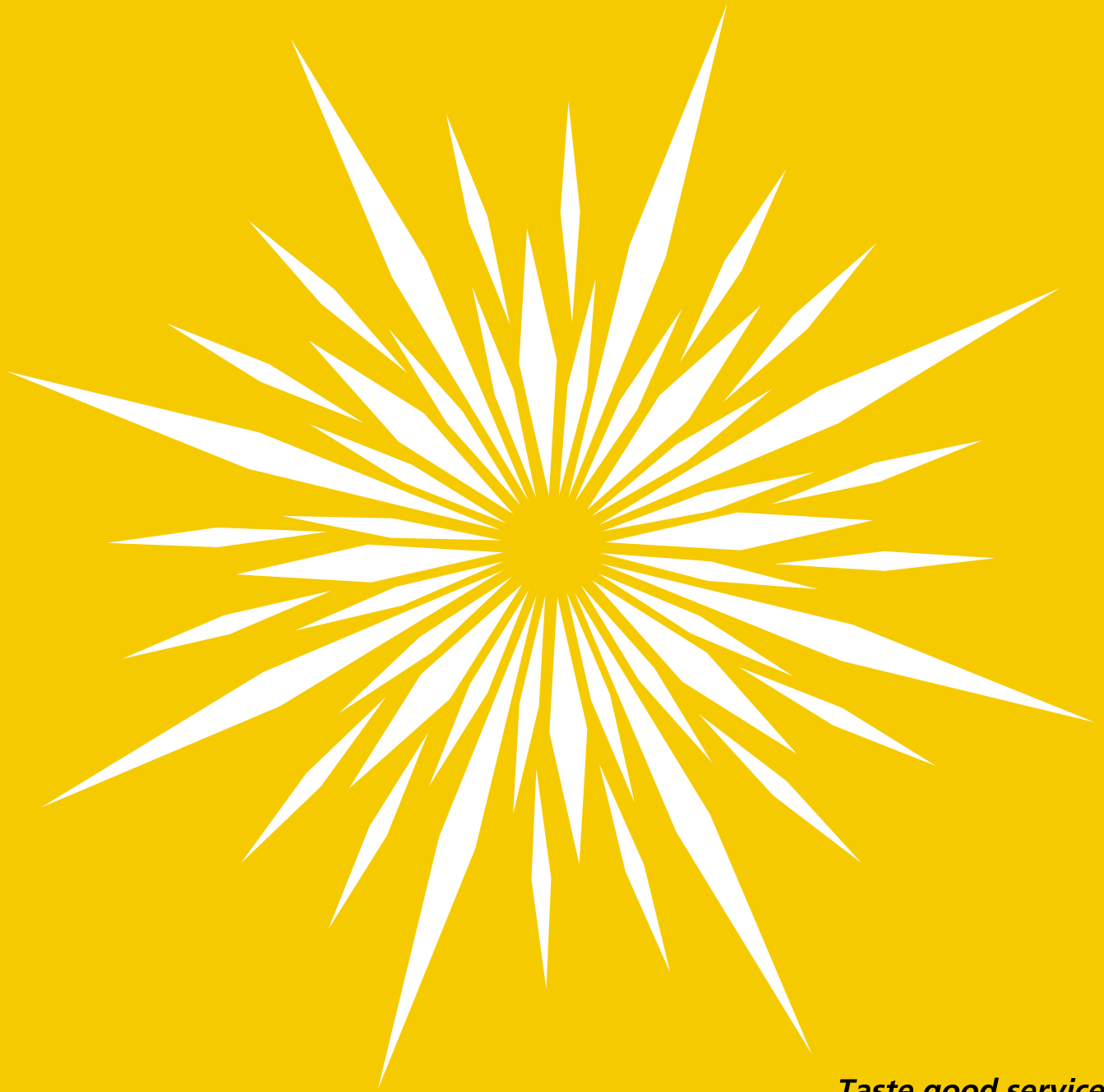


# kafo

## DOUBLE COLUMN MACHINING CENTER

| B/BMC SERIES | RVM/RV SERIES | RVM5A/RV5A SERIES  
| KRV SERIES



*Taste good service  
by our professional and efficient team*

# KAF0

## SIX SENSES PERFORMANCE



Over fifty years, KAFO has become the leading brand in Die & Molds field and Machining field based on its solid foundation of superior technology. "Steady Research & Development, Quality Control, Accumulate Experience" exceed customers' expectations and think globally, act locally.

We provide you comprehensive six senses performance, including Vision, Hearing, Smell, Touch, Taste, and Heart. As a visual design master, we create innovative designs covering all aspects. We understand and meet customers' needs from every corner of the world. Additionally, we smell the market demand and offer well-thought-out plans. Through strict quality control, we pursue excellent quality to achieve high and steady performance. Moreover, our professional team offer efficient 24/7 service which is worth experiencing. Operating with our Heart, we always stick to perfection. By means of accumulating experience, intensifying the know-how, focusing on the upgrading core competency of technology, and continuously improving the manufacturing process, KAFO realizes the commitment to customers for best quality products and also being rated as the benchmark of the industry.

*David Shen*

KAO FONG MACHINERY CO., LTD.  
President  
SHEN, KUO-JUNG (DAVID SHEN)

*Lin, Yen Huey*

KAO FONG MACHINERY CO., LTD.  
Chairman  
LIN, YEN-HUEY



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Kao Fong Machinery Co. Ltd.



Vertical Machining Center Production Line



Horizontal & Double Column Machining Center Production Line

# ASSEMBLY



- Assembly KAFO gear box and head unit in clean room.



- World class spindle bearings.



- Spindle assembly and adjustment in clean room with constant temperature and humidity.

# QUALITY ASSURANCE

RIGOROUS TESTS AND INSPECTION,  
GUARANTEED QUALITY CONTROL UPON KEY COMPONENTS



- / 3D PROBE SYSTEM  
QUALITY ASSURANCE  
(CMM)



- / LASER INSPECTION



- / 3D CIRCULAR BALL  
MILLING



- Spindle, gear box, and spindle motor balance test.



- Scrapping-The difference from other brand, with the KAFO line of Machining Centers, every component surface is finished by hand-scraping for a proper fit, ensuring that the machine itself is geometrically correct and long lasting. The hand-scraping process is labor intensive and must be performed by skilled craftsman who are trained in the technique. Machine components must be placed then removed up to 5 times to confirm that the machine base in both level and square.



/ BALL BAR INSPECTION



/ VIBRATION TEST



/ RIGIDITY TEST

# DOUBLE COLUMN MACHINING CENTER

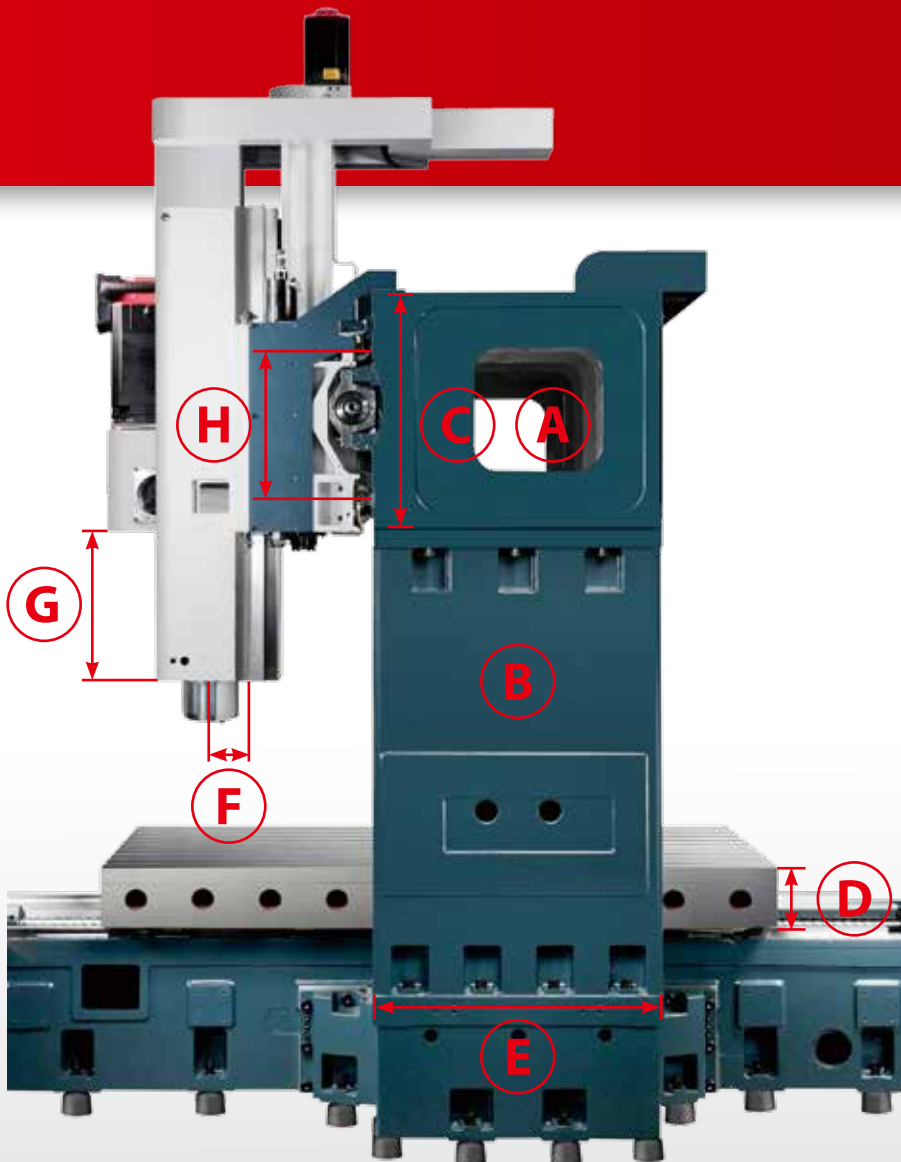
NEW GENERATION DESIGNED,  
PROVIDING BEST RIGIDITY STRUCTURE

- Extended beam cross-section A
- Widest column available in the market B
- Largest spindle head support C
- Thickest working table D
- Biggest contact area for column support E
- Minimum distance from spindle center to boxway F
- Short transmission shaft
- Long distance between guideways H



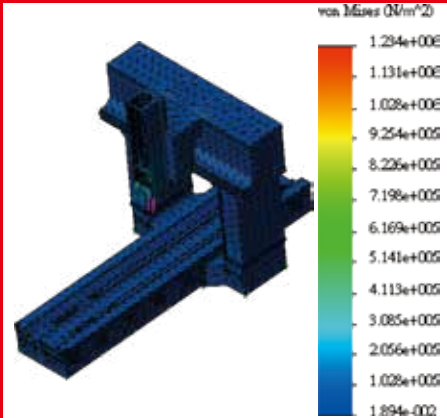
- Hydraulic counter balance system for Z-axis
- Roller linear guideways from NSK/THK ( Japan ) or INA ( Germany )
- Highest quality Meehanite casting

- Hermo-symmetric box design base with high static and dynamic stiffness
- Minimum floor space layout due to rigid bed design



- A: Extended beam cross-section
- B: Widest column
- C: Largest spindle head support
- D: Thickest working table
- E: Biggest contact area for column support
- F: Minimum distance from spindle center to boxway
- G: Short transmission shaft
- H: Long distance between guideways

# HIGH RIGIDITY STRUCTURE, HIGH POSITIONING ACCURACY



## SUPERIOR BODY STRUCTURE

- The machine bed, column, spindle head, cross slides and table are all analyzed and optimized by FEM tests. This design assures high stability and rigidity of the machine, thus making it suitable for heavy-duty machining of all kinds of material.



## GEAR BOX OF THE THREE AXES

- Three axes feed mechanism employs gear transmission and precise ballscrew with precision class P4 angular contact ball bearings. Gears, ground in accordance with Din level 5, provides good transmission efficiency and also gives the advantages of great transmission torque at low speed and excellent dynamic response at high speed.



## MINIMUM SPINDLE DISTANCE

- The distance between spindle centers to Z-axis slideway surface is 150mm. Spindle center is located at the center of headstock which eases the thermal expansion caused by increased temperature of spindle; therefore raises the resistance of the body structure when cutting providing higher machining accuracy and stability.



## CUSTOMIZED CALCULATOR SOFTWARE FEATURES ( OPTION )

### MULTI-FUNCTION STATE DISPLAY

- Spindle/Axis Load
- Tools State Display
- Controller Running Timer
- Feed Rate State
- Spindle Speed State
- Coordinate State
- Workpieces Counter
- Date/Time State
- Machining Time State
- Soft-Key Function





### BALL SCREW COOLING SYSTEM

- Each axis is driven by a large diameter, high precision ground, pre-loaded and double anchored ballscrew providing high accuracy, fast rapid federates and maximum feed thrust. Models with travel over 3m are equipped with cooling system through ballscrew on X-axis to alleviate thermal expansion, resulting in higher positioning accuracy. Models with travel over 4 m possess supporting way for X-axis to solve the problems of overhanging and vibration.



### SAFE AND STABLE TOOL MAGAZINE

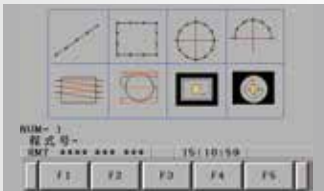
- Modularized tool magazine offering protection and conveniences. Standard capacity is 30 tools. Optionally also offer customers 40, 60, 90 and 120 tools to choose from.



### PRECISE ROLLER TYPE LINEAR GUIDE WAYS

- Feeding systems of X and Y axes adopt the roller type linear guideways which feature the heavy load resistance, rapid dynamic response and low friction coefficient ( 0.003 ~ 0.005 ). With independent loop hydraulic balanced system, it could react and save at least 50% energy consumption.

### G-MENU



- The G-menu function, easy-processing module for customer.

### CENTER OF RECTANGLE FUNCTION



- Measured rectangular workpiece four-point and calculate the rectangular center of the workpiece coordinates and tilt angle.

### TOOL LENGTH MEASUREMENT AND SETTING



- Manually setting tool length and compensating numbers. After finishing the measurement, it could change to next tool.

### INTELLIGENT ATC SYSTEM MANAGEMENT



- Displaying of the tool number, tool pot number and preparation tool number can be pre-set the tool type in the form.

### CALCULATING FUNCTION



- Calculating function provided customers with fast calculation and completion of the workpiece coordinate corrections and setting.

### CENTER OF CIRCLE FUNCTION



- Provide customers with three points to find the center of the circle, user-friendly setting mode.

### TOOL LENGTH MEASUREMENT AND SETTING



- Manually setting tool length and compensating numbers. After finishing the measurement, it could change to next tool.

### INTELLIGENT ATC SYSTEM MANAGEMENT



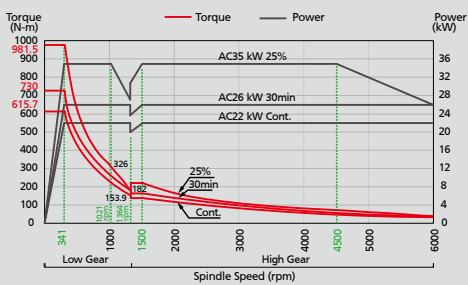
- Check and set of user-friendly tool storage, and display the program number, feed rate and spindle speed, allowing users to catch processing states.

# NEW GENERATION SPINDLE DESIGNED WITH POWERFUL MACHINING ABILITY

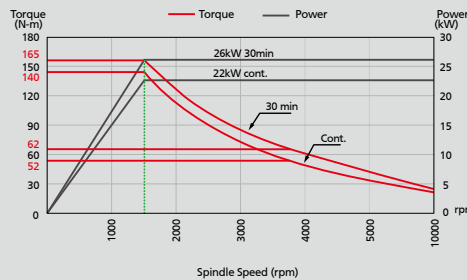
/ HIGH RIGIDITY, HIGH TORQUE, HIGH SPEED, LOW VIBRATION LOW NOISE, LOW THERMAL DISPLACEMENT

- Upgrading the output torque of gear head spindle ( which is 10% bigger than other manufacturer )
  - Upgrading the main bearing diameter of gear head spindle to 100mm ( which is 10mm above than other manufacturer )
  - Strong motor 22/26kW ( 35HP ) is driven by two step gear box, spindle speed 6000rpm and powerful torque to 728N-m, which is most suitable for heavy cutting.
- Also available with roller type bearing spindle 4000rpm could be used in much heavier cutting.

