

PALMARY PRODUCTS

- Centerless Grinder
- Cylindrical Grinder
- Internal Grinder
- Vertical Grinder
- Surface Grinder
- Special Purpose Grinder

PALMARY

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CNC VERTICAL GRINDER

VIG CNC series



PALMARY

PALMARY MACHINERY CO., LTD.

VIG-50
VIG-80

CNC VERTICAL GRINDER

PRECISION
PERFECTION
EXCELLENCE

PURSUANCE OF PERFECTION

EXTRAORDINARY DESIGN!
USER-FRIENDLY OPERATION!

Based on PALMARY's tradition of "Pursuing Quality Perfection", combined with human engineering design and peak performance concepts, each machine fully reflects PALMARY's unmatched design and technique.

Honeycomb Tubular type machine structure assures the best possible rigidity and stability. The machine bed is manufactured from high-quality Meehanite cast iron, heat treated and stress relieved for outstanding stability and without deformation.



[VIG-50]

A TOTAL DEDICATION TO NEW TECHNOLOGICAL LEVEL



CNC CONTROLLER

- FANUC control system for widely use in kinds of different grinding application.



BUILT-IN TYPE WHEEL SPINDLE

- Variable speed range from 2700 to 15000 r.p.m.
- The forced spindle lubrication system and oil-cooling system bring the higher stability.



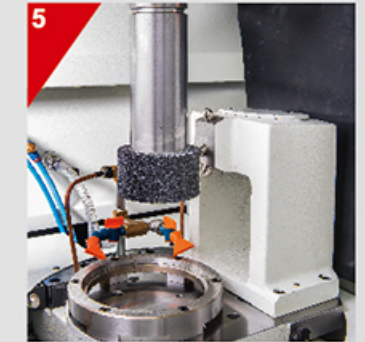
ANGULAR WHEEL

- For end face grinding application, the wheel spindle could swivel to 22.5 degrees for easily grinding.



AUTO. TOOL CHANGE SYSTEM (ATC)

- Equipped max. 6 no. grinding wheels for different diameter or accuracy requirement.
- The tool holder is HSK-E63 type for higher rigidity.



WHEEL DRESSING DEVICE

- The round rotating dressing device save more interior space.

HONEYCOMB TUBULAR TYPE MACHINE STRUCTURE

OUTSTANDING FEATURES

1. High Rigidity Machine Bed

- The design of honeycomb tubular type machine bed and cross guideway structure for improving the higher rigidity and stability.

2. High Grinding Efficiency

- For end face grinding application, the wheel spindle can swivel to 22.5 degrees for easy grinding.
- Equipped with 6 no. ATC (Auto Tool Change) system.
- The high rigidity HSK tool holder is used.

3. Space Saving

- Reduced machine layout for saving more space.
- The round rotating dressing device saving more interior space.

4. High Precision

- The coolant flow has an isolation design from the machine bed and can reduce the heat deformation and dirt contamination on the bed.
- The standard accessories 2 axes full-close loop digital linear scales equipped.
- The diamond roller dressing device is optional.

5. High Rigidity Work Spindle

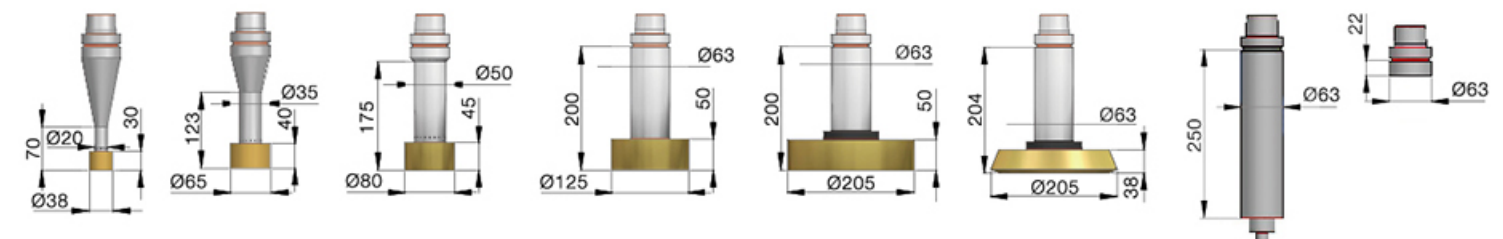
- The work spindle uses high accuracy bearings in the turn table.

