          | 1.40 | 2.10 | 0.65 | 3.00                     | 39 | 3379T-3X-0.70 | ■ | ■     | ■   | ■    | ■   |
| 0.80                  | 0.05          | 1.60 | 2.40 | 0.75 | 3.00                     | 39 | 3379T-3X-0.80 | ■ | ■     | ■   | ■    | ■   |
| 0.90                  | 0.05          | 1.80 | 2.70 | 0.85 | 3.00                     | 39 | 3379T-3X-0.90 | ■ | ■     | ■   | ■    | ■   |
| 1.00                  | 0.10          | 2.00 | 3.00 | 0.95 | 3.00                     | 39 | 3379T-3X-1.00 | ■ | ■     | ■   | ■    | ■   |
| 1.10                  | 0.10          | 2.20 | 3.30 | 1.05 | 3.00                     | 39 | 3379T-3X-1.10 | ■ | ■     | ■   | ■    | ■   |
| 1.20                  | 0.10          | 2.40 | 3.60 | 1.15 | 3.00                     | 39 | 3379T-3X-1.20 | ■ | ■     | ■   | ■    | ■   |
| 1.30                  | 0.10          | 2.60 | 3.90 | 1.25 | 3.00                     | 39 | 3379T-3X-1.30 | ■ | ■     | ■   | ■    | ■   |
| 1.40                  | 0.10          | 2.80 | 4.20 | 1.35 | 3.00                     | 39 | 3379T-3X-1.40 | ■ | ■     | ■   | ■    | ■   |
| 1.50                  | 0.20          | 3.00 | 4.50 | 1.45 | 3.00                     | 39 | 3379T-3X-1.50 | ■ | ■     | ■   | ■    | ■   |
| 1.60                  | 0.20          | 3.20 | 4.80 | 1.55 | 3.00                     | 39 | 3379T-3X-1.60 | ■ | ■     | ■   | ■    | ■   |
| 1.70                  | 0.20          | 3.40 | 5.10 | 1.65 | 3.00                     | 39 | 3379T-3X-1.70 | ■ | ■     | ■   | ■    | ■   |
| 1.80                  | 0.20          | 3.60 | 5.40 | 1.75 | 3.00                     | 39 | 3379T-3X-1.80 | ■ | ■     | ■   | ■    | ■   |
| 1.90                  | 0.20          | 3.80 | 5.70 | 1.85 | 3.00                     | 39 | 3379T-3X-1.90 | ■ | ■     | ■   | ■    | ■   |
| 2.00                  | 0.20          | 4.00 | 6.00 | 1.95 | 6.00                     | 50 | 3379T-3X-2.00 | ■ | ■     | ■   | ■    | ■   |
| 2.10                  | 0.20          | 4.20 | 6.30 | 2.05 | 6.00                     | 50 | 3379T-3X-2.10 | ■ | ■     | ■   | ■    | ■   |
| 2.20                  | 0.20          | 4.40 | 6.60 | 2.15 | 6.00                     | 50 | 3379T-3X-2.20 | ■ | ■     | ■   | ■    | ■   |
| 2.30                  | 0.20          | 4.60 | 6.90 | 2.25 | 6.00                     | 50 | 3379T-3X-2.30 | ■ | ■     | ■   | ■    | ■   |
| 2.40                  | 0.20          | 4.80 | 7.20 | 2.35 | 6.00                     | 50 | 3379T-3X-2.40 | ■ | ■     | ■   | ■    | ■   |
| 2.50                  | 0.20          | 5.00 | 7.50 | 2.45 | 6.00                     | 50 | 3379T-3X-2.50 | ■ | ■     | ■   | ■    | ■   |
| 3.00                  | 0.20          | 6.00 | 9.00 | 2.95 | 6.00                     | 50 | 3379T-3X-3.00 | ■ | ■     | ■   | ■    | ■   |



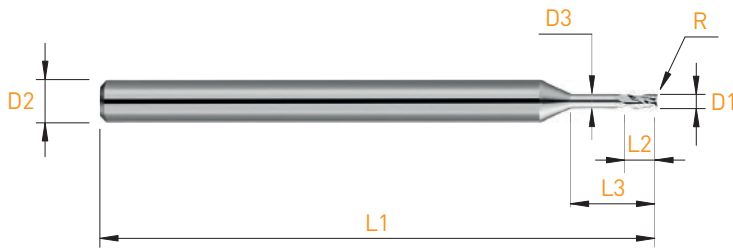
Micro-fraises de précision

Mikropräzisionsfräser

Precision micro end mills

3379T-6X

new



| D1<br>+0.005 / -0.010 | R<br>+/- 0.02 | L2   | L3    | D3   | D2<br>h4 Ø3.0<br>h5 Ø6.0 | L1 | Art. N°       | Z | TiAlN | STF | TiCN | DLC |
|-----------------------|---------------|------|-------|------|--------------------------|----|---------------|---|-------|-----|------|-----|
| 0.30                  | 0.05          | 0.60 | 1.80  | 0.27 | 3.00                     | 39 | 3379T-6X-0.30 | ■ | ■     | ■   | ■    | ■   |
| 0.40                  | 0.05          | 0.80 | 2.40  | 0.37 | 3.00                     | 39 | 3379T-6X-0.40 | ■ | ■     | ■   | ■    | ■   |
| 0.50                  | 0.05          | 1.00 | 3.00  | 0.45 | 3.00                     | 39 | 3379T-6X-0.50 | ■ | ■     | ■   | ■    | ■   |
| 0.60                  | 0.05          | 1.20 | 3.60  | 0.55 | 3.00                     | 39 | 3379T-6X-0.60 | ■ | ■     | ■   | ■    | ■   |
| 0.70                  | 0.05          | 1.40 | 4.20  | 0.65 | 3.00                     | 39 | 3379T-6X-0.70 | ■ | ■     | ■   | ■    | ■   |
| 0.80                  | 0.05          | 1.60 | 4.80  | 0.75 | 3.00                     | 39 | 3379T-6X-0.80 | ■ | ■     | ■   | ■    | ■   |
| 0.90                  | 0.05          | 1.80 | 5.40  | 0.85 | 3.00                     | 39 | 3379T-6X-0.90 | ■ | ■     | ■   | ■    | ■   |
| 1.00                  | 0.10          | 2.00 | 6.00  | 0.95 | 3.00                     | 39 | 3379T-6X-1.00 | ■ | ■     | ■   | ■    | ■   |
| 1.10                  | 0.10          | 2.20 | 6.60  | 1.05 | 3.00                     | 39 | 3379T-6X-1.10 | ■ | ■     | ■   | ■    | ■   |
| 1.20                  | 0.10          | 2.40 | 7.20  | 1.15 | 3.00                     | 39 | 3379T-6X-1.20 | ■ | ■     | ■   | ■    | ■   |
| 1.30                  | 0.10          | 2.60 | 7.80  | 1.25 | 3.00                     | 39 | 3379T-6X-1.30 | ■ | ■     | ■   | ■    | ■   |
| 1.40                  | 0.10          | 2.80 | 8.40  | 1.35 | 3.00                     | 39 | 3379T-6X-1.40 | ■ | ■     | ■   | ■    | ■   |
| 1.50                  | 0.20          | 3.00 | 9.00  | 1.45 | 3.00                     | 39 | 3379T-6X-1.50 | ■ | ■     | ■   | ■    | ■   |
| 1.60                  | 0.20          | 3.20 | 9.60  | 1.55 | 3.00                     | 39 | 3379T-6X-1.60 | ■ | ■     | ■   | ■    | ■   |
| 1.70                  | 0.20          | 3.40 | 10.20 | 1.65 | 3.00                     | 39 | 3379T-6X-1.70 | ■ | ■     | ■   | ■    | ■   |
| 1.80                  | 0.20          | 3.60 | 10.80 | 1.75 | 3.00                     | 39 | 3379T-6X-1.80 | ■ | ■     | ■   | ■    | ■   |
| 1.90                  | 0.20          | 3.80 | 11.40 | 1.85 | 3.00                     | 39 | 3379T-6X-1.90 | ■ | ■     | ■   | ■    | ■   |
| 2.00                  | 0.20          | 4.00 | 12.00 | 1.95 | 6.00                     | 50 | 3379T-6X-2.00 | ■ | ■     | ■   | ■    | ■   |
| 2.10                  | 0.20          | 4.20 | 12.60 | 2.05 | 6.00                     | 50 | 3379T-6X-2.10 | ■ | ■     | ■   | ■    | ■   |
| 2.20                  | 0.20          | 4.40 | 13.20 | 2.15 | 6.00                     | 50 | 3379T-6X-2.20 | ■ | ■     | ■   | ■    | ■   |
| 2.30                  | 0.20          | 4.60 | 13.80 | 2.25 | 6.00                     | 50 | 3379T-6X-2.30 | ■ | ■     | ■   | ■    | ■   |
| 2.40                  | 0.20          | 4.80 | 14.40 | 2.35 | 6.00                     | 50 | 3379T-6X-2.40 | ■ | ■     | ■   | ■    | ■   |
| 2.50                  | 0.20          | 5.00 | 15.00 | 2.45 | 6.00                     | 50 | 3379T-6X-2.50 | ■ | ■     | ■   | ■    | ■   |
| 3.00                  | 0.20          | 6.00 | 18.00 | 2.95 | 6.00                     | 50 | 3379T-6X-3.00 | ■ | ■     | ■   | ■    | ■   |

Micro-fraises de précision

Mikropräzisionsfräser

Precision micro end mills

3379T-9X

new



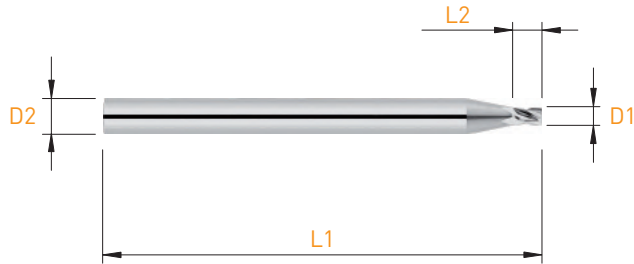
| D1<br>+0.005 / -0.010 | R<br>+/- 0.02 | L2   | L3    | D3   | D2<br>h4 Ø3.0<br>h5 Ø6.0 | L1 | Art. N°       | Z | TiAlN | STF | TiCN | DLC |
|-----------------------|---------------|------|-------|------|--------------------------|----|---------------|---|-------|-----|------|-----|
| 0.40                  | 0.05          | 0.80 | 3.60  | 0.37 | 3.00                     | 39 | 3379T-9X-0.40 | ■ | ■     | ■   | ■    | ■   |
| 0.50                  | 0.05          | 1.00 | 4.50  | 0.45 | 3.00                     | 39 | 3379T-9X-0.50 | ■ | ■     | ■   | ■    | ■   |
| 0.60                  | 0.05          | 1.20 | 5.40  | 0.55 | 3.00                     | 39 | 3379T-9X-0.60 | ■ | ■     | ■   | ■    | ■   |
| 0.70                  | 0.05          | 1.40 | 6.30  | 0.65 | 3.00                     | 39 | 3379T-9X-0.70 | ■ | ■     | ■   | ■    | ■   |
| 0.80                  | 0.05          | 1.60 | 7.20  | 0.75 | 3.00                     | 39 | 3379T-9X-0.80 | ■ | ■     | ■   | ■    | ■   |
| 0.90                  | 0.05          | 1.80 | 8.10  | 0.85 | 3.00                     | 39 | 3379T-9X-0.90 | ■ | ■     | ■   | ■    | ■   |
| 1.00                  | 0.10          | 2.00 | 9.00  | 0.95 | 3.00                     | 39 | 3379T-9X-1.00 | ■ | ■     | ■   | ■    | ■   |
| 1.10                  | 0.10          | 2.20 | 9.90  | 1.05 | 3.00                     | 39 | 3379T-9X-1.10 | ■ | ■     | ■   | ■    | ■   |
| 1.20                  | 0.10          | 2.40 | 10.80 | 1.15 | 3.00                     | 39 | 3379T-9X-1.20 | ■ | ■     | ■   | ■    | ■   |
| 1.30                  | 0.10          | 2.60 | 11.70 | 1.25 | 3.00                     | 39 | 3379T-9X-1.30 | ■ | ■     | ■   | ■    | ■   |
| 1.40                  | 0.10          | 2.80 | 12.60 | 1.35 | 3.00                     | 39 | 3379T-9X-1.40 | ■ | ■     | ■   | ■    | ■   |
| 1.50                  | 0.20          | 3.00 | 13.50 | 1.45 | 3.00                     | 39 | 3379T-9X-1.50 | ■ | ■     | ■   | ■    | ■   |
| 1.60                  | 0.20          | 3.20 | 14.40 | 1.55 | 3.00                     | 39 | 3379T-9X-1.60 | ■ | ■     | ■   | ■    | ■   |
| 1.70                  | 0.20          | 3.40 | 15.30 | 1.65 | 3.00                     | 39 | 3379T-9X-1.70 | ■ | ■     | ■   | ■    | ■   |
| 1.80                  | 0.20          | 3.60 | 16.20 | 1.75 | 3.00                     | 39 | 3379T-9X-1.80 | ■ | ■     | ■   | ■    | ■   |
| 1.90                  | 0.20          | 3.80 | 17.10 | 1.85 | 3.00                     | 39 | 3379T-9X-1.90 | ■ | ■     | ■   | ■    | ■   |
| 2.00                  | 0.20          | 4.00 | 18.00 | 1.95 | 6.00                     | 50 | 3379T-9X-2.00 | ■ | ■     | ■   | ■    | ■   |
| 2.10                  | 0.20          | 4.20 | 18.90 | 2.05 | 6.00                     | 50 | 3379T-9X-2.10 | ■ | ■     | ■   | ■    | ■   |
| 2.20                  | 0.20          | 4.40 | 19.80 | 2.15 | 6.00                     | 50 | 3379T-9X-2.20 | ■ | ■     | ■   | ■    | ■   |
| 2.30                  | 0.20          | 4.60 | 20.70 | 2.25 | 6.00                     | 50 | 3379T-9X-2.30 | ■ | ■     | ■   | ■    | ■   |
| 2.40                  | 0.20          | 4.80 | 21.60 | 2.35 | 6.00                     | 50 | 3379T-9X-2.40 | ■ | ■     | ■   | ■    | ■   |
| 2.50                  | 0.20          | 5.00 | 22.50 | 2.45 | 6.00                     | 50 | 3379T-9X-2.50 | ■ | ■     | ■   | ■    | ■   |
| 3.00                  | 0.20          | 6.00 | 27.00 | 2.95 | 6.00                     | 50 | 3379T-9X-3.00 | ■ | ■     | ■   | ■    | ■   |

Micro-fraises de précision

Mikropräzisionsfräser

Precision micro end mills

3471-1.5



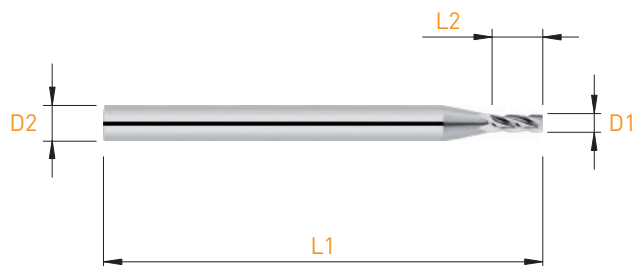
| D1<br>+0.005 / -0.010 | L2   | D2 h4 | L1 | Art. N°       | N | TiAlN | STF | TiCN | DLC |
|-----------------------|------|-------|----|---------------|---|-------|-----|------|-----|
| 0.30                  | 0.45 | 3.00  | 39 | 3471-1.5-0.30 | ■ | ■     | ■   | ■    | ■   |
| 0.40                  | 0.60 | 3.00  | 39 | 3471-1.5-0.40 | ■ | ■     | ■   | ■    | ■   |
| 0.50                  | 0.75 | 3.00  | 39 | 3471-1.5-0.50 | ■ | ■     | ■   | ■    | ■   |
| 0.60                  | 0.90 | 3.00  | 39 | 3471-1.5-0.60 | ■ | ■     | ■   | ■    | ■   |
| 0.70                  | 1.05 | 3.00  | 39 | 3471-1.5-0.70 | ■ | ■     | ■   | ■    | ■   |
| 0.80                  | 1.20 | 3.00  | 39 | 3471-1.5-0.80 | ■ | ■     | ■   | ■    | ■   |
| 0.90                  | 1.35 | 3.00  | 39 | 3471-1.5-0.90 | ■ | ■     | ■   | ■    | ■   |
| 1.00                  | 1.50 | 3.00  | 39 | 3471-1.5-1.00 | ■ | ■     | ■   | ■    | ■   |
| 1.10                  | 1.65 | 3.00  | 39 | 3471-1.5-1.10 | ■ | ■     | ■   | ■    | ■   |
| 1.20                  | 1.80 | 3.00  | 39 | 3471-1.5-1.20 | ■ | ■     | ■   | ■    | ■   |
| 1.30                  | 1.95 | 3.00  | 39 | 3471-1.5-1.30 | ■ | ■     | ■   | ■    | ■   |
| 1.40                  | 2.10 | 3.00  | 39 | 3471-1.5-1.40 | ■ | ■     | ■   | ■    | ■   |
| 1.50                  | 2.25 | 3.00  | 39 | 3471-1.5-1.50 | ■ | ■     | ■   | ■    | ■   |
| 1.60                  | 2.40 | 3.00  | 39 | 3471-1.5-1.60 | ■ | ■     | ■   | ■    | ■   |
| 1.70                  | 2.55 | 3.00  | 39 | 3471-1.5-1.70 | ■ | ■     | ■   | ■    | ■   |
| 1.80                  | 2.70 | 3.00  | 39 | 3471-1.5-1.80 | ■ | ■     | ■   | ■    | ■   |
| 1.90                  | 2.85 | 3.00  | 39 | 3471-1.5-1.90 | ■ | ■     | ■   | ■    | ■   |
| 2.00                  | 3.00 | 3.00  | 39 | 3471-1.5-2.00 | ■ | ■     | ■   | ■    | ■   |
| 2.10                  | 3.15 | 3.00  | 39 | 3471-1.5-2.10 | ■ | ■     | ■   | ■    | ■   |
| 2.20                  | 3.30 | 3.00  | 39 | 3471-1.5-2.20 | ■ | ■     | ■   | ■    | ■   |
| 2.30                  | 3.45 | 3.00  | 39 | 3471-1.5-2.30 | ■ | ■     | ■   | ■    | ■   |
| 2.40                  | 3.60 | 3.00  | 39 | 3471-1.5-2.40 | ■ | ■     | ■   | ■    | ■   |
| 2.50                  | 3.75 | 3.00  | 39 | 3471-1.5-2.50 | ■ | ■     | ■   | ■    | ■   |
| 2.60                  | 3.90 | 3.00  | 39 | 3471-1.5-2.60 | ■ | ■     | ■   | ■    | ■   |
| 2.70                  | 4.05 | 3.00  | 39 | 3471-1.5-2.70 | ■ | ■     | ■   | ■    | ■   |
| 2.80                  | 4.20 | 3.00  | 39 | 3471-1.5-2.80 | ■ | ■     | ■   | ■    | ■   |
| 2.90                  | 4.35 | 3.00  | 39 | 3471-1.5-2.90 | ■ | ■     | ■   | ■    | ■   |

Micro-fraises de précision

&lt; Mikropräzisionsfräser

Precision micro end mills

3471-3



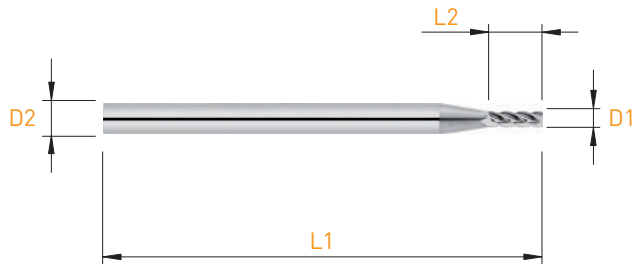
| D1<br>+0.005 / -0.010 | L2   | D2 h4 | L1 | Art. N°     | N | TiAlN | STF | TiCN | DLC |
|-----------------------|------|-------|----|-------------|---|-------|-----|------|-----|
| 0.30                  | 0.90 | 3.00  | 39 | 3471-3-0.30 | ■ | ■     | ■   | ■    | ■   |
| 0.40                  | 1.20 | 3.00  | 39 | 3471-3-0.40 | ■ | ■     | ■   | ■    | ■   |
| 0.50                  | 1.50 | 3.00  | 39 | 3471-3-0.50 | ■ | ■     | ■   | ■    | ■   |
| 0.55                  | 1.70 | 3.00  | 39 | 3471-3-0.55 | ■ | ■     | ■   | ■    | ■   |
| 0.60                  | 1.80 | 3.00  | 39 | 3471-3-0.60 | ■ | ■     | ■   | ■    | ■   |
| 0.70                  | 2.10 | 3.00  | 39 | 3471-3-0.70 | ■ | ■     | ■   | ■    | ■   |
| 0.75                  | 2.30 | 3.00  | 39 | 3471-3-0.75 | ■ | ■     | ■   | ■    | ■   |
| 0.80                  | 2.40 | 3.00  | 39 | 3471-3-0.80 | ■ | ■     | ■   | ■    | ■   |
| 0.85                  | 2.60 | 3.00  | 39 | 3471-3-0.85 | ■ | ■     | ■   | ■    | ■   |
| 0.90                  | 2.70 | 3.00  | 39 | 3471-3-0.90 | ■ | ■     | ■   | ■    | ■   |
| 0.95                  | 2.90 | 3.00  | 39 | 3471-3-0.95 | ■ | ■     | ■   | ■    | ■   |
| 1.00                  | 3.00 | 3.00  | 39 | 3471-3-1.00 | ■ | ■     | ■   | ■    | ■   |
| 1.10                  | 3.30 | 3.00  | 39 | 3471-3-1.10 | ■ | ■     | ■   | ■    | ■   |
| 1.20                  | 3.60 | 3.00  | 39 | 3471-3-1.20 | ■ | ■     | ■   | ■    | ■   |
| 1.30                  | 3.90 | 3.00  | 39 | 3471-3-1.30 | ■ | ■     | ■   | ■    | ■   |
| 1.40                  | 4.20 | 3.00  | 39 | 3471-3-1.40 | ■ | ■     | ■   | ■    | ■   |
| 1.50                  | 4.50 | 3.00  | 39 | 3471-3-1.50 | ■ | ■     | ■   | ■    | ■   |
| 1.60                  | 4.80 | 3.00  | 39 | 3471-3-1.60 | ■ | ■     | ■   | ■    | ■   |
| 1.70                  | 5.10 | 3.00  | 39 | 3471-3-1.70 | ■ | ■     | ■   | ■    | ■   |
| 1.80                  | 5.40 | 3.00  | 39 | 3471-3-1.80 | ■ | ■     | ■   | ■    | ■   |
| 1.90                  | 5.70 | 3.00  | 39 | 3471-3-1.90 | ■ | ■     | ■   | ■    | ■   |
| 2.00                  | 6.00 | 3.00  | 39 | 3471-3-2.00 | ■ | ■     | ■   | ■    | ■   |
| 2.10                  | 6.30 | 3.00  | 39 | 3471-3-2.10 | ■ | ■     | ■   | ■    | ■   |
| 2.20                  | 6.60 | 3.00  | 39 | 3471-3-2.20 | ■ | ■     | ■   | ■    | ■   |
| 2.30                  | 6.90 | 3.00  | 39 | 3471-3-2.30 | ■ | ■     | ■   | ■    | ■   |
| 2.40                  | 7.20 | 3.00  | 39 | 3471-3-2.40 | ■ | ■     | ■   | ■    | ■   |
| 2.50                  | 7.50 | 3.00  | 39 | 3471-3-2.50 | ■ | ■     | ■   | ■    | ■   |
| 2.60                  | 7.80 | 3.00  | 39 | 3471-3-2.60 | ■ | ■     | ■   | ■    | ■   |
| 2.70                  | 8.10 | 3.00  | 39 | 3471-3-2.70 | ■ | ■     | ■   | ■    | ■   |
| 2.80                  | 8.40 | 3.00  | 39 | 3471-3-2.80 | ■ | ■     | ■   | ■    | ■   |
| 2.90                  | 8.70 | 3.00  | 39 | 3471-3-2.90 | ■ | ■     | ■   | ■    | ■   |

Micro-fraises de précision

Mikropräzisionsfräser

Precision micro end mills

DHP3471-3



DHP

Denture à pas irrégulier, angle d'hélice progressive  
 Ungleiche Teilung, progressive Drallwinkel  
 Uneven tooth pitch, progressive helix angle

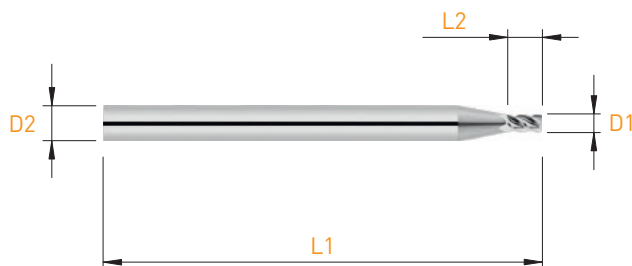
| D1<br>+0.005 / -0.010 | L2   | D2 h4 | L1 | Art. N°        | Z | TiAlN | STF | TiCN | DLC |
|-----------------------|------|-------|----|----------------|---|-------|-----|------|-----|
| 0.50                  | 1.50 | 3.00  | 39 | DHP3471-3-0.50 | ■ | ■     | ■   | ■    | ■   |
| 0.60                  | 1.80 | 3.00  | 39 | DHP3471-3-0.60 | ■ | ■     | ■   | ■    | ■   |
| 0.70                  | 2.10 | 3.00  | 39 | DHP3471-3-0.70 | ■ | ■     | ■   | ■    | ■   |
| 0.80                  | 2.40 | 3.00  | 39 | DHP3471-3-0.80 | ■ | ■     | ■   | ■    | ■   |
| 0.90                  | 2.70 | 3.00  | 39 | DHP3471-3-0.90 | ■ | ■     | ■   | ■    | ■   |
| 1.00                  | 3.00 | 3.00  | 39 | DHP3471-3-1.00 | ■ | ■     | ■   | ■    | ■   |
| 1.10                  | 3.30 | 3.00  | 39 | DHP3471-3-1.10 | ■ | ■     | ■   | ■    | ■   |
| 1.20                  | 3.60 | 3.00  | 39 | DHP3471-3-1.20 | ■ | ■     | ■   | ■    | ■   |
| 1.30                  | 3.90 | 3.00  | 39 | DHP3471-3-1.30 | ■ | ■     | ■   | ■    | ■   |
| 1.40                  | 4.20 | 3.00  | 39 | DHP3471-3-1.40 | ■ | ■     | ■   | ■    | ■   |
| 1.50                  | 4.50 | 3.00  | 39 | DHP3471-3-1.50 | ■ | ■     | ■   | ■    | ■   |
| 1.60                  | 4.80 | 3.00  | 39 | DHP3471-3-1.60 | ■ | ■     | ■   | ■    | ■   |
| 1.70                  | 5.10 | 3.00  | 39 | DHP3471-3-1.70 | ■ | ■     | ■   | ■    | ■   |
| 1.80                  | 5.40 | 3.00  | 39 | DHP3471-3-1.80 | ■ | ■     | ■   | ■    | ■   |
| 1.90                  | 5.70 | 3.00  | 39 | DHP3471-3-1.90 | ■ | ■     | ■   | ■    | ■   |
| 2.00                  | 6.00 | 3.00  | 39 | DHP3471-3-2.00 | ■ | ■     | ■   | ■    | ■   |
| 2.50                  | 7.50 | 3.00  | 39 | DHP3471-3-2.50 | ■ | ■     | ■   | ■    | ■   |

Micro-fraises de précision

&lt; Mikropräzisionsfräser

Precision micro end mills

3472-2



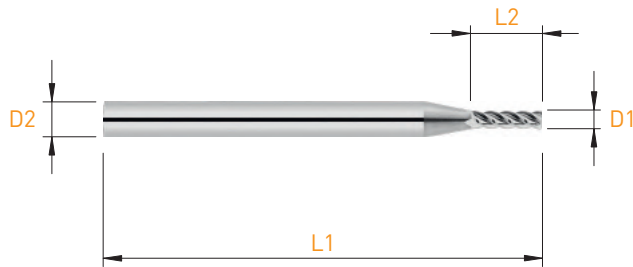
| D1<br>+0.005 / -0.010 | L2   | D2 h4 | L1 | Art. N°     | Z | TiAIN | STF | TiCN | DLC |
|-----------------------|------|-------|----|-------------|---|-------|-----|------|-----|
| 0.30                  | 0.60 | 3.00  | 39 | 3472-2-0.30 | ■ | ■     | ■   | ■    | ■   |
| 0.40                  | 0.80 | 3.00  | 39 | 3472-2-0.40 | ■ | ■     | ■   | ■    | ■   |
| 0.50                  | 1.00 | 3.00  | 39 | 3472-2-0.50 | ■ | ■     | ■   | ■    | ■   |
| 0.60                  | 1.20 | 3.00  | 39 | 3472-2-0.60 | ■ | ■     | ■   | ■    | ■   |
| 0.70                  | 1.40 | 3.00  | 39 | 3472-2-0.70 | ■ | ■     | ■   | ■    | ■   |
| 0.80                  | 1.60 | 3.00  | 39 | 3472-2-0.80 | ■ | ■     | ■   | ■    | ■   |
| 0.90                  | 1.80 | 3.00  | 39 | 3472-2-0.90 | ■ | ■     | ■   | ■    | ■   |
| 1.00                  | 2.00 | 3.00  | 39 | 3472-2-1.00 | ■ | ■     | ■   | ■    | ■   |
| 1.10                  | 2.20 | 3.00  | 39 | 3472-2-1.10 | ■ | ■     | ■   | ■    | ■   |
| 1.20                  | 2.40 | 3.00  | 39 | 3472-2-1.20 | ■ | ■     | ■   | ■    | ■   |
| 1.30                  | 2.60 | 3.00  | 39 | 3472-2-1.30 | ■ | ■     | ■   | ■    | ■   |
| 1.40                  | 2.80 | 3.00  | 39 | 3472-2-1.40 | ■ | ■     | ■   | ■    | ■   |
| 1.50                  | 3.00 | 3.00  | 39 | 3472-2-1.50 | ■ | ■     | ■   | ■    | ■   |
| 1.60                  | 3.20 | 3.00  | 39 | 3472-2-1.60 | ■ | ■     | ■   | ■    | ■   |
| 1.70                  | 3.40 | 3.00  | 39 | 3472-2-1.70 | ■ | ■     | ■   | ■    | ■   |
| 1.80                  | 3.60 | 3.00  | 39 | 3472-2-1.80 | ■ | ■     | ■   | ■    | ■   |
| 1.90                  | 3.80 | 3.00  | 39 | 3472-2-1.90 | ■ | ■     | ■   | ■    | ■   |
| 2.00                  | 4.00 | 3.00  | 39 | 3472-2-2.00 | ■ | ■     | ■   | ■    | ■   |
| 2.10                  | 4.20 | 3.00  | 39 | 3472-2-2.10 | ■ | ■     | ■   | ■    | ■   |
| 2.20                  | 4.40 | 3.00  | 39 | 3472-2-2.20 | ■ | ■     | ■   | ■    | ■   |
| 2.30                  | 4.60 | 3.00  | 39 | 3472-2-2.30 | ■ | ■     | ■   | ■    | ■   |
| 2.40                  | 4.80 | 3.00  | 39 | 3472-2-2.40 | ■ | ■     | ■   | ■    | ■   |
| 2.50                  | 5.00 | 3.00  | 39 | 3472-2-2.50 | ■ | ■     | ■   | ■    | ■   |
| 2.60                  | 5.20 | 3.00  | 39 | 3472-2-2.60 | ■ | ■     | ■   | ■    | ■   |
| 2.70                  | 5.40 | 3.00  | 39 | 3472-2-2.70 | ■ | ■     | ■   | ■    | ■   |
| 2.80                  | 5.60 | 3.00  | 39 | 3472-2-2.80 | ■ | ■     | ■   | ■    | ■   |
| 2.90                  | 5.80 | 3.00  | 39 | 3472-2-2.90 | ■ | ■     | ■   | ■    | ■   |

Micro-fraises de précision

Mikropräzisionsfräser

Precision micro end mills

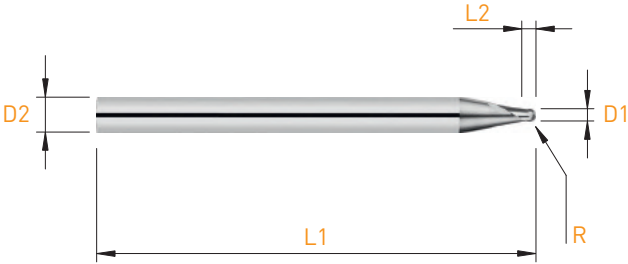
3472-4



| D1<br>+0.005 / -0.010 | L2    | D2 h4 | L1 | Art. N°     | N | TiAlN | STF | TiCN | DLC |
|-----------------------|-------|-------|----|-------------|---|-------|-----|------|-----|
| 0.40                  | 1.60  | 3.00  | 39 | 3472-4-0.40 | ■ | ■     | ■   | ■    | ■   |
| 0.50                  | 2.00  | 3.00  | 39 | 3472-4-0.50 | ■ | ■     | ■   | ■    | ■   |
| 0.60                  | 2.40  | 3.00  | 39 | 3472-4-0.60 | ■ | ■     | ■   | ■    | ■   |
| 0.70                  | 2.80  | 3.00  | 39 | 3472-4-0.70 | ■ | ■     | ■   | ■    | ■   |
| 0.80                  | 3.20  | 3.00  | 39 | 3472-4-0.80 | ■ | ■     | ■   | ■    | ■   |
| 0.90                  | 3.60  | 3.00  | 39 | 3472-4-0.90 | ■ | ■     | ■   | ■    | ■   |
| 1.00                  | 4.00  | 3.00  | 39 | 3472-4-1.00 | ■ | ■     | ■   | ■    | ■   |
| 1.10                  | 4.40  | 3.00  | 39 | 3472-4-1.10 | ■ | ■     | ■   | ■    | ■   |
| 1.20                  | 4.80  | 3.00  | 39 | 3472-4-1.20 | ■ | ■     | ■   | ■    | ■   |
| 1.30                  | 5.20  | 3.00  | 39 | 3472-4-1.30 | ■ | ■     | ■   | ■    | ■   |
| 1.40                  | 5.60  | 3.00  | 39 | 3472-4-1.40 | ■ | ■     | ■   | ■    | ■   |
| 1.50                  | 6.00  | 3.00  | 39 | 3472-4-1.50 | ■ | ■     | ■   | ■    | ■   |
| 1.60                  | 6.40  | 3.00  | 39 | 3472-4-1.60 | ■ | ■     | ■   | ■    | ■   |
| 1.70                  | 6.80  | 3.00  | 39 | 3472-4-1.70 | ■ | ■     | ■   | ■    | ■   |
| 1.80                  | 7.20  | 3.00  | 39 | 3472-4-1.80 | ■ | ■     | ■   | ■    | ■   |
| 1.90                  | 7.60  | 3.00  | 39 | 3472-4-1.90 | ■ | ■     | ■   | ■    | ■   |
| 2.00                  | 8.00  | 3.00  | 39 | 3472-4-2.00 | ■ | ■     | ■   | ■    | ■   |
| 2.10                  | 8.40  | 3.00  | 39 | 3472-4-2.10 | ■ | ■     | ■   | ■    | ■   |
| 2.20                  | 8.80  | 3.00  | 39 | 3472-4-2.20 | ■ | ■     | ■   | ■    | ■   |
| 2.30                  | 9.20  | 3.00  | 39 | 3472-4-2.30 | ■ | ■     | ■   | ■    | ■   |
| 2.40                  | 9.60  | 3.00  | 39 | 3472-4-2.40 | ■ | ■     | ■   | ■    | ■   |
| 2.50                  | 10.00 | 3.00  | 39 | 3472-4-2.50 | ■ | ■     | ■   | ■    | ■   |
| 2.60                  | 10.40 | 3.00  | 39 | 3472-4-2.60 | ■ | ■     | ■   | ■    | ■   |
| 2.70                  | 10.80 | 3.00  | 39 | 3472-4-2.70 | ■ | ■     | ■   | ■    | ■   |
| 2.80                  | 11.20 | 3.00  | 39 | 3472-4-2.80 | ■ | ■     | ■   | ■    | ■   |
| 2.90                  | 11.60 | 3.00  | 39 | 3472-4-2.90 | ■ | ■     | ■   | ■    | ■   |

Micro-fraises de précision  
Mikropräzisionsfräser  
Precision micro end mills

3278-0.75



| D1<br>+0.005 / -0.010 | R    | L2   | D2 h4 | L1 | Art. N°        | Z | TiAIN | STF | TiCN | DLC |
|-----------------------|------|------|-------|----|----------------|---|-------|-----|------|-----|
| 0.20                  | 0.10 | 0.15 | 3.00  | 39 | 3278-0.75-0.20 | ■ |       |     |      |     |
| 0.30                  | 0.15 | 0.20 | 3.00  | 39 | 3278-0.75-0.30 | ■ | ■     | ■   | ■    | ■   |
| 0.40                  | 0.20 | 0.30 | 3.00  | 39 | 3278-0.75-0.40 | ■ | ■     | ■   | ■    | ■   |
| 0.50                  | 0.25 | 0.35 | 3.00  | 39 | 3278-0.75-0.50 | ■ | ■     | ■   | ■    | ■   |
| 0.60                  | 0.30 | 0.45 | 3.00  | 39 | 3278-0.75-0.60 | ■ | ■     | ■   | ■    | ■   |
| 0.70                  | 0.35 | 0.55 | 3.00  | 39 | 3278-0.75-0.70 | ■ | ■     | ■   | ■    | ■   |
| 0.80                  | 0.40 | 0.60 | 3.00  | 39 | 3278-0.75-0.80 | ■ | ■     | ■   | ■    | ■   |
| 0.90                  | 0.45 | 0.70 | 3.00  | 39 | 3278-0.75-0.90 | ■ | ■     | ■   | ■    | ■   |
| 1.00                  | 0.50 | 0.75 | 3.00  | 39 | 3278-0.75-1.00 | ■ | ■     | ■   | ■    | ■   |
| 1.50                  | 0.75 | 1.15 | 3.00  | 39 | 3278-0.75-1.50 | ■ | ■     | ■   | ■    | ■   |
| 2.00                  | 1.00 | 1.50 | 3.00  | 39 | 3278-0.75-2.00 | ■ | ■     | ■   | ■    | ■   |
| 2.50                  | 1.25 | 1.90 | 3.00  | 39 | 3278-0.75-2.50 | ■ | ■     | ■   | ■    | ■   |

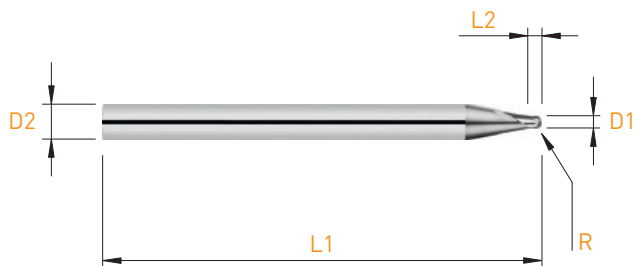


Micro-fraises de précision

Mikropräzisionsfräser

Precision micro end mills

3278-1



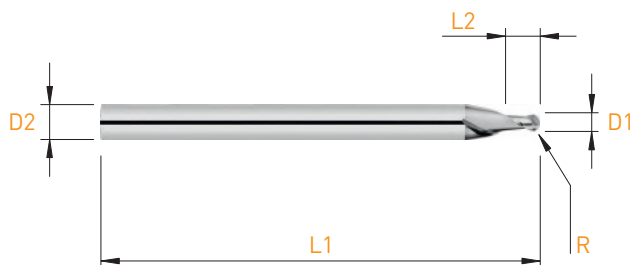
| D1<br>+0.005 / -0.010 | R    | L2   | D2 h4 | L1 | Art. N°     | Z | TiAlN | STF | TiCN | DLC |
|-----------------------|------|------|-------|----|-------------|---|-------|-----|------|-----|
| 0.20                  | 0.10 | 0.20 | 3.00  | 39 | 3278-1-0.20 | ■ |       |     |      |     |
| 0.30                  | 0.15 | 0.30 | 3.00  | 39 | 3278-1-0.30 | ■ | ■     | ■   | ■    | ■   |
| 0.40                  | 0.20 | 0.40 | 3.00  | 39 | 3278-1-0.40 | ■ | ■     | ■   | ■    | ■   |
| 0.50                  | 0.25 | 0.50 | 3.00  | 39 | 3278-1-0.50 | ■ | ■     | ■   | ■    | ■   |
| 0.60                  | 0.30 | 0.60 | 3.00  | 39 | 3278-1-0.60 | ■ | ■     | ■   | ■    | ■   |
| 0.70                  | 0.35 | 0.70 | 3.00  | 39 | 3278-1-0.70 | ■ | ■     | ■   | ■    | ■   |
| 0.80                  | 0.40 | 0.80 | 3.00  | 39 | 3278-1-0.80 | ■ | ■     | ■   | ■    | ■   |
| 0.90                  | 0.45 | 0.90 | 3.00  | 39 | 3278-1-0.90 | ■ | ■     | ■   | ■    | ■   |
| 1.00                  | 0.50 | 1.00 | 3.00  | 39 | 3278-1-1.00 | ■ | ■     | ■   | ■    | ■   |
| 1.10                  | 0.55 | 1.10 | 3.00  | 39 | 3278-1-1.10 | ■ | ■     | ■   | ■    | ■   |
| 1.20                  | 0.60 | 1.20 | 3.00  | 39 | 3278-1-1.20 | ■ | ■     | ■   | ■    | ■   |
| 1.30                  | 0.35 | 1.30 | 3.00  | 39 | 3278-1-1.30 | ■ | ■     | ■   | ■    | ■   |
| 1.40                  | 0.70 | 1.40 | 3.00  | 39 | 3278-1-1.40 | ■ | ■     | ■   | ■    | ■   |
| 1.50                  | 0.75 | 1.50 | 3.00  | 39 | 3278-1-1.50 | ■ | ■     | ■   | ■    | ■   |
| 1.60                  | 0.80 | 1.60 | 3.00  | 39 | 3278-1-1.60 | ■ | ■     | ■   | ■    | ■   |
| 1.70                  | 0.85 | 1.70 | 3.00  | 39 | 3278-1-1.70 | ■ | ■     | ■   | ■    | ■   |
| 1.80                  | 0.90 | 1.80 | 3.00  | 39 | 3278-1-1.80 | ■ | ■     | ■   | ■    | ■   |
| 1.90                  | 0.95 | 1.90 | 3.00  | 39 | 3278-1-1.90 | ■ | ■     | ■   | ■    | ■   |
| 2.00                  | 1.00 | 2.00 | 3.00  | 39 | 3278-1-2.00 | ■ | ■     | ■   | ■    | ■   |
| 2.10                  | 1.05 | 2.10 | 3.00  | 39 | 3278-1-2.10 | ■ | ■     | ■   | ■    | ■   |
| 2.20                  | 1.10 | 2.20 | 3.00  | 39 | 3278-1-2.20 | ■ | ■     | ■   | ■    | ■   |
| 2.30                  | 1.15 | 2.30 | 3.00  | 39 | 3278-1-2.30 | ■ | ■     | ■   | ■    | ■   |
| 2.40                  | 1.20 | 2.40 | 3.00  | 39 | 3278-1-2.40 | ■ | ■     | ■   | ■    | ■   |
| 2.50                  | 1.25 | 2.50 | 3.00  | 39 | 3278-1-2.50 | ■ | ■     | ■   | ■    | ■   |
| 2.60                  | 1.30 | 2.60 | 3.00  | 39 | 3278-1-2.60 | ■ | ■     | ■   | ■    | ■   |
| 2.70                  | 1.35 | 2.70 | 3.00  | 39 | 3278-1-2.70 | ■ | ■     | ■   | ■    | ■   |
| 2.80                  | 1.40 | 2.80 | 3.00  | 39 | 3278-1-2.80 | ■ | ■     | ■   | ■    | ■   |
| 2.90                  | 1.45 | 2.90 | 3.00  | 39 | 3278-1-2.90 | ■ | ■     | ■   | ■    | ■   |

Micro-fraises de précision

Mikropräzisionsfräser

Precision micro end mills

3278-1.5



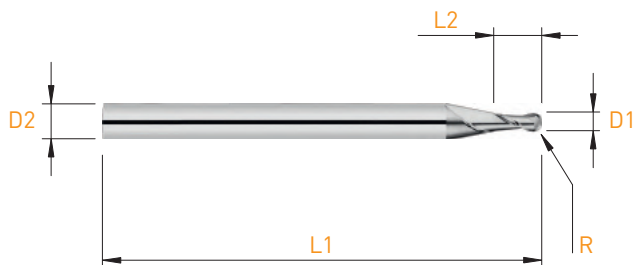
| D1<br>+0.005 / -0.010 | R     | L2   | D2 h4 | L1 | Art. N°       | Z | TiAlN | STF | TiCN | DLC |
|-----------------------|-------|------|-------|----|---------------|---|-------|-----|------|-----|
| 0.20                  | 0.10  | 0.30 | 3.00  | 39 | 3278-1.5-0.20 | ■ |       |     |      |     |
| 0.25                  | 0.125 | 0.35 | 3.00  | 39 | 3278-1.5-0.25 | ■ |       |     |      |     |
| 0.30                  | 0.15  | 0.45 | 3.00  | 39 | 3278-1.5-0.30 | ■ | ■     | ■   | ■    | ■   |
| 0.40                  | 0.20  | 0.60 | 3.00  | 39 | 3278-1.5-0.40 | ■ | ■     | ■   | ■    | ■   |
| 0.50                  | 0.25  | 0.75 | 3.00  | 39 | 3278-1.5-0.50 | ■ | ■     | ■   | ■    | ■   |
| 0.60                  | 0.30  | 0.90 | 3.00  | 39 | 3278-1.5-0.60 | ■ | ■     | ■   | ■    | ■   |
| 0.70                  | 0.35  | 1.05 | 3.00  | 39 | 3278-1.5-0.70 | ■ | ■     | ■   | ■    | ■   |
| 0.80                  | 0.40  | 1.20 | 3.00  | 39 | 3278-1.5-0.80 | ■ | ■     | ■   | ■    | ■   |
| 0.85                  | 0.40  | 1.30 | 3.00  | 39 | 3278-1.5-0.85 | ■ | ■     | ■   | ■    | ■   |
| 0.90                  | 0.45  | 1.35 | 3.00  | 39 | 3278-1.5-0.90 | ■ | ■     | ■   | ■    | ■   |
| 1.00                  | 0.50  | 1.50 | 3.00  | 39 | 3278-1.5-1.00 | ■ | ■     | ■   | ■    | ■   |
| 1.10                  | 0.55  | 1.65 | 3.00  | 39 | 3278-1.5-1.10 | ■ | ■     | ■   | ■    | ■   |
| 1.15                  | 0.55  | 1.75 | 3.00  | 39 | 3278-1.5-1.15 | ■ | ■     | ■   | ■    | ■   |
| 1.20                  | 0.60  | 1.80 | 3.00  | 39 | 3278-1.5-1.20 | ■ | ■     | ■   | ■    | ■   |
| 1.30                  | 0.65  | 1.95 | 3.00  | 39 | 3278-1.5-1.30 | ■ | ■     | ■   | ■    | ■   |
| 1.40                  | 0.70  | 2.10 | 3.00  | 39 | 3278-1.5-1.40 | ■ | ■     | ■   | ■    | ■   |
| 1.50                  | 0.75  | 2.25 | 3.00  | 39 | 3278-1.5-1.50 | ■ | ■     | ■   | ■    | ■   |
| 1.60                  | 0.80  | 2.40 | 3.00  | 39 | 3278-1.5-1.60 | ■ | ■     | ■   | ■    | ■   |
| 1.70                  | 0.85  | 2.60 | 3.00  | 39 | 3278-1.5-1.70 | ■ | ■     | ■   | ■    | ■   |
| 1.80                  | 0.90  | 2.70 | 3.00  | 39 | 3278-1.5-1.80 | ■ | ■     | ■   | ■    | ■   |
| 1.90                  | 0.95  | 2.90 | 3.00  | 39 | 3278-1.5-1.90 | ■ | ■     | ■   | ■    | ■   |
| 2.00                  | 1.00  | 3.00 | 3.00  | 39 | 3278-1.5-2.00 | ■ | ■     | ■   | ■    | ■   |
| 2.10                  | 1.05  | 3.20 | 3.00  | 39 | 3278-1.5-2.10 | ■ | ■     | ■   | ■    | ■   |
| 2.20                  | 1.10  | 3.30 | 3.00  | 39 | 3278-1.5-2.20 | ■ | ■     | ■   | ■    | ■   |
| 2.30                  | 1.15  | 3.50 | 3.00  | 39 | 3278-1.5-2.30 | ■ | ■     | ■   | ■    | ■   |
| 2.40                  | 1.20  | 3.60 | 3.00  | 39 | 3278-1.5-2.40 | ■ | ■     | ■   | ■    | ■   |
| 2.50                  | 1.25  | 3.75 | 3.00  | 39 | 3278-1.5-2.50 | ■ | ■     | ■   | ■    | ■   |
| 2.60                  | 1.30  | 3.90 | 3.00  | 39 | 3278-1.5-2.60 | ■ | ■     | ■   | ■    | ■   |
| 2.70                  | 1.35  | 4.00 | 3.00  | 39 | 3278-1.5-2.70 | ■ | ■     | ■   | ■    | ■   |
| 2.80                  | 1.40  | 4.20 | 3.00  | 39 | 3278-1.5-2.80 | ■ | ■     | ■   | ■    | ■   |
| 2.90                  | 1.45  | 4.40 | 3.00  | 39 | 3278-1.5-2.90 | ■ | ■     | ■   | ■    | ■   |

Micro-fraises de précision

Mikropräzisionsfräser

Precision micro end mills

3278-3



| D1<br>+0.005 / -0.010 | R     | L2   | D2 h4 | L1 | Art. N°     | Z | TiAlN | STF | TiCN | DLC |
|-----------------------|-------|------|-------|----|-------------|---|-------|-----|------|-----|
| 0.20                  | 0.10  | 0.60 | 3.00  | 39 | 3278-3-0.20 | ■ |       |     |      |     |
| 0.30                  | 0.15  | 1.00 | 3.00  | 39 | 3278-3-0.30 | ■ | ■     | ■   | ■    | ■   |
| 0.40                  | 0.20  | 1.00 | 3.00  | 39 | 3278-3-0.40 | ■ | ■     | ■   | ■    | ■   |
| 0.50                  | 0.25  | 1.50 | 3.00  | 39 | 3278-3-0.50 | ■ | ■     | ■   | ■    | ■   |
| 0.60                  | 0.30  | 1.50 | 3.00  | 39 | 3278-3-0.60 | ■ | ■     | ■   | ■    | ■   |
| 0.70                  | 0.35  | 2.00 | 3.00  | 39 | 3278-3-0.70 | ■ | ■     | ■   | ■    | ■   |
| 0.80                  | 0.40  | 2.00 | 3.00  | 39 | 3278-3-0.80 | ■ | ■     | ■   | ■    | ■   |
| 0.90                  | 0.45  | 2.50 | 3.00  | 39 | 3278-3-0.90 | ■ | ■     | ■   | ■    | ■   |
| 1.00                  | 0.50  | 3.00 | 3.00  | 39 | 3278-3-1.00 | ■ | ■     | ■   | ■    | ■   |
| 1.20                  | 0.60  | 4.00 | 3.00  | 39 | 3278-3-1.20 | ■ | ■     | ■   | ■    | ■   |
| 1.30                  | 0.65  | 4.00 | 3.00  | 39 | 3278-3-1.30 | ■ | ■     | ■   | ■    | ■   |
| 1.40                  | 0.70  | 4.00 | 3.00  | 39 | 3278-3-1.40 | ■ | ■     | ■   | ■    | ■   |
| 1.50                  | 0.75  | 4.50 | 3.00  | 39 | 3278-3-1.50 | ■ | ■     | ■   | ■    | ■   |
| 1.55                  | 0.775 | 5.00 | 3.00  | 39 | 3278-3-1.55 | ■ | ■     | ■   | ■    | ■   |
| 1.60                  | 0.80  | 5.00 | 3.00  | 39 | 3278-3-1.60 | ■ | ■     | ■   | ■    | ■   |
| 1.80                  | 0.90  | 5.50 | 3.00  | 39 | 3278-3-1.80 | ■ | ■     | ■   | ■    | ■   |
| 2.00                  | 1.00  | 6.00 | 3.00  | 39 | 3278-3-2.00 | ■ | ■     | ■   | ■    | ■   |
| 2.10                  | 1.05  | 6.50 | 3.00  | 39 | 3278-3-2.10 | ■ | ■     | ■   | ■    | ■   |
| 2.20                  | 1.10  | 7.00 | 3.00  | 39 | 3278-3-2.20 | ■ | ■     | ■   | ■    | ■   |
| 2.50                  | 1.25  | 7.50 | 3.00  | 39 | 3278-3-2.50 | ■ | ■     | ■   | ■    | ■   |
| 2.60                  | 1.30  | 7.80 | 3.00  | 39 | 3278-3-2.60 | ■ | ■     | ■   | ■    | ■   |
| 2.70                  | 1.35  | 8.10 | 3.00  | 39 | 3278-3-2.70 | ■ | ■     | ■   | ■    | ■   |
| 2.80                  | 1.40  | 8.40 | 3.00  | 39 | 3278-3-2.80 | ■ | ■     | ■   | ■    | ■   |
| 2.90                  | 1.45  | 8.70 | 3.00  | 39 | 3278-3-2.90 | ■ | ■     | ■   | ■    | ■   |

Micro-fraises de précision

Mikropräzisionsfräser

Precision micro end mills

3278H-3X

new



| D1<br>+0.005 / -0.010 | R    | L2   | L3   | D3   | D2<br>h4 Ø3.0<br>h5 Ø6.0 | L1 | Art. N°       | Z | TiAlN | STF | TiCN | DLC |
|-----------------------|------|------|------|------|--------------------------|----|---------------|---|-------|-----|------|-----|
| 0.20                  | 0.10 | 0.30 | 0.60 | 0.19 | 3.00                     | 39 | 3278H-3X-0.20 | ■ |       |     |      |     |
| 0.30                  | 0.15 | 0.45 | 0.90 | 0.27 | 3.00                     | 39 | 3278H-3X-0.30 | ■ | ■     | ■   | ■    | ■   |
| 0.40                  | 0.20 | 0.60 | 1.20 | 0.37 | 3.00                     | 39 | 3278H-3X-0.40 | ■ | ■     | ■   | ■    | ■   |
| 0.50                  | 0.25 | 0.75 | 1.50 | 0.45 | 3.00                     | 39 | 3278H-3X-0.50 | ■ | ■     | ■   | ■    | ■   |
| 0.60                  | 0.30 | 0.90 | 1.80 | 0.55 | 3.00                     | 39 | 3278H-3X-0.60 | ■ | ■     | ■   | ■    | ■   |
| 0.70                  | 0.35 | 1.05 | 2.10 | 0.65 | 3.00                     | 39 | 3278H-3X-0.70 | ■ | ■     | ■   | ■    | ■   |
| 0.80                  | 0.40 | 1.20 | 2.40 | 0.75 | 3.00                     | 39 | 3278H-3X-0.80 | ■ | ■     | ■   | ■    | ■   |
| 0.90                  | 0.45 | 1.35 | 2.70 | 0.85 | 3.00                     | 39 | 3278H-3X-0.90 | ■ | ■     | ■   | ■    | ■   |
| 1.00                  | 0.50 | 1.50 | 3.00 | 0.95 | 3.00                     | 39 | 3278H-3X-1.00 | ■ | ■     | ■   | ■    | ■   |
| 1.10                  | 0.55 | 1.65 | 3.30 | 1.05 | 3.00                     | 39 | 3278H-3X-1.10 | ■ | ■     | ■   | ■    | ■   |
| 1.20                  | 0.60 | 1.80 | 3.60 | 1.15 | 3.00                     | 39 | 3278H-3X-1.20 | ■ | ■     | ■   | ■    | ■   |
| 1.30                  | 0.65 | 1.95 | 3.90 | 1.25 | 3.00                     | 39 | 3278H-3X-1.30 | ■ | ■     | ■   | ■    | ■   |
| 1.40                  | 0.70 | 2.10 | 4.20 | 1.35 | 3.00                     | 39 | 3278H-3X-1.40 | ■ | ■     | ■   | ■    | ■   |
| 1.50                  | 0.75 | 2.25 | 4.50 | 1.45 | 3.00                     | 39 | 3278H-3X-1.50 | ■ | ■     | ■   | ■    | ■   |
| 1.60                  | 0.80 | 2.40 | 4.80 | 1.55 | 3.00                     | 39 | 3278H-3X-1.60 | ■ | ■     | ■   | ■    | ■   |
| 1.70                  | 0.85 | 2.55 | 5.10 | 1.65 | 3.00                     | 39 | 3278H-3X-1.70 | ■ | ■     | ■   | ■    | ■   |
| 1.80                  | 0.90 | 2.70 | 5.40 | 1.75 | 3.00                     | 39 | 3278H-3X-1.80 | ■ | ■     | ■   | ■    | ■   |
| 1.90                  | 0.95 | 2.85 | 5.70 | 1.85 | 3.00                     | 39 | 3278H-3X-1.90 | ■ | ■     | ■   | ■    | ■   |
| 2.00                  | 1.00 | 3.00 | 6.00 | 1.95 | 6.00                     | 50 | 3278H-3X-2.00 | ■ | ■     | ■   | ■    | ■   |
| 2.10                  | 1.05 | 3.15 | 6.30 | 2.05 | 6.00                     | 50 | 3278H-3X-2.10 | ■ | ■     | ■   | ■    | ■   |
| 2.20                  | 1.10 | 3.30 | 6.60 | 2.15 | 6.00                     | 50 | 3278H-3X-2.20 | ■ | ■     | ■   | ■    | ■   |
| 2.30                  | 1.15 | 3.45 | 6.90 | 2.25 | 6.00                     | 50 | 3278H-3X-2.30 | ■ | ■     | ■   | ■    | ■   |
| 2.40                  | 1.20 | 3.60 | 7.20 | 2.35 | 6.00                     | 50 | 3278H-3X-2.40 | ■ | ■     | ■   | ■    | ■   |
| 2.50                  | 1.25 | 3.75 | 7.50 | 2.45 | 6.00                     | 50 | 3278H-3X-2.50 | ■ | ■     | ■   | ■    | ■   |
| 3.00                  | 1.50 | 4.50 | 9.00 | 2.95 | 6.00                     | 50 | 3278H-3X-3.00 | ■ | ■     | ■   | ■    | ■   |

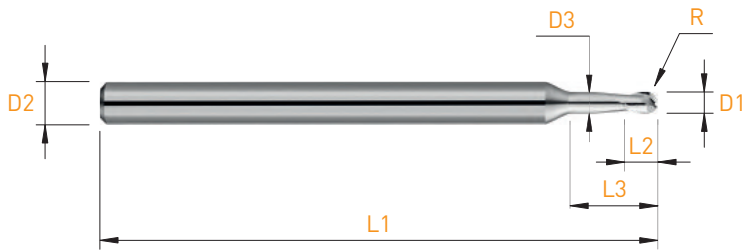
Micro-fraises de précision

Mikropräzisionsfräser

Precision micro end mills

3278H-6X

new



| D1<br>+0.005 / -0.010 | R    | L2   | L3    | D3   | D2<br>h4 Ø3.0<br>h5 Ø6.0 | L1 | Art. N°       | Z | TiAlN | STF | TiCN | DLC |
|-----------------------|------|------|-------|------|--------------------------|----|---------------|---|-------|-----|------|-----|
| 0.30                  | 0.15 | 0.45 | 1.80  | 0.27 | 3.00                     | 39 | 3278H-6X-0.30 | ■ | ■     | ■   | ■    | ■   |
| 0.40                  | 0.20 | 0.60 | 2.40  | 0.37 | 3.00                     | 39 | 3278H-6X-0.40 | ■ | ■     | ■   | ■    | ■   |
| 0.50                  | 0.25 | 0.75 | 3.00  | 0.45 | 3.00                     | 39 | 3278H-6X-0.50 | ■ | ■     | ■   | ■    | ■   |
| 0.60                  | 0.30 | 0.90 | 3.60  | 0.55 | 3.00                     | 39 | 3278H-6X-0.60 | ■ | ■     | ■   | ■    | ■   |
| 0.70                  | 0.35 | 1.05 | 4.20  | 0.65 | 3.00                     | 39 | 3278H-6X-0.70 | ■ | ■     | ■   | ■    | ■   |
| 0.80                  | 0.40 | 1.20 | 4.80  | 0.75 | 3.00                     | 39 | 3278H-6X-0.80 | ■ | ■     | ■   | ■    | ■   |
| 0.90                  | 0.45 | 1.35 | 5.40  | 0.85 | 3.00                     | 39 | 3278H-6X-0.90 | ■ | ■     | ■   | ■    | ■   |
| 1.00                  | 0.50 | 1.50 | 6.00  | 0.95 | 3.00                     | 39 | 3278H-6X-1.00 | ■ | ■     | ■   | ■    | ■   |
| 1.10                  | 0.55 | 1.65 | 6.60  | 1.05 | 3.00                     | 39 | 3278H-6X-1.10 | ■ | ■     | ■   | ■    | ■   |
| 1.20                  | 0.60 | 1.80 | 7.20  | 1.15 | 3.00                     | 39 | 3278H-6X-1.20 | ■ | ■     | ■   | ■    | ■   |
| 1.30                  | 0.65 | 1.95 | 7.80  | 1.25 | 3.00                     | 39 | 3278H-6X-1.30 | ■ | ■     | ■   | ■    | ■   |
| 1.40                  | 0.70 | 2.10 | 8.40  | 1.35 | 3.00                     | 39 | 3278H-6X-1.40 | ■ | ■     | ■   | ■    | ■   |
| 1.50                  | 0.75 | 2.25 | 9.00  | 1.45 | 3.00                     | 39 | 3278H-6X-1.50 | ■ | ■     | ■   | ■    | ■   |
| 1.60                  | 0.80 | 2.40 | 9.60  | 1.55 | 3.00                     | 39 | 3278H-6X-1.60 | ■ | ■     | ■   | ■    | ■   |
| 1.70                  | 0.85 | 2.55 | 10.20 | 1.65 | 3.00                     | 39 | 3278H-6X-1.70 | ■ | ■     | ■   | ■    | ■   |
| 1.80                  | 0.90 | 2.70 | 10.80 | 1.75 | 3.00                     | 39 | 3278H-6X-1.80 | ■ | ■     | ■   | ■    | ■   |
| 1.90                  | 0.95 | 2.85 | 11.40 | 1.85 | 3.00                     | 39 | 3278H-6X-1.90 | ■ | ■     | ■   | ■    | ■   |
| 2.00                  | 1.00 | 3.00 | 12.00 | 1.95 | 6.00                     | 50 | 3278H-6X-2.00 | ■ | ■     | ■   | ■    | ■   |
| 2.10                  | 1.05 | 3.15 | 12.60 | 2.05 | 6.00                     | 50 | 3278H-6X-2.10 | ■ | ■     | ■   | ■    | ■   |
| 2.20                  | 1.10 | 3.30 | 13.20 | 2.15 | 6.00                     | 50 | 3278H-6X-2.20 | ■ | ■     | ■   | ■    | ■   |
| 2.30                  | 1.15 | 3.45 | 13.80 | 2.25 | 6.00                     | 50 | 3278H-6X-2.30 | ■ | ■     | ■   | ■    | ■   |
| 2.40                  | 1.20 | 3.60 | 14.40 | 2.35 | 6.00                     | 50 | 3278H-6X-2.40 | ■ | ■     | ■   | ■    | ■   |
| 2.50                  | 1.25 | 3.75 | 15.00 | 2.45 | 6.00                     | 50 | 3278H-6X-2.50 | ■ | ■     | ■   | ■    | ■   |
| 3.00                  | 1.50 | 4.50 | 18.00 | 2.95 | 6.00                     | 50 | 3278H-6X-3.00 | ■ | ■     | ■   | ■    | ■   |