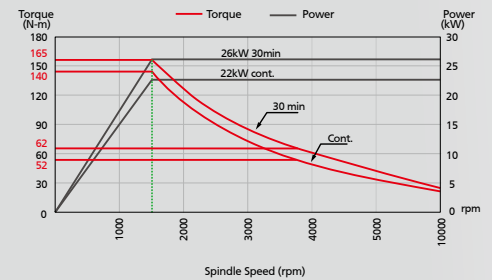
/ BT50 GEAR HEAD 6000 RPM (MITSUBISHI SJ-D26-80-01-C)



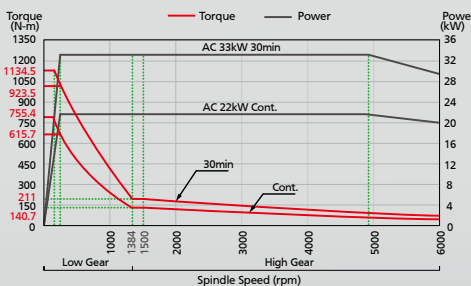
/ BT50 DIRECT-DRIVEN 10000 RPM (MITSUBISHI SJ-VK30-21ZT)



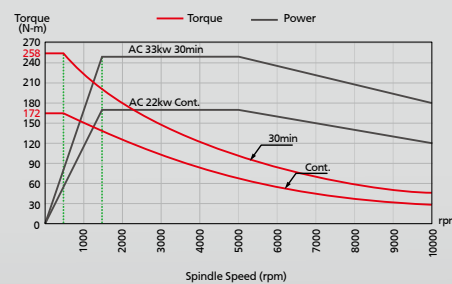
/ BT50 DIRECT-DRIVEN 10000 RPM(FANUC A22I/10000)



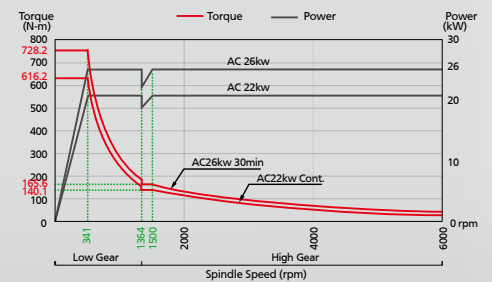
/ BT50 GEAR HEAD 6000 RPM (SIEMENS 1PH8137-1CA1)



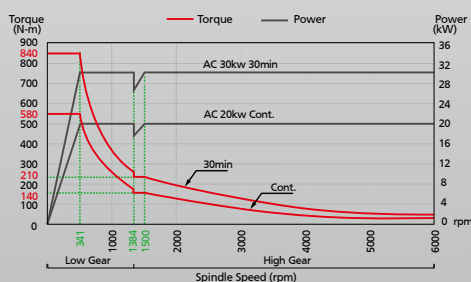
/ BT50 DIRECT-DRIVEN 10000 RPM(SIEMENS 1PH8137-OLA1)



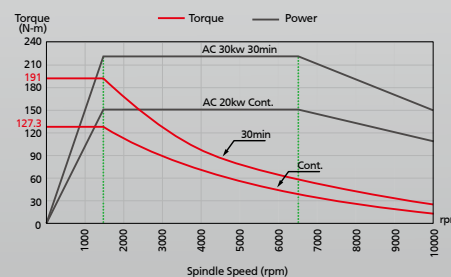
/ BT50 GEAR HEAD 6000 RPM(FANUC α22I/8000)



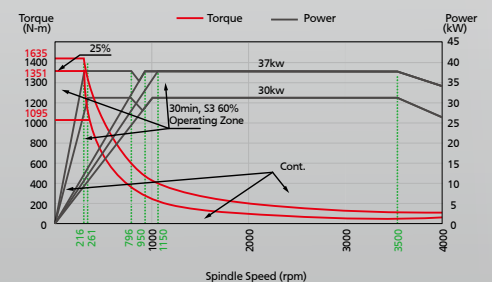
/ BT50 GEAR HEAD 6000 RPM(HEIDENHAIN QAN260L)



/ BT50 DIRECT-DRIVEN 10000 RPM(HEIDENHAIN QAN260L)



/ BT50 GEAR HEAD 4000 RPM(FANUC α30/7000)



# HIGH SPEED AND PRECISION SPINDLE DESIGN

- Using new generation 10,000rpm~12,000rpm oil-mist lubrication direct-driven spindle with high speed, high precision, high performance, which adopts FANUC  $\alpha$ 22i spindle motor and Y  $\Delta$  coil high horsepower output. With  $\varnothing$ 100 ceramic ball type bearing collocated, is able to reach 165N-m high torque output within spindle 1,500rpm and restrain the vibration & thermal elongation under long cutting. Able to maintain excellent dimension tolerance and shape accuracy also increase the efficiency while machine production in application of high speed cutting area.

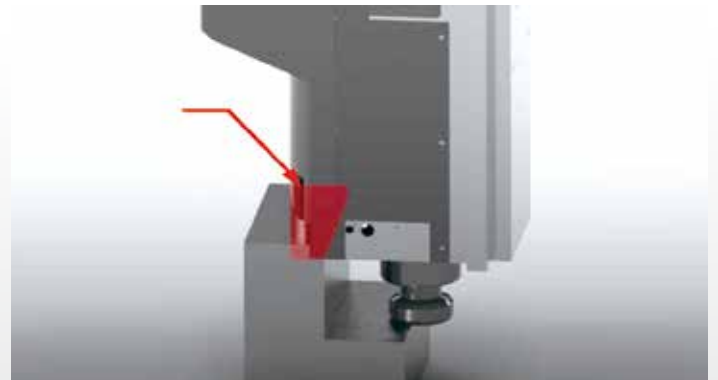
## HIGH TORQUE & LOW NOISE GEAR BOX DESIGN

- Gear spindle with 6000rpm: superior power, high speed and accurate precision. Ceramic ball bearing of ID  $\varnothing$ 100 is able to achieve high torque of 728N-m while the spindle speed is 341rpm, which is good for heavy duty cutting.

Two-speed gear box consist of DIN level 5 gears, well-performing bearings and oil cooling systems to minimize thermal expansion. Every set of gear box is inspected by the vibration and run-in tests to ensure each gear shifting smoothly and stably, meanwhile achieving G1 level of vibration testing.



- KAFO adopting long nose spindle, suitable for die & mold and specific parts cavities avoids interference during processing. It is able to mount all kind of angular milling head ( option )



- Other Manufacturer

# ATTACHED MILLING HEAD DESIGN

/ MANUAL 90° ANGLE MILLING HEAD



/ MANUAL UNIVERSAL HEAD



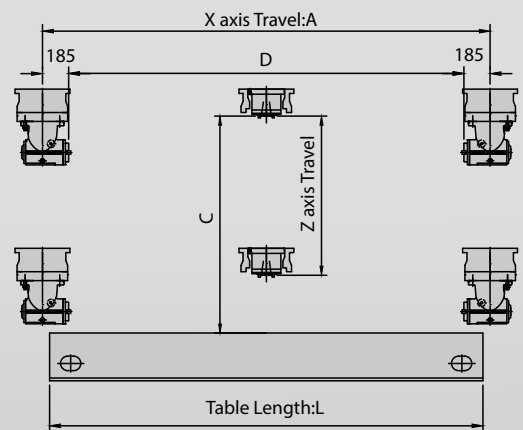
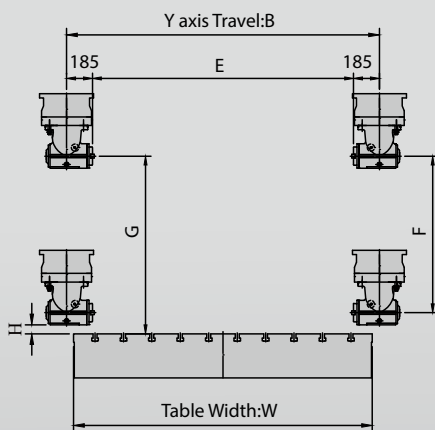
/ MANUAL EXTENSION HEAD



## / CHANGE AND INDEXING MECHANISM OF MILLING HEAD

ITEM	TYPE	HEAD CHANGE	MILLING HEAD INDEXING	CLAMPING	ANGLE
	All Manual	Manual	Manual	Manual / Bolts	Any Angle

## / MANUAL 90° ANGLE HEAD MACHINING RANGE



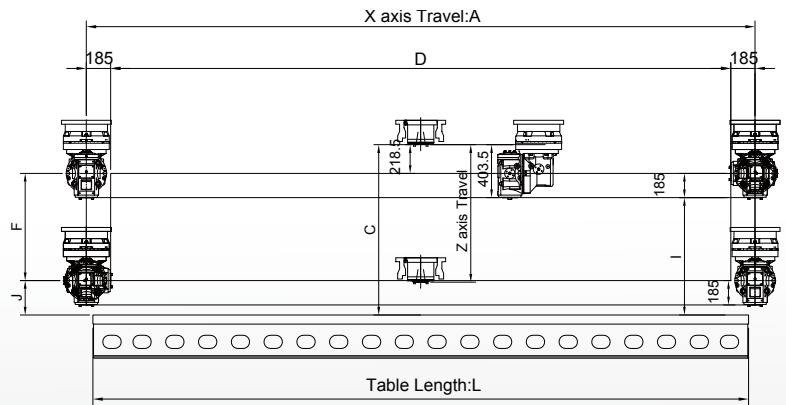
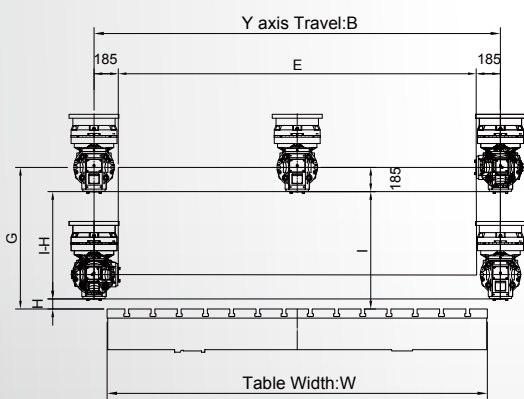
Z AXIS TRAVEL	DISTANCE FROM SPINDLE TO TABLE	A	B	C	D	E	F	G	H	RPM	KG
900	200-1100	X axis travel	Y axis travel	1100	X axis travel-370	Y axis travel-370	725	880	63	2000	92
1100	200-1300	X axis travel	Y axis travel	1300	X axis travel-370	Y axis travel-370	925	1080	63	2000	92
1300	200-1500	X axis travel	Y axis travel	1500	X axis travel-370	Y axis travel-370	1125	1280	63	2000	92

## / MANUAL ANGLE MILLING HEAD CHANGING UNIT ( OPT. )

- Manual head change.
- Manual angle milling head can change tool by foot pedal.
- Angle milling head has unclamped hydraulic cylinder, tool can be changed at any position.
- Unique and simple head changing unit doesn't occupy working space.
- Head changing unit has enclosure guards to protect against dirt and chips.
- The structure is firm, compact, safe, reliable, and durable.



## / MANUAL UNIVERSAL HEAD MACHINING RANGE



Z AXIS TRAVEL	DISTANCE FROM SPINDLE TO TABLE	A	B	C	D	E	F	G	H	I	J	RPM	KG
900	200~1100	X axis travel	Y axis travel	1100	X axis travel-370	Y axis travel-370	496.5	881.5	200	696.5	385	2000	165
1100	200~1300	X axis travel	Y axis travel	1300	X axis travel-370	Y axis travel-370	696.5	1081.5	200	896.5	385	2000	165
1300	200~1500	X axis travel	Y axis travel	1500	X axis travel-370	Y axis travel-370	896.5	1281.5	200	1096.5	385	2000	165

# SEMI-AUTO ATTACHED MILLING HEAD DESIGNED BY KAFO

\*Automatic head clamping (hydraulic), can improve the efficiency of the head change process in comparison with manual tightening.

\*Automatic tool clamping (hydraulic), can improve the efficiency of the tool change process in comparison with manual tightening.

\*Increase spindle speed, improve process ease of use.

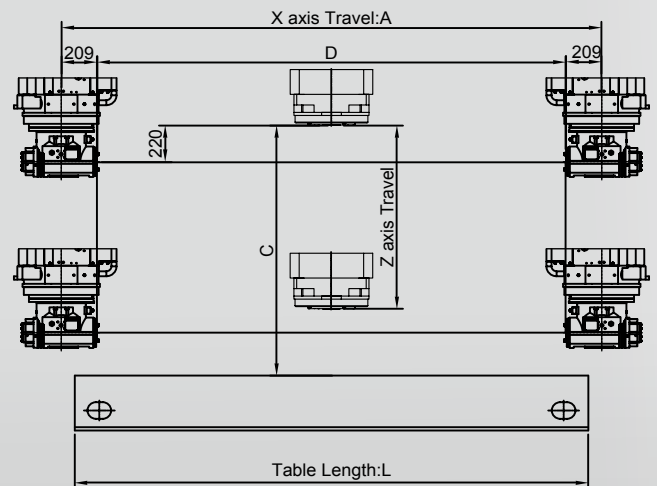
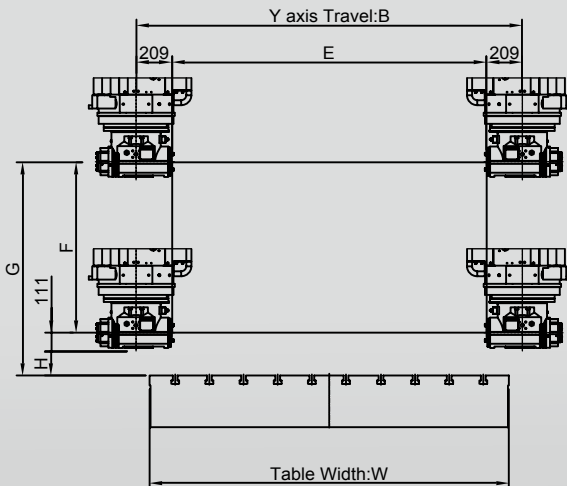
\*Can be used with BMC/KMC series. (except XX12 and XX15 series)



## / CHANGE AND INDEXING MECHANISM OF MILLING HEAD

ITEM	TYPE	HEAD CHANGE	MILLING HEAD INDEXING	CLAMPING	ANGLE
	Semi-Auto	Manual	Auto	Semi-Auto	5°

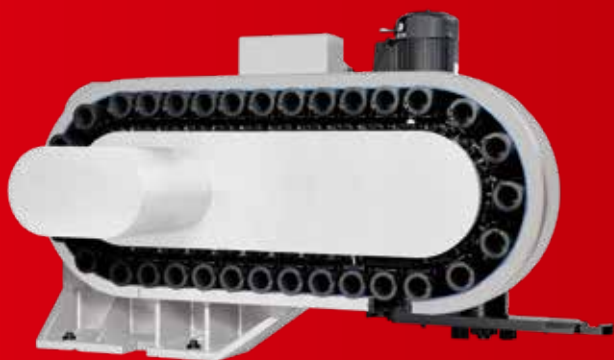
## / SEMI-AUTO 90 ANGLE HEAD MACHINING RANGE



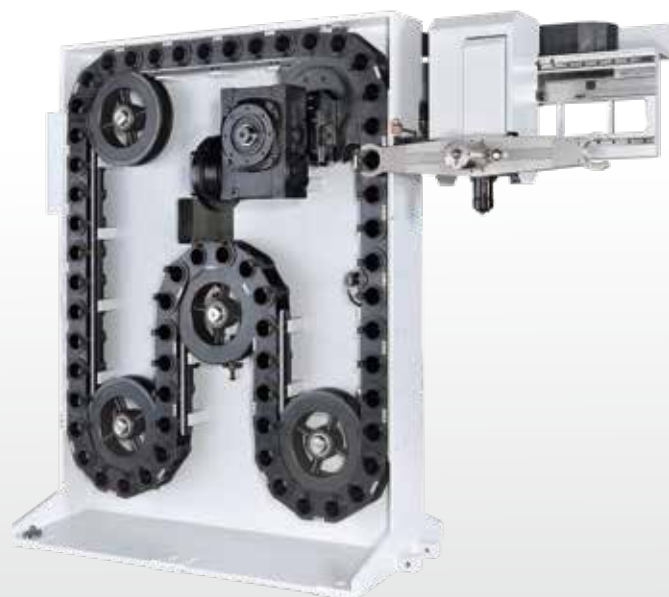
Z-AXIS TRAVEL	COLUMN HEIGHT	A	B	C	D	E	F	G	H
mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
1100	1910	X-axis travel	Y-axis travel	1300	X-axis travel-418	Y-axis travel-418	919	1080	50
1100	1910+200	X-axis travel	Y-axis travel	1500	X-axis travel-418	Y-axis travel-418	1119	1280	50
1300	2110	X-axis travel	Y-axis travel	1500	X-axis travel-418	Y-axis travel-418	1119	1280	50
1300	2110+200	X-axis travel	Y-axis travel	1700	X-axis travel-418	Y-axis travel-418	1319	1280	50