[Model: VIG-50]

(unit: mm)

Grinding Wheel Type

HSK-E63 Tool Holder

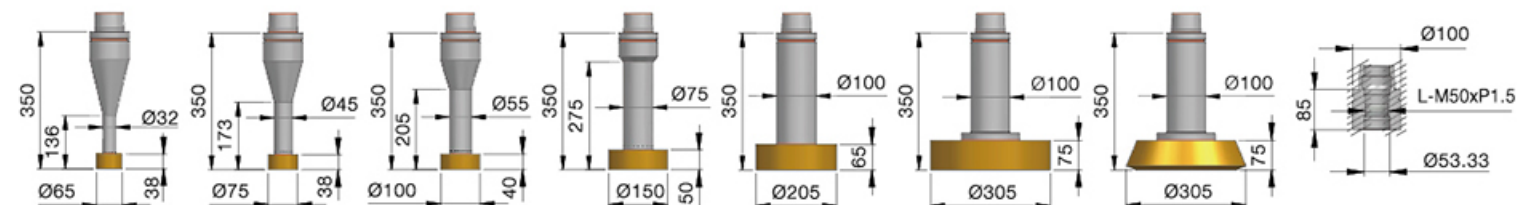


[Model: VIG-80]

(unit: mm)

Grinding Wheel Type

HSK-E100 Tool Holder



VIG-50

MODEL	VIG-50
Capacity	O.D. grinding range
	Max. I.D. grinding length
	Max. O.D. grinding length
	Spindle Swivel dia.
	Max. workpiece length
Wheel Spindle	Max. workpiece load
	Distance from top of spindle to G.W.
	Wheel spindle speed
	G.W. diameter
	Max. linear speed
Work Spindle	Tool holder type
	Work table size (face plate)
	Work spindle speed (variable speed)
	X axis speed
	X axis MPG each graduation movement
Traverse	X axis min. setting unit
	Z axis speed
	Z axis MPG each graduation movement
	Z axis min. setting unit
	Electricity
Power	Air (work pressure & useful discharge)
Controller	FANUC
Machine Dimensions (LxWxH)	2350 x 3200 x 2753 mm
Machine Weight	Net weight 7000 kg

• The mentioned specifications & dimensions are subject to change without notice.

STANDARD ACCESSORIES

- FANUC CNC controller (included current gap control function) x 1
- Fully enclosed splash guard x 1
- Grinding wheel x 4
- Standard HSK-E63 tool x 4
- Single point diamond dresser x 1
- Hydraulic system x 1
- Coolant system x 1
- Electric system x 1
- Full-close loop digital scale (for X & Z axes) x 2
- Build-in type wheel spindle x 1
- Wheel spindle oil cooler system x 1
- ATC system (auto. tool change system, max. 6 no. wheels) x 1
- Ø550 mm face plate x 1
- Wheel balancing stand x 1
- Tools and tool box x 1

OPTIONAL ACCESSORIES

- Ø500 mm magnetic chuck with demagnetizer
- Special chuck (individual design)
- Dressing device
- Magnetic coolant separator
- Paper filter
- Hydrocyclone coolant separator
- Oil cooler

VIG-80

MODEL	VIG-80
Capacity	O.D. grinding range
	Max. I.D. grinding length
	Max. O.D. grinding length
	Spindle Swivel dia.
	Max. workpiece length
Wheel Spindle	Max. workpiece load
	Distance from top of spindle to G.W.
	Wheel spindle speed
	G.W. diameter
	Max. linear speed
Work Spindle	Tool holder type
	Work table size (face plate)
	Work spindle speed (variable speed)
	X axis speed
	X axis MPG each graduation movement
Traverse	X axis min. setting unit
	Z axis speed
	Z axis MPG each graduation movement
	Z axis min. setting unit
	Electricity
Power	Air (work pressure & useful discharge)
Controller	FANUC
Machine Dimensions (LxWxH)	3070 x 4527 x 3545 mm
Machine Weight	Net weight 13000 kg

• The mentioned specifications & dimensions are subject to change without notice.

