

KAFO

DOUBLE COLUMN MACHINING CENTER

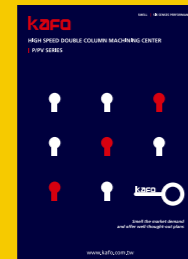
| B/BMC SERIES | RVM/RV SERIES | RVM5A/RV5A SERIES
| KRV SERIES



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.

KAFO



Kao Fong Machinery Co., Ltd.

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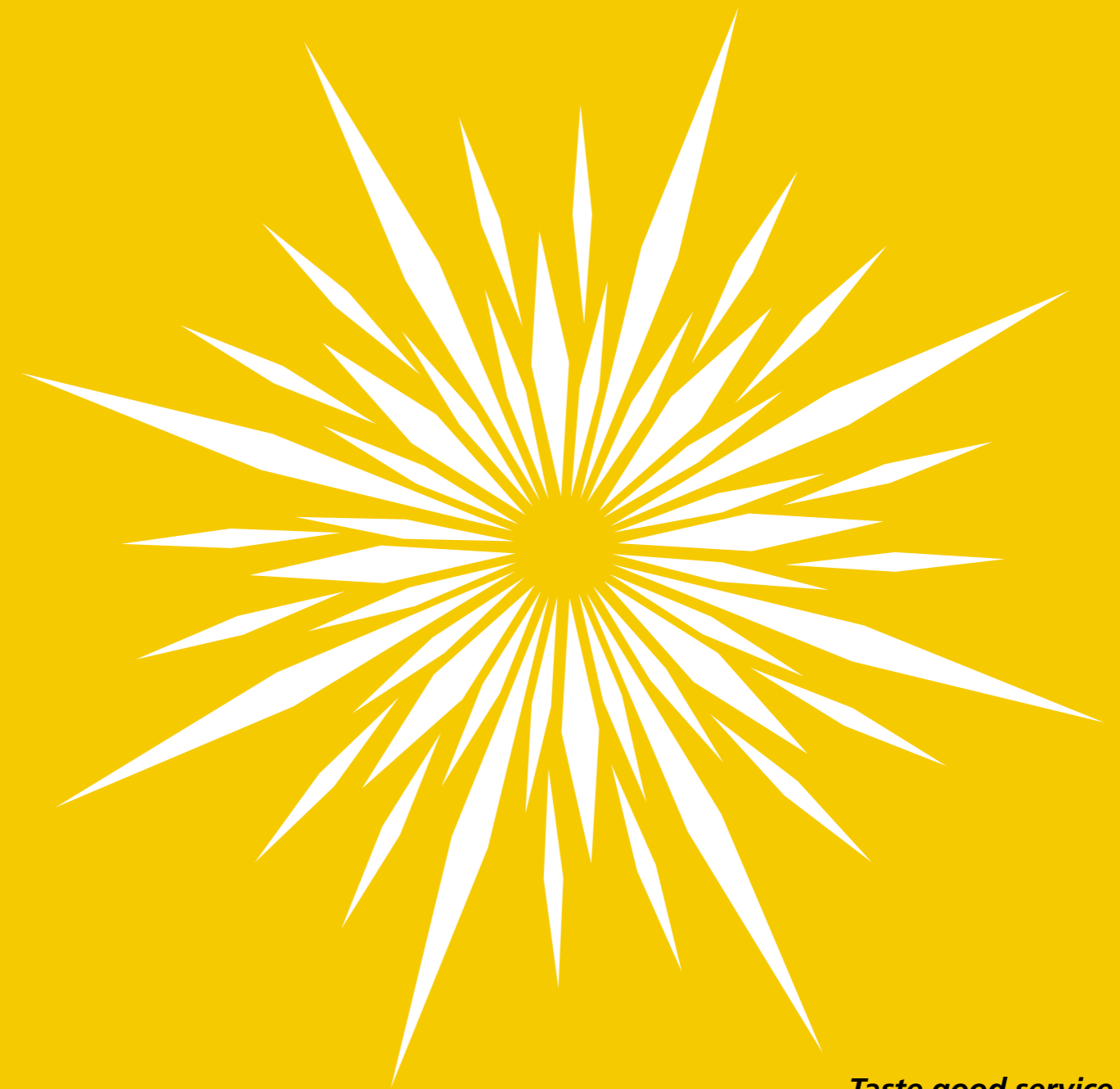
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Version : February, 2022



*Taste good service
by our professional and efficient team*

www.kafo.com.tw



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 & CEO
SHEN, KUO-JUNG (DAVID SHEN)



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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.



- 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.

QUALITY ASSURANCE

RIGOROUS TESTS AND INSPECTION,
GUARANTEED QUALITY CONTROL UPON KEY COMPONENTS



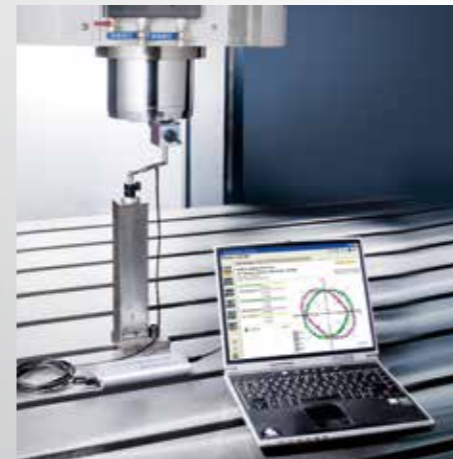
**/ 3D PROBE SYSTEM
QUALITY ASSURANCE
(CMM)**



/ LASER INSPECTION



**/ 3D CIRCULAR BALL
MILLING**



/ BALL BAR INSPECTION



/ VIBRATION TEST

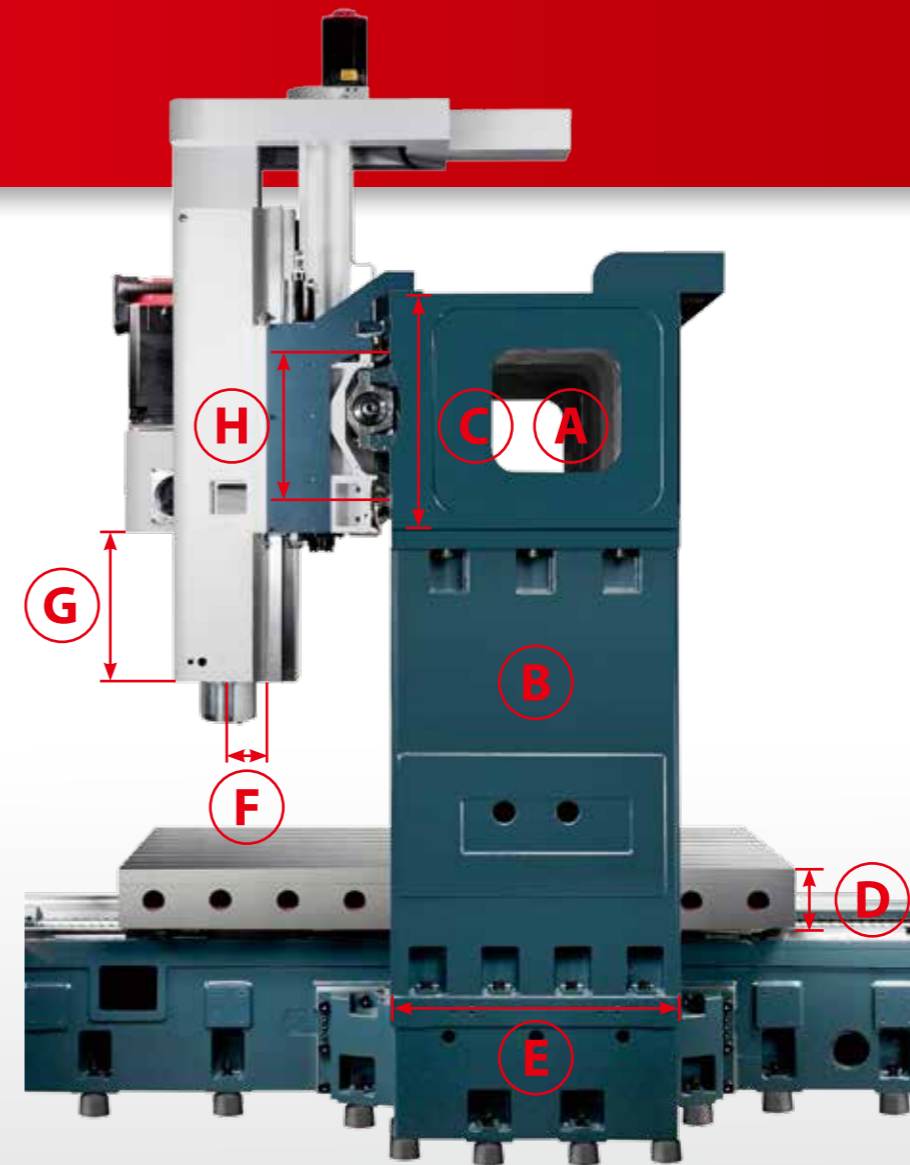
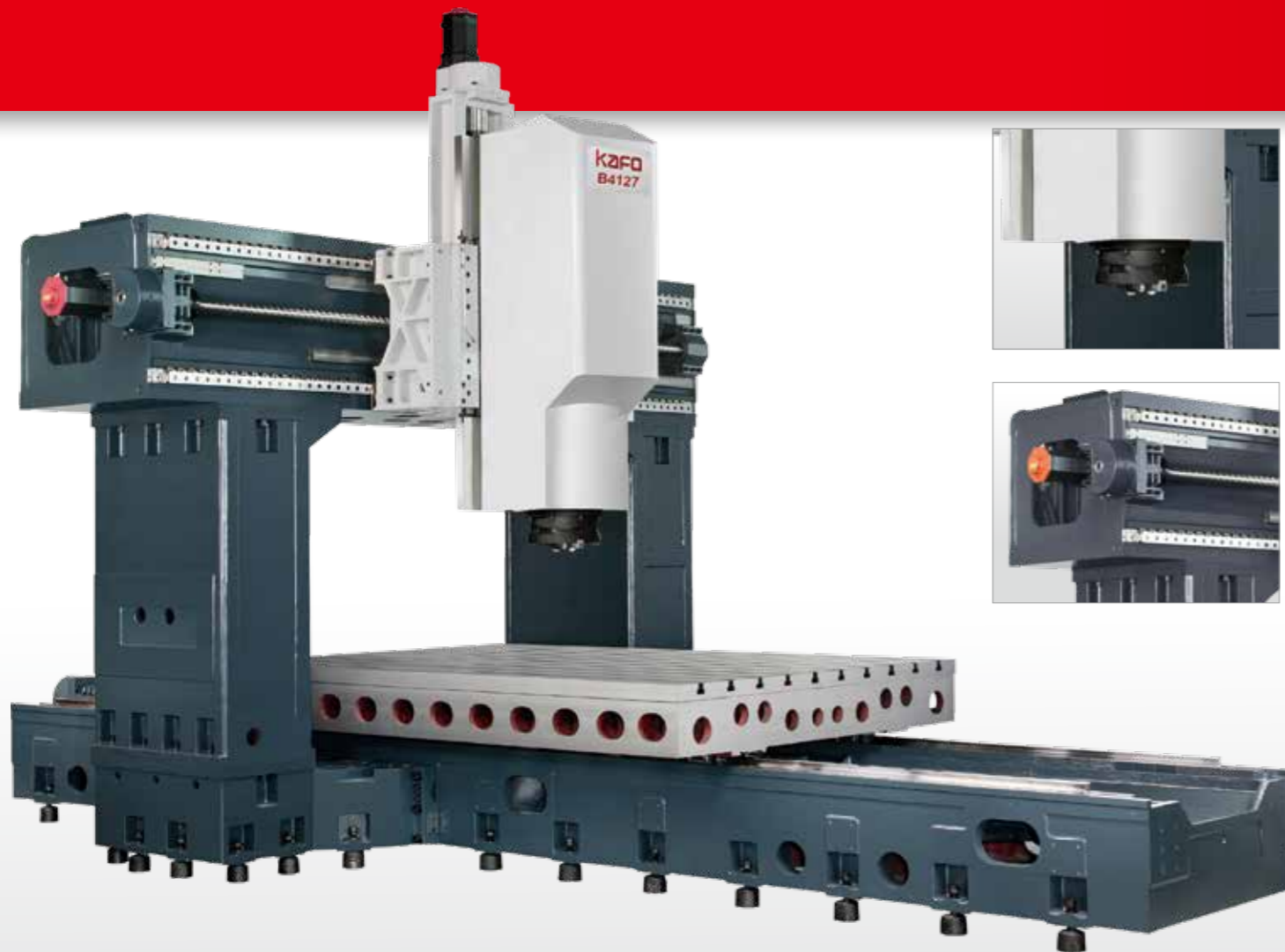