## DOUBLE COLUMN TOOL MAGAZINE

/ BMC TOOL MAGAZINE : STANDARD 30 TOOLS. OPTION 40 TOOLS AND 60 TOOLS



/ RV TOOL MAGAZINE : STANDARD 60 TOOLS. OPTION 40, 90, 120 TOOLS



BMC-2012 / BMC-4122 / BMC-4127 / BMC-5131

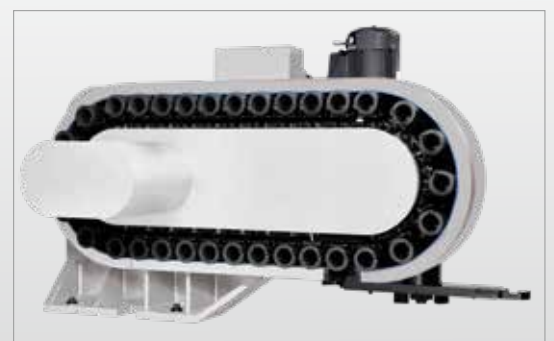
# B/BMC SERIES

## DOUBLE COLUMN MACHINING CENTER

/ BMC-4122



/ BMC-2012





/ BMC-4127



/ BMC-5131



# B/BMC SERIES DOUBLE COLUMN MACHINING CENTER

## SPECIFICATION

MODEL		B-2012A/ BMC-2012A (#40 DIRECT-DRIVEN)	B-2012/ BMC-2012 (#50 GEAR/DIRECT-DRIVEN)	B-3012A/ BMC-3012A (#40 DIRECT-DRIVEN)	B-3012/ BMC-3012 (#50 GEAR/DIRECT-DRIVEN)	B-2015/ BMC-2015	B-3015/ BMC-3015
<b>Travel</b>							
X-axis	mm	2100		3100		2100	3100
Y-axis	mm	1200				1500	
Z-axis	mm	800 (OP 1020)					
Distance From Spindle Nose To Table Surface	mm	150-950 (OP 150-1170)	200-1000 (OP 200-1220)	150-950 (OP 150-1170)	200-1000 (OP 200-1220)	200~1000 (OP 200-1220)	
Distance between two columns (between sheet metal)	mm	1370(1350)				1670(1650)	
<b>Table</b>							
Table Dimension (X)	mm	2000		3000		2000	3000
Table Dimension (Y)	mm	1100				1400	
T-slots (Size x Number x Pitch)	mm	22 x 7 x 160				22 x 9 x 160	
Max. Loading Capacity	kg	4000		5000		6000	7000
<b>Spindle</b>							
Spindle Motor Output (Continuous/30mins)	kW	15/18.5				15/18.5 (OP 22/26)	
Spindle Speed (Gear)	rpm	-	ST 6000 / OP 4000	-	-	ST 6000 / OP 4000	
Spindle Speed (Direct-driven)(Optional)	rpm	ST 8000 / OP 10000 / OP 12000	OP 8000 / OP 10000	ST 8000 / OP 10000 / OP 12000	-	OP 8000 / OP 10000	
Spindle Taper		BBT40	BBT50	BBT40	-	BBT50	
Spindle Bearing Bore Diameter	Ømm	70	100	70	-	100	
<b>Feed</b>							
Rapid Travel Rate (X/Y/Z)	m/min	20/20/15					
Cutting Feed Rate	mm/min	10000					
Feed Motor	kW	4.0/4.0/4.0					
<b>Accuracy</b>							
Positioning Accuracy (JIS 6338)	mm	±0.01					
Positioning Accuracy (ISO 8636)/repeat 5 times	mm	0.015		0.020		0.015	0.020
Repeatability Accuracy (JIS 6338)	mm	±0.003					
Repeatability Accuracy (ISO 8636)/repeat 5 times	mm	0.013		0.018		0.013	0.018
<b>ATC System</b>							
Tool Magazine Capacity		32(*40)	30(*40/60)	32(*40)		30(*40/60)	
Tool Diameter (with adjacent tools)	Ømm	Ø75	Ø125	Ø75		Ø125	
Max. Tool Diameter (without adjacent tools)	Ømm	Ø127	Ø215	Ø127		Ø215	
Max. Tool Length	mm	300	400	300		400	
Max. Tool Weight	kg	7	20	7		20	
Tool Shank Type		BT40/CAT40	BT50/CAT50	BT40/CAT40		BT50/CAT50	
Pull Stud		P40T-1	P50T-1	P40T-1		P50T-1	
<b>Others</b>							
Guideway of X/Y/Z Axis	X,Y-axis: Roller Linear Guideway				Roller Linear Guideway / Roller Linear Guideway / Box Way		
		Z-axis: Roller Linear Guideway	Z-axis: Box Way (Roller Linear Guideway)	Z-axis: Roller Linear Guideway			
Power Supply	kVA	35					
Net Weight (B/BMC)	kg	18000/20500		22500/25000		19000/21500	24000/26500
Gross Weight (B/BMC)	kg	v		25500/28000		22000/24500	27000/29500
Length x Width x Height	mm	6040x3790/ 4230x4340		8040x3790/ 4230x4340		6040x4090/ 4530x4260	8040x4090/ 4530x4260

P.S.: 1. The positioning accuracy inspection is only allowed to execute in KAFO's factory, may not provide inspection at other time after leaving.

2. The temperature of machine installing environment must be around 5~40°C, the surrounding temperature difference should be within 4°C, 0.67°C per hour, under 4°C within 6 hours.

B-2618/ BMC-2618	B-3118/ BMC-3118	B-4118/ BMC-4118	B-5118/ BMC-5118	B-2622/ BMC-2622	B-3122/ BMC-3122	B-4122/ BMC-4122
2600	3100	4100	5100	2600	3100	4100
	1800				2200	
ST 900 (OP 1100)						
200~1100 (OP 200-1300)						
1895(1850)				2300(2250)		
2500	3000	4000	5000	2500	3000	4000
	1600				2100	
28x9x250	28x11x250	28x15x250	28x19x250		28 x 10 x 200	
9000	11000	14000	17000	11000	14000	17000
22/26 (OP 30/37)						
ST 6000 / OP 4000						
OP 8000 / OP 10000						
BBT50						
100						
24/24/15	20/24/15	15/20/15	20/20/15	20/20/15	15/20/15	
10000						
4.0/4.0/4.0	7.0/4.0/4.0	6.0/4.0/4.0	7.0/4.0/4.0	7.0/4.0/4.0	6.0/4.0/4.0	
±0.01						
0.017	0.020	0.025	0.035	0.017	0.020	0.025
±0.003						
0.015	0.018	0.020	0.03	0.015	0.018	0.020
30(*40/60)						
Ø125						
Ø215						
400						
20						
BT50/CAT50						
P50T-1						
Roller Linear Guideway / Roller Linear Guideway / Box Way						
45						
25500/28000	27500/30000	31500/34000	35500/38000	31500/34000	33500/36000	37500/40000
29000/31500	31000/33500	35000/37500	39000/41500	35000/37500	37000/39500	41500/44000
8300x4900/ 5100x4600	9300x4900/ 5100x4600	11500x4900/ 5100x4600	13600x4900/ 5100x4600	7540x5540/ 5670x4570	8540x5540/ 5670x4570	10750x5540/ 5670x4570

3. As for more details, please refer to operating manual or contact with KAFO sales.

4. The specification is for reference only. KAFO remains the right to modify machine specification, design or property and without prior notice.

# B/BMC SERIES DOUBLE COLUMN MACHINING CENTER

## SPECIFICATION

MODEL		B-5122/ BMC-5122	B-6122/ BMC-6122	B-8122 /BMC-8122	B-10122/ BMC-10122	B-3127/ BMC-3127	B-4127/ BMC-4127
<b>Travel</b>							
X-axis	mm	5100	6100	8100	10100	3100	4100
Y-axis	mm	2200			2700		
Z-axis	mm	ST 900 (OP 1100)					
Distance From Spindle Nose To Table Surface	mm	200~1100 (OP 200~1300)					
Distance between two columns (between sheet metal)	mm	2300(2250)			2800(2750)		
<b>Table</b>							
Table Dimension (X)	mm	5000	6000	8000	10000	3000	4000
Table Dimension (Y)	mm	2100			2600		
T-slots (Size x Number x Pitch)	mm	28×10×200		28×31×250	28×39×250	28×13×200	
Max. Loading Capacity	kg	20000	23000	26000	29000	15000	18000
<b>Spindle</b>							
Spindle Motor Output (Continuous/30mins)	kW	22/26 (OP 30/37)					
Spindle Speed (Gear)	rpm	ST 6000 / OP 4000					
Spindle Speed (Direct-driven)(Optional)	rpm	OP 8000 / OP 10000					
Spindle Taper		BBT50					
Spindle Bearing Bore Diameter	Ømm	100					
<b>Feed</b>							
Rapid Travel Rate (X/Y/Z)	m/min	15/20/15	10/20/15	10/15/15	8/15/15	20/20/15	15/20/15
Cutting Feed Rate	mm/min	10000			8000	10000	
Feed Motor	kW	6.0/4.0/4.0				7.0/4.0/4.0	6.0/4.0/4.0
<b>Accuracy</b>							
Positioning Accuracy(JIS 6338)	mm	±0.015					
Positioning Accuracy (ISO 8636)/repeat 5 times	mm	0.035	0.040	0.045	0.055	0.025	0.025
Repeatability Accuracy (JIS 6338)	mm	±0.003					
Repeatability Accuracy (ISO 8636)/repeat 5 times.	mm	0.030	0.035		0.040	0.018	0.020
<b>ATC System</b>							
Tool Magazine Capacity		30(40/60)					
Tool Diameter (with adjacent tools)	Ømm	Ø125					
Max. Tool Diameter (without adjacent tools)	Ømm	Ø215					
Max. Tool Length	mm	400					
Max. Tool Weight	kg	20					
Tool Shank Type		BT50/CAT50					
Pull Stud		P50T-1					
<b>Others</b>							
Guideway of X/Y/Z Axis		Roller linear guideway / Roller linear guideway / Box Way					
Power Supply	kVA	45					
Net Weight (B/BMC)	kg	41500/44000	45500/48000	53500/56000	61500/64000	36500/39000	43000/45500
Gross Weight (B/BMC)	kg	45500/48000	49500/52000	57500/60000	65500/68000	40500/43000	47000/49500
Length x Width x Height	mm	12750×5540/ 5670×4570	15500×5540/ 5670×4570	19900×5540/ 5670×4570	24600×5540/ 5670×4570	8540×5600/ 5900×4570	10750×5600/ 5900×4570

P.S.: 1. The positioning accuracy inspection is only allowed to execute in KAFO's factory, may not provide inspection at other time after leaving.

2. The temperature of machine installing environment must be around 5~40°C, the surrounding temperature difference should be within 4°C, 0.67°C per hour, under 4°C within 6 hours.

B-5127/ BMC-5127		B-6127/ BMC-6127		B-8127/ BMC-8127		B-10127/ BMC-10127		B-4131/ BMC-4131		B-5131/ BMC-5131		B-6131/ BMC-6131	
5100		6100		8100		10100		4100		5100		6100	
		2700								3100 (OP 4000)			
ST 900 (OP 1100)													
200~1100 (OP 200~1300)													
2800(2750)						3250(3200)/ opt.3550(3500)							
5000		6000		8000		10000		4000		5000		6000	
		2600								2900			
28x13x200				28x31x250		28x39x250				28x14x200			
20000		23000		26000		29000		18000		20000		23000	
22/26 (OP 30/37 )													
ST 6000 / OP 4000													
OP 8000 / OP 10000													
BBT50													
100													
12/20/15		10/20/15		8/15/15				15/20/15		12/20/15		10/20/15	
10000				8000						10000			
6.0/4.0/4.0													
±0.015													
0.035		0.040		0.045		0.055		0.025		0.035		0.040	
±0.003													
0.030		0.035				0.040		0.020		0.030		0.035	
30(40/60)													
Ø125													
Ø215													
400													
20													
BT50/CAT50													
P50T-1													
Roller linear guideway / Roller linear guideway / Box Way													
45													
48200/50700		55500/58000		67500/70000		79500/82000		51000/53500		57000/59500		63000/65500	
52200/54700		59500/62000		71500/74000		83500/86000		55000/57500		61000/63500		67000/69500	
12800x5600/ 5900x4570		15500x5600/ 5900x4570		19900x5600/ 5900x4570		24600x5600/ 5900x4570		10800x6100/ 6400x4570		12900x6100/ 6400x4570		15500x6100/ 6400x4570	

3. As for more details, please refer to operating manual or contact with KAFO sales.

4. The specification is for reference only. KAFO remains the right to modify machine specification, design or property and without prior notice.

# B/BMC SERIES DOUBLE COLUMN MACHINING CENTER

## SPECIFICATION

MODEL		B-8131/BMC-8131	B-10131/BMC-10131	B-4140/BMC-4140	B-5140/BMC-5140	B-6140/BMC-6140	B-8140/BMC-8140	B-10140/BMC-10140	
<b>Travel</b>									
X-axis	mm	8100	10100	4100	5100	6100	8100	10100	
Y-axis	mm	3100 (OP 4000)			4000				
Z-axis	mm	900 (OP 1100)			1100				
Distance From Spindle Nose To Table Surface	mm	200~1100 (OP 200~1300)			200~1300				
Distance between two columns (between sheet metal)	mm	3250(3200)/opt.3550(3500)			3800(3750)				
<b>Table</b>									
Table Dimension (X)	mm	8000	10000	4000	5000	6000	8000	10000	
Table Dimension (Y)	mm	2900			3200 (OP 3500)				
T-slots (Size x Number x Pitch)	mm	28x31x250	28x39x250	28x15x200(OP 28x17x200)			28x31x250	28x39x250	
Max. Loading Capacity	kg	26000	29000	18000	20000	23000	26000	29000	
<b>Spindle</b>									
Spindle Motor Output (Continuous/30mins)	kW	22/26 (OP 30/37)							
Spindle Speed (Gear)	rpm	ST 6000 / OP 4000							
Spindle Speed (Direct-driven)(Optional)	rpm	OP 8000 / OP 10000							
Spindle Taper		BBT50							
Spindle Bearing Bore Diameter	Ømm	100							
<b>Feed</b>									
Rapid Travel Rate (X/Y/Z)	m/min	8/15/15	8/15/15	15/15/15	12/15/15	10/15/15	8/15/15		
Cutting Feed Rate	mm/min	8000			10000			8000	
Feed Motor	kW	6.0/4.0/4.0							
<b>Accuracy</b>									
Positioning Accuracy (JIS 6338)	mm	±0.015							
Positioning Accuracy (ISO 8636)/repeat 5 times	mm	0.045	0.055	0.025	0.035	0.040	0.045	0.055	
Repeatability Accuracy (JIS 6338)	mm	±0.003							
Repeatability Accuracy (ISO 8636)/repeat 5 times	mm	0.035	0.040	0.025	0.030	0.035		0.040	
<b>ATC System</b>									
Tool Magazine Capacity		30(40/60)							
Tool Diameter (with adjacent tools)	Ømm	Ø125							
Max. Tool Diameter (without adjacent tools)	Ømm	Ø215							
Max. Tool Length	mm	400							
Max. Tool Weight	kg	20							
Tool Shank Type		BT50/CAT50							
Pull Stud		P50T-1							
<b>Others</b>									
Guideway of X/Y/Z Axis		Roller linear guideway / Roller linear guideway / Box Way							
Power Supply	kVA	45							
Net Weight (B/BMC)	kg	75000/77500	87000/89500	57500/60000	63500/66000	69500/72000	81500/84000	93500/96000	
Gross Weight (B/BMC)	kg	79000/81500	91000/93500	63500/66000	70500/73000	77500/80000	90500/93000	104500/107000	
Length x Width x Height	mm	19900x6100/6400x4570	24600x6100/6400x4570	10800x7000/7500x5050	12900x7000/7500x5050	15600x7000/7500x5050	19900x7000/7500x5050	24600x7000/7500x5050	

P.S.: 1. The positioning accuracy inspection is only allowed to execute in KAFO's factory, may not provide inspection at other time after leaving.

2. The temperature of machine installing environment must be around 5~40°C, the surrounding temperature difference should be within 4°C, 0.67°C per hour, under 4°C within 6 hours.