Micro-fraises de précision

Mikropräzisionsfräser

Precision micro end mills

3278H-9X

new



| D1<br>+0.005 / -0.010 | R    | L2   | L3    | D3   | D2<br>h4 Ø3.0<br>h5 Ø6.0 | L1 | Art. N°       | Z | TiAlN | STF | TiCN | DLC |
|-----------------------|------|------|-------|------|--------------------------|----|---------------|---|-------|-----|------|-----|
| 0.40                  | 0.20 | 0.60 | 3.60  | 0.37 | 3.00                     | 39 | 3278H-9X-0.40 | ■ | ■     | ■   | ■    | ■   |
| 0.50                  | 0.25 | 0.75 | 4.50  | 0.45 | 3.00                     | 39 | 3278H-9X-0.50 | ■ | ■     | ■   | ■    | ■   |
| 0.60                  | 0.30 | 0.90 | 5.40  | 0.55 | 3.00                     | 39 | 3278H-9X-0.60 | ■ | ■     | ■   | ■    | ■   |
| 0.70                  | 0.35 | 1.05 | 6.30  | 0.65 | 3.00                     | 39 | 3278H-9X-0.70 | ■ | ■     | ■   | ■    | ■   |
| 0.80                  | 0.40 | 1.20 | 7.20  | 0.75 | 3.00                     | 39 | 3278H-9X-0.80 | ■ | ■     | ■   | ■    | ■   |
| 0.90                  | 0.45 | 1.35 | 8.10  | 0.85 | 3.00                     | 39 | 3278H-9X-0.90 | ■ | ■     | ■   | ■    | ■   |
| 1.00                  | 0.50 | 1.50 | 9.00  | 0.95 | 3.00                     | 39 | 3278H-9X-1.00 | ■ | ■     | ■   | ■    | ■   |
| 1.10                  | 0.55 | 1.65 | 9.90  | 1.05 | 3.00                     | 39 | 3278H-9X-1.10 | ■ | ■     | ■   | ■    | ■   |
| 1.20                  | 0.60 | 1.80 | 10.80 | 1.15 | 3.00                     | 39 | 3278H-9X-1.20 | ■ | ■     | ■   | ■    | ■   |
| 1.30                  | 0.65 | 1.95 | 11.70 | 1.25 | 3.00                     | 39 | 3278H-9X-1.30 | ■ | ■     | ■   | ■    | ■   |
| 1.40                  | 0.70 | 2.10 | 12.60 | 1.35 | 3.00                     | 39 | 3278H-9X-1.40 | ■ | ■     | ■   | ■    | ■   |
| 1.50                  | 0.75 | 2.25 | 13.50 | 1.45 | 3.00                     | 39 | 3278H-9X-1.50 | ■ | ■     | ■   | ■    | ■   |
| 1.60                  | 0.80 | 2.40 | 14.40 | 1.55 | 3.00                     | 39 | 3278H-9X-1.60 | ■ | ■     | ■   | ■    | ■   |
| 1.70                  | 0.85 | 2.55 | 15.30 | 1.65 | 3.00                     | 39 | 3278H-9X-1.70 | ■ | ■     | ■   | ■    | ■   |
| 1.80                  | 0.90 | 2.70 | 16.20 | 1.75 | 3.00                     | 39 | 3278H-9X-1.80 | ■ | ■     | ■   | ■    | ■   |
| 1.90                  | 0.95 | 2.85 | 17.10 | 1.85 | 3.00                     | 39 | 3278H-9X-1.90 | ■ | ■     | ■   | ■    | ■   |
| 2.00                  | 1.00 | 3.00 | 18.00 | 1.95 | 6.00                     | 50 | 3278H-9X-2.00 | ■ | ■     | ■   | ■    | ■   |
| 2.10                  | 1.05 | 3.15 | 18.90 | 2.05 | 6.00                     | 50 | 3278H-9X-2.10 | ■ | ■     | ■   | ■    | ■   |
| 2.20                  | 1.10 | 3.30 | 19.80 | 2.15 | 6.00                     | 50 | 3278H-9X-2.20 | ■ | ■     | ■   | ■    | ■   |
| 2.30                  | 1.15 | 3.45 | 20.70 | 2.25 | 6.00                     | 50 | 3278H-9X-2.30 | ■ | ■     | ■   | ■    | ■   |
| 2.40                  | 1.20 | 3.60 | 21.60 | 2.35 | 6.00                     | 50 | 3278H-9X-2.40 | ■ | ■     | ■   | ■    | ■   |
| 2.50                  | 1.25 | 3.75 | 22.50 | 2.45 | 6.00                     | 50 | 3278H-9X-2.50 | ■ | ■     | ■   | ■    | ■   |
| 3.00                  | 1.50 | 4.50 | 27.00 | 2.95 | 6.00                     | 50 | 3278H-9X-3.00 | ■ | ■     | ■   | ■    | ■   |

## Fraises en bout

## Schafffräser

## End mills

## Index

Paramètres de coupe indicatif  
Empfohlene Schnittwerte  
Standard machining data

14.53

|  Sharp Corner | Fraises en bout avec angle vif<br>Schafffräser mit scharfkantigen Ecken<br>End mills with sharp corners |           |              |         |               |                  |
|------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|-----------|--------------|---------|---------------|------------------|
|                                                                                                | Z                                                                                                       | $\lambda$ | D1           | D2      | Type          | page             |
|               | Z=3                                                                                                     | Div.      | Ø1.00 - 8.00 | Ø3/6/8  | E-DHP4300-1.5 | 14.57            |
|                                                                                                | Z=4                                                                                                     | 26° / 33° | Ø10.00       | Ø10 h6  | E-DHP4400-1.5 |                  |
|                                                                                                | Z=3                                                                                                     | Div.      | Ø1.00 - 8.00 | Ø3/6/8  | E-DHP4300-2.5 |                  |
|                                                                                                | Z=4                                                                                                     | 26° / 33° | Ø10.00       | Ø10h6   | E-DHP4400-2.5 |                  |
|               | Z=1                                                                                                     | 23°       | Ø1.00 - 6.00 | Ø6h5    | 3123-2        | 14.58 <b>new</b> |
|                                                                                                |                                                                                                         |           | Ø1.00 - 6.00 | Ø6h5    | 3123-4        | 14.59 <b>new</b> |
|               | Z=2                                                                                                     | 60°       | Ø0.50 - 6.00 | Ø3/6/8  | 3260MV        | 14.60 <b>new</b> |
|                                                                                                |                                                                                                         | 90°       | Ø0.30 - 6.00 | Ø3/6/8  | 3290MV        | 14.61 <b>new</b> |
|                                                                                                |                                                                                                         | 120°      | Ø0.50 - 6.00 | Ø3/6/8  | 32120MV       | 14.62 <b>new</b> |
|               | Z=2                                                                                                     | 30°       | Ø1.00 - 6.00 | Ø6 h5   | 3230          | 14.63            |
|                                                                                                |                                                                                                         |           | Ø3.00 - 6.00 | Ø6 h5   | 3230-1.5      | 14.64 <b>new</b> |
|                                                                                                |                                                                                                         |           | Ø3.00 - 6.00 | Ø6 h5   | 3230-3        | 14.65 <b>new</b> |
|                                                                                                |                                                                                                         |           | Ø2.00 - 6.00 | D1 = D2 | 3231          | 14.66            |
|                                                                                                |                                                                                                         |           | Ø3.00 - 6.00 | Ø6 h5   | 3239T-2.5X    | 14.67 <b>new</b> |
|                                                                                                |                                                                                                         |           | Ø3.00 - 6.00 | Ø6 h5   | 3239T-4X      | 14.68 <b>new</b> |
|                                                                                                |                                                                                                         |           | Ø1.00 - 6.00 | Ø6 h6   | 3330-S        | 14.69            |
|                                                                                                |                                                                                                         |           | Ø3.00-12.00  | D1 = D2 | 3330          | 14.70            |
|             | Z=3                                                                                                     | 30°       | Ø3.00 - 6.00 | Ø6 h5   | 3330-4        | 14.71 <b>new</b> |
|                                                                                                |                                                                                                         |           | Ø2.00 - 6.00 | D1 = D2 | 3331          | 14.72            |
|                                                                                                |                                                                                                         |           | Ø1.50 - 6.00 | Ø6 h5   | 3336-HA       | 14.73            |
|                                                                                                |                                                                                                         |           | Ø1.50 - 6.00 | Ø6 h5   | 3337-HA       | 14.73            |
|                                                                                                |                                                                                                         | 45°       | Ø2.00 - 6.00 | D1 = D2 | 3341          | 14.74            |
|                                                                                                |                                                                                                         |           | Ø0.50 - 6.00 | Ø6 h6   | 3345-S        | 14.75 <b>new</b> |
|                                                                                                |                                                                                                         | 60°       | Ø2.00 - 6.00 | D1 = D2 | 3361          | 14.76            |
|                                                                                                |                                                                                                         | 35° / 38° | Ø1.00 - 6.00 | Ø6 h5   | DHP3336       | 14.77            |
|             | Z=4                                                                                                     | 30°       | Ø3.00 - 6.00 | D1 = D2 | 3430          | 14.78            |
|                                                                                                |                                                                                                         |           | Ø2.00 - 6.00 | D1 = D2 | 3431          | 14.79            |
|                                                                                                |                                                                                                         | 45°       | Ø2.00 - 6.00 | D1 = D2 | 3441          | 14.80            |
|                                                                                                |                                                                                                         |           | Ø0.50 - 6.00 | Ø6 h6   | 3445-S        | 14.81            |
|                                                                                                |                                                                                                         | 50°       | Ø1.00 - 6.00 | Ø6 h5   | 3450          | 14.82 <b>new</b> |
|                                                                                                |                                                                                                         | 35° / 38° | Ø1.00 - 6.00 | Ø6 h5   | DHP3436       | 14.83            |
|                                                                                                |                                                                                                         | 30°       | Ø3.00 - 6.00 | Ø6 h5   | 3439T-2.5X    | 14.84 <b>new</b> |
|                                                                                                |                                                                                                         |           | Ø3.00 - 6.00 | Ø6 h5   | 3439T-4X      | 14.85 <b>new</b> |
|             | Z=5                                                                                                     | 45°       | Ø1.00 - 6.00 | Ø6 h5   | 3545          | 14.86 <b>new</b> |
|                                                                                                | Z=4/5/6                                                                                                 |           | Ø1.00 - 6.00 | Ø6 h5   | 35645         | 14.87 <b>new</b> |
|                                                                                                | Z=8                                                                                                     | 10°       | Ø6.00        | Ø6 h5   | 3810          | 14.88 <b>new</b> |

Fraises en bout

Schaftfräser

End mills

Index

|                                                                                                                                                                   | Z    | $\lambda$ | D1            | D2                      | Type        | page                   |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-----------|---------------|-------------------------|-------------|------------------------|
|                                                                                                                                                                                                                                                                                                                                     |      |           |               |                         |             |                        |
|     | Z=2  | 30°       | Ø2.00 - 6.00  | D1 = D2                 | 3238        | 14.89                  |
|                                                                                                                                                                                                                                                                                                                                     | Z=3  | 30°       | Ø2.00 - 6.00  | D1 = D2                 | 3338        | 14.90                  |
|                                                                                                                                                                                                                                                                                                                                     | Z=3  |           | Ø0.30 - 3.50  | Ø6 h5                   | 701S3371-1  |                        |
|                                                                                                                                                                                                                                                                                                                                     |      |           | Ø0.30 - 3.50  | Ø6 h5                   | 701S3371-2  | 14.91                  |
|                                                                                                                                                                                                                                                                                                                                     |      |           | Ø0.30 - 3.00  | Ø6 h5                   | 701S3371-3  |                        |
|                                                                                                                                                                                                                                                                                                                                     | Z=3  | 30°       | Ø8.00-12.00   | Ø6h6                    | 3383        | 14.93                  |
|                                                                                                                                                                                                                                                                                                                                     | Z=10 | 30°       | Ø16.3 / 20.30 | Ø10h6                   | 3831 / 3833 | 14.94                  |
|                                                                                                                                                                                                                                                                                                                                     | Z=3  | 0°        | Ø0.50 -3.00   | Ø3h4                    | 3611        | 14.95 <span>new</span> |
|                                                                                                                                                                                                                                                                                                                                     | Z=3  | 0°        | Ø0.50 -3.00   | Ø3h4                    | 3911        | 14.96                  |
|                                                                                                                                                                                                                                                                                                                                     | Z=4  | 0°        | Ø3.00-8.00    | Ø3 h4<br>Ø6 h5<br>Ø8 h6 | 3901        | 14.97                  |



## Fraises ébauches

## Schrupfräser

## Roughing mills

## Paramètres de coupe indicatifs

## Empfohlene Schnittwerte

## Standard machining data

| Matière<br>Werkstoff<br>Material                                               | VC        | 1.0 - 2.0     | 2.0 - 4.0     | 4.0 - 6.0     | 6.0 - 10.0    | Z | TAIN | STF |
|--------------------------------------------------------------------------------|-----------|---------------|---------------|---------------|---------------|---|------|-----|
|                                                                                | (m/min)   | fz (mm)       | fz (mm)       | fz (mm)       | fz (mm)       |   |      |     |
| Acier de décolletage<br>Automatenstahl<br>Free-cutting steel (P)               | 100 - 140 | 0.010 - 0.015 | 0.015 - 0.030 | 0.030 - 0.040 | 0.040 - 0.060 | - | ***  | *** |
| Acier<br>Stahl<br>Steel < 600 N/mm <sup>2</sup> (P)                            | 90 - 140  | 0.010 - 0.015 | 0.015 - 0.030 | 0.030 - 0.040 | 0.040 - 0.060 | - | ***  | *** |
| Acier<br>Stahl<br>Steel < 800 N/mm <sup>2</sup> (P)                            | 90 - 140  | 0.010 - 0.015 | 0.015 - 0.030 | 0.030 - 0.040 | 0.040 - 0.060 | - | ***  | *** |
| Acier<br>Stahl<br>Steel > 800 N/mm <sup>2</sup> (P)                            | 80 - 120  | 0.010 - 0.015 | 0.015 - 0.030 | 0.030 - 0.040 | 0.040 - 0.060 | - | ***  | *** |
| Acier trempé<br>Gehärteter Stahl -55HRC (H)                                    | 120 - 170 | 0.005 - 0.008 | 0.008 - 0.015 | 0.015 - 0.020 | 0.020 - 0.035 | - | ***  | *** |
| Acier trempé<br>Gehärteter Stahl +55HRC (H)                                    | 110 - 150 | 0.005 - 0.008 | 0.008 - 0.015 | 0.015 - 0.020 | 0.020 - 0.035 | - | ***  | *** |
| Inox<br>Rostfreistahl<br>Stainless steel (M)                                   | 50 - 90   | 0.004 - 0.008 | 0.008 - 0.012 | 0.012 - 0.020 | 0.020 - 0.040 | - | ***  | *** |
| Aluminium (N)                                                                  | 250 - 350 | 0.008 - 0.015 | 0.015 - 0.030 | 0.030 - 0.040 | 0.040 - 0.065 | - | ***  | **  |
| Cuivre, laiton, bronze<br>Kupfer, Messing, Bronze<br>Copper, brass, bronze (N) | 130 - 240 | 0.005 - 0.010 | 0.010 - 0.020 | 0.020 - 0.030 | 0.030 - 0.050 | - | ***  | **  |
| Matière synthétique<br>Synthetisches Material<br>Synthetic material (N)        | 150 - 300 | 0.020 - 0.030 | 0.030 - 0.050 | 0.050 - 0.080 | 0.080 - 0.150 | - | ***  | **  |
| Métaux précieux<br>Edelmetalle<br>Precious metals (N)                          | 120 - 150 | 0.005 - 0.010 | 0.010 - 0.020 | 0.020 - 0.030 | 0.030 - 0.050 | - | ***  | **  |
| Titane<br>Titan<br>Titanium (S)                                                | 50 - 100  | 0.010 - 0.015 | 0.015 - 0.020 | 0.020 - 0.030 | 0.030 - 0.050 | - | ***  | *** |
| Alliage de nickel<br>Nickel-Legierung<br>Nickel alloy (S)                      | 40 - 60   | 0.005 - 0.007 | 0.007-0.012   | 0.012 - 0.020 | 0.020 - 0.030 | - | ***  | *** |
| Matière exotique<br>Exotisches material<br>Exotic material (O)                 | 15 - 25   | 0.005 - 0.010 | 0.010 - 0.020 | 0.020 - 0.030 | 0.030 - 0.050 | - | ***  | *** |

Avec revêtement, augmenter les valeurs de 20-30%

Mit Beschichtung, Daten um 20-30% erhöhen

With coating, increase data by 20-30%

\* Bien / Gut / Good

\*\* Très bien / Sehr Gut / Very good

\*\*\* Excellent / Ausgezeichnet / Excellent

## Fraises en bout

## Schaftfräser

## End mills

## Paramètres de coupe indicatifs

## Empfohlene Schnittwerte

## Standard machining data

| Matière<br>Werkstoff<br>Material                                           |                           | VC        | 0.50 - 2.0    | 2.0 - 4.0     | 4.0 - 6.0     | 6.0 - 8.0     | 8.0 - 12.0    | Z   | TAIN | STF | DLC |
|----------------------------------------------------------------------------|---------------------------|-----------|---------------|---------------|---------------|---------------|---------------|-----|------|-----|-----|
|                                                                            |                           | (m/min)   | fz (mm)       | fz (mm)       | fz (mm)       | fz (mm)       | fz (mm)       |     |      |     |     |
| Acier de décolletage<br>Automatenstahl<br>Free-cutting steel               | P                         | 80 - 130  | 0.004-0.015   | 0.015 - 0.025 | 0.025 - 0.035 | 0.035 - 0.050 | 0.050 - 0.080 | -   | ***  | *** | -   |
| Acier<br>Stahl<br>Steel                                                    | < 600 N/mm <sup>2</sup> P | 70 - 100  | 0.004-0.015   | 0.015 - 0.025 | 0.025 - 0.035 | 0.035 - 0.050 | 0.050 - 0.080 | -   | ***  | *** | -   |
| Acier<br>Stahl<br>Steel                                                    | < 800 N/mm <sup>2</sup> P | 70 - 100  | 0.004-0.015   | 0.015 - 0.025 | 0.025 - 0.035 | 0.035 - 0.050 | 0.050 - 0.080 | -   | ***  | *** | -   |
| Acier<br>Stahl<br>Steel                                                    | > 800 N/mm <sup>2</sup> P | 50 - 80   | 0.004-0.015   | 0.015 - 0.025 | 0.025 - 0.035 | 0.035 - 0.050 | 0.050 - 0.080 | -   | ***  | *** | -   |
| Acier trempé<br>Gehärteter Stahl<br>Hardened steel                         | -55HRC H                  | 60 - 90   | 0.002 - 0.008 | 0.008 - 0.015 | 0.012 - 0.020 | 0.020 - 0.025 | 0.025 - 0.030 | -   | ***  | *** | -   |
| Acier trempé<br>Gehärteter Stahl<br>Hardened steel                         | +55HRC H                  | 40 - 70   | 0.002 - 0.008 | 0.008 - 0.015 | 0.012 - 0.020 | 0.020 - 0.025 | 0.020 - 0.030 | -   | ***  | *** | -   |
| Inox<br>Rostfreistahl<br>Stainless steel                                   | M                         | 40 - 80   | 0.003 - 0.008 | 0.008 - 0.015 | 0.015 - 0.020 | 0.020 - 0.030 | 0.030 - 0.050 | -   | ***  | *** | -   |
| Aluminium                                                                  | N                         | 230 - 320 | 0.003 - 0.010 | 0.010 - 0.025 | 0.025 - 0.030 | 0.030 - 0.050 | 0.050 - 0.080 | **  | *    | **  | *** |
| Cuivre, laiton, bronze<br>Kupfer, Messing, Bronze<br>Copper, brass, bronze | N                         | 100 - 190 | 0.003 - 0.010 | 0.010 - 0.020 | 0.020 - 0.030 | 0.030 - 0.040 | 0.040 - 0.070 | **  | *    | **  | *** |
| Matière synthétique<br>Synthetisches Material<br>Synthetic material        | N                         | 250 - 500 | 0.005 - 0.030 | 0.030 - 0.050 | 0.050 - 0.080 | 0.080 - 0.100 | 0.100 - 0.200 | *** | -    | **  | *** |
| Métaux précieux<br>Edelmetalle<br>Precious metals                          | N                         | 90 - 150  | 0.003 - 0.015 | 0.015 - 0.025 | 0.025 - 0.030 | 0.030 - 0.050 | 0.050 - 0.080 | *** | *    | **  | *** |
| Titane<br>Titan<br>Titanium                                                | S                         | 30 - 70   | 0.004 - 0.010 | 0.010 - 0.017 | 0.017-0.025   | 0.025 - 0.035 | 0.035 - 0.050 | -   | **   | *** | -   |
| Alliage de nickel<br>Nickel-Legierung<br>Nickel alloy                      | S                         | 30 - 60   | 0.003 - 0.008 | 0.008 - 0.015 | 0.015 - 0.020 | 0.020 - 0.025 | 0.025 - 0.040 | -   | ***  | *** | -   |
| Matière exotique<br>Exotisches material<br>Exotic material                 | O                         | 15 - 25   | 0.002 - 0.008 | 0.008 - 0.020 | 0.020 - 0.030 | 0.030 - 0.040 | 0.040 - 0.050 | -   | ***  | *** | **  |

Avec revêtement, augmenter les valeurs de 20-30%

Mit Beschichtung, Daten um 20-30% erhöhen

With coating, increase data by 20-30%

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## Outils WM 701S

## Werkzeuge WM 701S

## Tools WM 701S

## Paramètres de coupe indicatifs

## Empfohlene Schnittwerte

## Standard machining data

| Matière<br>Werkstoff<br>Material                                                            | VC<br>(m/min) | Z   | T/AIN | STF | DLC |
|---------------------------------------------------------------------------------------------|---------------|-----|-------|-----|-----|
|                                                                                             |               |     |       |     |     |
| Acier de décolletage<br>Automatenstahl<br>Free-cutting steel <span>(P)</span>               | 120 - 180     | -   | ***   | *** | -   |
| Acier<br>Stahl<br>Steel < 600 N/mm <sup>2</sup> <span>(P)</span>                            | 100 - 150     | -   | ***   | *** | -   |
| Acier<br>Stahl<br>Steel < 800 N/mm <sup>2</sup> <span>(P)</span>                            | 100 - 130     | -   | ***   | *** | -   |
| Acier<br>Stahl<br>Steel > 800 N/mm <sup>2</sup> <span>(P)</span>                            | 80 - 100      | -   | ***   | *** | -   |
| Acier trempé<br>Gehärteter Stahl -55HRC <span>(H)</span>                                    | -             | -   | ***   | *** | -   |
| Acier trempé<br>Gehärteter Stahl +55HRC <span>(H)</span>                                    | -             | -   | ***   | *** | -   |
| Inox<br>Rostfreistahl<br>Stainless steel <span>(M)</span>                                   | 60 - 90       | -   | ***   | *** | -   |
| Aluminium <span>(N)</span>                                                                  | 250 - 400     | **  | ***   | *** | *** |
| Cuivre, laiton, bronze<br>Kupfer, Messing, Bronze<br>Copper, brass, bronze <span>(N)</span> | 150 - 200     | *** | **    | **  | *** |
| Matière synthétique<br>Synthetisches Material<br>Synthetic material <span>(N)</span>        | 100 - 150     | *** | **    | **  | *** |
| Métaux précieux<br>Edelmetalle<br>Precious metals <span>(N)</span>                          | 140 - 200     | *** | **    | **  | *** |
| Titane<br>Titan<br>Titanium <span>(S)</span>                                                | 40 - 70       | -   | ***   | *** | -   |
| Alliage de nickel<br>Nickel-Legierung<br>Nickel alloy <span>(S)</span>                      | 30 - 60       | -   | ***   | *** | -   |
| Matière exotique<br>Exotisches material<br>Exotic material <span>(O)</span>                 | 30 - 60       | -   | ***   | *** | *** |

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Fraises à angler

Paramètres de coupe indicatifs

Kegelsenker

Empfohlene Schnittwerte

Chamfering tools

Standard machining data

| Matière<br>Werkstoff<br>Material                                                          | VC<br>(m/min) | Z   | TAIN | STF |
|-------------------------------------------------------------------------------------------|---------------|-----|------|-----|
|                                                                                           |               |     |      |     |
| Acier de décolletage<br>Automatenstahl<br>Free-cutting steel <span>P</span>               | 80 - 130      | ★   | ★★★  | ★★★ |
| Acier<br>Stahl < 600 N/mm <sup>2</sup> <span>P</span><br>Steel                            | 70 - 100      | ★   | ★★★  | ★★★ |
| Acier<br>Stahl < 800 N/mm <sup>2</sup> <span>P</span><br>Steel                            | 70 - 100      | ★   | ★★★  | ★★★ |
| Acier<br>Stahl > 800 N/mm <sup>2</sup> <span>P</span><br>Steel                            | 50 - 80       | ★   | ★★★  | ★★★ |
| Acier trempé<br>Gehärteter Stahl -55HRC <span>H</span><br>Hardened steel                  | 60 - 90       | -   | ★★   | ★★★ |
| Acier trempé<br>Gehärteter Stahl +55HRC <span>H</span><br>Hardened steel                  | 40 - 70       | -   | ★★   | ★★★ |
| Inox<br>Rostfreistahl<br>Stainless steel <span>M</span>                                   | 50 - 100      | ★   | ★★★  | ★★★ |
| Aluminium <span>N</span>                                                                  | 200 - 300     | ★★★ | ★★   | ★★★ |
| Cuivre, laiton, bronze<br>Kupfer, Messing, Bronze<br>Copper, brass, bronze <span>N</span> | 100 - 200     | ★★★ | ★★   | ★★★ |
| Matière synthétique<br>Synthetisches Material<br>Synthetic material <span>N</span>        | 200 - 500     | ★★★ | ★★   | ★★  |
| Métaux précieux<br>Edelmetalle<br>Precious metals <span>N</span>                          | 90 - 140      | ★★★ | ★★   | ★★★ |
| Titane<br>Titan<br>Titanium <span>S</span>                                                | 30 - 80       | -   | ★★★  | ★★★ |
| Alliage de nickel<br>Nickel-Legierung<br>Nickel alloy <span>S</span>                      | 30 - 60       | -   | ★★★  | ★★★ |
| Matière exotique<br>Exotisches material<br>Exotic material <span>O</span>                 | 20 - 30       | -   | ★★★  | ★★★ |

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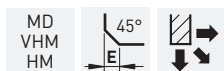
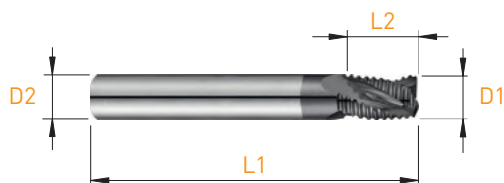
\*\*\* Excellent / Ausgezeichnet / Excellent

Fraises ébauches

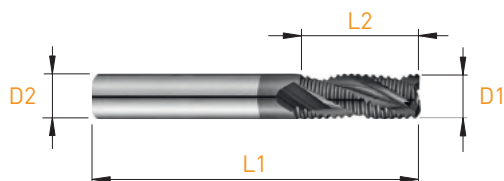
Schrupfräser

Roughing mills

E-DHP3300 / 3400



|  | Z | E    | $\lambda$ | D1 h10 | L2    | D2 h6 | L1 | Art. N°             | Z | TiAlN | STF |
|--|---|------|-----------|--------|-------|-------|----|---------------------|---|-------|-----|
|  | 3 | 0.05 | 26°/30°   | 1.00   | 1.50  | 3.00  | 39 | E-DHP3300-1.5-1.00  | ■ | ■     | ■   |
|  | 3 | 0.10 | 26°/30°   | 1.50   | 2.25  | 3.00  | 39 | E-DHP3300-1.5-1.50  | ■ | ■     | ■   |
|  | 3 | 0.20 | 26°/30°   | 2.00   | 3.00  | 3.00  | 39 | E-DHP3300-1.5-2.00  | ■ | ■     | ■   |
|  | 3 | 0.20 | 26°/33°   | 2.50   | 3.75  | 6.00  | 50 | E-DHP3300-1.5-2.50  | ■ | ■     | ■   |
|  | 3 | 0.20 | 26°/33°   | 3.00   | 4.25  | 6.00  | 50 | E-DHP3300-1.5-3.00  | ■ | ■     | ■   |
|  | 3 | 0.30 | 26°/33°   | 4.00   | 6.00  | 6.00  | 50 | E-DHP3300-1.5-4.00  | ■ | ■     | ■   |
|  | 3 | 0.30 | 26°/33°   | 5.00   | 7.50  | 6.00  | 50 | E-DHP3300-1.5-5.00  | ■ | ■     | ■   |
|  | 3 | 0.40 | 26°/33°   | 6.00   | 9.00  | 6.00  | 50 | E-DHP3300-1.5-6.00  | ■ | ■     | ■   |
|  | 3 | 0.50 | 26°/33°   | 8.00   | 12.00 | 8.00  | 64 | E-DHP3300-1.5-8.00  | ■ | ■     | ■   |
|  | 4 | 0.50 | 26°/33°   | 10.00  | 15.00 | 10.00 | 73 | E-DHP3400-1.5-10.00 | ■ | ■     | ■   |



|  | Z | E    | $\lambda$ | D1 h10 | L2    | D2 h6 | L1 | Art. N°             | Z | TiAlN | STF |
|--|---|------|-----------|--------|-------|-------|----|---------------------|---|-------|-----|
|  | 3 | 0.05 | 26°/30°   | 1.00   | 2.50  | 3.00  | 39 | E-DHP3300-2.5-1.00  | ■ | ■     | ■   |
|  | 3 | 0.10 | 26°/30°   | 1.50   | 3.75  | 3.00  | 39 | E-DHP3300-2.5-1.50  | ■ | ■     | ■   |
|  | 3 | 0.20 | 26°/30°   | 2.00   | 5.00  | 3.00  | 39 | E-DHP3300-2.5-2.00  | ■ | ■     | ■   |
|  | 3 | 0.20 | 26°/33°   | 2.50   | 6.25  | 6.00  | 58 | E-DHP3300-2.5-2.50  | ■ | ■     | ■   |
|  | 3 | 0.20 | 26°/33°   | 3.00   | 7.50  | 6.00  | 58 | E-DHP3300-2.5-3.00  | ■ | ■     | ■   |
|  | 3 | 0.30 | 26°/33°   | 4.00   | 10.00 | 6.00  | 58 | E-DHP3300-2.5-4.00  | ■ | ■     | ■   |
|  | 3 | 0.30 | 26°/33°   | 5.00   | 12.50 | 6.00  | 58 | E-DHP3300-2.5-5.00  | ■ | ■     | ■   |
|  | 3 | 0.40 | 26°/33°   | 6.00   | 15.00 | 6.00  | 58 | E-DHP3300-2.5-6.00  | ■ | ■     | ■   |
|  | 3 | 0.50 | 26°/33°   | 8.00   | 20.00 | 8.00  | 64 | E-DHP3300-2.5-8.00  | ■ | ■     | ■   |
|  | 4 | 0.50 | 26°/33°   | 10.00  | 25.00 | 10.00 | 73 | E-DHP3400-2.5-10.00 | ■ | ■     | ■   |

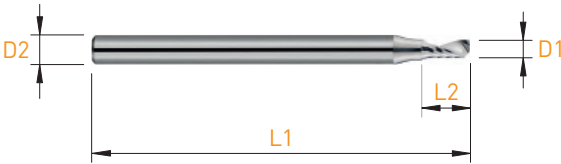
Fraises en bout de finition

Schlicht Schaftfräser

Finishing end mills

3123-2

new



MD  
VHM  
HM

$\lambda$  23°

Sharp  
Corner

2xD1

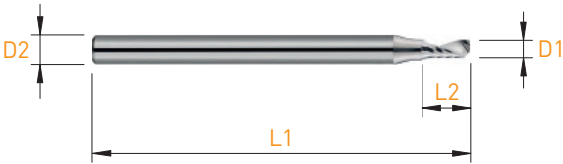
Z=1

| D1 h10 | L2    | D2 h5 | L1 | Art. N°    | Z | TiAlN | STF | DLC |
|--------|-------|-------|----|------------|---|-------|-----|-----|
| 1.00   | 2.00  | 6.00  | 50 | 3123-2-1.0 | ■ | ■     | ■   | ■   |
| 2.00   | 4.00  | 6.00  | 50 | 3123-2-2.0 | ■ | ■     | ■   | ■   |
| 3.00   | 6.00  | 6.00  | 50 | 3123-2-3.0 | ■ | ■     | ■   | ■   |
| 4.00   | 8.00  | 6.00  | 50 | 3123-2-4.0 | ■ | ■     | ■   | ■   |
| 5.00   | 10.00 | 6.00  | 50 | 3123-2-5.0 | ■ | ■     | ■   | ■   |
| 6.00   | 12.00 | 6.00  | 50 | 3123-2-6.0 | ■ | ■     | ■   | ■   |

- Fraises en bout de finition
- Schlicht Schaftfräser
- Finishing end mills

3123-4

new



MD  
VHM  
HM

$\lambda$  23°

Sharp  
Corner

4xD1

Z=1

| D1 h10 | L2    | D2 h5 | L1 | Art. N°    | Z | TiAlN | STF | DLC |
|--------|-------|-------|----|------------|---|-------|-----|-----|
| 1.00   | 4.00  | 6.00  | 50 | 3123-4-1.0 | ■ | ■     | ■   | ■   |
| 2.00   | 8.00  | 6.00  | 50 | 3123-4-2.0 | ■ | ■     | ■   | ■   |
| 3.00   | 12.00 | 6.00  | 50 | 3123-4-3.0 | ■ | ■     | ■   | ■   |
| 4.00   | 16.00 | 6.00  | 50 | 3123-4-4.0 | ■ | ■     | ■   | ■   |
| 5.00   | 20.00 | 6.00  | 50 | 3123-4-5.0 | ■ | ■     | ■   | ■   |
| 6.00   | 24.00 | 6.00  | 50 | 3123-4-6.0 | ■ | ■     | ■   | ■   |

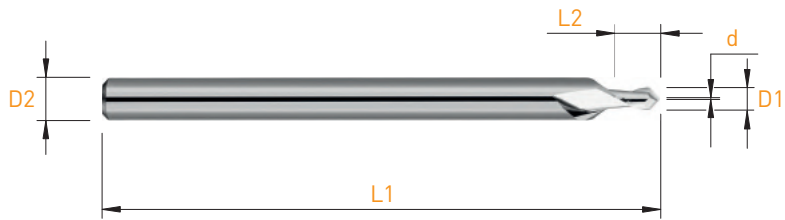
Fraises Multi-V

Multi-V Fräser

End mills Multi-V

3260MV

new



| D1 h10 | d    | L2    | D2<br>Ø3h4<br>Ø4h5<br>Ø8h6 | L1 | Art. N°    | Z | TiAlN | STF |
|--------|------|-------|----------------------------|----|------------|---|-------|-----|
| 0.50   | 0.05 | 1.00  | 3.00                       | 39 | 3260MV-0.5 | ■ | ■     | ■   |
| 1.00   | 0.10 | 2.00  | 3.00                       | 39 | 3260MV-1.0 | ■ | ■     | ■   |
| 1.50   | 0.15 | 3.00  | 3.00                       | 39 | 3260MV-1.5 | ■ | ■     | ■   |
| 2.00   | 0.20 | 4.00  | 3.00                       | 39 | 3260MV-2.0 | ■ | ■     | ■   |
| 2.50   | 0.25 | 5.00  | 3.00                       | 39 | 3260MV-2.5 | ■ | ■     | ■   |
| 3.00   | 0.30 | 6.00  | 6.00                       | 50 | 3260MV-3.0 | ■ | ■     | ■   |
| 4.00   | 0.40 | 8.00  | 6.00                       | 50 | 3260MV-4.0 | ■ | ■     | ■   |
| 6.00   | 0.60 | 12.00 | 8.00                       | 63 | 3260MV-6.0 | ■ | ■     | ■   |



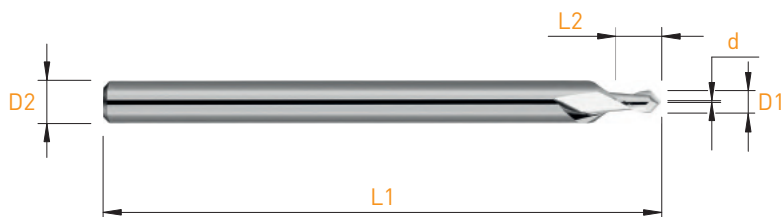
Fraises Multi-V

Multi-V Fräser

End mills Multi-V

3290MV

new



| D1 h10 | d    | L2    | D2<br>Ø3h4<br>Ø6h5<br>Ø8h6 | L1 | Art. N°    | Z | TiAlN | STF |
|--------|------|-------|----------------------------|----|------------|---|-------|-----|
| 0.30   | 0.03 | 0.60  | 3.00                       | 39 | 3290MV-0.3 | ■ | ■     | ■   |
| 0.40   | 0.04 | 0.80  | 3.00                       | 39 | 3290MV-0.4 | ■ | ■     | ■   |
| 0.50   | 0.05 | 1.00  | 3.00                       | 39 | 3290MV-0.5 | ■ | ■     | ■   |
| 0.60   | 0.06 | 1.20  | 3.00                       | 39 | 3290MV-0.6 | ■ | ■     | ■   |
| 0.70   | 0.07 | 1.40  | 3.00                       | 39 | 3290MV-0.7 | ■ | ■     | ■   |
| 0.80   | 0.08 | 1.60  | 3.00                       | 39 | 3290MV-0.8 | ■ | ■     | ■   |
| 0.90   | 0.09 | 1.80  | 3.00                       | 39 | 3290MV-0.9 | ■ | ■     | ■   |
| 1.00   | 0.10 | 2.00  | 3.00                       | 39 | 3290MV-1.0 | ■ | ■     | ■   |
| 1.10   | 0.11 | 2.20  | 3.00                       | 39 | 3290MV-1.1 | ■ | ■     | ■   |
| 1.20   | 0.12 | 2.40  | 3.00                       | 39 | 3290MV-1.2 | ■ | ■     | ■   |
| 1.30   | 0.13 | 2.60  | 3.00                       | 39 | 3290MV-1.3 | ■ | ■     | ■   |
| 1.40   | 0.14 | 2.80  | 3.00                       | 39 | 3290MV-1.4 | ■ | ■     | ■   |
| 1.50   | 0.15 | 3.00  | 3.00                       | 39 | 3290MV-1.5 | ■ | ■     | ■   |
| 1.60   | 0.16 | 3.20  | 3.00                       | 39 | 3290MV-1.6 | ■ | ■     | ■   |
| 1.70   | 0.17 | 3.40  | 3.00                       | 39 | 3290MV-1.7 | ■ | ■     | ■   |
| 1.80   | 0.18 | 3.60  | 3.00                       | 39 | 3290MV-1.8 | ■ | ■     | ■   |
| 1.90   | 0.19 | 3.80  | 3.00                       | 39 | 3290MV-1.9 | ■ | ■     | ■   |
| 2.00   | 0.20 | 4.00  | 3.00                       | 39 | 3290MV-2.0 | ■ | ■     | ■   |
| 2.50   | 0.25 | 5.00  | 3.00                       | 39 | 3290MV-2.5 | ■ | ■     | ■   |
| 3.00   | 0.30 | 6.00  | 6.00                       | 50 | 3290MV-3.0 | ■ | ■     | ■   |
| 4.00   | 0.40 | 8.00  | 6.00                       | 50 | 3290MV-4.0 | ■ | ■     | ■   |
| 6.00   | 0.60 | 12.00 | 8.00                       | 63 | 3290MV-6.0 | ■ | ■     | ■   |

Fraises Multi-V

Multi-V Fräser

End mills Multi-V

32120MV

new



MD  
VHM  
HM

120°

Z=2

| D1 h10 | d    | L2    | D2<br>Ø3h4<br>Ø4h5<br>Ø8h6 | L1 | Art. N°     | Z | TiAlN | STF |
|--------|------|-------|----------------------------|----|-------------|---|-------|-----|
| 0.50   | 0.05 | 1.00  | 3.00                       | 39 | 32120MV-0.5 | ■ | ■     | ■   |
| 1.00   | 0.10 | 2.00  | 3.00                       | 39 | 32120MV-1.0 | ■ | ■     | ■   |
| 1.50   | 0.15 | 3.00  | 3.00                       | 39 | 32120MV-1.5 | ■ | ■     | ■   |
| 2.00   | 0.20 | 4.00  | 3.00                       | 39 | 32120MV-2.0 | ■ | ■     | ■   |
| 2.50   | 0.25 | 5.00  | 3.00                       | 39 | 32120MV-2.5 | ■ | ■     | ■   |
| 3.00   | 0.30 | 6.00  | 6.00                       | 50 | 32120MV-3.0 | ■ | ■     | ■   |
| 4.00   | 0.40 | 8.00  | 6.00                       | 50 | 32120MV-4.0 | ■ | ■     | ■   |
| 6.00   | 0.60 | 12.00 | 8.00                       | 63 | 32120MV-6.0 | ■ | ■     | ■   |

Fraises en bout de finition

Schlicht Schaftfräser

Finishing end mills

3230



| D1 h10 | L2   | D2 h5 | L1 | Art. N°  | Z | TiAlN | STF |
|--------|------|-------|----|----------|---|-------|-----|
| 1.00   | 1.00 | 6.00  | 50 | 3230-1.0 | ■ | ■     | ■   |
| 1.50   | 1.50 | 6.00  | 50 | 3230-1.5 | ■ | ■     | ■   |
| 2.00   | 2.00 | 6.00  | 50 | 3230-2.0 | ■ | ■     | ■   |
| 2.50   | 2.50 | 6.00  | 50 | 3230-2.5 | ■ | ■     | ■   |
| 3.00   | 3.00 | 6.00  | 50 | 3230-3.0 | ■ | ■     | ■   |
| 4.00   | 4.00 | 6.00  | 50 | 3230-4.0 | ■ | ■     | ■   |
| 5.00   | 5.00 | 6.00  | 50 | 3230-5.0 | ■ | ■     | ■   |
| 6.00   | 6.00 | 6.00  | 50 | 3230-6.0 | ■ | ■     | ■   |

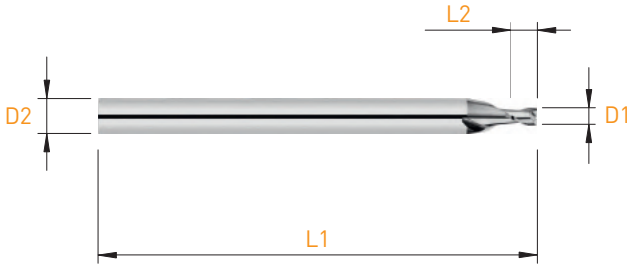
Fraises en bout de finition

Schlicht Schaftfräser

Finishing end mills

3230-1.5

new



| D1 h10 | L2   | D2 h5 | L1 | Art. N°      | Z | TiAlN | STF |
|--------|------|-------|----|--------------|---|-------|-----|
| 3.00   | 4.50 | 6.00  | 50 | 3230-1.5-3.0 | ■ | ■     | ■   |
| 3.50   | 5.00 | 6.00  | 50 | 3230-1.5-3.5 | ■ | ■     | ■   |
| 4.00   | 6.00 | 6.00  | 50 | 3230-1.5-4.0 | ■ | ■     | ■   |
| 4.50   | 7.00 | 6.00  | 50 | 3230-1.5-4.5 | ■ | ■     | ■   |
| 5.00   | 8.00 | 6.00  | 50 | 3230-1.5-5.0 | ■ | ■     | ■   |
| 6.00   | 9.00 | 6.00  | 50 | 3230-1.5-6.0 | ■ | ■     | ■   |

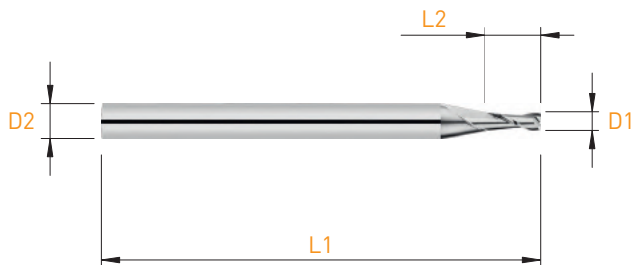
Fraises en bout de finition

Schlicht Schaftfräser

Finishing end mills

3230-3

new



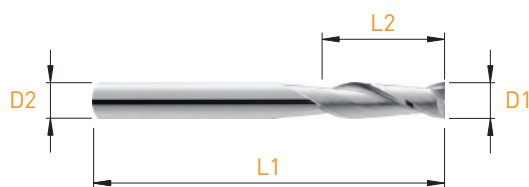
| D1 h10 | L2    | D2 h5 | L1 | Art. N°    | Z | TiAlN | STF |
|--------|-------|-------|----|------------|---|-------|-----|
| 3.00   | 9.00  | 6.00  | 50 | 3230-3-3.0 | ■ | ■     | ■   |
| 3.50   | 10.00 | 6.00  | 50 | 3230-3-3.5 | ■ | ■     | ■   |
| 4.00   | 12.00 | 6.00  | 50 | 3230-3-4.0 | ■ | ■     | ■   |
| 4.50   | 13.00 | 6.00  | 50 | 3230-3-4.5 | ■ | ■     | ■   |
| 5.00   | 15.00 | 6.00  | 50 | 3230-3-5.0 | ■ | ■     | ■   |
| 6.00   | 18.00 | 6.00  | 50 | 3230-3-6.0 | ■ | ■     | ■   |

Fraises en bout de finition

Schlicht Schaftfräser

Finishing end mills

3231



| D1 e9 | L2    | D2 h5 | L1 | Art. N°  | Z | TiAlN | STF |
|-------|-------|-------|----|----------|---|-------|-----|
| 2.00  | 8.00  | 2.00  | 32 | 3231-2.0 | ■ | ■     | ■   |
| 2.50  | 8.00  | 2.50  | 32 | 3231-2.5 | ■ | ■     | ■   |
| 3.00  | 12.00 | 3.00  | 32 | 3231-3.0 | ■ | ■     | ■   |
| 3.50  | 12.00 | 3.50  | 32 | 3231-3.5 | ■ | ■     | ■   |
| 4.00  | 12.00 | 4.00  | 40 | 3231-4.0 | ■ | ■     | ■   |
| 4.50  | 14.00 | 4.50  | 50 | 3231-4.5 | ■ | ■     | ■   |
| 5.00  | 14.00 | 5.00  | 50 | 3231-5.0 | ■ | ■     | ■   |
| 6.00  | 16.00 | 6.00  | 50 | 3231-6.0 | ■ | ■     | ■   |

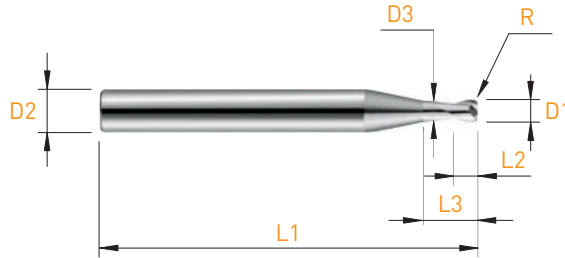
Fraises en bout de finition

Schlicht Schaftfräser

Finishing end mills

3239T-2.5X

new

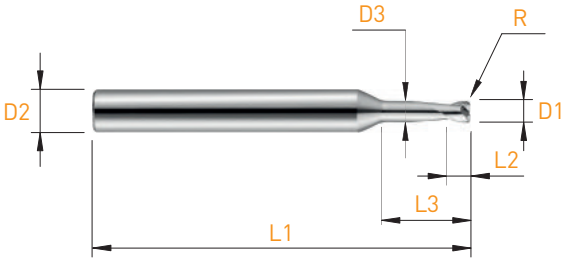


| D1 h10 | R<br>+/- 0.02 | L2   | L3    | D3   | D2 h5 | L1 | Art. N°        | Z | TiAlN | STF |
|--------|---------------|------|-------|------|-------|----|----------------|---|-------|-----|
| 3.00   | 0.50          | 3.00 | 7.50  | 2.95 | 6.00  | 57 | 3239T-2.5X-3.0 | ■ | ■     | ■   |
| 3.50   | 0.50          | 3.50 | 8.75  | 3.45 | 6.00  | 57 | 3239T-2.5X-3.5 | ■ | ■     | ■   |
| 4.00   | 0.50          | 4.00 | 10.00 | 3.95 | 6.00  | 57 | 3239T-2.5X-4.0 | ■ | ■     | ■   |
| 4.50   | 0.50          | 4.50 | 11.25 | 4.45 | 6.00  | 57 | 3239T-2.5X-4.5 | ■ | ■     | ■   |
| 5.00   | 0.50          | 5.00 | 12.50 | 4.95 | 6.00  | 57 | 3239T-2.5X-5.0 | ■ | ■     | ■   |
| 5.50   | 0.50          | 5.50 | 13.75 | 5.45 | 6.00  | 57 | 3239T-2.5X-5.5 | ■ | ■     | ■   |
| 6.00   | 0.50          | 6.00 | 15.00 | 5.95 | 6.00  | 57 | 3239T-2.5X-6.0 | ■ | ■     | ■   |

Fraises en bout de finition  
Schlicht Schaftfräser  
Finishing end mills

3239T-4X

new



| D1 h10 | R<br>+/- 0.02 | L2   | L3    | D3   | D2 h5 | L1 | Art. N°      | Z | TiAlN | STF |
|--------|---------------|------|-------|------|-------|----|--------------|---|-------|-----|
| 3.00   | 0.50          | 3.00 | 12.00 | 2.95 | 6.00  | 57 | 3239T-4X-3.0 | ■ | ■     | ■   |
| 3.50   | 0.50          | 3.50 | 14.00 | 3.45 | 6.00  | 57 | 3239T-4X-3.5 | ■ | ■     | ■   |
| 4.00   | 0.50          | 4.00 | 16.00 | 3.95 | 6.00  | 57 | 3239T-4X-4.0 | ■ | ■     | ■   |
| 4.50   | 0.50          | 4.50 | 18.00 | 4.45 | 6.00  | 57 | 3239T-4X-4.5 | ■ | ■     | ■   |
| 5.00   | 0.50          | 5.00 | 20.00 | 4.95 | 6.00  | 57 | 3239T-4X-5.0 | ■ | ■     | ■   |
| 5.50   | 0.50          | 5.50 | 22.00 | 5.45 | 6.00  | 57 | 3239T-4X-5.5 | ■ | ■     | ■   |
| 6.00   | 0.50          | 6.00 | 24.00 | 5.95 | 6.00  | 57 | 3239T-4X-6.0 | ■ | ■     | ■   |

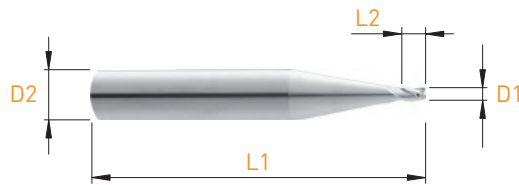


Fraises en bout de finition

Schlicht Schaftfräser

Finishing end mills

3330-S



| D1 h10 | L2   | D2 h6 | L1 | Art. N°    | Z | TiAlN | STF |
|--------|------|-------|----|------------|---|-------|-----|
| 1.00   | 3.00 | 6.00  | 40 | 3330-S-1.0 | ■ | ■     | ■   |
| 1.50   | 3.00 | 6.00  | 40 | 3330-S-1.5 | ■ | ■     | ■   |
| 2.00   | 3.00 | 6.00  | 40 | 3330-S-2.0 | ■ | ■     | ■   |
| 2.50   | 3.00 | 6.00  | 40 | 3330-S-2.5 | ■ | ■     | ■   |
| 3.00   | 4.00 | 6.00  | 40 | 3330-S-3.0 | ■ | ■     | ■   |
| 3.50   | 4.00 | 6.00  | 40 | 3330-S-3.5 | ■ | ■     | ■   |
| 4.00   | 5.00 | 6.00  | 40 | 3330-S-4.0 | ■ | ■     | ■   |
| 4.50   | 5.00 | 6.00  | 40 | 3330-S-4.5 | ■ | ■     | ■   |
| 5.00   | 6.00 | 6.00  | 40 | 3330-S-5.0 | ■ | ■     | ■   |
| 6.00   | 7.00 | 6.00  | 40 | 3330-S-6.0 | ■ | ■     | ■   |

Fraises en bout de finition

Schlicht Schaftfräser

Finishing end mills

3330



| D1 e9 | L2    | D2 h6 | L1 | Art. N°   | Z TiAlN STF |   |   |
|-------|-------|-------|----|-----------|-------------|---|---|
| 3.00  | 3.00  | 3.00  | 39 | 3330-3.0  | ■           | ■ | ■ |
| 4.00  | 4.00  | 4.00  | 50 | 3330-4.0  | ■           | ■ | ■ |
| 5.00  | 5.00  | 5.00  | 50 | 3330-5.0  | ■           | ■ | ■ |
| 6.00  | 6.00  | 6.00  | 50 | 3330-6.0  | ■           | ■ | ■ |
| 8.00  | 8.00  | 8.00  | 58 | 3330-8.0  | ■           |   |   |
| 10.00 | 10.00 | 10.00 | 66 | 3330-10.0 | ■           |   |   |
| 12.00 | 12.00 | 12.00 | 73 | 3330-12.0 | ■           |   |   |

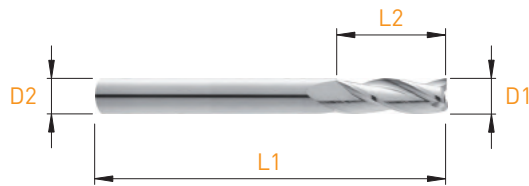
Fraises en bout de finition

Schlicht Schaftfräser

Finishing end mills

3330-4

new



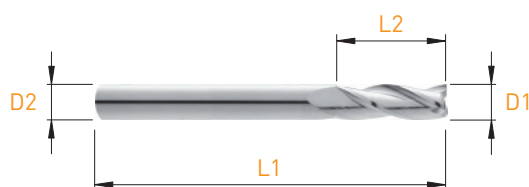
| D1 h10 | L2    | D2 h5 | L1 | Art. N°    | Z | TiAlN | STF |
|--------|-------|-------|----|------------|---|-------|-----|
| 3.00   | 12.00 | 6.00  | 50 | 3330-4-3.0 | ■ | ■     | ■   |
| 4.00   | 16.00 | 6.00  | 50 | 3330-4-4.0 | ■ | ■     | ■   |
| 5.00   | 20.00 | 6.00  | 50 | 3330-4-5.0 | ■ | ■     | ■   |
| 6.00   | 24.00 | 6.00  | 57 | 3330-4-6.0 | ■ | ■     | ■   |

Fraises en bout de finition

Schlicht Schaftfräser

Finishing end mills

3331



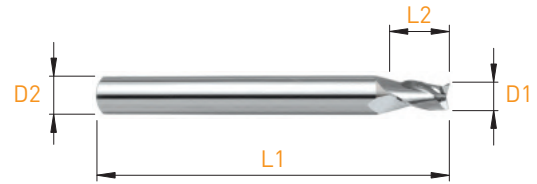
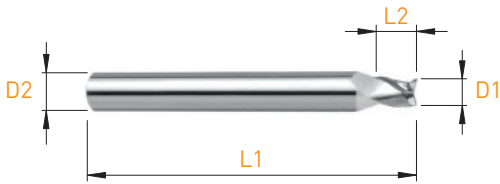
| D1 e9 | L2    | D2 h5 | L1 | Art. N°  | Z | TiAlN | STF |
|-------|-------|-------|----|----------|---|-------|-----|
| 2.00  | 8.00  | 2.00  | 32 | 3331-2.0 | ■ | ■     | ■   |
| 2.50  | 8.00  | 2.50  | 32 | 3331-2.5 | ■ | ■     | ■   |
| 3.00  | 12.00 | 3.00  | 32 | 3331-3.0 | ■ | ■     | ■   |
| 3.50  | 12.00 | 3.50  | 32 | 3331-3.5 | ■ | ■     | ■   |
| 4.00  | 12.00 | 4.00  | 40 | 3331-4.0 | ■ | ■     | ■   |
| 4.50  | 14.00 | 4.50  | 50 | 3331-4.5 | ■ | ■     | ■   |
| 5.00  | 14.00 | 5.00  | 50 | 3331-5.0 | ■ | ■     | ■   |
| 6.00  | 16.00 | 6.00  | 50 | 3331-6.0 | ■ | ■     | ■   |

Fraises en bout de finition

Schlicht Schafffräser

Finishing end mills

3336-HA / 3337-HA



|                 |               |                 |  |              |     |  |
|-----------------|---------------|-----------------|--|--------------|-----|--|
| MD<br>VHM<br>HM | $\lambda$ 30° | Sharp<br>Corner |  | DIN<br>6527K | Z=3 |  |
|-----------------|---------------|-----------------|--|--------------|-----|--|

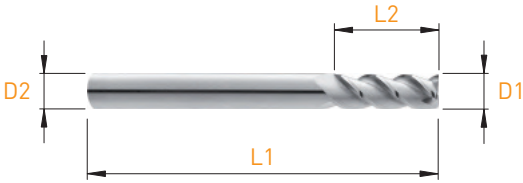
| D1 h10 | L2   | D2 h5 | L1 | Art. N°     | Z | TiAlN | STF |
|--------|------|-------|----|-------------|---|-------|-----|
| 1.50   | 3.00 | 6.00  | 50 | 3336-HA-1.5 | ■ | ■     | ■   |
| 1.80   | 3.00 | 6.00  | 50 | 3336-HA-1.8 | ■ | ■     | ■   |
| 2.00   | 3.00 | 6.00  | 50 | 3336-HA-2.0 | ■ | ■     | ■   |
| 2.50   | 3.00 | 6.00  | 50 | 3336-HA-2.5 | ■ | ■     | ■   |
| 2.80   | 4.00 | 6.00  | 50 | 3336-HA-2.8 | ■ | ■     | ■   |
| 3.00   | 4.00 | 6.00  | 50 | 3336-HA-3.0 | ■ | ■     | ■   |
| 3.50   | 4.00 | 6.00  | 50 | 3336-HA-3.5 | ■ | ■     | ■   |
| 3.80   | 5.00 | 6.00  | 54 | 3336-HA-3.8 | ■ | ■     | ■   |
| 4.00   | 5.00 | 6.00  | 54 | 3336-HA-4.0 | ■ | ■     | ■   |
| 4.50   | 5.00 | 6.00  | 54 | 3336-HA-4.5 | ■ | ■     | ■   |
| 4.80   | 6.00 | 6.00  | 54 | 3336-HA-4.8 | ■ | ■     | ■   |
| 5.00   | 6.00 | 6.00  | 54 | 3336-HA-5.0 | ■ | ■     | ■   |
| 5.50   | 7.00 | 6.00  | 54 | 3336-HA-5.5 | ■ | ■     | ■   |
| 5.80   | 7.00 | 6.00  | 54 | 3336-HA-5.8 | ■ | ■     | ■   |
| 6.00   | 7.00 | 6.00  | 54 | 3336-HA-6.0 | ■ | ■     | ■   |

|                 |               |                 |  |              |     |  |
|-----------------|---------------|-----------------|--|--------------|-----|--|
| MD<br>VHM<br>HM | $\lambda$ 30° | Sharp<br>Corner |  | DIN<br>6527L | Z=3 |  |
|-----------------|---------------|-----------------|--|--------------|-----|--|

| D1 h10 | L2    | D2 h5 | L1 | Art. N°     | Z | TiAlN | STF |
|--------|-------|-------|----|-------------|---|-------|-----|
| 1.50   | 6.00  | 6.00  | 57 | 3337-HA-1.5 | ■ | ■     | ■   |
| 1.80   | 6.00  | 6.00  | 57 | 3337-HA-1.8 | ■ | ■     | ■   |
| 2.00   | 6.00  | 6.00  | 57 | 3337-HA-2.0 | ■ | ■     | ■   |
| 2.50   | 6.00  | 6.00  | 57 | 3337-HA-2.5 | ■ | ■     | ■   |
| 2.80   | 7.00  | 6.00  | 57 | 3337-HA-2.8 | ■ | ■     | ■   |
| 3.00   | 7.00  | 6.00  | 57 | 3337-HA-3.0 | ■ | ■     | ■   |
| 3.50   | 7.00  | 6.00  | 57 | 3337-HA-3.5 | ■ | ■     | ■   |
| 3.80   | 8.00  | 6.00  | 57 | 3337-HA-3.8 | ■ | ■     | ■   |
| 4.00   | 8.00  | 6.00  | 57 | 3337-HA-4.0 | ■ | ■     | ■   |
| 4.50   | 8.00  | 6.00  | 57 | 3337-HA-4.5 | ■ | ■     | ■   |
| 4.80   | 10.00 | 6.00  | 57 | 3337-HA-4.8 | ■ | ■     | ■   |
| 5.00   | 10.00 | 6.00  | 57 | 3337-HA-5.0 | ■ | ■     | ■   |
| 5.50   | 10.00 | 6.00  | 57 | 3337-HA-5.5 | ■ | ■     | ■   |
| 5.80   | 10.00 | 6.00  | 57 | 3337-HA-5.8 | ■ | ■     | ■   |
| 6.00   | 10.00 | 6.00  | 57 | 3337-HA-6.0 | ■ | ■     | ■   |