/ RIGIDITY TEST

DOUBLE COLUMN MACHINING CENTER

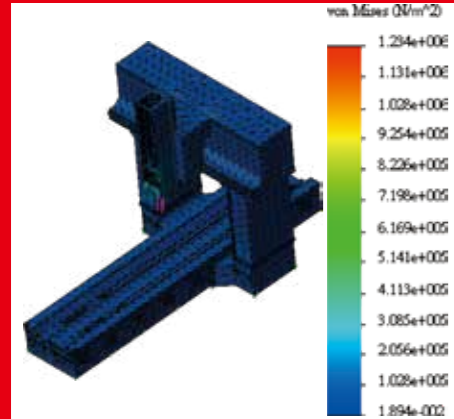
NEW GENERATION DESIGNED, PROVIDING BEST RIGIDITY STRUCTURE

- 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.



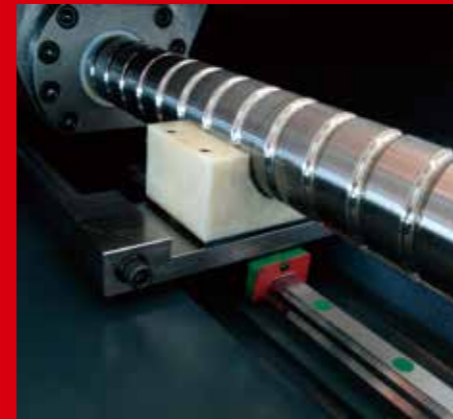
GEAR BOX OF THE THREE AXES

- 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.



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.

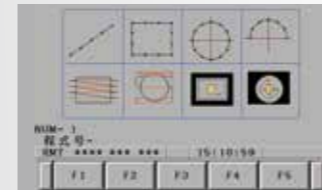


CUSTOMIZED CALCULATOR SOFTWARE FEATURES (OPTION)

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

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



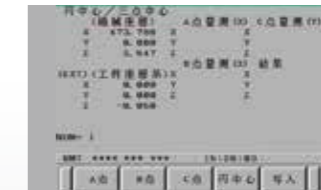
- Displaying of the tool number, tool pot number and preparation tool number can be pre-set the tool type in the form.

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.

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 α22i spindle motor and Y Δ coil high horsepower output. With Ø100 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

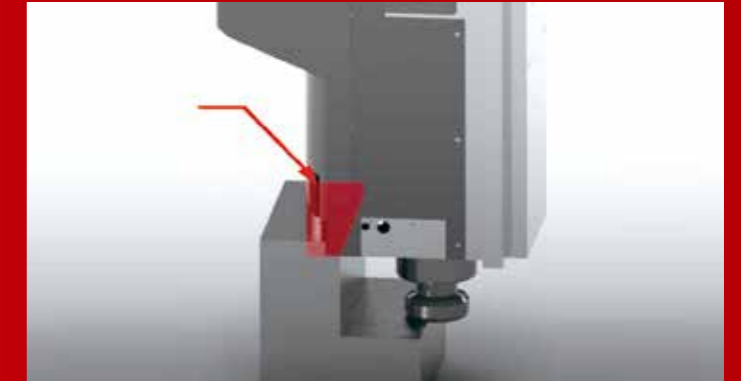
- Gear spindle with 6000rpm: superior power, high speed and accurate precision. Ceramic ball bearing of ID Ø100 is able to achieve high torque of 728N-m while the spindle speed is 341rpm, which is good for heavy duty cutting.



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)



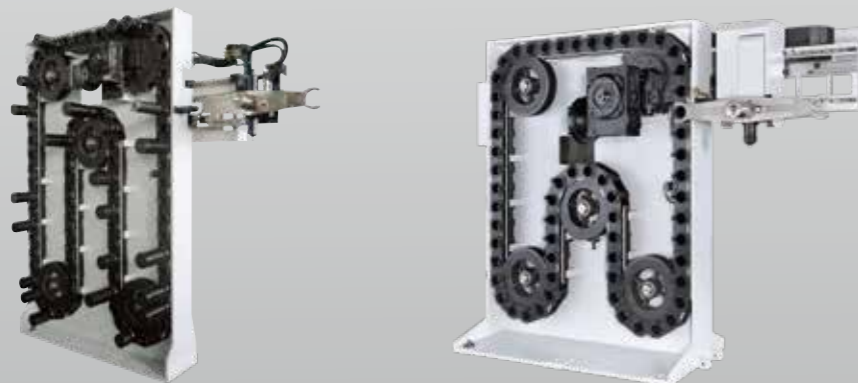
- Other Manufacturer

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	RV
Spindle	Gear 4,000RPM Gear 6,000RPM Direct-Driven 10,000RPM	Gear 4,000RPM Gear 6,000RPM Built-in 8,000RPM (180LL)
ATC Magazine	<ul style="list-style-type: none"> Vertical Magazine 30/40/60T (Vertical Automatically Tool Change) 	<ul style="list-style-type: none"> Vertical Magazine 30/40/60T (Vertical Automatically Tool Change / 90° Milling Head) Automatically Head Change Manually Tool Change Vertical & horizontal Magazine 40/60/90/120T (Vertical & Horizontal Automatically Tool Change/ 90° Milling Head-) Automatically Head Change Automatically Tool Change
Travel	Y-Axis Travel Extend or Z-Axis Travel Extend	
Attached Head	<ul style="list-style-type: none"> Manual 90° Milling Head / Universal / Extension Head-Manually Head Change Manually Tool Change 	<ul style="list-style-type: none"> Universal Head (Automatic) 90° Milling Head (Automatic)
Head storage Exchanging System (OP)	X	<ul style="list-style-type: none"> Milling head storage (90° / Universal / Extension / Speed-Up Type Extension Head)

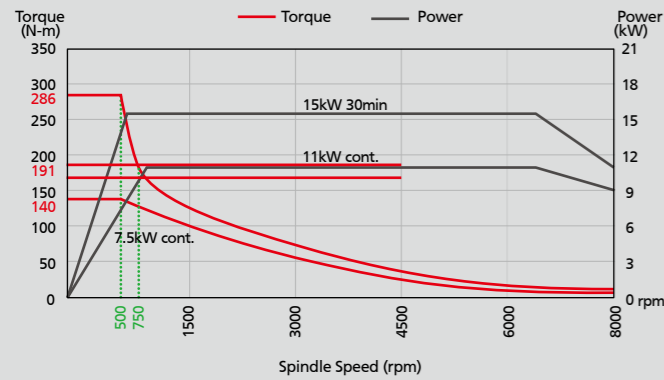


NEW GENERATION SPINDLE DESIGNED WITH POWERFUL MACHINING ABILITY

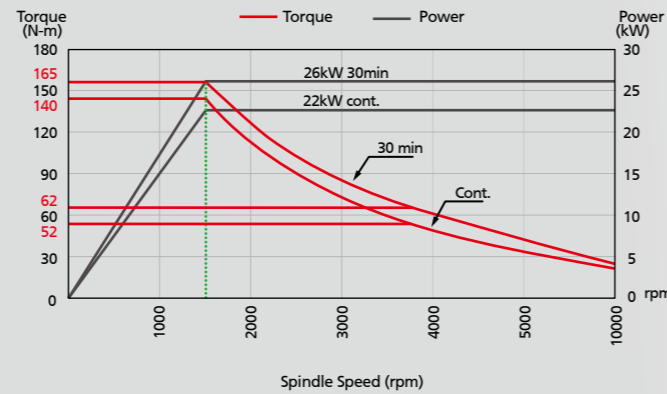
/ HIGH RIGIDITY, HIGH TORQUE, HIGH SPEED, LOW VIBRATION LOW NOISE, LOW THERMAL DISPLACEMENT

- 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.