MODEL		B-5147/ BMC-5147	B-6147/ BMC-6147	B-8147/ BMC-8147	B-10147/ BMC-10147	B-5152/ BMC-5152	B-6152/ BMC-6152	B-8152/ BMC-8152	B-10152/ BMC-10152
<b>Travel</b>									
X-axis	mm	5100	6100	8100	10100	5100	6100	8100	10100
Y-axis	mm	4700				5200			
Z-axis	mm	1000 (OP 1200)							
Distance From Spindle Nose To Table Surface	mm	200~1200 (OP 200~1400)							
Distance between two columns (between sheet metal)	mm	4400(4350)				4900(4850)			
<b>Table</b>									
Table Dimension (X)	mm	5000	6000	8000	10000	5000	6000	8000	10000
Table Dimension (Y)	mm	3700				4000			
T-slots (Size x Number x Pitch)	mm	28x20x250	28x24x250	28x32x250	28x40x250	28x20x250	28x24x250	28x32x250	28x40x250
Max. Loading Capacity	kg	19000	23000	26000	29000	20000	24000	27000	30000
<b>Spindle</b>									
Spindle Motor Output (Continuous/30mins)	kW	22/26							
Spindle Speed (Built-in) (Standard)	rpm	6000							
Spindle Speed (Built-in) (Optional)	rpm	8000							
Spindle Taper		BBT50							
Spindle Bearing Bore Diameter	Ømm	100							
<b>Feed</b>									
Rapid Travel Rate (X/Y/Z)	m/min	12/15/15	10/15/15	8/15/15	8/15/15	12/15/15	10/15/15	8/15/15	8/15/15
Cutting Feed Rate	mm/min	10000		8000		10000		8000	
Feed Motor	kW	6.0/4.0/7.0							
<b>Accuracy</b>									
Positioning Accuracy (JIS 6338)	mm	±0.015							
Positioning Accuracy (ISO 8636)/repeat 5 times	mm	0.035	0.040	0.045	0.055	0.035	0.040	0.045	0.055
Repeatability Accuracy (JIS 6338)	mm	±0.003							
Repeatability Accuracy (ISO 8636)/repeat 5 times	mm	0.03	0.035	0.035	0.04	0.03	0.035	0.035	0.04
<b>ATC System</b>									
Tool Magazine Capacity		30(40/60)							
Tool Diameter (with adjacent tools)	Ømm	Ø125							
Max. Tool Diameter (without adjacent tools)	Ømm	Ø215							
Max. Tool Length	mm	400							
Max. Tool Weight	kg	20							
Tool Shank Type		BT50/CAT50							
Pull Stud		P50T-1							
<b>Others</b>									
Guideway of X/Y/Z Axis		Roller linear guideway / Roller linear guideway / Roller linear guideway							
Power Supply	kVA	50							
Net Weight (B/BMC)	kg	67500/70000	73500/76000	85500/88000	97500/100000	70500/73000	76500/79000	88500/91000	100500/103000
Gross Weight (B/BMC)	kg	74500/77000	81500/84000	94500/97000	108500/111000	77500/80000	84500/87000	97500/100000	111500/114000
Length x Width x Height	mm	15955x7850/ 8200x5410	17955x7850/ 8200x5410	21955x7850/ 8200x5410	25955x7850/ 8200x5410	15955x8350/ 8700x5410	17955x8350/ 8700x5410	21955x8350/ 8700x5410	25955x8350/ 8700x5410

3. As for more details, please refer to operating manual or contact with KAFO sales.

4. The specification is for reference only. KAFO remains the right to modify machine specification, design or property and without prior notice.

# B/BMC SERIES DOUBLE COLUMN MACHINING CENTER

## STANDARD & OPTIONAL LIST

● : Standard Specification ○ : Optional Specification - : Inadaptable

SPECIFICATION/MODEL	B/BMC 2012~3012 (DBC 1350MM)	B/BMC 2015~3015 (DBC 1650MM)	B/BMC 2618-5118 (DBC 1850MM)	B/BMC 2622~10122 (DBC 2300MM)	B/BMC 3127~10127 (DBC 2800MM)	B/BMC 4131~10131 (DBC 3200MM)	B/BMC 4140-10140 (DBC 3750MM)	B/BMC 5147~10147 (DBC 4350MM)	B/BMC 5152~10152 (DBC 4850MM)
BBT-50 Spindle Taper+MAS Pull Stud	●	●	●	●	●	●	●	●	●
DIN50 Spindle Taper	○	○						○	○
CAT50 Spindle Taper+ANSI Pull Stud			○	○	○	○	○	○	○
Gear Head 4000rpm(30/37kW)	-	-						-	-
Gear Head 6000rpm(22/26kW)	○	○	●	●	●	●	●	-	-
Gear Head 8000rpm(22/26kW)	○	○	○	○	○	○	○	-	-
Built-in Head 6000rpm	-	-	-	-	-	-	-	●	●
Built-in Head 8000rpm	-	-	-	-	-	-	-	○	○
Rise 220mm	○	○	-	-	-	-	-	-	-
Z-Axis Rise 200mm/400mm	-	-	○	○	○	○	○	○	○
Centralized Lubrication System	●	●	●	●	●	●	●	●	●
Four Pieces Splash Guard	○	○	○	○	○	○	○	○	○
Semi Enclosure (without Top Cover)	●	●	●	●	●	●	●	●	●
Full Enclosure (with Top Cover)	○	○	○	○	○	○	○	○	○
Folding Operation Gate									
Coolant System (with Pump and Tank)	●	●	●	●	●	●	●	●	●
Dual Spiral and Lift-up Chip Conveyor with Bucket									
ATC30 Tools Magazine	●	●	●	●	●	●	●	●	●
ATC40 Tools Magazine	○	○	○	○	○	○	○	○	○
ATC60 Tools Magazine									
Rigid Tapping Function									
Foot Pedal For Manual Tool Release									
Movable MPG Handwheel									
Working Light	●	●	●	●	●	●	●	●	●
Tri-Color Status Light									
Spray Gun For Cleaning									
Leveling Bolts and Pads									
Maintenance and Operating Manuals									
Linear Scales (X/Y/Z Axis)									
Coolant Through Tool and Tool Holder									
Coolant Through Spindle (with 20 Bar Pump)									
90° Milling Head (Manual Changing/Indexing)	○	○							
Universal Milling Head (Manual Changing/Indexing)			○	○	○	○	○	○	○
Extension Milling Head									
Head Storing Swivel Shelf									
Counterweight Arm-type Operating Control Box	-	-							
Foot Rest									
Automatic Tool Length Measurement	○	○							
Automatic Workpiece Measurement									
FANUC 0iMF PLUS Controller (10.4"LCD)	●	●	●	●	●	●	●	●	●
FANUC 31i Controller (15"LCD)									
MITSUBISHI Controller	○	○	○	○	○	○	○	○	○
Heidenhain Controller									
CNC Rotary Table									

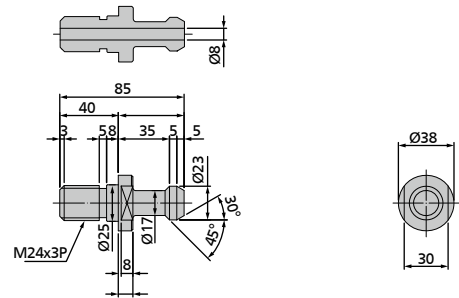
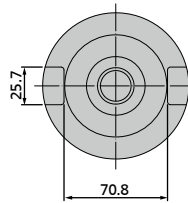
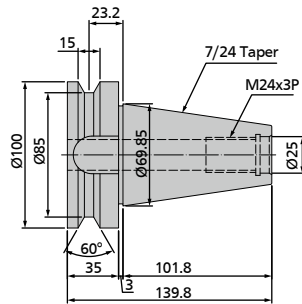
P.S.: 1. The positioning accuracy inspection is only allowed to execute in KAFO's factory, may not provide inspection at other time after leaving.  
2. The temperature of machine installing environment must be around 5~40°C, the surrounding temperature difference should be within 4°C, 0.67°C per hour, under 4°C within 6 hours.

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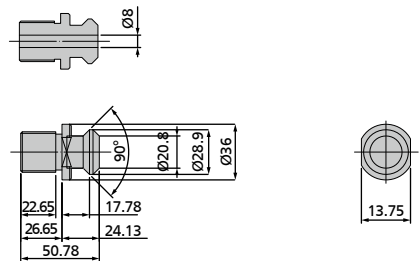
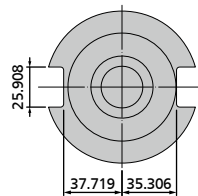
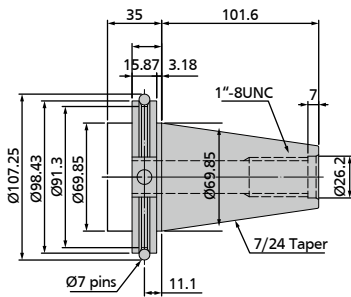


# TOOL HOLDER & PULL STUD

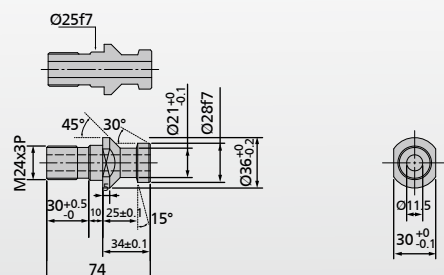
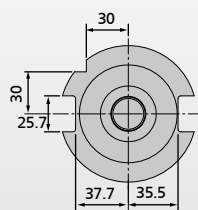
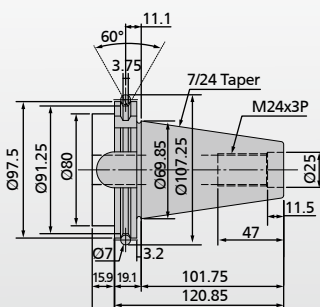
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## / V-FLANGE CAT-50 + V-FLANGE CAT-50 TOOLING DIM. ( CTS )

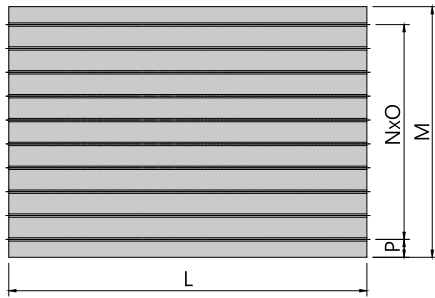


## / DIN69871A(#50) + DIN69872-A(#50) TOOLING DIM. ( CTS )

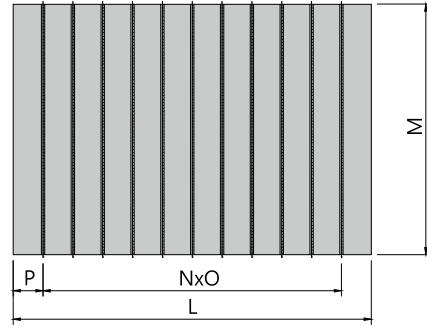


# B/BMC SERIES DOUBLE COLUMN MACHINING CENTER

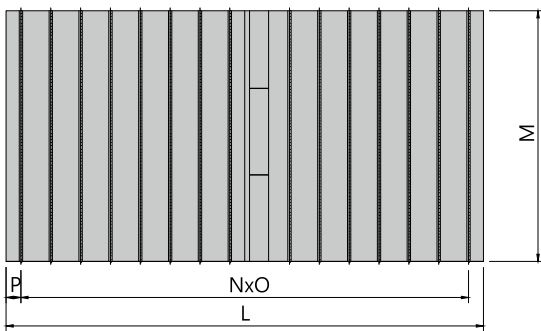
## / TABLE DRAWING



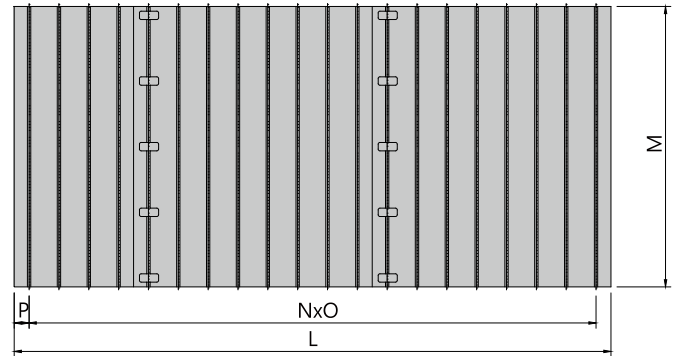
B/BMC-XX12/15/22/27/31/40  
(L=2000~6000)



B/BMC-XX18  
(L=2500~5000)

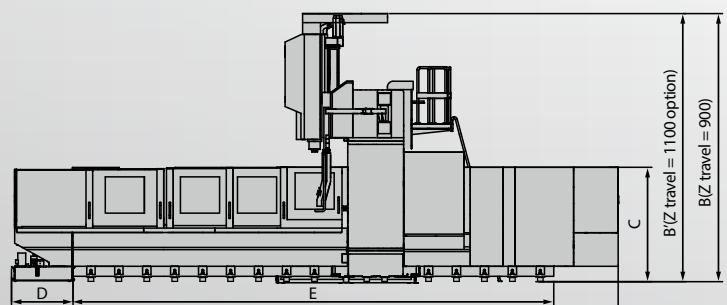
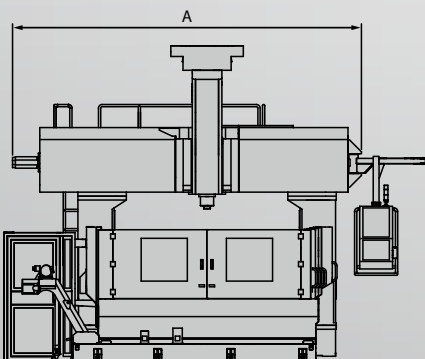
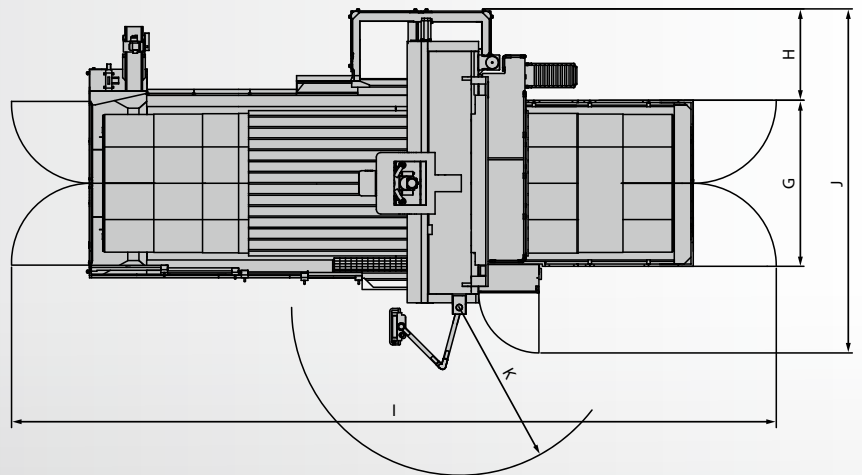
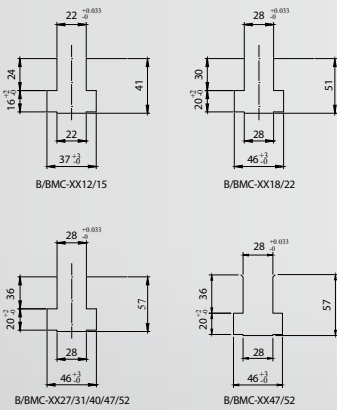


B/BMC-XX22/27/31/40  
(L=8000~10000)



B/BMC-XX47/52  
(L=5000~10000)