Fraises en bout de finition  
Schlicht Schaftfräser  
Finishing end mills

3341



| D1 e9 | L2    | D2 h5 | L1 | Art. N°  | Z | TiAlN | STF |
|-------|-------|-------|----|----------|---|-------|-----|
| 2.00  | 8.00  | 2.00  | 32 | 3341-2.0 | ■ | ■     | ■   |
| 2.50  | 8.00  | 2.50  | 32 | 3341-2.5 | ■ | ■     | ■   |
| 3.00  | 12.00 | 3.00  | 32 | 3341-3.0 | ■ | ■     | ■   |
| 3.50  | 12.00 | 3.50  | 32 | 3341-3.5 | ■ | ■     | ■   |
| 4.00  | 12.00 | 4.00  | 40 | 3341-4.0 | ■ | ■     | ■   |
| 4.50  | 14.00 | 4.50  | 50 | 3341-4.5 | ■ | ■     | ■   |
| 5.00  | 14.00 | 5.00  | 50 | 3341-5.0 | ■ | ■     | ■   |
| 6.00  | 16.00 | 6.00  | 50 | 3341-6.0 | ■ | ■     | ■   |

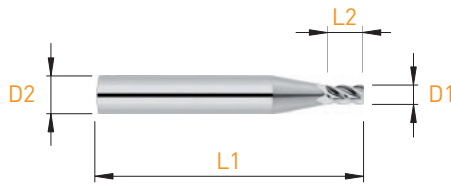
Fraises en bout de finition

Schlicht Schaftfräser

Finishing end mills

3345-S

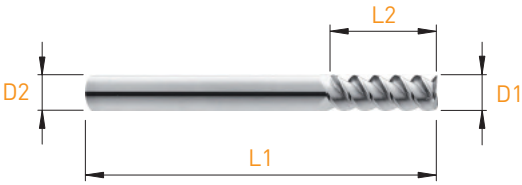
new



| D1 h10 | L2    | D2 h6 | L1 | Art. N°    | Z | TAIN | STF |
|--------|-------|-------|----|------------|---|------|-----|
| 0.50   | 1.00  | 6.00  | 40 | 3345-S-0.5 | ■ | ■    | ■   |
| 0.60   | 1.20  | 6.00  | 40 | 3345-S-0.6 | ■ | ■    | ■   |
| 0.70   | 1.40  | 6.00  | 40 | 3345-S-0.7 | ■ | ■    | ■   |
| 0.80   | 1.60  | 6.00  | 40 | 3345-S-0.8 | ■ | ■    | ■   |
| 0.90   | 1.80  | 6.00  | 40 | 3345-S-0.9 | ■ | ■    | ■   |
| 1.00   | 2.00  | 6.00  | 40 | 3345-S-1.0 | ■ | ■    | ■   |
| 1.10   | 2.20  | 6.00  | 40 | 3345-S-1.1 | ■ | ■    | ■   |
| 1.20   | 2.40  | 6.00  | 40 | 3345-S-1.2 | ■ | ■    | ■   |
| 1.30   | 2.60  | 6.00  | 40 | 3345-S-1.3 | ■ | ■    | ■   |
| 1.40   | 2.80  | 6.00  | 40 | 3345-S-1.4 | ■ | ■    | ■   |
| 1.50   | 3.00  | 6.00  | 40 | 3345-S-1.5 | ■ | ■    | ■   |
| 1.60   | 3.20  | 6.00  | 40 | 3345-S-1.6 | ■ | ■    | ■   |
| 1.70   | 3.40  | 6.00  | 40 | 3345-S-1.7 | ■ | ■    | ■   |
| 1.80   | 3.60  | 6.00  | 40 | 3345-S-1.8 | ■ | ■    | ■   |
| 1.90   | 3.80  | 6.00  | 40 | 3345-S-1.9 | ■ | ■    | ■   |
| 2.00   | 4.00  | 6.00  | 40 | 3345-S-2.0 | ■ | ■    | ■   |
| 2.10   | 4.20  | 6.00  | 40 | 3345-S-2.1 | ■ | ■    | ■   |
| 2.20   | 4.40  | 6.00  | 40 | 3345-S-2.2 | ■ | ■    | ■   |
| 2.30   | 4.60  | 6.00  | 40 | 3345-S-2.3 | ■ | ■    | ■   |
| 2.40   | 4.80  | 6.00  | 40 | 3345-S-2.4 | ■ | ■    | ■   |
| 2.50   | 5.00  | 6.00  | 40 | 3345-S-2.5 | ■ | ■    | ■   |
| 2.60   | 5.20  | 6.00  | 40 | 3345-S-2.6 | ■ | ■    | ■   |
| 2.70   | 5.40  | 6.00  | 40 | 3345-S-2.7 | ■ | ■    | ■   |
| 2.80   | 5.60  | 6.00  | 40 | 3345-S-2.8 | ■ | ■    | ■   |
| 2.90   | 5.80  | 6.00  | 40 | 3345-S-2.9 | ■ | ■    | ■   |
| 3.00   | 6.00  | 6.00  | 40 | 3345-S-3.0 | ■ | ■    | ■   |
| 3.50   | 7.00  | 6.00  | 40 | 3345-S-3.5 | ■ | ■    | ■   |
| 4.00   | 8.00  | 6.00  | 40 | 3345-S-4.0 | ■ | ■    | ■   |
| 4.50   | 9.00  | 6.00  | 40 | 3345-S-4.5 | ■ | ■    | ■   |
| 5.00   | 10.00 | 6.00  | 40 | 3345-S-5.0 | ■ | ■    | ■   |
| 6.00   | 12.00 | 6.00  | 40 | 3345-S-6.0 | ■ | ■    | ■   |

Fraises en bout de finition  
Schlicht Schaftfräser  
Finishing end mills

3361



| D1 e9 | L2    | D2 h5 | L1 | Art. N°  | Z | TiAlN | STF |
|-------|-------|-------|----|----------|---|-------|-----|
| 2.00  | 8.00  | 2.00  | 32 | 3361-2.0 | ■ | ■     | ■   |
| 2.50  | 8.00  | 2.50  | 32 | 3361-2.5 | ■ | ■     | ■   |
| 3.00  | 12.00 | 3.00  | 32 | 3361-3.0 | ■ | ■     | ■   |
| 3.50  | 12.00 | 3.50  | 32 | 3361-3.5 | ■ | ■     | ■   |
| 4.00  | 12.00 | 4.00  | 40 | 3361-4.0 | ■ | ■     | ■   |
| 4.50  | 14.00 | 4.50  | 50 | 3361-4.5 | ■ | ■     | ■   |
| 5.00  | 14.00 | 5.00  | 50 | 3361-5.0 | ■ | ■     | ■   |
| 6.00  | 16.00 | 6.00  | 50 | 3361-6.0 | ■ | ■     | ■   |



Fraises en bout de finition

Schlicht Schaftfräser

Finishing end mills

DHP3336



DHP

Denture à pas irrégulier, angle d'hélice progressif  
 Ungleiche Teilung, progressive Drallwinkel  
 Uneven tooth pitch, progressive helix angle

| D1 h10 | L2   | D2 h5 | L1 | Art. N°     | Z | TiAlN | STF |
|--------|------|-------|----|-------------|---|-------|-----|
| 1.00   | 4.00 | 6.00  | 40 | DHP3336-1.0 | ■ | ■     | ■   |
| 1.50   | 4.00 | 6.00  | 40 | DHP3336-1.5 | ■ | ■     | ■   |
| 2.00   | 4.00 | 6.00  | 40 | DHP3336-2.0 | ■ | ■     | ■   |
| 2.50   | 4.00 | 6.00  | 40 | DHP3336-2.5 | ■ | ■     | ■   |
| 3.00   | 5.00 | 6.00  | 40 | DHP3336-3.0 | ■ | ■     | ■   |
| 3.50   | 5.00 | 6.00  | 40 | DHP3336-3.5 | ■ | ■     | ■   |
| 4.00   | 6.00 | 6.00  | 40 | DHP3336-4.0 | ■ | ■     | ■   |
| 5.00   | 7.00 | 6.00  | 40 | DHP3336-5.0 | ■ | ■     | ■   |
| 6.00   | 8.00 | 6.00  | 40 | DHP3336-6.0 | ■ | ■     | ■   |

Fraises en bout de finition

< Schlicht Schaftfräser

Finishing end mills

3430



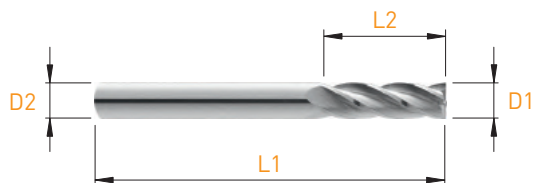
| D1 e9 | L2   | D2 h5 | L1 | Art. N°  | Z | TiAlN | STF |
|-------|------|-------|----|----------|---|-------|-----|
| 3.00  | 3.00 | 3.00  | 39 | 3430-3.0 | ■ | ■     | ■   |
| 4.00  | 4.00 | 4.00  | 50 | 3430-4.0 | ■ | ■     | ■   |
| 5.00  | 5.00 | 5.00  | 50 | 3430-5.0 | ■ | ■     | ■   |
| 6.00  | 6.00 | 6.00  | 50 | 3430-6.0 | ■ | ■     | ■   |

Fraises en bout de finition

Schlicht Schaftfräser

Finishing end mills

3431



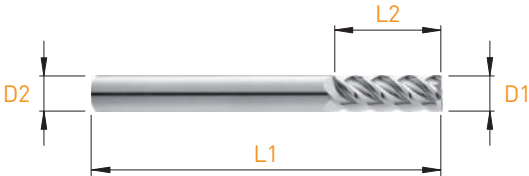
| D1 e9 | L2    | D2 h5 | L1 | Art. N°  | Z | TAIN | STF |
|-------|-------|-------|----|----------|---|------|-----|
| 2.00  | 8.00  | 2.00  | 32 | 3431-2.0 | ■ | ■    | ■   |
| 2.50  | 8.00  | 2.50  | 32 | 3431-2.5 | ■ | ■    | ■   |
| 3.00  | 12.00 | 3.00  | 32 | 3431-3.0 | ■ | ■    | ■   |
| 3.50  | 12.00 | 3.50  | 32 | 3431-3.5 | ■ | ■    | ■   |
| 4.00  | 12.00 | 4.00  | 40 | 3431-4.0 | ■ | ■    | ■   |
| 4.50  | 14.00 | 4.50  | 50 | 3431-4.5 | ■ | ■    | ■   |
| 5.00  | 14.00 | 5.00  | 50 | 3431-5.0 | ■ | ■    | ■   |
| 6.00  | 16.00 | 6.00  | 50 | 3431-6.0 | ■ | ■    | ■   |

Fraises en bout de finition

< Schlicht Schaftfräser

Finishing end mills

3441



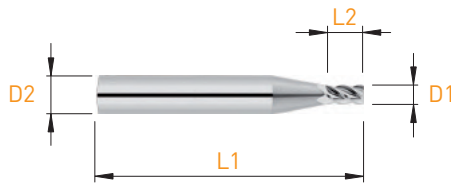
| D1 e9 | L2    | D2 h5 | L1 | Art. N°  | Z TiAlN STF |   |   |
|-------|-------|-------|----|----------|-------------|---|---|
| 2.00  | 8.00  | 2.00  | 32 | 3441-2.0 | ■           | ■ | ■ |
| 2.50  | 8.00  | 2.50  | 32 | 3441-2.5 | ■           | ■ | ■ |
| 3.00  | 12.00 | 3.00  | 32 | 3441-3.0 | ■           | ■ | ■ |
| 3.50  | 12.00 | 3.50  | 32 | 3441-3.5 | ■           | ■ | ■ |
| 4.00  | 12.00 | 4.00  | 40 | 3441-4.0 | ■           | ■ | ■ |
| 4.50  | 14.00 | 4.50  | 50 | 3441-4.5 | ■           | ■ | ■ |
| 5.00  | 14.00 | 5.00  | 50 | 3441-5.0 | ■           | ■ | ■ |
| 6.00  | 16.00 | 6.00  | 50 | 3441-6.0 | ■           | ■ | ■ |

Fraises en bout de finition

Schlicht Schaftfräser

Finishing end mills

3445-S



| D1 h10 | L2    | D2 h6 | L1 | Art. N°    | Z | TIAIN | STF   |
|--------|-------|-------|----|------------|---|-------|-------|
| 0.50   | 1.00  | 6.00  | 40 | 3445-S-0.5 | ■ | ■     | ■ new |
| 0.60   | 1.20  | 6.00  | 40 | 3445-S-0.6 | ■ | ■     | ■ new |
| 0.70   | 1.40  | 6.00  | 40 | 3445-S-0.7 | ■ | ■     | ■ new |
| 0.80   | 1.60  | 6.00  | 40 | 3445-S-0.8 | ■ | ■     | ■ new |
| 0.90   | 1.80  | 6.00  | 40 | 3445-S-0.9 | ■ | ■     | ■ new |
| 1.00   | 2.00  | 6.00  | 40 | 3445-S-1.0 | ■ | ■     | ■     |
| 1.10   | 2.20  | 6.00  | 40 | 3445-S-1.1 | ■ | ■     | ■ new |
| 1.20   | 2.40  | 6.00  | 40 | 3445-S-1.2 | ■ | ■     | ■ new |
| 1.30   | 2.60  | 6.00  | 40 | 3445-S-1.3 | ■ | ■     | ■ new |
| 1.40   | 2.80  | 6.00  | 40 | 3445-S-1.4 | ■ | ■     | ■ new |
| 1.50   | 3.00  | 6.00  | 40 | 3445-S-1.5 | ■ | ■     | ■     |
| 1.60   | 3.20  | 6.00  | 40 | 3445-S-1.6 | ■ | ■     | ■ new |
| 1.70   | 3.40  | 6.00  | 40 | 3445-S-1.7 | ■ | ■     | ■ new |
| 1.80   | 3.60  | 6.00  | 40 | 3445-S-1.8 | ■ | ■     | ■ new |
| 1.90   | 3.80  | 6.00  | 40 | 3445-S-1.9 | ■ | ■     | ■ new |
| 2.00   | 4.00  | 6.00  | 40 | 3445-S-2.0 | ■ | ■     | ■     |
| 2.10   | 4.20  | 6.00  | 40 | 3445-S-2.1 | ■ | ■     | ■ new |
| 2.20   | 4.40  | 6.00  | 40 | 3445-S-2.2 | ■ | ■     | ■ new |
| 2.30   | 4.60  | 6.00  | 40 | 3445-S-2.3 | ■ | ■     | ■ new |
| 2.40   | 4.80  | 6.00  | 40 | 3445-S-2.4 | ■ | ■     | ■ new |
| 2.50   | 5.00  | 6.00  | 40 | 3445-S-2.5 | ■ | ■     | ■     |
| 2.60   | 5.20  | 6.00  | 40 | 3445-S-2.6 | ■ | ■     | ■ new |
| 2.70   | 5.40  | 6.00  | 40 | 3445-S-2.7 | ■ | ■     | ■ new |
| 2.80   | 5.60  | 6.00  | 40 | 3445-S-2.8 | ■ | ■     | ■ new |
| 2.90   | 5.80  | 6.00  | 40 | 3445-S-2.9 | ■ | ■     | ■ new |
| 3.00   | 6.00  | 6.00  | 40 | 3445-S-3.0 | ■ | ■     | ■     |
| 3.50   | 7.00  | 6.00  | 40 | 3445-S-3.5 | ■ | ■     | ■     |
| 4.00   | 8.00  | 6.00  | 40 | 3445-S-4.0 | ■ | ■     | ■     |
| 4.50   | 9.00  | 6.00  | 40 | 3445-S-4.5 | ■ | ■     | ■     |
| 5.00   | 10.00 | 6.00  | 40 | 3445-S-5.0 | ■ | ■     | ■     |
| 6.00   | 12.00 | 6.00  | 40 | 3445-S-6.0 | ■ | ■     | ■     |

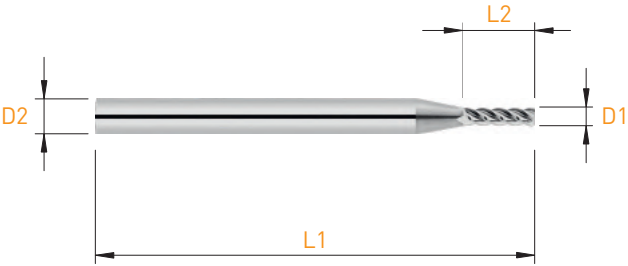
Fraises en bout de finition

Schlicht Schaftfräser

Finishing end mills

3450

new



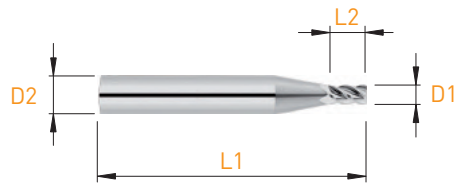
| D1 h10 | L2   | D2 h5 | L1 | Art. N°  | Z | TiAIN | STF |
|--------|------|-------|----|----------|---|-------|-----|
| 1.00   | 1.50 | 6.00  | 50 | 3450-1.0 | ■ | ■     | ■   |
| 1.50   | 2.25 | 6.00  | 50 | 3450-1.5 | ■ | ■     | ■   |
| 2.00   | 3.00 | 6.00  | 50 | 3450-2.0 | ■ | ■     | ■   |
| 2.50   | 3.75 | 6.00  | 50 | 3450-2.5 | ■ | ■     | ■   |
| 3.00   | 4.50 | 6.00  | 50 | 3450-3.0 | ■ | ■     | ■   |
| 3.50   | 5.25 | 6.00  | 50 | 3450-3.5 | ■ | ■     | ■   |
| 4.00   | 6.00 | 6.00  | 50 | 3450-4.0 | ■ | ■     | ■   |
| 5.00   | 7.50 | 6.00  | 50 | 3450-5.0 | ■ | ■     | ■   |
| 6.00   | 9.00 | 6.00  | 50 | 3450-6.0 | ■ | ■     | ■   |

Fraises en bout de finition

Schlicht Schaftfräser

Finishing end mills

DHP3436



DHP

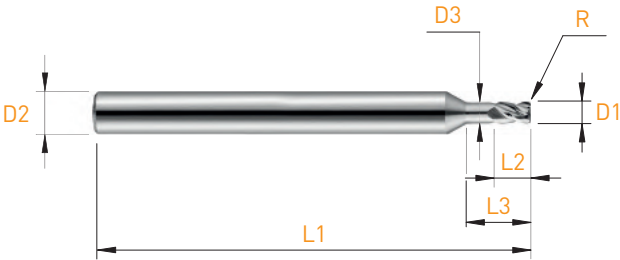
Denture à pas irrégulier, angle d'hélice progressive  
 Ungleiche Teilung, progressive Drallwinkel  
 Uneven tooth pitch, progressive helix angle

| D1 h10 | L2   | D2 h5 | L1 | Art. N°     | Z | TiAlN | STF |
|--------|------|-------|----|-------------|---|-------|-----|
| 1.00   | 4.00 | 6.00  | 40 | DHP3436-1.0 | ■ | ■     | ■   |
| 1.50   | 4.00 | 6.00  | 40 | DHP3436-1.5 | ■ | ■     | ■   |
| 2.00   | 4.00 | 6.00  | 40 | DHP3436-2.0 | ■ | ■     | ■   |
| 2.50   | 4.00 | 6.00  | 40 | DHP3436-2.5 | ■ | ■     | ■   |
| 3.00   | 5.00 | 6.00  | 40 | DHP3436-3.0 | ■ | ■     | ■   |
| 3.50   | 5.00 | 6.00  | 40 | DHP3436-3.5 | ■ | ■     | ■   |
| 4.00   | 6.00 | 6.00  | 40 | DHP3436-4.0 | ■ | ■     | ■   |
| 5.00   | 7.00 | 6.00  | 40 | DHP3436-5.0 | ■ | ■     | ■   |
| 6.00   | 8.00 | 6.00  | 40 | DHP3436-6.0 | ■ | ■     | ■   |

Fraises en bout toriques  
Torische Schaftfräser  
Toric end mills

3439T-2.5X

new



MD  
VHM  
HM

$\lambda$  30°

Radius  
Corner

L3  
2.5xD1

Z=4

| D1 h10 | R<br>+/- 0.02 | L2   | L3    | D3   | D2 h5 | L1 | Art. N°        | Z | TiAlN | STF |
|--------|---------------|------|-------|------|-------|----|----------------|---|-------|-----|
| 3.00   | 0.50          | 3.00 | 7.50  | 2.95 | 6.00  | 57 | 3439T-2.5X-3.0 | ■ | ■     | ■   |
| 3.50   | 0.50          | 3.50 | 8.75  | 3.45 | 6.00  | 57 | 3439T-2.5X-3.5 | ■ | ■     | ■   |
| 4.00   | 0.50          | 4.00 | 10.00 | 3.95 | 6.00  | 57 | 3439T-2.5X-4.0 | ■ | ■     | ■   |
| 4.50   | 0.50          | 4.50 | 11.25 | 4.45 | 6.00  | 57 | 3439T-2.5X-4.5 | ■ | ■     | ■   |
| 5.00   | 0.50          | 5.00 | 12.50 | 4.95 | 6.00  | 57 | 3439T-2.5X-5.0 | ■ | ■     | ■   |
| 5.50   | 0.50          | 5.50 | 13.75 | 5.45 | 6.00  | 57 | 3439T-2.5X-5.5 | ■ | ■     | ■   |
| 6.00   | 0.50          | 6.00 | 15.00 | 5.95 | 6.00  | 57 | 3439T-2.5X-6.0 | ■ | ■     | ■   |



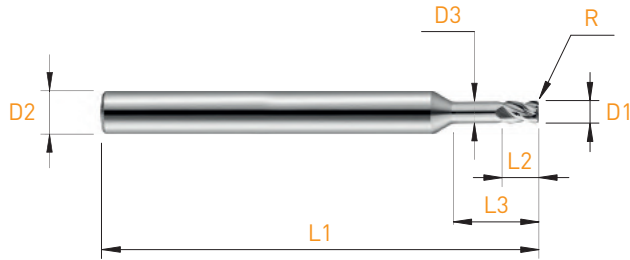
Fraises en bout toriques

Torische Schaftfräser

Toric end mills

3439T-4X

new



| D1 h10 | R<br>+/- 0.02 | L2   | L3    | D3   | D2 h5 | L1 | Art. N°      | Z | TiAlN | STF |
|--------|---------------|------|-------|------|-------|----|--------------|---|-------|-----|
| 3.00   | 0.50          | 3.00 | 12.00 | 2.95 | 6.00  | 57 | 3439T-4X-3.0 | ■ | ■     | ■   |
| 3.50   | 0.50          | 3.50 | 14.00 | 3.45 | 6.00  | 57 | 3439T-4X-3.5 | ■ | ■     | ■   |
| 4.00   | 0.50          | 4.00 | 16.00 | 3.95 | 6.00  | 57 | 3439T-4X-4.0 | ■ | ■     | ■   |
| 4.50   | 0.50          | 4.50 | 18.00 | 4.45 | 6.00  | 57 | 3439T-4X-4.5 | ■ | ■     | ■   |
| 5.00   | 0.50          | 5.00 | 20.00 | 4.95 | 6.00  | 57 | 3439T-4X-5.0 | ■ | ■     | ■   |
| 5.50   | 0.50          | 5.50 | 22.00 | 5.45 | 6.00  | 57 | 3439T-4X-5.5 | ■ | ■     | ■   |
| 6.00   | 0.50          | 6.00 | 24.00 | 5.95 | 6.00  | 57 | 3439T-4X-6.0 | ■ | ■     | ■   |

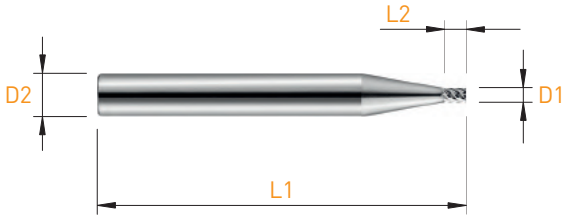
Fraises en bout de finition

< Schlicht Schaftfräser

Finishing end mills

3545

new



MD  
VHM  
HM

$\lambda$  45°

Sharp  
Corner

1.5xD1

Z=5

| D1 h10 | L2   | D2 h5 | L1 | Art. N°  | Z TiAIN STF |   |   |
|--------|------|-------|----|----------|-------------|---|---|
| 1.00   | 1.50 | 6.00  | 50 | 3545-1.0 | ■           | ■ | ■ |
| 2.00   | 3.00 | 6.00  | 50 | 3545-2.0 | ■           | ■ | ■ |
| 3.00   | 4.50 | 6.00  | 50 | 3545-3.0 | ■           | ■ | ■ |
| 4.00   | 6.00 | 6.00  | 50 | 3545-4.0 | ■           | ■ | ■ |
| 5.00   | 7.50 | 6.00  | 50 | 3545-5.0 | ■           | ■ | ■ |
| 6.00   | 9.00 | 6.00  | 50 | 3545-6.0 | ■           | ■ | ■ |

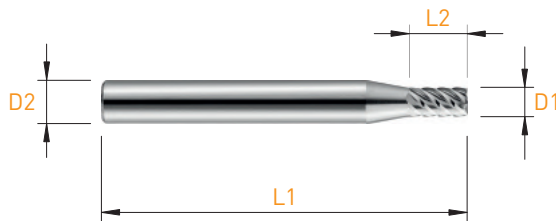
Fraises en bout de finition

Schlicht Schaftfräser

Finishing end mills

35645

new



| D1 h10 | L2    | Z | D2 h5 | L1 | Art. N°   | Z | TiAIN | STF |
|--------|-------|---|-------|----|-----------|---|-------|-----|
| 1.00   | 2.00  | 4 | 6.00  | 50 | 35645-1.0 | ■ | ■     | ■   |
| 1.50   | 3.00  | 5 | 6.00  | 50 | 35645-1.5 | ■ | ■     | ■   |
| 2.00   | 4.00  | 5 | 6.00  | 50 | 35645-2.0 | ■ | ■     | ■   |
| 2.50   | 5.00  | 5 | 6.00  | 50 | 35645-2.5 | ■ | ■     | ■   |
| 3.00   | 6.00  | 5 | 6.00  | 50 | 35645-3.0 | ■ | ■     | ■   |
| 3.50   | 7.00  | 5 | 6.00  | 50 | 35645-3.5 | ■ | ■     | ■   |
| 4.00   | 8.00  | 6 | 6.00  | 50 | 35645-4.0 | ■ | ■     | ■   |
| 4.50   | 9.00  | 6 | 6.00  | 50 | 35645-4.5 | ■ | ■     | ■   |
| 5.00   | 10.00 | 6 | 6.00  | 50 | 35645-5.0 | ■ | ■     | ■   |
| 6.00   | 12.00 | 6 | 6.00  | 50 | 35645-6.0 | ■ | ■     | ■   |

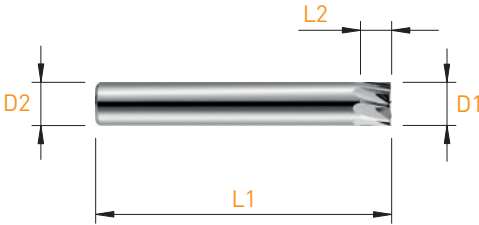
Fraises en bout de finition

< Schlicht Schaftfräser

Finishing end mills

3810

new



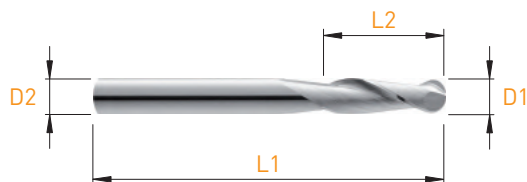
| D1 <sub>e9</sub> | L2   | D2 <sub>h5</sub> | L1 | Art. N°       | Z TiAIN STF |   |   |
|------------------|------|------------------|----|---------------|-------------|---|---|
| 6.00             | 4.00 | 6.00             | 50 | 3810-0.65-6.0 | ■           | ■ | ■ |
| 6.00             | 6.00 | 6.00             | 57 | 3810-1.0-6.0  | ■           | ■ | ■ |
| 6.00             | 9.00 | 6.00             | 57 | 3810-1.5-6.0  | ■           | ■ | ■ |

Fraises en bout hémisphériques

Vollradius Schaftfräser

Ball nose end mills

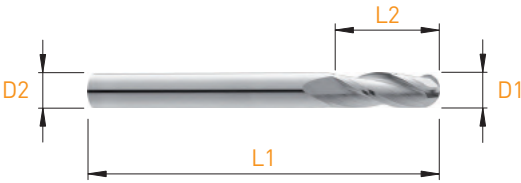
3238



| D1 e9 | L2    | D2 h5 | L1 | Art. N°  | Z | TAIN | STF |
|-------|-------|-------|----|----------|---|------|-----|
| 2.00  | 8.00  | 2.00  | 32 | 3238-2.0 | ■ | ■    | ■   |
| 2.50  | 8.00  | 2.50  | 32 | 3238-2.5 | ■ | ■    | ■   |
| 3.00  | 12.00 | 3.00  | 32 | 3238-3.0 | ■ | ■    | ■   |
| 3.50  | 12.00 | 3.50  | 32 | 3238-3.5 | ■ | ■    | ■   |
| 4.00  | 12.00 | 4.00  | 40 | 3238-4.0 | ■ | ■    | ■   |
| 4.50  | 14.00 | 4.50  | 50 | 3238-4.5 | ■ | ■    | ■   |
| 5.00  | 14.00 | 5.00  | 50 | 3238-5.0 | ■ | ■    | ■   |
| 6.00  | 16.00 | 6.00  | 50 | 3238-6.0 | ■ | ■    | ■   |

Fraises en bout hémisphériques  
Vollradius Schaftfräser  
Ball nose end mills

3338



| D1 e9 | L2    | D2 h5 | L1 | Art. N°  | Z | TAIN | STF |
|-------|-------|-------|----|----------|---|------|-----|
| 2.00  | 8.00  | 2.00  | 32 | 3338-2.0 | ■ | ■    | ■   |
| 2.50  | 8.00  | 2.50  | 32 | 3338-2.5 | ■ | ■    | ■   |
| 3.00  | 12.00 | 3.00  | 32 | 3338-3.0 | ■ | ■    | ■   |
| 3.50  | 12.00 | 3.50  | 32 | 3338-3.5 | ■ | ■    | ■   |
| 4.00  | 12.00 | 4.00  | 40 | 3338-4.0 | ■ | ■    | ■   |
| 4.50  | 14.00 | 4.50  | 50 | 3338-4.5 | ■ | ■    | ■   |
| 5.00  | 14.00 | 5.00  | 50 | 3338-5.0 | ■ | ■    | ■   |
| 6.00  | 16.00 | 6.00  | 50 | 3338-6.0 | ■ | ■    | ■   |

 Outils pour machine WM 701S Werkzeuge für Maschine WM 701S Executions for machine WM 701S

Tous les outils de la gamme MICRO-Line sont réalisables  
pour la machine WM 701S sur demande.

Alle Werkzeuge aus der MICRO-Line sind machbar  
für die Maschine WM 701S auf Anfrage.

All tools of MICRO-Line can be produced for  
the machine WM 701S on request.

## Fraises en bout de finition pour machine WM 701S

## Schaftfräser für Maschine WM 701S

## End mills for machine WM 701S

701S3371



|                 |  |      |     |                                                                              |
|-----------------|--|------|-----|------------------------------------------------------------------------------|
| Sharp<br>Corner |  | 1xD1 | Z=3 | Disponible tous les 0.1 mm<br>Verfügbar jede 0.1 mm<br>Available each 0.1 mm |
|-----------------|--|------|-----|------------------------------------------------------------------------------|

| D1<br>+0.005 / -0.010 | L2   | D2 h5 | L1 | Art. N°         | Z | TiAlN | STF | TiCN | DLC |
|-----------------------|------|-------|----|-----------------|---|-------|-----|------|-----|
| 0.30                  | 0.30 | 6.00  | 33 | 701S3371-1-0.30 | ■ | ■     | ■   | ■    | ■   |
| ⋮                     | ⋮    | ⋮     | ⋮  | ⋮               | ⋮ | ⋮     | ⋮   | ⋮    | ⋮   |
| 3.50                  | 3.50 | 6.00  | 33 | 701S3371-1-3.50 | ■ | ■     | ■   | ■    | ■   |

|                 |  |      |     |                                                                              |
|-----------------|--|------|-----|------------------------------------------------------------------------------|
| Sharp<br>Corner |  | 2xD1 | Z=3 | Disponible tous les 0.1 mm<br>Verfügbar jede 0.1 mm<br>Available each 0.1 mm |
|-----------------|--|------|-----|------------------------------------------------------------------------------|

| D1<br>+0.005 / -0.010 | L2   | D2 h5 | L1 | Art. N°         | Z | TiAlN | STF | TiCN | DLC |
|-----------------------|------|-------|----|-----------------|---|-------|-----|------|-----|
| 0.30                  | 0.60 | 6.00  | 33 | 701S3371-2-0.30 | ■ | ■     | ■   | ■    | ■   |
| ⋮                     | ⋮    | ⋮     | ⋮  | ⋮               | ⋮ | ⋮     | ⋮   | ⋮    | ⋮   |
| 3.50                  | 7.00 | 6.00  | 33 | 701S3371-2-3.50 | ■ | ■     | ■   | ■    | ■   |

|                 |  |      |     |                                                                              |
|-----------------|--|------|-----|------------------------------------------------------------------------------|
| Sharp<br>Corner |  | 3xD1 | Z=3 | Disponible tous les 0.1 mm<br>Verfügbar jede 0.1 mm<br>Available each 0.1 mm |
|-----------------|--|------|-----|------------------------------------------------------------------------------|

| D1<br>+0.005 / -0.010 | L2   | D2 h5 | L1 | Art. N°         | Z | TiAlN | STF | TiCN | DLC |
|-----------------------|------|-------|----|-----------------|---|-------|-----|------|-----|
| 0.30                  | 0.90 | 6.00  | 33 | 701S3371-3-0.30 | ■ | ■     | ■   | ■    | ■   |
| ⋮                     | ⋮    | ⋮     | ⋮  | ⋮               | ⋮ | ⋮     | ⋮   | ⋮    | ⋮   |
| 3.00                  | 9.00 | 6.00  | 33 | 701S3371-3-3.00 | ■ | ■     | ■   | ■    | ■   |

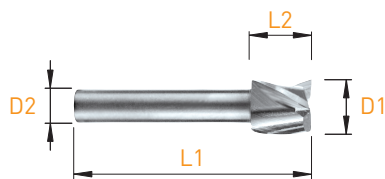


Fraises en bout pour usinage en bout plat

Schaftfräser für flache Frontbearbeitung

End mills for flat front machining

3383



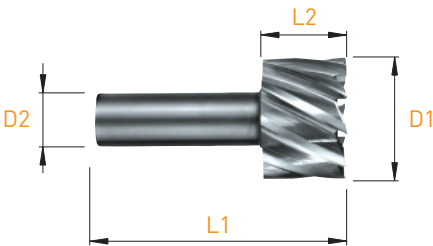
| D1 <sub>h10</sub> | L2    | D2 <sub>h6</sub> | L1 | Art. N°   | z |
|-------------------|-------|------------------|----|-----------|---|
| 8.00              | 8.00  | 6.00             | 40 | 3383-8.0  | ■ |
| 10.00             | 10.00 | 6.00             | 40 | 3383-10.0 | ■ |
| 12.00             | 12.00 | 6.00             | 40 | 3383-12.0 | ■ |

Fraises en bout avec queue réduite

Schaftfräser mit reduziertem Schaft

End mills with reduced shank

3831 / 3833



MD  
VHM  
HM

$\lambda$  30°

Sharp  
Corner



Z=10

| D1 h10 | L2    | D2 h6 | L1 | Art. N° | z |
|--------|-------|-------|----|---------|---|
| 16.30  | 15.00 | 10.00 | 45 | 3831    | ■ |
| 20.30  | 15.00 | 10.00 | 45 | 3833    | ■ |

Fraises à angler

Kegelsenker

Chamfering tools

3611

new



|                 |                     |  |     |     |
|-----------------|---------------------|--|-----|-----|
| MD<br>VHM<br>HM | $\lambda^{0^\circ}$ |  | Z=3 | 60° |
|-----------------|---------------------|--|-----|-----|

| D1<br>+0.005 / -0.010 | L2   | D2 h4 | L1 | d    | Art. N°  | Z | TiAlN | STF |
|-----------------------|------|-------|----|------|----------|---|-------|-----|
| 0.50                  | 3.00 | 3.00  | 39 | 0.10 | 3611-0.5 | ■ | ■     | ■   |
| 0.60                  | 3.00 | 3.00  | 39 | 0.10 | 3611-0.6 | ■ | ■     | ■   |
| 0.70                  | 3.00 | 3.00  | 39 | 0.10 | 3611-0.7 | ■ | ■     | ■   |
| 0.80                  | 3.00 | 3.00  | 39 | 0.10 | 3611-0.8 | ■ | ■     | ■   |
| 0.90                  | 3.00 | 3.00  | 39 | 0.10 | 3611-0.9 | ■ | ■     | ■   |
| 1.00                  | 3.00 | 3.00  | 39 | 0.10 | 3611-1.0 | ■ | ■     | ■   |
| 1.50                  | 4.50 | 3.00  | 39 | 0.10 | 3611-1.5 | ■ | ■     | ■   |
| 2.00                  | 6.00 | 3.00  | 39 | 0.10 | 3611-2.0 | ■ | ■     | ■   |
| 2.50                  | 7.50 | 3.00  | 39 | 0.10 | 3611-2.5 | ■ | ■     | ■   |
| 3.00                  | -    | 3.00  | 39 | 0.10 | 3611-3.0 | ■ | ■     | ■   |

Fraises à angler  
Kegelsenker  
Chamfering tools

3911



MD  
VHM  
HM

$\lambda^{0^\circ}$

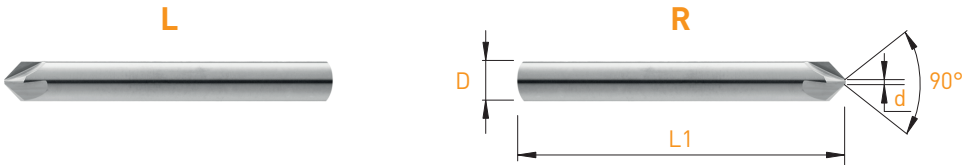
Z=3

90°

| D1   | L2   | D2 h4 | L1 | d    | Art. N°  | Z | TiAlN | STF |
|------|------|-------|----|------|----------|---|-------|-----|
| 0.50 | 3.00 | 3.00  | 39 | 0.10 | 3911-0.5 | ■ | ■     | ■   |
| 0.60 | 3.00 | 3.00  | 39 | 0.10 | 3911-0.6 | ■ | ■     | ■   |
| 0.70 | 3.00 | 3.00  | 39 | 0.10 | 3911-0.7 | ■ | ■     | ■   |
| 0.80 | 3.00 | 3.00  | 39 | 0.10 | 3911-0.8 | ■ | ■     | ■   |
| 0.90 | 3.00 | 3.00  | 39 | 0.10 | 3911-0.9 | ■ | ■     | ■   |
| 1.00 | 3.00 | 3.00  | 39 | 0.10 | 3911-1.0 | ■ | ■     | ■   |
| 1.50 | 4.50 | 3.00  | 39 | 0.10 | 3911-1.5 | ■ | ■     | ■   |
| 2.00 | 6.00 | 3.00  | 39 | 0.10 | 3911-2.0 | ■ | ■     | ■   |
| 2.50 | 7.50 | 3.00  | 39 | 0.10 | 3911-2.5 | ■ | ■     | ■   |
| 3.00 | -    | 3.00  | 39 | 0.10 | 3911-3.0 | ■ | ■     | ■   |

- Fraises à angler
- Kegelsenker
- Chamfering tools

1901 / 3901



|                           |                     |    |          |     |          |             |
|---------------------------|---------------------|----|----------|-----|----------|-------------|
| MD<br>VHM<br>HM           | $\lambda^{0^\circ}$ |    | Z=4      | 90° | L        | R           |
| D<br>Ø3h4<br>Ø6h5<br>Ø8h6 | d                   | L1 | Art. N°  | Z   | Art. N°  | Z TiAlN STF |
| 3.00                      | 0.30                | 39 | 1901-3.0 | ■   | 3901-3.0 | ■ ■ ■       |
| 6.00                      | 0.70                | 50 | 1901-6.0 | ■   | 3901-6.0 | ■ ■ ■       |
| 8.00                      | 1.20                | 59 | 1901-8.0 | ■   | 3901-8.0 | ■ ■ ■       |

Fraises à graver  
Gravierfräser  
Engraving mills

| Paramètres de coupe indicatif<br>Empfohlene Schnittwerte<br>Standard machining data |                                                                          |                                                                          |              |                     | 14.99                 |
|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------|--------------------------------------------------------------------------|--------------|---------------------|-----------------------|
|                                                                                     | A                                                                        | Plat [E] / Rayon [r]<br>Fläche [E] / Radius [r]<br>Flat [E] / Radius [r] | D            | Type<br>Typ<br>Type | Page<br>Seite<br>Page |
|     | 20° / 30° / 35° / 40°<br>45° / 50° / 55° / 60°<br>65° / 70° / 90° / 120° | 0.05-0.30<br>0.05-0.10 / every 0.01<br>0.10-0.30 / every 0.05            | Ø3h4<br>Ø6h5 | E100-P              | 14.100 <b>new</b>     |
|                                                                                     | 20° / 30° / 35° / 40°<br>45° / 50° / 55° / 60°<br>65° / 70° / 90°        | 0.02-0.30<br>0.02-0.10 / every 0.01<br>0.10-0.30 / every 0.05            | Ø3h4         | E300-P              | 14.101                |
|                                                                                     | 20° / 30° / 35° / 40°<br>45° / 50° / 55° / 60°<br>65° / 70° / 90°        | 0.04-0.30<br>0.04-0.10 / every 0.01<br>0.10-0.30 / every 0.05            | Ø3h4         | E300-R              | 14.102                |
|                                                                                     | 20° / 30° / 35° / 40°<br>45° / 50° / 55° / 60°<br>65° / 70° / 90°        | 0.04-0.30<br>0.04-0.10 / every 0.01<br>0.10-0.30 / every 0.05            | Ø3h4         | E900-P              | 14.103                |

## Fraises à graver

## Gravierfräser

## Engraving mills

## Paramètres de coupe indicatifs

## Empfohlene Schnittwerte

## Standard machining data

| Matière<br>Werkstoff<br>Material                                               | n<br>[tr/min] | Vf<br>[mm/min] | Z   | TiAlN | STF | TiCN | DLC |
|--------------------------------------------------------------------------------|---------------|----------------|-----|-------|-----|------|-----|
|                                                                                |               |                |     |       |     |      |     |
| Acier de décolletage<br>Automatenstahl<br>Free-cutting steel (P)               | 20 - 50'000   | 100 - 180      | -   | ***   | *** | **   | -   |
| Acier<br>Stahl < 600 N/mm <sup>2</sup> (P)                                     | 20 - 50'000   | 100 - 180      | -   | ***   | *** | **   | -   |
| Acier<br>Stahl < 800 N/mm <sup>2</sup> (P)                                     | 20 - 50'000   | 100 - 180      | -   | ***   | *** | **   | -   |
| Acier<br>Stahl > 800 N/mm <sup>2</sup> (P)                                     | 20 - 50'000   | 100 - 150      | -   | ***   | *** | **   | -   |
| Acier trempé<br>Gehärteter Stahl -55HRC (H)                                    | 20 - 50'000   | -              | -   | ***   | *** | *    | -   |
| Acier trempé<br>Gehärteter Stahl +55HRC (H)                                    | 20 - 50'00    | -              | -   | ***   | *** | *    | -   |
| Inox<br>Rostfreistahl (M)                                                      | 20 - 50'000   | 100 - 170      | -   | ***   | *** | **   | -   |
| Aluminium (N)                                                                  | 20 - 50'000   | 100 - 250      | *** | **    | **  | *    | *** |
| Cuivre, laiton, bronze<br>Kupfer, Messing, Bronze<br>Copper, brass, bronze (N) | 20 - 50'000   | 70 - 150       | *** | **    | **  | **   | *** |
| Matière synthétique<br>Synthetisches Material<br>Synthetic material (N)        | 20 - 50'000   | 100 - 200      | *** | **    | **  | **   | *** |
| Métaux précieux<br>Edelmetalle<br>Precious metals (N)                          | 20 - 50'000   | 100 - 200      | *** | **    | **  | **   | *** |
| Titane<br>Titan (S)                                                            | 20 - 50'000   | 70 - 150       | -   | ***   | *** | **   | -   |
| Alliage de nickel<br>Nickel-Legierung<br>Nickel alloy (S)                      | 20 - 50'000   | 80 - 180       | -   | ***   | *** | **   | -   |
| Matière exotique<br>Exotisches material<br>Exotic material (O)                 | 20 - 50'000   | 80 - 180       | *   | ***   | *** | **   | *** |

Avec revêtement, augmenter les valeurs de 20-30%

Mit Beschichtung, Daten um 20-30% erhöhen

With coating, increase data by 20-30%

\* Bien / Gut / Good

\*\* Très bien / Sehr Gut / Very good

\*\*\* Excellent / Ausgezeichnet / Excellent

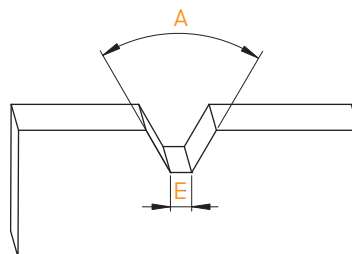
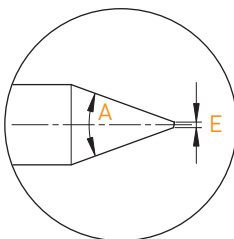
Fraises à graver avec plat

Gravierfräser mit Fläche

Engraving mills with flat

E100-P

new

MD  
VHM  
HM

| A    | E                         | L2    | D2<br>h4 Ø3.0<br>h5 Ø6.0 | L1 | Art. N°       | Z | TiAlN | STF | TiCN | DLC |
|------|---------------------------|-------|--------------------------|----|---------------|---|-------|-----|------|-----|
| 20°  | 0.05-0.10* / 0.10-0.30 ** | 5.20  | 3.00                     | 33 | E120-P-_(E)   | ■ | ■     | ■   | ■    | ■   |
| 30°  | 0.05-0.10* / 0.10-0.30 ** | 5.20  | 3.00                     | 33 | E130-P-_(E)   | ■ | ■     | ■   | ■    | ■   |
| 35°  | 0.05-0.10* / 0.10-0.30 ** | 5.20  | 3.00                     | 33 | E135-P-_(E)   | ■ | ■     | ■   | ■    | ■   |
| 40°  | 0.05-0.10* / 0.10-0.30 ** | 6.00  | 3.00                     | 33 | E140-P-_(E)   | ■ | ■     | ■   | ■    | ■   |
| 45°  | 0.05-0.10* / 0.10-0.30 ** | 6.00  | 3.00                     | 33 | E145-P-_(E)   | ■ | ■     | ■   | ■    | ■   |
| 50°  | 0.05-0.10* / 0.10-0.30 ** | 6.00  | 3.00                     | 33 | E150-P-_(E)   | ■ | ■     | ■   | ■    | ■   |
| 55°  | 0.05-0.10* / 0.10-0.30 ** | 6.00  | 3.00                     | 33 | E155-P-_(E)   | ■ | ■     | ■   | ■    | ■   |
| 60°  | 0.05-0.10* / 0.10-0.30 ** | 8.00  | 3.00                     | 33 | E160-P-_(E)   | ■ | ■     | ■   | ■    | ■   |
| 65°  | 0.05-0.10* / 0.10-0.30 ** | 8.00  | 3.00                     | 33 | E165-P-_(E)   | ■ | ■     | ■   | ■    | ■   |
| 70°  | 0.05-0.10* / 0.10-0.30 ** | 8.00  | 3.00                     | 33 | E170-P-_(E)   | ■ | ■     | ■   | ■    | ■   |
| 90°  | 0.05-0.10* / 0.10-0.30 ** | 8.00  | 3.00                     | 33 | E190-P-_(E)   | ■ | ■     | ■   | ■    | ■   |
| 120° | 0.05-0.10* / 0.10-0.30 ** | 8.00  | 3.00                     | 33 | E1120-P-_(E)  | ■ | ■     | ■   | ■    | ■   |
| 30°  | 0.05-0.10* / 0.10-0.30 ** | 12.00 | 6.00                     | 40 | E130-6-P-_(E) | ■ | ■     | ■   | ■    | ■   |
| 40°  | 0.05-0.10* / 0.10-0.30 ** | 12.00 | 6.00                     | 40 | E140-6-P-_(E) | ■ | ■     | ■   | ■    | ■   |

\* tous les 0.01 mm  
alle 0.01 mm  
every 0.01 mm

\*\* tous les 0.05 mm  
alle 0.05 mm  
every 0.05 mm

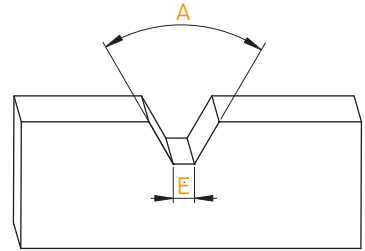
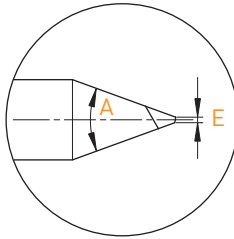


Fraises à graver avec plat

Gravierfräser mit Fläche

Engraving mills with flat

E300-P

MD  
VHM  
HM

| A   | E                        | D h4 | L1 | Art. N°     | Z | TiAIN | STF | TiCN | DLC |
|-----|--------------------------|------|----|-------------|---|-------|-----|------|-----|
| 20° | 0.02-0.10* / 0.10-0.30** | 3.00 | 33 | E320-P-_(E) | ■ | ■     | ■   | ■    | ■   |
| 30° | 0.02-0.10* / 0.10-0.30** | 3.00 | 33 | E330-P-_(E) | ■ | ■     | ■   | ■    | ■   |
| 35° | 0.02-0.10* / 0.10-0.30** | 3.00 | 33 | E335-P-_(E) | ■ | ■     | ■   | ■    | ■   |
| 40° | 0.02-0.10* / 0.10-0.30** | 3.00 | 33 | E340-P-_(E) | ■ | ■     | ■   | ■    | ■   |
| 45° | 0.02-0.10* / 0.10-0.30** | 3.00 | 33 | E345-P-_(E) | ■ | ■     | ■   | ■    | ■   |
| 50° | 0.02-0.10* / 0.10-0.30** | 3.00 | 33 | E350-P-_(E) | ■ | ■     | ■   | ■    | ■   |
| 55° | 0.02-0.10* / 0.10-0.30** | 3.00 | 33 | E355-P-_(E) | ■ | ■     | ■   | ■    | ■   |
| 60° | 0.02-0.10* / 0.10-0.30** | 3.00 | 33 | E360-P-_(E) | ■ | ■     | ■   | ■    | ■   |
| 65° | 0.02-0.10* / 0.10-0.30** | 3.00 | 33 | E365-P-_(E) | ■ | ■     | ■   | ■    | ■   |
| 70° | 0.02-0.10* / 0.10-0.30** | 3.00 | 33 | E370-P-_(E) | ■ | ■     | ■   | ■    | ■   |
| 90° | 0.02-0.10* / 0.10-0.30** | 3.00 | 33 | E390-P-_(E) | ■ | ■     | ■   | ■    | ■   |

\* tous les 0.01 mm  
alle 0.01 mm  
every 0.01 mm

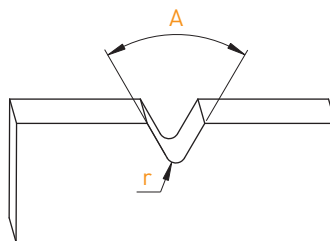
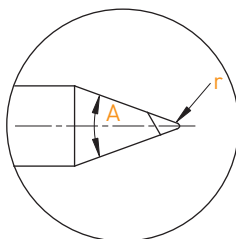
\*\* tous les 0.05 mm  
alle 0.05 mm  
every 0.05 mm

Fraises à graver à rayon

Gravierfräser mit Radius

Engraving mills with radius

E300-R

MD  
VHM  
HM

| A   | r                        | D h4 | L1 | Art. N°    | N | TiAlN | STF | TiCN | DLC |
|-----|--------------------------|------|----|------------|---|-------|-----|------|-----|
| 20° | 0.04-0.10* / 0.10-0.30** | 3.00 | 33 | E320-R_(r) | ■ | ■     | ■   | ■    | ■   |
| 30° | 0.04-0.10* / 0.10-0.30** | 3.00 | 33 | E330-R_(r) | ■ | ■     | ■   | ■    | ■   |
| 35° | 0.04-0.10* / 0.10-0.30** | 3.00 | 33 | E335-R_(r) | ■ | ■     | ■   | ■    | ■   |
| 40° | 0.04-0.10* / 0.10-0.30** | 3.00 | 33 | E340-R_(r) | ■ | ■     | ■   | ■    | ■   |
| 45° | 0.04-0.10* / 0.10-0.30** | 3.00 | 33 | E345-R_(r) | ■ | ■     | ■   | ■    | ■   |
| 50° | 0.04-0.10* / 0.10-0.30** | 3.00 | 33 | E350-R_(r) | ■ | ■     | ■   | ■    | ■   |
| 55° | 0.04-0.10* / 0.10-0.30** | 3.00 | 33 | E355-R_(r) | ■ | ■     | ■   | ■    | ■   |
| 60° | 0.04-0.10* / 0.10-0.30** | 3.00 | 33 | E360-R_(r) | ■ | ■     | ■   | ■    | ■   |
| 65° | 0.04-0.10* / 0.10-0.30** | 3.00 | 33 | E365-R_(r) | ■ | ■     | ■   | ■    | ■   |
| 70° | 0.04-0.10* / 0.10-0.30** | 3.00 | 33 | E370-R_(r) | ■ | ■     | ■   | ■    | ■   |
| 90° | 0.04-0.10* / 0.10-0.30** | 3.00 | 33 | E390-R_(r) | ■ | ■     | ■   | ■    | ■   |

\* tous les 0.01 mm  
alle 0.01 mm  
every 0.01 mm

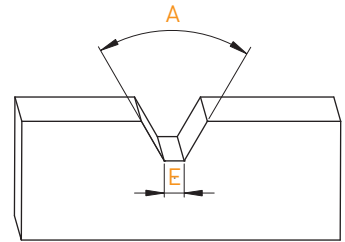
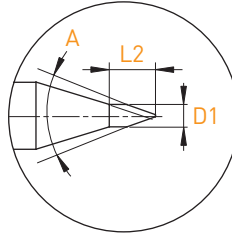
\*\* tous les 0.05 mm  
alle 0.05 mm  
every 0.05 mm

Fraises à graver renforcées

Verstärkte Gravierfräser

Reinforced engraving mills

E900-P

MD  
VHM  
HM

| A   | E                        | D1   | L2   | D <sub>h4</sub> | L1 | Art. N°    | Z | TiAIN | STF | TiCN | DLC |
|-----|--------------------------|------|------|-----------------|----|------------|---|-------|-----|------|-----|
| 20° | 0.04-0.10* / 0.10-0.30** | 0.60 | 1.80 | 3.00            | 33 | E920-P-(E) | ■ | ■     | ■   | ■    | ■   |
| 30° | 0.04-0.10* / 0.10-0.30** | 0.60 | 1.80 | 3.00            | 33 | E930-P-(E) | ■ | ■     | ■   | ■    | ■   |
| 35° | 0.04-0.10* / 0.10-0.30** | 0.60 | 1.80 | 3.00            | 33 | E935-P-(E) | ■ | ■     | ■   | ■    | ■   |
| 40° | 0.04-0.10* / 0.10-0.30** | 0.60 | 1.80 | 3.00            | 33 | E940-P-(E) | ■ | ■     | ■   | ■    | ■   |
| 45° | 0.04-0.10* / 0.10-0.30** | 1.00 | 1.80 | 3.00            | 33 | E945-P-(E) | ■ | ■     | ■   | ■    | ■   |
| 50° | 0.04-0.10* / 0.10-0.30** | 1.00 | 2.00 | 3.00            | 33 | E950-P-(E) | ■ | ■     | ■   | ■    | ■   |
| 55° | 0.04-0.10* / 0.10-0.30** | 1.00 | 2.00 | 3.00            | 33 | E955-P-(E) | ■ | ■     | ■   | ■    | ■   |
| 60° | 0.04-0.10* / 0.10-0.30** | 1.20 | 2.00 | 3.00            | 33 | E960-P-(E) | ■ | ■     | ■   | ■    | ■   |
| 65° | 0.04-0.10* / 0.10-0.30** | 1.20 | 2.00 | 3.00            | 33 | E965-P-(E) | ■ | ■     | ■   | ■    | ■   |
| 70° | 0.04-0.10* / 0.10-0.30** | 1.20 | 2.00 | 3.00            | 33 | E970-P-(E) | ■ | ■     | ■   | ■    | ■   |
| 90° | 0.04-0.10* / 0.10-0.30** | 1.20 | 2.00 | 3.00            | 33 | E990-P-(E) | ■ | ■     | ■   | ■    | ■   |

\* tous les 0.01 mm  
alle 0.01 mm  
every 0.01 mm

\*\* tous les 0.05 mm  
alle 0.05 mm  
every 0.05 mm

## Micro-forets et centreurs NC

## Mikrobohrer und NC-Zentrierbohrer

Index

## Micro drills and NC centering drills

Paramètres de coupe indicatif  
Empfohlene Schnittwerte  
Standard machining data

**Micro-forets et centreurs**  
**Mikrobohrer und Zentrierbohrer**  
**Micro drills and centering drills**

| Point angle | $\lambda$ | L2   | D1             | D2           | Type     | Page   |
|-------------|-----------|------|----------------|--------------|----------|--------|
| 60°         | 25°       | Div. | Ø 2.00 - 6.00  | D1 = D2      | 2680-60  | 14.107 |
| 90°         | 25°       | Div. | Ø 0.50 - 20.00 | Ø 2.0 - 20.0 | 2680-90  | 14.108 |
| 90°         | 25°       | Div. | Ø 2.00 - 16.00 | D1 = D2      | 1680-90  | 14.108 |
| 120°        | 25°       | Div. | Ø 0.50 - 20.00 | Ø 2.0 - 20.0 | 2680-120 | 14.109 |
| 120°        | 25°       | Div. | Ø 2.00 - 12.00 | D1 = D2      | 1680-120 | 14.109 |

**Micro-forets de préperçage**  
**Mikro Pilotbohrer**  
**Micro pilot drill**

| Z  | Point angle | $\lambda$ | L2       | D1            | D2           | Type | Page   |
|----|-------------|-----------|----------|---------------|--------------|------|--------|
| Z2 | 90°         | 25° - 32° | Div.     | Ø 0.50 - 3.00 | Ø2h5<br>Ø3h4 | 2690 | 14.110 |
| Z2 | 130°        | 30°       | ~ 2 x D1 | Ø 0.10 - 2.00 | Ø3h6         | 2020 | 14.115 |

**Micro-forets avec affûtage à facettes**  
**Mikrobohrer mit Facettenschliff**  
**Micro drills with faceted drill point**

| Z  | Point angle | $\lambda$ | L2          | D1            | D2             | Type | Page   |
|----|-------------|-----------|-------------|---------------|----------------|------|--------|
| Z2 | 118°        | 25°       | ~ 5-10 x D1 | Ø 0.50 - 6.00 | D1 = D2        | 1010 | 14.111 |
| Z2 | 118°        | 25°/35°   | ~ 5-10 x D1 | Ø 0.50 - 6.00 | D1 = D2        | 2010 | 14.112 |
| Z2 | 120°        | 30°       | ~ 2 x D1    | Ø 0.80 - 2.00 | Ø 2h6          | 2011 | 14.113 |
| Z2 | 120°        | 24°       | ~ 3 x D1    | Ø 0.50 - 2.40 | Ø 1.5 - 3.0 h6 | 2012 | 14.113 |
| Z2 | 120°        | 35°       | ~ 8 x D1    | Ø 0.40 - 1.90 | Ø 1.0 - 2.0 h6 | 2013 | 14.114 |
| Z2 | 120°        | 30°       | ~ 12 x D1   | Ø 0.50 - 1.95 | Ø 1.5 - 2.0 h6 | 2014 | 14.114 |
| Z2 | 130°        | 35°       | 6 x D1      | Ø 0.10 - 3.00 | Ø3h6           | 2023 | 14.117 |
| Z2 | 130°        | 35°       | 12 x D1     | Ø 0.20 - 2.00 | Ø3h6           | 2026 | 14.120 |
| Z3 | 140°        | 35°       | 5 x D1      | Ø 0.20 - 2.99 | Ø3h6           | 2030 | 14.122 |

## Forets à centrer NC

## NC-Zentrierbohrer

## NC centering drills

## Paramètres de coupe indicatifs

## Empfohlene Schnittwerte

## Standard machining data

| Matière<br>Werkstoff<br>Material                                               | VC        | f      | Z   | TAIN | STF |
|--------------------------------------------------------------------------------|-----------|--------|-----|------|-----|
|                                                                                | [m/min]   | [mm]   |     |      |     |
| Acier de décolletage<br>Automatenstahl<br>Free-cutting steel (P)               | 60        | D1/55  | ★★  | ★★★  | ★★★ |
| Acier<br>Stahl < 600 N/mm <sup>2</sup> (P)                                     | 55        | D1/55  | ★★  | ★★★  | ★★★ |
| Acier<br>Stahl < 800 N/mm <sup>2</sup> (P)                                     | 55        | D1/55  | ★★  | ★★★  | ★★★ |
| Acier<br>Stahl > 800 N/mm <sup>2</sup> (P)                                     | 55        | D1/55  | ★★  | ★★★  | ★★★ |
| Acier trempé<br>Gehärteter Stahl -55HRC (H)                                    | 10        | D1/100 | -   | ★★★  | ★★★ |
| Acier trempé<br>Gehärteter Stahl +55HRC (H)                                    | -         | -      | -   | -    | -   |
| Inox<br>Rostfreistahl (M)                                                      | 30        | D1/85  | ★★  | ★★★  | ★★★ |
| Aluminium (N)                                                                  | 100 - 180 | D1/50  | ★★★ | ★★   | ★★  |
| Cuivre, laiton, bronze<br>Kupfer, Messing, Bronze<br>Copper, brass, bronze (N) | 60 - 90   | D1/60  | ★★★ | ★★   | ★★  |
| Matière synthétique<br>Synthetisches Material<br>Synthetic material (N)        | 350 - 700 | D1/60  | ★★★ | ★★   | ★★  |
| Métaux précieux<br>Edelmetalle<br>Precious metals (N)                          | 50 - 80   | D1/100 | ★★★ | ★★   | ★★  |
| Titane<br>Titan (S)                                                            | 30        | D1/115 | ★★  | ★★★  | ★★★ |
| Alliage de nickel<br>Nickel-Legierung<br>Nickel alloy (S)                      | 15 - 20   | D1/120 | ★★  | ★★★  | ★★★ |
| Matière exotique<br>Exotisches material<br>Exotic material (O)                 | 10        | D1/100 | ★★  | ★★★  | ★★★ |