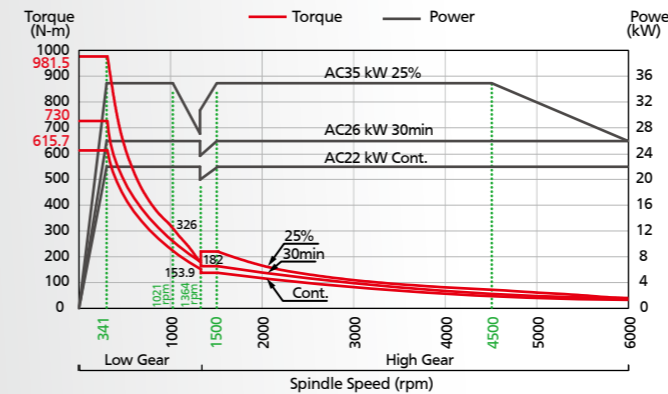
/ BT50 DIRECT-DRIVEN 8000 RPM (FANUC αP22I/8000)



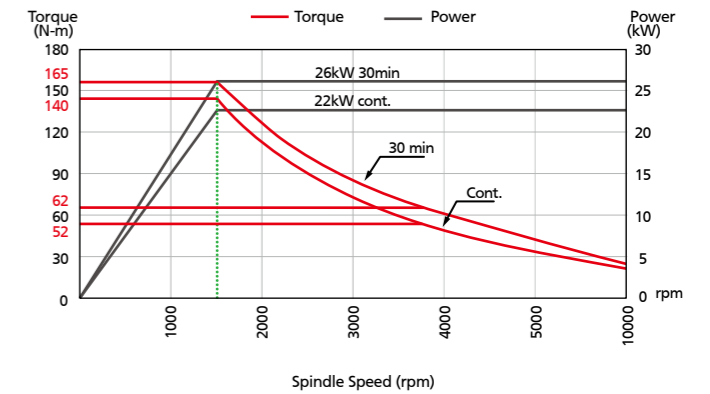
/ BT50 DIRECT-DRIVEN 10000 RPM (FANUC α22I/10000)



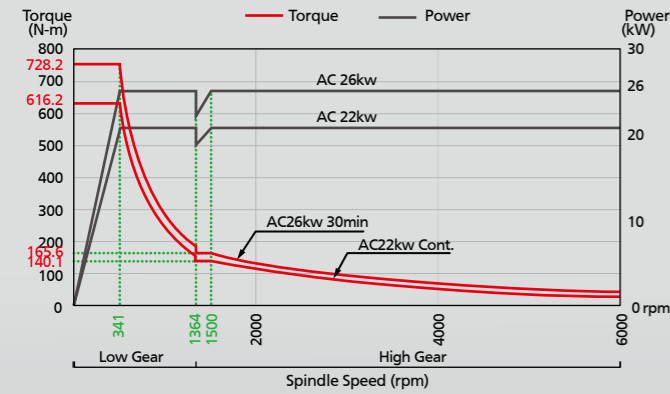
/ BT50 GEAR HEAD 6000 RPM (MITSUBISHI SJ-D26-80-01-C)



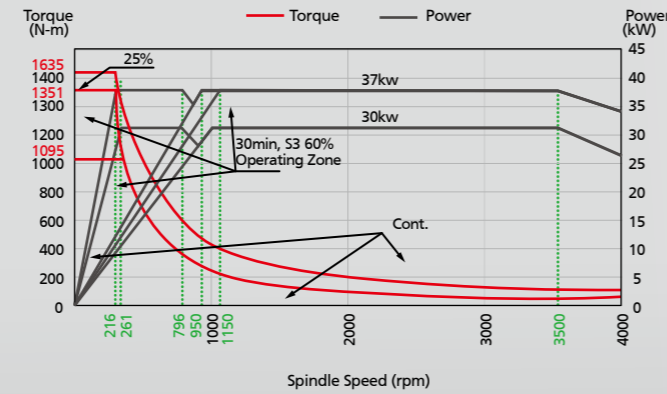
/ BT50 DIRECT-DRIVEN 10000 RPM (MITSUBISHI SJ-VK30-21ZT)



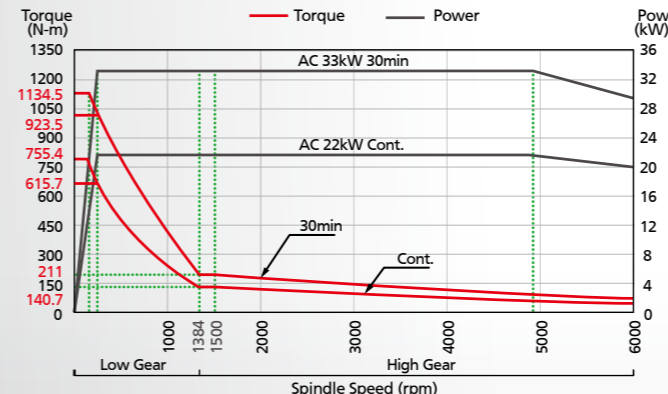
/ BT50 GEAR HEAD 6000 RPM (FANUC α22I/8000)



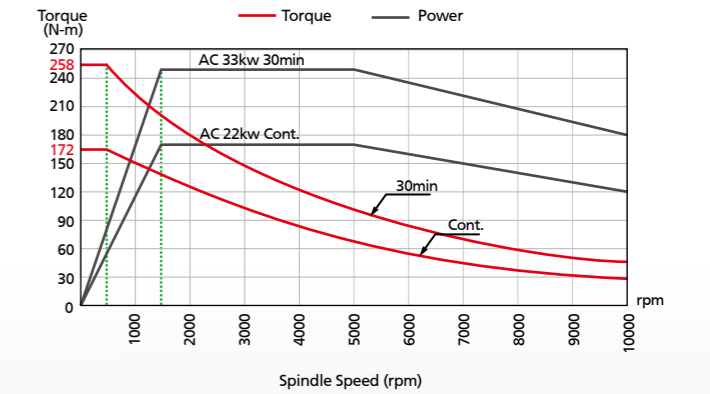
/ BT50 GEAR HEAD 4000 RPM (FANUC α30/7000)



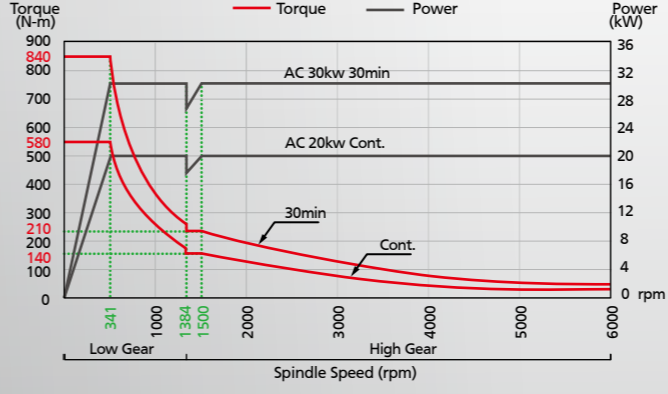
/ BT50 GEAR HEAD 6000 RPM (SIEMENS 1PH8137-1CA1)



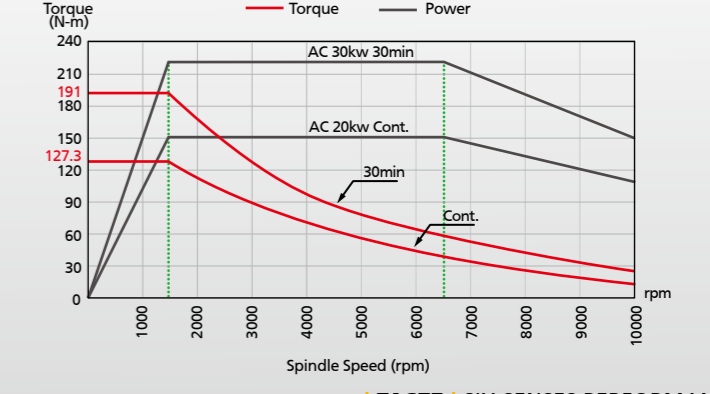
/ BT50 DIRECT-DRIVEN 10000 RPM (SIEMENS 1PH8137-OLA1)



/ BT50 GEAR HEAD 6000 RPM (HEIDENHAIN QAN260L)



/ BT50 DIRECT-DRIVEN 10000 RPM (HEIDENHAIN QAN260L)



ATTACHED MILLING HEAD DESIGN

/ MANUAL 90° ANGLE MILLING HEAD



/ MANUAL UNIVERSAL HEAD



/ MANUAL EXTENSION HEAD



/ MANUAL ANGLE MILLING HEAD CHANGING UNIT (OPT.)

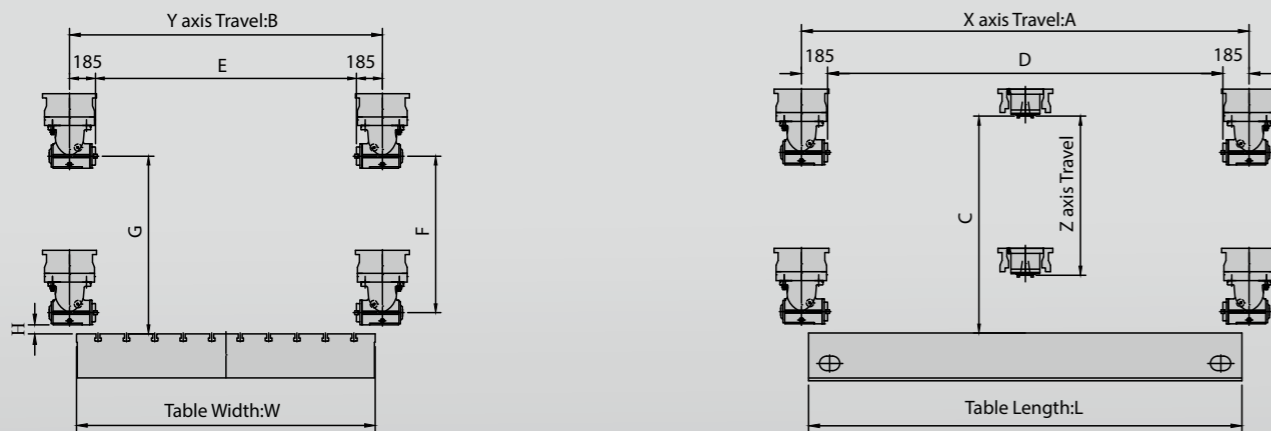
- Manual head change.
- Manual angle milling head can change tool by foot pedal.
- Angle milling head has unclamped hydraulic cylinder, tool can be changed at any position.
- Unique and simple head changing unit doesn't occupy working space.
- Head changing unit has enclosure guards to protect against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