## MACHINE LAYOUT & SPACE REQUEST



# / TABLE DRAWING

Unit : mm

TABLE AND MACHINE LAYOUT																	
Model \ Item	A	B	B'	C	D	E	F	G	H	I	J	K	L	M	N	O	P
B/BMC-2012	3290	4340 (z travel =800)	4960 (z travel =1020)	1973	490	4245	6040	1410	1560	6925	4125	1720	2000	1100	160	6	70
B/BMC-3012						6245	8040			8925			3000				
B/BMC-2015	3590	4340 (z travel =800)	4960 (z travel =1020)	1973	490	4245	6040	1710	1560	7260	4425	1720	2000	1400	160	8	60
B/BMC-3015						6245	8040			9260			3000				
B/BMC-2618	4400	4600	5080	2060	1630	5620	8300	2065	1595	9565	5230	1720	2500	1600	250	10	250
B/BMC-3118						6620	9300			10565			3000				
B/BMC-4118						8620	11300			12565			4000				
B/BMC-5118	4830	4600	5080	2060	1630	10620	13300	2470	1600	14565	5600	1720	5000	2100	250	18	125
B/BMC-2622						5620	7540			9890			2500				
B/BMC-3122						6620	8540			10890			3000				
B/BMC-4122	4830	4600	5080	2060	1630	8620	10750	2970	1600	13100	6100	1845	4000	2600	200	9	150
B/BMC-5122						10620	12750			15100			5000				
B/BMC-6122						12620	15400			17750			6000				
B/BMC-8122	5150	4570	5050	2060	1630	16620	19400	2970	1600	21750	6100	1845	8000	2600	250	31	125
B/BMC-10122						20620	23400			25750			10000				
B/BMC-3127						6620	8540			10480			3000				
B/BMC-4127	5150	4570	5050	2060	1630	8620	10800	2970	1600	12690	6100	1845	4000	2600	200	12	100
B/BMC-5127						10620	12900			14800			5000				
B/BMC-6127						12620	15400			17100			6000				
B/BMC-8127	5610	4570	5050	2060	1630	16620	19500	3420	1680	21450	6800	1845	8000	2900	250	31	125
B/BMC-10127						20620	23500			25255			10000				
B/BMC-4131						8620	10800			12820			4000				
B/BMC-5131	5610	4570	5050	2060	1630	10620	12900	3420	1680	14970	6800	1845	5000	2900	200	13	150
B/BMC-6131						12620	15500			16970			6000				
B/BMC-8131						16620	19500			21570			8000				
B/BMC-10131	6920	-	5050	2060	1630	20620	23500	3970	1790	25370	7600	1845	10000	3200/3500	250	39	125
B/BMC-4140						8620	10800			14340			4000				
B/BMC-5140						10620	12900			16440			5000				
B/BMC-6140	6920	-	5050	2060	1630	12620	15500	3970	1790	18440	7600	1845	6000	3200/3500	200	14/16	200/150
B/BMC-8140						16620	19800			23140			8000				
B/BMC-10140						20620	24500			28040			10000				
B/BMC-5147	7850	5410 (Z travel =1000)	5610 (Z travel =1200)	2060	1680	10620	13546	4570	2133	15955	8200	1720	5000	3700	250	19	125
B/BMC-6147						12620	15546			17955			6000				
B/BMC-8147						16620	19546			21955			8000				
B/BMC-10147	8350	5410 (Z travel =1000)	5610 (Z travel =1200)	2060	1680	20620	23546	5070	2133	25955	8700	1720	10000	4000	250	39	125
B/BMC-5152						10620	13546			15955			5000				
B/BMC-6152						12620	15546			17955			6000				
B/BMC-8152	8350	5410 (Z travel =1000)	5610 (Z travel =1200)	2060	1680	16620	19546	5070	2133	21955	8700	1720	8000	4000	250	31	125
B/BMC-10152						20620	23546			25955			10000				

B/BMC SERIES DOUBLE COLUMN MACHINING CENTER

# RVM/RV SERIES

## DOUBLE COLUMN MACHINING CENTER

GREATER 5-FACE MACHINING PERFORMANCE COULD BE SATISFIED CUSTOMER'S MULTI-PROCESSING REQUIREMENTS

- This series with special designed, with the strongest structure, greater rigidity body, using the vertical and horizontal head and tools, automatic exchange, take high rigidity gear box vertical and horizontal spindle, heavy cutting, processing high efficiency, precision machining parts with good quality and accuracy.

After setting the workpiece, 5-face could be automatic completion of the processing. This product is especially suitable for the manufacture of large 5-face precision components, is the perfect partner of your processing.

### OPTIONAL MILLING HEAD BY REQUEST

- 90° Head / Universal Head / Extension Head / Extended 90° Head





RVM/RV SERIES 5-FACED DOUBLE COLUMN MACHINING CENTER

# RVM/RV SERIES DOUBLE COLUMN MACHINING CENTER

/ RV-4135



## RVM/RV SERIES : SIMPLE AND CONVENIENT HEAD CHANGING UNIT

- Optional automatic head change.
- Optional auto tool changer ( max.Ø215mm, length 400mm ).
- Angle milling head has unclamped hydraulic cylinder, tool can be changed at any position.
- Unique and simple head changing unit doesn't occupy working space.
- Head changing unit has enclosure guards to protect against dirt and chips.

/ RV-3135

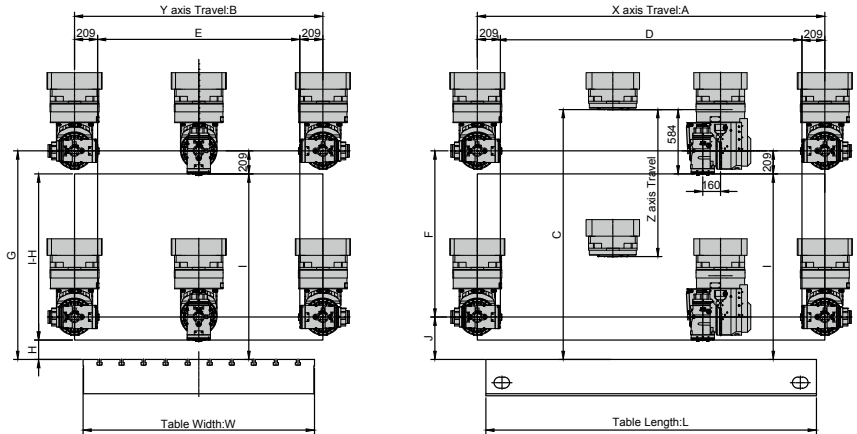


/ RV-4140



# RVM/RV SERIES DOUBLE COLUMN MACHINING CENTER

## / AUTOMATIC A/C AXES UNIVERSAL HEAD



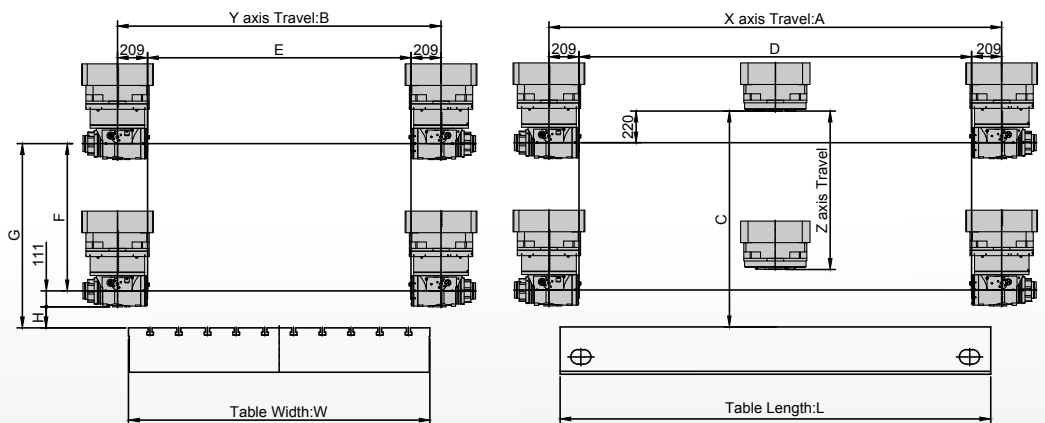
ITEM / SPEC	AUTOMATIC A/C AXES UNIVERSAL HEAD
Indexing	Curvic Coupling (5°, 2.5°, 1°)
Angle Travel	C axis 0°-355° / A axis ±110°
A/C-Axis Rotating / Change Head & Tool	Auto
Spindle HP	25 kW
Transfer Torque (Max.)	750 Nm
Spindle Taper	BBT50

ITEM / SPEC	AUTOMATIC A/C AXES UNIVERSAL HEAD
Spindle Speed	3500 rpm
Tool Clamping Force	1900-2100kg
Lubrication	Oil-Mist for Gears / Grease for Bearings
Outer Dimensions L x W x H	572 x 445 x 745
Total Weight	453kg (Incl. Interface)

Unit : mm

Z TRAVEL	COLUMN H	A	B	C	D	E	F	G	H	I	J
1100	1910	X Travel	Y Travel	1300	X Travel-418	Y Travel-418	516	925	200	716	409
1300	2110	X Travel	Y Travel	1500	X Travel-418	Y Travel-418	716	1125	200	916	409

## / AUTOMATIC 90°ANGLE HEAD



ITEM / SPEC	AUTOMATIC 90°ANGLE HEAD
Indexing	Curvic Coupling (5°, 2.5°, 1°)
Angle Travel	C axis 0°~360°
A/C-Axis Rotating / Change Head & Tool	Auto
Spindle HP	25 kW
Transfer Torque (Max.)	750 Nm
Spindle Taper	BBT50

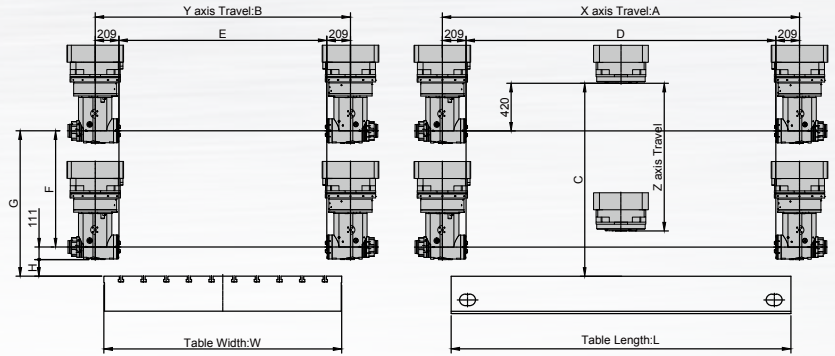
ITEM / SPEC	AUTOMATIC 90°ANGLE HEAD
Spindle Speed	4000 / 4500(30min) rpm
Tool Clamping Force	1900-2100kg
Lubrication	Oil-Mist
Outer Dimensions L x W x H	462 x 445 x 480
Total Weight	250kg

Unit : mm

Z TRAVEL	COLUMN H	A	B	C	D	E	F	G	H
1100	1910	X Travel	Y Travel	1300	X Travel-418	Y Travel-418	919	1080	50
1300	2110	X Travel	Y Travel	1500	X Travel-418	Y Travel-418	1119	1280	50



## / AUTOMATIC EXTENDED 90°ANGLE HEAD



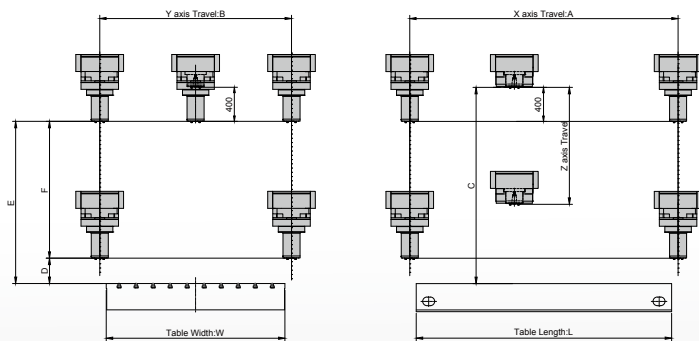
ITEM / SPEC	AUTOMATIC EXTENDED 90°ANGLE HEAD
Indexing	Curvic Coupling (5°, 2.5°, 1°)
Angle Travel	C axis 0°~360°
A/C-Axis Rotating / Change Head & Tool	Auto
Spindle HP	25 kW
Transfer Torque (Max.)	750 Nm
Spindle Taper	BBT50

ITEM / SPEC	AUTOMATIC EXTENDED 90°ANGLE HEAD
Spindle Speed	3500 rpm
Tool Clamping Force	1900-2100kg
Lubrication	Oil-Mist
Outer Dimensions L x W x H	485 x 455 x 716
Total Weight	418kg

Unit : mm

Z TRAVEL	COLUMN H	A	B	C	D	E	F	G	H
1100	1910	X Travel	Y Travel	1300	X Travel-418	Y Travel-418	719	880	50
1300	2110	X Travel	Y Travel	1500	X Travel-418	Y Travel-418	919	1080	50

## / AUTOMATIC EXTENSION HEAD 400

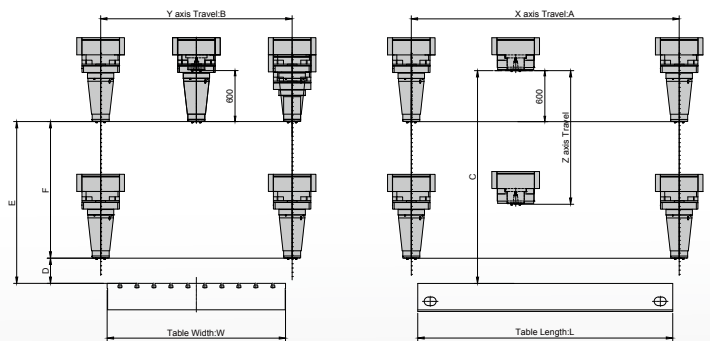


ITEM / SPEC	AUTOMATIC EXTENSION HEAD 400
Head Lock	Auto
Spindle HP	25kW
Transfer Torque (Max.)	750Nm
Spindle Taper	BBT50
Spindle Speed	3000rpm
Tool Clamping Force	1900-2100kg
Lubrication	Grease
Outer Dimensions L x W x H	440 x 440 x 570
Total Weight	181kg

Unit : mm

Z TRAVEL	COLUMN H	A	B	C	D	E	F
1100	1910	X Travel	Y Travel	1300	200	900	700
1300	2110	X Travel	Y Travel	1500	200	1100	900

## / AUTOMATIC EXTENSION HEAD 600



ITEM / SPEC	AUTOMATIC EXTENSION HEAD 600
Head Lock	Auto
Spindle HP	25kW
Transfer Torque (Max.)	750Nm
Spindle Taper	BBT50
Spindle Speed	3000rpm
Tool Clamping Force	1900-2100kg
Lubrication	Grease
Outer Dimensions L x W x H	440 x 440 x 770
Total Weight	259kg

Unit : mm

Z TRAVEL	COLUMN H	A	B	C	D	E	F
1100	1910	X Travel	Y Travel	1300	200	700	500
1300	2110	X Travel	Y Travel	1500	200	900	700

# RVM/RV SERIES DOUBLE COLUMN MACHINING CENTER

## SPECIFICATION

MODEL		RV-2622 RVM-2622	RV-3122 RVM-3122	RV-4122 RVM-4122	RV-5122 RVM-5122
<b>Travel</b>					
X-axis	mm	2600	3100	4100	5100
Y-axis	mm	2300			
Z-axis	mm	1100 /OP1300			
Distance From Spindle Nose To Table Surface	mm	200-1300 /OP200-1500			
Distance between two columns (between sheet metal)	mm	1895(1850)			
<b>Table</b>					
Table Dimension (X)	mm	2500	3000	4000	5000
Table Dimension (Y)	mm	1600			
T-slots (Size x Number x Pitch)	mm	28x9x250	28x11x250	28x15x250	28x19x250
Max. Loading Capacity	kg	9000	11000	14000	17000
<b>Spindle</b>					
Spindle Motor Output (Continuous/30mins )	kW	22/26 (OP 30/37)			
Spindle Speed (Gear)	rpm	6000			
Spindle Speed (Gear)(Optional)	rpm	4000			
Spindle Taper		BBT50			
Spindle Bearing Bore Diameter	Ømm	100			
<b>Feed</b>					
Rapid Travel Rate (X/Y/Z)	m/min	24/20/15		20/20/15	15/20/15
Cutting Feed Rate	mm/min	10000			
Feed Motor	kW	4.0/4.0/4.0		7.0/4.0/4.0	6.0/4.0/4.0
<b>Accuracy</b>					
Positioning Accuracy (JIS 6338)	mm	±0.01			
Positioning Accuracy (ISO 8636)/repeat 5 times	mm	0.017	0.020	0.025	0.035
Repeatability Accuracy (JIS 6338)	mm	±0.003			
Repeatability Accuracy (ISO 8636)/repeat 5 times	mm	0.015	0.018	0.020	0.030
<b>ATC System</b>					
Tool Magazine Capacity		Vertical 30(40/60) Vertical Horizontal 60(40/90/120)			
Tool Diameter (with adjacent tools)	Ømm	Ø125			
Max. Tool Diameter (without adjacent tools)	Ømm	Vertical Ø215 / Vertical Horizontal Ø250			
Max. Tool Length	mm	Vertical 400 / Vertical Horizontal 450			
Max. Tool Weight	kg	20			
Tool Shank Type		BT50/CAT50			
Pull Stud		P50T-1			
<b>Others</b>					
Guideway of X/Y/Z Axis		Roller linear guideway / Roller linear guideway / Box Way			
Power Supply	kVA	45			
Net Weight (RVM/RV)	kg	32000/35000	34000/37000	38000/41000	42000/45000
Gross Weight (RVM/RV)	kg	35500/38500	37500/40500	42000/45000	46000/49000
Length x Width x Height	mm	8300x5235/ 6515x5400	9300x5235/ 6515x5400	11500x5235/ 6515x5400	13600x5235/ 6515x5400