Avec revêtement, augmenter les valeurs de 20-30%

Mit Beschichtung, Daten um 20-30% erhöhen

With coating, increase data by 20-30%

\* Bien / Gut / Good

\*\* Très bien / Sehr Gut / Very good

\*\*\* Excellent / Ausgezeichnet / Excellent

## Forets

## Bohrer

## Drills

## Paramètres de coupe indicatifs

## Empfohlene Schnittwerte

## Standard machining data

| Matière<br>Werkstoff<br>Material                                           |                                  | VC        | f      | Débouillage |
|----------------------------------------------------------------------------|----------------------------------|-----------|--------|-------------|
|                                                                            |                                  | (m/min)   | (mm)   |             |
| Acier de décolletage<br>Automatenstahl<br>Free-cutting steel               | <b>P</b>                         | 60 - 90   | D1/70  | 1.5xØ       |
| Acier<br>Stahl<br>Steel                                                    | < 600 N/mm <sup>2</sup> <b>P</b> | 50 - 80   | D1/70  | 1.5xØ       |
| Acier<br>Stahl<br>Steel                                                    | < 800 N/mm <sup>2</sup> <b>P</b> | 50 - 80   | D1/70  | 1.5xØ       |
| Acier<br>Stahl<br>Steel                                                    | > 800 N/mm <sup>2</sup> <b>P</b> | 50 - 80   | D1/70  | 1.5xØ       |
| Acier trempé<br>Gehärteter Stahl<br>Hardened steel                         | -55HRC <b>H</b>                  | -         | -      | -           |
| Acier trempé<br>Gehärteter Stahl<br>Hardened steel                         | +55HRC <b>H</b>                  | -         | -      | -           |
| Inox<br>Rostfreistahl<br>Stainless steel                                   | <b>M</b>                         | 20 - 30   | D1/70  | 3xØ         |
| Aluminium                                                                  | <b>N</b>                         | 100 - 180 | D1/40  | 2xØ         |
| Cuivre, laiton, bronze<br>Kupfer, Messing, Bronze<br>Copper, brass, bronze | <b>N</b>                         | 50 - 85   | D1/120 | 1xØ         |
| Matière synthétique<br>Synthetisches Material<br>Synthetic material        | <b>N</b>                         | 350 - 750 | D1/40  | 2xØ         |
| Métaux précieux<br>Edelmetalle<br>Precious metals                          | <b>N</b>                         | 60 - 90   | D1/100 | 0.85xØ      |
| Titane<br>Titan<br>Titanium                                                | <b>S</b>                         | 20 - 40   | D1/120 | 1.3xØ       |
| Alliage de nickel<br>Nickel-Legierung<br>Nickel alloy                      | <b>S</b>                         | 20        | D1/120 | 1xØ         |
| Matière exotique<br>Exotisches material<br>Exotic material                 | <b>O</b>                         | 5 - 10    | D1/100 | 1xØ         |

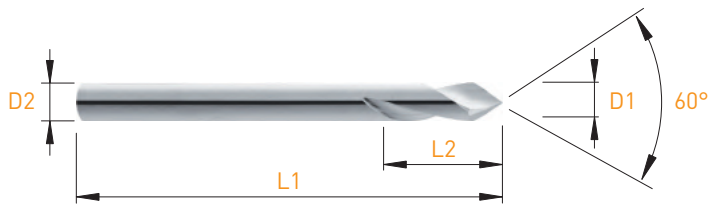
Avec revêtement, augmenter les valeurs de 20-30%

Mit Beschichtung, Daten um 20-30% erhöhen

With coating, increase data by 20-30%

- Centreurs NC
- NC-Zentrierbohrer
- NC centering drills

2680-60



|     |               |     |
|-----|---------------|-----|
| MD  | $\lambda$ 25° | 60° |
| VHM |               |     |
| HM  |               |     |

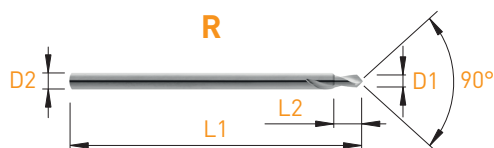
| D1 h6 | L2    | D2 h5 | L1 | Art. N°      | Z | TiAlN | STF |
|-------|-------|-------|----|--------------|---|-------|-----|
| 2.00  | 8.00  | 2.00  | 39 | 2680-2.00-60 | ■ | ■     | ■   |
| 3.00  | 10.00 | 3.00  | 39 | 2680-3.00-60 | ■ | ■     | ■   |
| 4.00  | 12.00 | 4.00  | 50 | 2680-4.00-60 | ■ | ■     | ■   |
| 5.00  | 14.00 | 5.00  | 50 | 2680-5.00-60 | ■ | ■     | ■   |
| 6.00  | 16.00 | 6.00  | 50 | 2680-6.00-60 | ■ | ■     | ■   |

## Centreurs NC

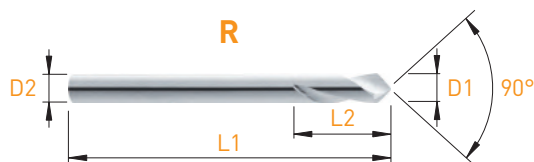
## NC-Zentrierbohrer

## NC centering drills

1680-90° / 2680-90°



| MD<br>VHM<br>HM | $\lambda$ 25° | 90°   | R  |              |   |
|-----------------|---------------|-------|----|--------------|---|
| D1 h6           | L2            | D2 h5 | L1 | Art. N°      | z |
| 0.50            | 1.50          | 2.00  | 39 | 2680-0.50-90 | ■ |
| 0.60            | 1.50          | 2.00  | 39 | 2680-0.60-90 | ■ |
| 0.70            | 1.50          | 2.00  | 39 | 2680-0.70-90 | ■ |
| 0.80            | 1.50          | 2.00  | 39 | 2680-0.80-90 | ■ |
| 0.90            | 1.50          | 2.00  | 39 | 2680-0.90-90 | ■ |
| 1.00            | 3.00          | 2.00  | 39 | 2680-1.00-90 | ■ |
| 1.10            | 3.00          | 2.00  | 39 | 2680-1.10-90 | ■ |
| 1.20            | 3.00          | 2.00  | 39 | 2680-1.20-90 | ■ |
| 1.30            | 3.00          | 2.00  | 39 | 2680-1.30-90 | ■ |
| 1.40            | 3.00          | 2.00  | 39 | 2680-1.40-90 | ■ |
| 1.50            | 4.00          | 2.00  | 39 | 2680-1.50-90 | ■ |
| 1.60            | 4.00          | 2.00  | 39 | 2680-1.60-90 | ■ |
| 1.70            | 4.00          | 2.00  | 39 | 2680-1.70-90 | ■ |
| 1.80            | 4.00          | 2.00  | 39 | 2680-1.80-90 | ■ |
| 1.90            | 4.00          | 2.00  | 39 | 2680-1.90-90 | ■ |



| MD<br>VHM<br>HM | $\lambda$ 25° | 90°   | L  |               |   | R             |   |              | HSS | R                 |   |  |
|-----------------|---------------|-------|----|---------------|---|---------------|---|--------------|-----|-------------------|---|--|
| D1              | L2            | D2 h6 | L1 | Art. N°       | z | Art. N°       | z | TiAIN<br>STF |     | Art. N°           | z |  |
| 2.00            | 8.00          | 2.00  | 39 | 1680-2.00-90  | ■ | 2680-2.00-90  | ■ | ■            | ■   | -                 |   |  |
| 2.50            | 8.00          | 2.50  | 39 | 1680-2.50-90  | ■ | 2680-2.50-90  | ■ | ■            | ■   | -                 |   |  |
| 3.00            | 10.00         | 3.00  | 39 | 1680-3.00-90  | ■ | 2680-3.00-90  | ■ | ■            | ■   | 2680-3.00-90-HSS  | ■ |  |
| 4.00            | 12.00         | 4.00  | 50 | 1680-4.00-90  | ■ | 2680-4.00-90  | ■ | ■            | ■   | 2680-4.00-90-HSS  | ■ |  |
| 5.00            | 15.00         | 5.00  | 50 | 1680-5.00-90  | ■ | 2680-5.00-90  | ■ | ■            | ■   | 2680-5.00-90-HSS  | ■ |  |
| 6.00            | 16.00         | 6.00  | 57 | 1680-6.00-90  | ■ | 2680-6.00-90  | ■ | ■            | ■   | 2680-6.00-90-HSS  | ■ |  |
| 8.00            | 20.00         | 8.00  | 63 | 1680-8.00-90  | ■ | 2680-8.00-90  | ■ |              |     | 2680-8.00-90-HSS  | ■ |  |
| 10.00           | 22.00         | 10.00 | 72 | 1680-10.00-90 | ■ | 2680-10.00-90 | ■ |              |     | 2680-10.00-90-HSS | ■ |  |
| 12.00           | 24.00         | 12.00 | 73 | 1680-12.00-90 | ■ | 2680-12.00-90 | ■ |              |     | 2680-12.00-90-HSS | ■ |  |
| 16.00           | 26.00         | 16.00 | 82 | 1680-16.00-90 | ■ | 2680-16.00-90 | ■ |              |     | -                 |   |  |
| 20.00           | 30.00         | 20.00 | 92 | -             |   | 2680-20.00-90 | ■ |              |     | -                 |   |  |

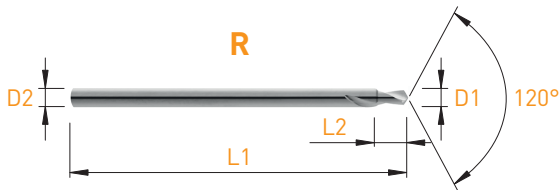


Centreurs NC

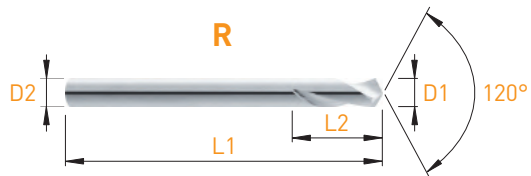
NC-Zentrierbohrer

NC centering drills

1680-120° / 2680-120°



| MD<br>VHM<br>HM | $\lambda^{25^\circ}$ | 120°  | R  |               |   |
|-----------------|----------------------|-------|----|---------------|---|
| D1 h6           | L2                   | D2 h5 | L1 | Art. N°       | z |
| 0.50            | 1.50                 | 2.00  | 39 | 2680-0.50-120 | ■ |
| 0.60            | 1.50                 | 2.00  | 39 | 2680-0.60-120 | ■ |
| 0.70            | 1.50                 | 2.00  | 39 | 2680-0.70-120 | ■ |
| 0.80            | 1.50                 | 2.00  | 39 | 2680-0.80-120 | ■ |
| 0.90            | 1.50                 | 2.00  | 39 | 2680-0.90-120 | ■ |
| 1.00            | 3.00                 | 2.00  | 39 | 2680-1.00-120 | ■ |
| 1.10            | 3.00                 | 2.00  | 39 | 2680-1.10-120 | ■ |
| 1.20            | 3.00                 | 2.00  | 39 | 2680-1.20-120 | ■ |
| 1.30            | 3.00                 | 2.00  | 39 | 2680-1.30-120 | ■ |
| 1.40            | 3.00                 | 2.00  | 39 | 2680-1.40-120 | ■ |
| 1.50            | 4.00                 | 2.00  | 39 | 2680-1.50-120 | ■ |
| 1.60            | 4.00                 | 2.00  | 39 | 2680-1.60-120 | ■ |
| 1.70            | 4.00                 | 2.00  | 39 | 2680-1.70-120 | ■ |
| 1.80            | 4.00                 | 2.00  | 39 | 2680-1.80-120 | ■ |
| 1.90            | 4.00                 | 2.00  | 39 | 2680-1.90-120 | ■ |



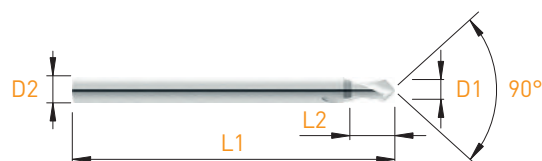
| MD<br>VHM<br>HM | $\lambda^{25^\circ}$ | 120°  | L  |                |   | R              |   |              |
|-----------------|----------------------|-------|----|----------------|---|----------------|---|--------------|
| D1              | L2                   | D2 h6 | L1 | Art. N°        | z | Art. N°        | z | TiAlN<br>STF |
| 2.00            | 8.00                 | 2.00  | 39 | 1680-2.00-120  | ■ | 2680-2.00-120  | ■ | ■            |
| 2.50            | 8.00                 | 2.50  | 39 | 1680-2.50-120  | ■ | 2680-2.50-120  | ■ | ■            |
| 3.00            | 10.00                | 3.00  | 39 | 1680-3.00-120  | ■ | 2680-3.00-120  | ■ | ■            |
| 4.00            | 12.00                | 4.00  | 50 | 1680-4.00-120  | ■ | 2680-4.00-120  | ■ | ■            |
| 5.00            | 15.00                | 5.00  | 50 | 1680-5.00-120  | ■ | 2680-5.00-120  | ■ | ■            |
| 6.00            | 16.00                | 6.00  | 57 | 1680-6.00-120  | ■ | 2680-6.00-120  | ■ | ■            |
| 8.00            | 20.00                | 8.00  | 63 | 1680-8.00-120  | ■ | 2680-8.00-120  | ■ | ■            |
| 10.00           | 22.00                | 10.00 | 72 | 1680-10.00-120 | ■ | 2680-10.00-120 | ■ | ■            |
| 12.00           | 24.00                | 12.00 | 73 | 1680-12.00-120 | ■ | 2680-12.00-120 | ■ | ■            |
| 16.00           | 26.00                | 16.00 | 82 | -              |   | 2680-16.00-120 | ■ | ■            |
| 20.00           | 30.00                | 20.00 | 92 | -              |   | 2680-20.00-120 | ■ | ■            |

## Micro-forets de préperçage

## Mikro Pilotbohrer

## Micro pilot drill

2690



|                 |               |                 |     |
|-----------------|---------------|-----------------|-----|
| MD<br>VHM<br>HM | $\lambda$ 32° | * $\lambda$ 25° | 90° |
|-----------------|---------------|-----------------|-----|

| D1 h5 | L2   | D2 h5 | L1 | Art. N°   | z | TIALN | STF |
|-------|------|-------|----|-----------|---|-------|-----|
| 0.50* | 2.50 | 2.00  | 39 | 2690-0.50 | ■ |       |     |
| 0.60* | 2.50 | 2.00  | 39 | 2690-0.60 | ■ |       |     |
| 0.70* | 2.50 | 2.00  | 39 | 2690-0.70 | ■ |       |     |
| 0.80* | 2.50 | 2.00  | 39 | 2690-0.80 | ■ |       |     |
| 0.90* | 2.50 | 2.00  | 39 | 2690-0.90 | ■ |       |     |
| 1.00  | 3.00 | 2.00  | 39 | 2690-1.00 | ■ |       |     |
| 1.10  | 3.00 | 2.00  | 39 | 2690-1.10 | ■ |       |     |
| 1.20  | 3.00 | 2.00  | 39 | 2690-1.20 | ■ |       |     |
| 1.30  | 3.00 | 2.00  | 39 | 2690-1.30 | ■ |       |     |
| 1.40  | 3.00 | 2.00  | 39 | 2690-1.40 | ■ |       |     |
| 1.50  | 3.50 | 2.00  | 39 | 2690-1.50 | ■ |       |     |
| 1.60  | 3.50 | 2.00  | 39 | 2690-1.60 | ■ |       |     |
| 1.70  | 3.50 | 2.00  | 39 | 2690-1.70 | ■ |       |     |
| 1.80  | 3.50 | 2.00  | 39 | 2690-1.80 | ■ |       |     |
| 1.90  | 3.50 | 2.00  | 39 | 2690-1.90 | ■ |       |     |
| 2.00  | -    | 2.00  | 39 | 2690-2.00 | ■ | ■     | ■   |
| 2.10  | 4.00 | 3.00  | 39 | 2690-2.10 | ■ | ■     | ■   |
| 2.20  | 4.00 | 3.00  | 39 | 2690-2.20 | ■ | ■     | ■   |
| 2.30  | 4.00 | 3.00  | 39 | 2690-2.30 | ■ | ■     | ■   |
| 2.40  | 4.00 | 3.00  | 39 | 2690-2.40 | ■ | ■     | ■   |
| 2.50  | 4.00 | 3.00  | 39 | 2690-2.50 | ■ | ■     | ■   |
| 2.60  | 4.00 | 3.00  | 39 | 2690-2.60 | ■ | ■     | ■   |
| 2.70  | 4.00 | 3.00  | 39 | 2690-2.70 | ■ | ■     | ■   |
| 2.80  | 4.00 | 3.00  | 39 | 2690-2.80 | ■ | ■     | ■   |
| 2.90  | 4.00 | 3.00  | 39 | 2690-2.90 | ■ | ■     | ■   |
| 3.00  | -    | 3.00  | 50 | 2690-3.00 | ■ | ■     | ■   |

Forets cylindriques

Zylindrische Bohrer

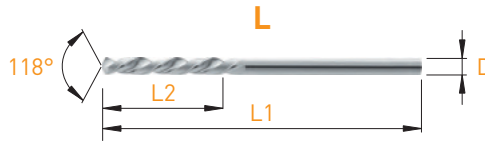
Cylindrical drills

Coupe à gauche

Linksschneidend

Left hand cut

1010

MD  
VHM  
HM $\lambda$  25°

Z=2

118°



L

L

| D h6 | L1 | L2    | Art. N°   | z |
|------|----|-------|-----------|---|
| 0.50 | 30 | 5.00  | 1010-0.50 | ■ |
| 0.55 | 30 | 5.00  | 1010-0.55 | ■ |
| 0.60 | 30 | 5.00  | 1010-0.60 | ■ |
| 0.65 | 30 | 6.00  | 1010-0.65 | ■ |
| 0.70 | 30 | 6.00  | 1010-0.70 | ■ |
| 0.75 | 30 | 8.00  | 1010-0.75 | ■ |
| 0.80 | 30 | 8.00  | 1010-0.80 | ■ |
| 0.85 | 30 | 9.00  | 1010-0.85 | ■ |
| 0.90 | 30 | 9.00  | 1010-0.90 | ■ |
| 0.95 | 30 | 10.00 | 1010-0.95 | ■ |
| 1.00 | 30 | 10.00 | 1010-1.00 | ■ |
| 1.05 | 30 | 10.00 | 1010-1.05 | ■ |
| 1.10 | 30 | 10.00 | 1010-1.10 | ■ |
| 1.15 | 30 | 12.00 | 1010-1.15 | ■ |
| 1.20 | 30 | 12.00 | 1010-1.20 | ■ |
| 1.25 | 30 | 12.00 | 1010-1.25 | ■ |
| 1.30 | 30 | 12.00 | 1010-1.30 | ■ |
| 1.35 | 30 | 12.00 | 1010-1.35 | ■ |
| 1.40 | 30 | 12.00 | 1010-1.40 | ■ |
| 1.45 | 30 | 12.00 | 1010-1.45 | ■ |
| 1.50 | 30 | 12.00 | 1010-1.50 | ■ |
| 1.55 | 40 | 16.00 | 1010-1.55 | ■ |
| 1.60 | 40 | 16.00 | 1010-1.60 | ■ |
| 1.65 | 40 | 16.00 | 1010-1.65 | ■ |
| 1.70 | 40 | 16.00 | 1010-1.70 | ■ |
| 1.75 | 40 | 16.00 | 1010-1.75 | ■ |
| 1.80 | 40 | 16.00 | 1010-1.80 | ■ |
| 1.85 | 40 | 16.00 | 1010-1.85 | ■ |
| 1.90 | 40 | 16.00 | 1010-1.90 | ■ |
| 1.95 | 40 | 16.00 | 1010-1.95 | ■ |
| 2.00 | 40 | 16.00 | 1010-2.00 | ■ |
| 2.05 | 40 | 18.00 | 1010-2.05 | ■ |
| 2.10 | 40 | 18.00 | 1010-2.10 | ■ |
| 2.15 | 40 | 18.00 | 1010-2.15 | ■ |
| 2.20 | 40 | 18.00 | 1010-2.20 | ■ |
| 2.25 | 40 | 18.00 | 1010-2.25 | ■ |
| 2.30 | 40 | 18.00 | 1010-2.30 | ■ |
| 2.35 | 40 | 18.00 | 1010-2.35 | ■ |
| 2.40 | 40 | 18.00 | 1010-2.40 | ■ |
| 2.45 | 40 | 18.00 | 1010-2.45 | ■ |
| 2.50 | 40 | 18.00 | 1010-2.50 | ■ |

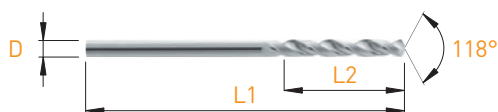
| D h6 | L1 | L2    | Art. N°   | z |
|------|----|-------|-----------|---|
| 2.55 | 45 | 18.00 | 1010-2.55 | ■ |
| 2.60 | 45 | 18.00 | 1010-2.60 | ■ |
| 2.65 | 45 | 18.00 | 1010-2.65 | ■ |
| 2.70 | 45 | 18.00 | 1010-2.70 | ■ |
| 2.75 | 45 | 18.00 | 1010-2.75 | ■ |
| 2.80 | 45 | 18.00 | 1010-2.80 | ■ |
| 2.85 | 45 | 18.00 | 1010-2.85 | ■ |
| 2.90 | 45 | 18.00 | 1010-2.90 | ■ |
| 2.95 | 45 | 18.00 | 1010-2.95 | ■ |
| 3.00 | 45 | 18.00 | 1010-3.00 | ■ |
| 3.10 | 50 | 20.00 | 1010-3.10 | ■ |
| 3.20 | 50 | 20.00 | 1010-3.20 | ■ |
| 3.30 | 50 | 20.00 | 1010-3.30 | ■ |
| 3.40 | 50 | 20.00 | 1010-3.40 | ■ |
| 3.50 | 50 | 20.00 | 1010-3.50 | ■ |
| 3.60 | 50 | 20.00 | 1010-3.60 | ■ |
| 3.70 | 50 | 20.00 | 1010-3.70 | ■ |
| 3.80 | 50 | 20.00 | 1010-3.80 | ■ |
| 3.90 | 50 | 20.00 | 1010-3.90 | ■ |
| 4.00 | 50 | 20.00 | 1010-4.00 | ■ |
| 4.10 | 50 | 25.00 | 1010-4.10 | ■ |
| 4.20 | 50 | 25.00 | 1010-4.20 | ■ |
| 4.30 | 50 | 25.00 | 1010-4.30 | ■ |
| 4.40 | 50 | 25.00 | 1010-4.40 | ■ |
| 4.50 | 50 | 25.00 | 1010-4.50 | ■ |
| 4.60 | 50 | 25.00 | 1010-4.60 | ■ |
| 4.70 | 50 | 25.00 | 1010-4.70 | ■ |
| 4.80 | 50 | 25.00 | 1010-4.80 | ■ |
| 4.90 | 50 | 25.00 | 1010-4.90 | ■ |
| 5.00 | 50 | 25.00 | 1010-5.00 | ■ |
| 5.10 | 50 | 25.00 | 1010-5.10 | ■ |
| 5.20 | 50 | 25.00 | 1010-5.20 | ■ |
| 5.30 | 50 | 25.00 | 1010-5.30 | ■ |
| 5.40 | 50 | 25.00 | 1010-5.40 | ■ |
| 5.50 | 50 | 25.00 | 1010-5.50 | ■ |
| 5.60 | 50 | 25.00 | 1010-5.60 | ■ |
| 5.70 | 50 | 25.00 | 1010-5.70 | ■ |
| 5.80 | 50 | 25.00 | 1010-5.80 | ■ |
| 5.90 | 50 | 25.00 | 1010-5.90 | ■ |
| 6.00 | 50 | 25.00 | 1010-6.00 | ■ |

## Forets cylindriques

## Zylindrische Bohrer

## Cylindrical drills

2010



|                 |                   |     |      |  |
|-----------------|-------------------|-----|------|--|
| MD<br>VHM<br>HM | $\lambda$ 25°/35° | Z=2 | 118° |  |
|-----------------|-------------------|-----|------|--|

| D h6 | L1 | L2    | Art. N°   | z |
|------|----|-------|-----------|---|
| 0.50 | 30 | 5.00  | 2010-0.50 | ■ |
| 0.55 | 30 | 5.00  | 2010-0.55 | ■ |
| 0.60 | 30 | 5.00  | 2010-0.60 | ■ |
| 0.65 | 30 | 6.00  | 2010-0.65 | ■ |
| 0.70 | 30 | 6.00  | 2010-0.70 | ■ |
| 0.75 | 30 | 8.00  | 2010-0.75 | ■ |
| 0.80 | 30 | 8.00  | 2010-0.80 | ■ |
| 0.85 | 30 | 9.00  | 2010-0.85 | ■ |
| 0.90 | 30 | 9.00  | 2010-0.90 | ■ |
| 0.95 | 30 | 10.00 | 2010-0.95 | ■ |
| 1.00 | 30 | 10.00 | 2010-1.00 | ■ |
| 1.05 | 30 | 10.00 | 2010-1.05 | ■ |
| 1.10 | 30 | 10.00 | 2010-1.10 | ■ |
| 1.15 | 30 | 12.00 | 2010-1.15 | ■ |
| 1.20 | 30 | 12.00 | 2010-1.20 | ■ |
| 1.25 | 30 | 12.00 | 2010-1.25 | ■ |
| 1.30 | 30 | 12.00 | 2010-1.30 | ■ |
| 1.35 | 30 | 12.00 | 2010-1.35 | ■ |
| 1.40 | 30 | 12.00 | 2010-1.40 | ■ |
| 1.45 | 30 | 12.00 | 2010-1.45 | ■ |
| 1.50 | 30 | 12.00 | 2010-1.50 | ■ |
| 1.55 | 40 | 16.00 | 2010-1.55 | ■ |
| 1.60 | 40 | 16.00 | 2010-1.60 | ■ |
| 1.65 | 40 | 16.00 | 2010-1.65 | ■ |
| 1.70 | 40 | 16.00 | 2010-1.70 | ■ |
| 1.75 | 40 | 16.00 | 2010-1.75 | ■ |
| 1.80 | 40 | 16.00 | 2010-1.80 | ■ |
| 1.85 | 40 | 16.00 | 2010-1.85 | ■ |
| 1.90 | 40 | 16.00 | 2010-1.90 | ■ |
| 1.95 | 40 | 16.00 | 2010-1.95 | ■ |
| 2.00 | 40 | 16.00 | 2010-2.00 | ■ |
| 2.05 | 40 | 18.00 | 2010-2.05 | ■ |
| 2.10 | 40 | 18.00 | 2010-2.10 | ■ |
| 2.15 | 40 | 18.00 | 2010-2.15 | ■ |
| 2.20 | 40 | 18.00 | 2010-2.20 | ■ |
| 2.25 | 40 | 18.00 | 2010-2.25 | ■ |
| 2.30 | 40 | 18.00 | 2010-2.30 | ■ |
| 2.35 | 40 | 18.00 | 2010-2.35 | ■ |
| 2.40 | 40 | 18.00 | 2010-2.40 | ■ |
| 2.45 | 40 | 18.00 | 2010-2.45 | ■ |
| 2.50 | 40 | 18.00 | 2010-2.50 | ■ |

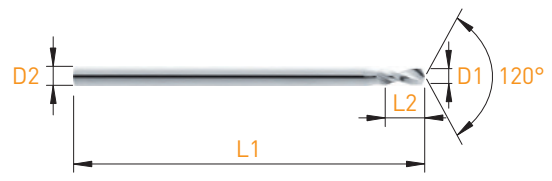
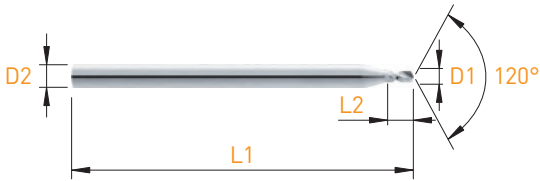
| D h6 | L1 | L2    | Art. N°   | z |
|------|----|-------|-----------|---|
| 2.55 | 45 | 18.00 | 2010-2.55 | ■ |
| 2.60 | 45 | 18.00 | 2010-2.60 | ■ |
| 2.65 | 45 | 18.00 | 2010-2.65 | ■ |
| 2.70 | 45 | 18.00 | 2010-2.70 | ■ |
| 2.75 | 45 | 18.00 | 2010-2.75 | ■ |
| 2.80 | 45 | 18.00 | 2010-2.80 | ■ |
| 2.85 | 45 | 18.00 | 2010-2.85 | ■ |
| 2.90 | 45 | 18.00 | 2010-2.90 | ■ |
| 2.95 | 45 | 18.00 | 2010-2.95 | ■ |
| 3.00 | 45 | 18.00 | 2010-3.00 | ■ |
| 3.10 | 50 | 20.00 | 2010-3.10 | ■ |
| 3.20 | 50 | 20.00 | 2010-3.20 | ■ |
| 3.30 | 50 | 20.00 | 2010-3.30 | ■ |
| 3.40 | 50 | 20.00 | 2010-3.40 | ■ |
| 3.50 | 50 | 20.00 | 2010-3.50 | ■ |
| 3.60 | 50 | 20.00 | 2010-3.60 | ■ |
| 3.70 | 50 | 20.00 | 2010-3.70 | ■ |
| 3.80 | 50 | 20.00 | 2010-3.80 | ■ |
| 3.90 | 50 | 20.00 | 2010-3.90 | ■ |
| 4.00 | 50 | 20.00 | 2010-4.00 | ■ |
| 4.10 | 50 | 25.00 | 2010-4.10 | ■ |
| 4.20 | 50 | 25.00 | 2010-4.20 | ■ |
| 4.30 | 50 | 25.00 | 2010-4.30 | ■ |
| 4.40 | 50 | 25.00 | 2010-4.40 | ■ |
| 4.50 | 50 | 25.00 | 2010-4.50 | ■ |
| 4.60 | 50 | 25.00 | 2010-4.60 | ■ |
| 4.70 | 50 | 25.00 | 2010-4.70 | ■ |
| 4.80 | 50 | 25.00 | 2010-4.80 | ■ |
| 4.90 | 50 | 25.00 | 2010-4.90 | ■ |
| 5.00 | 50 | 25.00 | 2010-5.00 | ■ |
| 5.10 | 50 | 25.00 | 2010-5.10 | ■ |
| 5.20 | 50 | 25.00 | 2010-5.20 | ■ |
| 5.30 | 50 | 25.00 | 2010-5.30 | ■ |
| 5.40 | 50 | 25.00 | 2010-5.40 | ■ |
| 5.50 | 50 | 25.00 | 2010-5.50 | ■ |
| 5.60 | 50 | 25.00 | 2010-5.60 | ■ |
| 5.70 | 50 | 25.00 | 2010-5.70 | ■ |
| 5.80 | 50 | 25.00 | 2010-5.80 | ■ |
| 5.90 | 50 | 25.00 | 2010-5.90 | ■ |
| 6.00 | 50 | 25.00 | 2010-6.00 | ■ |

Micro-forets

Mikrobohrer

Micro drills

2011 / 2012



|                 |                      |     |      |  |
|-----------------|----------------------|-----|------|--|
| MD<br>VHM<br>HM | $\lambda^{30^\circ}$ | Z=2 | 120° |  |
|-----------------|----------------------|-----|------|--|

| D1 h <sub>6</sub> | L2   | D2 h <sub>6</sub> | L1 | Art. N°          | z |
|-------------------|------|-------------------|----|------------------|---|
| 0.80              | 2.50 | 2.00              | 30 | <b>2011-0.80</b> | ■ |
| 0.90              | 2.50 | 2.00              | 30 | <b>2011-0.90</b> | ■ |
| 1.00              | 2.50 | 2.00              | 30 | <b>2011-1.00</b> | ■ |
| 1.10              | 2.50 | 2.00              | 30 | <b>2011-1.10</b> | ■ |
| 1.20              | 2.50 | 2.00              | 30 | <b>2011-1.20</b> | ■ |
| 1.30              | 2.50 | 2.00              | 30 | <b>2011-1.30</b> | ■ |
| 1.40              | 2.50 | 2.00              | 30 | <b>2011-1.40</b> | ■ |
| 1.50              | 2.50 | 2.00              | 30 | <b>2011-1.50</b> | ■ |
| 2.00              | 2.50 | 2.00              | 30 | <b>2011-2.00</b> | ■ |

|                 |                      |     |      |  |
|-----------------|----------------------|-----|------|--|
| MD<br>VHM<br>HM | $\lambda^{24^\circ}$ | Z=2 | 120° |  |
|-----------------|----------------------|-----|------|--|

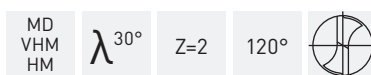
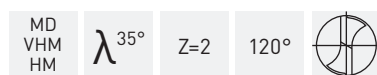
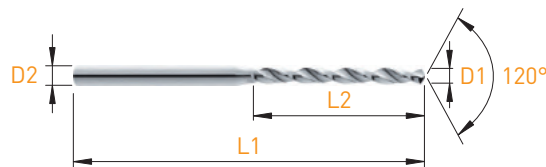
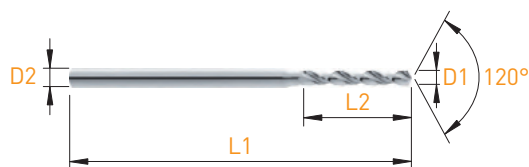
| D1 h <sub>6</sub> | L2   | D2 h <sub>6</sub> | L1 | Art. N°          | z |
|-------------------|------|-------------------|----|------------------|---|
| 0.50              | 1.70 | 1.50              | 30 | <b>2012-0.50</b> | ■ |
| 0.55              | 1.90 | 1.50              | 30 | <b>2012-0.55</b> | ■ |
| 0.60              | 1.90 | 1.50              | 30 | <b>2012-0.60</b> | ■ |
| 0.65              | 1.90 | 1.50              | 30 | <b>2012-0.65</b> | ■ |
| 0.70              | 2.40 | 1.50              | 30 | <b>2012-0.70</b> | ■ |
| 0.75              | 2.40 | 1.50              | 30 | <b>2012-0.75</b> | ■ |
| 0.80              | 2.60 | 1.50              | 30 | <b>2012-0.80</b> | ■ |
| 0.85              | 2.60 | 1.50              | 30 | <b>2012-0.85</b> | ■ |
| 0.90              | 3.00 | 1.50              | 30 | <b>2012-0.90</b> | ■ |
| 0.95              | 3.00 | 1.50              | 30 | <b>2012-0.95</b> | ■ |
| 1.00              | 3.40 | 1.50              | 30 | <b>2012-1.00</b> | ■ |
| 1.10              | 3.80 | 1.50              | 30 | <b>2012-1.10</b> | ■ |
| 1.20              | 4.20 | 1.50              | 30 | <b>2012-1.20</b> | ■ |
| 1.30              | 4.20 | 1.50              | 30 | <b>2012-1.30</b> | ■ |
| 1.40              | 4.70 | 1.50              | 30 | <b>2012-1.40</b> | ■ |
| 1.50              | 4.70 | 2.00              | 38 | <b>2012-1.50</b> | ■ |
| 1.60              | 5.40 | 2.00              | 38 | <b>2012-1.60</b> | ■ |
| 1.70              | 5.40 | 2.00              | 38 | <b>2012-1.70</b> | ■ |
| 1.80              | 6.50 | 2.00              | 38 | <b>2012-1.80</b> | ■ |
| 1.90              | 6.50 | 2.00              | 38 | <b>2012-1.90</b> | ■ |
| 2.00              | 6.50 | 3.00              | 38 | <b>2012-2.00</b> | ■ |
| 2.10              | 6.50 | 3.00              | 38 | <b>2012-2.10</b> | ■ |
| 2.20              | 6.50 | 3.00              | 38 | <b>2012-2.20</b> | ■ |
| 2.30              | 6.50 | 3.00              | 38 | <b>2012-2.30</b> | ■ |
| 2.40              | 6.50 | 3.00              | 38 | <b>2012-2.40</b> | ■ |

Micro-forets

Mikrobohrer

Micro drills

2013 / 2014



| D1 h6 | L2    | D2 h6 | L1 | Art. N°   | z |
|-------|-------|-------|----|-----------|---|
| 0.40  | 3.60  | 1.00  | 25 | 2013-0.40 | ■ |
| 0.45  | 3.60  | 1.00  | 25 | 2013-0.45 | ■ |
| 0.50  | 4.00  | 1.00  | 25 | 2013-0.50 | ■ |
| 0.55  | 4.50  | 1.00  | 25 | 2013-0.55 | ■ |
| 0.60  | 4.50  | 1.50  | 30 | 2013-0.60 | ■ |
| 0.65  | 5.00  | 1.50  | 30 | 2013-0.65 | ■ |
| 0.70  | 5.60  | 1.50  | 30 | 2013-0.70 | ■ |
| 0.75  | 5.60  | 1.50  | 30 | 2013-0.75 | ■ |
| 0.80  | 6.30  | 1.50  | 30 | 2013-0.80 | ■ |
| 0.85  | 6.30  | 1.50  | 30 | 2013-0.85 | ■ |
| 0.90  | 7.10  | 1.50  | 30 | 2013-0.90 | ■ |
| 0.95  | 7.10  | 1.50  | 30 | 2013-0.95 | ■ |
| 1.00  | 8.00  | 1.50  | 30 | 2013-1.00 | ■ |
| 1.05  | 8.00  | 1.50  | 30 | 2013-1.05 | ■ |
| 1.10  | 9.00  | 1.50  | 30 | 2013-1.10 | ■ |
| 1.15  | 9.00  | 1.50  | 30 | 2013-1.15 | ■ |
| 1.20  | 10.00 | 1.50  | 30 | 2013-1.20 | ■ |
| 1.25  | 10.00 | 1.50  | 30 | 2013-1.25 | ■ |
| 1.30  | 10.00 | 1.50  | 30 | 2013-1.30 | ■ |
| 1.35  | 11.20 | 1.50  | 30 | 2013-1.35 | ■ |
| 1.40  | 11.20 | 1.50  | 30 | 2013-1.40 | ■ |
| 1.45  | 11.20 | 1.50  | 30 | 2013-1.45 | ■ |
| 1.50  | 12.00 | 2.00  | 38 | 2013-1.50 | ■ |
| 1.60  | 12.00 | 2.00  | 38 | 2013-1.60 | ■ |
| 1.70  | 12.00 | 2.00  | 38 | 2013-1.70 | ■ |
| 1.80  | 12.00 | 2.00  | 38 | 2013-1.80 | ■ |
| 1.90  | 12.00 | 2.00  | 38 | 2013-1.90 | ■ |

| D1 h6 | L2    | D2 h6 | L1 | Art. N°   | z |
|-------|-------|-------|----|-----------|---|
| 0.50  | 6.00  | 1.50  | 30 | 2014-0.50 | ■ |
| 0.55  | 6.50  | 1.50  | 30 | 2014-0.55 | ■ |
| 0.60  | 6.50  | 1.50  | 30 | 2014-0.60 | ■ |
| 0.65  | 7.50  | 1.50  | 30 | 2014-0.65 | ■ |
| 0.70  | 8.50  | 1.50  | 30 | 2014-0.70 | ■ |
| 0.75  | 8.50  | 1.50  | 30 | 2014-0.75 | ■ |
| 0.80  | 9.50  | 1.50  | 30 | 2014-0.80 | ■ |
| 0.85  | 9.50  | 1.50  | 30 | 2014-0.85 | ■ |
| 0.90  | 10.50 | 1.50  | 30 | 2014-0.90 | ■ |
| 0.95  | 10.50 | 1.50  | 30 | 2014-0.95 | ■ |
| 1.00  | 12.00 | 1.50  | 38 | 2014-1.00 | ■ |
| 1.05  | 12.00 | 1.50  | 38 | 2014-1.05 | ■ |
| 1.10  | 13.50 | 1.50  | 38 | 2014-1.10 | ■ |
| 1.15  | 13.50 | 1.50  | 38 | 2014-1.15 | ■ |
| 1.20  | 15.00 | 1.50  | 38 | 2014-1.20 | ■ |
| 1.25  | 15.00 | 1.50  | 38 | 2014-1.25 | ■ |
| 1.30  | 17.00 | 1.50  | 38 | 2014-1.30 | ■ |
| 1.35  | 17.00 | 1.50  | 38 | 2014-1.35 | ■ |
| 1.40  | 17.00 | 1.50  | 38 | 2014-1.40 | ■ |
| 1.45  | 17.00 | 1.50  | 38 | 2014-1.45 | ■ |
| 1.50  | 18.00 | 2.00  | 38 | 2014-1.50 | ■ |
| 1.55  | 18.00 | 2.00  | 38 | 2014-1.55 | ■ |
| 1.60  | 18.00 | 2.00  | 38 | 2014-1.60 | ■ |
| 1.65  | 18.00 | 2.00  | 38 | 2014-1.65 | ■ |
| 1.70  | 18.00 | 2.00  | 38 | 2014-1.70 | ■ |
| 1.75  | 18.00 | 2.00  | 38 | 2014-1.75 | ■ |
| 1.80  | 18.00 | 2.00  | 38 | 2014-1.80 | ■ |
| 1.85  | 18.00 | 2.00  | 38 | 2014-1.85 | ■ |
| 1.90  | 18.00 | 2.00  | 38 | 2014-1.90 | ■ |
| 1.95  | 18.00 | 2.00  | 38 | 2014-1.95 | ■ |

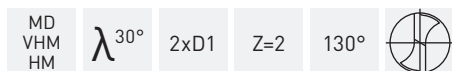
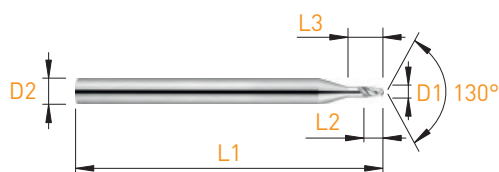
## Micro-forets de préperçage

## Mikro Pilotbohrer

## Micro pilot drill

Ø 0.10 - Ø 0.99 mm

2020



| D1<br>+0.005 / 0 | L2   | L3   | L1 | D2 h6 | Art. N°   | z |
|------------------|------|------|----|-------|-----------|---|
| 0.10             | 0.35 | 0.55 | 38 | 3.00  | 2020-0.10 | ■ |
| 0.11             | 0.35 | 0.55 | 38 | 3.00  | 2020-0.11 | ■ |
| 0.12             | 0.35 | 0.55 | 38 | 3.00  | 2020-0.12 | ■ |
| 0.13             | 0.40 | 0.60 | 38 | 3.00  | 2020-0.13 | ■ |
| 0.14             | 0.40 | 0.60 | 38 | 3.00  | 2020-0.14 | ■ |
| 0.15             | 0.40 | 0.60 | 38 | 3.00  | 2020-0.15 | ■ |
| 0.16             | 0.40 | 0.60 | 38 | 3.00  | 2020-0.16 | ■ |
| 0.17             | 0.50 | 0.70 | 38 | 3.00  | 2020-0.17 | ■ |
| 0.18             | 0.50 | 0.70 | 38 | 3.00  | 2020-0.18 | ■ |
| 0.19             | 0.50 | 0.70 | 38 | 3.00  | 2020-0.19 | ■ |
| 0.20             | 0.55 | 0.75 | 38 | 3.00  | 2020-0.20 | ■ |
| 0.21             | 0.55 | 0.75 | 38 | 3.00  | 2020-0.21 | ■ |
| 0.22             | 0.60 | 0.80 | 38 | 3.00  | 2020-0.22 | ■ |
| 0.23             | 0.60 | 0.80 | 38 | 3.00  | 2020-0.23 | ■ |
| 0.24             | 0.60 | 0.80 | 38 | 3.00  | 2020-0.24 | ■ |
| 0.25             | 0.70 | 0.90 | 38 | 3.00  | 2020-0.25 | ■ |
| 0.26             | 0.70 | 0.90 | 38 | 3.00  | 2020-0.26 | ■ |
| 0.27             | 0.70 | 0.90 | 38 | 3.00  | 2020-0.27 | ■ |
| 0.28             | 0.80 | 1.00 | 38 | 3.00  | 2020-0.28 | ■ |
| 0.29             | 0.80 | 1.00 | 38 | 3.00  | 2020-0.29 | ■ |
| 0.30             | 0.90 | 1.20 | 38 | 3.00  | 2020-0.30 | ■ |
| 0.31             | 0.90 | 1.20 | 38 | 3.00  | 2020-0.31 | ■ |
| 0.32             | 0.90 | 1.20 | 38 | 3.00  | 2020-0.32 | ■ |
| 0.33             | 0.90 | 1.20 | 38 | 3.00  | 2020-0.33 | ■ |
| 0.34             | 0.90 | 1.35 | 38 | 3.00  | 2020-0.34 | ■ |
| 0.35             | 0.90 | 1.35 | 38 | 3.00  | 2020-0.35 | ■ |
| 0.36             | 0.95 | 1.35 | 38 | 3.00  | 2020-0.36 | ■ |
| 0.37             | 0.95 | 1.35 | 38 | 3.00  | 2020-0.37 | ■ |
| 0.38             | 0.95 | 1.50 | 38 | 3.00  | 2020-0.38 | ■ |
| 0.39             | 0.95 | 1.50 | 38 | 3.00  | 2020-0.39 | ■ |
| 0.40             | 0.80 | 1.60 | 38 | 3.00  | 2020-0.40 | ■ |
| 0.41             | 0.82 | 1.60 | 38 | 3.00  | 2020-0.41 | ■ |
| 0.42             | 0.84 | 1.60 | 38 | 3.00  | 2020-0.42 | ■ |
| 0.43             | 0.86 | 1.60 | 38 | 3.00  | 2020-0.43 | ■ |
| 0.44             | 0.88 | 1.60 | 38 | 3.00  | 2020-0.44 | ■ |
| 0.45             | 0.90 | 1.60 | 38 | 3.00  | 2020-0.45 | ■ |
| 0.46             | 0.92 | 1.70 | 38 | 3.00  | 2020-0.46 | ■ |
| 0.47             | 0.94 | 1.70 | 38 | 3.00  | 2020-0.47 | ■ |
| 0.48             | 0.96 | 1.70 | 38 | 3.00  | 2020-0.48 | ■ |

| D1<br>+0.005 / 0 | L2   | L3   | L1 | D2 h6 | Art. N°   | z |
|------------------|------|------|----|-------|-----------|---|
| 0.49             | 0.98 | 1.70 | 38 | 3.00  | 2020-0.49 | ■ |
| 0.50             | 1.00 | 1.70 | 38 | 3.00  | 2020-0.50 | ■ |
| 0.51             | 1.02 | 1.80 | 38 | 3.00  | 2020-0.51 | ■ |
| 0.52             | 1.04 | 1.80 | 38 | 3.00  | 2020-0.52 | ■ |
| 0.53             | 1.06 | 1.80 | 38 | 3.00  | 2020-0.53 | ■ |
| 0.54             | 1.08 | 1.80 | 38 | 3.00  | 2020-0.54 | ■ |
| 0.55             | 1.10 | 1.80 | 38 | 3.00  | 2020-0.55 | ■ |
| 0.56             | 1.12 | 1.90 | 38 | 3.00  | 2020-0.56 | ■ |
| 0.57             | 1.14 | 1.90 | 38 | 3.00  | 2020-0.57 | ■ |
| 0.58             | 1.16 | 1.90 | 38 | 3.00  | 2020-0.58 | ■ |
| 0.59             | 1.18 | 1.90 | 38 | 3.00  | 2020-0.59 | ■ |
| 0.60             | 1.20 | 1.90 | 38 | 3.00  | 2020-0.60 | ■ |
| 0.61             | 1.22 | 2.00 | 38 | 3.00  | 2020-0.61 | ■ |
| 0.62             | 1.24 | 2.00 | 38 | 3.00  | 2020-0.62 | ■ |
| 0.63             | 1.26 | 2.00 | 38 | 3.00  | 2020-0.63 | ■ |
| 0.64             | 1.28 | 2.00 | 38 | 3.00  | 2020-0.64 | ■ |
| 0.65             | 1.30 | 2.00 | 38 | 3.00  | 2020-0.65 | ■ |
| 0.66             | 1.32 | 2.10 | 38 | 3.00  | 2020-0.66 | ■ |
| 0.67             | 1.34 | 2.10 | 38 | 3.00  | 2020-0.67 | ■ |
| 0.68             | 1.36 | 2.10 | 38 | 3.00  | 2020-0.68 | ■ |
| 0.69             | 1.38 | 2.10 | 38 | 3.00  | 2020-0.69 | ■ |
| 0.70             | 1.40 | 2.10 | 38 | 3.00  | 2020-0.70 | ■ |
| 0.71             | 1.42 | 2.20 | 38 | 3.00  | 2020-0.71 | ■ |
| 0.72             | 1.44 | 2.20 | 38 | 3.00  | 2020-0.72 | ■ |
| 0.73             | 1.46 | 2.20 | 38 | 3.00  | 2020-0.73 | ■ |
| 0.74             | 1.48 | 2.20 | 38 | 3.00  | 2020-0.74 | ■ |
| 0.75             | 1.50 | 2.20 | 38 | 3.00  | 2020-0.75 | ■ |
| 0.76             | 1.52 | 2.30 | 38 | 3.00  | 2020-0.76 | ■ |
| 0.77             | 1.54 | 2.30 | 38 | 3.00  | 2020-0.77 | ■ |
| 0.78             | 1.56 | 2.30 | 38 | 3.00  | 2020-0.78 | ■ |
| 0.79             | 1.58 | 2.30 | 38 | 3.00  | 2020-0.79 | ■ |
| 0.80             | 1.60 | 2.30 | 38 | 3.00  | 2020-0.80 | ■ |
| 0.81             | 1.62 | 2.40 | 38 | 3.00  | 2020-0.81 | ■ |
| 0.82             | 1.64 | 2.40 | 38 | 3.00  | 2020-0.82 | ■ |
| 0.83             | 1.66 | 2.40 | 38 | 3.00  | 2020-0.83 | ■ |
| 0.84             | 1.68 | 2.40 | 38 | 3.00  | 2020-0.84 | ■ |
| 0.85             | 1.70 | 2.40 | 38 | 3.00  | 2020-0.85 | ■ |
| 0.86             | 1.72 | 2.50 | 38 | 3.00  | 2020-0.86 | ■ |
| 0.87             | 1.74 | 2.50 | 38 | 3.00  | 2020-0.87 | ■ |
| 0.88             | 1.76 | 2.50 | 38 | 3.00  | 2020-0.88 | ■ |
| 0.89             | 1.78 | 2.50 | 38 | 3.00  | 2020-0.89 | ■ |
| 0.90             | 1.80 | 2.50 | 38 | 3.00  | 2020-0.90 | ■ |
| 0.91             | 1.82 | 2.60 | 38 | 3.00  | 2020-0.91 | ■ |
| 0.92             | 1.84 | 2.60 | 38 | 3.00  | 2020-0.92 | ■ |
| 0.93             | 1.86 | 2.60 | 38 | 3.00  | 2020-0.93 | ■ |
| 0.94             | 1.88 | 2.60 | 38 | 3.00  | 2020-0.94 | ■ |
| 0.95             | 1.90 | 2.60 | 38 | 3.00  | 2020-0.95 | ■ |
| 0.96             | 1.92 | 2.70 | 38 | 3.00  | 2020-0.96 | ■ |
| 0.97             | 1.94 | 2.70 | 38 | 3.00  | 2020-0.97 | ■ |
| 0.98             | 1.96 | 2.70 | 38 | 3.00  | 2020-0.98 | ■ |
| 0.99             | 1.98 | 2.70 | 38 | 3.00  | 2020-0.99 | ■ |

## Micro-forets de préperçage

## Mikro Pilotbohrer

## Micro pilot drill

Ø 1.00 - Ø 2.00 mm

2020

| D1<br>+0.005 / 0 | L2   | L3   | L1 | D2 h6 | Art. N°   | Z | D1<br>+0.005 / 0 | L2   | L3   | L1 | D2 h6 | Art. N°   | Z |
|------------------|------|------|----|-------|-----------|---|------------------|------|------|----|-------|-----------|---|
| 1.00             | 2.00 | 2.70 | 38 | 3.00  | 2020-1.00 | ■ | 1.51             | 3.02 | 5.10 | 38 | 3.00  | 2020-1.51 | ■ |
| 1.01             | 2.02 | 3.50 | 38 | 3.00  | 2020-1.01 | ■ | 1.52             | 3.04 | 5.10 | 38 | 3.00  | 2020-1.52 | ■ |
| 1.02             | 2.04 | 3.50 | 38 | 3.00  | 2020-1.02 | ■ | 1.53             | 3.06 | 5.10 | 38 | 3.00  | 2020-1.53 | ■ |
| 1.03             | 2.06 | 3.50 | 38 | 3.00  | 2020-1.03 | ■ | 1.54             | 3.08 | 5.10 | 38 | 3.00  | 2020-1.54 | ■ |
| 1.04             | 2.08 | 3.50 | 38 | 3.00  | 2020-1.04 | ■ | 1.55             | 3.10 | 5.10 | 38 | 3.00  | 2020-1.55 | ■ |
| 1.05             | 2.10 | 3.50 | 38 | 3.00  | 2020-1.05 | ■ | 1.56             | 3.12 | 5.20 | 38 | 3.00  | 2020-1.56 | ■ |
| 1.06             | 2.12 | 3.60 | 38 | 3.00  | 2020-1.06 | ■ | 1.57             | 3.14 | 5.20 | 38 | 3.00  | 2020-1.57 | ■ |
| 1.07             | 2.14 | 3.60 | 38 | 3.00  | 2020-1.07 | ■ | 1.58             | 3.16 | 5.20 | 38 | 3.00  | 2020-1.58 | ■ |
| 1.08             | 2.16 | 3.60 | 38 | 3.00  | 2020-1.08 | ■ | 1.59             | 3.18 | 5.20 | 38 | 3.00  | 2020-1.59 | ■ |
| 1.09             | 2.18 | 3.60 | 38 | 3.00  | 2020-1.09 | ■ | 1.60             | 3.20 | 5.20 | 38 | 3.00  | 2020-1.60 | ■ |
| 1.10             | 2.20 | 3.60 | 38 | 3.00  | 2020-1.10 | ■ | 1.61             | 3.22 | 5.30 | 38 | 3.00  | 2020-1.61 | ■ |
| 1.11             | 2.22 | 3.70 | 38 | 3.00  | 2020-1.11 | ■ | 1.62             | 3.24 | 5.30 | 38 | 3.00  | 2020-1.62 | ■ |
| 1.12             | 2.24 | 3.70 | 38 | 3.00  | 2020-1.12 | ■ | 1.63             | 3.26 | 5.30 | 38 | 3.00  | 2020-1.63 | ■ |
| 1.13             | 2.26 | 3.70 | 38 | 3.00  | 2020-1.13 | ■ | 1.64             | 3.28 | 5.30 | 38 | 3.00  | 2020-1.64 | ■ |
| 1.14             | 2.28 | 3.70 | 38 | 3.00  | 2020-1.14 | ■ | 1.65             | 3.30 | 5.30 | 38 | 3.00  | 2020-1.65 | ■ |
| 1.15             | 2.30 | 3.70 | 38 | 3.00  | 2020-1.15 | ■ | 1.66             | 3.32 | 5.40 | 38 | 3.00  | 2020-1.66 | ■ |
| 1.16             | 2.32 | 3.80 | 38 | 3.00  | 2020-1.16 | ■ | 1.67             | 3.34 | 5.40 | 38 | 3.00  | 2020-1.67 | ■ |
| 1.17             | 2.34 | 3.80 | 38 | 3.00  | 2020-1.17 | ■ | 1.68             | 3.36 | 5.40 | 38 | 3.00  | 2020-1.68 | ■ |
| 1.18             | 2.36 | 3.80 | 38 | 3.00  | 2020-1.18 | ■ | 1.69             | 3.38 | 5.40 | 38 | 3.00  | 2020-1.69 | ■ |
| 1.19             | 2.38 | 3.80 | 38 | 3.00  | 2020-1.19 | ■ | 1.70             | 3.40 | 5.40 | 38 | 3.00  | 2020-1.70 | ■ |
| 1.20             | 2.40 | 3.80 | 38 | 3.00  | 2020-1.20 | ■ | 1.71             | 3.42 | 5.50 | 38 | 3.00  | 2020-1.71 | ■ |
| 1.21             | 2.42 | 4.20 | 38 | 3.00  | 2020-1.21 | ■ | 1.72             | 3.44 | 5.50 | 38 | 3.00  | 2020-1.72 | ■ |
| 1.22             | 2.44 | 4.20 | 38 | 3.00  | 2020-1.22 | ■ | 1.73             | 3.46 | 5.50 | 38 | 3.00  | 2020-1.73 | ■ |
| 1.23             | 2.46 | 4.20 | 38 | 3.00  | 2020-1.23 | ■ | 1.74             | 3.48 | 5.50 | 38 | 3.00  | 2020-1.74 | ■ |
| 1.24             | 2.48 | 4.20 | 38 | 3.00  | 2020-1.24 | ■ | 1.75             | 3.50 | 5.50 | 38 | 3.00  | 2020-1.75 | ■ |
| 1.25             | 2.50 | 4.20 | 38 | 3.00  | 2020-1.25 | ■ | 1.76             | 3.52 | 5.60 | 38 | 3.00  | 2020-1.76 | ■ |
| 1.26             | 2.52 | 4.30 | 38 | 3.00  | 2020-1.26 | ■ | 1.77             | 3.54 | 5.60 | 38 | 3.00  | 2020-1.77 | ■ |
| 1.27             | 2.54 | 4.30 | 38 | 3.00  | 2020-1.27 | ■ | 1.78             | 3.56 | 5.60 | 38 | 3.00  | 2020-1.78 | ■ |
| 1.28             | 2.56 | 4.30 | 38 | 3.00  | 2020-1.28 | ■ | 1.79             | 3.58 | 5.60 | 38 | 3.00  | 2020-1.79 | ■ |
| 1.29             | 2.58 | 4.30 | 38 | 3.00  | 2020-1.29 | ■ | 1.80             | 3.60 | 5.60 | 38 | 3.00  | 2020-1.80 | ■ |
| 1.30             | 2.60 | 4.30 | 38 | 3.00  | 2020-1.30 | ■ | 1.81             | 3.62 | 5.70 | 38 | 3.00  | 2020-1.81 | ■ |
| 1.31             | 2.62 | 4.40 | 38 | 3.00  | 2020-1.31 | ■ | 1.82             | 3.64 | 5.70 | 38 | 3.00  | 2020-1.82 | ■ |
| 1.32             | 2.64 | 4.40 | 38 | 3.00  | 2020-1.32 | ■ | 1.83             | 3.66 | 5.70 | 38 | 3.00  | 2020-1.83 | ■ |
| 1.33             | 2.66 | 4.40 | 38 | 3.00  | 2020-1.33 | ■ | 1.84             | 3.68 | 5.70 | 38 | 3.00  | 2020-1.84 | ■ |
| 1.34             | 2.68 | 4.40 | 38 | 3.00  | 2020-1.34 | ■ | 1.85             | 3.70 | 5.70 | 38 | 3.00  | 2020-1.85 | ■ |
| 1.35             | 2.70 | 4.40 | 38 | 3.00  | 2020-1.35 | ■ | 1.86             | 3.72 | 5.80 | 38 | 3.00  | 2020-1.86 | ■ |
| 1.36             | 2.72 | 4.50 | 38 | 3.00  | 2020-1.36 | ■ | 1.87             | 3.74 | 5.80 | 38 | 3.00  | 2020-1.87 | ■ |
| 1.37             | 2.74 | 4.50 | 38 | 3.00  | 2020-1.37 | ■ | 1.88             | 3.76 | 5.80 | 38 | 3.00  | 2020-1.88 | ■ |
| 1.38             | 2.76 | 4.50 | 38 | 3.00  | 2020-1.38 | ■ | 1.89             | 3.78 | 5.80 | 38 | 3.00  | 2020-1.89 | ■ |
| 1.39             | 2.78 | 4.50 | 38 | 3.00  | 2020-1.39 | ■ | 1.90             | 3.80 | 5.80 | 38 | 3.00  | 2020-1.90 | ■ |
| 1.40             | 2.80 | 4.50 | 38 | 3.00  | 2020-1.40 | ■ | 1.91             | 3.82 | 5.90 | 38 | 3.00  | 2020-1.91 | ■ |
| 1.41             | 2.82 | 4.60 | 38 | 3.00  | 2020-1.41 | ■ | 1.92             | 3.84 | 5.90 | 38 | 3.00  | 2020-1.92 | ■ |
| 1.42             | 2.84 | 4.60 | 38 | 3.00  | 2020-1.42 | ■ | 1.93             | 3.86 | 5.90 | 38 | 3.00  | 2020-1.93 | ■ |
| 1.43             | 2.86 | 4.60 | 38 | 3.00  | 2020-1.43 | ■ | 1.94             | 3.88 | 5.90 | 38 | 3.00  | 2020-1.94 | ■ |
| 1.44             | 2.88 | 4.60 | 38 | 3.00  | 2020-1.44 | ■ | 1.95             | 3.90 | 5.90 | 38 | 3.00  | 2020-1.95 | ■ |
| 1.45             | 2.90 | 4.60 | 38 | 3.00  | 2020-1.45 | ■ | 1.96             | 3.92 | 6.00 | 38 | 3.00  | 2020-1.96 | ■ |
| 1.46             | 2.92 | 4.70 | 38 | 3.00  | 2020-1.46 | ■ | 1.97             | 3.94 | 6.00 | 38 | 3.00  | 2020-1.97 | ■ |
| 1.47             | 2.94 | 4.70 | 38 | 3.00  | 2020-1.47 | ■ | 1.98             | 3.96 | 6.00 | 38 | 3.00  | 2020-1.98 | ■ |
| 1.48             | 2.96 | 4.70 | 38 | 3.00  | 2020-1.48 | ■ | 1.99             | 3.98 | 6.00 | 38 | 3.00  | 2020-1.99 | ■ |
| 1.49             | 2.98 | 4.70 | 38 | 3.00  | 2020-1.49 | ■ | 2.00             | 4.00 | 6.00 | 38 | 3.00  | 2020-2.00 | ■ |
| 1.50             | 3.00 | 4.70 | 38 | 3.00  | 2020-1.50 | ■ |                  |      |      |    |       |           |   |



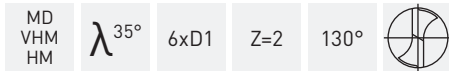
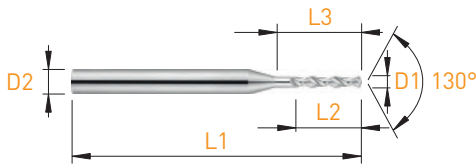
Micro-forets