/ CHANGE AND INDEXING MECHANISM OF MILLING HEAD

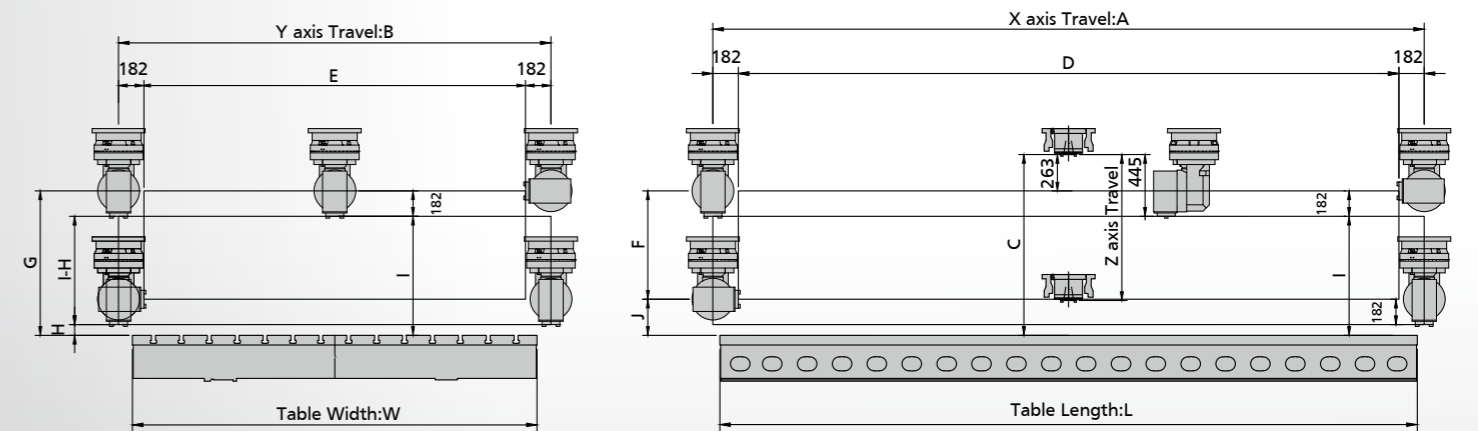
ITEM	TYPE	HEAD CHANGE	MILLING HEAD INDEXING	CLAMPING	ANGLE
	All Manual	Manual	Manual	Manual / Bolts	Any Angle

/ MANUAL 90° ANGLE HEAD MACHINING RANGE



Z AXIS TRAVEL	COLUMN H	A	B	C	D	E	F	G	H
900	1710	X axis travel	Y axis travel	1100	X axis travel-370	Y axis travel-370	725	880	63
1100	1910	X axis travel	Y axis travel	1300	X axis travel-370	Y axis travel-370	925	1080	63
1300	2110	X axis travel	Y axis travel	1500	X axis travel-370	Y axis travel-370	1125	1280	63

/ MANUAL UNIVERSAL HEAD MACHINING RANGE



Z AXIS TRAVEL	COLUMN H	A	B	C	D	E	F	G	H	I	J
900	1710	X axis travel	Y axis travel	1100	X axis travel-364	Y axis travel-364	455	837	200	655	382
1100	1910	X axis travel	Y axis travel	1300	X axis travel-364	Y axis travel-364	655	1037	200	855	382
1100	1910 + 200	X axis travel	Y axis travel	1500	X axis travel-364	Y axis travel-364	855	1237	200	1055	382
1100	2110 + 200	X axis travel	Y axis travel	1700	X axis travel-364	Y axis travel-364	1055	1437	200	1255	382
1300	2110	X axis travel	Y axis travel	1500	X axis travel-364	Y axis travel-364	855	1237	200	1055	382

B/BMC SERIES

DOUBLE COLUMN MACHINING CENTER

/ BMC-4122



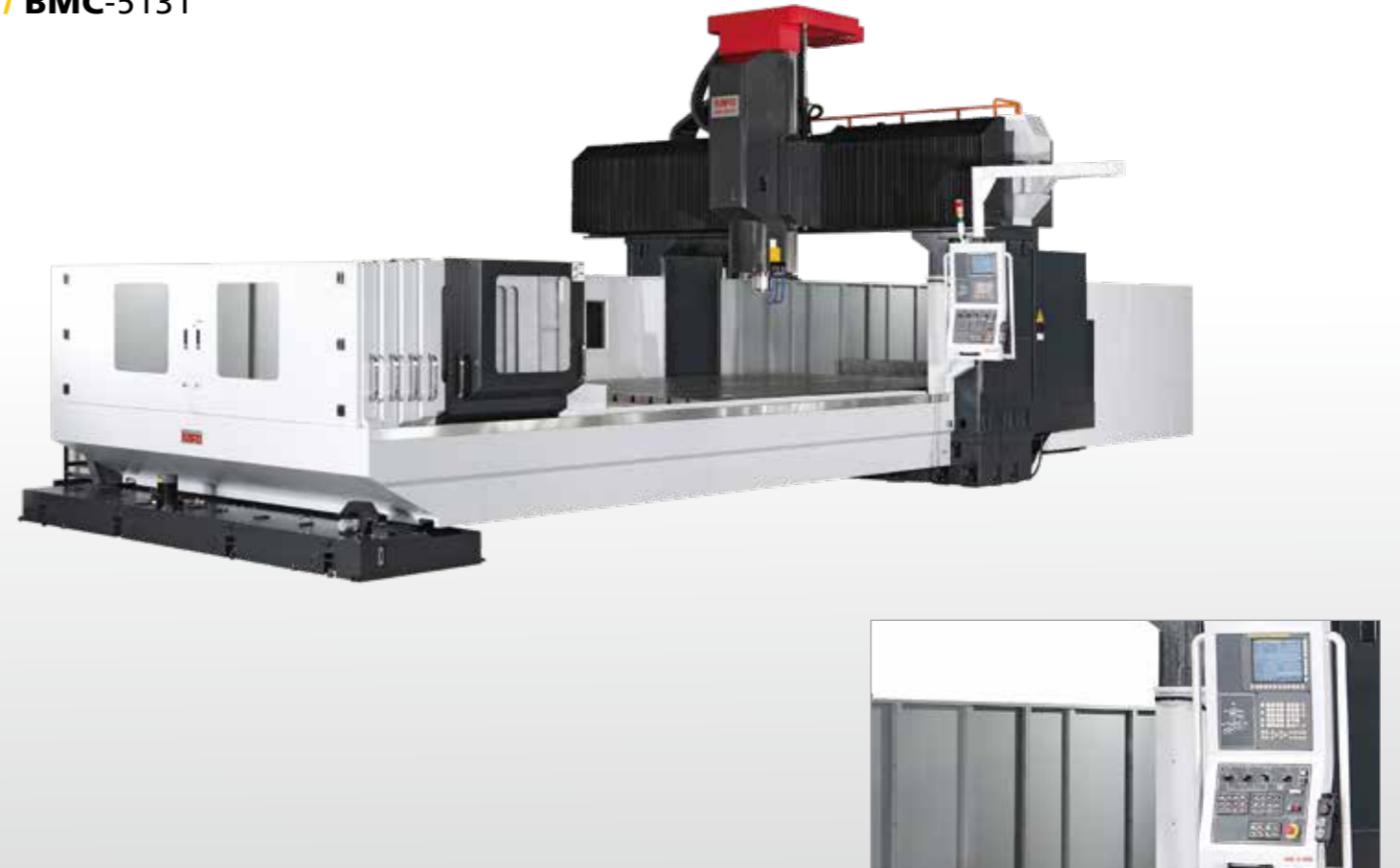
/ BMC-4127



/ BMC-2012



/ 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-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
Travel														
X-axis	mm	2100		3100		2100	3100	2600	3100	4100	5100	2600	3100	4100
Y-axis	mm	1200				1500				1800				
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)				200~1100 (OP 200-1300)				
Distance between two columns	mm	1350				1650				1850				2300
Table														
Table Dimension (X)	mm	2000		3000		2000	3000	2500	3000	4000	5000	2500	3000	4000
Table Dimension (Y)	mm	1100				1400				1600				
T-slots (Size x Number x Pitch)	mm	22 x 7 x 160												
Max. Loading Capacity	kg	4000		5000		6000	7000	9000	11000	14000	17000	11000	14000	17000
Spindle														
Spindle Motor Output (Continuous/30mins)	kW	15/18.5				15/18.5 (OP 22/26)				22/26 (OP 30/37)				
Spindle Speed (Gear)	rpm	-	ST 6000 / OP 4000	-	ST 6000 / OP 4000	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	OP 8000 / OP 10000				OP 8000 / OP 10000				
Spindle Taper		BBT40	BBT50	BBT40	BBT50	BBT50				BBT50				
Spindle Bearing Bore Diameter	Ømm	70	100	70	100	100				100				
Feed														
Rapid Travel Rate (X/Y/Z)	m/min	20/20/15				24/24/15				20/24/15	15/20/15	20/20/15	20/20/15	15/20/15
Cutting Feed Rate	mm/min	10000				10000				10000				
Feed Motor	kW	4.0/4.0/4.0				4.0/4.0/4.0				7.0/4.0/4.0	6.0/4.0/4.0	7.0/4.0/4.0	6.0/4.0/4.0	
Accuracy														
Positioning Accuracy (JIS 6338)	mm	±0.01				±0.01				±0.01				
Positioning Accuracy (ISO 8636)	mm	0.020		0.025	0.020	0.025	0.022	0.025	0.030	0.040	0.022	0.025	0.030	
Repeatability Accuracy (JIS 6338)	mm	±0.003				±0.003				±0.003				
Repeatability Accuracy (ISO 8636)	mm	0.015		0.02	0.015	0.02	0.017	0.02	0.025	0.03	0.017	0.02	0.025	
ATC System														
Tool Magazine Capacity		32(*40)	30(*40/60)	32(*40)	30(*40/60)	30(*40/60)				30(*40/60)				
Tool Diameter (with adjacent tools)	Ømm	Ø75	Ø125	Ø75	Ø125	Ø125				Ø125				
Max. Tool Diameter (without adjacent tools)	Ømm	Ø127	Ø215	Ø127	Ø215	Ø215				Ø215				
Max. Tool Length	mm	300	400	300	400	400				400				
Max. Tool Weight	kg	7	20	7	20	20				20				
Tool Shank Type		BT40/CAT40	BT50/CAT50	BT40/CAT40	BT50/CAT50	BT50/CAT50				BT50/CAT50				
Pull Stud		P40T-1	P50T-1	P40T-1	P50T-1	P50T-1				P50T-1				
Others														
Guideway of X/Y/Z Axis	X,Y-axis: Roller Linear Guideway				Roller Linear Guideway / Roller Linear Guideway / Box Way				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	Z-axis: Box Way (Roller Linear Guideway)									
Power Supply	kVA	35				45								
Net Weight (B/BMC)	kg	18000/20500		22500/25000		19000/21500	24000/26500	25500/28000	27500/30000	31500/34000	35500/38000	31500/34000	33500/36000	37500/40000
Gross Weight (B/BMC)	kg	21000/23500		25500/28000		22000/24500	27000/29500	29000/31500	31000/33500	35000/37500	39000/41500	35000/37500	37000/39500	41500/44000
Length x Width x Height	mm	6040x3790/ 4230x4340		8040x3790/ 4230x4340		6040x4090/ 4530x4260	8040x4090/ 4530x4260	8300x4900/ 5100x4600	9300x4900/ 5100x4600	11300x4900/ 5100x4600	13300x4900/ 5100x4600	7540x5540/ 5670x4570	8540x5540/ 5670x4570	10750x5540/ 5670x4570

PS.: 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.