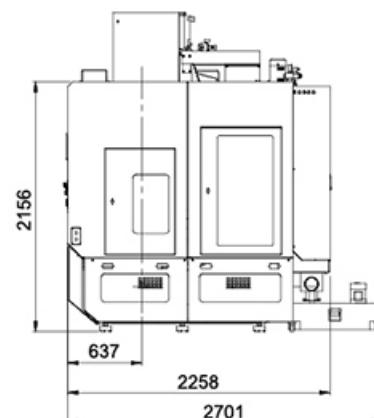
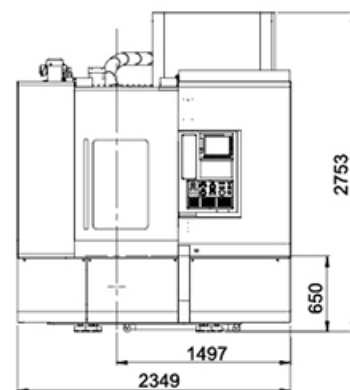
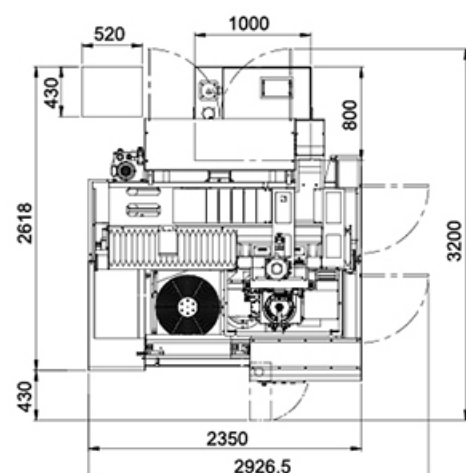
STANDARD ACCESSORIES

- FANUC CNC controller (included current gap control function) x 1
- Fully enclosed splash guard x 1
- Grinding wheel x 4
- Standard HSK-E100 tool x 4
- Single point diamond dresser x 1
- Hydraulic system x 1
- Coolant system x 1
- Electric system x 1
- Full-close loop digital scale (for X & Z axes) x 2
- Build-in type wheel spindle x 1
- Wheel spindle oil cooler system x 1
- ATC system (auto. tool change system, max. 6 no. wheels) x 1
- Ø850 mm face plate x 1
- Wheel balancing stand x 1
- Tools and tool box x 1

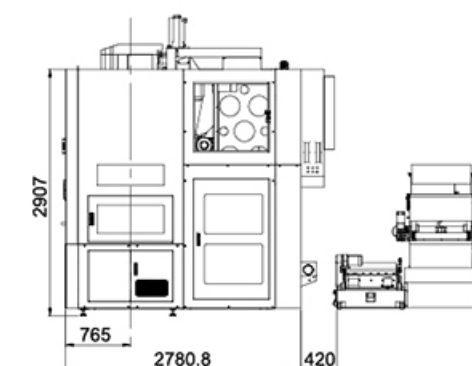
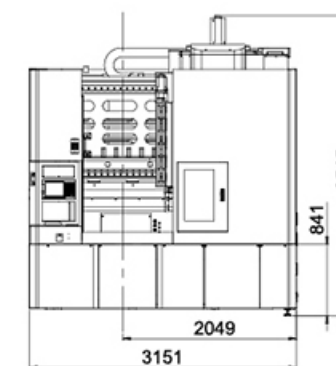
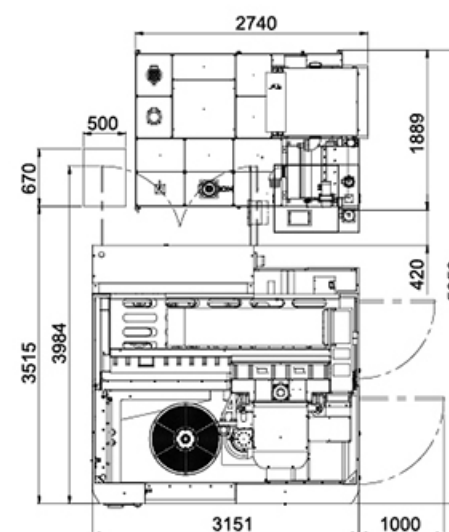
OPTIONAL ACCESSORIES