Mikrobohrer

Micro drills

Ø 0.10 - Ø 0.99 mm

2023



| D1<br>0 / -0.004 | L2   | L3   | L1 | D2 h6 | Art. N°   | z |
|------------------|------|------|----|-------|-----------|---|
| 0.10             | 0.50 | 0.70 | 38 | 3.00  | 2023-0.10 | ■ |
| 0.11             | 0.50 | 0.70 | 38 | 3.00  | 2023-0.11 | ■ |
| 0.12             | 0.50 | 0.70 | 38 | 3.00  | 2023-0.12 | ■ |
| 0.13             | 0.80 | 1.00 | 38 | 3.00  | 2023-0.13 | ■ |
| 0.14             | 0.80 | 1.00 | 38 | 3.00  | 2023-0.14 | ■ |
| 0.15             | 0.80 | 1.00 | 38 | 3.00  | 2023-0.15 | ■ |
| 0.16             | 1.10 | 1.40 | 38 | 3.00  | 2023-0.16 | ■ |
| 0.17             | 1.10 | 1.40 | 38 | 3.00  | 2023-0.17 | ■ |
| 0.18             | 1.10 | 1.40 | 38 | 3.00  | 2023-0.18 | ■ |
| 0.19             | 1.10 | 1.40 | 38 | 3.00  | 2023-0.19 | ■ |
| 0.20             | 1.50 | 1.80 | 38 | 3.00  | 2023-0.20 | ■ |
| 0.21             | 1.50 | 1.80 | 38 | 3.00  | 2023-0.21 | ■ |
| 0.22             | 1.50 | 1.80 | 38 | 3.00  | 2023-0.22 | ■ |
| 0.23             | 1.50 | 1.80 | 38 | 3.00  | 2023-0.23 | ■ |
| 0.24             | 1.50 | 1.80 | 38 | 3.00  | 2023-0.24 | ■ |
| 0.25             | 1.90 | 2.20 | 38 | 3.00  | 2023-0.25 | ■ |
| 0.26             | 1.90 | 2.20 | 38 | 3.00  | 2023-0.26 | ■ |
| 0.27             | 1.90 | 2.20 | 38 | 3.00  | 2023-0.27 | ■ |
| 0.28             | 1.90 | 2.20 | 38 | 3.00  | 2023-0.28 | ■ |
| 0.29             | 1.90 | 2.20 | 38 | 3.00  | 2023-0.29 | ■ |
| 0.30             | 1.80 | 2.40 | 38 | 3.00  | 2023-0.30 | ■ |
| 0.31             | 1.80 | 2.40 | 38 | 3.00  | 2023-0.31 | ■ |
| 0.32             | 1.80 | 2.40 | 38 | 3.00  | 2023-0.32 | ■ |
| 0.33             | 1.80 | 2.40 | 38 | 3.00  | 2023-0.33 | ■ |
| 0.34             | 1.80 | 2.40 | 38 | 3.00  | 2023-0.34 | ■ |
| 0.35             | 2.20 | 2.80 | 38 | 3.00  | 2023-0.35 | ■ |
| 0.36             | 2.20 | 2.80 | 38 | 3.00  | 2023-0.36 | ■ |
| 0.37             | 2.20 | 2.80 | 38 | 3.00  | 2023-0.37 | ■ |
| 0.38             | 2.20 | 2.80 | 38 | 3.00  | 2023-0.38 | ■ |
| 0.39             | 2.70 | 3.60 | 38 | 3.00  | 2023-0.39 | ■ |
| 0.40             | 2.70 | 3.60 | 38 | 3.00  | 2023-0.40 | ■ |
| 0.41             | 2.70 | 3.60 | 38 | 3.00  | 2023-0.41 | ■ |
| 0.42             | 2.70 | 3.60 | 38 | 3.00  | 2023-0.42 | ■ |
| 0.43             | 2.70 | 3.60 | 38 | 3.00  | 2023-0.43 | ■ |
| 0.44             | 2.70 | 3.60 | 38 | 3.00  | 2023-0.44 | ■ |
| 0.45             | 2.70 | 3.60 | 38 | 3.00  | 2023-0.45 | ■ |
| 0.46             | 2.70 | 3.60 | 38 | 3.00  | 2023-0.46 | ■ |
| 0.47             | 2.70 | 3.60 | 38 | 3.00  | 2023-0.47 | ■ |
| 0.48             | 2.70 | 3.60 | 38 | 3.00  | 2023-0.48 | ■ |

| D1<br>0 / -0.004 | L2   | L3   | L1 | D2 h6 | Art. N°   | z |
|------------------|------|------|----|-------|-----------|---|
| 0.49             | 3.20 | 4.00 | 38 | 3.00  | 2023-0.49 | ■ |
| 0.50             | 3.20 | 4.00 | 38 | 3.00  | 2023-0.50 | ■ |
| 0.51             | 3.20 | 4.00 | 38 | 3.00  | 2023-0.51 | ■ |
| 0.52             | 3.20 | 4.00 | 38 | 3.00  | 2023-0.52 | ■ |
| 0.53             | 3.20 | 4.00 | 38 | 3.00  | 2023-0.53 | ■ |
| 0.54             | 3.60 | 4.50 | 38 | 3.00  | 2023-0.54 | ■ |
| 0.55             | 3.60 | 4.50 | 38 | 3.00  | 2023-0.55 | ■ |
| 0.56             | 3.60 | 4.50 | 38 | 3.00  | 2023-0.56 | ■ |
| 0.57             | 3.60 | 4.50 | 38 | 3.00  | 2023-0.57 | ■ |
| 0.58             | 3.60 | 4.50 | 38 | 3.00  | 2023-0.58 | ■ |
| 0.59             | 3.60 | 4.50 | 38 | 3.00  | 2023-0.59 | ■ |
| 0.60             | 3.60 | 4.50 | 38 | 3.00  | 2023-0.60 | ■ |
| 0.61             | 3.90 | 5.00 | 38 | 3.00  | 2023-0.61 | ■ |
| 0.62             | 3.90 | 5.00 | 38 | 3.00  | 2023-0.62 | ■ |
| 0.63             | 3.90 | 5.00 | 38 | 3.00  | 2023-0.63 | ■ |
| 0.64             | 3.90 | 5.00 | 38 | 3.00  | 2023-0.64 | ■ |
| 0.65             | 3.90 | 5.00 | 38 | 3.00  | 2023-0.65 | ■ |
| 0.66             | 3.90 | 5.00 | 38 | 3.00  | 2023-0.66 | ■ |
| 0.67             | 3.90 | 5.00 | 38 | 3.00  | 2023-0.67 | ■ |
| 0.68             | 4.50 | 5.60 | 38 | 3.00  | 2023-0.68 | ■ |
| 0.69             | 4.50 | 5.60 | 38 | 3.00  | 2023-0.69 | ■ |
| 0.70             | 4.50 | 5.60 | 38 | 3.00  | 2023-0.70 | ■ |
| 0.71             | 4.50 | 5.60 | 38 | 3.00  | 2023-0.71 | ■ |
| 0.72             | 4.50 | 5.60 | 38 | 3.00  | 2023-0.72 | ■ |
| 0.73             | 4.50 | 5.60 | 38 | 3.00  | 2023-0.73 | ■ |
| 0.74             | 4.50 | 5.60 | 38 | 3.00  | 2023-0.74 | ■ |
| 0.75             | 4.50 | 5.60 | 38 | 3.00  | 2023-0.75 | ■ |
| 0.76             | 5.00 | 6.30 | 38 | 3.00  | 2023-0.76 | ■ |
| 0.77             | 5.00 | 6.30 | 38 | 3.00  | 2023-0.77 | ■ |
| 0.78             | 5.00 | 6.30 | 38 | 3.00  | 2023-0.78 | ■ |
| 0.79             | 5.00 | 6.30 | 38 | 3.00  | 2023-0.79 | ■ |
| 0.80             | 5.00 | 6.30 | 38 | 3.00  | 2023-0.80 | ■ |
| 0.81             | 5.00 | 6.30 | 38 | 3.00  | 2023-0.81 | ■ |
| 0.82             | 5.00 | 6.30 | 38 | 3.00  | 2023-0.82 | ■ |
| 0.83             | 5.00 | 6.30 | 38 | 3.00  | 2023-0.83 | ■ |
| 0.84             | 5.00 | 6.30 | 38 | 3.00  | 2023-0.84 | ■ |
| 0.85             | 5.00 | 6.30 | 38 | 3.00  | 2023-0.85 | ■ |
| 0.86             | 5.70 | 7.10 | 38 | 3.00  | 2023-0.86 | ■ |
| 0.87             | 5.70 | 7.10 | 38 | 3.00  | 2023-0.87 | ■ |
| 0.88             | 5.70 | 7.10 | 38 | 3.00  | 2023-0.88 | ■ |
| 0.89             | 5.70 | 7.10 | 38 | 3.00  | 2023-0.89 | ■ |
| 0.90             | 5.70 | 7.10 | 38 | 3.00  | 2023-0.90 | ■ |
| 0.91             | 5.70 | 7.10 | 38 | 3.00  | 2023-0.91 | ■ |
| 0.92             | 5.70 | 7.10 | 38 | 3.00  | 2023-0.92 | ■ |
| 0.93             | 5.70 | 7.10 | 38 | 3.00  | 2023-0.93 | ■ |
| 0.94             | 5.70 | 7.10 | 38 | 3.00  | 2023-0.94 | ■ |
| 0.95             | 5.70 | 7.10 | 38 | 3.00  | 2023-0.95 | ■ |
| 0.96             | 6.50 | 8.00 | 38 | 3.00  | 2023-0.96 | ■ |
| 0.97             | 6.50 | 8.00 | 38 | 3.00  | 2023-0.97 | ■ |
| 0.98             | 6.50 | 8.00 | 38 | 3.00  | 2023-0.98 | ■ |
| 0.99             | 6.50 | 8.00 | 38 | 3.00  | 2023-0.99 | ■ |

## Micro-forets

## Mikrobohrer

## Micro drills

Ø 1.00 - Ø 2.00 mm

2023

| D1<br>0 / -0.004 | L2   | L3    | L1 | D2 h6 | Art. N°   | Z |
|------------------|------|-------|----|-------|-----------|---|
| 1.00             | 6.50 | 8.00  | 38 | 3.00  | 2023-1.00 | ■ |
| 1.01             | 6.50 | 8.00  | 38 | 3.00  | 2023-1.01 | ■ |
| 1.02             | 6.50 | 8.00  | 38 | 3.00  | 2023-1.02 | ■ |
| 1.03             | 6.50 | 8.00  | 38 | 3.00  | 2023-1.03 | ■ |
| 1.04             | 6.50 | 8.00  | 38 | 3.00  | 2023-1.04 | ■ |
| 1.05             | 6.50 | 8.00  | 38 | 3.00  | 2023-1.05 | ■ |
| 1.06             | 7.30 | 9.00  | 38 | 3.00  | 2023-1.06 | ■ |
| 1.07             | 7.30 | 9.00  | 38 | 3.00  | 2023-1.07 | ■ |
| 1.08             | 7.30 | 9.00  | 38 | 3.00  | 2023-1.08 | ■ |
| 1.09             | 7.30 | 9.00  | 38 | 3.00  | 2023-1.09 | ■ |
| 1.10             | 7.30 | 9.00  | 38 | 3.00  | 2023-1.10 | ■ |
| 1.11             | 7.30 | 9.00  | 38 | 3.00  | 2023-1.11 | ■ |
| 1.12             | 7.30 | 9.00  | 38 | 3.00  | 2023-1.12 | ■ |
| 1.13             | 7.30 | 9.00  | 38 | 3.00  | 2023-1.13 | ■ |
| 1.14             | 7.30 | 9.00  | 38 | 3.00  | 2023-1.14 | ■ |
| 1.15             | 7.30 | 9.00  | 38 | 3.00  | 2023-1.15 | ■ |
| 1.16             | 8.20 | 10.00 | 38 | 3.00  | 2023-1.16 | ■ |
| 1.17             | 8.20 | 10.00 | 38 | 3.00  | 2023-1.17 | ■ |
| 1.18             | 8.20 | 10.00 | 38 | 3.00  | 2023-1.18 | ■ |
| 1.19             | 8.20 | 10.00 | 38 | 3.00  | 2023-1.19 | ■ |
| 1.20             | 8.20 | 10.00 | 38 | 3.00  | 2023-1.20 | ■ |
| 1.21             | 8.20 | 10.00 | 38 | 3.00  | 2023-1.21 | ■ |
| 1.22             | 8.20 | 10.00 | 38 | 3.00  | 2023-1.22 | ■ |
| 1.23             | 8.20 | 10.00 | 38 | 3.00  | 2023-1.23 | ■ |
| 1.24             | 8.20 | 10.00 | 38 | 3.00  | 2023-1.24 | ■ |
| 1.25             | 8.20 | 10.00 | 38 | 3.00  | 2023-1.25 | ■ |
| 1.26             | 8.20 | 10.00 | 38 | 3.00  | 2023-1.26 | ■ |
| 1.27             | 8.20 | 10.00 | 38 | 3.00  | 2023-1.27 | ■ |
| 1.28             | 8.20 | 10.00 | 38 | 3.00  | 2023-1.28 | ■ |
| 1.29             | 8.20 | 10.00 | 38 | 3.00  | 2023-1.29 | ■ |
| 1.30             | 8.20 | 10.00 | 38 | 3.00  | 2023-1.30 | ■ |
| 1.31             | 9.20 | 11.20 | 38 | 3.00  | 2023-1.31 | ■ |
| 1.32             | 9.20 | 11.20 | 38 | 3.00  | 2023-1.32 | ■ |
| 1.33             | 9.20 | 11.20 | 38 | 3.00  | 2023-1.33 | ■ |
| 1.34             | 9.20 | 11.20 | 38 | 3.00  | 2023-1.34 | ■ |
| 1.35             | 9.20 | 11.20 | 38 | 3.00  | 2023-1.35 | ■ |
| 1.36             | 9.20 | 11.20 | 38 | 3.00  | 2023-1.36 | ■ |
| 1.37             | 9.20 | 11.20 | 38 | 3.00  | 2023-1.37 | ■ |
| 1.38             | 9.20 | 11.20 | 38 | 3.00  | 2023-1.38 | ■ |
| 1.39             | 9.20 | 11.20 | 38 | 3.00  | 2023-1.39 | ■ |
| 1.40             | 9.20 | 11.20 | 38 | 3.00  | 2023-1.40 | ■ |
| 1.41             | 9.20 | 11.20 | 38 | 3.00  | 2023-1.41 | ■ |
| 1.42             | 9.20 | 11.20 | 38 | 3.00  | 2023-1.42 | ■ |
| 1.43             | 9.20 | 11.20 | 38 | 3.00  | 2023-1.43 | ■ |
| 1.44             | 9.20 | 11.20 | 38 | 3.00  | 2023-1.44 | ■ |
| 1.45             | 9.20 | 11.20 | 38 | 3.00  | 2023-1.45 | ■ |
| 1.46             | 9.20 | 11.20 | 38 | 3.00  | 2023-1.46 | ■ |
| 1.47             | 9.20 | 11.20 | 38 | 3.00  | 2023-1.47 | ■ |
| 1.48             | 9.20 | 11.20 | 38 | 3.00  | 2023-1.48 | ■ |
| 1.49             | 9.20 | 11.20 | 38 | 3.00  | 2023-1.49 | ■ |
| 1.50             | 9.20 | 11.20 | 38 | 3.00  | 2023-1.50 | ■ |

| D1<br>0 / -0.004 | L2    | L3    | L1 | D2 h6 | Art. N°   | Z |
|------------------|-------|-------|----|-------|-----------|---|
| 1.51             | 11.20 | 13.40 | 38 | 3.00  | 2023-1.51 | ■ |
| 1.52             | 11.20 | 13.40 | 38 | 3.00  | 2023-1.52 | ■ |
| 1.53             | 11.20 | 13.40 | 38 | 3.00  | 2023-1.53 | ■ |
| 1.54             | 11.20 | 13.40 | 38 | 3.00  | 2023-1.54 | ■ |
| 1.55             | 11.20 | 13.40 | 38 | 3.00  | 2023-1.55 | ■ |
| 1.56             | 11.20 | 13.40 | 38 | 3.00  | 2023-1.56 | ■ |
| 1.57             | 11.20 | 13.40 | 38 | 3.00  | 2023-1.57 | ■ |
| 1.58             | 11.20 | 13.40 | 38 | 3.00  | 2023-1.58 | ■ |
| 1.59             | 11.20 | 13.40 | 38 | 3.00  | 2023-1.59 | ■ |
| 1.60             | 11.20 | 13.40 | 38 | 3.00  | 2023-1.60 | ■ |
| 1.61             | 11.20 | 13.40 | 38 | 3.00  | 2023-1.61 | ■ |
| 1.62             | 11.20 | 13.40 | 38 | 3.00  | 2023-1.62 | ■ |
| 1.63             | 11.20 | 13.40 | 38 | 3.00  | 2023-1.63 | ■ |
| 1.64             | 11.20 | 13.40 | 38 | 3.00  | 2023-1.64 | ■ |
| 1.65             | 11.20 | 13.40 | 38 | 3.00  | 2023-1.65 | ■ |
| 1.66             | 11.20 | 13.40 | 38 | 3.00  | 2023-1.66 | ■ |
| 1.67             | 11.20 | 13.40 | 38 | 3.00  | 2023-1.67 | ■ |
| 1.68             | 11.20 | 13.40 | 38 | 3.00  | 2023-1.68 | ■ |
| 1.69             | 11.20 | 13.40 | 38 | 3.00  | 2023-1.69 | ■ |
| 1.70             | 11.20 | 13.40 | 38 | 3.00  | 2023-1.70 | ■ |
| 1.71             | 11.20 | 13.40 | 38 | 3.00  | 2023-1.71 | ■ |
| 1.72             | 11.20 | 13.40 | 38 | 3.00  | 2023-1.72 | ■ |
| 1.73             | 11.20 | 13.40 | 38 | 3.00  | 2023-1.73 | ■ |
| 1.74             | 11.20 | 13.40 | 38 | 3.00  | 2023-1.74 | ■ |
| 1.75             | 11.20 | 13.40 | 38 | 3.00  | 2023-1.75 | ■ |
| 1.76             | 11.20 | 13.40 | 38 | 3.00  | 2023-1.76 | ■ |
| 1.77             | 11.20 | 13.40 | 38 | 3.00  | 2023-1.77 | ■ |
| 1.78             | 11.20 | 13.40 | 38 | 3.00  | 2023-1.78 | ■ |
| 1.79             | 11.20 | 13.40 | 38 | 3.00  | 2023-1.79 | ■ |
| 1.80             | 11.20 | 13.40 | 38 | 3.00  | 2023-1.80 | ■ |
| 1.81             | 11.20 | 13.40 | 38 | 3.00  | 2023-1.81 | ■ |
| 1.82             | 11.20 | 13.40 | 38 | 3.00  | 2023-1.82 | ■ |
| 1.83             | 11.20 | 13.40 | 38 | 3.00  | 2023-1.83 | ■ |
| 1.84             | 11.20 | 13.40 | 38 | 3.00  | 2023-1.84 | ■ |
| 1.85             | 11.20 | 13.40 | 38 | 3.00  | 2023-1.85 | ■ |
| 1.86             | 11.20 | 13.40 | 38 | 3.00  | 2023-1.86 | ■ |
| 1.87             | 11.20 | 13.40 | 38 | 3.00  | 2023-1.87 | ■ |
| 1.88             | 11.20 | 13.40 | 38 | 3.00  | 2023-1.88 | ■ |
| 1.89             | 11.20 | 13.40 | 38 | 3.00  | 2023-1.89 | ■ |
| 1.90             | 11.20 | 13.40 | 38 | 3.00  | 2023-1.90 | ■ |
| 1.91             | 11.20 | 13.40 | 38 | 3.00  | 2023-1.91 | ■ |
| 1.92             | 11.20 | 13.40 | 38 | 3.00  | 2023-1.92 | ■ |
| 1.93             | 11.20 | 13.40 | 38 | 3.00  | 2023-1.93 | ■ |
| 1.94             | 11.20 | 13.40 | 38 | 3.00  | 2023-1.94 | ■ |
| 1.95             | 11.20 | 13.40 | 38 | 3.00  | 2023-1.95 | ■ |
| 1.96             | 11.20 | 13.40 | 38 | 3.00  | 2023-1.96 | ■ |
| 1.97             | 11.20 | 13.40 | 38 | 3.00  | 2023-1.97 | ■ |
| 1.98             | 11.20 | 13.40 | 38 | 3.00  | 2023-1.98 | ■ |
| 1.99             | 11.20 | 13.40 | 38 | 3.00  | 2023-1.99 | ■ |
| 2.00             | 11.20 | 13.40 | 38 | 3.00  | 2023-2.00 | ■ |

Micro-forets

Mikrobohrer

Micro drills

Ø 2.01 - Ø 3.00 mm

2023

| D1<br>0 / -0.004 | L2    | L3    | L1 | D2 h6 | Art. N°   | z |
|------------------|-------|-------|----|-------|-----------|---|
| 2.01             | 12.50 | 14.00 | 38 | 3.00  | 2023-2.01 | ■ |
| 2.02             | 12.50 | 14.00 | 38 | 3.00  | 2023-2.02 | ■ |
| 2.03             | 12.50 | 14.00 | 38 | 3.00  | 2023-2.03 | ■ |
| 2.04             | 12.50 | 14.00 | 38 | 3.00  | 2023-2.04 | ■ |
| 2.05             | 12.50 | 14.00 | 38 | 3.00  | 2023-2.05 | ■ |
| 2.06             | 12.50 | 14.00 | 38 | 3.00  | 2023-2.06 | ■ |
| 2.07             | 12.50 | 14.00 | 38 | 3.00  | 2023-2.07 | ■ |
| 2.08             | 12.50 | 14.00 | 38 | 3.00  | 2023-2.08 | ■ |
| 2.09             | 12.50 | 14.00 | 38 | 3.00  | 2023-2.09 | ■ |
| 2.10             | 12.50 | 14.00 | 38 | 3.00  | 2023-2.10 | ■ |
| 2.11             | 12.50 | 14.00 | 38 | 3.00  | 2023-2.11 | ■ |
| 2.12             | 12.50 | 14.00 | 38 | 3.00  | 2023-2.12 | ■ |
| 2.13             | 12.50 | 14.00 | 38 | 3.00  | 2023-2.13 | ■ |
| 2.14             | 12.50 | 14.00 | 38 | 3.00  | 2023-2.14 | ■ |
| 2.15             | 12.50 | 14.00 | 38 | 3.00  | 2023-2.15 | ■ |
| 2.16             | 12.50 | 14.00 | 38 | 3.00  | 2023-2.16 | ■ |
| 2.17             | 12.50 | 14.00 | 38 | 3.00  | 2023-2.17 | ■ |
| 2.18             | 12.50 | 14.00 | 38 | 3.00  | 2023-2.18 | ■ |
| 2.19             | 12.50 | 14.00 | 38 | 3.00  | 2023-2.19 | ■ |
| 2.20             | 12.50 | 14.00 | 38 | 3.00  | 2023-2.20 | ■ |
| 2.21             | 12.50 | 14.00 | 38 | 3.00  | 2023-2.21 | ■ |
| 2.22             | 12.50 | 14.00 | 38 | 3.00  | 2023-2.22 | ■ |
| 2.23             | 12.50 | 14.00 | 38 | 3.00  | 2023-2.23 | ■ |
| 2.24             | 12.50 | 14.00 | 38 | 3.00  | 2023-2.24 | ■ |
| 2.25             | 12.50 | 14.00 | 38 | 3.00  | 2023-2.25 | ■ |
| 2.26             | 12.50 | 14.00 | 38 | 3.00  | 2023-2.26 | ■ |
| 2.27             | 12.50 | 14.00 | 38 | 3.00  | 2023-2.27 | ■ |
| 2.28             | 12.50 | 14.00 | 38 | 3.00  | 2023-2.28 | ■ |
| 2.29             | 12.50 | 14.00 | 38 | 3.00  | 2023-2.29 | ■ |
| 2.30             | 12.50 | 14.00 | 38 | 3.00  | 2023-2.30 | ■ |
| 2.31             | 12.50 | 14.00 | 38 | 3.00  | 2023-2.31 | ■ |
| 2.32             | 12.50 | 14.00 | 38 | 3.00  | 2023-2.32 | ■ |
| 2.33             | 12.50 | 14.00 | 38 | 3.00  | 2023-2.33 | ■ |
| 2.34             | 12.50 | 14.00 | 38 | 3.00  | 2023-2.34 | ■ |
| 2.35             | 12.50 | 14.00 | 38 | 3.00  | 2023-2.35 | ■ |
| 2.36             | 12.50 | 14.00 | 38 | 3.00  | 2023-2.36 | ■ |
| 2.37             | 12.50 | 14.00 | 38 | 3.00  | 2023-2.37 | ■ |
| 2.38             | 12.50 | 14.00 | 38 | 3.00  | 2023-2.38 | ■ |
| 2.39             | 12.50 | 14.00 | 38 | 3.00  | 2023-2.39 | ■ |
| 2.40             | 12.50 | 14.00 | 38 | 3.00  | 2023-2.40 | ■ |
| 2.41             | 12.50 | 14.00 | 38 | 3.00  | 2023-2.41 | ■ |
| 2.42             | 12.50 | 14.00 | 38 | 3.00  | 2023-2.42 | ■ |
| 2.43             | 12.50 | 14.00 | 38 | 3.00  | 2023-2.43 | ■ |
| 2.44             | 12.50 | 14.00 | 38 | 3.00  | 2023-2.44 | ■ |
| 2.45             | 12.50 | 14.00 | 38 | 3.00  | 2023-2.45 | ■ |
| 2.46             | 12.50 | 14.00 | 38 | 3.00  | 2023-2.46 | ■ |
| 2.47             | 12.50 | 14.00 | 38 | 3.00  | 2023-2.47 | ■ |
| 2.48             | 12.50 | 14.00 | 38 | 3.00  | 2023-2.48 | ■ |
| 2.49             | 12.50 | 14.00 | 38 | 3.00  | 2023-2.49 | ■ |
| 2.50             | 14.00 | 17.00 | 38 | 3.00  | 2023-2.50 | ■ |

| D1<br>0 / -0.004 | L2    | L3    | L1 | D2 h6 | Art. N°   | z |
|------------------|-------|-------|----|-------|-----------|---|
| 2.51             | 14.00 | 17.00 | 38 | 3.00  | 2023-2.51 | ■ |
| 2.52             | 14.00 | 17.00 | 38 | 3.00  | 2023-2.52 | ■ |
| 2.53             | 14.00 | 17.00 | 38 | 3.00  | 2023-2.53 | ■ |
| 2.54             | 14.00 | 17.00 | 38 | 3.00  | 2023-2.54 | ■ |
| 2.55             | 14.00 | 17.00 | 38 | 3.00  | 2023-2.55 | ■ |
| 2.56             | 14.00 | 17.00 | 38 | 3.00  | 2023-2.56 | ■ |
| 2.57             | 14.00 | 17.00 | 38 | 3.00  | 2023-2.57 | ■ |
| 2.58             | 14.00 | 17.00 | 38 | 3.00  | 2023-2.58 | ■ |
| 2.59             | 14.00 | 17.00 | 38 | 3.00  | 2023-2.59 | ■ |
| 2.60             | 14.00 | 17.00 | 38 | 3.00  | 2023-2.60 | ■ |
| 2.61             | 14.00 | 17.00 | 38 | 3.00  | 2023-2.61 | ■ |
| 2.62             | 14.00 | 17.00 | 38 | 3.00  | 2023-2.62 | ■ |
| 2.63             | 14.00 | 17.00 | 38 | 3.00  | 2023-2.63 | ■ |
| 2.64             | 14.00 | 17.00 | 38 | 3.00  | 2023-2.64 | ■ |
| 2.65             | 14.00 | 17.00 | 38 | 3.00  | 2023-2.65 | ■ |
| 2.66             | 14.00 | 17.00 | 38 | 3.00  | 2023-2.66 | ■ |
| 2.67             | 14.00 | 17.00 | 38 | 3.00  | 2023-2.67 | ■ |
| 2.68             | 14.00 | 17.00 | 38 | 3.00  | 2023-2.68 | ■ |
| 2.69             | 14.00 | 17.00 | 38 | 3.00  | 2023-2.69 | ■ |
| 2.70             | 14.00 | 17.00 | 38 | 3.00  | 2023-2.70 | ■ |
| 2.71             | 14.00 | 17.00 | 38 | 3.00  | 2023-2.71 | ■ |
| 2.72             | 14.00 | 17.00 | 38 | 3.00  | 2023-2.72 | ■ |
| 2.73             | 14.00 | 17.00 | 38 | 3.00  | 2023-2.73 | ■ |
| 2.74             | 14.00 | 17.00 | 38 | 3.00  | 2023-2.74 | ■ |
| 2.75             | 14.00 | 17.00 | 38 | 3.00  | 2023-2.75 | ■ |
| 2.76             | 14.00 | 17.00 | 38 | 3.00  | 2023-2.76 | ■ |
| 2.77             | 14.00 | 17.00 | 38 | 3.00  | 2023-2.77 | ■ |
| 2.78             | 14.00 | 17.00 | 38 | 3.00  | 2023-2.78 | ■ |
| 2.79             | 14.00 | 17.00 | 38 | 3.00  | 2023-2.79 | ■ |
| 2.80             | 14.00 | 17.00 | 38 | 3.00  | 2023-2.80 | ■ |
| 2.81             | 14.00 | 17.00 | 38 | 3.00  | 2023-2.81 | ■ |
| 2.82             | 14.00 | 17.00 | 38 | 3.00  | 2023-2.82 | ■ |
| 2.83             | 14.00 | 17.00 | 38 | 3.00  | 2023-2.83 | ■ |
| 2.84             | 14.00 | 17.00 | 38 | 3.00  | 2023-2.84 | ■ |
| 2.85             | 14.00 | 17.00 | 38 | 3.00  | 2023-2.85 | ■ |
| 2.86             | 14.00 | 17.00 | 38 | 3.00  | 2023-2.86 | ■ |
| 2.87             | 14.00 | 17.00 | 38 | 3.00  | 2023-2.87 | ■ |
| 2.88             | 14.00 | 17.00 | 38 | 3.00  | 2023-2.88 | ■ |
| 2.89             | 14.00 | 17.00 | 38 | 3.00  | 2023-2.89 | ■ |
| 2.90             | 14.00 | 17.00 | 38 | 3.00  | 2023-2.90 | ■ |
| 2.91             | 14.00 | 17.00 | 38 | 3.00  | 2023-2.91 | ■ |
| 2.92             | 14.00 | 17.00 | 38 | 3.00  | 2023-2.92 | ■ |
| 2.93             | 14.00 | 17.00 | 38 | 3.00  | 2023-2.93 | ■ |
| 2.94             | 14.00 | 17.00 | 38 | 3.00  | 2023-2.94 | ■ |
| 2.95             | 14.00 | 17.00 | 38 | 3.00  | 2023-2.95 | ■ |
| 2.96             | 14.00 | 17.00 | 38 | 3.00  | 2023-2.96 | ■ |
| 2.97             | 14.00 | 17.00 | 38 | 3.00  | 2023-2.97 | ■ |
| 2.98             | 14.00 | 17.00 | 38 | 3.00  | 2023-2.98 | ■ |
| 2.99             | 14.00 | 17.00 | 38 | 3.00  | 2023-2.99 | ■ |
| 3.00             | 14.00 | 17.00 | 38 | 3.00  | 2023-3.00 | ■ |

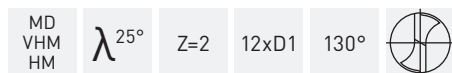
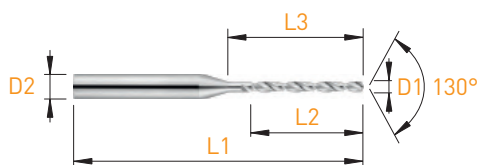
Micro-forets

Mikrobohrer

Micro drills

Ø 0.20 - Ø 1.09 mm

2026



| D1 h <sub>6</sub> | L2   | L3   | L1 | D2 h <sub>6</sub> | Art. N°   | z |
|-------------------|------|------|----|-------------------|-----------|---|
| 0.20              | 2.40 | 3.50 | 38 | 3.00              | 2026-0.20 | ■ |
| 0.21              | 2.50 | 3.50 | 38 | 3.00              | 2026-0.21 | ■ |
| 0.22              | 2.70 | 3.50 | 38 | 3.00              | 2026-0.22 | ■ |
| 0.23              | 2.80 | 3.50 | 38 | 3.00              | 2026-0.23 | ■ |
| 0.24              | 2.90 | 4.00 | 38 | 3.00              | 2026-0.24 | ■ |
| 0.25              | 3.00 | 4.00 | 38 | 3.00              | 2026-0.25 | ■ |
| 0.26              | 3.10 | 4.00 | 38 | 3.00              | 2026-0.26 | ■ |
| 0.27              | 3.30 | 4.00 | 38 | 3.00              | 2026-0.27 | ■ |
| 0.28              | 3.40 | 4.50 | 38 | 3.00              | 2026-0.28 | ■ |
| 0.29              | 3.50 | 4.50 | 38 | 3.00              | 2026-0.29 | ■ |
| 0.30              | 3.60 | 4.50 | 38 | 3.00              | 2026-0.30 | ■ |
| 0.31              | 3.70 | 4.50 | 38 | 3.00              | 2026-0.31 | ■ |
| 0.32              | 3.90 | 5.00 | 38 | 3.00              | 2026-0.32 | ■ |
| 0.33              | 4.00 | 5.00 | 38 | 3.00              | 2026-0.33 | ■ |
| 0.34              | 4.10 | 5.00 | 38 | 3.00              | 2026-0.34 | ■ |
| 0.35              | 4.20 | 5.00 | 38 | 3.00              | 2026-0.35 | ■ |
| 0.36              | 4.30 | 5.50 | 38 | 3.00              | 2026-0.36 | ■ |
| 0.37              | 4.50 | 5.50 | 38 | 3.00              | 2026-0.37 | ■ |
| 0.38              | 4.60 | 5.50 | 38 | 3.00              | 2026-0.38 | ■ |
| 0.39              | 4.70 | 5.50 | 38 | 3.00              | 2026-0.39 | ■ |
| 0.40              | 4.80 | 6.00 | 38 | 3.00              | 2026-0.40 | ■ |
| 0.41              | 4.90 | 6.00 | 38 | 3.00              | 2026-0.41 | ■ |
| 0.42              | 5.10 | 6.00 | 38 | 3.00              | 2026-0.42 | ■ |
| 0.43              | 5.20 | 6.00 | 38 | 3.00              | 2026-0.43 | ■ |
| 0.44              | 5.30 | 6.50 | 38 | 3.00              | 2026-0.44 | ■ |
| 0.45              | 5.40 | 6.50 | 38 | 3.00              | 2026-0.45 | ■ |
| 0.46              | 5.50 | 6.50 | 38 | 3.00              | 2026-0.46 | ■ |
| 0.47              | 5.70 | 6.50 | 38 | 3.00              | 2026-0.47 | ■ |
| 0.48              | 5.80 | 7.00 | 38 | 3.00              | 2026-0.48 | ■ |
| 0.49              | 5.90 | 7.00 | 38 | 3.00              | 2026-0.49 | ■ |
| 0.50              | 6.00 | 7.00 | 38 | 3.00              | 2026-0.50 | ■ |
| 0.51              | 6.10 | 7.00 | 38 | 3.00              | 2026-0.51 | ■ |
| 0.52              | 6.30 | 7.50 | 38 | 3.00              | 2026-0.52 | ■ |
| 0.53              | 6.40 | 7.50 | 38 | 3.00              | 2026-0.53 | ■ |
| 0.54              | 6.50 | 7.50 | 38 | 3.00              | 2026-0.54 | ■ |
| 0.55              | 6.60 | 7.50 | 38 | 3.00              | 2026-0.55 | ■ |
| 0.56              | 6.70 | 8.00 | 38 | 3.00              | 2026-0.56 | ■ |
| 0.57              | 6.90 | 8.00 | 38 | 3.00              | 2026-0.57 | ■ |
| 0.58              | 7.00 | 8.00 | 38 | 3.00              | 2026-0.58 | ■ |

| D1 h <sub>6</sub> | L2    | L3    | L1 | D2 h <sub>6</sub> | Art. N°   | z |
|-------------------|-------|-------|----|-------------------|-----------|---|
| 0.59              | 7.10  | 8.00  | 38 | 3.00              | 2026-0.59 | ■ |
| 0.60              | 7.20  | 9.00  | 38 | 3.00              | 2026-0.60 | ■ |
| 0.61              | 7.30  | 9.00  | 38 | 3.00              | 2026-0.61 | ■ |
| 0.62              | 7.50  | 9.00  | 38 | 3.00              | 2026-0.62 | ■ |
| 0.63              | 7.60  | 9.00  | 38 | 3.00              | 2026-0.63 | ■ |
| 0.64              | 7.70  | 9.50  | 38 | 3.00              | 2026-0.64 | ■ |
| 0.65              | 7.80  | 9.50  | 38 | 3.00              | 2026-0.65 | ■ |
| 0.66              | 7.90  | 9.50  | 38 | 3.00              | 2026-0.66 | ■ |
| 0.67              | 8.10  | 9.50  | 38 | 3.00              | 2026-0.67 | ■ |
| 0.68              | 8.20  | 10.00 | 38 | 3.00              | 2026-0.68 | ■ |
| 0.69              | 8.30  | 10.00 | 38 | 3.00              | 2026-0.69 | ■ |
| 0.70              | 8.40  | 10.00 | 38 | 3.00              | 2026-0.70 | ■ |
| 0.71              | 8.50  | 10.00 | 38 | 3.00              | 2026-0.71 | ■ |
| 0.72              | 8.70  | 10.50 | 38 | 3.00              | 2026-0.72 | ■ |
| 0.73              | 8.80  | 10.50 | 38 | 3.00              | 2026-0.73 | ■ |
| 0.74              | 8.90  | 10.50 | 38 | 3.00              | 2026-0.74 | ■ |
| 0.75              | 9.00  | 10.50 | 38 | 3.00              | 2026-0.75 | ■ |
| 0.76              | 9.10  | 11.00 | 38 | 3.00              | 2026-0.76 | ■ |
| 0.77              | 9.30  | 11.00 | 38 | 3.00              | 2026-0.77 | ■ |
| 0.78              | 9.40  | 11.00 | 38 | 3.00              | 2026-0.78 | ■ |
| 0.79              | 9.50  | 11.00 | 38 | 3.00              | 2026-0.79 | ■ |
| 0.80              | 9.60  | 11.50 | 38 | 3.00              | 2026-0.80 | ■ |
| 0.81              | 9.70  | 11.50 | 38 | 3.00              | 2026-0.81 | ■ |
| 0.82              | 9.90  | 11.50 | 38 | 3.00              | 2026-0.82 | ■ |
| 0.83              | 10.00 | 11.50 | 38 | 3.00              | 2026-0.83 | ■ |
| 0.84              | 10.10 | 12.00 | 38 | 3.00              | 2026-0.84 | ■ |
| 0.85              | 10.20 | 12.00 | 38 | 3.00              | 2026-0.85 | ■ |
| 0.86              | 10.30 | 12.00 | 38 | 3.00              | 2026-0.86 | ■ |
| 0.87              | 10.50 | 12.00 | 38 | 3.00              | 2026-0.87 | ■ |
| 0.88              | 10.60 | 12.50 | 38 | 3.00              | 2026-0.88 | ■ |
| 0.89              | 10.70 | 12.50 | 38 | 3.00              | 2026-0.89 | ■ |
| 0.90              | 10.80 | 12.50 | 38 | 3.00              | 2026-0.90 | ■ |
| 0.91              | 10.90 | 12.50 | 38 | 3.00              | 2026-0.91 | ■ |
| 0.92              | 11.10 | 13.00 | 38 | 3.00              | 2026-0.92 | ■ |
| 0.93              | 11.20 | 13.00 | 38 | 3.00              | 2026-0.93 | ■ |
| 0.94              | 11.30 | 13.00 | 38 | 3.00              | 2026-0.94 | ■ |
| 0.95              | 11.40 | 13.00 | 38 | 3.00              | 2026-0.95 | ■ |
| 0.96              | 11.50 | 13.50 | 38 | 3.00              | 2026-0.96 | ■ |
| 0.97              | 11.70 | 13.50 | 38 | 3.00              | 2026-0.97 | ■ |
| 0.98              | 11.80 | 13.50 | 38 | 3.00              | 2026-0.98 | ■ |
| 0.99              | 11.90 | 13.50 | 38 | 3.00              | 2026-0.99 | ■ |
| 1.00              | 12.00 | 14.50 | 38 | 3.00              | 2026-1.00 | ■ |
| 1.01              | 12.10 | 14.50 | 38 | 3.00              | 2026-1.01 | ■ |
| 1.02              | 12.30 | 14.50 | 38 | 3.00              | 2026-1.02 | ■ |
| 1.03              | 12.40 | 14.50 | 38 | 3.00              | 2026-1.03 | ■ |
| 1.04              | 12.50 | 15.00 | 38 | 3.00              | 2026-1.04 | ■ |
| 1.05              | 12.60 | 15.00 | 38 | 3.00              | 2026-1.05 | ■ |
| 1.06              | 12.70 | 15.00 | 38 | 3.00              | 2026-1.06 | ■ |
| 1.07              | 12.90 | 15.00 | 38 | 3.00              | 2026-1.07 | ■ |
| 1.08              | 13.00 | 15.50 | 38 | 3.00              | 2026-1.08 | ■ |
| 1.09              | 13.10 | 15.50 | 38 | 3.00              | 2026-1.09 | ■ |

Micro-forets

Mikrobohrer

Micro drills

Ø 1.10 - Ø 2.00 mm

2026

| D1 h6 | L2    | L3    | L1 | D2 h6 | Art. N°   | z |
|-------|-------|-------|----|-------|-----------|---|
| 1.10  | 13.20 | 15.50 | 38 | 3.00  | 2026-1.10 | ■ |
| 1.11  | 13.30 | 15.50 | 38 | 3.00  | 2026-1.11 | ■ |
| 1.12  | 13.50 | 16.00 | 38 | 3.00  | 2026-1.12 | ■ |
| 1.13  | 13.60 | 16.00 | 38 | 3.00  | 2026-1.13 | ■ |
| 1.14  | 13.70 | 16.00 | 38 | 3.00  | 2026-1.14 | ■ |
| 1.15  | 13.80 | 16.00 | 38 | 3.00  | 2026-1.15 | ■ |
| 1.16  | 13.90 | 16.50 | 38 | 3.00  | 2026-1.16 | ■ |
| 1.17  | 14.10 | 16.50 | 38 | 3.00  | 2026-1.17 | ■ |
| 1.18  | 14.20 | 16.50 | 38 | 3.00  | 2026-1.18 | ■ |
| 1.19  | 14.30 | 16.50 | 38 | 3.00  | 2026-1.19 | ■ |
| 1.20  | 14.40 | 17.00 | 38 | 3.00  | 2026-1.20 | ■ |
| 1.21  | 14.50 | 17.00 | 38 | 3.00  | 2026-1.21 | ■ |
| 1.22  | 14.70 | 17.00 | 38 | 3.00  | 2026-1.22 | ■ |
| 1.23  | 14.80 | 17.00 | 38 | 3.00  | 2026-1.23 | ■ |
| 1.24  | 14.90 | 17.50 | 38 | 3.00  | 2026-1.24 | ■ |
| 1.25  | 15.00 | 17.50 | 38 | 3.00  | 2026-1.25 | ■ |
| 1.26  | 15.10 | 17.50 | 50 | 3.00  | 2026-1.26 | ■ |
| 1.27  | 15.30 | 17.50 | 50 | 3.00  | 2026-1.27 | ■ |
| 1.28  | 15.40 | 18.00 | 50 | 3.00  | 2026-1.28 | ■ |
| 1.29  | 15.50 | 18.00 | 50 | 3.00  | 2026-1.29 | ■ |
| 1.30  | 15.60 | 18.00 | 50 | 3.00  | 2026-1.30 | ■ |
| 1.31  | 15.70 | 18.00 | 50 | 3.00  | 2026-1.31 | ■ |
| 1.32  | 15.90 | 18.50 | 50 | 3.00  | 2026-1.32 | ■ |
| 1.33  | 16.00 | 18.50 | 50 | 3.00  | 2026-1.33 | ■ |
| 1.34  | 16.10 | 18.50 | 50 | 3.00  | 2026-1.34 | ■ |
| 1.35  | 16.20 | 18.50 | 50 | 3.00  | 2026-1.35 | ■ |
| 1.36  | 16.30 | 19.00 | 50 | 3.00  | 2026-1.36 | ■ |
| 1.37  | 16.50 | 19.00 | 50 | 3.00  | 2026-1.37 | ■ |
| 1.38  | 16.60 | 19.00 | 50 | 3.00  | 2026-1.38 | ■ |
| 1.39  | 16.70 | 19.00 | 50 | 3.00  | 2026-1.39 | ■ |
| 1.40  | 16.80 | 19.50 | 50 | 3.00  | 2026-1.40 | ■ |
| 1.41  | 16.90 | 19.50 | 50 | 3.00  | 2026-1.41 | ■ |
| 1.42  | 17.10 | 19.50 | 50 | 3.00  | 2026-1.42 | ■ |
| 1.43  | 17.20 | 19.50 | 50 | 3.00  | 2026-1.43 | ■ |
| 1.44  | 17.30 | 20.00 | 50 | 3.00  | 2026-1.44 | ■ |
| 1.45  | 17.40 | 20.00 | 50 | 3.00  | 2026-1.45 | ■ |
| 1.46  | 17.50 | 20.00 | 50 | 3.00  | 2026-1.46 | ■ |
| 1.47  | 17.70 | 20.00 | 50 | 3.00  | 2026-1.47 | ■ |
| 1.48  | 17.80 | 20.50 | 50 | 3.00  | 2026-1.48 | ■ |
| 1.49  | 17.90 | 20.50 | 50 | 3.00  | 2026-1.49 | ■ |
| 1.50  | 18.00 | 21.00 | 50 | 3.00  | 2026-1.50 | ■ |
| 1.51  | 18.10 | 21.00 | 50 | 3.00  | 2026-1.51 | ■ |
| 1.52  | 18.30 | 21.00 | 50 | 3.00  | 2026-1.52 | ■ |
| 1.53  | 18.40 | 21.00 | 50 | 3.00  | 2026-1.53 | ■ |
| 1.54  | 18.50 | 21.50 | 50 | 3.00  | 2026-1.54 | ■ |
| 1.55  | 18.60 | 21.50 | 50 | 3.00  | 2026-1.55 | ■ |
| 1.56  | 18.70 | 21.50 | 50 | 3.00  | 2026-1.56 | ■ |
| 1.57  | 18.90 | 21.50 | 50 | 3.00  | 2026-1.57 | ■ |
| 1.58  | 19.00 | 22.00 | 50 | 3.00  | 2026-1.58 | ■ |
| 1.59  | 19.10 | 22.00 | 50 | 3.00  | 2026-1.59 | ■ |
| 1.60  | 19.20 | 22.00 | 50 | 3.00  | 2026-1.60 | ■ |

| D1 h6 | L2    | L3    | L1 | D2 h6 | Art. N°   | z |
|-------|-------|-------|----|-------|-----------|---|
| 1.61  | 19.30 | 22.00 | 50 | 3.00  | 2026-1.61 | ■ |
| 1.62  | 19.40 | 22.50 | 50 | 3.00  | 2026-1.62 | ■ |
| 1.63  | 19.60 | 22.50 | 50 | 3.00  | 2026-1.63 | ■ |
| 1.64  | 19.70 | 22.50 | 50 | 3.00  | 2026-1.64 | ■ |
| 1.65  | 19.80 | 22.50 | 50 | 3.00  | 2026-1.65 | ■ |
| 1.66  | 19.90 | 23.00 | 50 | 3.00  | 2026-1.66 | ■ |
| 1.67  | 20.10 | 23.00 | 50 | 3.00  | 2026-1.67 | ■ |
| 1.68  | 20.20 | 23.00 | 50 | 3.00  | 2026-1.68 | ■ |
| 1.69  | 20.30 | 23.00 | 50 | 3.00  | 2026-1.69 | ■ |
| 1.70  | 20.40 | 23.50 | 50 | 3.00  | 2026-1.70 | ■ |
| 1.71  | 20.50 | 23.50 | 50 | 3.00  | 2026-1.71 | ■ |
| 1.72  | 20.70 | 23.50 | 50 | 3.00  | 2026-1.72 | ■ |
| 1.73  | 20.80 | 23.50 | 50 | 3.00  | 2026-1.73 | ■ |
| 1.74  | 20.90 | 24.00 | 50 | 3.00  | 2026-1.74 | ■ |
| 1.75  | 21.00 | 24.00 | 50 | 3.00  | 2026-1.75 | ■ |
| 1.76  | 21.10 | 24.00 | 50 | 3.00  | 2026-1.76 | ■ |
| 1.77  | 21.30 | 24.00 | 50 | 3.00  | 2026-1.77 | ■ |
| 1.78  | 21.40 | 24.50 | 50 | 3.00  | 2026-1.78 | ■ |
| 1.79  | 21.50 | 24.50 | 50 | 3.00  | 2026-1.79 | ■ |
| 1.80  | 21.60 | 25.00 | 50 | 3.00  | 2026-1.80 | ■ |
| 1.81  | 21.70 | 25.00 | 50 | 3.00  | 2026-1.81 | ■ |
| 1.82  | 21.90 | 25.00 | 50 | 3.00  | 2026-1.82 | ■ |
| 1.83  | 22.00 | 25.00 | 50 | 3.00  | 2026-1.83 | ■ |
| 1.84  | 22.10 | 25.50 | 50 | 3.00  | 2026-1.84 | ■ |
| 1.85  | 22.20 | 25.50 | 50 | 3.00  | 2026-1.85 | ■ |
| 1.86  | 22.30 | 25.50 | 50 | 3.00  | 2026-1.86 | ■ |
| 1.87  | 22.50 | 25.50 | 50 | 3.00  | 2026-1.87 | ■ |
| 1.88  | 22.60 | 26.00 | 50 | 3.00  | 2026-1.88 | ■ |
| 1.89  | 22.70 | 26.00 | 50 | 3.00  | 2026-1.89 | ■ |
| 1.90  | 22.80 | 26.00 | 50 | 3.00  | 2026-1.90 | ■ |
| 1.91  | 22.90 | 26.00 | 50 | 3.00  | 2026-1.91 | ■ |
| 1.92  | 23.10 | 26.50 | 50 | 3.00  | 2026-1.92 | ■ |
| 1.93  | 23.20 | 26.50 | 50 | 3.00  | 2026-1.93 | ■ |
| 1.94  | 23.30 | 26.50 | 50 | 3.00  | 2026-1.94 | ■ |
| 1.95  | 23.40 | 26.50 | 50 | 3.00  | 2026-1.95 | ■ |
| 1.96  | 23.50 | 27.00 | 50 | 3.00  | 2026-1.96 | ■ |
| 1.97  | 23.70 | 27.00 | 50 | 3.00  | 2026-1.97 | ■ |
| 1.98  | 23.80 | 27.00 | 50 | 3.00  | 2026-1.98 | ■ |
| 1.99  | 23.90 | 27.00 | 50 | 3.00  | 2026-1.99 | ■ |
| 2.00  | 24.00 | 27.00 | 50 | 3.00  | 2026-2.00 | ■ |

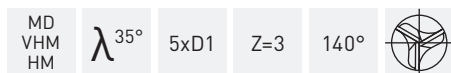
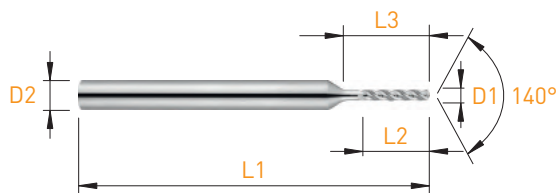
Micro-forets

Mikrobohrer

Micro drills

Ø 0.20 - Ø 1.09 mm

2030



| D1 h <sub>6</sub> | L2   | L3   | L1 | D2 h <sub>6</sub> | Art. N°   | z |
|-------------------|------|------|----|-------------------|-----------|---|
| 0.20              | 1.00 | 1.50 | 38 | 3.00              | 2030-0.20 | ■ |
| 0.21              | 1.05 | 1.50 | 38 | 3.00              | 2030-0.21 | ■ |
| 0.22              | 1.10 | 1.60 | 38 | 3.00              | 2030-0.22 | ■ |
| 0.23              | 1.15 | 1.60 | 38 | 3.00              | 2030-0.23 | ■ |
| 0.24              | 1.20 | 1.70 | 38 | 3.00              | 2030-0.24 | ■ |
| 0.25              | 1.25 | 1.70 | 38 | 3.00              | 2030-0.25 | ■ |
| 0.26              | 1.30 | 1.80 | 38 | 3.00              | 2030-0.26 | ■ |
| 0.27              | 1.35 | 1.80 | 38 | 3.00              | 2030-0.27 | ■ |
| 0.28              | 1.40 | 1.90 | 38 | 3.00              | 2030-0.28 | ■ |
| 0.29              | 1.45 | 1.90 | 38 | 3.00              | 2030-0.29 | ■ |
| 0.30              | 1.50 | 2.00 | 38 | 3.00              | 2030-0.30 | ■ |
| 0.31              | 1.55 | 2.00 | 38 | 3.00              | 2030-0.31 | ■ |
| 0.32              | 1.60 | 2.10 | 38 | 3.00              | 2030-0.32 | ■ |
| 0.33              | 1.65 | 2.10 | 38 | 3.00              | 2030-0.33 | ■ |
| 0.34              | 1.70 | 2.20 | 38 | 3.00              | 2030-0.34 | ■ |
| 0.35              | 1.75 | 2.20 | 38 | 3.00              | 2030-0.35 | ■ |
| 0.36              | 1.80 | 2.30 | 38 | 3.00              | 2030-0.36 | ■ |
| 0.37              | 1.85 | 2.30 | 38 | 3.00              | 2030-0.37 | ■ |
| 0.38              | 1.90 | 2.40 | 38 | 3.00              | 2030-0.38 | ■ |
| 0.39              | 1.95 | 2.40 | 38 | 3.00              | 2030-0.39 | ■ |
| 0.40              | 2.00 | 2.50 | 38 | 3.00              | 2030-0.40 | ■ |
| 0.41              | 2.05 | 2.50 | 38 | 3.00              | 2030-0.41 | ■ |
| 0.42              | 2.10 | 2.60 | 38 | 3.00              | 2030-0.42 | ■ |
| 0.43              | 2.15 | 2.60 | 38 | 3.00              | 2030-0.43 | ■ |
| 0.44              | 2.20 | 2.70 | 38 | 3.00              | 2030-0.44 | ■ |
| 0.45              | 2.25 | 2.70 | 38 | 3.00              | 2030-0.45 | ■ |
| 0.46              | 2.30 | 2.80 | 38 | 3.00              | 2030-0.46 | ■ |
| 0.47              | 2.35 | 2.80 | 38 | 3.00              | 2030-0.47 | ■ |
| 0.48              | 2.40 | 2.90 | 38 | 3.00              | 2030-0.48 | ■ |
| 0.49              | 2.45 | 2.90 | 38 | 3.00              | 2030-0.49 | ■ |
| 0.50              | 2.50 | 3.00 | 38 | 3.00              | 2030-0.50 | ■ |
| 0.51              | 2.55 | 3.00 | 38 | 3.00              | 2030-0.51 | ■ |
| 0.52              | 2.60 | 3.10 | 38 | 3.00              | 2030-0.52 | ■ |
| 0.53              | 2.65 | 3.10 | 38 | 3.00              | 2030-0.53 | ■ |
| 0.54              | 2.70 | 3.20 | 38 | 3.00              | 2030-0.54 | ■ |
| 0.55              | 2.75 | 3.20 | 38 | 3.00              | 2030-0.55 | ■ |
| 0.56              | 2.80 | 3.30 | 38 | 3.00              | 2030-0.56 | ■ |
| 0.57              | 2.85 | 3.30 | 38 | 3.00              | 2030-0.57 | ■ |
| 0.58              | 2.90 | 3.40 | 38 | 3.00              | 2030-0.58 | ■ |

| D1 h <sub>6</sub> | L2   | L3   | L1 | D2 h <sub>6</sub> | Art. N°   | z |
|-------------------|------|------|----|-------------------|-----------|---|
| 0.59              | 2.95 | 3.40 | 38 | 3.00              | 2030-0.59 | ■ |
| 0.60              | 3.00 | 3.50 | 38 | 3.00              | 2030-0.60 | ■ |
| 0.61              | 3.05 | 3.50 | 38 | 3.00              | 2030-0.61 | ■ |
| 0.62              | 3.10 | 3.60 | 38 | 3.00              | 2030-0.62 | ■ |
| 0.63              | 3.15 | 3.60 | 38 | 3.00              | 2030-0.63 | ■ |
| 0.64              | 3.20 | 3.70 | 38 | 3.00              | 2030-0.64 | ■ |
| 0.65              | 3.25 | 3.70 | 38 | 3.00              | 2030-0.65 | ■ |
| 0.66              | 3.30 | 3.80 | 38 | 3.00              | 2030-0.66 | ■ |
| 0.67              | 3.35 | 3.80 | 38 | 3.00              | 2030-0.67 | ■ |
| 0.68              | 3.40 | 3.90 | 38 | 3.00              | 2030-0.68 | ■ |
| 0.69              | 3.45 | 3.90 | 38 | 3.00              | 2030-0.69 | ■ |
| 0.70              | 3.50 | 4.00 | 38 | 3.00              | 2030-0.70 | ■ |
| 0.71              | 3.55 | 4.00 | 38 | 3.00              | 2030-0.71 | ■ |
| 0.72              | 3.60 | 4.10 | 38 | 3.00              | 2030-0.72 | ■ |
| 0.73              | 3.65 | 4.10 | 38 | 3.00              | 2030-0.73 | ■ |
| 0.74              | 3.70 | 4.20 | 38 | 3.00              | 2030-0.74 | ■ |
| 0.75              | 3.75 | 4.20 | 38 | 3.00              | 2030-0.75 | ■ |
| 0.76              | 3.80 | 4.30 | 38 | 3.00              | 2030-0.76 | ■ |
| 0.77              | 3.85 | 4.30 | 38 | 3.00              | 2030-0.77 | ■ |
| 0.78              | 3.90 | 4.40 | 38 | 3.00              | 2030-0.78 | ■ |
| 0.79              | 3.95 | 4.40 | 38 | 3.00              | 2030-0.79 | ■ |
| 0.80              | 4.00 | 4.50 | 38 | 3.00              | 2030-0.80 | ■ |
| 0.81              | 4.05 | 4.50 | 38 | 3.00              | 2030-0.81 | ■ |
| 0.82              | 4.10 | 4.60 | 38 | 3.00              | 2030-0.82 | ■ |
| 0.83              | 4.15 | 4.60 | 38 | 3.00              | 2030-0.83 | ■ |
| 0.84              | 4.20 | 4.70 | 38 | 3.00              | 2030-0.84 | ■ |
| 0.85              | 4.25 | 4.70 | 38 | 3.00              | 2030-0.85 | ■ |
| 0.86              | 4.30 | 4.80 | 38 | 3.00              | 2030-0.86 | ■ |
| 0.87              | 4.35 | 4.80 | 38 | 3.00              | 2030-0.87 | ■ |
| 0.88              | 4.40 | 4.90 | 38 | 3.00              | 2030-0.88 | ■ |
| 0.89              | 4.45 | 4.90 | 38 | 3.00              | 2030-0.89 | ■ |
| 0.90              | 4.50 | 5.00 | 38 | 3.00              | 2030-0.90 | ■ |
| 0.91              | 4.55 | 5.00 | 38 | 3.00              | 2030-0.91 | ■ |
| 0.92              | 4.60 | 5.10 | 38 | 3.00              | 2030-0.92 | ■ |
| 0.93              | 4.65 | 5.10 | 38 | 3.00              | 2030-0.93 | ■ |
| 0.94              | 4.70 | 5.20 | 38 | 3.00              | 2030-0.94 | ■ |
| 0.95              | 4.75 | 5.20 | 38 | 3.00              | 2030-0.95 | ■ |
| 0.96              | 4.80 | 5.30 | 38 | 3.00              | 2030-0.96 | ■ |
| 0.97              | 4.85 | 5.30 | 38 | 3.00              | 2030-0.97 | ■ |
| 0.98              | 4.90 | 5.40 | 38 | 3.00              | 2030-0.98 | ■ |
| 0.99              | 4.95 | 5.40 | 38 | 3.00              | 2030-0.99 | ■ |
| 1.00              | 5.00 | 6.50 | 38 | 3.00              | 2030-1.00 | ■ |
| 1.01              | 5.05 | 6.50 | 38 | 3.00              | 2030-1.01 | ■ |
| 1.02              | 5.10 | 6.50 | 38 | 3.00              | 2030-1.02 | ■ |
| 1.03              | 5.15 | 6.50 | 38 | 3.00              | 2030-1.03 | ■ |
| 1.04              | 5.20 | 6.50 | 38 | 3.00              | 2030-1.04 | ■ |
| 1.05              | 5.25 | 6.50 | 38 | 3.00              | 2030-1.05 | ■ |
| 1.06              | 5.30 | 6.50 | 38 | 3.00              | 2030-1.06 | ■ |
| 1.07              | 5.35 | 7.50 | 38 | 3.00              | 2030-1.07 | ■ |
| 1.08              | 5.40 | 7.50 | 38 | 3.00              | 2030-1.08 | ■ |
| 1.09              | 5.45 | 7.50 | 38 | 3.00              | 2030-1.09 | ■ |