RV-2627 RVM-2627	RV-3127 RVM-3127	RV-4127 RVM-4127	RV-5127 RVM-5127	RV-6127 RVM-6127	RV-8127 RVM-8127	RV-10127 RVM-10127
2600	3100	4100	5100	6100	8100	10100
2700						
1100/ OP1300						
200-1300/ OP200-1500						
2300(2250)						
2500	3000	4000	5000	6000	8000	10000
2100						
28x10x200						
11000	14000	17000	20000	23000	26000	29000
28x31x250						
28x39x250						
22/26 (OP 30/37)						
6000						
4000						
BBT50						
100						
20 / 20 / 15		15/ 20 / 15		10/20/15	10/15/15	8/15/15
10000						
7.0 / 4.0 / 4.0		6.0 / 4.0 / 4.0				
±0.01		±0.015				
0.017	0.020	0.025	0.035	0.04	0.045	0.055
±0.003						
0.015	0.018	0.02	0.03	0.035	0.035	0.04
Vertical 30(40/60)						
Vertical Horizontal 60(40/90/120)						
Ø125						
Vertical Ø215 / Vertical Horizontal Ø250						
Vertical 400 / Vertical Horizontal 450						
20						
BT50/CAT50						
P50T-1						
Roller linear guideway / Roller linear guideway / Box Way						
45						
36000/39000	38000/41000	42000/45000	46000/49000	53500/56500	68500/71500	83500/86500
40000/43000	42000/45000	46000/49000	50000/53000	59500/62500	76500/79500	93500/96500
7600x5640/ 6920x5350	8600x5640/ 6920x5350	10800x5640/ 6920x5350	12900x5640/ 6920x5350	15600x5640/ 6920x5350	19900x5640/ 6920x5350	24600x5640/ 6920x5350

# RVM/RV SERIES DOUBLE COLUMN MACHINING CENTER

## SPECIFICATION

MODEL		RV-3135 RVM-3135	RV-4135 RVM-4135	RV-5135 RVM-5135
<b>Travel</b>				
X-axis	mm	3100	4100	5100
Y-axis	mm		3500	
Z-axis	mm		1100/ OP1300	
Distance From Spindle Nose To Table Surface	mm		200~1300/ OP200~1500	
Distance between two columns (between sheet metal)	mm		2750(2700)	
<b>Table</b>				
Table Dimension (X)	mm	3000	4000	5000
Table Dimension (Y)	mm		2100	
T-slots (Size x Number x Pitch)	mm		28x10x200	
Max. Loading Capacity	kg	14000	17000	20000
<b>Spindle</b>				
Spindle Motor Output (Continuous/30mins)	kW		22/26 (OP 30/37)	
Spindle Speed (Gear)	rpm		6000	
Spindle Speed (Gear)(Optional)	rpm		4000	
Spindle Taper			BBT50	
Spindle Bearing Bore Diameter	Ømm		100	
<b>Feed</b>				
Rapid Travel Rate (X/Y/Z)	m/min	20/20/15		15/20/15
Cutting Feed Rate	mm/min		10000	
Feed Motor	kW	7.0/4.0/ 4.0		6.0/4.0/4.0
<b>Accuracy</b>				
Positioning Accuracy (JIS 6338)	mm		±0.015	
Positioning Accuracy (ISO 8636)/repeat 5 times	mm	0.020	0.025	0.035
Repeatability Accuracy (JIS 6338)	mm		±0.003	
Repeatability Accuracy (ISO 8636)/repeat 5 times	mm	0.018	0.020	0.030
<b>ATC System</b>				
Tool Magazine Capacity			Vertical 30(40/60) Vertical Horizontal 60(40/90/120)	
Tool Diameter (with adjacent tools)	Ømm		Ø125	
Max. Tool Diameter (without adjacent tools)	Ømm		Vertical Ø215 / Vertical Horizontal Ø250	
Max. Tool Length	mm		Vertical 400 / Vertical Horizontal 450	
Max. Tool Weight	kg		20	
Tool Shank Type			BT50/CAT50	
Pull Stud			P50T-1	
<b>Others</b>				
Guideway of X/Y/Z Axis			Roller linear guideway / Roller linear guideway / Box Way	
Power Supply	kVA		45	
Net Weight (RVM/RV)	kg	40000/43000	44000/47000	48000/51000
Gross Weight (RVM/RV)	kg	44000/47000	48000/51000	52000/55000
Length x Width x Height	mm	8600x6230/ 7500x5350	10800x6230/ 7500x5350	12900x6230/ 7500x5350

RV-6135 RVM-6135	RV-8135 RVM-8135	RV-10135 RVM-10135
6100	8100 3500 1100/ OP1300 200~1300/ OP200~1500 2750(2700)	10100
6000	8000 2100	10000
28×10×200 23000	28×31×250 26000	28×39×250 29000
	22/26 (OP 30/37) 6000 4000 BBT50 100	
10/20/15	10/15/15	8/15/15
10000		8000
	6.0/4.0/4.0	
	±0.015	
0.045	0.045	0.055
	±0.003	
0.035	0.035	0.040
	Vertical 30(40/60) Vertical Horizontal 60(40/90/120) Ø125 Vertical Ø215 / Vertical Horizontal Ø250 Vertical 400 / Vertical Horizontal 450 20 BT50/CAT50 P50T-1	
	Roller linear guideway / Roller linear guideway / Box Way	
55500/58500 60500/63500	45 74000/77000 82000/85000	89000/92000 96000/99000
15600×6230/ 7500×5350	19900×6230/ 7500×5350	24600×6230/ 7500×5350

# RVM/RV SERIES DOUBLE COLUMN MACHINING CENTER

## SPECIFICATION

MODEL		RV-4140 RVM-4140	RV-5140 RVM-5140	RV-6140 RVM-6140	RV-8140 RVM-8140	RV-10140 RVM-10140
<b>Travel</b>						
X-axis	mm	4100	5100	6100	8100	10100
Y-axis	mm	4000				
Z-axis	mm	1100 / OP1300				
Distance From Spindle Nose To Table Surface	mm	200~1300				
Distance between two columns (between sheet metal)	mm	3250(3200)				
<b>Table</b>						
Table Dimension (X)	mm	4000	5000	6000	8000	10000
Table Dimension (Y)	mm	2600				
T-slots (Size x Number x Pitch)	mm	28×13×200		28×31×250		28×39×250
Max. Loading Capacity	kg	18000	20000	23000	26000	29000
<b>Spindle</b>						
Spindle Motor Output (Continuous/30mins)	kW	22/26 (OP 30/37)				
Spindle Speed (Gear)	rpm	6000				
Spindle Speed (Gear)(Optional)	rpm	4000				
Spindle Taper		BBT50				
Spindle Bearing Bore Diameter	Ømm	100				
<b>Feed</b>						
Rapid Travel Rate (X/Y/Z)	m/min	15/20/15	12/20/15	10/20/15	8/15/15	8/15/15
Cutting Feed Rate	mm/min	10000			8000	
Feed Motor	kW	6.0/4.0/4.0				
<b>Accuracy</b>						
Positioning Accuracy (JIS 6338)	mm	±0.015				
Positioning Accuracy (ISO 8636)/repeat 5 times	mm	0.025	0.035	0.040	0.045	0.055
Repeatability Accuracy (JIS 6338)	mm	±0.003				
Repeatability Accuracy (ISO 8636)/repeat 5 times	mm	0.020	0.030	0.035	0.035	0.040
<b>ATC System</b>						
Tool Magazine Capacity		Vertical 30(40/60) Vertical Horizontal 60(40/90/120)				
Tool Diameter (with adjacent tools)	Ømm	Ø125				
Max. Tool Diameter (without adjacent tools)	Ømm	Vertical Ø215 / Vertical Horizontal Ø250				
Max. Tool Length	mm	Vertical 400 / Vertical Horizontal 450				
Max. Tool Weight	kg	20				
Tool Shank Type		BT50/CAT50				
Pull Stud		P50T-1				
<b>Others</b>						
Guideway of X/Y/Z Axis		Roller linear guideway / Roller linear guideway / Box Way				
Power Supply	kVA	45				
Net Weight (RVM/RV)	kg	46000/49000	52000/55000	58000/61000	79000/82000	95000/98000
Gross Weight (RVM/RV)	kg	50000/53000	56000/59000	62000/65000	87000/90000	101000/104000
Length x Width x Height	mm	10800×6742/ 7460×5350	12900×6742/ 7460×5350	15600×6742/ 7460×5350	19900×6742/ 7460×5350	24600×6742/ 7460×5350

RV-4142 RVM-4142	RV-5142 RVM-5142	RV-6142 RVM-6142	RV-8142 RVM-8142	RV-10142 RVM-10142
4100	5100	6100	8100	10100
4200				
1100 / OP1300				
200-1300 / OP200-1500				
3800(3750)				
4000	5000	6000	8000	10000
3200/OP3500				
28x15x200 /OP 28x17x200		28x31x250		28x39x250
18000	20000	23000	26000	29000
22/26 (OP 30/37)				
6000				
4000				
BBT50				
100				
15/15/15	12/15/15	10/15/15	8/15/15	
10000			8000	
6.0/4.0/4.0				
±0.015				
0.025	0.035	0.040	0.045	0.055
±0.003				
0.025	0.03	0.035	0.035	0.04
Vertical 30(40/60) Vertical Horizontal 60(40/90/120)				
Ø125				
Vertical Ø215 / Vertical Horizontal Ø250				
Vertical 400 / Vertical Horizontal 450				
20				
BT50/CAT50				
P50T-1				
Roller linear guideway / Roller linear guideway / Box Way				
45				
61000/64000	67000/70000	73000/76000	85000/88000	97000/100000
67000/70000	74000/77000	81000/84000	94000/97000	108000/111000
10800x6930/ 8220x5350	12900x6930/ 8220x5350	15600x6930/ 8220x5350	19900x6930/ 8220x5350	24600x6930/ 8220x5350

# RVM/RV SERIES DOUBLE COLUMN MACHINING CENTER

## SPECIFICATION

MODEL		RV-5147/ RVM-5147	RV-6147/ RVM-6147	RV-8147/ RVM-8147	RV-10147/ RVM-10147
<b>Travel</b>					
X-axis	mm	5100	6100	8100	10100
Y-axis	mm	4700			
Z-axis	mm	1000 / OP 1200			
Distance From Spindle Nose To Table Surface	mm	200~1200 / OP 200~1400			
Distance between two columns (between sheet metal)	mm	4400(4350)			
<b>Table</b>					
Table Dimension (X)	mm	5000	6000	8000	10000
Table Dimension (Y)	mm	3700			
T-slots (Size x Number x Pitch)	mm	28x20x250	28x24x250	28x32x250	28x40x250
Max. Loading Capacity	kg	19000	23000	26000	29000
<b>Spindle</b>					
Spindle Motor Output (Continuous/30mins )	kW	22/26			
Spindle Speed (Built-in)	rpm	6000			
Spindle Speed (Built-in) (Optional)	rpm	8000			
Spindle Taper		BBT50			
Spindle Bearing Bore Diameter	Ømm	100			
<b>Feed</b>					
Rapid Travel Rate (X/Y/Z)	m/min	12/15/15	10/15/15	8/15/15	
Cutting Feed Rate	mm/min	10000			8000
Feed Motor	kW	6.0/4.0/7.0			
<b>Accuracy</b>					
Positioning Accuracy (JIS 6338)	mm	±0.015			
Positioning Accuracy (ISO 8636)/repeat 5 times	mm	0.035	0.040	0.045	0.055
Repeatability Accuracy (JIS 6338)	mm	±0.003			
Repeatability Accuracy (ISO 8636)/repeat 5 times	mm	0.03	0.035	0.035	0.04
<b>ATC System</b>					
Tool Magazine Capacity		Vertical 30(40/60) Vertical Horizontal 40(60/90/120)			
Tool Diameter (with adjacent tools)	Ømm	Ø125			
Max. Tool Diameter (without adjacent tools)	Ømm	Vertical Ø215 / Vertical Horizontal Ø250			
Max. Tool Length	mm	Vertical 400 / Vertical Horizontal 450			
Max. Tool Weight	kg	20			
Tool Shank Type		BT50/CAT50			
Pull Stud		P50T-1			
<b>Others</b>					
Guideway of X/Y/Z Axis		Roller Linear Guideway / Roller Linear Guideway / Roller Linear Guideway			
Power Supply	kVA	50			
Net Weight (RVM/RV)	kg	69000/72000	75000/78000	87000/90000	99000/102000
Gross Weight (RVM/RV)	kg	76000/79000	83000/86000	96000/99000	110000/1130000
Length x Width x Height	mm	15955x7850/ 9110x6652	17955x7850/ 9110x6652	21955x7850/ 9110x6652	25955x7850/ 9110x6652



RV-5152/ RVM-5152	RV-6152/ RVM-6152	RV-8152/ RVM-8152	RV-10152/ RVM-10152
5100	6100	8100	10100
5200			
1000 / OP 1200			
200~1200 / OP 200~1400			
4900(4850)			
5000	6000	8000	10000
4000			
28x20x250	28x24x250	28x32x250	28x40x250
20000	24000	27000	30000
37/45			
6000			
8000			
BBT50			
100			
12/15/15	10/15/15	8/15/15	
10000		8000	
6.0/4.0/7.0			
±0.015			
0.035	0.040	0.045	0.055
±0.003			
0.03	0.035	0.035	0.04
Vertical 30(40/60) Vertical Horizontal 40(60/90/120)			
Ø125			
Vertical Ø215 / Vertical Horizontal Ø250			
Vertical 400 / Vertical Horizontal 450			
20			
BT50/CAT50			
P50T-1			
Roller Linear Guideway / Roller Linear Guideway / Roller Linear Guideway			
50			
72000/75000	78000/81000	90000/93000	102000/105000
79000/82000	86000/89000	99000/102000	113000/116000
15955x8350/ 9610x6652	17955x8350/ 9610x6652	21955x8350/ 9610x6652	25955x8350/ 9610x6652

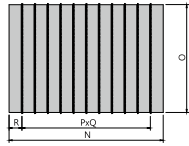
# RVM/RV SERIES DOUBLE COLUMN MACHINING CENTER

## SPECIFICATION

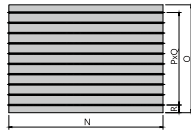
● : Standard Specification ○ : Optional Specification – : Inadaptable

SPECIFICATION/MODEL	RVM/RV-2622~5122 (DBC 1850 MM)	RVM/RV-2627~10127 (DBC 2300 MM)	RVM/RV-3135~10135 (DBC 2700 MM)	RVM/RV-4140~10140 (DBC 3200 MM)	RVM/RV-4142~10142 (DBC 3750 MM)	RVM/RV-5147~10147 (DBC 4350 MM)	RVM/RV-5152~10152 (DBC 4850 MM)
BBT-50 Spindle Taper+MAS Pull Stud	●	●	●	●	●	●	●
DIN50 Spindle Taper							
CAT50 Spindle Taper+ANSI Pull Stud	○	○	○	○	○	○	○
Gear Head 4000rpm(30/37kW)							
Gear Head 6000rpm(22/26kW)	●	●	●	●	●	–	–
Gear Head 8000rpm(22/26kW)	○	○	○	○	○		
Built-in Head 6000rpm	–	–	–	–	–	●	●
Built-in Head 8000rpm	–	–	–	–	–	○	○
Z-Axis Rise 200mm/400mm	○	○	○	○	○	○	○
Centralized Lubrication System	●	●	●	●	●	●	●
Four Pieces Splash Guard	○	○	○	○	○	○	○
Semi Enclosure (without Top Cover)	●	●	●	●	●	●	●
Full Enclosure (with Top Cover)	○	○	○	○	○	○	○
Folding Operation Gate	●	●	●	●	●	●	●
Coolant System (with Pump and Tank)							
Dual Spiral and Lift-up Chip Conveyor with Bucket	●	●	●	●	●	●	●
ATC40 Tools Magazine	○	○	○	○	○	○	○
ATC60 Tools Magazine	●	●	●	●	●	●	●
ATC90 Tools Magazine							
ATC120 Tools Magazine	○	○	○	○	○	○	○
Rigid Tapping Function							
Foot Pedal For Manual Tool Release							
Movable MPG Handwheel							
Working Light	●	●	●	●	●	●	●
Tri-Color Status Light							
Spray Gun For Cleaning							
Leveling Bolts and Pads							
Manual and operate books							
Linear Scales (X/Y/Z Axis)							
Coolant Through Tool and Tool Holder							
Coolant Through Spindle (20 Bar)							
90° Angle Milling Head (Auto Change/Indexing)	○	○	○	○	○	○	○
Universal Milling Head (Manual Change/Indexing)							
Extension Milling Head							
Head Storing Swivel Shelf							
Arm-type Operating Control Box	○	○	○	○	○	○	○
Foot Rest							
Automatic Tool Length Measurement	○	○	○	○	○	○	○
Automatic Workpiece Measurement							
FANUC 0iMF PLUS Controller with 10.4"LCD Panel	●	●	●	●	●	●	●
FANUC 31i Controller with 15"LCD Panel	○	○	○	○	○	○	○
CNC Rotary Table							