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-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	
Travel															
X-axis	mm	5100	6100	8100	10100	3100	4100	5100	6100	8100	10100	4100	5100	6100	
Y-axis	mm	2200				2700				2700				3100 (OP 4000)	
Z-axis	mm	ST 900 (OP 1100)										ST 900 (OP 1100)			
Distance From Spindle Nose To Table Surface	mm	200~1100 (OP 200~1300)										200~1100 (OP 200~1300)			
Distance between two columns	mm	2300				2800				2800				3200 (OP 3550)	
Table															
Table Dimension (X)	mm	5000	6000	8000	10000	3000	4000	5000	6000	8000	10000	4000	5000	6000	
Table Dimension (Y)	mm	2100				2600				2600				2900	
T-slots (Size x Number x Pitch)	mm	28x10x200		28x31x250		28x39x250		28x13x200		28x13x200		28x31x250		28x39x250	
Max. Loading Capacity	kg	20000	23000	26000	29000	15000	18000	20000	23000	26000	29000	18000	20000	23000	
Spindle															
Spindle Motor Output (Continuous/30mins)	kW	22/26 (OP 30/37)										22/26 (OP 30/37)			
Spindle Speed (Gear)	rpm	ST 6000 / OP 4000										ST 6000 / OP 4000			
Spindle Speed (Direct-driven)(Optional)	rpm	OP 8000 / OP 10000										OP 8000 / OP 10000			
Spindle Taper		BBT50										BBT50			
Spindle Bearing Bore Diameter	Ømm	100										100			
Feed															
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	12/20/15	10/20/15	8/20/15	15/20/15	12/20/15	12/20/15	10/20/15	
Cutting Feed Rate	mm/min	10000				8000		10000		10000		8000		10000	
Feed Motor	kW	6.0/4.0/4.0				7.0/4.0/4.0		6.0/4.0/4.0		6.0/4.0/4.0					
Accuracy															
Positioning Accuracy (JIS 6338)	mm	±0.015										±0.015			
Positioning Accuracy (ISO 8636)	mm	0.040	0.050	0.055	0.065	0.025	0.030	0.040	0.050	0.055	0.065	0.030	0.040	0.050	
Repeatability Accuracy (JIS 6338)	mm	±0.003										±0.003			
Repeatability Accuracy (ISO 8636)	mm	0.030	0.035	0.040	0.040	0.020	0.025	0.030	0.035	0.040	0.040	0.025	0.030	0.035	
ATC System															
Tool Magazine Capacity		30(40/60)										30(40/60)			
Tool Diameter (with adjacent tools)	Ømm	Ø125										Ø125			
Max. Tool Diameter (without adjacent tools)	Ømm	Ø215										Ø215			
Max. Tool Length	mm	400										400			
Max. Tool Weight	kg	20										20			
Tool Shank Type		BT50/CAT50										BT50/CAT50			
Pull Stud		P50T-1										P50T-1			
Others															
Guideway of X/Y/Z Axis		Roller linear guideway / Roller linear guideway / Box Way										Roller linear guideway / Roller linear guideway / Box Way			
Power Supply	kVA	45										45			
Net Weight (B/BMC)	kg	41500/44000	45500/48000	53500/56000	61500/64000	36500/39000	43000/45500	48200/50700	55500/58000	67500/70000	79500/82000	51000/53500	57000/59500	63000/65500	
Gross Weight (B/BMC)	kg	45500/48000	49500/52000	57500/60000	65500/68000	40500/43000	47000/49500	52200/54700	59500/62000	71500/74000	83500/86000	55000/57500	61000/63500	67000/69500	
Length x Width x Height	mm	12750x5540/ 5670x4570	15400x5540/ 5670x4570	19400x5540/ 5670x4570	23400x5540/ 5670x4570	8540x5600/ 5900x4570	10800x5600/ 5900x4570	12900x5600/ 5900x4570	15400x5600/ 5900x4570	19500x5600/ 5900x4570	23500x5600/ 5900x4570	10800x6100/ 6400x4570	12900x6100/ 6400x4570	15500x6100/ 6400x4570	

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.

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	
Travel									
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	mm	3200 (OP 3550)			3750				
Table									
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	
Spindle									
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							
Feed									
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							
Accuracy									
Positioning Accuracy (JIS 6338)	mm	±0.015							
Positioning Accuracy (ISO 8636)	mm	0.055	0.065	0.03	0.04	0.050	0.055	0.065	
Repeatability Accuracy (JIS 6338)	mm	±0.003							
Repeatability Accuracy (ISO 8636)	mm	0.035	0.040	0.025	0.030	0.035		0.040	
ATC System									
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							
Others									
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	19500x6100/ 6400x4570	23500x6100/ 6400x4570	10800x7000/ 7500x5050	12900x7000/ 7500x5050	15500x7000/ 7500x5050	19800x7000/ 7500x5050	24500x7000/ 7500x5050	

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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
Travel									
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	mm	4350				4850			
Table									
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
Spindle									
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							
Feed									
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	6.0/4.0/4.0							
Accuracy									
Positioning Accuracy (JIS 6338)	mm	±0.015							
Positioning Accuracy (ISO 8636)	mm	0.04	0.05	0.055	0.065	0.04	0.05	0.055	0.065
Repeatability Accuracy (JIS 6338)	mm	±0.003							
Repeatability Accuracy (ISO 8636)	mm	0.03	0.035	0.035	0.04	0.03	0.035	0.035	0.04
ATC System									
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							
Others									
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.

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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	-	-	-	-	-	-	-	-	-

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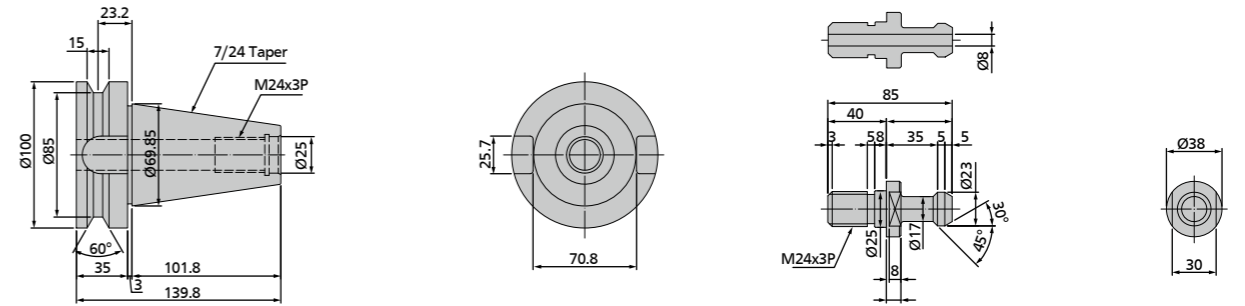
2. The temperature of machine installing environment must be around 5-40°C, the surrounding temperature difference should be within 4°C, 0.67°C per hour, under 4°C within 6 hours.

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

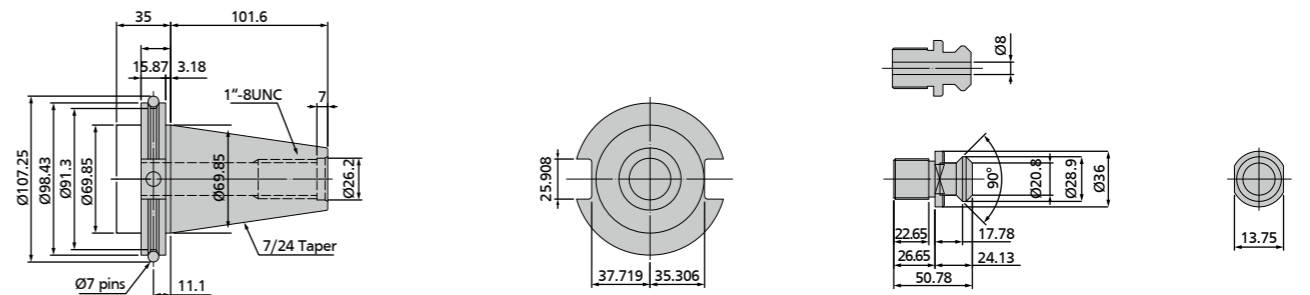
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TOOL HOLDER & PULL STUD

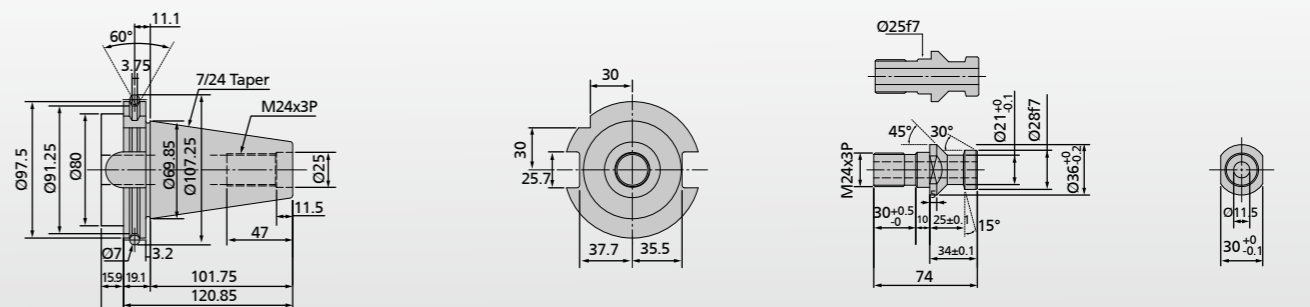
/ MAS BT50 + MAS P50T TOOLING DIM. (CTS)