Micro-forets

Mikrobohrer

Micro drills

Ø 1.10 - Ø 2.11 mm

2030

| D1 h6 | L2   | L3    | L1 | D2 h6 | Art. N°   | z |
|-------|------|-------|----|-------|-----------|---|
| 1.10  | 5.50 | 7.50  | 38 | 3.00  | 2030-1.10 | ■ |
| 1.11  | 5.55 | 7.50  | 38 | 3.00  | 2030-1.11 | ■ |
| 1.12  | 5.60 | 7.50  | 38 | 3.00  | 2030-1.12 | ■ |
| 1.13  | 5.65 | 7.50  | 38 | 3.00  | 2030-1.13 | ■ |
| 1.14  | 5.70 | 7.50  | 38 | 3.00  | 2030-1.14 | ■ |
| 1.15  | 5.75 | 7.50  | 38 | 3.00  | 2030-1.15 | ■ |
| 1.16  | 5.80 | 7.50  | 38 | 3.00  | 2030-1.16 | ■ |
| 1.17  | 5.85 | 7.50  | 38 | 3.00  | 2030-1.17 | ■ |
| 1.18  | 5.90 | 8.50  | 38 | 3.00  | 2030-1.18 | ■ |
| 1.19  | 5.95 | 8.50  | 38 | 3.00  | 2030-1.19 | ■ |
| 1.20  | 6.00 | 8.50  | 38 | 3.00  | 2030-1.20 | ■ |
| 1.21  | 6.05 | 8.50  | 38 | 3.00  | 2030-1.21 | ■ |
| 1.22  | 6.10 | 8.50  | 38 | 3.00  | 2030-1.22 | ■ |
| 1.23  | 6.15 | 8.50  | 38 | 3.00  | 2030-1.23 | ■ |
| 1.24  | 6.20 | 8.50  | 38 | 3.00  | 2030-1.24 | ■ |
| 1.25  | 6.25 | 8.50  | 38 | 3.00  | 2030-1.25 | ■ |
| 1.26  | 6.30 | 8.50  | 38 | 3.00  | 2030-1.26 | ■ |
| 1.27  | 6.35 | 8.50  | 38 | 3.00  | 2030-1.27 | ■ |
| 1.28  | 6.40 | 8.50  | 38 | 3.00  | 2030-1.28 | ■ |
| 1.29  | 6.45 | 8.50  | 38 | 3.00  | 2030-1.29 | ■ |
| 1.30  | 6.50 | 8.50  | 38 | 3.00  | 2030-1.30 | ■ |
| 1.31  | 6.55 | 8.50  | 38 | 3.00  | 2030-1.31 | ■ |
| 1.32  | 6.60 | 8.50  | 38 | 3.00  | 2030-1.32 | ■ |
| 1.33  | 6.65 | 9.50  | 38 | 3.00  | 2030-1.33 | ■ |
| 1.34  | 6.70 | 9.50  | 38 | 3.00  | 2030-1.34 | ■ |
| 1.35  | 6.75 | 9.50  | 38 | 3.00  | 2030-1.35 | ■ |
| 1.36  | 6.80 | 9.50  | 38 | 3.00  | 2030-1.36 | ■ |
| 1.37  | 6.85 | 9.50  | 38 | 3.00  | 2030-1.37 | ■ |
| 1.38  | 6.90 | 9.50  | 38 | 3.00  | 2030-1.38 | ■ |
| 1.39  | 6.95 | 9.50  | 38 | 3.00  | 2030-1.39 | ■ |
| 1.40  | 7.00 | 9.50  | 38 | 3.00  | 2030-1.40 | ■ |
| 1.41  | 7.05 | 9.50  | 38 | 3.00  | 2030-1.41 | ■ |
| 1.42  | 7.10 | 9.50  | 38 | 3.00  | 2030-1.42 | ■ |
| 1.43  | 7.15 | 9.50  | 38 | 3.00  | 2030-1.43 | ■ |
| 1.44  | 7.20 | 9.50  | 38 | 3.00  | 2030-1.44 | ■ |
| 1.45  | 7.25 | 9.50  | 38 | 3.00  | 2030-1.45 | ■ |
| 1.46  | 7.30 | 9.50  | 38 | 3.00  | 2030-1.46 | ■ |
| 1.47  | 7.35 | 9.50  | 38 | 3.00  | 2030-1.47 | ■ |
| 1.48  | 7.40 | 9.50  | 38 | 3.00  | 2030-1.48 | ■ |
| 1.49  | 7.45 | 9.50  | 38 | 3.00  | 2030-1.49 | ■ |
| 1.50  | 7.50 | 9.50  | 38 | 3.00  | 2030-1.50 | ■ |
| 1.51  | 7.55 | 10.50 | 38 | 3.00  | 2030-1.51 | ■ |
| 1.52  | 7.60 | 10.50 | 38 | 3.00  | 2030-1.52 | ■ |
| 1.53  | 7.65 | 10.50 | 38 | 3.00  | 2030-1.53 | ■ |
| 1.54  | 7.70 | 10.50 | 38 | 3.00  | 2030-1.54 | ■ |
| 1.55  | 7.75 | 10.50 | 38 | 3.00  | 2030-1.55 | ■ |
| 1.56  | 7.80 | 10.50 | 38 | 3.00  | 2030-1.56 | ■ |
| 1.57  | 7.85 | 10.50 | 38 | 3.00  | 2030-1.57 | ■ |
| 1.58  | 7.90 | 10.50 | 38 | 3.00  | 2030-1.58 | ■ |
| 1.59  | 7.95 | 10.50 | 38 | 3.00  | 2030-1.59 | ■ |
| 1.60  | 8.00 | 10.50 | 38 | 3.00  | 2030-1.60 | ■ |

| D1 h6 | L2    | L3    | L1 | D2 h6 | Art. N°   | z |
|-------|-------|-------|----|-------|-----------|---|
| 1.61  | 8.05  | 10.50 | 38 | 3.00  | 2030-1.61 | ■ |
| 1.62  | 8.10  | 10.50 | 38 | 3.00  | 2030-1.62 | ■ |
| 1.63  | 8.15  | 10.50 | 38 | 3.00  | 2030-1.63 | ■ |
| 1.64  | 8.20  | 10.50 | 38 | 3.00  | 2030-1.64 | ■ |
| 1.65  | 8.25  | 10.50 | 38 | 3.00  | 2030-1.65 | ■ |
| 1.66  | 8.30  | 10.50 | 38 | 3.00  | 2030-1.66 | ■ |
| 1.67  | 8.35  | 10.50 | 38 | 3.00  | 2030-1.67 | ■ |
| 1.68  | 8.40  | 10.50 | 38 | 3.00  | 2030-1.68 | ■ |
| 1.69  | 8.45  | 10.50 | 38 | 3.00  | 2030-1.69 | ■ |
| 1.70  | 8.50  | 10.50 | 38 | 3.00  | 2030-1.70 | ■ |
| 1.71  | 8.55  | 11.50 | 38 | 3.00  | 2030-1.71 | ■ |
| 1.72  | 8.60  | 11.50 | 38 | 3.00  | 2030-1.72 | ■ |
| 1.73  | 8.65  | 11.50 | 38 | 3.00  | 2030-1.73 | ■ |
| 1.74  | 8.70  | 11.50 | 38 | 3.00  | 2030-1.74 | ■ |
| 1.75  | 8.75  | 11.50 | 38 | 3.00  | 2030-1.75 | ■ |
| 1.76  | 8.80  | 11.50 | 38 | 3.00  | 2030-1.76 | ■ |
| 1.77  | 8.85  | 11.50 | 38 | 3.00  | 2030-1.77 | ■ |
| 1.78  | 8.90  | 11.50 | 38 | 3.00  | 2030-1.78 | ■ |
| 1.79  | 8.95  | 11.50 | 38 | 3.00  | 2030-1.79 | ■ |
| 1.80  | 9.00  | 11.50 | 38 | 3.00  | 2030-1.80 | ■ |
| 1.81  | 9.05  | 11.50 | 38 | 3.00  | 2030-1.81 | ■ |
| 1.82  | 9.10  | 11.50 | 38 | 3.00  | 2030-1.82 | ■ |
| 1.83  | 9.15  | 11.50 | 38 | 3.00  | 2030-1.83 | ■ |
| 1.84  | 9.20  | 11.50 | 38 | 3.00  | 2030-1.84 | ■ |
| 1.85  | 9.25  | 11.50 | 38 | 3.00  | 2030-1.85 | ■ |
| 1.86  | 9.30  | 11.50 | 38 | 3.00  | 2030-1.86 | ■ |
| 1.87  | 9.35  | 11.50 | 38 | 3.00  | 2030-1.87 | ■ |
| 1.88  | 9.40  | 11.50 | 38 | 3.00  | 2030-1.88 | ■ |
| 1.89  | 9.45  | 11.50 | 38 | 3.00  | 2030-1.89 | ■ |
| 1.90  | 9.50  | 11.50 | 38 | 3.00  | 2030-1.90 | ■ |
| 1.91  | 9.55  | 12.50 | 38 | 3.00  | 2030-1.91 | ■ |
| 1.92  | 9.60  | 12.50 | 38 | 3.00  | 2030-1.92 | ■ |
| 1.93  | 9.65  | 12.50 | 38 | 3.00  | 2030-1.93 | ■ |
| 1.94  | 9.70  | 12.50 | 38 | 3.00  | 2030-1.94 | ■ |
| 1.95  | 9.75  | 12.50 | 38 | 3.00  | 2030-1.95 | ■ |
| 1.96  | 9.80  | 12.50 | 38 | 3.00  | 2030-1.96 | ■ |
| 1.97  | 9.85  | 12.50 | 38 | 3.00  | 2030-1.97 | ■ |
| 1.98  | 9.90  | 12.50 | 38 | 3.00  | 2030-1.98 | ■ |
| 1.99  | 9.95  | 12.50 | 38 | 3.00  | 2030-1.99 | ■ |
| 2.00  | 10.00 | 12.50 | 38 | 3.00  | 2030-2.00 | ■ |
| 2.01  | 10.05 | 12.50 | 38 | 3.00  | 2030-2.01 | ■ |
| 2.02  | 10.10 | 12.50 | 38 | 3.00  | 2030-2.02 | ■ |
| 2.03  | 10.15 | 12.50 | 38 | 3.00  | 2030-2.03 | ■ |
| 2.04  | 10.20 | 12.50 | 38 | 3.00  | 2030-2.04 | ■ |
| 2.05  | 10.25 | 12.50 | 38 | 3.00  | 2030-2.05 | ■ |
| 2.06  | 10.30 | 12.50 | 38 | 3.00  | 2030-2.06 | ■ |
| 2.07  | 10.35 | 12.50 | 38 | 3.00  | 2030-2.07 | ■ |
| 2.08  | 10.40 | 12.50 | 38 | 3.00  | 2030-2.08 | ■ |
| 2.09  | 10.45 | 12.50 | 38 | 3.00  | 2030-2.09 | ■ |
| 2.10  | 10.50 | 12.50 | 38 | 3.00  | 2030-2.10 | ■ |
| 2.11  | 10.55 | 12.50 | 38 | 3.00  | 2030-2.11 | ■ |

## Micro-forets

## Mikrobohrer

## Micro drills

Ø 2.12 - Ø 2.99 mm

2030

| D1 h6 | L2    | L3    | L1 | D2 h6 | Art. N°   | z |
|-------|-------|-------|----|-------|-----------|---|
| 2.12  | 10.60 | 12.50 | 38 | 3.00  | 2030-2.12 | ■ |
| 2.13  | 10.65 | 12.50 | 38 | 3.00  | 2030-2.13 | ■ |
| 2.14  | 10.70 | 13.50 | 38 | 3.00  | 2030-2.14 | ■ |
| 2.15  | 10.75 | 13.50 | 38 | 3.00  | 2030-2.15 | ■ |
| 2.16  | 10.80 | 13.50 | 38 | 3.00  | 2030-2.16 | ■ |
| 2.17  | 10.85 | 13.50 | 38 | 3.00  | 2030-2.17 | ■ |
| 2.18  | 10.90 | 13.50 | 38 | 3.00  | 2030-2.18 | ■ |
| 2.19  | 10.95 | 13.50 | 38 | 3.00  | 2030-2.19 | ■ |
| 2.20  | 11.00 | 13.50 | 38 | 3.00  | 2030-2.20 | ■ |
| 2.21  | 11.05 | 13.50 | 38 | 3.00  | 2030-2.21 | ■ |
| 2.22  | 11.10 | 13.50 | 38 | 3.00  | 2030-2.22 | ■ |
| 2.23  | 11.15 | 13.50 | 38 | 3.00  | 2030-2.23 | ■ |
| 2.24  | 11.20 | 13.50 | 38 | 3.00  | 2030-2.24 | ■ |
| 2.25  | 11.25 | 13.50 | 38 | 3.00  | 2030-2.25 | ■ |
| 2.26  | 11.30 | 13.50 | 38 | 3.00  | 2030-2.26 | ■ |
| 2.27  | 11.35 | 13.50 | 38 | 3.00  | 2030-2.27 | ■ |
| 2.28  | 11.40 | 13.50 | 38 | 3.00  | 2030-2.28 | ■ |
| 2.29  | 11.45 | 13.50 | 38 | 3.00  | 2030-2.29 | ■ |
| 2.30  | 11.50 | 13.50 | 38 | 3.00  | 2030-2.30 | ■ |
| 2.31  | 11.55 | 13.50 | 38 | 3.00  | 2030-2.31 | ■ |
| 2.32  | 11.60 | 13.50 | 38 | 3.00  | 2030-2.32 | ■ |
| 2.33  | 11.65 | 13.50 | 38 | 3.00  | 2030-2.33 | ■ |
| 2.34  | 11.70 | 13.50 | 38 | 3.00  | 2030-2.34 | ■ |
| 2.35  | 11.75 | 13.50 | 38 | 3.00  | 2030-2.35 | ■ |
| 2.36  | 11.80 | 13.50 | 38 | 3.00  | 2030-2.36 | ■ |
| 2.37  | 11.85 | 14.50 | 38 | 3.00  | 2030-2.37 | ■ |
| 2.38  | 11.90 | 14.50 | 38 | 3.00  | 2030-2.38 | ■ |
| 2.39  | 11.95 | 14.50 | 38 | 3.00  | 2030-2.39 | ■ |
| 2.40  | 12.00 | 14.50 | 38 | 3.00  | 2030-2.40 | ■ |
| 2.41  | 12.05 | 14.50 | 38 | 3.00  | 2030-2.41 | ■ |
| 2.42  | 12.10 | 14.50 | 38 | 3.00  | 2030-2.42 | ■ |
| 2.43  | 12.15 | 14.50 | 38 | 3.00  | 2030-2.43 | ■ |
| 2.44  | 12.20 | 14.50 | 38 | 3.00  | 2030-2.44 | ■ |
| 2.45  | 12.25 | 14.50 | 38 | 3.00  | 2030-2.45 | ■ |
| 2.46  | 12.30 | 14.50 | 38 | 3.00  | 2030-2.46 | ■ |
| 2.47  | 12.35 | 14.50 | 38 | 3.00  | 2030-2.47 | ■ |
| 2.48  | 12.40 | 14.50 | 38 | 3.00  | 2030-2.48 | ■ |
| 2.49  | 12.45 | 14.50 | 38 | 3.00  | 2030-2.49 | ■ |
| 2.50  | 12.50 | 14.50 | 38 | 3.00  | 2030-2.50 | ■ |
| 2.51  | 12.55 | 14.50 | 38 | 3.00  | 2030-2.51 | ■ |
| 2.52  | 12.60 | 14.50 | 38 | 3.00  | 2030-2.52 | ■ |
| 2.53  | 12.65 | 14.50 | 38 | 3.00  | 2030-2.53 | ■ |
| 2.54  | 12.70 | 14.50 | 38 | 3.00  | 2030-2.54 | ■ |
| 2.55  | 12.75 | 14.50 | 38 | 3.00  | 2030-2.55 | ■ |
| 2.56  | 12.80 | 14.50 | 38 | 3.00  | 2030-2.56 | ■ |
| 2.57  | 12.85 | 14.50 | 38 | 3.00  | 2030-2.57 | ■ |
| 2.58  | 12.90 | 14.50 | 38 | 3.00  | 2030-2.58 | ■ |
| 2.59  | 12.95 | 14.50 | 38 | 3.00  | 2030-2.59 | ■ |
| 2.60  | 13.00 | 14.50 | 38 | 3.00  | 2030-2.60 | ■ |
| 2.61  | 13.05 | 14.50 | 38 | 3.00  | 2030-2.61 | ■ |
| 2.62  | 13.10 | 14.50 | 38 | 3.00  | 2030-2.62 | ■ |

| D1 h6 | L2    | L3    | L1 | D2 h6 | Art. N°   | z |
|-------|-------|-------|----|-------|-----------|---|
| 2.63  | 13.15 | 14.50 | 38 | 3.00  | 2030-2.63 | ■ |
| 2.64  | 13.20 | 14.50 | 38 | 3.00  | 2030-2.64 | ■ |
| 2.65  | 13.25 | 14.50 | 38 | 3.00  | 2030-2.65 | ■ |
| 2.66  | 13.30 | 16.50 | 38 | 3.00  | 2030-2.66 | ■ |
| 2.67  | 13.35 | 16.50 | 38 | 3.00  | 2030-2.67 | ■ |
| 2.68  | 13.40 | 16.50 | 38 | 3.00  | 2030-2.68 | ■ |
| 2.69  | 13.45 | 16.50 | 38 | 3.00  | 2030-2.69 | ■ |
| 2.70  | 13.50 | 16.50 | 38 | 3.00  | 2030-2.70 | ■ |
| 2.71  | 13.55 | 16.55 | 38 | 3.00  | 2030-2.71 | ■ |
| 2.72  | 13.60 | 16.50 | 38 | 3.00  | 2030-2.72 | ■ |
| 2.73  | 13.65 | 16.50 | 38 | 3.00  | 2030-2.73 | ■ |
| 2.74  | 13.70 | 16.50 | 38 | 3.00  | 2030-2.74 | ■ |
| 2.75  | 13.75 | 16.50 | 38 | 3.00  | 2030-2.75 | ■ |
| 2.76  | 13.80 | 16.50 | 38 | 3.00  | 2030-2.76 | ■ |
| 2.77  | 13.85 | 16.50 | 38 | 3.00  | 2030-2.77 | ■ |
| 2.78  | 13.90 | 16.50 | 38 | 3.00  | 2030-2.78 | ■ |
| 2.79  | 13.95 | 16.50 | 38 | 3.00  | 2030-2.79 | ■ |
| 2.80  | 14.00 | 16.50 | 38 | 3.00  | 2030-2.80 | ■ |
| 2.81  | 14.05 | 16.50 | 38 | 3.00  | 2030-2.81 | ■ |
| 2.82  | 14.10 | 16.50 | 38 | 3.00  | 2030-2.82 | ■ |
| 2.83  | 14.15 | 16.50 | 38 | 3.00  | 2030-2.83 | ■ |
| 2.84  | 14.20 | 16.50 | 38 | 3.00  | 2030-2.84 | ■ |
| 2.85  | 14.25 | 16.50 | 38 | 3.00  | 2030-2.85 | ■ |
| 2.86  | 14.30 | 16.50 | 38 | 3.00  | 2030-2.86 | ■ |
| 2.87  | 14.35 | 16.50 | 38 | 3.00  | 2030-2.87 | ■ |
| 2.88  | 14.40 | 16.50 | 38 | 3.00  | 2030-2.88 | ■ |
| 2.89  | 14.45 | 16.50 | 38 | 3.00  | 2030-2.89 | ■ |
| 2.90  | 14.50 | 16.50 | 38 | 3.00  | 2030-2.90 | ■ |
| 2.91  | 14.55 | 16.50 | 38 | 3.00  | 2030-2.91 | ■ |
| 2.92  | 14.60 | 16.50 | 38 | 3.00  | 2030-2.92 | ■ |
| 2.93  | 14.65 | 16.50 | 38 | 3.00  | 2030-2.93 | ■ |
| 2.94  | 14.70 | 16.50 | 38 | 3.00  | 2030-2.94 | ■ |
| 2.95  | 14.75 | 16.50 | 38 | 3.00  | 2030-2.95 | ■ |
| 2.96  | 14.80 | 16.50 | 38 | 3.00  | 2030-2.96 | ■ |
| 2.97  | 14.85 | 16.50 | 38 | 3.00  | 2030-2.97 | ■ |
| 2.98  | 14.90 | 16.50 | 38 | 3.00  | 2030-2.98 | ■ |
| 2.99  | 14.95 | 16.50 | 38 | 3.00  | 2030-2.99 | ■ |



<< MICRO-Line

<<< Main menu



# MICRO-LINE



## Informations techniques et symboles

## Technische Informationen und Symbole

## Technical information and symbols

60°  
90°  
120°

Angle  
Winkel  
Angle



Coins vifs  
Scharfkantige Ecken  
Sharp corners

$\lambda$  25°

Angle d'hélice  
Spiralwinkel  
Helix angle



Fraises hémisphériques  
Radiusfräser  
End mills with ball nose

$\lambda$  36°  
 $\lambda$  38°  
 $\lambda$  40°

Hélice différente  
Verschiedene Spirale  
Different propeller



Rayon de coin  
Eckradius  
Corner radius

$\lambda$   
35°/38°

Hélice progressive  
Progressive Spirale  
Progressiv propeller



Dents avec coupe centrale  
Zähne Zentrumschnitt  
Teeth center cutting

Z

Nombre de dents  
Anzahl der Zähne  
Number of teeth



Denture décalée  
Versetzte Verzahnung  
Alternated teeth

2xD1

Rapport longueur-diamètre  
Länge-Durchmesser Verhältnis  
Length to diameter ratio

DHD

Denture décalée hélice différente  
Versetzte Verzahnung unterschiedliche Spirale  
Alternated teeth different helix



Lèvres, affûtage à facettes  
Schneiden, Facettenschärfen  
Flutes, sharpening with facets



Denture décalée hélice progressive  
Versetzte Verzahnung progressive Spirale  
Alternated teeth progressive helix



Taillage demi-lune  
Kanonenbohrer Spitze  
Gundrills tip



Taillage renforcé 3/4  
3/4 genuteter Fräser  
3/4 straight fluted



Usinage radial, diagonal et axial  
Radiale, diagonale und axiale Bearbeitung  
Radial, diagonal and axial machining



Usinage radial et axial  
Radiale und axiale Bearbeitung  
Radial and axial machining

## Informations techniques et symboles

## Technische Informationen und Symbole

## Technical information and symbols

|                                                                               |                        |             |                                       |
|-------------------------------------------------------------------------------|------------------------|-------------|---------------------------------------|
| Diamètre outil<br>Werkzeughdurchmesser<br>Tool diameter                       | D (mm)                 |             |                                       |
| Nombre de dents<br>Zähnezahl<br>Number of teeth                               | Z                      |             |                                       |
| Profondeur de coupe<br>Schnitttiefe<br>Cutting depth                          | ap (mm)                |             |                                       |
| Largeur de coupe<br>Schnittbreite<br>Cutting width                            | ae (mm)                |             |                                       |
| Vitesse de coupe<br>Schnittgeschwindigkeit<br>Cutting speed                   | (m/min)                | <b>Vc =</b> | $\frac{D \times \pi \times n}{1000}$  |
| Nombre de tours<br>Umdrehungen<br>Rotations                                   | (U/min)                | <b>n =</b>  | $\frac{Vc \times 1000}{\pi \times D}$ |
| Avance par dent<br>Vorschub pro Zahn<br>Cutting feed per tooth                | (mm/tooth)             | <b>fz =</b> | $\frac{Vf}{n \times Z}$               |
| Vitesse d'avance<br>Vorschubgeschwindigkeit<br>Cutting feed                   | (mm/min)               | <b>Vf =</b> | <b>fz x Z x n</b>                     |
| Débit d'enlèvement de copeaux<br>Spanvolumen<br>Removal of cutting up shaving | (mm <sup>3</sup> /min) | <b>Q =</b>  | <b>ap x ae x Vf</b>                   |
| Avance par tour<br>Vorschub pro Umdrehung<br>Cutting feed per rotation        | (mm/U)                 | <b>f =</b>  | $\frac{Vf}{n}$                        |

Nos propositions techniques s'appliquent à la plupart des utilisations courantes.

N'hésitez pas à nous contacter pour des conseils plus précis.

Diese technische Empfehlungen gelten für die Mehrzahl der Standardanwendungen.

Unsere Techniker beraten Sie gerne für spezifische Anliegen.

These technical propositions apply to the majority of standard usages.

Do not hesitate to contact us for more specific advices.

APPLITEC



## Index

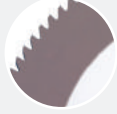
Définition du nombre de dents  
Empfohlene Zähnezahl  
Recommended number of teeth **> 15.02**

Conseils d'utilisation  
Anwendungsempfehlungen  
Application recommendations **> 15.03**

Fraises circulaires en métal dur – denture fine  
VHM-Kreissägeblätter – feine Verzahnung  
Solid carbide slitting saws – fine teeth **Type 1101**  **> 15.04**

Fraises circulaires en métal dur – denture grossière  
VHM-Kreissägeblätter – grobe Verzahnung  
Solid carbide slitting saws – large teeth **Type 1102**  **> 15.06**

Fraises circulaires en métal dur – denture extra-fine  
VHM-Kreissägeblätter – extra feine Verzahnung  
Solid carbide slitting saws – extra fine teeth **Type 1103**  **> 15.08**

Fraises circulaires en métal dur – denture INOX  
VHM-Kreissägeblätter – INOX Verzahnung  
Solid carbide slitting saws – INOX teeth **Type 1104**  **> 15.10**

Exécutions spéciales  
Sonderanfertigungen  
Special executions  **> 15.11**

Disques en métal dur rectifiés  
Fertig geschliffene VHM-Ronden  
Fully ground solid carbide discs **Type 1106**  **> 15.12**

Tasseaux porte-fraise avec serrage avant  
Fräsdorne mit Spannung von vorne  
Milling arbors with front clamping **Type 2810 / 2811 / 2815**  **> 15.16**

Tasseaux porte-fraise avec serrage arrière  
Fräsdorne mit Spannung von hinten  
Milling arbors with rear clamping **Type 2820 / 1820**  **> 15.17**

Définition du nombre de dents

Empfohlene Zähnezahl

Recommended number of teeth

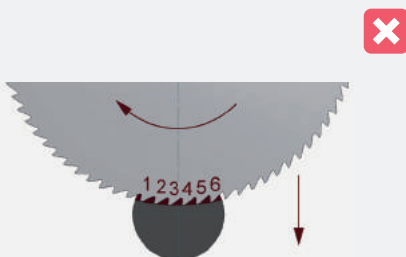
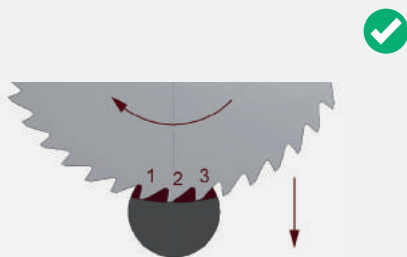
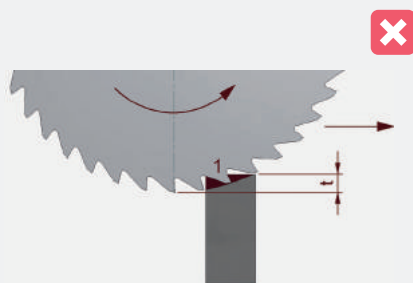
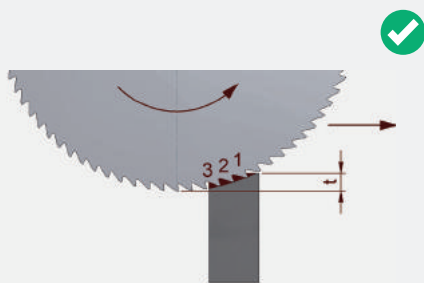
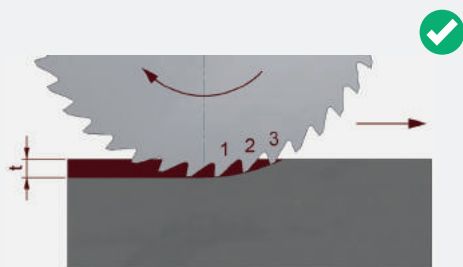
OK

Idéalement 2-3 dents en contact

Im Idealfall 2-3 Zähne im Einsatz

Ideally 2-3 teeth in contact

KO

**Trop de dents** = avance trop faible par dent /  
pas assez de place pour le copeau**Trop peu de dents** = risque de vibration /  
usure prématurée**Zu viele Zähne** = zu geringer Vorschub pro Zahn /  
zu kleiner Spanraum**Zu wenig Zähne** = Vibrationen / Verschleissrisiko**Too many teeth** = feed too low per tooth /  
not enough place for the chips**Not enough teeth** = vibration / risk of quick wearout

## Conseils d'utilisation

## Anwendungsempfehlungen

## Application recommendations

| Fraises circulaires en métal dur<br>VHM-Kreissägeblätter<br>Solid carbide slitting saws |                                     |               |                                                                                                                                                                                                                                                                                                                                                           |
|-----------------------------------------------------------------------------------------|-------------------------------------|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Matière<br>Werkstoff<br>Material                                                        | Lubrifiant*<br>Kühlung*<br>Coolant* | VC<br>(m/min) | Choix de la denture / avance<br>Verzahnungswahl / Vorschub<br>Teeth selection / cutting feed                                                                                                                                                                                                                                                              |
| Acier de décolletage<br>Automatenstahl<br>Free-cutting steel                            | <b>P</b>                            | 120 - 240     | <b>Type 1101 + 1104</b> <ul style="list-style-type: none"> <li>Pour usinage peu profond ou longueur à fendre faible.<br/>Avance par dent: 0.005-0.05**</li> <li>Für geringe Bearbeitungstiefen oder kurze Schlitzlängen.<br/>Vorschub pro Zahn: 0.005-0.05**</li> <li>For low machining depth or short slots.<br/>Feed per tooth: 0.005-0.05**</li> </ul> |
| Acier<br>Stahl<br>Steel < 600 N/mm <sup>2</sup>                                         | <b>P</b>                            | 100 - 200     |                                                                                                                                                                                                                                                                                                                                                           |
| Acier<br>Stahl<br>Steel < 800 N/mm <sup>2</sup>                                         | <b>P</b>                            | 80 - 160      |                                                                                                                                                                                                                                                                                                                                                           |
| Acier<br>Stahl<br>Steel < 1000 N/mm <sup>2</sup>                                        | <b>P</b>                            | 60 - 120      |                                                                                                                                                                                                                                                                                                                                                           |
| Acier<br>Stahl<br>Steel > 1000 N/mm <sup>2</sup>                                        | <b>P</b>                            | 40 - 80       |                                                                                                                                                                                                                                                                                                                                                           |
| Fonte<br>Gusseisen<br>Cast iron                                                         | <b>K</b>                            | 60 - 120      | <b>Type 1102</b> <ul style="list-style-type: none"> <li>Pour usinage profond ou grande longueur à fendre.<br/>Avance par dent: 0.01 - 0.1**</li> <li>Für grosse Bearbeitungstiefen oder grosse Schlitzlängen.<br/>Vorschub pro Zahn: 0.01 - 0.1**</li> <li>For deep machining or long slots. Feed per tooth: 0.01 - 0.1**</li> </ul>                      |
| Acier inoxydable<br>Rostfreistahl<br>Stainless steel                                    | <b>M</b>                            | 50 - 100      |                                                                                                                                                                                                                                                                                                                                                           |
| Aluminium Si < 12%                                                                      | <b>N</b>                            | 150 - 600     |                                                                                                                                                                                                                                                                                                                                                           |
| Aluminium Si > 12%                                                                      | <b>N</b>                            | 80 - 300      | <b>Type 1103</b> <ul style="list-style-type: none"> <li>Pour usinage de pièces fragiles ou fines.<br/>Avance par dent: 0.002-0.02**</li> <li>Für die Bearbeitung von empfindlichen oder dünnwandigen Werkstücken.<br/>Vorschub pro Zahn: 0.002-0.02**</li> <li>For machining of fragile or thin workpieces.<br/>Feed per tooth: 0.002-0.02**</li> </ul>   |
| Cuivre, laiton, bronze<br>Kupfer, Messing, Bronze<br>Copper, brass, bronze              | <b>N</b>                            | 80 - 300      |                                                                                                                                                                                                                                                                                                                                                           |
| Thermoplastique<br>Thermoplaste<br>Thermoplastics                                       | <b>N</b>                            | 200 - 700     |                                                                                                                                                                                                                                                                                                                                                           |
| Duroplastique<br>Duroplaste<br>Duroplastics                                             | <b>N</b>                            | 150 - 600     |                                                                                                                                                                                                                                                                                                                                                           |
| Acier réfractaire<br>Warmfester Stahl<br>Heat resistant steel                           | <b>S</b>                            | 25 - 60       |                                                                                                                                                                                                                                                                                                                                                           |
| Titane<br>Titan<br>Titanium                                                             | <b>S</b>                            | 30 - 60       | ** selon la matière, l'épaisseur ainsi que la rigidité globale<br>** je nach Werkstoff, Dicke und Gesamtstarrheit<br>** according to material, thickness and global rigidity                                                                                                                                                                              |

\* O = huile de coupe /Schneidöl / cutting oil

\* E = Emulsion

\* A = sec (air comprimé) / Trocken (Pressluft) / dry (air)

avec revêtement TiN / TiCN / TiAlN, augmenter les valeurs de 20%

mit TiN / TiCN / TiAlN Beschichtung, Daten um 20% erhöhen

with TiN / TiCN / TiAlN coating, increase data by 20%

Fraises circulaires en métal dur

VHM-Kreissägeblätter

Solid carbide slitting saws

Type 1101

Denture fine  
Feine Verzahnung  
Fine teeth

DIN 1837

- Pour usinage peu profond ou longueur à fendre faible

- Avance par dent:  
0.005 - 0.05 mm

- Revêtement sur demande

- Für geringe  
Bearbeitungstiefen oder  
kurze Schlitzlängen

- Vorschub pro Zahn:  
0.005 - 0.05 mm

- Beschichtung auf Anfrage

- For low machining depth  
or short slots

- Feed per tooth:  
0.005 - 0.05 mm

- Coating on request





Fraises circulaires en métal dur

VHM-Kreissägeblätter

Solid carbide slitting saws

Type 1101

| Denture fine<br>Feine Verzahnung<br>Fine teeth |                                                                  |    |    |     |     |     |     |     |     |     |                                            | DIN 1837 |
|------------------------------------------------|------------------------------------------------------------------|----|----|-----|-----|-----|-----|-----|-----|-----|--------------------------------------------|----------|
| D js12                                         | 15                                                               | 20 | 25 | 30  | 40  | 50  | 63  | 80  | 100 | 125 | 160                                        | D js12   |
| d H7                                           | 5                                                                | 5  | 8  | 8   | 10  | 13  | 16  | 22  | 22  | 22  | 32                                         | d H7     |
| Epaisseur<br>Dicke<br>Thickness<br>E ±0.01     | Z = <div>Nombre de dents<br/>Zähnezahl<br/>Number of teeth</div> |    |    |     |     |     |     |     |     |     | Epaisseur<br>Dicke<br>Thickness<br>E ±0.01 |          |
| 0.10                                           | 64                                                               | 80 | 80 | 100 | 128 |     |     |     |     |     |                                            | 0.10     |
| 0.15                                           | 64                                                               | 80 | 80 | 100 | 128 |     |     |     |     |     |                                            | 0.15     |
| 0.20                                           | 64                                                               | 80 | 80 | 100 | 128 | 128 | 160 |     |     |     |                                            | 0.20     |
| 0.25                                           | 64                                                               | 64 | 80 | 100 | 100 | 128 | 128 |     |     |     |                                            | 0.25     |
| 0.30                                           | 64                                                               | 64 | 80 | 80  | 100 | 128 | 128 | 160 |     |     |                                            | 0.30     |
| 0.35                                           | 64                                                               | 64 | 64 | 80  | 100 | 100 | 128 | 160 |     |     |                                            | 0.35     |
| 0.40                                           | 64                                                               | 64 | 64 | 80  | 100 | 100 | 128 | 160 |     |     |                                            | 0.40     |
| 0.45                                           | 48                                                               | 48 | 64 | 80  | 80  | 100 | 128 | 128 |     |     |                                            | 0.45     |
| 0.50                                           | 48                                                               | 48 | 64 | 80  | 80  | 100 | 128 | 128 | 160 |     |                                            | 0.50     |
| 0.60                                           | 48                                                               | 48 | 64 | 64  | 80  | 100 | 100 | 128 | 160 | 160 |                                            | 0.60     |
| 0.70                                           | 48                                                               | 48 | 48 | 64  | 80  | 80  | 100 | 128 | 128 | 160 |                                            | 0.70     |
| 0.80                                           | 40                                                               | 40 | 48 | 64  | 80  | 80  | 100 | 128 | 128 | 160 |                                            | 0.80     |
| 0.90                                           | 40                                                               | 40 | 48 | 64  | 64  | 80  | 100 | 100 | 128 | 160 |                                            | 0.90     |
| 1.00                                           | 40                                                               | 40 | 48 | 64  | 64  | 80  | 100 | 100 | 128 | 160 | 160                                        | 1.00     |
| 1.10                                           | 40                                                               | 40 | 48 | 48  | 64  | 80  | 80  | 100 | 128 | 128 |                                            | 1.10     |
| 1.20                                           | 40                                                               | 40 | 48 | 48  | 64  | 80  | 80  | 100 | 128 | 128 | 160                                        | 1.20     |
| 1.30                                           | 40                                                               | 40 | 40 | 48  | 64  | 64  | 80  | 100 | 100 |     |                                            | 1.30     |
| 1.40                                           | 40                                                               | 40 | 40 | 48  | 64  | 64  | 80  | 100 | 100 | 128 |                                            | 1.40     |
| 1.50                                           | 40                                                               | 40 | 40 | 48  | 64  | 64  | 80  | 100 | 100 | 128 | 160                                        | 1.50     |
| 1.60                                           | 40                                                               | 40 | 40 | 48  | 64  | 64  | 80  | 100 | 100 | 128 | 160                                        | 1.60     |
| 1.70                                           | 40                                                               | 32 | 40 | 48  | 48  | 64  | 80  | 80  | 100 |     |                                            | 1.70     |
| 1.80                                           | 40                                                               | 32 | 40 | 48  | 48  | 64  | 80  | 80  | 100 | 128 | 128                                        | 1.80     |
| 1.90                                           | 40                                                               | 32 | 40 | 48  | 48  | 64  | 80  | 80  | 100 |     |                                            | 1.90     |
| 2.00                                           | 40                                                               | 32 | 40 | 48  | 48  | 64  | 80  | 80  | 100 | 128 | 128                                        | 2.00     |
| 2.50                                           | 40                                                               | 32 | 40 | 40  | 48  | 64  | 64  | 80  | 100 | 100 | 128                                        | 2.50     |
| 3.00                                           | 40                                                               | 32 | 32 | 40  | 48  | 48  | 64  | 80  | 80  | 100 | 128                                        | 3.00     |
| 3.50                                           | 24                                                               | 24 | 32 | 40  | 40  | 48  | 64  | 64  | 80  | 100 |                                            | 3.50     |
| 4.00                                           | 24                                                               | 24 | 32 | 40  | 40  | 48  | 64  | 64  | 80  | 100 |                                            | 4.00     |
| 5.00                                           | 24                                                               | 24 | 32 | 32  | 40  | 48  | 48  | 64  | 80  | 100 |                                            | 5.00     |
| 6.00                                           | 24                                                               | 24 | 24 | 32  | 40  | 40  | 48  | 64  | 64  | 100 |                                            | 6.00     |

Fraises circulaires en métal dur

VHM-Kreissägeblätter

Solid carbide slitting saws

Type 1102

Denture grossière  
Grobe Verzahnung  
Large teeth

DIN 1838

- Pour usinage profond ou grande longueur à fendre
- Für grosse Bearbeitungstiefen oder grosse Schlitzlängen
- For deep machining or long slots
- Avance par dent: 0.01 - 0.1 mm
- Vorschub pro Zahn: 0.01 - 0.1 mm
- Feed per tooth: 0.01 - 0.1 mm
- Revêtement sur demande
- Beschichtung auf Anfrage
- Coating on request



Fraises circulaires en métal dur

VHM-Kreissägeblätter

Solid carbide slitting saws

Type 1102

| Denture grossière<br>Grobe Verzahnung<br>Large teeth |                                                                    |    |    |    |    |    |    |    |     |     |     | DIN 1838                                   |
|------------------------------------------------------|--------------------------------------------------------------------|----|----|----|----|----|----|----|-----|-----|-----|--------------------------------------------|
| D js12                                               | 15                                                                 | 20 | 25 | 30 | 40 | 50 | 63 | 80 | 100 | 125 | 160 | D js12                                     |
| d H7                                                 | 5                                                                  | 5  | 8  | 8  | 10 | 13 | 16 | 22 | 22  | 22  | 32  | d H7                                       |
| Epaisseur<br>Dicke<br>Thickness<br>E ±0.01           | $Z =$ <div>Nombre de dents<br/>Zähnezahl<br/>Number of teeth</div> |    |    |    |    |    |    |    |     |     |     | Epaisseur<br>Dicke<br>Thickness<br>E ±0.01 |
| 0.20                                                 | 20                                                                 | 20 | 20 | 30 | 40 |    |    |    |     |     |     | 0.20                                       |
| 0.25                                                 | 20                                                                 | 20 | 20 | 30 | 40 |    |    |    |     |     |     | 0.25                                       |
| 0.30                                                 | 20                                                                 | 20 | 20 | 30 | 40 |    |    |    |     |     |     | 0.30                                       |
| 0.40                                                 | 20                                                                 | 20 | 20 | 30 | 40 | 48 | 64 |    |     |     |     | 0.40                                       |
| 0.50                                                 | 20                                                                 | 20 | 20 | 30 | 40 | 48 | 64 |    |     |     |     | 0.50                                       |
| 0.60                                                 | 20                                                                 | 20 | 20 | 30 | 40 | 48 | 48 | 64 | 80  |     |     | 0.60                                       |
| 0.70                                                 | 20                                                                 | 20 | 20 | 30 | 40 | 40 | 48 | 64 | 64  |     |     | 0.70                                       |
| 0.80                                                 | 20                                                                 | 20 | 20 | 24 | 32 | 40 | 48 | 64 | 64  | 80  |     | 0.80                                       |
| 0.90                                                 | 20                                                                 | 20 | 20 | 24 | 32 | 40 | 48 | 48 | 64  | 80  |     | 0.90                                       |
| 1.00                                                 | 20                                                                 | 20 | 20 | 24 | 32 | 40 | 48 | 48 | 64  | 80  | 80  | 1.00                                       |
| 1.20                                                 | 20                                                                 | 20 | 20 | 24 | 32 | 40 | 40 | 48 | 64  | 64  | 80  | 1.20                                       |
| 1.50                                                 | 20                                                                 | 20 | 20 | 24 | 32 | 32 | 40 | 48 | 48  | 64  | 80  | 1.50                                       |
| 1.60                                                 | 20                                                                 | 20 | 20 | 24 | 32 | 32 | 40 | 48 | 48  | 64  |     | 1.60                                       |
| 1.80                                                 | 20                                                                 | 20 | 20 | 24 | 24 | 32 | 40 | 40 | 48  | 64  |     | 1.80                                       |
| 2.00                                                 | 20                                                                 | 20 | 20 | 24 | 24 | 32 | 40 | 40 | 48  | 64  | 80  | 2.00                                       |
| 2.50                                                 | 20                                                                 | 20 | 20 | 24 | 24 | 32 | 32 | 40 | 48  | 48  | 80  | 2.50                                       |
| 3.00                                                 | 20                                                                 | 20 | 20 | 24 | 24 | 24 | 32 | 40 | 40  | 48  | 64  | 3.00                                       |
| 4.00                                                 | 20                                                                 | 20 | 20 | 24 | 20 | 24 | 32 | 32 | 40  | 48  |     | 4.00                                       |
| 5.00                                                 | 20                                                                 | 20 | 20 | 24 | 20 | 24 | 24 | 32 | 40  | 40  |     | 5.00                                       |
| 6.00                                                 | 20                                                                 | 20 | 20 | 24 | 20 | 20 | 24 | 32 | 32  | 40  |     | 6.00                                       |

Fraises circulaires en métal dur

VHM-Kreissägeblätter

Solid carbide slitting saws

Type 1103

Denture extra-fine

Extra feine Verzahnung

Extra fine teeth

- Pour usinage de pièces fragiles ou fines
  - Avance par dent: 0.002 - 0.03 mm
  - Idéal pour le décolletage
  - Revêtement sur demande
- Für die Bearbeitung von empfindlichen oder dünnwandigen Werkstücken
  - Vorschub pro Zahn: 0.002 - 0.03 mm
  - Für Langdrehautomaten besonders empfehlenswert
  - Beschichtung auf Anfrage
- For machining of fragile or thin workpieces
  - Feed per tooth: 0.002 - 0.03 mm
  - Recommended on automatic lathes
  - Coating on request



| Denture extra-fine<br>Extra feine Verzahnung<br>Extra fine teeth |                                                        |    |    |    |                                             |
|------------------------------------------------------------------|--------------------------------------------------------|----|----|----|---------------------------------------------|
| D js12                                                           | 8                                                      | 10 | 12 | 15 | D js12                                      |
| d H7                                                             | 3                                                      | 3  | 5  | 5  | d H7                                        |
| Epaisseur<br>Dicke<br>Thickness<br>E ±0.005                      | Z =<br>Nombre de dents<br>Zähnezahl<br>Number of teeth |    |    |    | Epaisseur<br>Dicke<br>Thickness<br>E ±0.005 |
| 0.10                                                             | 48                                                     | 64 | 64 | 80 | 0.10                                        |
| 0.11                                                             | 48                                                     | 64 | 64 | 80 | 0.11                                        |
| 0.12                                                             | 48                                                     | 64 | 64 | 80 | 0.12                                        |
| 0.13                                                             | 48                                                     | 64 | 64 | 80 | 0.13                                        |
| 0.14                                                             | 48                                                     | 64 | 64 | 80 | 0.14                                        |
| 0.15                                                             | 48                                                     | 64 | 64 | 80 | 0.15                                        |
| 0.16                                                             | 48                                                     | 64 | 64 | 80 | 0.16                                        |
| 0.17                                                             | 48                                                     | 64 | 64 | 80 | 0.17                                        |
| 0.18                                                             | 48                                                     | 64 | 64 | 80 | 0.18                                        |
| 0.19                                                             | 48                                                     | 64 | 64 | 80 | 0.19                                        |
| 0.20                                                             | 48                                                     | 64 | 64 | 80 | 0.20                                        |

## Fraises circulaires en métal dur

## VHM-Kreissägeblätter

## Solid carbide slitting saws

## Type 1103

| Denture extra-fine<br>Extra feine Verzahnung<br>Extra fine teeth |                                                                        |    |    |    |    |    |     |    |    |     |     |        |                                            |
|------------------------------------------------------------------|------------------------------------------------------------------------|----|----|----|----|----|-----|----|----|-----|-----|--------|--------------------------------------------|
| D js12                                                           | 8                                                                      | 10 | 12 | 15 | 20 | 20 | 20  | 25 | 25 | 25  | 30  | 32     | D js12                                     |
| d H7                                                             | 3                                                                      | 3  | 5  | 5  | 5  | 5  | 6   | 5  | 6  | 8   | 8   | 8      | d H7                                       |
| Epaisseur<br>Dicke<br>Thickness<br>E ±0.01                       | $Z =$ <div> Nombre de dents<br/> Zähnezahl<br/> Number of teeth </div> |    |    |    |    |    |     |    |    |     |     |        | Epaisseur<br>Dicke<br>Thickness<br>E ±0.01 |
| 0.10                                                             | **                                                                     | ** | ** | ** |    |    | 100 | 80 | 80 |     |     |        | 0.10                                       |
| 0.15                                                             | **                                                                     | ** | ** | ** |    |    | 100 | 80 | 80 | 100 | 100 | 80     | 0.15                                       |
| 0.20                                                             | **                                                                     | ** | ** | ** | *  |    | 100 | 80 | 80 | 100 | 100 | * 80   | 0.20                                       |
| 0.25                                                             | 48                                                                     | 64 | 64 | 80 | 80 |    | 100 | 80 | 80 | 100 | 100 | * 80   | 0.25                                       |
| 0.30                                                             | 48                                                                     | 64 | 64 | 80 | 80 |    |     | 80 | 80 | 100 | 100 | 100 80 | 0.30                                       |
| 0.35                                                             | 48                                                                     | 64 | 64 | 80 | 80 |    |     | 80 | 80 | 100 | 100 | 100 80 | 0.35                                       |
| 0.40                                                             | 48                                                                     | 64 | 64 | 80 | 80 |    | 100 | 80 | 80 | 100 | 100 | 100 80 | 0.40                                       |
| 0.50                                                             | 48                                                                     | 64 | 64 | 80 | 80 |    | 100 | 80 | 80 | 100 | 100 | 100 80 | 0.50                                       |
| 0.60                                                             | 48                                                                     | 64 | 64 | 80 | 80 |    |     | 80 | 80 | 100 | 100 | 100 80 | 0.60                                       |
| 0.70                                                             | 48                                                                     | 64 | 64 | 80 | 80 |    |     | 80 | 80 | 100 | 100 | 100 80 | 0.70                                       |
| 0.80                                                             | 48                                                                     | 64 | 64 | 80 | 80 |    |     | 80 | 80 | 100 | 100 | 100 80 | 0.80                                       |
| 0.90                                                             | 48                                                                     | 64 | 64 | 80 | 80 |    |     | 80 | 80 | 100 | 100 | 100 80 | 0.90                                       |
| 1.00                                                             | 48                                                                     | 64 | 64 | 80 | 80 |    |     | 80 | 80 | 100 | 100 | 100 80 | 1.00                                       |
| 1.20                                                             |                                                                        |    |    | 80 | 80 |    |     | 80 | 80 | 100 | 100 | 100 80 | 1.20                                       |
| 1.50                                                             |                                                                        |    |    | 80 | 80 |    |     | 80 | 80 | 100 | 100 | 100 80 | 1.50                                       |
| 2.00                                                             |                                                                        |    |    | 80 | 80 |    |     | 80 | 80 | 100 | 100 | 100 80 | 2.00                                       |
| 2.50                                                             |                                                                        |    |    | 80 | 80 |    |     | 80 | 80 | 100 | 100 | 100 80 | 2.50                                       |
| 3.00                                                             |                                                                        |    |    | 80 | 80 |    |     | 80 | 80 | 100 | 100 | 100 80 | 3.00                                       |

| D js12 | 35 | 40  | 40  | 40  | 40  | 45  | 45  | 50  | 50  | 63  | 80  | D js12 |
|--------|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--------|
| d H7   | 8  | 8   | 8   | 10  | 10  | 8   | 8   | 10  | 13  | 16  | 16  | d H7   |
| 0.10   |    |     |     |     |     |     |     |     |     |     |     | 0.10   |
| 0.15   | 96 | 100 | 160 | 100 | 160 | 100 | 160 |     |     |     |     | 0.15   |
| 0.20   | 96 | 100 | 160 | 100 | 160 | 100 | 160 | 100 |     |     |     | 0.20   |
| 0.25   | 96 | 100 | 160 | *   | 160 | 100 | 160 | 100 | 120 | 120 |     | 0.25   |
| 0.30   | 96 | 100 | 160 | *   | 160 | 100 | 160 | 100 | 120 | 120 |     | 0.30   |
| 0.35   | 96 | 100 | 160 | *   | 160 | 100 | 160 | 100 | 120 | 120 |     | 0.35   |
| 0.40   | 96 | 100 | 160 | *   | 160 | 100 | 160 | 100 | 120 | 120 |     | 0.40   |
| 0.50   | 96 | 100 | 160 | 100 | 160 | 100 | 160 | 100 | 120 | 120 | 128 | 0.50   |
| 0.60   | 96 | 100 | 160 | 100 | 160 | 100 | 160 | 100 | 120 | 120 | 128 | 0.60   |
| 0.70   | 96 | 100 | 160 | 100 | 160 | 100 | 160 | 100 | 120 | 120 | 128 | 0.70   |
| 0.80   | 96 | 100 | 160 | 100 | 160 | 100 | 160 | 100 | 120 | 120 | 128 | 0.80   |
| 0.90   | 96 | 100 | 160 | 100 | 160 | 100 | 160 | 100 | 120 | 120 | 128 | 0.90   |
| 1.00   | 96 | 100 | 160 | 100 | 160 | 100 | 160 | 100 | 120 | 120 | 128 | 1.00   |
| 1.20   | 96 | 100 | 160 | 100 | 160 | 100 | 160 | 100 | 120 | 120 | 128 | 1.20   |
| 1.50   | 96 | 100 | 160 | 100 | 160 | 100 | 160 | 100 | 120 | 120 | 128 | 1.50   |
| 2.00   | 96 | 100 | 160 | 100 | 160 | 100 | 160 | 100 | 120 | 120 | 128 | 2.00   |
| 2.50   | 96 | 100 | 160 | 100 | 160 | 100 | 160 | 100 | 120 | 120 | 128 | 2.50   |
| 3.00   | 96 | 100 | 160 | 100 | 160 | 100 | 160 | 100 | 120 | 120 | 128 | 3.00   |

\*\* voir page 15.08 / siehe Seite 15.08 / see page 15.08

\* voir type 1101 / siehe Typ 1101 / see type 1101

Fraises circulaires en métal dur

VHM-Kreissägeblätter

Solid carbide slitting saws

Type 1104

Denture fine  
Feine Verzahnung  
Fine teeth

DIN 1837

- Pour usinage peu profond ou longueur à fendre faible

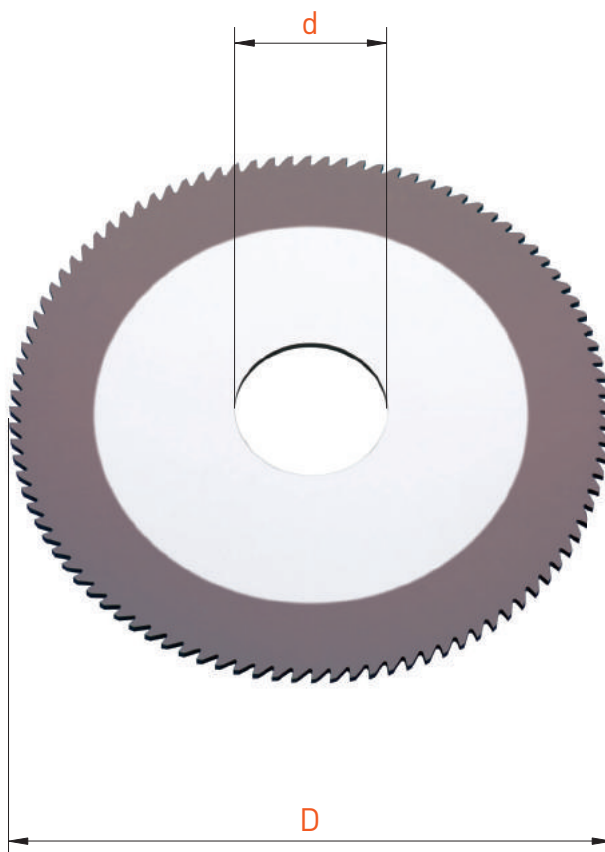
- Avance par dent:  
0.005 - 0.05 mm

- Für geringe Bearbeitungstiefen oder kurze Schlitzlängen

- Vorschub pro Zahn:  
0.005 - 0.05 mm

- For low machining depth or short slots

- Feed per tooth:  
0.005 - 0.05 mm



Fraises circulaires en métal dur

VHM-Kreissägeblätter

Solid carbide slitting saws

Type 1104

| Denture INOX<br>INOX Verzahnung<br>INOX teeth |                                                        |     |     | DIN 1837                                   |         |
|-----------------------------------------------|--------------------------------------------------------|-----|-----|--------------------------------------------|---------|
| D js12                                        | 63                                                     | 80  | 100 | D js12                                     | MAXINOX |
| d H7                                          | 16                                                     | 22  | 22  | d H7                                       |         |
| Epaisseur<br>Dicke<br>Thickness<br>E ±0.01    | Z =<br>Nombre de dents<br>Zähnezahl<br>Number of teeth |     |     | Epaisseur<br>Dicke<br>Thickness<br>E ±0.01 |         |
| 0.80                                          | 80                                                     | 100 | 120 | 0.80                                       | ■       |
| 1.00                                          | 80                                                     | 100 | 120 | 1.00                                       | ■       |

Exécutions spéciales

Sonderanfertigungen

Special executions

- Denture forme B
- Denture forme W
- Train de fraises
- Alésage avec entrée de clavette
- Autres exécutions spéciales sur demande
- Revêtement sur demande

- B Zahnform
- W Zahnform
- Spezielle Kreissägeblätter im Satz
- Bohrung mit Keilnute
- Andere Sonderanfertigungen auf Anfrage
- Beschichtung auf Anfrage

- Tooth form B
- Tooth form W
- Special slitting saws in set
- Bore with keyway
- Other special executions on request
- Coating on request

**Disques en métal dur rectifiés****Fertig geschliffene VHM-Ronden****Fully ground solid carbide discs****Type 1106**

**Prêt pour le taillage de la denture**  
**Bereit zum Verzahnen**  
**Ready for teeth grinding**

- Finition poli miroir des deux faces avec dépouille
- Alésage tolérance H7
- Diamètre surdimensionné ~0.15 mm

- Hochglanz Seiten mit Hohlchliff
- H7 Bohrung Toleranz
- Aussendurchmesser mit ~0.15 mm Übermass

- Mirror finish on both sides with clearance
- Bore with H7 tolerance
- Outside diameter with ~0.15 mm oversize





Disques en métal dur rectifiés

Fertig geschliffene VHM-Ronden

Fully ground solid carbide discs

Ø 8-35 mm

Type 1106

| Prêt pour le taillage de la denture<br>Bereit zum Verzählen<br>Ready for teeth grinding |                                                                                                                                  |    |    |    |    |    |    |    |    |    |    |    |                                            |
|-----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|----|----|----|----|----|----|----|----|----|----|----|--------------------------------------------|
| D +0.15/0                                                                               | 8                                                                                                                                | 10 | 12 | 15 | 20 | 20 | 25 | 25 | 25 | 30 | 32 | 35 | D ±0.15                                    |
| d H7                                                                                    | 3                                                                                                                                | 3  | 5  | 5  | 5  | 6  | 5  | 6  | 8  | 8  | 8  | 8  | d H7                                       |
| Epaisseur<br>Dicke<br>Thickness<br>E ±0.01                                              | Epaisseurs et alésages spéciaux sur demande<br>Andere Dicken und Bohrungen auf Anfrage<br>Other thicknesses and bores on request |    |    |    |    |    |    |    |    |    |    |    | Epaisseur<br>Dicke<br>Thickness<br>E ±0.01 |
| 0.10                                                                                    | ■                                                                                                                                | ■  | ■  | ■  | ■  | ■  | ■  | ■  | ■  | ■  |    |    | 0.10                                       |
| 0.15                                                                                    | ■                                                                                                                                | ■  | ■  | ■  | ■  | ■  | ■  | ■  | ■  | ■  | ■  | ■  | 0.15                                       |
| 0.20                                                                                    | ■                                                                                                                                | ■  | ■  | ■  | ■  | ■  | ■  | ■  | ■  | ■  | ■  | ■  | 0.20                                       |
| 0.25                                                                                    | ■                                                                                                                                | ■  | ■  | ■  | ■  | ■  | ■  | ■  | ■  | ■  | ■  | ■  | 0.25                                       |
| 0.30                                                                                    | ■                                                                                                                                | ■  | ■  | ■  | ■  | ■  | ■  | ■  | ■  | ■  | ■  | ■  | 0.30                                       |
| 0.35                                                                                    | ■                                                                                                                                | ■  | ■  | ■  | ■  | ■  | ■  | ■  | ■  | ■  | ■  | ■  | 0.35                                       |
| 0.40                                                                                    | ■                                                                                                                                | ■  | ■  | ■  | ■  | ■  | ■  | ■  | ■  | ■  | ■  | ■  | 0.40                                       |
| 0.45                                                                                    | □                                                                                                                                | □  | □  | ■  | ■  | ■  | ■  | □  | ■  | ■  | □  | ■  | 0.45                                       |
| 0.50                                                                                    | ■                                                                                                                                | ■  | ■  | ■  | ■  | ■  | ■  | ■  | ■  | ■  | ■  | ■  | 0.50                                       |
| 0.60                                                                                    | ■                                                                                                                                | ■  | ■  | ■  | ■  | ■  | ■  | ■  | ■  | ■  | ■  | ■  | 0.60                                       |
| 0.70                                                                                    | ■                                                                                                                                | ■  | ■  | ■  | ■  | ■  | ■  | ■  | ■  | ■  | ■  | ■  | 0.70                                       |
| 0.80                                                                                    | ■                                                                                                                                | ■  | ■  | ■  | ■  | ■  | ■  | ■  | ■  | ■  | ■  | ■  | 0.80                                       |
| 0.90                                                                                    | ■                                                                                                                                | ■  | ■  | ■  | ■  | ■  | ■  | ■  | ■  | ■  | ■  | ■  | 0.90                                       |
| 1.00                                                                                    | ■                                                                                                                                | ■  | ■  | ■  | ■  | ■  | ■  | ■  | ■  | ■  | ■  | ■  | 1.00                                       |
| 1.10                                                                                    |                                                                                                                                  |    | □  | ■  | ■  | □  | □  | □  | ■  | ■  | □  | □  | 1.10                                       |
| 1.20                                                                                    |                                                                                                                                  |    | □  | ■  | ■  | ■  | ■  | ■  | ■  | ■  | ■  | ■  | 1.20                                       |
| 1.30                                                                                    |                                                                                                                                  |    | □  | ■  | ■  | □  | □  | □  | ■  | ■  | □  | □  | 1.30                                       |
| 1.40                                                                                    |                                                                                                                                  |    | □  | ■  | ■  | □  | □  | □  | ■  | ■  | □  | □  | 1.40                                       |
| 1.50                                                                                    |                                                                                                                                  |    | ■  | ■  | ■  | ■  | ■  | ■  | ■  | ■  | ■  | ■  | 1.50                                       |
| 1.60                                                                                    |                                                                                                                                  |    |    | ■  | ■  | □  | □  | □  | ■  | ■  | □  | □  | 1.60                                       |
| 1.70                                                                                    |                                                                                                                                  |    |    | ■  | ■  | □  | □  | □  | ■  | ■  | □  | □  | 1.70                                       |
| 1.80                                                                                    |                                                                                                                                  |    |    | ■  | ■  | □  | □  | □  | ■  | ■  | □  | □  | 1.80                                       |
| 1.90                                                                                    |                                                                                                                                  |    |    | ■  | ■  | □  | □  | □  | ■  | ■  | □  | □  | 1.90                                       |
| 2.00                                                                                    |                                                                                                                                  |    |    | ■  | ■  | ■  | ■  | ■  | ■  | ■  | ■  | ■  | 2.00                                       |
| 2.50                                                                                    |                                                                                                                                  |    |    | ■  | ■  | ■  | ■  | ■  | ■  | ■  | ■  | ■  | 2.50                                       |
| 3.00                                                                                    |                                                                                                                                  |    |    | ■  | ■  | ■  | ■  | ■  | ■  | ■  | ■  | ■  | 3.00                                       |
| 3.50                                                                                    |                                                                                                                                  |    |    | □  | □  |    |    |    | □  | □  |    |    | 3.50                                       |
| 4.00                                                                                    |                                                                                                                                  |    |    | □  | □  |    |    |    | □  | □  |    |    | 4.00                                       |
| 5.00                                                                                    |                                                                                                                                  |    |    | □  | □  |    |    |    | □  | □  |    |    | 5.00                                       |
| 6.00                                                                                    |                                                                                                                                  |    |    | □  | □  |    |    |    | □  | □  |    |    | 6.00                                       |

**Disques en métal dur rectifiés****Fertig geschliffene VHM-Ronden****Fully ground solid carbide discs****Type 1106**

**Prêt pour le taillage de la denture**  
**Bereit zum Verzahnen**  
**Ready for teeth grinding**

- Finition poli miroir des deux faces avec dépouille
- Alésage tolérance H7
- Diamètre surdimensionné ~0.15 mm