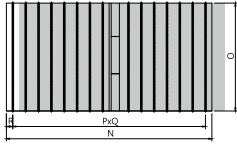
# MACHINE LAYOUT & SPACE REQUEST



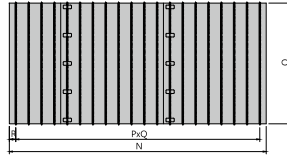
RVM/RV-XX22  
(N=2500~5000)



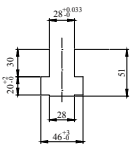
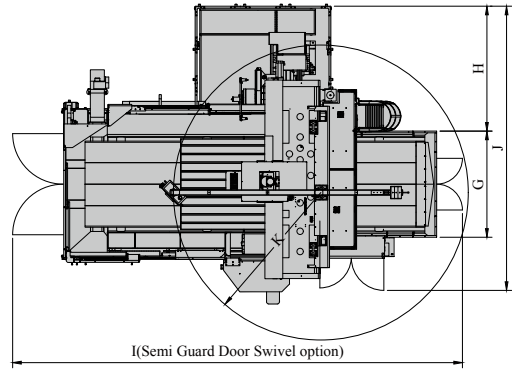
RVM/RV-XX27/35/40/42  
(N=2500~6000)



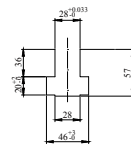
RVM/RV-XX27/35/40/42  
(N=8000/10000)



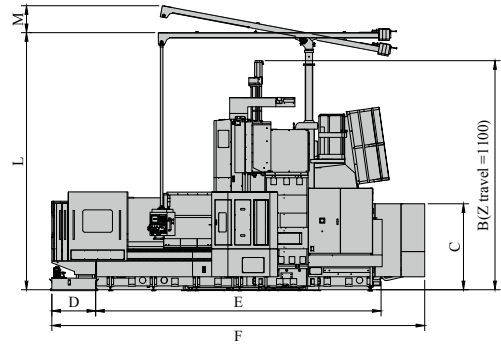
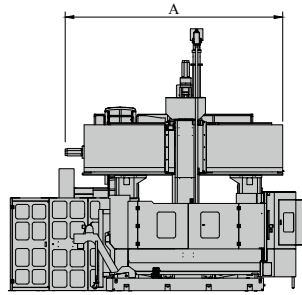
RVM/RV-XX47/52  
(N=5000~10000)



RVM/RV-XX22/27/35



RVM/RV-XX40/42/47/52



Unit : mm

## TABLE AND MACHINE LAYOUT

Model \ Item	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	3
RV/RVM-2622					5620	8300			9565					2500			8	
RV/RVM-3122	4930		2060	1630	6620	9300			10565					3000			10	
RV/RVM-4122					8620	11500	2065		12565	6475				4000	1600	250	14	250
RV/RVM-5122					10620	13600			14565					5000			18	
RV/RVM-2627					5620	7600			9316					2500				
RV/RVM-3127				1030	6620	8600			10516					3000				
RV/RVM-4127					8620	10800			12515					4000	200	9	150	
RV/RVM-5127	5215		2046		10620	12900	2470		14456	6950				5000				
RV/RVM-6127					12620	15600			16858					6000				
RV/RVM-8127				1630	16620	19900			20634					8000			31	125
RV/RVM-10127					20620	24600			25736					10000	2100		39	
RV/RVM-3135					6620	8600			11420					3000				
RV/RVM-4135				1030	8620	10800			13310					4000				
RV/RVM-5135					10620	12900	2920	2840	15410					5000	200	9	150	
RV/RVM-6135	5950	5000			12620	15600			17410	7450		5350		6000				
RV/RVM-8135				1630	16620	19900			22090					8000			31	125
RV/RVM-10135					20620	24600			26090					10000	250		39	
RV/RVM-3140					6620	8600			10270					3000				
RV/RVM-4140				1030	8620	10800			13810		3425		800	4000				
RV/RVM-5140			2060		10620	12900			15910	7800				5000	2600	200	12	100
RV/RVM-6140	6360				12620	15600	3420		17910					6000				
RV/RVM-8140				1630	16620	19900			22270					8000			31	
RV/RVM-10140					20620	24600			26270					10000	250		39	125
RV/RVM-4142					8620	10800			14340					4000				
RV/RVM-5142				1030	10620	12900			16440					5000		200	14	200
RV/RVM-6142	6702				12620	15600	3970		18440	8590				6000	3200			
RV/RVM-8142				1630	16620	19900			23140					8000			30	
RV/RVM-10142					20620	24600			28040					10000			38	
RV/RVM-5147					10620	13546			15955					5000			19	
RV/RVM-6147	7850				12620	15546			17955					6000			23	
RV/RVM-8147					16620	19546	4570		21955	9110				8000	3700		31	
RV/RVM-10147		5410 (Z travel =1000)			20620	23546			25955					10000		250	39	125
RV/RVM-5152			2060	1680	10620	13546		3043	15955					5000			19	
RV/RVM-6152					12620	15546			17955					6000			23	
RV/RVM-8152	8350				16620	19546	5070		21955	9610				8000	4000		31	
RV/RVM-10152					20620	23546			25955					10000			39	

RVM/RV SERIES 5-FACED DOUBLE COLUMN MACHINING CENTER

KRV-4237 / KRV-8237

# KRV SERIES

## DOUBLE COLUMN MACHINING CENTER

### FEATURES

- Three axes travel ( X:4200, Y:3700, Z:1100mm ) is bigger than other manufacturer.
- Three axes rapid speed with cooling system through ballscrew ( X:20,Y20,Z:20m/min ) : **FASTEST**
- W axis travel standard : 1000mm, option : 1700mm
- Horizontal Spindle Speed 4000rpm : **BEST**
- Attached head changer and head storage swivel shelf module could be chosen for saving space.
- Ballscrew supporting system
- X axis ballscrew nut cooling
- Adapting linear guideway in X,Y,Z and W

B



A: Automatic attached head change



B: Automatic vertical and horizontal ATC system

C: Arm type operating control box with weight balance system could be upraise or go down for the operator convenient operation ( option ).

D: X, Y and Z axes ballscrew with cooling system through ballscrew to alleviate thermal expansion, resulting in higher positioning accuracy.

Models with travel over 4m possess supporting way for X-axis to solve the problems of overhanging and vibration.



/ FULL ENCLOSURE AUTOMATIC SLIDE DOOR (EXCLUSIVE)



/ ARM TYPE HEAD STORAGE





KRV SERIES MOVING CROSS RAIL DOUBLE COLUMN MACHINING CENTER



/ RACK & PINION  
STRUCTURE OF  
MILLING HEAD  
STORAGE



/ HEAD UNIT  
(Z-AXIS DOUBLE  
BALLSCREW  
TRANSMISSION)



/ TOOL CHANGE  
ARM AT ANY  
POSITION



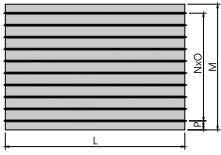
/ BALLSCREW  
SUPPORT SYSTEM

# KRV SERIES DOUBLE COLUMN MACHINING CENTER

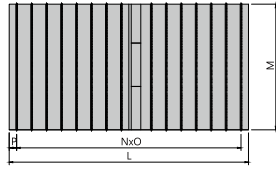
## SPECIFICATION

MODEL		KRV-4232/5232/6232/ 8232/10232	KRV-4237/5237/6237/ 8237/10237	KRV-4242/5242/6242/ 8242/10242
<b>Travel</b>				
X-axis (Left and Right)	mm	4200/5200/6200/8200/10200		
Y-axis (Back and Front)	mm	3200	3700	4200
Z-axis (Up and Down)	mm	1100		
W-axis (Up and Down) Crossrail	mm	Standard 1000 / Optional 1700		
Distance From Spindle Nose To Table Surface	mm	10~1950 / 10~2650		
Distance Between Two Columns (between sheet metal)	mm	2750(2700)	3250(3200)	3750(3700)
<b>Table</b>				
Table Dimension (X Direction)	mm	4000/5000/6000/8000/10000		
Table Dimension (Y Direction)	mm	2000	2500	3000
T-slots (Size x Number x Pitch)	mm	28x250	28x250	28x250
Max. Loading Capacity	tons	25/30/30/30/30		
<b>Spindle</b>				
Spindle Motor Output (Continuous/30mins)	kW	37/45		
Spindle Speed (Built-in grease) Standard	rpm	6000		
Spindle Speed (Built-in Oil-Air) Option	rpm	8000		
Spindle Taper		BBT50		
Spindle Bearing Bore Diameter	Ømm	100		
<b>Feed</b>				
Rapid Travel Rate X	m/min	20/20/20/10/10		
Rapid Travel Rate Y	m/min	20		
Rapid Travel Rate Z	m/min	20		
Rapid Travel Rate W	m/min	1.6		
Cutting Feed Rate (X/Y/Z)	mm/min	10000		
Cutting Feed Rate (W)	mm/min	1600		
Feed Motor	kW	X(6/9/9/9/9)/Y(7)/Z(7x2)/W(6x2)		
<b>Accuracy</b>				
Positioning Accuracy (JIS 6338)	mm	±0.015 Full Travel		
Positioning Accuracy (ISO 8636)/repeat 5 times	mm	0.025/0.035/0.040/0.045/0.055		
Repeatability Accuracy (JIS 6338)	mm	±0.003		
Repeatability Accuracy (ISO 8636)/repeat 5 times	mm	0.020/0.030/0.035/0.035/0.040		
<b>ATC System</b>				
Tool Magazine Capacity		40/60/90/120		
Tool Diameter (with adjacent tools)	Ømm	Ø125		
Max. Tool Diameter (without adjacent tools)	Ømm	Ø250		
Max. Tool Length	mm	450		
Max. Tool Weight	kg	20		
Tool Shank Type		BT50/CAT50		
Pull Stud		P50T-1		
<b>Others</b>				
Guideway of X/Y/Z/W Axis		Roller linear guideway / Roller linear guideway / Roller linear guideway / Roller linear guideway		
Power Supply	kVA	65		
Net Weight	ton	49/53/57/67/77	56/62/68/80/92	64/71/78/93/108
Floor space Requirement (WxH)	mm	7750x6400	8250x6400	8750x6400
Floor space Requirement (L)	mm	15915/17915/19915/23915/27915		

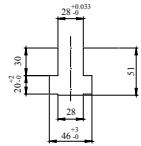
# MACHINE LAYOUT & SPACE REQUEST



KRV-XX32/37/42  
(L=4000~6000)



KRV-XX32/37/42  
(L=8000/10000)



KRV-XX32/37/42

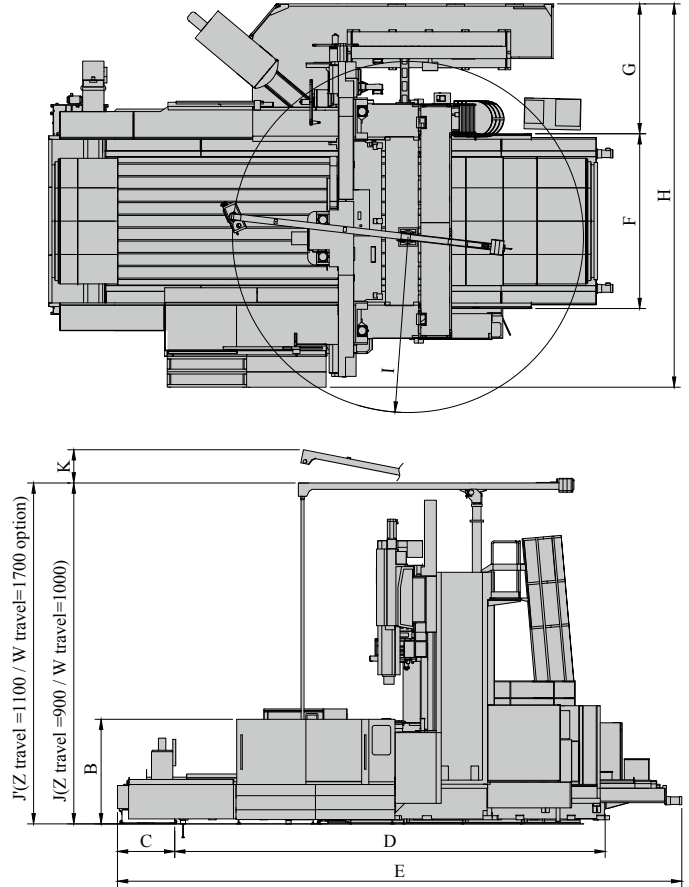
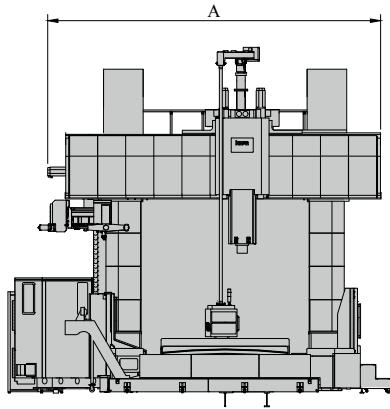


TABLE AND MACHINE LAYOUT

Unit : mm

Model \ Item	A	B	C	D	E	F	G	H	I	J	J'	K	L	M	N	O	P
KRV-4232				8320	11350								4000				
KRV-5232				10320	13350								5000			7	125
KRV-6232	6000			12330	15350	2910		7750					6000	2000			
KRV-8232				16330	19350								8000			30	
KRV-10232				20330	23350								10000			37	250
KRV-4237				8320	11350								4000				
KRV-5237				10320	13350								5000			9	125
KRV-6237	6500	2700	1160	12330	15350	3410	3010	8250	3425	6400	7100	560	6000	2500	250		
KRV-8237				16330	19350								8000			31	
KRV-10237				20330	23350								10000			38	250
KRV-4242				8320	11350								4000				
KRV-5242				10320	13350								5000			11	125
KRV-6242	7000			12330	15350	3910		8750					6000	3000			
KRV-8242				16330	19350								8000			31	
KRV-10242				20330	23350								10000			38	250

# RVM5A/RV5A SERIES

## DOUBLE COLUMN MACHINING CENTER

### RVM5A/RV5A FIXED DOUBLE-COLUMN SERIES

- The whole series with A/C axis specially for the workpiece designed with complex structure can reach high efficiency with 5-AXIS simultaneous machining.
- Symmetry design in whole machine to let cutting loading & thermal equilibrium balanced.
- RVM5A/RV5A adapts three axes with ballscrew cooling system can reduce the ballscrew thermal displacement, and raise the positioning accuracy and repeatability accuracy in each axis. Adapting Heidenhain linear scales and close loop control can enhance the accuracy efficiently.
- Z axis with dual-ballscrew design. The spindle and ballscrews mounted parallelly with the shortest throat depth can raise cutting rigidity. X axis adapts single ballscrew with twin servo motors controlled by electric technology of Master-Slave technology to offer stable torque output and enhance the dynamic rigidity and positioning accuracy of the machine. This helps finishing/high acceleration and deceleration machining perform perfectly.
- This Series adapts Siemens 840DSL or Heidenhain 640 which can exert good efficiency of 5-axis simultaneity.