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



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

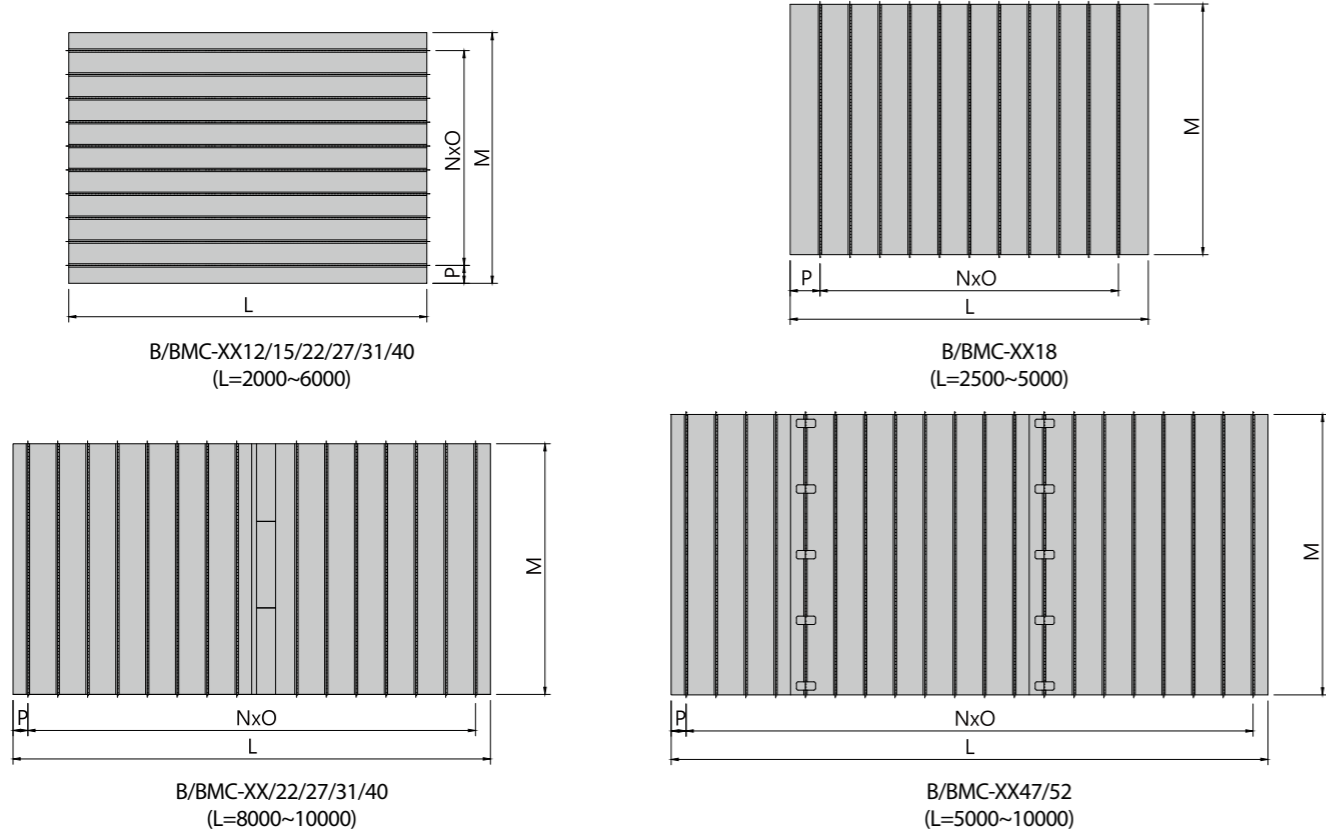


B/BMC SERIES DOUBLE COLUMN MACHINING CENTER

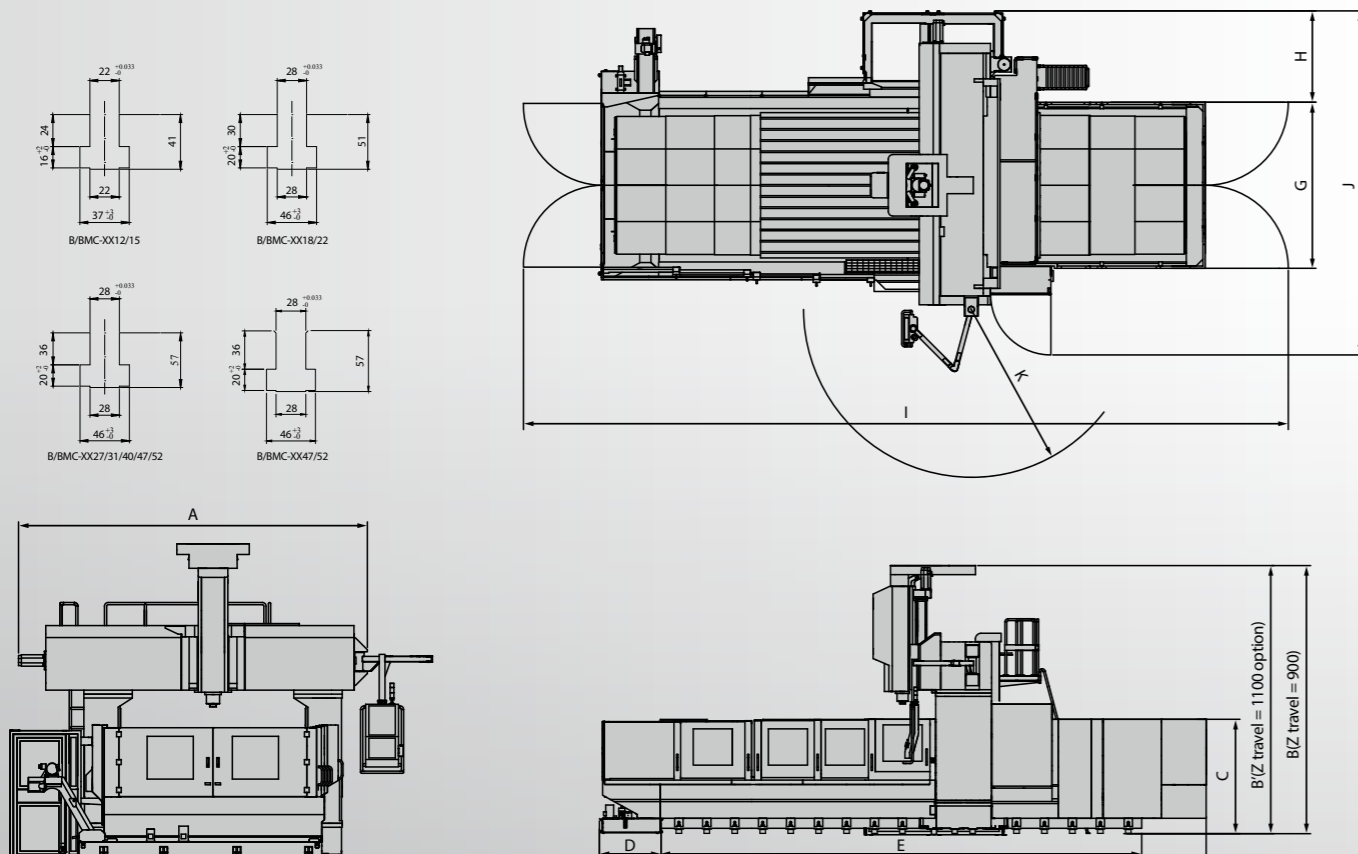
B/BMC SERIES DOUBLE COLUMN MACHINING CENTER

B/BMC SERIES DOUBLE COLUMN MACHINING CENTER

/ TABLE DRAWING



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						4245	6040			6925			2000				
B/BMC-3012	3290	4340 (z travel =800)	4960 (z travel =1020)	1973	490	6245	8040			8925	4125		3000	1100	6	70	
B/BMC-2015						4245	6040			7260		1720	2000				
B/BMC-3015	3590					6245	8040		1560	9260	4425		3000	1400	160	8	60
B/BMC-2618						5620	8300			9565			2500				
B/BMC-3118	4400	4600	5080	2060	1630	6620	9300			10565	5230		3000	1600	250	10	250
B/BMC-4118						8620	11300			12565			4000			14	
B/BMC-5118						10620	13300			14565			5000			18	
B/BMC-2622						5620	7540			9890			2500				
B/BMC-3122						6620	8540			10890			3000				
B/BMC-4122					1030	8620	10750			13100			4000		200	9	150
B/BMC-5122	4830			2046		10620	12750	2470		15100	5600		5000	2100			
B/BMC-6122						12620	15400			17750			6000				
B/BMC-8122					1630	16620	19400			21750			8000			30	125
B/BMC-10122						20620	23400		1600	25750			10000		250	38	
B/BMC-3127						6620	8540			10480			3000				
B/BMC-4127		4570			1030	8620	10800			12690			4000				
B/BMC-5127						10620	12900			14800			5000		200	12	100
B/BMC-6127	5150					12620	15400	2970		17100	6100		6000	2600			
B/BMC-8127			5050		1630	16620	19500			21450			8000			30	125
B/BMC-10127						20620	23500			25255			10000		250	38	
B/BMC-4131						8620	10800			12820		1845	4000				
B/BMC-5131						10620	12900			14970			5000		200	13	150
B/BMC-6131	5610			2060		12620	15500	3420	1680	16970	6800		6000	2900			
B/BMC-8131					1630	16620	19500			21570			8000			30	125
B/BMC-10131						20620	23500			25370			10000		250	38	
B/BMC-4140						8620	10800			14340			4000				
B/BMC-5140						10620	12900			16440			5000		200	14/16	200/150
B/BMC-6140	6920	-				12620	15500	3970	1790	18440	7600		6000	3200/3500			
B/BMC-8140					1630	16620	19800			23140			8000			30	
B/BMC-10140						20620	24500			28040			10000			38	
B/BMC-5147						10620	13546			15955			5000			19	
B/BMC-6147	7850					12620	15546			17955			6000			23	
B/BMC-8147						16620	19546	4570		21955	8200		8000	3700		31	
B/BMC-10147		5410 (Z travel =1000)	5610 (Z travel =1200)	2060	1680	20620	23546			25955			10000		250	39	125
B/BMC-5152						10620	13546		2133	15955			5000			19	
B/BMC-6152	8350					12620	15546			17955			6000			23	
B/BMC-8152						16620	19546	5070		21955	8700		8000	4000		31	
B/BMC-10152						20620	23546			25955			10000			39	