- Hochglanz Seiten mit Hohl-schliff
- H7 Bohrung Toleranz
- Aussendurchmesser mit ~0.15 mm Übermass

- Mirror finish on both sides with clearance
- Bore with H7 tolerance
- Outside diameter with ~0.15 mm oversize



Disques en métal dur rectifiés

Fertig geschliffene VHM-Ronden

Fully ground solid carbide discs

Ø 40-160 mm

Type 1106

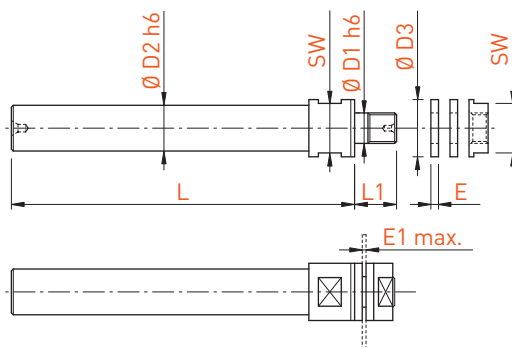
| Prêt pour le taillage de la denture<br>Bereit zum Verzahnen<br>Ready for teeth grinding |                                                                                                                                  |    |    |    |    |    |    |    |     |     |     |     |                                            |
|-----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|----|----|----|----|----|----|----|-----|-----|-----|-----|--------------------------------------------|
| D +0.15/0                                                                               | 40                                                                                                                               | 40 | 45 | 50 | 50 | 63 | 80 | 80 | 100 | 125 | 160 | 160 | D ±0.15                                    |
| d H7                                                                                    | 8                                                                                                                                | 10 | 8  | 10 | 13 | 16 | 16 | 22 | 22  | 22  | 22  | 32  | d H7                                       |
| Epaisseur<br>Dicke<br>Thickness<br>E ±0.01                                              | Epaisseurs et alésages spéciaux sur demande<br>Andere Dicken und Bohrungen auf Anfrage<br>Other thicknesses and bores on request |    |    |    |    |    |    |    |     |     |     |     | Epaisseur<br>Dicke<br>Thickness<br>E ±0.01 |
| 0.10                                                                                    |                                                                                                                                  | ■  |    |    |    |    |    |    |     |     |     |     | 0.10                                       |
| 0.15                                                                                    | ■                                                                                                                                | ■  | ■  |    |    |    |    |    |     |     |     |     | 0.15                                       |
| 0.20                                                                                    | ■                                                                                                                                | ■  | ■  | ■  | ■  | ■  |    |    |     |     |     |     | 0.20                                       |
| 0.25                                                                                    | ■                                                                                                                                | ■  | ■  | ■  | ■  | ■  |    |    |     |     |     |     | 0.25                                       |
| 0.30                                                                                    | ■                                                                                                                                | ■  | ■  | ■  | ■  | ■  |    | ■  |     |     |     |     | 0.30                                       |
| 0.35                                                                                    | ■                                                                                                                                | ■  | ■  | ■  | ■  | ■  |    | ■  |     |     |     |     | 0.35                                       |
| 0.40                                                                                    | ■                                                                                                                                | ■  | ■  | ■  | ■  | ■  |    | ■  |     |     |     |     | 0.40                                       |
| 0.45                                                                                    | ■                                                                                                                                | ■  | □  | □  | ■  | ■  |    | ■  |     |     |     |     | 0.45                                       |
| 0.50                                                                                    | ■                                                                                                                                | ■  | ■  | ■  | ■  | ■  | ■  | ■  | □   |     |     |     | 0.50                                       |
| 0.60                                                                                    | ■                                                                                                                                | ■  | ■  | ■  | ■  | ■  | ■  | ■  | □   | □   |     |     | 0.60                                       |
| 0.70                                                                                    | ■                                                                                                                                | ■  | ■  | ■  | ■  | ■  | ■  | ■  | □   | □   |     |     | 0.70                                       |
| 0.80                                                                                    | ■                                                                                                                                | ■  | ■  | ■  | ■  | ■  | ■  | ■  | □   | □   |     |     | 0.80                                       |
| 0.90                                                                                    | ■                                                                                                                                | ■  | ■  | ■  | ■  | ■  | ■  | ■  | □   | □   |     |     | 0.90                                       |
| 1.00                                                                                    | ■                                                                                                                                | ■  | ■  | ■  | ■  | ■  | ■  | ■  | □   | □   |     | □   | 1.00                                       |
| 1.10                                                                                    | □                                                                                                                                | ■  | □  | □  | ■  | ■  | □  | ■  | □   | □   |     | □   | 1.10                                       |
| 1.20                                                                                    | ■                                                                                                                                | ■  | ■  | ■  | ■  | ■  | ■  | ■  | □   | □   | □   | □   | 1.20                                       |
| 1.30                                                                                    | ■                                                                                                                                | ■  | □  | □  | ■  | ■  | □  | ■  | □   | □   |     | □   | 1.30                                       |
| 1.40                                                                                    | ■                                                                                                                                | ■  | □  | □  | ■  | ■  | □  | ■  | □   | □   |     | □   | 1.40                                       |
| 1.50                                                                                    | ■                                                                                                                                | ■  | ■  | ■  | ■  | ■  | ■  | ■  | □   | □   | □   | □   | 1.50                                       |
| 1.60                                                                                    | □                                                                                                                                | ■  | □  | □  | ■  | ■  | □  | □  | □   | □   |     | □   | 1.60                                       |
| 1.70                                                                                    | □                                                                                                                                | ■  | □  | □  | ■  | ■  | □  | □  | □   | □   |     | □   | 1.70                                       |
| 1.80                                                                                    | □                                                                                                                                | ■  | □  | □  | ■  | ■  | □  | □  | □   | □   |     | □   | 1.80                                       |
| 1.90                                                                                    | □                                                                                                                                | ■  | □  | □  | ■  | ■  | □  | □  | □   | □   |     | □   | 1.90                                       |
| 2.00                                                                                    | ■                                                                                                                                | ■  | ■  | ■  | ■  | ■  | □  | □  | □   | □   |     | □   | 2.00                                       |
| 2.50                                                                                    | ■                                                                                                                                | ■  | ■  | ■  | ■  | ■  | □  | □  | □   | □   |     | □   | 2.50                                       |
| 3.00                                                                                    | ■                                                                                                                                | ■  | ■  | ■  | ■  | ■  | □  | □  | □   | □   |     | □   | 3.00                                       |
| 3.50                                                                                    |                                                                                                                                  | □  |    |    | □  | □  |    | □  | □   | □   |     |     | 3.50                                       |
| 4.00                                                                                    |                                                                                                                                  | □  |    |    | □  | □  |    | □  | □   | □   |     |     | 4.00                                       |
| 5.00                                                                                    |                                                                                                                                  | □  |    |    | □  | □  |    | □  | □   | □   |     |     | 5.00                                       |
| 6.00                                                                                    |                                                                                                                                  | □  |    |    | □  | □  |    | □  | □   | □   |     |     | 6.00                                       |

Tasseaux porte-fraise avec serrage avant

Fräsdorne mit Spannung von vorne

Milling arbors with front clamping

## Type 2810 / 2811 / 2815



| Type 2810 | Rotation à droite (filet à droite)<br>Drehrichtung rechts (Rechtsgewinde)<br>Right hand rotation (right hand thread) |      |     |      |     |      |         |            |
|-----------|----------------------------------------------------------------------------------------------------------------------|------|-----|------|-----|------|---------|------------|
| D1 h6     | D2 h6                                                                                                                | D3   | L   | L1   | E   | SW   | E1 max. | Art. N°    |
| 5.0       | 6.0                                                                                                                  | 10.0 | 70  | 9.0  | 2.0 | 8.0  | 6.0     | 2810-5-6   |
| 5.0       | 10.0                                                                                                                 | 10.0 | 80  | 9.0  | 2.0 | 8.0  | 6.0     | 2810-5-10  |
| 6.0       | 10.0                                                                                                                 | 12.0 | 80  | 9.5  | 2.0 | 10.0 | 6.0     | 2810-6-10  |
| 8.0       | 10.0                                                                                                                 | 15.0 | 80  | 10.0 | 2.0 | 13.0 | 6.0     | 2810-8-10  |
| 8.0       | 12.0                                                                                                                 | 15.0 | 90  | 10.0 | 2.0 | 13.0 | 6.0     | 2810-8-12  |
| 10.0      | 6.0                                                                                                                  | 18.0 | 80  | 10.5 | 2.0 | 15.0 | 6.0     | 2810-10-6  |
| 10.0      | 10.0                                                                                                                 | 18.0 | 80  | 10.5 | 2.0 | 15.0 | 6.0     | 2810-10-10 |
| 10.0      | 16.0                                                                                                                 | 18.0 | 100 | 10.5 | 2.0 | 15.0 | 6.0     | 2810-10-16 |
| 13.0      | 16.0                                                                                                                 | 22.0 | 110 | 11.0 | 2.0 | 19.0 | 6.0     | 2810-13-16 |
| 16.0      | 20.0                                                                                                                 | 26.0 | 120 | 12.0 | 2.0 | 22.0 | 6.0     | 2810-16-20 |
| 22.0      | 16.0                                                                                                                 | 32.0 | 120 | 12.0 | 2.0 | 27.0 | 6.0     | 2810-22-16 |

| Type 2811 | Rotation à droite (filet à droite)<br>Drehrichtung rechts (Rechtsgewinde)<br>Right hand rotation (right hand thread) |      |    |     |     |      |         |            |
|-----------|----------------------------------------------------------------------------------------------------------------------|------|----|-----|-----|------|---------|------------|
| D1 h6     | D2 h6                                                                                                                | D3   | L  | L1  | E   | SW   | E1 max. | Art. N°    |
| 16.0      | 10.0                                                                                                                 | 22.0 | 80 | 8.0 | 2.0 | 19.0 | 3.0     | 2811-16-10 |

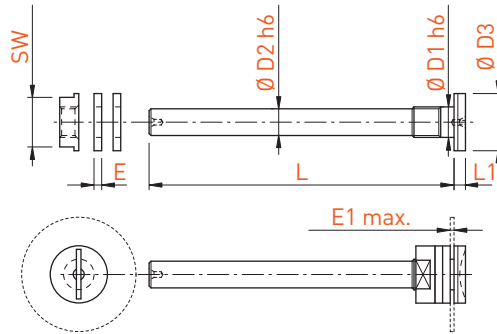
| Type 2815 | Pour petites fraises circulaires (filet à droite)<br>Für kleine Kreissägeblätter (Rechtsgewinde)<br>For small slitting saws (right hand thread) |     |    |     |     |     |         |          |
|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------|-----|----|-----|-----|-----|---------|----------|
| D1 h6     | D2 h6                                                                                                                                           | D3  | L  | L1  | E   | SW  | E1 max. | Art. N°  |
| 3.0       | 5.0                                                                                                                                             | 5.0 | 60 | 7.0 | 1.0 | 4.0 | 3.0     | 2815-3-5 |
| 5.0       | 6.0                                                                                                                                             | 7.5 | 70 | 7.0 | 1.0 | 6.0 | 3.0     | 2815-5-6 |

Tasseaux porte-fraise avec serrage arrière

Fräsdorne mit Spannung von hinten

Milling arbors with rear clamping

Type 2820 / 1820



| Type 2820 | Rotation à droite (filet à gauche)<br>Drehrichtung rechts (Linksgewinde)<br>Right hand rotation (left hand thread) |      |     |     |     |      |         |            |
|-----------|--------------------------------------------------------------------------------------------------------------------|------|-----|-----|-----|------|---------|------------|
| D1 h6     | D2 h6                                                                                                              | D3   | L   | L1  | E   | SW   | E1 max. | Art. N°    |
| 5.0       | 4.0                                                                                                                | 10.0 | 50  | 3.0 | 2.0 | 8.0  | 6.0     | 2820-5-4   |
| 6.0       | 5.0                                                                                                                | 12.0 | 60  | 3.0 | 2.0 | 10.0 | 6.0     | 2820-6-5   |
| 8.0       | 6.0                                                                                                                | 15.0 | 80  | 3.0 | 2.0 | 13.0 | 6.0     | 2820-8-6   |
| 8.0       | 7.0                                                                                                                | 15.0 | 80  | 3.0 | 2.0 | 13.0 | 6.0     | 2820-8-7   |
| 10.0      | 6.0                                                                                                                | 18.0 | 70  | 3.5 | 2.0 | 15.0 | 6.0     | 2820-10-6  |
| 10.0      | 8.0                                                                                                                | 18.0 | 90  | 3.5 | 2.0 | 15.0 | 6.0     | 2820-10-8  |
| 13.0      | 10.0                                                                                                               | 22.0 | 110 | 3.5 | 2.0 | 19.0 | 6.0     | 2820-13-10 |
| 16.0      | 12.0                                                                                                               | 26.0 | 120 | 3.5 | 2.0 | 22.0 | 6.0     | 2820-16-12 |

| Type 1820 | Rotation à gauche (filet à droite)<br>Drehrichtung links (Rechtsgewinde)<br>Left hand rotation (right hand thread) |      |    |     |     |      |         |           |
|-----------|--------------------------------------------------------------------------------------------------------------------|------|----|-----|-----|------|---------|-----------|
| D1 h6     | D2 h6                                                                                                              | D3   | L  | L1  | E   | SW   | E1 max. | Art. N°   |
| 5.0       | 4.0                                                                                                                | 10.0 | 50 | 3.0 | 2.0 | 8.0  | 6.0     | 1820-5-4  |
| 6.0       | 5.0                                                                                                                | 12.0 | 60 | 3.0 | 2.0 | 10.0 | 6.0     | 1820-6-5  |
| 8.0       | 6.0                                                                                                                | 15.0 | 70 | 3.0 | 2.0 | 13.0 | 6.0     | 1820-8-6  |
| 10.0      | 6.0                                                                                                                | 18.0 | 70 | 3.5 | 2.0 | 15.0 | 6.0     | 1820-10-6 |

Chaque tasseau est livré avec 2 entretoises et 1 écrou

Jeder Fräsdorn wird mit 2 Abstandsrings und 1 Mutter geliefert

2 distance rings and 1 nut are included with each arbor

| Pièces de rechange<br>Ersatzteile<br>Spare parts | E | Art. N°    | Art. N°    |
|--------------------------------------------------|---|------------|------------|
|                                                  | 2 | 1820-D1*-A | 1820-D1*-B |
|                                                  | 2 | 2810-D1*-A | 2810-D1*-B |
|                                                  | 2 | 2811-D1*-A | 2811-D1*-B |
|                                                  | 1 | 2815-D1*-A | 2815-D1*-B |
|                                                  | 2 | 2820-D1*-A | 2820-D1*-B |

\* Diamètre D1 à spécifier \* Durchmesser D1 angeben \* Diameter D1 to be specified

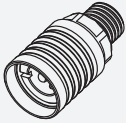


**Réduisez le temps de changement d'outil jusqu'à 75%!**  
**Reduzieren Sie die Wechselzeit Ihrer IK-Halter um bis zu 75%!**  
**Reduce tool change time by up to 75%!**

Le système de distribution de réfrigérant Applitec JET-LINE est conçu pour tirer parti de tous les avantages offerts par le refroidissement à haute pression jusqu'à 220 bar. Associé à nos porte-outils, il permet des préparations rapides et flexibles tout en garantissant l'orientation et la quantité correcte de débit de l'agent de refroidissement directement sur l'outil de coupe!

Mit dem Applitec Hochdruck-kühlmittelsystem JET-LINE profitieren Sie von einer effizienten Kühlmittelversorgung Ihrer IK-Werkzeuge bis zu 220 bar. In Verbindung mit den IK-Haltern von Applitec wird ein schneller, und flexibler Werkzeugwechsel ermöglicht!

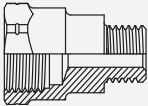
Applitec JET-LINE coolant distribution system is designed to maximise the benefits and advantages offered by high pressure coolant up to 220 bar. Associated to our holders with intergrated coolant, the quick change and flexible system reduces set up times without compromising the correct orientation and quantity of coolant flow directly to the cutting tool!

**Les avantages****Die Vorteile****The advantages****Changement rapide  
Schnellwechselsystem  
Quick change**

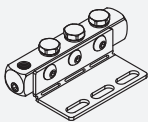
Réduit le temps de préparation et garantit le repositionnement des sorties de liquide de refroidissement  
Verkürzung der Rüstzeiten bei gleicher Position der Kühlmittelauslässe  
Reduces set up times with coolant outlets remain in the same position

**Refroidissement à haute pression  
Hochdruck abgekühlt  
High pressure**

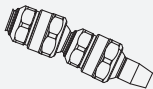
Tuyaux flexibles renforcés garantis jusqu'à 220 bar !  
Hochdruck verstärkten Schläuchen bis 220 bar !  
High pressure flexible reinforced hoses up to 220 bar !

**Facilité d'adaptation  
Einfache Anpassungsmöglichkeiten  
Easy to adapt**

Adaptateur disponible pour filetage M5, M6, M8X1 and BSP1/8  
Adapter für M5, M6, M8X1 und BSP1/8 erhältlich  
Adaptors available for M5, M6, M8X1, and BSP1/8 thread

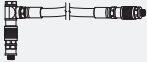
**Multiples possibilités de connexion  
Vielfältige Anschlussoptionen  
Large range of connection possibilities**

Vaste gamme de connecteurs pour tous les types de machines  
Grosse Auswahl von Anschlüsse für alle Maschinentypen  
Huge range of possible coolant connections to suit all machine types

**Système articulé  
Gelenksystem  
Articulated system**

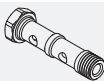
Module flexible d'arrosage en acier pour une meilleure stabilité  
Flexibler Stahlkühlmittelmodul für eine bessere Stabilität  
Flexible steel coolant unit for better stability

Augmentation de la durée de vie et une meilleure efficacité de l'outil dû au contrôle des copeaux  
JET-LINE steigert die Lebensdauer der Werkzeuge und verbessert die Spankontrolle  
Increased tool life with better swarf control

|                    |                                                                                                                                                        |                                                                                      |         |
|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------|
| <b>JKIT</b>        |                                                                                                                                                        |    | > 16.04 |
| <b>STARTER-KIT</b> |                                                                                                                                                        |                                                                                      | > 16.12 |
| <b>JS</b>          | Raccords rapides<br>Schnellkupplungen<br>Quick connectors                                                                                              |    | > 16.14 |
| <b>JO</b>          | Joints d'étanchéité en cuivre<br>Kupferdichtungsringe<br>Copper sealing gaskets                                                                        |     | > 16.15 |
| <b>JTX-AC</b>      | Tubes de distribution flexibles en acier inoxydable tressé<br>Rostfreier Stahlflex-Schlauch<br>Flexible distribution tubes of stainless steel braiding |    | > 16.16 |
| <b>JT-CU</b>       | Tubes de distribution en cuivre<br>Kupferrohre<br>Copper distribution tubes                                                                            |    | > 16.17 |
| <b>JRMF</b>        | Connecteurs mâle/femelle<br>Gewindeadapter Innen und Außengewinde<br>Male/female connectors                                                            |    | > 16.18 |
| <b>JRFF</b>        | Connecteurs femelle/femelle<br>Gewindeadapter Innengewinde<br>Female connectors                                                                        |     | > 16.20 |
| <b>JRMM</b>        | Connecteurs mâle/mâle<br>Gewindeadapter Außengewinde<br>Male connectors                                                                                |   | > 16.21 |
| <b>JN</b>          | Écrous d'étanchéité<br>Dichtungsmutter<br>Sealing nuts                                                                                                 |   | > 16.22 |
| <b>JNG</b>         | Bague d'étanchéité<br>Dichtungsring<br>Sealing ring                                                                                                    |   | > 16.23 |
| <b>JCBF</b>        | Banjos courts femelle<br>Kurzer Innengewindeadapter<br>Short female Banjo                                                                              |   | > 16.24 |
| <b>JCBM</b>        | Banjos courts mâle<br>Kurzer Aussengewindeadapter<br>Short Banjo                                                                                       |   | > 16.25 |
| <b>JABF</b>        | Banjos longs droits femelle<br>Langer Innengewindeadapter<br>Long straight female banjos                                                               |  | > 16.26 |
| <b>JABF-45°</b>    | Banjos longs coudés femelle<br>Adapter lang 45° Innengewinde<br>Long curved female banjos                                                              |   | > 16.27 |



## Index

|                |                                                                                                                      |                                                                                   |         |
|----------------|----------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|---------|
| <b>JEB</b>     | Vis banjo<br>Hohlschrauben einfach<br>Banjo screws                                                                   |  | > 16.28 |
| <b>JEB-DUO</b> | Vis banjo double<br>Hohlschrauben doppelt<br>Double banjo screws                                                     |  | > 16.29 |
| <b>JVB</b>     | Fiches de verrouillage<br>Verschlußstecker<br>Sealing connecting plugs                                               |  | > 16.30 |
| <b>JVF</b>     | Fiches de connexion<br>Innengewindestecker<br>Connecting plugs                                                       |  | > 16.31 |
| <b>JWF</b>     | Fiches de connexion fixes femelle<br>Innengewindestecker mit Verdrehsicherung<br>Female positioning connection plugs |  | > 16.32 |
| <b>JWM</b>     | Fiches de connexion fixes mâle<br>Aussengewindestecker mit Verdrehsicherung<br>Male positioning connection plugs     |  | > 16.33 |
| <b>JK</b>      | Blocs de distribution<br>Kühlmittelverteiler<br>Distribution blocks                                                  |  | > 16.34 |
| <b>JBB</b>     | Bouchons d'étanchéité<br>Verschlußstopfen<br>Sealing plugs                                                           |  | > 16.35 |

*Système articulé avec arrosage / Gelenksystem mit Kühlung / Articulated system with coolant*

**new**

|                |                                                                                                                   |                                                                                      |         |
|----------------|-------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------|
| <b>JKIT-AR</b> | Kit articulé avec buse d'arrosage<br>Gelenkkit mit Kühlungsdüse<br>Articulated kit with coolant nozzle            |  | > 16.36 |
| <b>JKIT-CU</b> | Kit tube en cuivre avec buse d'arrosage<br>Kit Kupferrohr mit Kühlungsdüse<br>Kit copper tube with coolant nozzle |  | > 16.38 |
| <b>JAR</b>     | Système articulé<br>Gelenksystem<br>Articulated system                                                            |   | > 16.39 |
| <b>JRMM-AR</b> | Connecteurs mâle/mâle<br>Anschlüsse Aussengewinde<br>Male connectors                                              |   | > 16.40 |
| <b>JJ-AR</b>   | Buses<br>Düse<br>Nozzle                                                                                           |   | > 16.41 |

## ACCESSOIRES

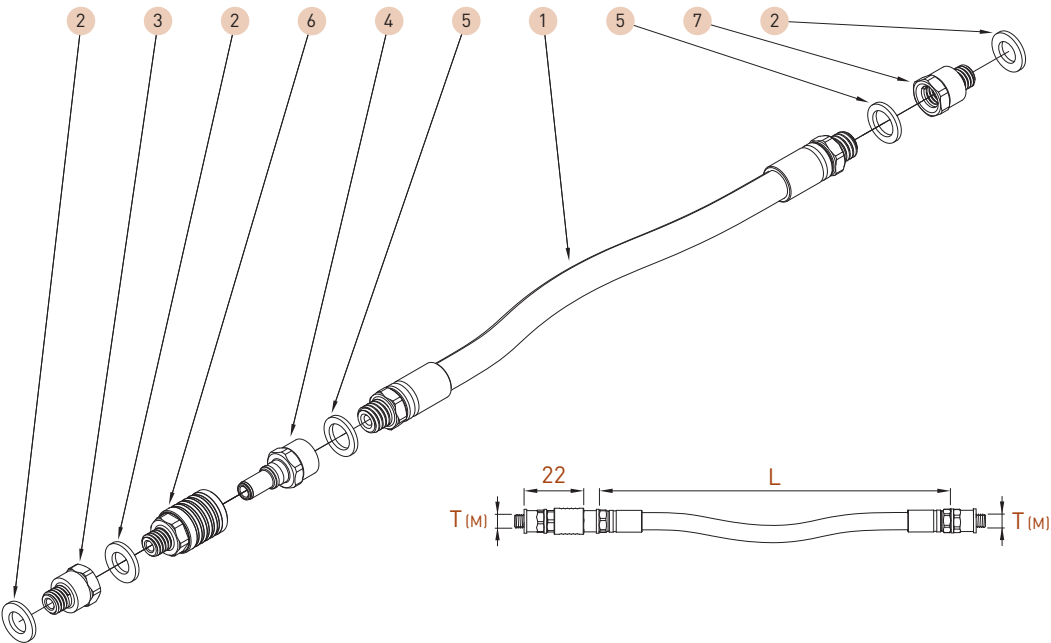
> 16.43

Kit de connexion  
Verbindungs-  
kit  
Connection kit

Quick / Fix

M5

JKIT-M5-D4-...-QF



| Ref | Qty | Kit composition |
|-----|-----|-----------------|
| 1   | 1   | JTX-AC-M6-L...  |
| 2   | 3   | JO-M5           |
| 3   | 1   | JRMF-M5-M5-L6.5 |
| 4   | 1   | JVF-M6-D4       |
| 5   | 2   | JO-M6           |
| 6   | 1   | JS-M5-D4        |
| 7   | 1   | JRMF-M5-M6-L7.5 |

| D | T (M) | L   | Art. N°           |
|---|-------|-----|-------------------|
| 4 | M5    | 102 | JKIT-M5-D4-102-QF |
|   |       | 203 | JKIT-M5-D4-203-QF |
|   |       | 305 | JKIT-M5-D4-305-QF |
|   |       | 406 | JKIT-M5-D4-406-QF |

Compatibilité  
Kompatibilität  
Compatibility



**Porte-outil/Halter/Holder M5**

ISO-Line 8X10  
MODU-Line  
TOP-Line 8X10  
TURN-Line 8X10

Options



**Art. N°**

**JK-M5-1010-4T**

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siehe Seite 16.34  
see page 16.34



**Art. N°**

**C-SW8-E2.5**

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siehe Seite 16.45  
see page 16.45

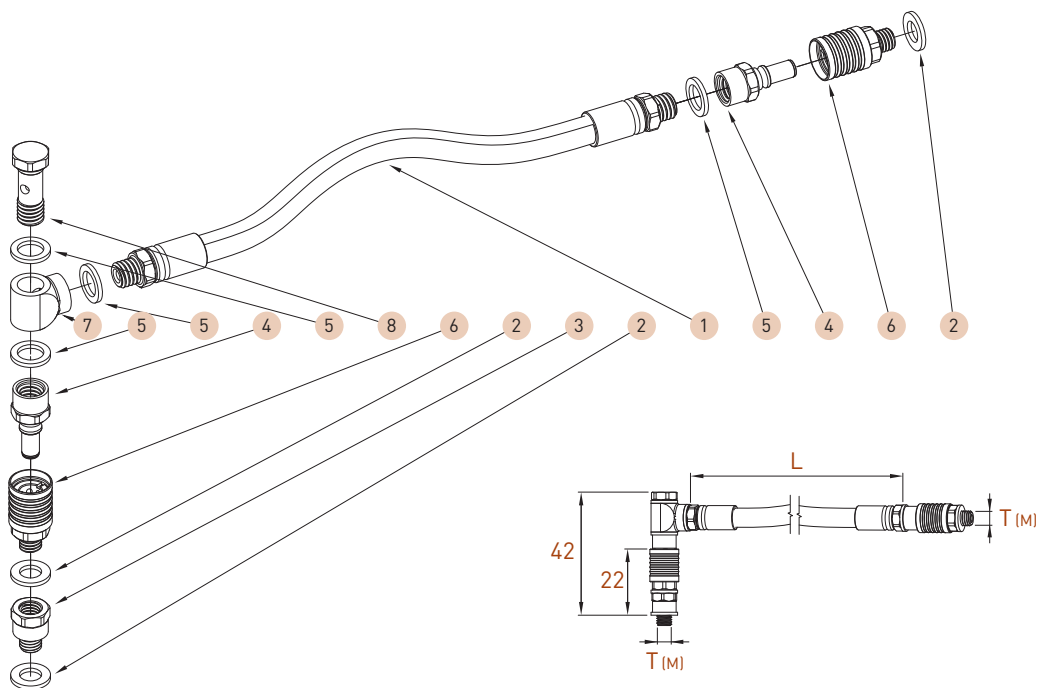
Kit de connexion

Verbindungskit Quick / Quick

Connection kit

M5

JKIT-M5-D4-...-QQ



| Ref | Qty | Kit composition |
|-----|-----|-----------------|
| 1   | 1   | JTX-AC-M6-L...  |
| 2   | 3   | JO-M5           |
| 3   | 1   | JRMF-M5-M5-L6.5 |
| 4   | 2   | JVF-M6-D4       |
| 5   | 4   | JO-M6           |
| 6   | 2   | JS-M5-D4        |
| 7   | 1   | JCBF-Ø6-M6      |
| 8   | 1   | JEB-M6-L19      |

| D | T (M) | L   | Art. N°           |
|---|-------|-----|-------------------|
| 4 | M5    | 102 | JKIT-M5-D4-102-QQ |
|   |       | 203 | JKIT-M5-D4-203-QQ |
|   |       | 305 | JKIT-M5-D4-305-QQ |
|   |       | 406 | JKIT-M5-D4-406-QQ |

Compatibilité  
Kompatibilität  
Compatibility

Porte-outil/Halter/Holder M5

ISO-Line 8X10  
MODU-Line  
TOP-Line 8X10  
TURN-Line 8X10

Options



Art. N°

JK-M5-1010-4T

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Art. N°

C-SW8-E2.5

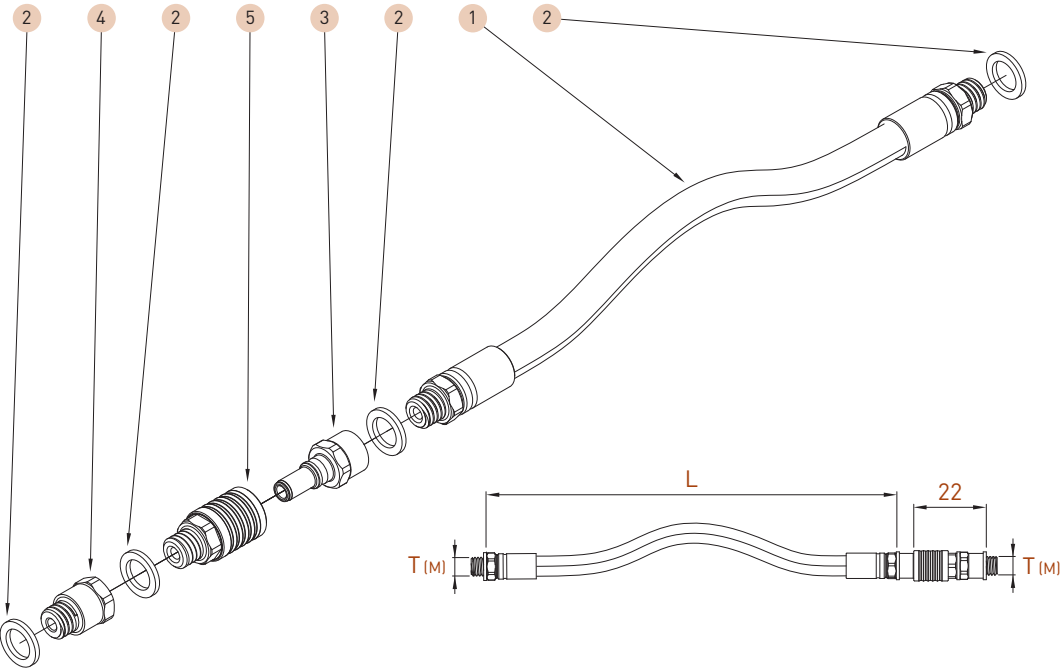
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Kit de connexion  
Verbindungskit  
Connection kit

Quick / Fix

M6

JKIT-M6-D4-...-QF



| Ref | Qty | Kit composition |
|-----|-----|-----------------|
| 1   | 1   | JTX-AC-M6-L...  |
| 2   | 4   | JO-M6           |
| 3   | 1   | JVF-M6-D4       |
| 4   | 1   | JRMF-M6-M6-L7.5 |
| 5   | 1   | JS-M6-D4        |

| D | T (M) | L   | Art. N°           |
|---|-------|-----|-------------------|
| 4 | M6    | 102 | JKIT-M6-D4-102-QF |
|   |       | 203 | JKIT-M6-D4-203-QF |
|   |       | 305 | JKIT-M6-D4-305-QF |
|   |       | 406 | JKIT-M6-D4-406-QF |

Compatibilité  
Kompatibilität  
Compatibility



Porte-outil/Halter/Holder M6

Options

|                                                                                     |                                                                                       |
|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|  |  |
| Art. N°                                                                             | Art. N°                                                                               |
| JK-M6-1010-4T                                                                       | C-SW8-E2.5                                                                            |
| voir page 16.34<br>siehe Seite 16.34<br>see page 16.34                              | voir page 16.45<br>siehe Seite 16.45<br>see page 16.45                                |

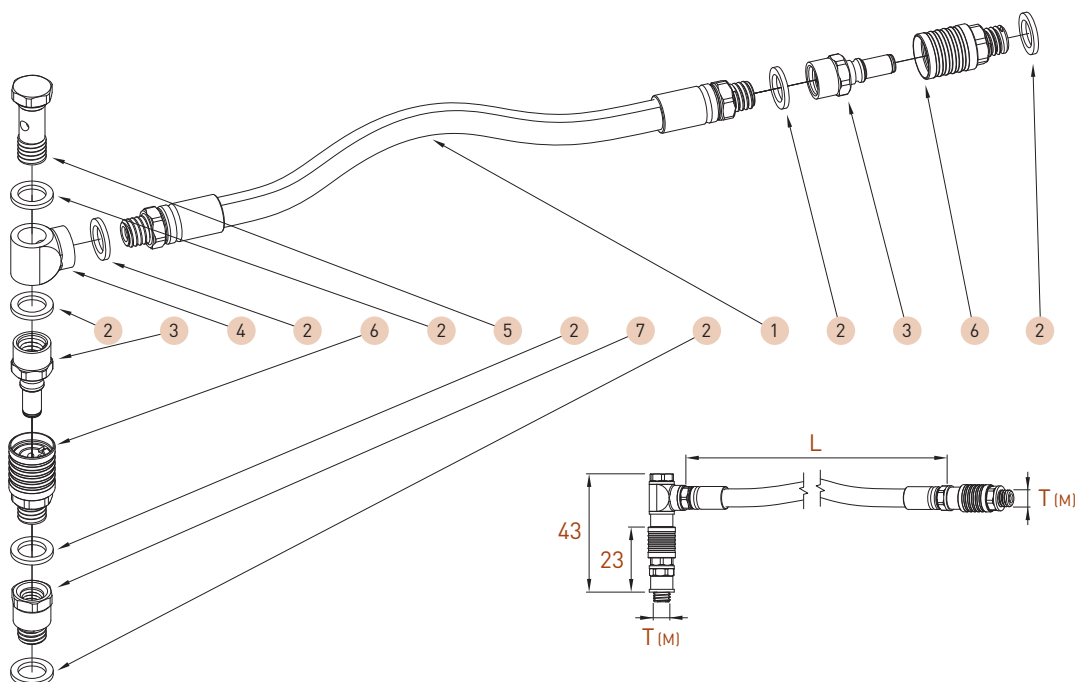
Kit de connexion

Verbindungskit Quick / Quick

Connection kit

M6

JKIT-M6-D4-...-QQ



| Ref | Qty | Kit composition |
|-----|-----|-----------------|
| 1   | 1   | JTX-AC-M6-L...  |
| 2   | 7   | JO-M6           |
| 3   | 2   | JVF-M6-D4       |
| 4   | 1   | JCBF-Ø6-M6      |
| 5   | 1   | JEB-M6-L19      |
| 6   | 2   | JS-M6-D4        |
| 7   | 1   | JRMF-M6-M6-L7.5 |

| D | T (M) | L   | Art. N°           |
|---|-------|-----|-------------------|
| 4 | M6    | 102 | JKIT-M6-D4-102-QQ |
|   |       | 203 | JKIT-M6-D4-203-QQ |
|   |       | 305 | JKIT-M6-D4-305-QQ |
|   |       | 406 | JKIT-M6-D4-406-QQ |

Compatibilité  
Kompatibilität  
Compatibility



Porte-outil/Halter/Holder M6

Options



Art. N°

JK-M6-1010-4T

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Art. N°

C-SW8-E2.5

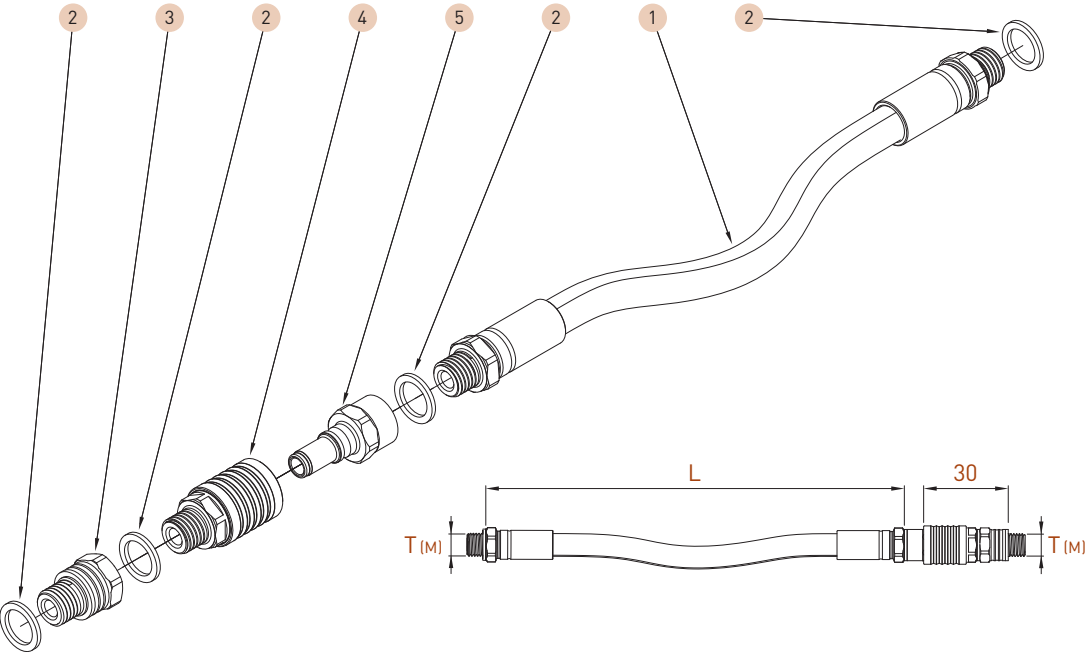
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siehe Seite 16.45  
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Kit de connexion  
Verbindungskit  
Connection kit

Quick / Fix

M8X1

JKIT-M8X1-D6-...-QF



| Ref | Qty | Kit composition     |
|-----|-----|---------------------|
| 1   | 1   | JTX-AC-M8X1-L...    |
| 2   | 4   | JO-M8X1             |
| 3   | 1   | JRMF-M8X1-M8X1-L9.5 |
| 4   | 1   | JS-M8X1-D6          |
| 5   | 1   | JVF-M8X1-D6         |

| D | T (M) | L   | Art. N°             |
|---|-------|-----|---------------------|
| 6 | M8X1  | 102 | JKIT-M8X1-D6-102-QF |
|   |       | 203 | JKIT-M8X1-D6-203-QF |
|   |       | 305 | JKIT-M8X1-D6-305-QF |
|   |       | 406 | JKIT-M8X1-D6-406-QF |

|                                                                                                                                                                                                                          |                                       |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|
| Compatibilité<br>Kompatibilität<br>Compatibility                                                                                                                                                                         |                                       |
|                                                                                                                                                                                                                          | <b>Porte-outil/Halter/Holder M8X1</b> |
| CUT-Line 16X16 - 25X25<br>ECO-Line 10X12 - 20X20<br>EVOCUT-Line 10X12 - 20X20<br>IN-Line Ø12 - Ø28<br>ISO-Line 10X10 - 20X20<br>MODU-Line<br>PRO-Line 10X12 - 20X20<br>TOP-Line 10X12 - 20X20<br>TURN-Line 10X12 - 20X20 |                                       |

|         |                                                                                                    |                                                                                                |
|---------|----------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Options |                                                                                                    |                                                                                                |
|         | <b>Art. N°</b><br><b>JK-M8X1-1515-4T</b><br>voir page 16.34<br>siehe Seite 16.34<br>see page 16.34 | <b>Art. N°</b><br><b>C-SW11-E3.7</b><br>voir page 16.45<br>siehe Seite 16.45<br>see page 16.45 |

Kit de connexion

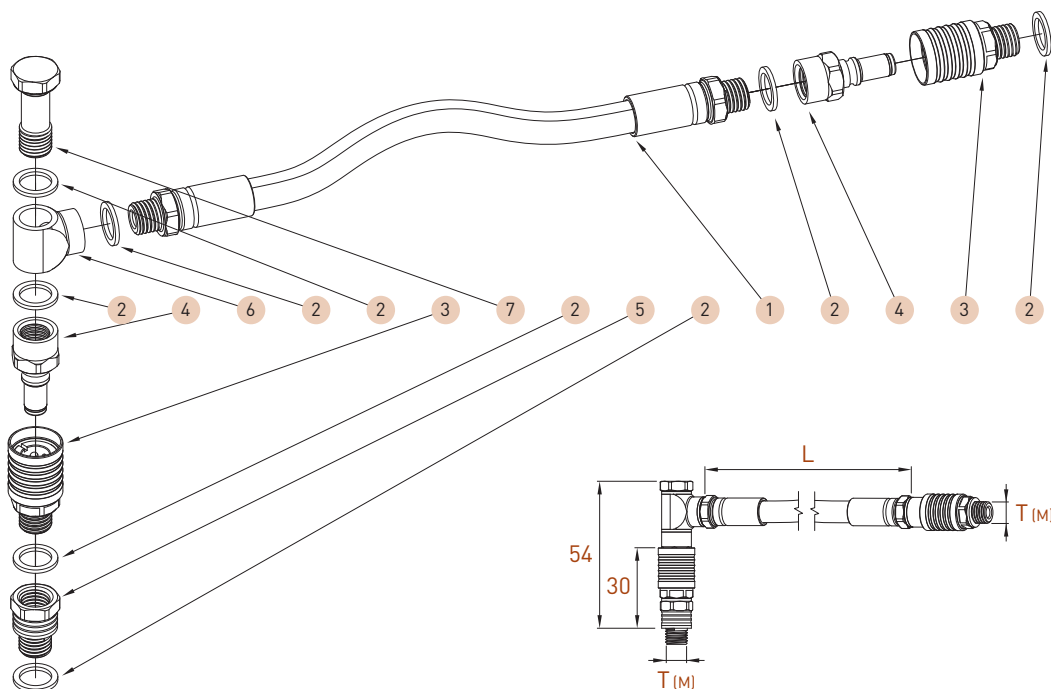
Verbindungsakit

Quick / Quick

Connection kit

M8X1

JKIT-M8X1-D6-...-QQ



| Ref | Qty | Kit composition     |
|-----|-----|---------------------|
| 1   | 1   | JTX-AC-M8X1-L...    |
| 2   | 7   | JO-M8X1             |
| 3   | 2   | JS-M8X1-D6          |
| 4   | 2   | JVF-M8X1-D6         |
| 5   | 1   | JRMF-M8X1-M8X1-L9.5 |
| 6   | 1   | JCBF-Ø8-M8X1        |
| 7   | 1   | JEB-M8X1-L24        |

| D | T (M) | L   | Art. N°             |
|---|-------|-----|---------------------|
| 6 | M8X1  | 102 | JKIT-M8X1-D6-102-QQ |
|   |       | 203 | JKIT-M8X1-D6-203-QQ |
|   |       | 305 | JKIT-M8X1-D6-305-QQ |
|   |       | 406 | JKIT-M8X1-D6-406-QQ |

Compatibilité  
Kompatibilität  
Compatibility

#### Porte-outil/Halter/Holder M8X1

CUT-Line 16X16 - 25X25  
ECO-Line 10X12 - 20X20  
EVO-CUT-Line 10X12 - 20X20  
IN-Line Ø12 - Ø28  
ISO-Line 10X10 - 20X20  
MODU-Line  
PRO-Line 10X12 - 20X20  
TOP-Line 10X12 - 20X20  
TURN-Line 10X12 - 20X20

Options



Art. N°

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Art. N°

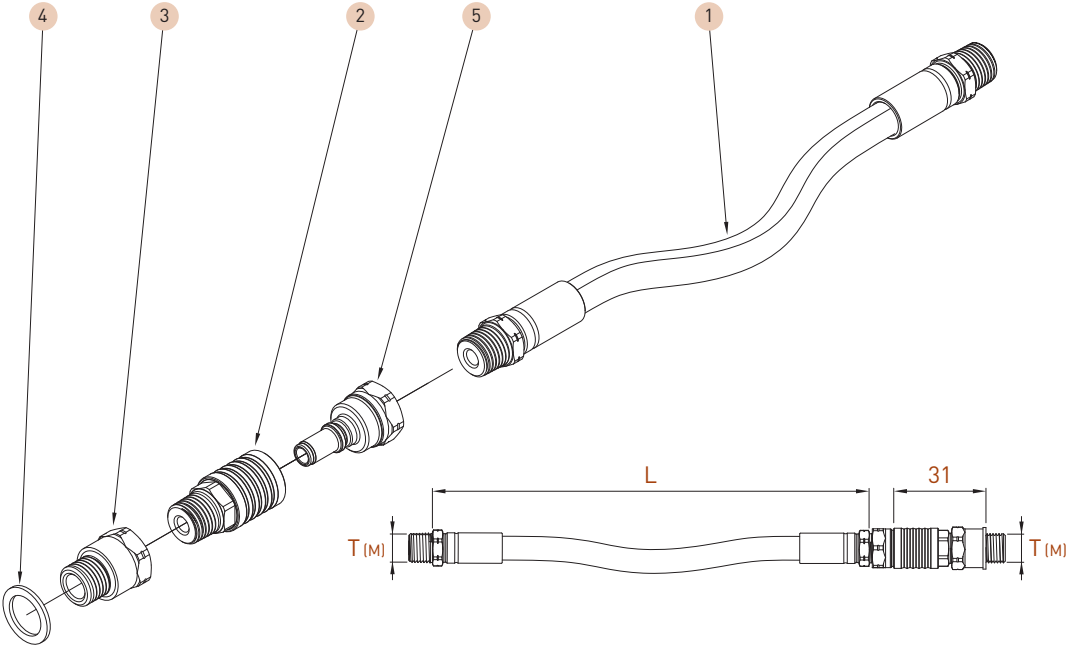
**C-SW11-E3.7**  
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see page 16.45

Kit de connexion  
Verbindungskit  
Connection kit

Quick / Fix

BSP1/8

JKIT-BSP1/8-D6-...-QF



| Ref | Qty | Kit composition          |
|-----|-----|--------------------------|
| 1   | 1   | JTX-AC-BSPT1/8-L...      |
| 2   | 1   | JS-BSPT1/8-D6            |
| 3   | 1   | JRMF-BSP1/8-BSP1/8-L10.5 |
| 4   | 1   | JO-BSP1/8                |
| 5   | 1   | JVF-BSP1/8-D6            |

| D | T (M)  | L   | Art. N°               |
|---|--------|-----|-----------------------|
| 6 | BSP1/8 | 102 | JKIT-BSP1/8-D6-102-QF |
|   |        | 203 | JKIT-BSP1/8-D6-203-QF |
|   |        | 305 | JKIT-BSP1/8-D6-305-QF |
|   |        | 406 | JKIT-BSP1/8-D6-406-QF |

Compatibilité  
Kompatibilität  
Compatibility

Porte-outil/Halter/Holder BSP1/8

Options

|                                                        |                                                        |
|--------------------------------------------------------|--------------------------------------------------------|
|                                                        |                                                        |
| Art. N°                                                | Art. N°                                                |
| JK-BSP1/8-1515-4T                                      | C-SW11-E3.7                                            |
| voir page 16.34<br>siehe Seite 16.34<br>see page 16.34 | voir page 16.45<br>siehe Seite 16.45<br>see page 16.45 |



Kit de connexion

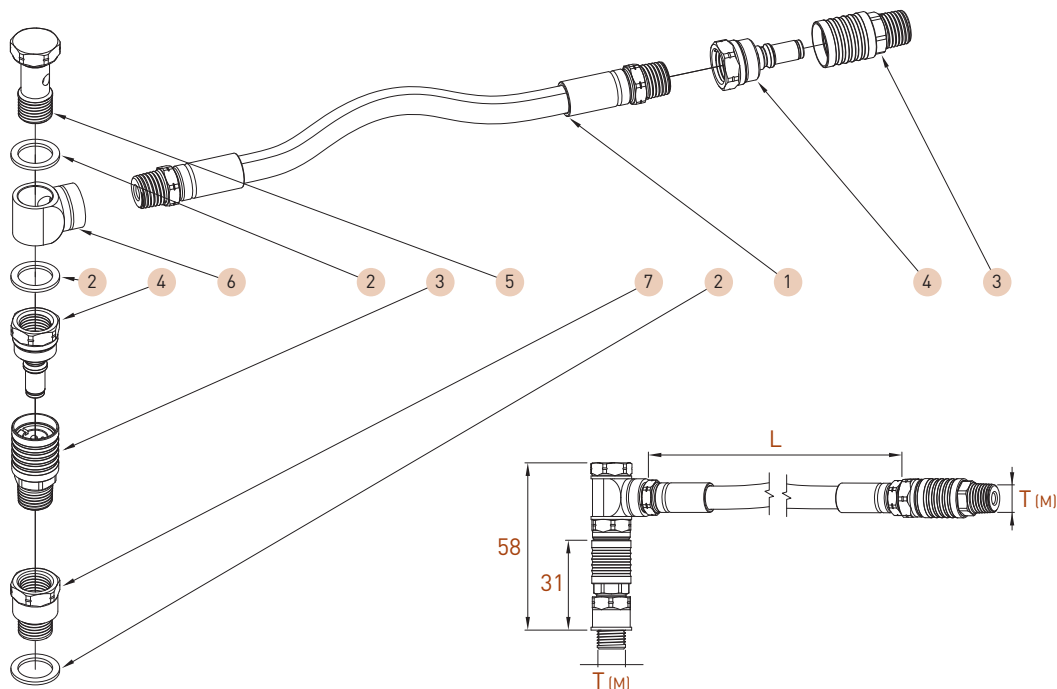
Verbindungsakit

Quick / Quick

BSP1/8

JKIT-BSP1/8-D6-...-QQ

Connection kit



| Ref | Qty | Kit composition          |
|-----|-----|--------------------------|
| 1   | 1   | JTX-AC-BSPT1/8-L...      |
| 2   | 3   | JO-BSP1/8                |
| 3   | 2   | JS-BSP1/8-D6             |
| 4   | 2   | JVF-BSP1/8-D6            |
| 5   | 1   | JEB-BSP1/8-L26           |
| 6   | 1   | JCBF-Ø10-BSP1/8          |
| 7   | 1   | JRMF-BSP1/8-BSP1/8-L10.5 |

| D | T (M)  | L   | Art. N°               |
|---|--------|-----|-----------------------|
| 6 | BSP1/8 | 102 | JKIT-BSP1/8-D6-102-QQ |
|   |        | 203 | JKIT-BSP1/8-D6-203-QQ |
|   |        | 305 | JKIT-BSP1/8-D6-305-QQ |
|   |        | 406 | JKIT-BSP1/8-D6-406-QQ |

Compatibilité  
Kompatibilität  
Compatibility

Porte-outil/Halter/Holder BSP1/8

Options



Art. N°

JK-BSP1/8-1515-4T

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see page 16.34

Art. N°

C-SW11-E3.7

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siehe Seite 16.45  
see page 16.45

Starter Kit

M6 (+ M5)

JSTART-D4



| Qty | Kit composition  | Art. N°   |
|-----|------------------|-----------|
| 2   | C-SW8-E2.5       | JSTART-D4 |
| 4   | JO-M6            |           |
| 2   | JO-M5            |           |
| 2   | JK-M6-1010-4T    |           |
| 10  | JS-M6-D4         |           |
| 2   | JTX-AC-M6-102    |           |
| 2   | JTX-AC-M6-203    |           |
| 2   | JTX-AC-M6-305    |           |
| 2   | JTX-AC-M6-406    |           |
| 10  | JVF-M6-D4        |           |
| 2   | JVB-D4           |           |
| 2   | JWF-M6-D4        |           |
| 2   | JRMF-M6-M6-L7.5  |           |
| 2   | JRMF-M6-M6-L12.5 |           |
| 2   | JRMF-M6-M6-L17.5 |           |
| 10  | JRMF-M5-M6-L7.5  |           |
| 2   | JRFF-M6-L9.0     |           |
| 5   | JCBF-Ø6-M6       |           |
| 2   | JABF-Ø6-M6-45°   |           |
| 5   | JEB-M6-L19       |           |
| 2   | JEB-M6-L30-DUO   |           |
| 1   | JT-CU-M6-102     |           |
| 1   | JT-CU-M6-203     |           |

Starter Kit

M8X1 (+ BSP1/8)

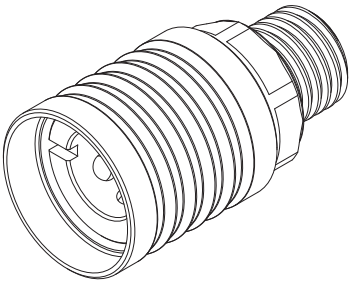
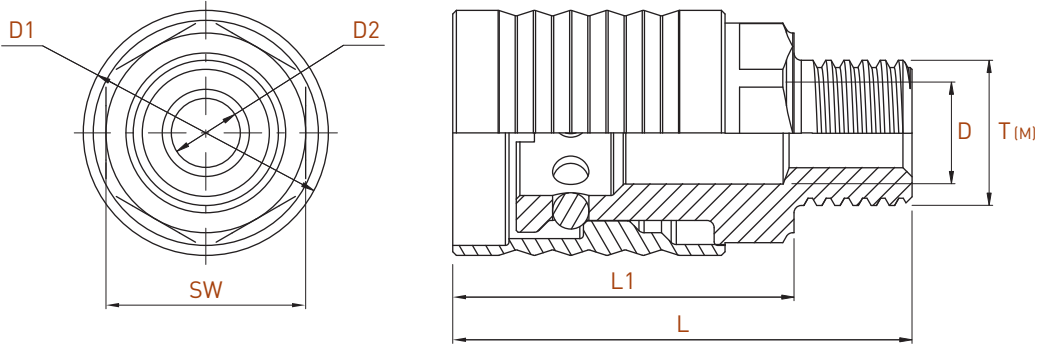
JSTART-D6



| Qty | Kit composition        | Art. N°   |
|-----|------------------------|-----------|
| 2   | C-SW11-E3.7            | JSTART-D6 |
| 4   | JO-M8X1                |           |
| 2   | JK-M8X1-1515-4T        |           |
| 10  | JS-M8X1-D6             |           |
| 2   | JTX-AC-M8X1-102        |           |
| 2   | JTX-AC-M8X1-203        |           |
| 2   | JTX-AC-M8X1-305        |           |
| 2   | JTX-AC-M8X1-406        |           |
| 10  | JVF-M8X1-D6            |           |
| 2   | JVB-D6                 |           |
| 2   | JWF-M8X1-D6            |           |
| 2   | JRMF-M8X1-M8X1-L9.5    |           |
| 2   | JRMF-M8X1-M8X1-L14.5   |           |
| 2   | JRMF-M8X1-M8X1-L19.5   |           |
| 10  | JRMF-BSPT1/8-M8X1-L9.0 |           |
| 2   | JRFF-M8X1-L12.0        |           |
| 5   | JCBF-Ø8-M8X1           |           |
| 2   | JABF-Ø8-M8X1-45°       |           |
| 5   | JEB-M8X1-L24           |           |
| 2   | JEB-M8X1-L38-DUO       |           |
| 1   | JT-CU-M8X1-102         |           |
| 1   | JT-CU-M8X1-203         |           |

Raccord rapide  
Schnellkupplungen  
Quick connector

JS



| T (M)   | L    | L1 | SW | D | D1   | D2  | Art. N°       |
|---------|------|----|----|---|------|-----|---------------|
| M5      | 18   | 14 | 8  | 4 | 9.8  | 2.3 | JS-M5-D4      |
| M6      | 18   | 14 | 8  | 4 | 9.8  | 2.3 | JS-M6-D4      |
| M8X1KEG | 20   | 14 | 8  | 4 | 9.8  | 2.3 | JS-M8X1KEG-D4 |
| M8X1    | 25   | 19 | 11 | 6 | 13.5 | 3.8 | JS-M8X1-D6    |
| BSPT1/8 | 29.3 | 19 | 11 | 6 | 13.5 | 3.8 | JS-BSPT1/8-D6 |

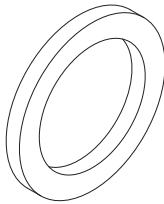
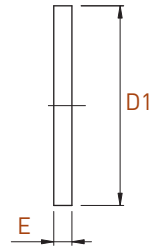
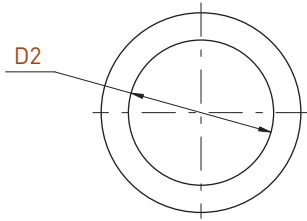
| Pression max<br>Max. Druck<br>max. pressure | KEG =                                                   | BSPT =                                                  |
|---------------------------------------------|---------------------------------------------------------|---------------------------------------------------------|
| = 220 Bar (3.190 PSI)                       | filetage conique<br>konisches Gewinde<br>conical thread | filetage conique<br>konisches Gewinde<br>conical thread |

Joint d'étanchéité en cuivre

Kupferdichtungsringe

Copper sealing gasket

J0



| D1 | D2 | E | Art. N°    |
|----|----|---|------------|
| 9  | 5  | 1 | J0-M5*     |
| 9  | 6  | 1 | J0-M6*     |
| 11 | 8  | 1 | J0-M8X1*   |
| 14 | 10 | 1 | J0-BSP1/8* |

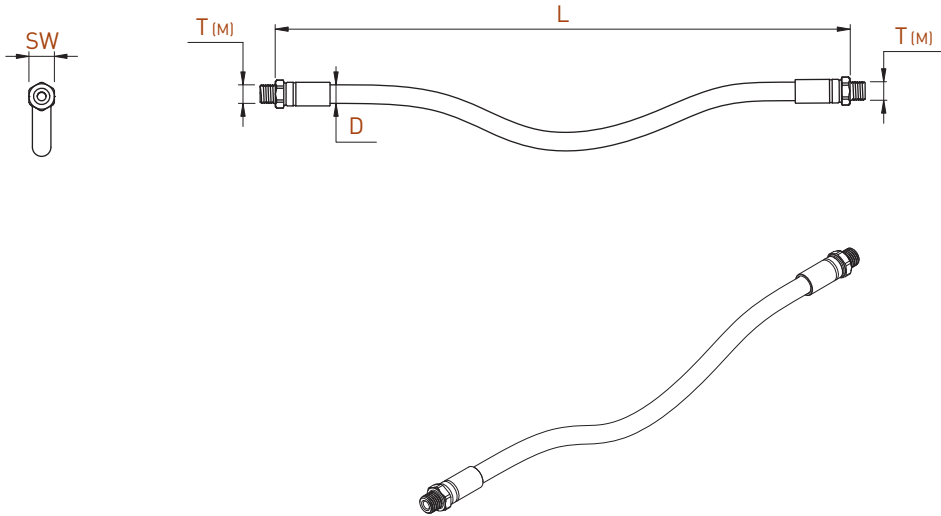
\* vendu par 10 pcs  
10-facherweise verkauft  
sold by 10 pcs

Tube de distribution flexible en acier inoxydable tressé

Rostfreier Stahlflex-Schlauch

Flexible distribution tube of stainless steel braiding

JTX-AC



| T (M)   | L*  | SW | D    | Art. N°            |
|---------|-----|----|------|--------------------|
| M6      | 102 | 8  | Ø6.5 | JTX-AC-M6-102      |
|         | 203 | 8  | Ø6.5 | JTX-AC-M6-203      |
|         | 305 | 8  | Ø6.5 | JTX-AC-M6-305      |
|         | 406 | 8  | Ø6.5 | JTX-AC-M6-406      |
| M8X1    | 102 | 11 | Ø8   | JTX-AC-M8X1-102    |
|         | 203 | 11 | Ø8   | JTX-AC-M8X1-203    |
|         | 305 | 11 | Ø8   | JTX-AC-M8X1-305    |
|         | 406 | 11 | Ø8   | JTX-AC-M8X1-406    |
| BSPT1/8 | 102 | 11 | Ø8   | JTX-AC-BSPT1/8-102 |
|         | 203 | 11 | Ø8   | JTX-AC-BSPT1/8-203 |
|         | 305 | 11 | Ø8   | JTX-AC-BSPT1/8-305 |
|         | 406 | 11 | Ø8   | JTX-AC-BSPT1/8-406 |

\* Longueur spécifique possible sur demande  
Spezifische Länge auf Anfrage möglich  
Specific length possible on request

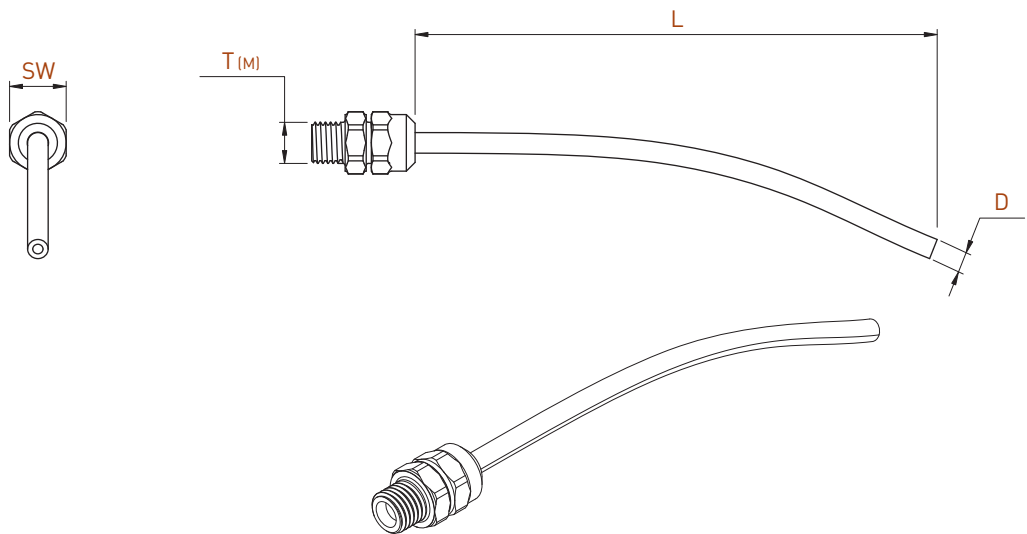
| Pression max<br>Max. Druck<br>max. pressure | KEG =                | BSPT =               | Pression<br>(bar) | Ø 6.5<br>(l/min) | Ø 8<br>(l/min) |
|---------------------------------------------|----------------------|----------------------|-------------------|------------------|----------------|
| = 220 Bar<br>(3.190 PSI)                    | filetage<br>conique  | filetage<br>conique  | 2                 | 3.5              | 9.5            |
|                                             | konisches<br>Gewinde | konisches<br>Gewinde | 8                 | 7.0              | 19.0           |
|                                             |                      |                      | 15                | 9.6              | 26.0           |
|                                             | conical<br>thread    | conical<br>thread    | 20                | 11.0             | 30.1           |
|                                             |                      |                      | 30                | 13.5             | 36.9           |
|                                             |                      |                      | 50                | 17.5             | 47.6           |
|                                             |                      |                      | 80                | 22.1             | 60.3           |
|                                             |                      |                      | 100               | 24.7             | 67.4           |
|                                             |                      |                      | 150               | 30.2             | 82.5           |