- Ø800 mm magnetic chuck with demagnetizer
- Special chuck (individual design)
- dressing device
- Magnetic coolant separator
- Paper filter
- Hydrocyclone coolant separator
- Chiller for coolant tank

MACHINE DIMENSIONS (unit: mm)



MACHINE DIMENSIONS (unit: mm)



CONCERTO OF HIGH ACCURACIES AND PRODUCTION

OUTSTANDING FEATURES

1. No vibration and run-out caused by self-weights of the workpieces and chucks that may affect grinding accuracy.
2. Irregularly shaped workpieces are easy to chuck.
3. Non-symmetric part between inside hole and external shape can also proceed inside hole and end face grinding process.

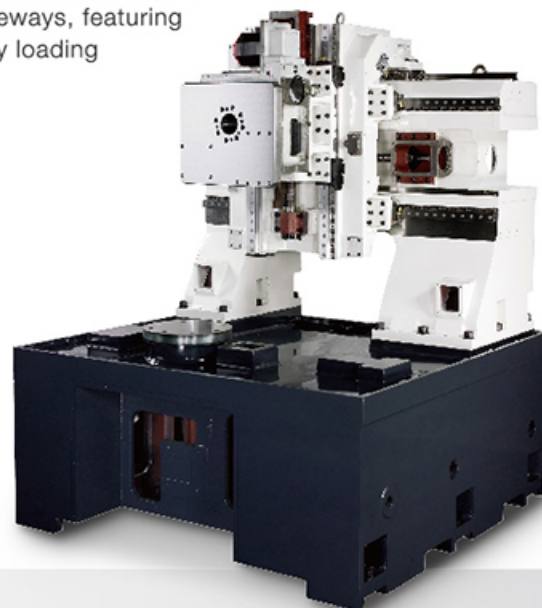
MACHINE STRUCTURE

1. The machine bed is manufactured from high-quality Meehanite cast iron, heat treated and stress relieved for outstanding stability and without deformation.
2. X & Z axes are equipped with special cross roller type linear guideways, featuring extra heavy loading capability.



[VIG-2015E]

2 3 1



CNC CONTROLLER

- The Mitsubishi M70 controller with a user-friendly control panel frame that allows operator to easily choose different grinding modes.
- FANUC controller is optional.



BUILT-IN TYPE HIGH SPEED WHEEL SPINDLE

- 10000~45000 r.p.m. spindle for widely internal diameter range use.
- The spindle runs in ceramic angular contact ball bearings, with outstanding radial and axial loading capability, low heat growth at high speed operation and has a long service life.



BUILT-IN TYPE EXTERNAL WHEEL SPINDLE

- 1500~4500 r.p.m. spindle for standard wheel O.D. 355 mm.
- For CBN wheel (optional), the speed could change to 4500 r.p.m..
- For model VIG-2015E only.

SPECIFICATIONS

VIG-2015 / 2015E

MODEL	VIG-2015 / VIG-2015E
Capacity	Internal grinding range (I.D.: length= 1:3) Ø14~200 mm
	Max. external grinding dia. Ø200 mm
	Max. grinding length 150 mm
	Max. workpiece swing Ø300 mm
	Max. workpiece length 150 mm
Internal Grinding Wheel	Max. workpiece loading 100 kg
	X axis longitudinal traverse 500 mm
Z axis vertical traverse	400 mm
	Internal grinding wheel spindle speed 10000~45000 r.p.m.
Internal grinding wheel diameter	Ø10~95 mm
	Linear velocity 2700 M/min
External Grinding Wheel (2015E only)	External grinding wheel speed 1500~4500 r.p.m.
	O.D. x W x I.D. Ø355 x 50 x Ø127 mm
Linear velocity	2700 M/min
	Speed 40~800 r.p.m.
Chuck size	200 mm
	X / Z axis speed 0~6 M/min
X / Z axis min. setting unit	0.001 (0.0001) mm
	X / Z axis slide ways Linear guideway
Work spindle motor	3.5 kW
	Internal grinding wheel motor 3.0 kW Torque: S1= 1.1 Nm, S6= 1.5 Nm
External grinding wheel motor (2015E only)	3.0 kW Torque: S1= 15 Nm, S6= 20 Nm
	Coolant pump motor 0.75 kW
Hydraulic pump motor (2015E only)	0.75 kW
	Lubrication system motor 20 W
Coolant tank	140 L
	Hydraulic oil tank (2015E only) 20 L
Spindle oil coolant tank	15 L
	Controller Mitsubishi / FANUC (opt.)
Machine Dimensions	L x W x H 1900 x 2300 x 2400 mm
	Net weight 7000 kg

• The mentioned specifications & dimensions are subject to change without notice.