B/BMC SERIES DOUBLE COLUMN MACHINING CENTER

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 DOUBLE COLUMN MACHINING CENTER

/ RV-4135



/ RV-3135



/ RV-4140



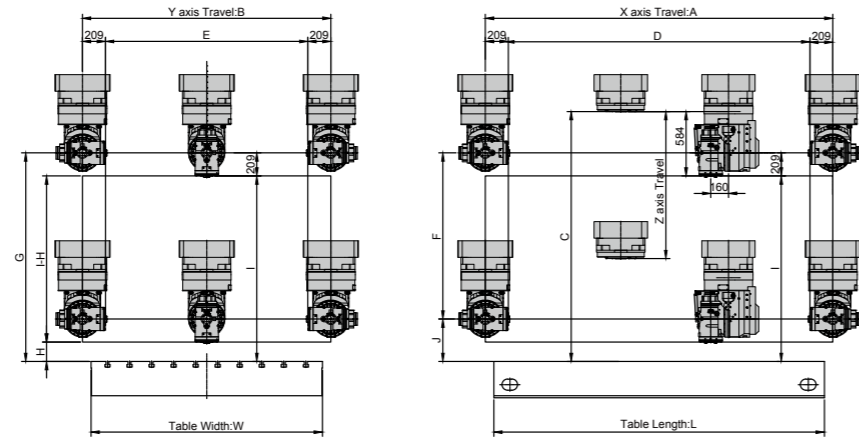
RVM/RV SERIES : SIMPLE AND CONVENIENT HEAD CHANGING UNIT

- 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.



RVM/RV SERIES DOUBLE COLUMN MACHINING CENTER

/ AUTOMATIC A/C AXES UNIVERSAL HEAD

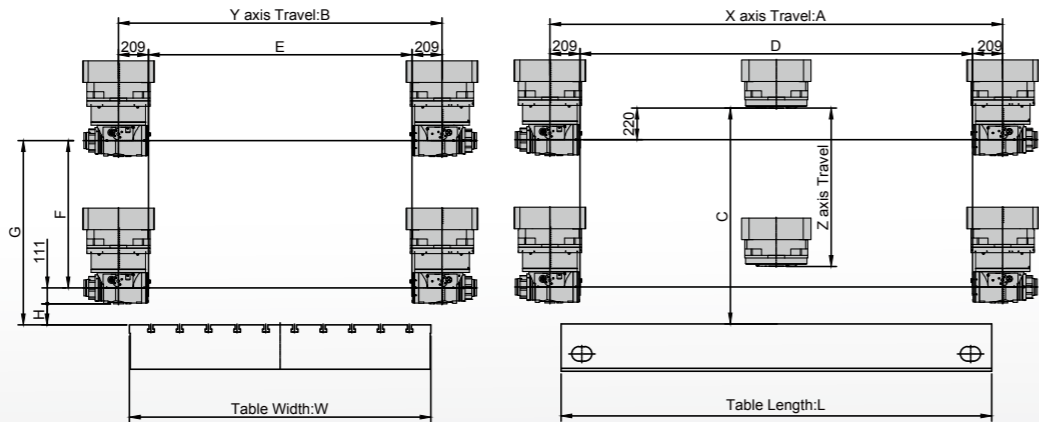


ITEM / SPEC	AUTOMATIC A/C AXES UNIVERSAL HEAD
Indexing	Curvic Coupling (5°, 2.5°, 1°)
Angle Travel	C axis 0°-355° / A axis ±110°
A/C-Axis Rotating / Change Head & Tool	Auto
Spindle HP	25 kW
Transfer Torque (Max.)	750 Nm
Spindle Taper	BBT50

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)

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

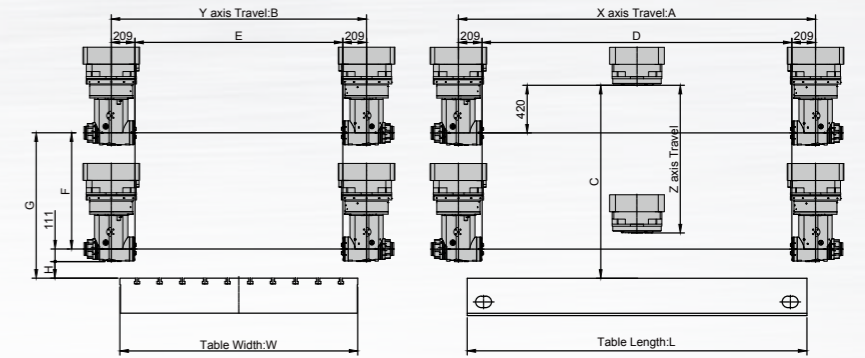


ITEM / SPEC	AUTOMATIC 90° ANGLE HEAD
Indexing	Curvic Coupling (5°, 2.5°, 1°)
Angle Travel	C axis 0°-360°
A/C-Axis Rotating / Change Head & Tool	Auto
Spindle HP	25 kW
Transfer Torque (Max.)	750 Nm
Spindle Taper	BBT50

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

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

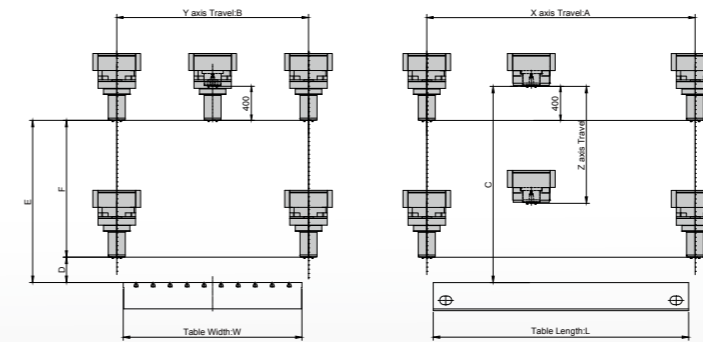


ITEM / SPEC	AUTOMATIC EXTENDED 90° ANGLE HEAD
Indexing	Curvic Coupling (5°, 2.5°, 1°)
Angle Travel	C axis 0°-360°
A/C-Axis Rotating / Change Head & Tool	Auto
Spindle HP	25 kW
Transfer Torque (Max.)	750 Nm
Spindle Taper	BBT50

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

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

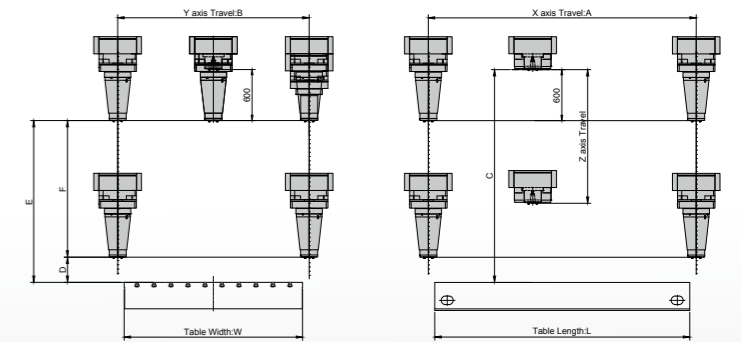
/ AUTOMATIC EXTENSION HEAD 400



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

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

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	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	
Travel													
X-axis	mm	2600	3100	4100	5100	2600	3100	4100	5100	6100	8100	10100	
Y-axis	mm	2300					2700						
Z-axis	mm	1100 / OP1300					1100 / OP1300						
Distance From Spindle Nose To Table Surface	mm	200-1300 / OP200-1500					200-1300 / OP200-1500						
Distance between two columns	mm	1850					2300						
Table													
Table Dimension (X)	mm	2500	3000	4000	5000	2500	3000	4000	5000	6000	8000	10000	
Table Dimension (Y)	mm	1600					2100						
T-slots (Size x Number x Pitch)	mm	28x9x250	28x11x250	28x15x250	28x19x250	28x10x200					28x31x250	28x39x250	
Max. Loading Capacity	kg	9000	11000	14000	17000	11000	14000	17000	20000	23000	26000	29000	
Spindle													
Spindle Motor Output (Continuous/30mins)	kW	22/26 (OP 30/37)					22/26 (OP 30/37)						
Spindle Speed (Gear)	rpm	6000					6000						
Spindle Speed (Gear)(Optional)	rpm	4000					4000						
Spindle Taper		BBT50					BBT50						
Spindle Bearing Bore Diameter	Ømm	100					100						
Feed													
Rapid Travel Rate (X/Y/Z)	m/min	24/24/15		20/24/15	15/20/15	20 / 20 / 15		15 / 20 / 15		10/20/15		8/20/15	
Cutting Feed Rate	mm/min	10000					10000						
Feed Motor	kW	4.0/4.0/4.0		7.0/4.0/4.0		6.0/4.0/4.0		7.0 / 4.0 / 4.0		6.0 / 4.0 / 4.0			
Accuracy													
Positioning Accuracy (JIS 6338)	mm	±0.01					±0.01			±0.015			
Positioning Accuracy (ISO 8636)	mm	0.022	0.025	0.03	0.04	0.022	0.025	0.03	0.04	0.05	0.055	0.065	
Repeatability Accuracy (JIS 6338)	mm	±0.003					±0.003						
Repeatability Accuracy (ISO 8636)	mm	0.017	0.02	0.025	0.03	0.017	0.02	0.025	0.03	0.035	0.035	0.04	
ATC System													
Tool Magazine Capacity		Vertical 30(40/60) Vertical Horizontal 60(40/90/120)					Vertical 30(40/60) Vertical Horizontal 60(40/90/120)						
Tool Diameter (with adjacent tools)	Ømm	Ø125					Ø125						
Max. Tool Diameter (without adjacent tools)	Ømm	Vertical Ø215 / Vertical Horizontal Ø250					Vertical Ø215 / Vertical Horizontal Ø250						
Max. Tool Length	mm	Vertical 400 / Vertical Horizontal 450					Vertical 400 / Vertical Horizontal 450						
Max. Tool Weight	kg	20					20						
Tool Shank Type		BT50/CAT50					BT50/CAT50						
Pull Stud		P50T-1					P50T-1						
Others													
Guideway of X/Y/Z Axis		Roller linear guideway / Roller linear guideway / Box Way					Roller linear guideway / Roller linear guideway / Box Way						
Power Supply	kVA	45					45						
Net Weight (RVM/RV)	kg	32000/35000	34000/37000	38000/41000	42000/45000	36000/39000	38000/41000	42000/45000	46000/49000	53500/56500	68500/71500	83500/86500	
Gross Weight (RVM/RV)	kg	35500/38500	37500/40500	42000/45000	46000/49000	40000/43000	42000/45000	46000/49000	50000/53000	59500/62500	76500/79500	93500/96500	
Length x Width x Height	mm	8300x5235/ 6515x5350	9300x5235/ 6515x5350	11300x5235/ 6515x5350	13300x5235/ 6515x5350	7540x5640/ 6920x5350	8740x5640/ 6920x5350	10740x5640/ 6920x5350	12680x5640/ 6920x5350	15700x5640/ 6920x5350	19700x5640/ 6920x5350	24600x5640/ 6920x5350	