Tube de distribution en cuivre

Kupferrohr

Copper distribution tube

JT-CU



| T (M) | L*  | SW | D  | Art. N°        |
|-------|-----|----|----|----------------|
| M6    | 102 | 8  | Ø3 | JT-CU-M6-102   |
|       | 203 | 8  | Ø3 | JT-CU-M6-203   |
|       | 305 | 8  | Ø3 | JT-CU-M6-305   |
|       | 406 | 8  | Ø3 | JT-CU-M6-406   |
| M8X1  | 102 | 11 | Ø4 | JT-CU-M8X1-102 |
|       | 203 | 11 | Ø4 | JT-CU-M8X1-203 |
|       | 305 | 11 | Ø4 | JT-CU-M8X1-305 |
|       | 406 | 11 | Ø4 | JT-CU-M8X1-406 |

\* Longueur spécifique possible sur demande  
 Spezifische Länge auf Anfrage möglich  
 Specific length possible on request

Pression max  
 Max. Druck  
 max. pressure

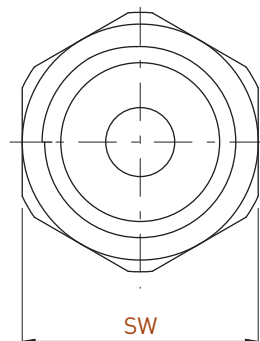
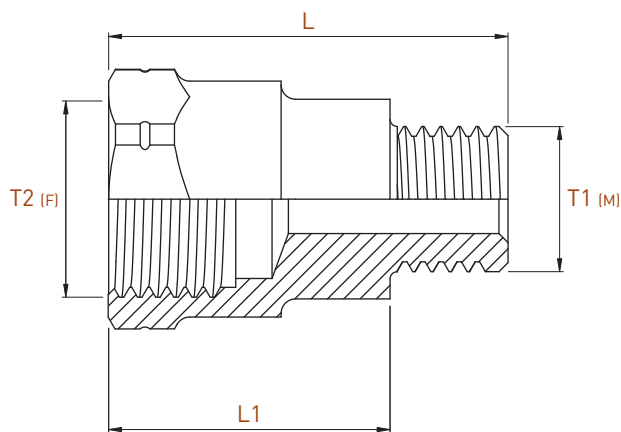
= 220 Bar  
 (3.190 PSI)

Connecteurs mâle/femelle

Gewindeadapter Innen und Außengewinde

Male/female connectors

JRMF



| T1 (M)     | T2 (F) | L1   | L    | SW | Art. N°                                  |
|------------|--------|------|------|----|------------------------------------------|
| M5         | M5     | 6.5  | 11   | 8  | JRMF-M5-M5-L6.5                          |
|            |        | 11.5 | 16   | 8  | JRMF-M5-M5-L11.5                         |
|            |        | 16.5 | 21   | 8  | JRMF-M5-M5-L16.5                         |
|            | M6     | 7.5  | 12   | 8  | JRMF-M5-M6-L7.5                          |
|            | M8X1   | 9.5  | 14   | 11 | JRMF-M5-M8X1-L9.5                        |
| M6         | M6     | 7.5  | 12.5 | 8  | JRMF-M6-M6-L7.5                          |
|            |        | 12.5 | 17.5 | 8  | JRMF-M6-M6-L12.5                         |
|            |        | 17.5 | 22.5 | 8  | JRMF-M6-M6-L17.5                         |
|            | M8X1   | 9.5  | 14.5 | 11 | JRMF-M6-M8X1-L9.5                        |
|            | M6     | 6    | 12   | 8  | JRMF-M8X1KEG-M6-L6.0                     |
| M8X1KEG    | M8X1   | 9.5  | 16.5 | 11 | JRMF-M8X1KEG-M8X1-L9.5                   |
|            | M5     | 5.5  | 12   | 11 | JRMF-M8X1-M5-L5.5                        |
| M8X1       | M6     | 7    | 13.5 | 11 | JRMF-M8X1-M6-L7.0                        |
|            | M8X1   | 9.5  | 16   | 11 | JRMF-M8X1-M8X1-L9.5                      |
|            |        | 14.5 | 21   | 11 | JRMF-M8X1-M8X1-L14.5                     |
|            |        | 19.5 | 26   | 11 | JRMF-M8X1-M8X1-L19.5                     |
|            |        | 10.5 | 17   | 13 | JRMF-M8X1-BSP1/8-L10.5                   |
|            | BSP1/8 | 15.5 | 22   | 13 | JRMF-M8X1-BSP1/8-L15.5                   |
|            |        | 20.5 | 27   | 13 | JRMF-M8X1-BSP1/8-L20.5                   |
|            | NPT1/8 | 11   | 17.5 | 13 | JRMF-M8X1-NPT1/8-L11 <span>new</span>    |
| M8X1.25    | M8X1   | 9.5  | 16   | 11 | JRMF-M8X1.25-M8X1-L9.5 <span>new</span>  |
| BSPT1/8    | M5     | 3.5  | 14.6 | 11 | JRMF-BSPT1/8-M5-L3.5                     |
|            | M6     | 3.5  | 14.6 | 11 | JRMF-BSPT1/8-M6-L3.5                     |
|            | M8X1   | 9    | 20.3 | 11 | JRMF-BSPT1/8-M8X1-L9.0                   |
| BSP1/8     | BSP1/8 | 10.5 | 18   | 13 | JRMF-BSP1/8-BSP1/8-L10.5                 |
|            |        | 15.5 | 23   | 13 | JRMF-BSP1/8-BSP1/8-L15.5                 |
|            |        | 20.5 | 28   | 13 | JRMF-BSP1/8-BSP1/8-L20.5                 |
| NPT1/8     | M8X1   | 7    | 17   | 13 | JRMF-NPT1/8-M8X1-L7.0 <span>new</span>   |
|            | BSP1/8 | 9    | 20.3 | 13 | JRMF-NPT1/8-BSP1/8-L9.0 <span>new</span> |
| NPT1/16    | M6     | 6    | 15   | 11 | JRMF-NPT1/16-M6-L6.0 <span>new</span>    |
|            | M8X1   | 9    | 18   | 13 | JRMF-NPT1/16-M8X1-L9.0 <span>new</span>  |
| SAE7/16-20 | M6     | 4.5  | 12   | 13 | JRMF-SAE7/16-20-M6-L4.5 <span>new</span> |
|            | M8X1   | 7    | 14.5 | 13 | JRMF-SAE7/16-20-M8X1-L7 <span>new</span> |

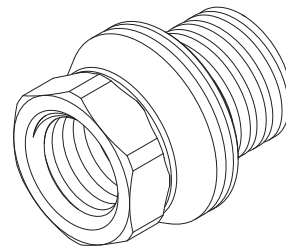
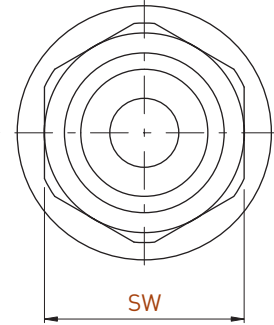
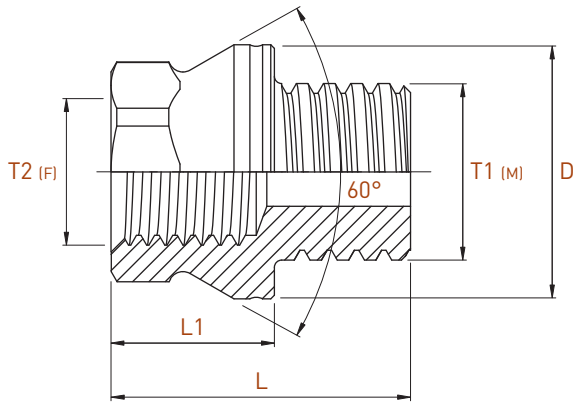


Connecteurs mâle/femelle avec cône 60°

Innen und Außengewinde mit 60°-Kegel

Male/female connectors with cone 60°

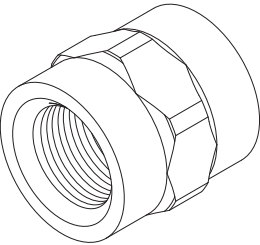
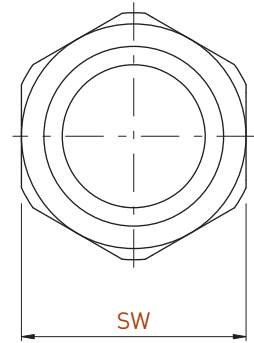
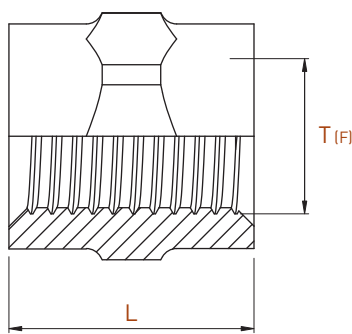
JRMF-A60°



| T1 (M) | T2 (F) | L1 | L    | D  | SW | Art. N°                    |
|--------|--------|----|------|----|----|----------------------------|
| BSP1/8 | M8X1   | 9  | 16.5 | 14 | 11 | JRMF-BSP1/8-M8X1-A60°-L9.0 |

Connecteurs femelle/femelle  
Gewindeadapter Innengewinde  
Female connectors

JRFF



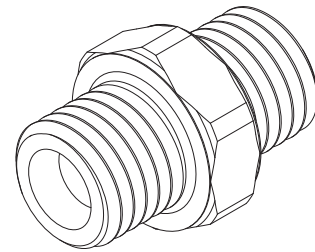
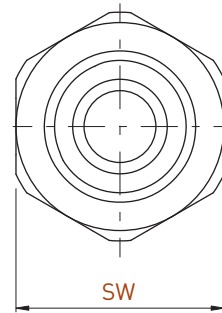
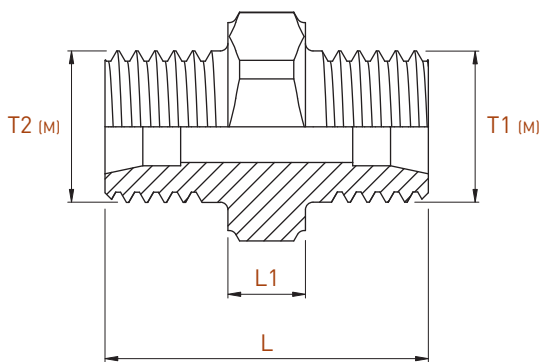
| T (F) | L  | SW | Art. N°         |
|-------|----|----|-----------------|
| M6    | 9  | 8  | JRFF-M6-L9.0    |
| M8X1  | 12 | 11 | JRFF-M8X1-L12.0 |

Connecteurs mâle/mâle

Gewintheadapter Außengewinde

Male connectors

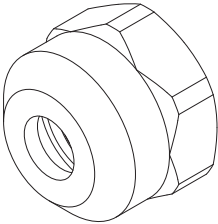
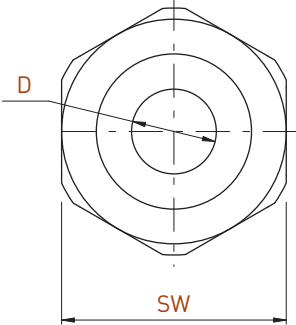
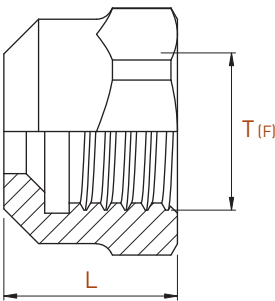
JRMM



| T1 (M) | T2 (M) | L1  | L    | SW | Art. N°                                                                   |
|--------|--------|-----|------|----|---------------------------------------------------------------------------|
| M6     | M6     | 3   | 13   | 8  | JRMM-M6-M6-L3.0                                                           |
| M8X1   | M8X1   | 4   | 17   | 11 | JRMM-M8X1-M8X1-L4.0                                                       |
| M10    | M8X1   | 3.5 | 17.5 | 11 | JRMM-M10-M8X1-3.5 <span style="color: red; font-weight: bold;">new</span> |

Écrous d'étanchéité  
Dichtungsmutter  
Sealing nuts

JN



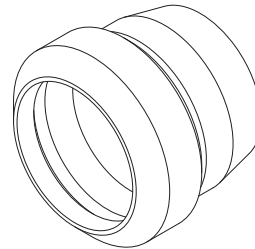
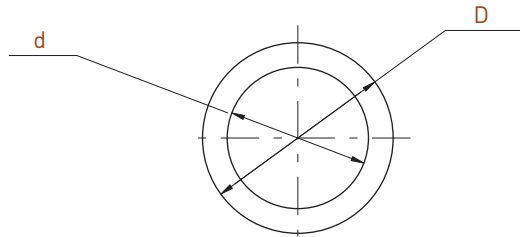
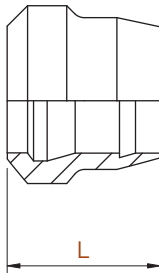
| T (F) | L    | D | SW | Art. N°                    |
|-------|------|---|----|----------------------------|
| M6    | 6.5  | 3 | 8  | JN-M6-D3                   |
| M8X1  | 8.5  | 4 | 11 | JN-M8X1-D4                 |
| M10   | 11.5 | 6 | 12 | JN-M10-D6 <span>new</span> |

Bague d'étanchéité

Dichtungsring

Sealing ring

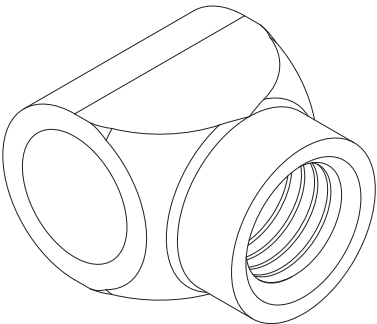
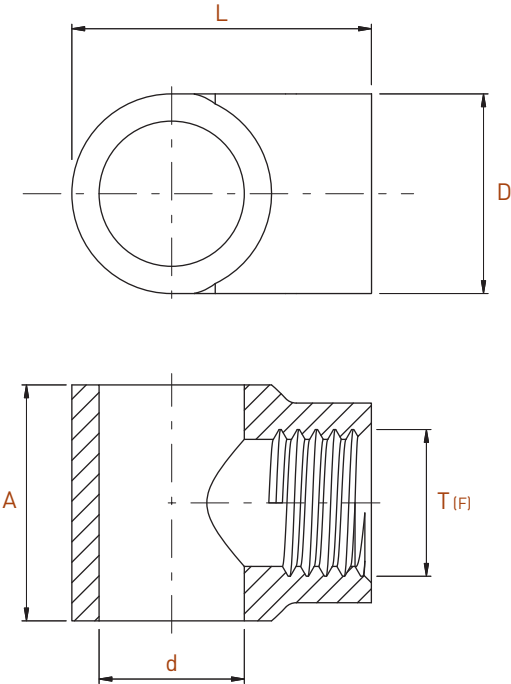
JNG



| d | D   | L   | Art. N°                                                        |
|---|-----|-----|----------------------------------------------------------------|
| 3 | 4   | 3.3 | JNG-D3                                                         |
| 4 | 5.5 | 4.5 | JNG-D4                                                         |
| 6 | 8.5 | 7   | JNG-D6 <span style="color: red; font-weight: bold;">new</span> |

Banjos courts femelle  
Kurzer Innengewindeadapter  
Short female banjos

JCBF



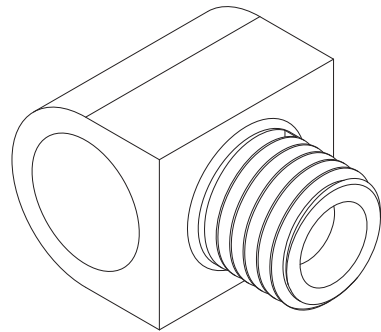
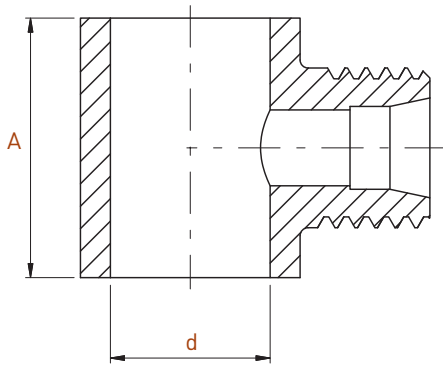
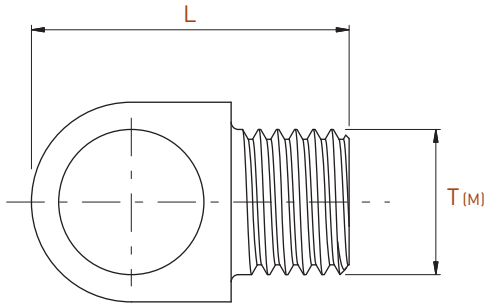
| T (F)  | A  | L    | d  | D  | Art. N°         |
|--------|----|------|----|----|-----------------|
| M6     | 10 | 12.5 | 6  | 9  | JCBF-Ø6-M6      |
| M8X1   | 13 | 16.5 | 8  | 11 | JCBF-Ø8-M8X1    |
|        | 13 | 18.5 | 10 | 11 | JCBF-Ø10-M8X1   |
| BSP1/8 | 13 | 19.5 | 10 | 13 | JCBF-Ø10-BSP1/8 |

Banjos courts mâle

Kurzer Aussengewindeadapter

Short male banjos

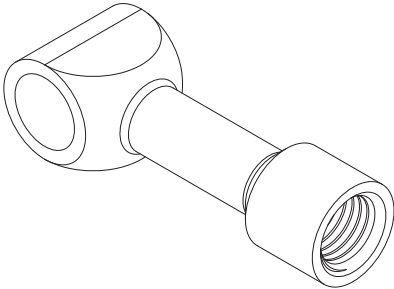
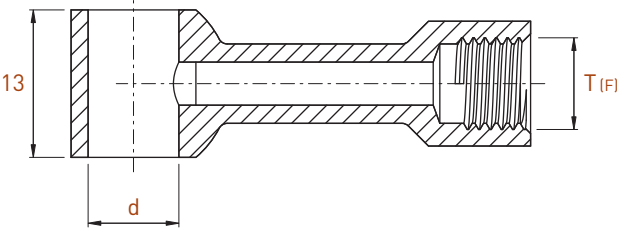
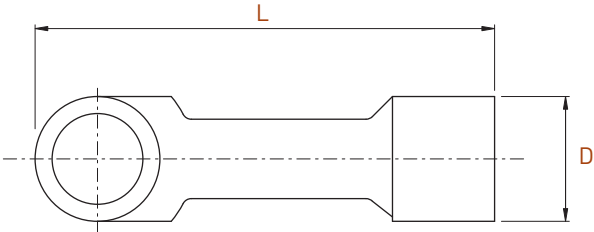
JCBM



| T (M) | A  | L    | d  | Art. N°       |
|-------|----|------|----|---------------|
| M6    | 10 | 14   | 6  | JCBM-Ø6-M6    |
| M8X1  | 13 | 17.5 | 8  | JCBM-Ø8-M8X1  |
|       | 13 | 19.5 | 10 | JCBM-Ø10-M8X1 |

Banjos longs droits femelle  
Langer Innengewintheadapter  
Long straight female banjos

JABF



| T (F)  | A  | L    | d  | D  | Art. N°         |
|--------|----|------|----|----|-----------------|
| M6     | 10 | 31.5 | 6  | 9  | JABF-Ø6-M6      |
| M8X1   | 13 | 40.5 | 8  | 11 | JABF-Ø8-M8X1    |
|        | 13 | 42.5 | 10 | 11 | JABF-Ø10-M8X1   |
| BSP1/8 | 13 | 42.5 | 10 | 13 | JABF-Ø10-BSP1/8 |

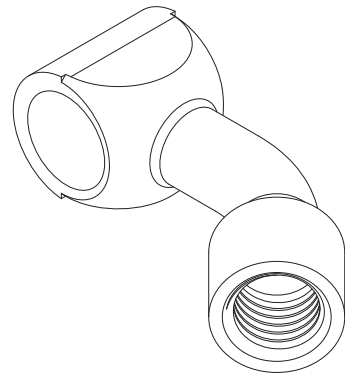
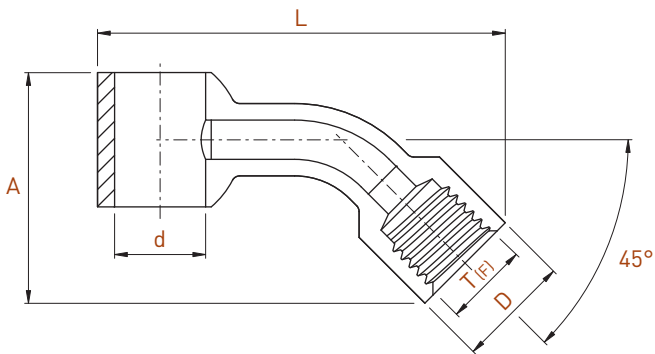
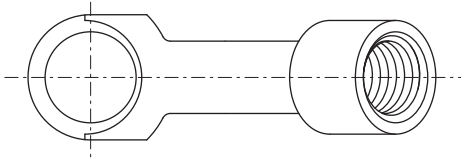


Banjos longs coudés femelle

Adapter lang 45° Innengewinde

Long curved female banjos

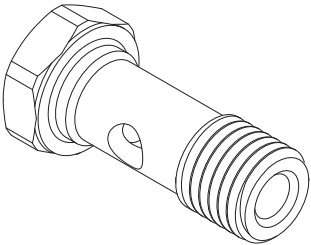
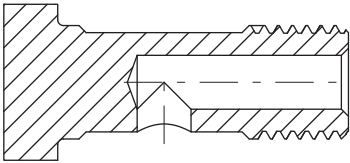
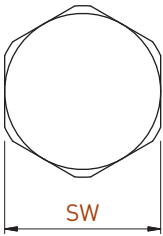
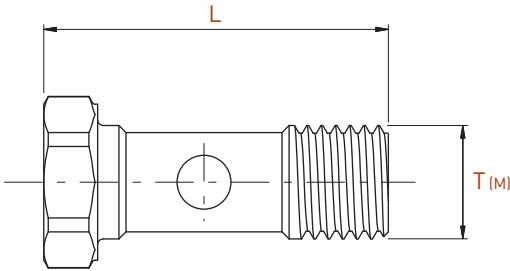
JABF-45°



| T (F) | A    | L    | d  | D  | Art. N°           |
|-------|------|------|----|----|-------------------|
| M6    | 10   | 33   | 6  | 9  | JABF-Ø6-M6-45°    |
| M8X1  | 11.8 | 40   | 8  | 11 | JABF-Ø8-M8X1-45°  |
|       | 13   | 40.5 | 10 | 11 | JABF-Ø10-M8X1-45° |

Vis banjo  
Hohlschrauben  
Banjo screws

JEB



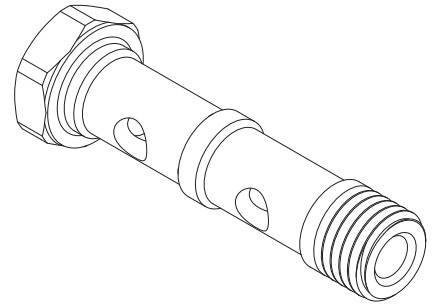
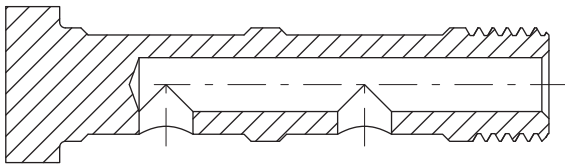
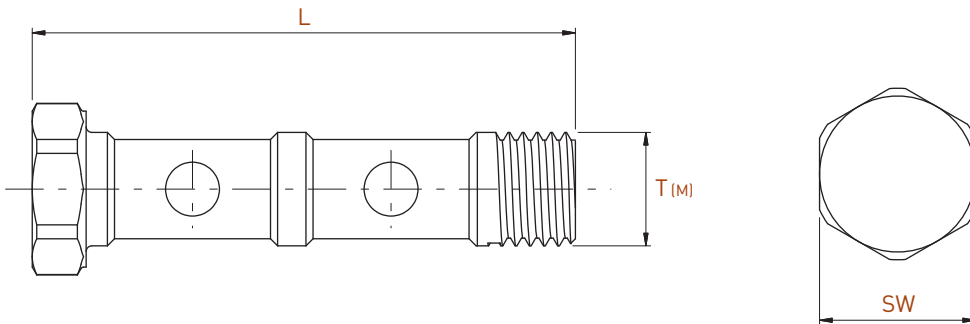
| T (M)  | L    | SW | Art. N°        |
|--------|------|----|----------------|
| M5     | 18.3 | 8  | JEB-M5-L18     |
| M6     | 18.8 | 8  | JEB-M6-L19     |
| M8X1   | 24.3 | 11 | JEB-M8X1-L24   |
| BSP1/8 | 26   | 13 | JEB-BSP1/8-L26 |

Vis banjo double

Hohlschrauben doppelt

Double banjo screws

JEB-DUO



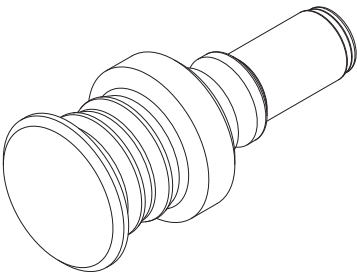
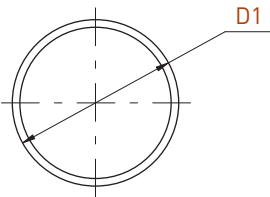
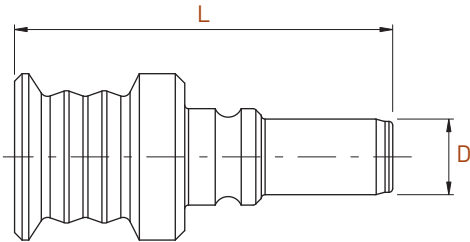
| T (M)  | L    | SW | Art. N°            |
|--------|------|----|--------------------|
| M6     | 29.8 | 8  | JEB-M6-L30-DUO     |
| M8X1   | 38.3 | 11 | JEB-M8X1-L38-DUO   |
| BSP1/8 | 40   | 13 | JEB-BSP1/8-L40-DUO |

Fiches de verrouillage

Verschlußstecker

Sealing connecting plugs

JVB



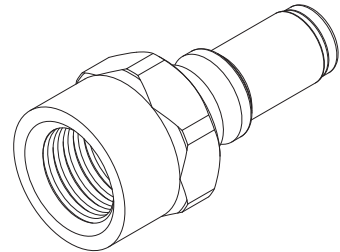
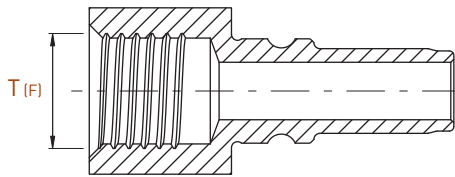
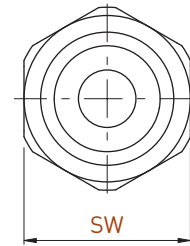
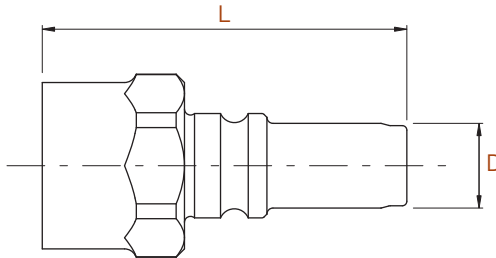
| D | D1  | L  | Art. N° |
|---|-----|----|---------|
| 4 | 8.8 | 20 | JVB-D4  |
| 6 | 12  | 27 | JVB-D6  |

Fiches de connexion

Innengewindestecker

Connecting plugs

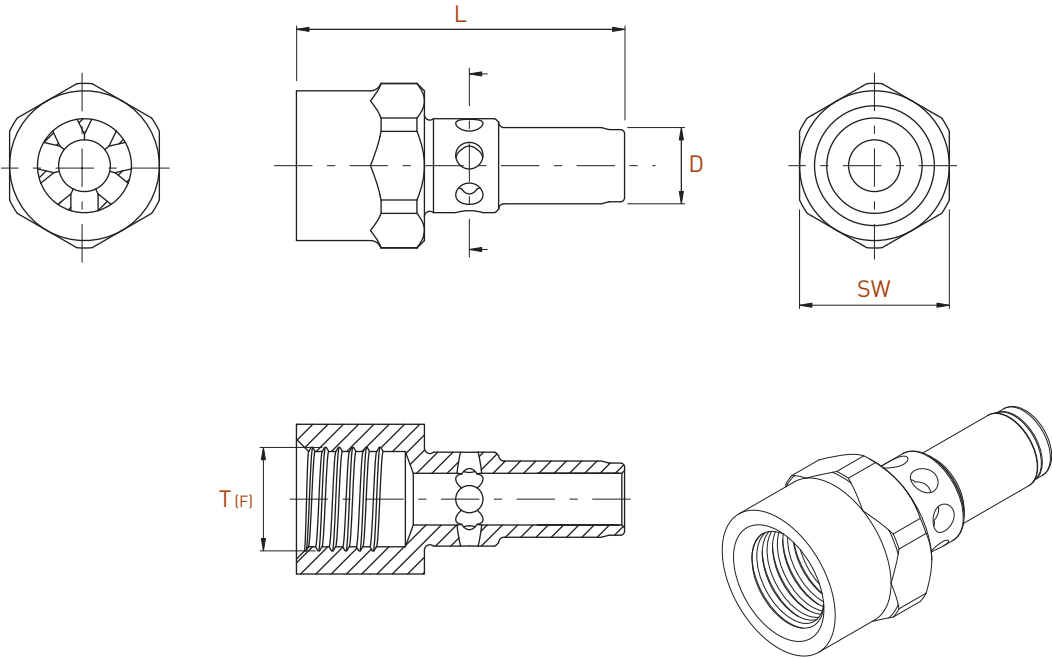
JVF



| D | T (F)  | L    | SW | Art. N°       |
|---|--------|------|----|---------------|
| 4 | M6     | 18.3 | 8  | JVF-M6-D4     |
| 6 | M8X1   | 24   | 11 | JVF-M8X1-D6   |
| 6 | BSP1/8 | 25.5 | 11 | JVF-BSP1/8-D6 |

Fiches de connexion fixes femelle  
Innengewindestecker mit Verdrehsicherung  
Female positioning connection plugs

JWF



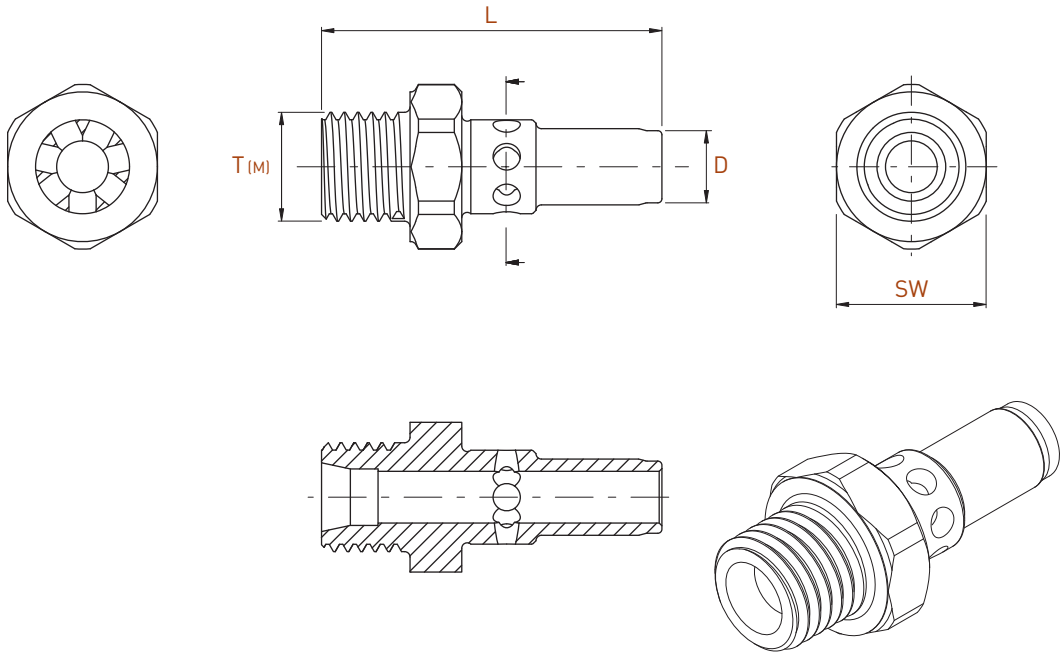
| D | T (F) | L    | SW | Art. N°     |
|---|-------|------|----|-------------|
| 4 | M6    | 18.3 | 8  | JWF-M6-D4   |
| 6 | M8X1  | 24   | 11 | JWF-M8X1-D6 |

Fiches de connexion fixes mâle

Aussengewindestecker mit Verdrehsicherung

Male positioning connection plugs

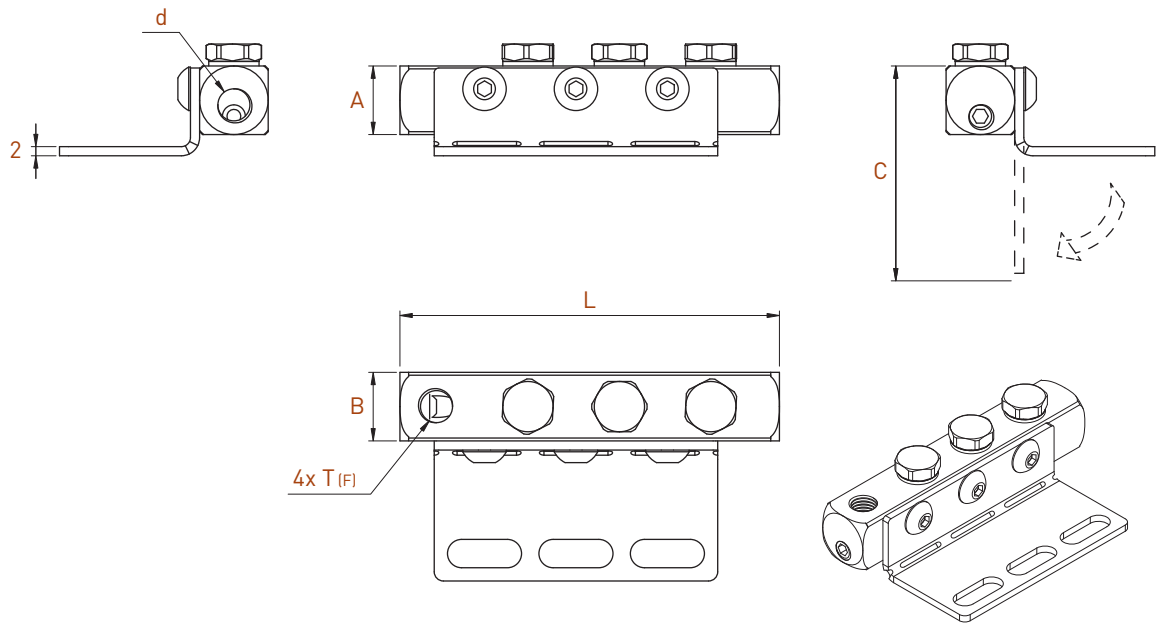
JWM



| D | T (M) | L    | SW | Art. N°     |
|---|-------|------|----|-------------|
| 4 | M6    | 18.3 | 8  | JWM-M6-D4   |
| 6 | M8X1  | 25   | 11 | JWM-M8X1-D6 |

Blocs de distribution  
Kühlmittelverteiler  
Distribution blocks

JK



| T (F)  | A  | B  | C  | d      | L  | Art. N°           |
|--------|----|----|----|--------|----|-------------------|
| M5     | 10 | 10 | 37 | M5     | 62 | JK-M5-1010-4T     |
| M6     | 10 | 10 | 37 | M6     | 62 | JK-M6-1010-4T     |
| M8X1   | 15 | 15 | 47 | M8X1   | 83 | JK-M8X1-1515-4T   |
| BSP1/8 | 15 | 15 | 47 | BSP1/8 | 83 | JK-BSP1/8-1515-4T |

| Qty | Livré avec                   | Mitgeliefert         | Supplied with           |
|-----|------------------------------|----------------------|-------------------------|
| 1   | Plaque de serrage pliable    | Faltbare Klemmplatte | Foldable clamping plate |
| 3   | Vis bombée                   | Linsenkopfschraube   | Domed clamping Screw    |
| 3   | Vis sans tête bouchon        | Verschlußstopfen     | Sealing screw           |
| 3   | Joint d'étanchéité en cuivre | Kupferdichtungsringe | Copper sealing basket   |
| 1   | Vis sans tête bouchon        | Madenschraube        | Grub screw              |

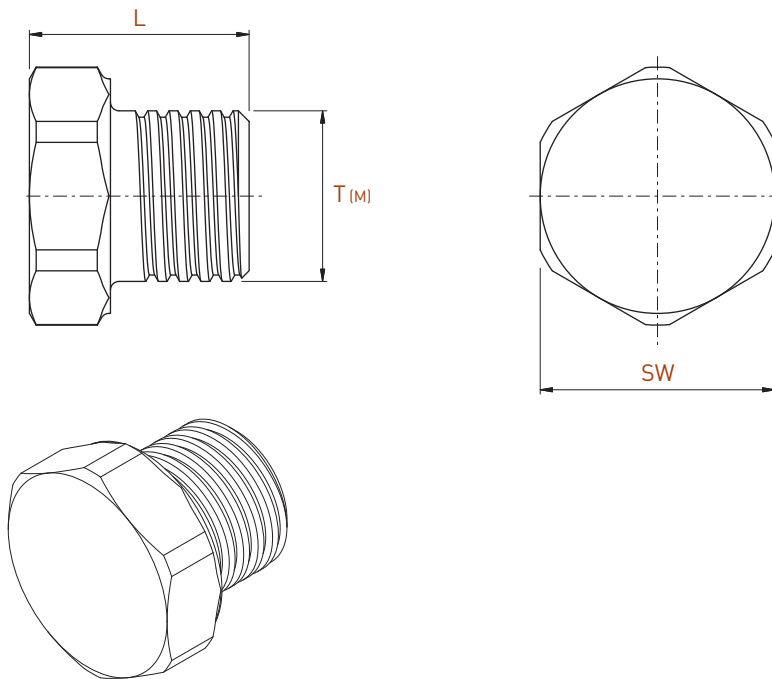


Bouchons d'étanchéité

Verschlußstopfen

Sealing plugs

JBB



| SW | T (M)  | L    | Art. N°          |
|----|--------|------|------------------|
| 8  | M5     | 7.3  | JBB-M5-L7.0      |
| 8  | M6     | 7.8  | JBB-M6-L8.0      |
| 11 | M8X1   | 10.3 | JBB-M8X1-L10.0   |
| 11 | BSP1/8 | 10.3 | JBB-BSP1/8-L10.0 |

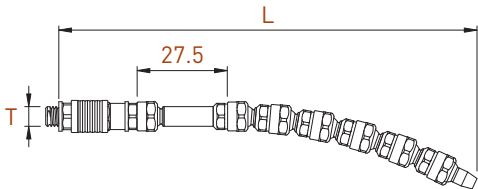
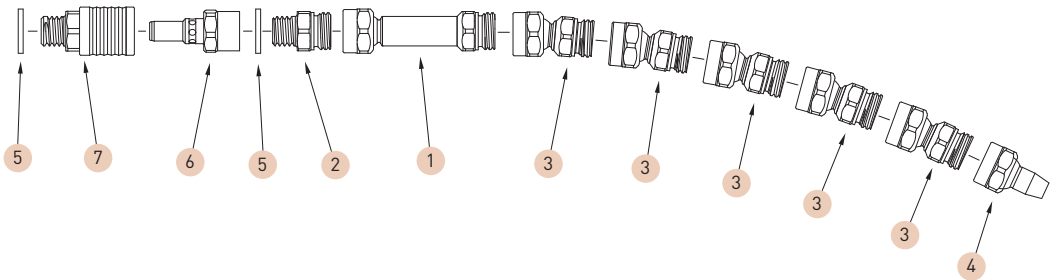
Kit articulé avec buse d'arrosage

Gelenkkit mit Kühlungsdüse

Articulated kit with coolant nozzle

JKIT-AR3

new



| Ref | Qty | Kit composition  |
|-----|-----|------------------|
| 1   | 1   | JAR3-L27.5       |
| 2   | 1   | JRMM-AR3-M6-L3.0 |
| 3   | 5   | JAR3-L12.5       |
| 4   | 1   | JJ-AR3-D3-L9     |
| 5   | 2   | JO-M6            |
| 6   | 1   | JWF-M6-D4        |
| 7   | 1   | JS-M6-D4         |

| T (M) | L   | Art. N°            |
|-------|-----|--------------------|
| M6    | 130 | JKIT-AR3-M6-D3-130 |

| Pression max       | Couple de serrage<br>Anzugsmoment<br>Torque setting |
|--------------------|-----------------------------------------------------|
| 150 bar (2.175psi) | 1.8 Nm                                              |

| Option recommandée<br>Empfohlene Option<br>Recommended option | Page<br>Seite<br>Page |
|---------------------------------------------------------------|-----------------------|
| C-AR3                                                         | 16.45                 |

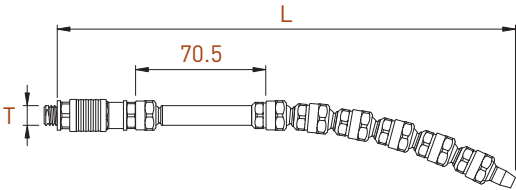
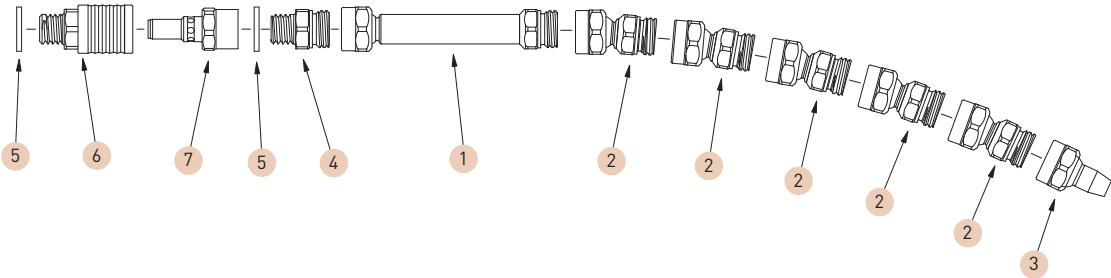
Kit articulé avec buse d'arrosage

Gelenkkit mit Kühlungsdüse

Articulated kit with coolant nozzle

JKIT-AR6

new



| Ref | Qty | Kit composition  |
|-----|-----|------------------|
| 1   | 1   | JAR6-L70.5       |
| 2   | 5   | JAR6-L20.5       |
| 3   | 1   | JJ-AR6-D6-L16    |
| 4   | 1   | JRMM-AR6-M8X1-L4 |
| 5   | 2   | JO-M8X1          |
| 6   | 1   | JS-M8X1-D6       |
| 7   | 1   | JWF-M8X1-D6      |

| T (M) | L   | Art. N°              |
|-------|-----|----------------------|
| M8X1  | 225 | JKIT-AR6-M8X1-D6-225 |

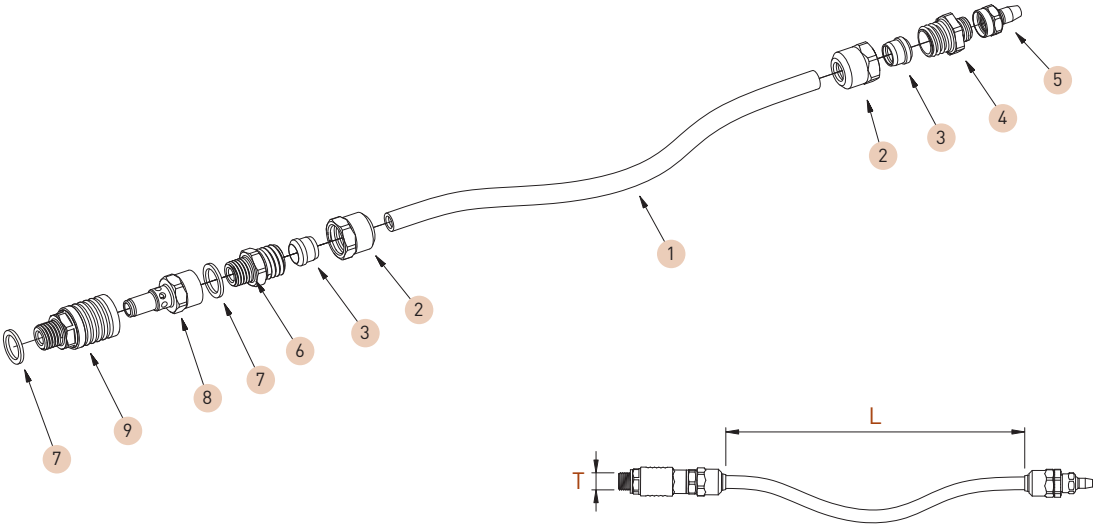
| Pression max        | Couple de serrage<br>Anzugsmoment<br>Torque setting |
|---------------------|-----------------------------------------------------|
| 100 bar (1.450 psi) | 6 Nm                                                |

| Option recommandée<br>Empfohlene Option<br>Recommended option | Page<br>Seite<br>Page |
|---------------------------------------------------------------|-----------------------|
| C-AR6                                                         | 16.45                 |

Kit tube en cuivre avec buse d'arrosage  
Kit Kupferrohr mit Kühlungsdüse  
Kit copper tube with coolant nozzle

JKIT-CU

new



| Ref | Qty | Kit composition    |
|-----|-----|--------------------|
| 1   | 1   | JT-CU              |
| 2   | 2   | JN-M10-D6          |
| 3   | 2   | JNG-D6             |
| 4   | 1   | JRMM-AR3-M10-L3.0  |
| 5   | 1   | JJ-AR3-D3-L9       |
| 6   | 1   | JRMM-M10-M8X1-L3.5 |
| 7   | 2   | JO-M8X1-D6         |
| 8   | 1   | JWF-M8X1-D6        |
| 9   | 1   | JS-M8X1-D6         |

| T (M) | L   | Art. N°                 |
|-------|-----|-------------------------|
| M8X1  | 305 | JKIT-CU-AR3-D3-M8X1-305 |

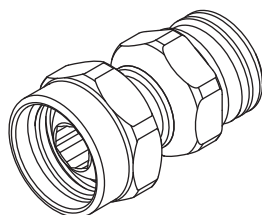
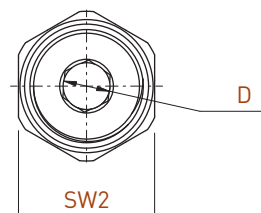
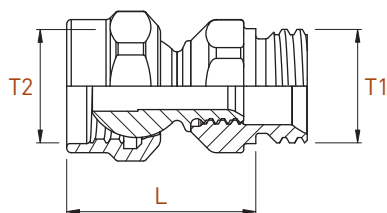
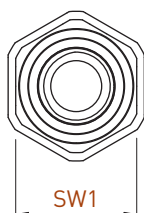
Système articulé

Gelenksystem

Articulated system

JAR

new

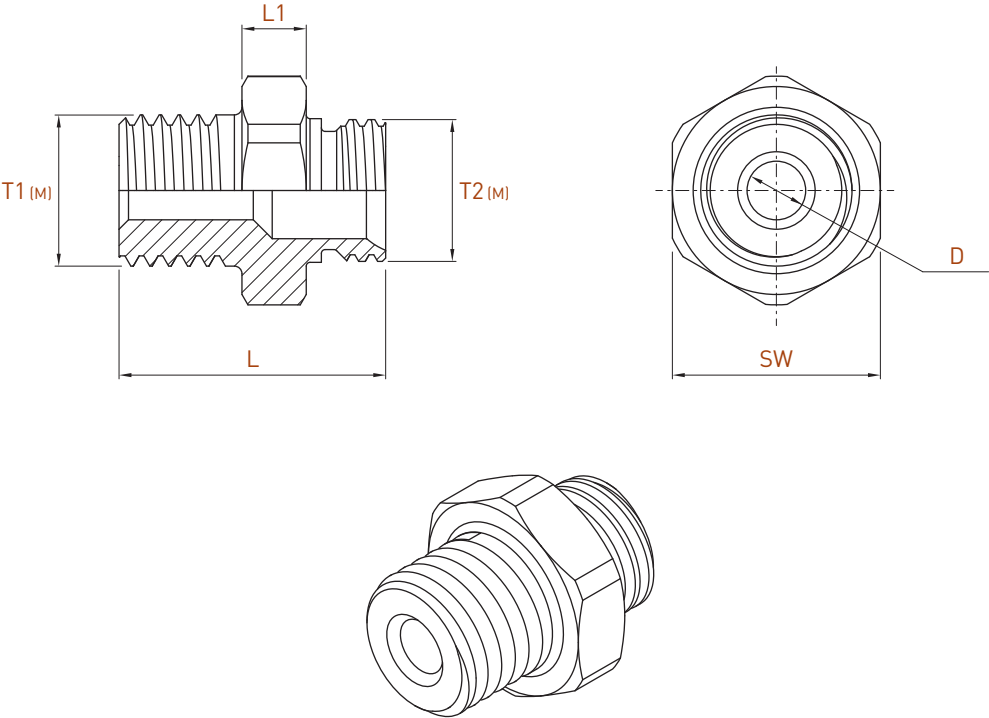


| T1 (M) | T2 (F) | L    | D | SW1 | SW2 | Art. N°    |
|--------|--------|------|---|-----|-----|------------|
| M7.5   | M7.5   | 12.5 | 3 | 8   | 9   | JAR3-L12.5 |
|        |        | 27.5 | 3 |     |     | JAR3-L27.5 |
|        |        | 42.5 | 3 |     |     | JAR3-L42.5 |
| M13    | M13    | 20.5 | 6 | 13  | 15  | JAR6-L20.5 |
|        |        | 45.5 | 6 |     |     | JAR6-L45.5 |
|        |        | 70.5 | 6 |     |     | JAR6-L70.5 |

Connecteurs mâle/mâle  
Anschlüsse Aussengewinde  
Male connectors

JRMM-AR

new

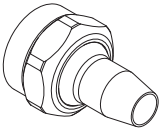
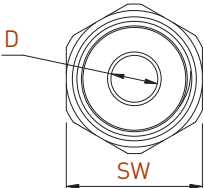
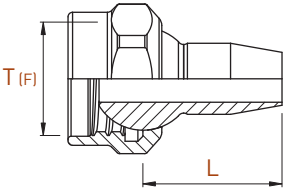


| T1 (M)   | T2 (M) | L  | L1  | D | SW | Art. N°              |
|----------|--------|----|-----|---|----|----------------------|
| M6       | M7.5   | 12 | 3   | 3 | 8  | JRMM-AR3-M6-L3.0     |
| M8X1     | M7.5   | 14 | 3.5 | 3 | 11 | JRMM-AR3-M8X1-L3.5   |
| M10      | M7.5   | 15 | 3   | 3 | 11 | JRMM-AR3-M10-L3.0    |
| M8X1     | M13    | 4  | 17  | 6 | 13 | JRMM-AR6-M8X1-L4.0   |
| M10X1    | M13    | 4  | 18  | 6 | 13 | JRMM-AR6-M10X1-L4.0  |
| BSP 1/8" | M13    | 4  | 18  | 6 | 13 | JRMM-AR6-BSP1/8-L4.0 |

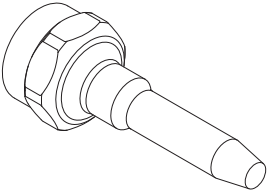
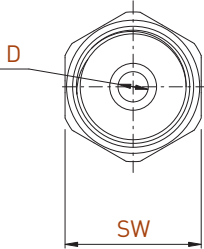
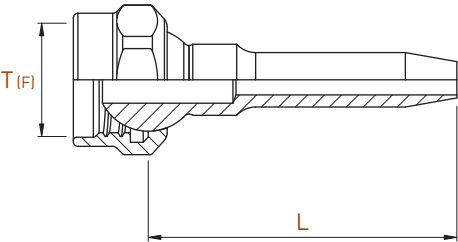
- Buses
- Düse
- Nozzle

JJ-AR

new



| T (F) | L  | D | SW | Art. N°       |
|-------|----|---|----|---------------|
| M7.5  | 9  | 3 | 9  | JJ-AR3-D3-L9  |
| M13   | 16 | 6 | 15 | JJ-AR6-D6-L16 |



| T (F) | L  | D | SW | Art. N°       |
|-------|----|---|----|---------------|
| M7.5  | 20 | 2 | 9  | JJ-AR3-D2-L20 |
| M13   | 35 | 3 | 15 | JJ-AR6-D3-L35 |

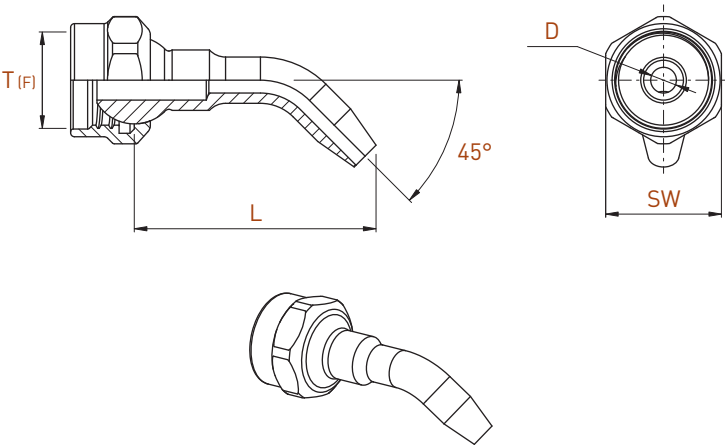
Buses

Düse

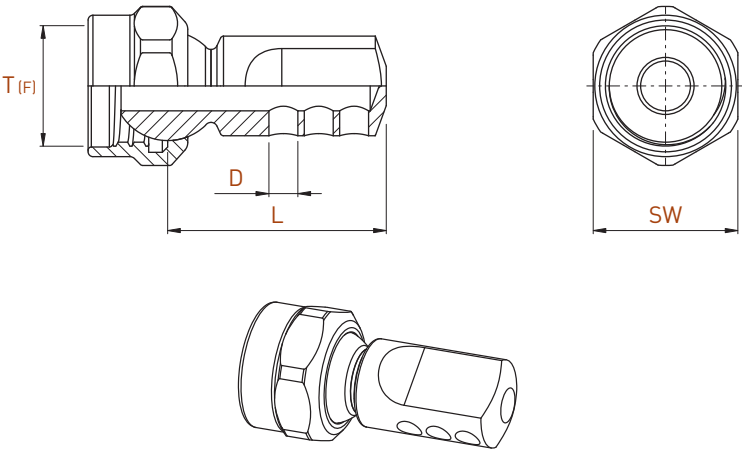
Nozzle

JJ-AR

new



| T (F) | L    | D | SW | Art. N°             |
|-------|------|---|----|---------------------|
| M7.5  | 19   | 2 | 9  | JJ-AR3-D2-L19-45°   |
| M13   | 23,5 | 6 | 15 | JJ-AR6-D6-L23.5-45° |



| T (F) | L  | D   | SW | Art. N°             |
|-------|----|-----|----|---------------------|
| M7.5  | 15 | 1.8 | 9  | JJ-AR3-3XD1.8-L13.5 |
| M13   | 24 | 3.4 | 15 | JJ-AR6-3XD3.4-L24   |



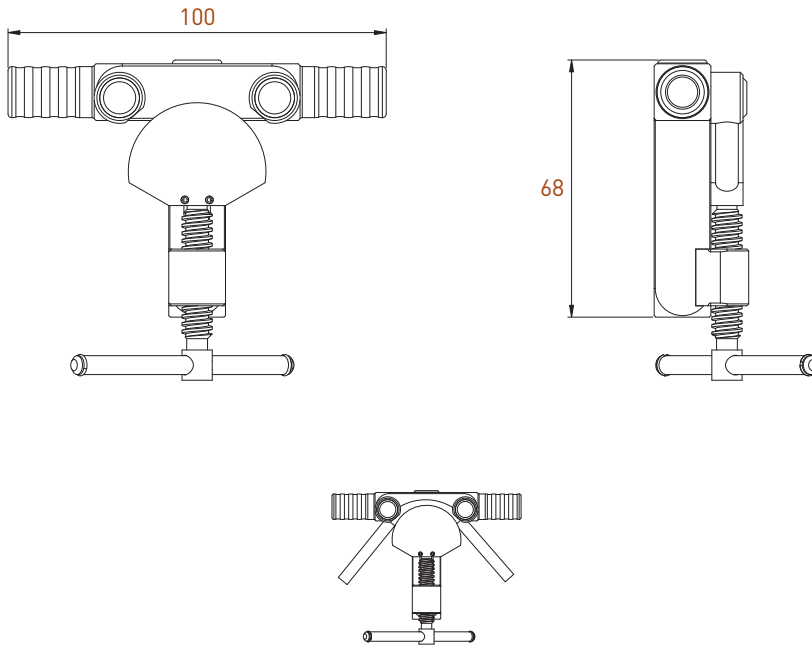
Appareil de cintrage

Biegegerät

Bending tool

JTB

new



Art. N°

JTB-D6



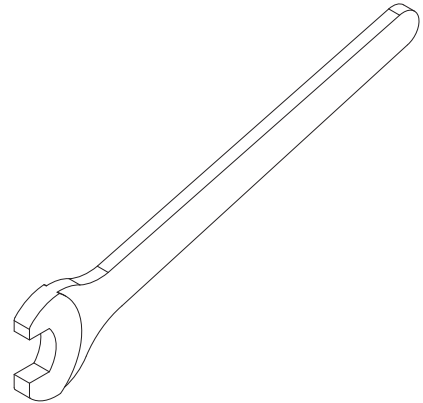
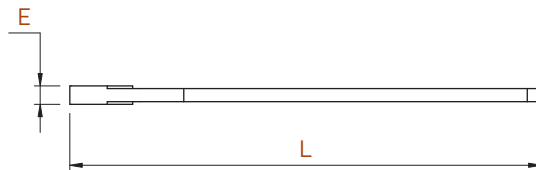
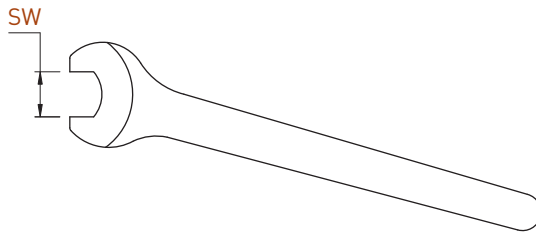
| Largeur<br>Breite<br>Width | Épaisseur<br>Dicke<br>Thickness | Longueur<br>Länge<br>Length | Art. N°  |
|----------------------------|---------------------------------|-----------------------------|----------|
| 6 mm                       | 0.1 mm                          | 12 m                        | TEF-6010 |

Clés de serrage

Gabelschlüssel

Clamping keys

C



| SW | E   | L   | Art. N°     |
|----|-----|-----|-------------|
| 8  | 2.5 | 90  | C-SW8-E2.5  |
| 11 | 3.7 | 110 | C-SW11-E3.7 |
| 13 | 5.8 | 130 | C-SW13-E5.8 |
| 8  | 2.5 | 55  | C-AR3       |
| 9  | 3   |     |             |
| 13 | 3   | 65  | C-AR6       |
| 15 | 4   |     |             |

new

new

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|    | 1106    | 15.12  |
|    | 1107    | 13.19  |
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| 14 | 1400-J  | 13.02  |
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|    | 1402    | 13.18  |
|    | 1420    | 13.04  |
|    | 1460    | 13.05  |
| 15 | 1500    | 13.15  |
|    | 1510    | 13.15  |
| 16 | 1600    | 13.16  |
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|    | 2450    | 13.07  |
|    | 2450-SP | 13.06  |
|    | 2460    | 13.07  |
|    | 2470    | 13.06  |
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|    | 251     | 4.08   |
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|    | 2520    | 13.15  |
|    | 253     | 4.12   |
|    | 2530    | 13.15  |
|    | 254     | 4.14   |
|    | 256     | 4.16   |
| 26 | 260     | 4.04   |
|    | 261     | 4.08   |
|    | 261-E   | 4.17   |
|    | 262     | 4.10   |
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|    | 2630    | 13.17  |

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|    | 2690    | 14.110 |
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|    | 2811    | 15.16  |
|    | 2815    | 15.16  |
|    | 2820    | 15.17  |
| 31 | 310     | 6.06   |
|    | 3123    | 14.58  |
|    | 317     | 6.08   |
|    | 3170    | 14.07  |
|    | 318     | 6.08   |
|    | 319     | 6.09   |
| 32 | 320     | 6.06   |
|    | 3230    | 14.63  |
|    | 3231    | 14.66  |
|    | 3238    | 14.89  |
|    | 3239T   | 14.67  |
|    | 327     | 6.08   |
|    | 3270S   | 14.18  |
|    | 3271    | 14.11  |
|    | 3278    | 14.44  |
|    | 3279T   | 14.21  |
|    | 328     | 6.08   |
|    | 329     | 6.09   |
|    | 32xxMV  | 13.60  |
| 33 | 330     | 6.10   |
|    | 3330    | 14.69  |
|    | 3331    | 14.72  |
|    | 3336-HA | 14.73  |
|    | 3337-HA | 14.73  |
|    | 3338    | 14.90  |
|    | 3341    | 14.74  |
|    | 3345-S  | 14.75  |
|    | 3361    | 14.76  |
|    | 337     | 6.12   |
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|    | 3383    | 14.93  |
|    | 339     | 6.13   |
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|    | 3430    | 14.78  |
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|    | 3439T   | 14.84  |
|    | 3441    | 14.80  |
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|    | 3450    | 14.85  |
|    | 347     | 6.12   |
|    | 3471    | 14.39  |
|    | 3472    | 14.42  |
|    | 348     | 6.12   |
|    | 349     | 6.13   |
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