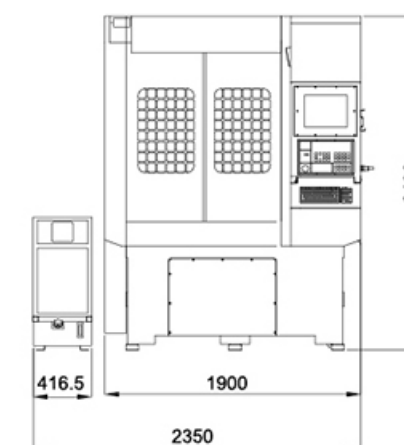
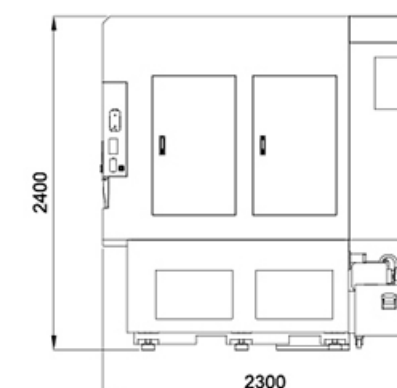
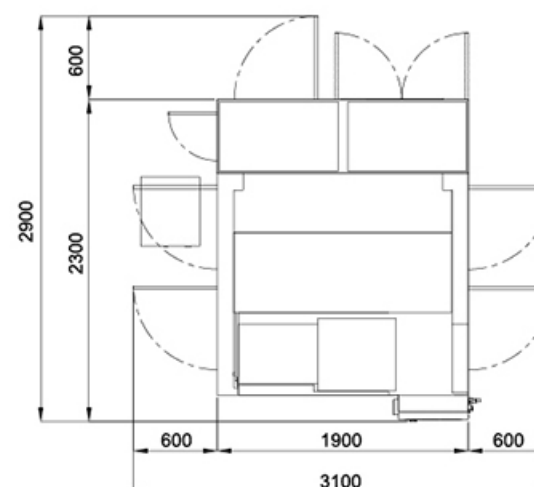
STANDARD ACCESSORIES

- CNC controller (Mitsubishi M70 with PC-NC conversation software) x 1
- Fully enclosed splash guard x 1
- Diamond dresser x 1
- Hydraulic system x 1
- Coolant system x 1
- Electric system x 1
- Built-in type internal grinding wheel spindle x 1
- Built-in type external grinding wheel spindle (VIG-2015E only) x 1
- Wheel spindle oil cooler x 1
- X & Z axes linear scale x 2
- Tools and tool box x 1

OPTIONAL ACCESSORIES

- FANUC CNC controller
- 3-jaw chuck
- Rotary type dressing device
- Soft jaw turning device
- Oil mist collector
- Magnetic coolant separator
- Paper filter
- Current gap control

MACHINE DIMENSIONS (unit: mm)

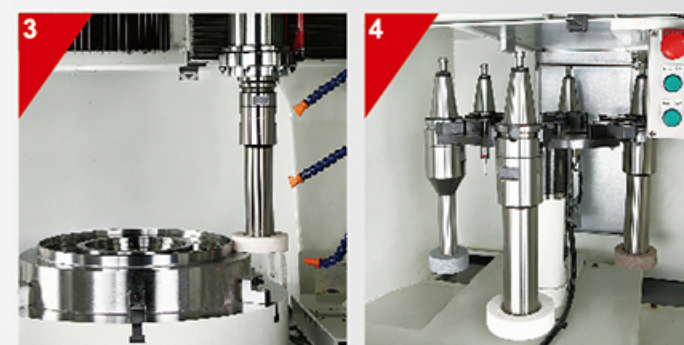


**CNC CONTROLLER**

- The Mitsubishi M70 controller with a user-friendly control panel frame that allows operator to easily choose different grinding modes.
- FANUC controller is optional.