### SPECIFICATION OF THIS MACHINE

- Travel of X/Y/Z (X:3100, Y:3500, Z:1100mm)(OP:1300mm)  
Specially for machining the structure of Aerospace industry.
- Rapid of X/Y/Z (20 m/min, acceleration:0.15G)  
High dynamic performance



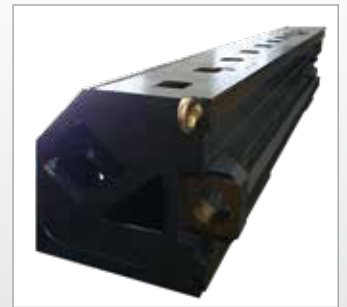




- Adapting Siemens or Heidenhain controller to exert 5-axis technology and overcome the application on complex surface machining



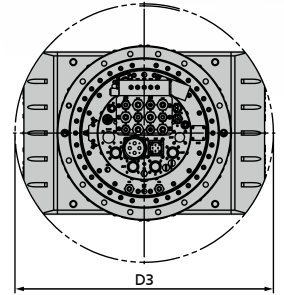
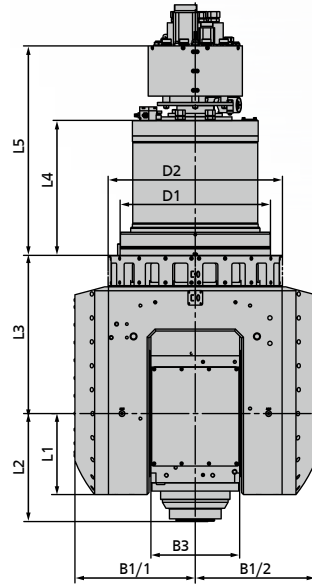
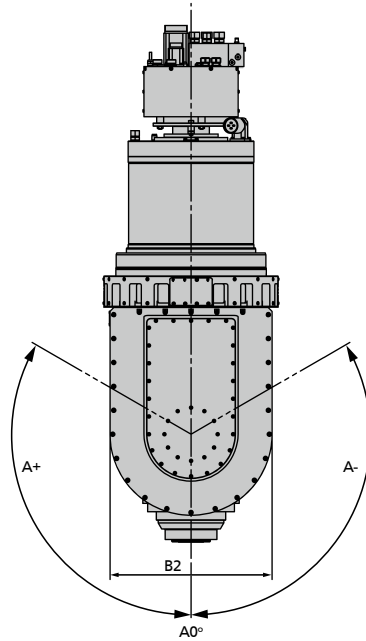
- High Precision (Positioning Accuracy  $\pm 5\mu\text{m}$ ) Kessler 2-axis Head



- Casting with topology design has the feature of light material but high rigidity

# RVM5A/RV5A SERIES DOUBLE COLUMN MACHINING CENTER

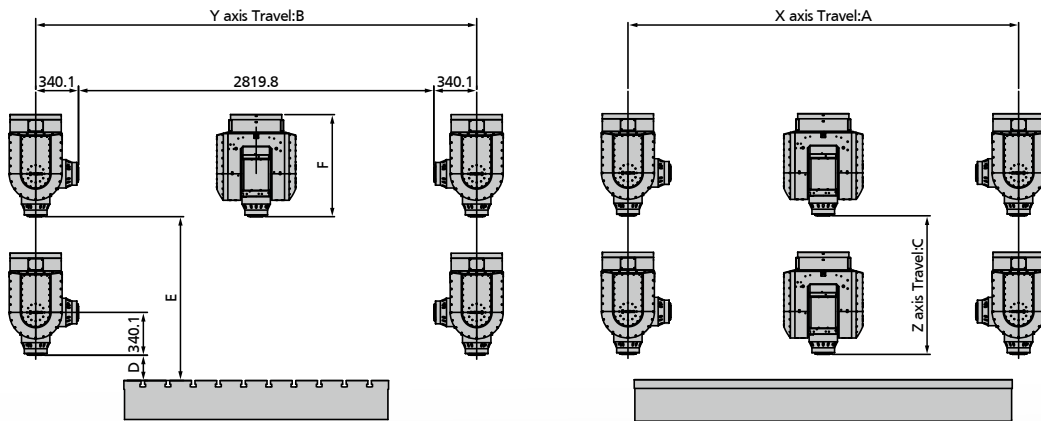
## / KESSLER SPECIFICATION & DIMENSION



Unit : mm

D1	D2	B1/1	B1/2	B2	B3	L1	L2	L3	L4	L5	D3
335	406	312	312	420	240	210	340	470	290	483	670

## / RV5A-3135 Z=1100 KESSLER HSK 100A 2-AXIS SPINDLE HEAD MACHINING RANGE



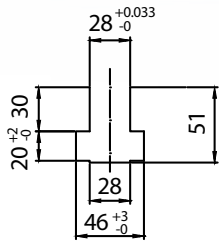
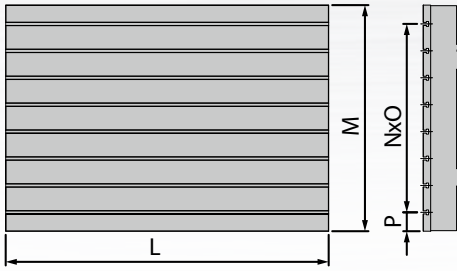
Unit : mm

HEIGHT OF COLUMN	A	B	C	D	E	F
2534	3100	3500	1100	200	1300	810.1

## DUAL AXES HEAD (A/C) SPECIFICATION

SMALL 2AK	A AXIS SWE 678.290		C AXIS SWE 029-678.292	
Rated Torque	Nm	764		810
Max. Torque	Nm	1200		1100
Clamping Torque (P MAX)	Nm	2160		3025
Clamping Torque (P 0)	Nm	1200		1675
Clamping System		Pneumatic		Pneumatic
Swivelling Angle	°	±105		±200
Positioning Accuracy	η	±5		±3

# MACHINE LAYOUT & SPACE REQUEST



RVM5A/RV5A-XX35

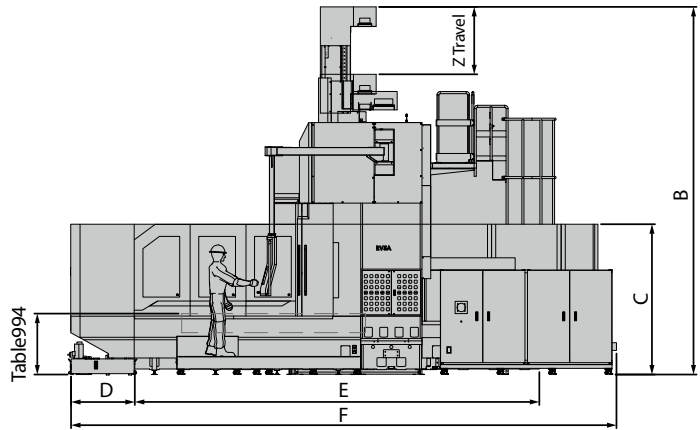
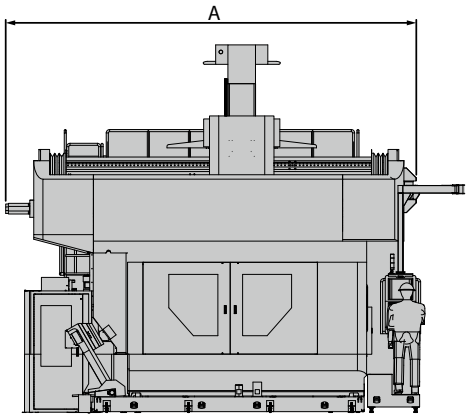
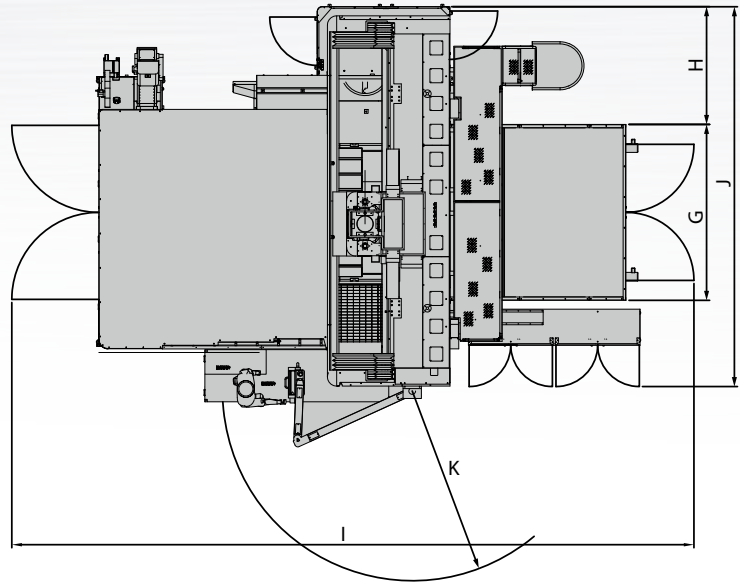


TABLE AND MACHINE LAYOUT

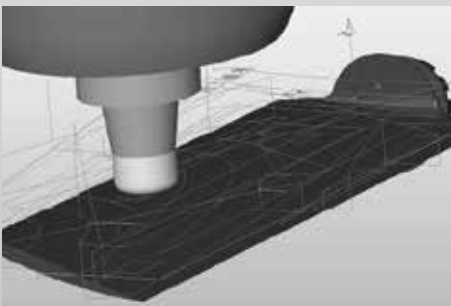
Unit : mm

Model \ Item	Z travel	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
RVM5A/RV5A-3135						6600	9300			11200			3000				
RVM5A/RV5A-4135						8600	11300			13200			4000				
RVM5A/RV5A-5135	1100	6700	6000			10600	13300	2870	1930	15200	6200	3100	5000				
RVM5A/RV5A-6135				2460	1030	12600	15300			19200			6000	2100	250	7	175
RVM5A/RV5A-3135						6600	9550			11500			3000				
RVM5A/RV5A-4135						8600	11550			13500			4000				
RVM5A/RV5A-5135	1300	7040	6670			10600	13550	2920	2140	15500	7000	3220	5000				
RVM5A/RV5A-6135						12600	15550			17500			6000				

# RVM5A/RV5A SERIES DOUBLE COLUMN MACHINING CENTER SPECIFICATION

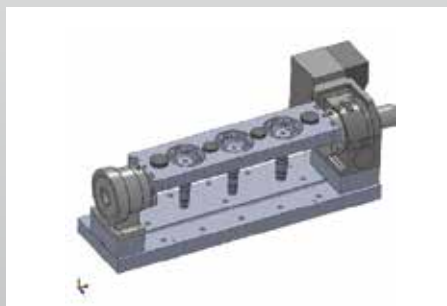
MODEL		RVM5A-3135 RV5A-3135	RVM5A-4135 RV5A-4135	RVM5A-5135 RV5A-5135	RVM5A-6135 RV5A-6135
<b>Travel</b>					
X-axis	mm	3100	4100	5100	6100
Y-axis	mm			3500	
Z-axis	mm			1100/1300	
Distance From Spindle Nose To Table Surface	mm		200~1300, 200~1500		
Distance between two columns (between sheet metal)	mm		2750(2700)		
<b>Table</b>					
Table Dimension (X)	mm	3000	4000	5000	6000
Table Dimension (Y)	mm			2100	
T-slots (Size x Number x Pitch)	mm			28×10×200	
Max. Loading Capacity	kg	13000	16000	20000	22000
<b>Spindle</b>					
Spindle motor output (S1/S6)	kW			(25/30-HSK-A100)	
Spindle torque (S1/S6)	Nw			(119/143-HSK-A100)	
Spindle taper				HSK-A100	
Spindle bearing bore diameter	Ømm			100	
Spindle speed	rpm			12000	
<b>Feed</b>					
Rapid Travel Rate (X/Y/Z)	m/min	20/20/20		15/20/20	10/20/20
Cutting Feed Rate	mm/min			10000	
Feed Motor	kW		Siemens:11.5/14.87/(5.24,5.24) Heidenhain:14/14(11,11)		
<b>Accuracy</b>					
Positioning Accuracy (JIS 6338)	mm			±0.015	
Positioning Accuracy (ISO 8636)/repeat 5 times	mm	0.020	0.025	0.035	0.040
Repeatability Accuracy (JIS 6338)	mm			±0.003	
Repeatability Accuracy (ISO 8636)/repeat 5 times	mm	0.018	0.020	0.020	0.035
<b>ATC System</b>					
Tool Magazine Capacity				30/40/60	
Tool Diameter (with adjacent tools)	Ømm			125	
Max. Tool Diameter (without adjacent tools)	Ømm			215	
Max. Tool Length	mm			400	
Max. Tool Weight	kg			20	
Tool Shank Type				HSK-A100	
<b>Others</b>					
Guideway of X/Y/Z Axis			Roller Linear Way / Roller Linear Way / Roller Linear Way		
Power Supply (MAX.)	kVA			300	
Net Weight (RVM5A/RV5A)	kg	39000	44000	49000	54000
Gross Weight (RVM5A/RV5A)	kg	44500	49500	54500	59500
Length x Width x Height	mm	9300×6960×6000	11300×6960×6000	13300×6960×6000	15300×6960×6000
Controller			Siemens 840D (HEIDENHAIN iTNC640)		

## APPLICATION RESOURCE SERVICE



### CAD / CAM

- Our Products are compatible with a wide variety of CAD / CAM software



### FIXTURE PLANNING

- We assist customer to plan fixture to suit your workpiece



### TESTING WORKPIECE

- Benz Mold sample

# STANDARD & OPTIONAL LIST

● : Standard Specification ○ : Optional Specification

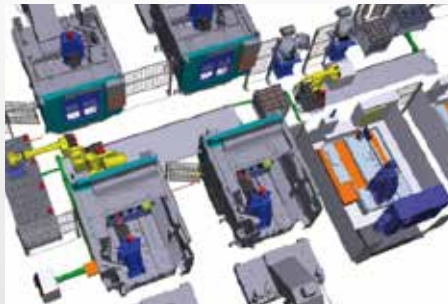
SPECIFICATION/MODEL	RVM5A-3135 RV5A-3135	RVM5A-4135 RV5A-4135	RVM5A-5135 RV5A-5135	RVM5A-6135 RV5A-6135
Kessler Small 2AK 2-axis Rotary System				
Centralized Lubrication System				
Semi Enclosure (without Top Cover) and Arm Type Operating Control Box (K Type)				
Head Side Punching System				
Dual Spiral and Lift-Up Chip Conveyor With Bucket				
Spindle Oil Chiller	●	●	●	●
Coolant Through Ballscrew For Three Axes				
Working Light				
Tri-Color Status Light				
Spray Gun For Cleaning				
Leveling Bolts and Pads				
Manual and Operate Books				
Rigid Tapping Function				
Full Enclosure (with Top Cover)				
Arm Type Operating Control Box (RV Type)				
Coolant Through Spindle (20 Bar)				
Scraper-Type Chip Conveyor	○	○	○	○
Linear Scales (X/Y/Z Axes)				
Foot Rest				
Automatic tool length measurement				
Automatic workpiece measurement				
CNC rotary table				
Z-axis riser 200mm/400mm				

RVM5A/RV5A SERIES 5-AXIS DOUBLE COLUMN MACHINING CENTER



## TOOLING

- We offer the best tools which suit your machining demands



## AUTOMATIC PRODUCTION LINE

- We propose customer for automation system



## TESTING WORKPIECE

- Cover Mold sample

# KAFO

## TURN-KEY PROJECT PLANNING-EXCELLENT PROCESS

- ▶ Meet customer's processing demand
- ▶ Achieve customer's required quantity production
- ▶ Carry out automation processing
- ▶ Flexibly used in various products

## PROFESSIONAL ENGINEERING TEAM

- ▶ Having the most state-of-the-art software and hardware provides customers with the proposal to increase the production efficiency.
- ▶ Improving the processing efficiency through the work analysis, construction method and application test.



# PERFECT MACHINE PLANNING AND INSEPARABLE TECHNICAL NETWORK GIVES BEST BENEFICIAL RESULT



## Worldwide After-sales Service

- By immediate service network to reach efficient service capability
- Through worldwide service to give supports to all customers
- With experienced and qualified technicians for routine maintenance



## Service Network

- Headquarter : Taichung City, Taiwan TEL : +886-4-25662116
- Office : Taipei City, Taiwan TEL : +886-2-22989800
- Agent : Taipei, Taoyuan, Tainan, Kaohsiung
- Mainland China
- Worldwide



## Global Marketing Information

[www.kafo.com.tw](http://www.kafo.com.tw)



## I-operation

### Kao Fong Customized Calculator Software Features

- G-menu
- Calculating Function
- Center of Rectangle Function
- Center of Circle Function
- Tool length Measurement and Setting
- Intelligent ATC System Management

## TECHNICAL CENTER



Expert service and immediate response professional analysis in all cases

## CERTIFIED TECHNICIANS



Skillful technical service team provide professional training

## IN-STOCK SPARE PARTS AVAILABILITY



Full line service and maintenance parts clear parts management



**SERVICE CALL**  
**+886-4-25688599**  
**[www.kafo.com.tw](http://www.kafo.com.tw)**



Vision



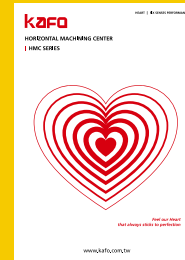
Hearing



Smell



Touch



Heart

The design idea of KAFO new catalogues is providing comprehensive six senses performance, including Vision, Hearing, Smell, Touch, Taste, and Heart.

**Vision: Visual Design Master creates designs covering all aspects**

We create innovative designs covering every aspect to develop perfect machines.

**Hearing: Hear your needs from every corner of the world**

We hear and comprehend customers' needs actively from every corner of the world, and we practice thoroughly to exceed customers' expectations.

**Smell: Smell the market demand and offer well-thought-out plans**

We have superior market insights and perfect strategic ability to be the strong support of customers.

**Touch: Pursue excellent quality to achieve high performance**

We focus on the enhancement of top core technologies and capabilities, and develop solidly to achieve excellent quality.

**Taste: Taste good service by our professional and efficient team**

We provide efficient, professional, and comprehensive services, and establish permanent and deep relationships with customers.

**Heart: Feel our Heart that always sticks to perfection**

We manage business with all our heart, and stick to perfection, to create maximum benefits for customers.



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