ELECTRIC CABINET

- Electric components meet with international standard for safety.
- The cabinet is equipped with a heat exchanger to keep in normal temperature range for stable working environment.

**BUILT-IN TYPE GRINDING WHEEL SPINDLE**

- Variable speed range from 2000~10000 r.p.m..
- The spindle equipped oil-cooling system offers better stability.

AUTO. TOOL CHANGE SYSTEM (ATC)

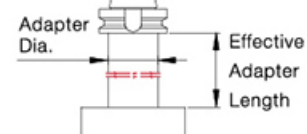
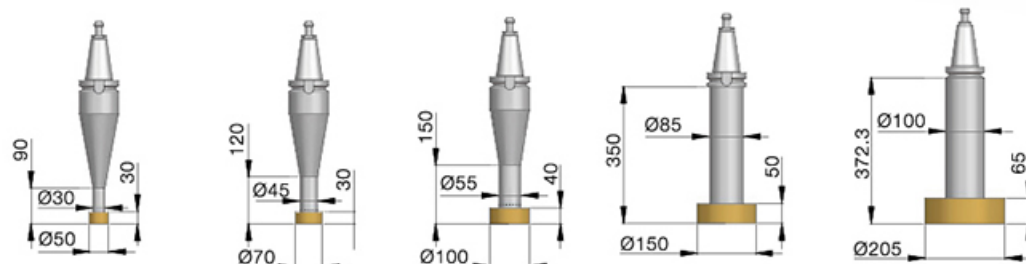
- Equipped with max. 6 no. grinding wheels for different diameter or accuracy requirement.
- The tool holder is BBT. 50 type for higher rigidity.

MACHINE STRUCTURE

- The machine structure is manufactured from high-quality Meehanite cast iron, heat treated and stress relieved for outstanding stability and without deformation.
- X & Z axes are equipped with special cross roller type linear guideways, featuring extra heavy loading capability.



(unit: mm)

Grinding Wheel Type**BBT. 50 Tool Holder****SPECIFICATIONS****VIG-8050**

MODEL	VIG-8050
Capacity	Internal grinding range (I.D.: length= 1:3) Max. external grinding diameter Z axis max. external grinding length Z axis max. internal grinding length Max. workpiece swivel Max. workpiece length Max. workpiece load Z axis external grinding wheel spindle speed
Wheel Spindle	External / Internal G.W. diameter Tool holder type Work spindle speed Work table size (face plate) Screw nut size for t-groove Work chuck size (opt.) X axis longitudinal traverse X axis speed X axis MPG each graduation movement X axis min. setting unit X axis guideway type Z axis traverse Z axis speed Z axis MPG each graduation movement Z axis min. setting unit Z axis guideway type
Work Spindle	External grinding wheel spindle motor Work spindle motor Coolant pump motor Diamond roller dressing device motor (opt.) B axis (ATC) Lubrication system motor Hydraulic oil tank Auto. electric lubricator tank
Motor	Oil cooler tank Pneumatic tank Coolant tank
Tank Capacity	Controller
Machine Dimensions	Machine Net weight

The mentioned specifications & dimensions are subject to change without notice.

STANDARD ACCESSORIES

- CNC controller (Mitsubishi M70 with PC-NC conversation software) x 1
- Fully enclosed splash guard x 1
- Grinding wheel x 4
- Standard BBT. 50 tool x 4
- Single point diamond dresser x 1
- Hydraulic oil lubricator system x 1
- Coolant system x 1
- Electric system x 1
- Full-close loop digital scale (X & Z axes) x 2
- Wheel spindle (2000~10000 r.p.m. variable speed) x 1
- Wheel spindle oil cooler system x 1
- ATC system (auto. tool change system, max. install 6 no. wheels) x 1
- Ø800 mm face plate x 1
- Tools and tools box x 1

OPTIONAL ACCESSORIES

- BBT. 50 tool (individual design)
- Workpiece clamping fixture (individual design)
- Diamond roller dressing device
- Magnetic coolant separator
- Paper filter
- Hydrocyclone coolant separator
- Oil mist collector
- Touch probe gauge
- Current gap control

MACHINE DIMENSIONS (unit: mm)