RVM/RV SERIES DOUBLE COLUMN MACHINING CENTER

SPECIFICATION

MODEL		RV-3135 RVM-3135	RV-4135 RVM-4135	RV-5135 RVM-5135	RV-6135 RVM-6135	RV-8135 RVM-8135	RV-10135 RVM-10135
Travel							
X-axis	mm	3100	4100	5100	6100	8100	10100
Y-axis	mm		3500			3500	
Z-axis	mm		1100/ OP1300			1100/ OP1300	
Distance From Spindle Nose To Table Surface	mm		200~1300/ OP200~1500			200~1300/ OP200~1500	
Distance between two columns	mm		2700			2700	
Table							
Table Dimension (X)	mm	3000	4000	5000	6000	8000	10000
Table Dimension (Y)	mm		2100			2100	
T-slots (Size x Number x Pitch)	mm		28x10x200		28x10x200	28x31x250	28x39x250
Max. Loading Capacity	kg	14000	17000	20000	23000	26000	29000
Spindle							
Spindle Motor Output (Continuous/30mins)	kW		22/26 (OP 30/37)			22/26 (OP 30/37)	
Spindle Speed (Gear)	rpm		6000			6000	
Spindle Speed (Gear)(Optional)	rpm		4000			4000	
Spindle Taper			BBT50			BBT50	
Spindle Bearing Bore Diameter	Ømm		100			100	
Feed							
Rapid Travel Rate (X/Y/Z)	m/min	20/20/15		15/20/15		10/15/15	8/15/15
Cutting Feed Rate	mm/min		10000		10000		8000
Feed Motor	kW	7.0/4.0/4.0		6.0/4.0/4.0		6.0/4.0/4.0	
Accuracy							
Positioning Accuracy (JIS 6338)	mm		±0.015			±0.015	
Positioning Accuracy (ISO 8636)	mm	0.025	0.030	0.04	0.05	0.055	0.065
Repeatability Accuracy (JIS 6338)	mm		±0.003			±0.003	
Repeatability Accuracy (ISO 8636)	mm	0.02	0.025	0.030	0.035	0.035	0.040
ATC System							
Tool Magazine Capacity			Vertical 30(40/60) Vertical Horizontal 60(40/90/120)			Vertical 30(40/60) Vertical Horizontal 60(40/90/120)	
Tool Diameter (with adjacent tools)	Ømm		Ø125			Ø125	
Max. Tool Diameter (without adjacent tools)	Ømm		Vertical Ø215 / Vertical Horizontal Ø250			Vertical Ø215 / Vertical Horizontal Ø250	
Max. Tool Length	mm		Vertical 400 / Vertical Horizontal 450			Vertical 400 / Vertical Horizontal 450	
Max. Tool Weight	kg		20			20	
Tool Shank Type			BT50/CAT50			BT50/CAT50	
Pull Stud			P50T-1			P50T-1	
Others							
Guideway of X/Y/Z Axis			Roller linear guideway / Roller linear guideway / Box Way			Roller linear guideway / Roller linear guideway / Box Way	
Power Supply	kVA		45			45	
Net Weight (RVM/RV)	kg	40000/43000	44000/47000	48000/51000	55500/58500	74000/77000	89000/92000
Gross Weight (RVM/RV)	kg	44000/47000	48000/51000	52000/55000	60500/63500	82000/85000	96000/99000
Length x Width x Height	mm	8650x6230/ 7500x5350	10800x6230/ 7500x5350	12900x6230/ 7500x5350	15500x6230/ 7500x5350	19500x6230/ 7500x5350	23500x6230/ 7500x5350

RVM/RV SERIES DOUBLE COLUMN MACHINING CENTER

SPECIFICATION

MODEL		RV-3140 RVM-3140	RV-4140 RVM-4140	RV-5140 RVM-5140	RV-6140 RVM-6140	RV-8140 RVM-8140	RV-10140 RVM-10140	RV-4142 RVM-4142	RV-5142 RVM-5142	RV-6142 RVM-6142	RV-8142 RVM-8142	RV-10142 RVM-10142		
Travel														
X-axis	mm	3100	4100	5100	6100	8100	10100	4100	5100	6100	8100	10100		
Y-axis	mm	4000						4200						
Z-axis	mm	1100 / OP1300						1100 / OP1300						
Distance From Spindle Nose To Table Surface	mm	200~1300						200-1300 / OP200-1500						
Distance between two columns	mm	3200						3750						
Table														
Table Dimension (X)	mm	3000	4000	5000	6000	8000	10000	4000	5000	6000	8000	10000		
Table Dimension (Y)	mm	2600						3200/OP3500						
T-slots (Size x Number x Pitch)	mm	28×13×200				28×31×250	28×39×250	28×15×200 / 選配 28×17×200				28×31×250	28×39×250	
Max. Loading Capacity	kg	15000	18000	20000	23000	26000	29000	18000	20000	23000	26000	29000		
Spindle														
Spindle Motor Output (Continuous/30mins)	kW	22/26 (OP 30/37)						22/26 (OP 30/37)						
Spindle Speed (Gear)	rpm	6000						6000						
Spindle Speed (Gear)(Optional)	rpm	4000						4000						
Spindle Taper		BBT50						BBT50						
Spindle Bearing Bore Diameter	Ømm	100						100						
Feed														
Rapid Travel Rate (X/Y/Z)	m/min	20/20/15	15/20/15	12/20/15	10/20/15	8/15/15	8/15/15	15/15/15	12/15/15	10/15/15		8/15/15		
Cutting Feed Rate	mm/min	10000				8000				10000				8000
Feed Motor	kW	7.0/4.0/4.0	6.0/4.0/4.0						6.0/4.0/4.0					
Accuracy														
Positioning Accuracy (JIS 6338)	mm	±0.015						±0.015						
Positioning Accuracy (ISO 8636)	mm	0.025	0.030	0.040	0.050	0.055	0.065	0.03	0.04	0.05	0.055	0.065		
Repeatability Accuracy (JIS 6338)	mm	±0.003						±0.003						
Repeatability Accuracy (ISO 8636)	mm	0.020	0.025	0.030	0.035	0.035	0.040	0.025	0.03	0.035	0.035	0.04		
ATC System														
Tool Magazine Capacity		Vertical 30(40/60) Vertical Horizontal 60(40/90/120)						Vertical 30(40/60) Vertical Horizontal 60(40/90/120)						
Tool Diameter (with adjacent tools)	Ømm	Ø125						Ø125						
Max. Tool Diameter (without adjacent tools)	Ømm	Vertical Ø215 / Vertical Horizontal Ø250						Vertical Ø215 / Vertical Horizontal Ø250						
Max. Tool Length	mm	Vertical 400 / Vertical Horizontal 450						Vertical 400 / Vertical Horizontal 450						
Max. Tool Weight	kg	20						20						
Tool Shank Type		BT50/CAT50						BT50/CAT50						
Pull Stud		P50T-1						P50T-1						
Others														
Guideway of X/Y/Z Axis		Roller linear guideway / Roller linear guideway / Box Way						Roller linear guideway / Roller linear guideway / Box Way						
Power Supply	kVA	45						45						
Net Weight (RVM/RV)	kg	42000/45000	46000/49000	52000/55000	58000/61000	79000/82000	95000/98000	61000/64000	67000/70000	73000/76000	85000/88000	97000/100000		
Gross Weight (RVM/RV)	kg	48500/51500	50000/53000	56000/59000	62000/65000	87000/90000	101000/104000	67000/70000	74000/77000	81000/84000	94000/97000	108000/111000		
Length x Width x Height	mm	8600×6742/ 7460×5350	10800×6742/ 7460×5350	12900×6742/ 7460×5350	15500×6742/ 7460×5350	20200×6742/ 7460×5350	23600×6742/ 7460×5350	10800×6930/ 8220×5350	12900×6930/ 8220×5350	15500×6930/ 8220×5350	19800×6930/ 8220×5350	24500×6930/ 8220×5350		

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	RV-5152/ RVM-5152	RV-6152/ RVM-6152	RV-8152/ RVM-8152	RV-10152/ RVM-10152
Travel									
X-axis	mm	5100	6100	8100	10100	5100	6100	8100	10100
Y-axis	mm	4700				5200			
Z-axis	mm	1000 / OP 1200				1000 / OP 1200			
Distance From Spindle Nose To Table Surface	mm	200~1200 / OP 200~1400				200~1200 / OP 200~1400			
Distance between two columns	mm	4350				4850			
Table									
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
Spindle									
Spindle Motor Output (Continuous/30mins)	kW	22/26				37/45			
Spindle Speed (Built-in)	rpm	6000				6000			
Spindle Speed (Built-in) (Optional)	rpm	8000				8000			
Spindle Taper		BBT50				BBT50			
Spindle Bearing Bore Diameter	Ømm	100				100			
Feed									
Rapid Travel Rate (X/Y/Z)	m/min	12/15/15	10/15/15	8/15/15		12/15/15	10/15/15	8/15/15	
Cutting Feed Rate	mm/min	10000			8000		10000		8000
Feed Motor	kW	6.0/4.0/4.0				6.0/4.0/4.0			
Accuracy									
Positioning Accuracy (JIS 6338)	mm	±0.015				±0.015			
Positioning Accuracy (ISO 8636)	mm	0.04	0.05	0.055	0.065	0.04	0.05	0.055	0.065
Repeatability Accuracy (JIS 6338)	mm	±0.003				±0.003			
Repeatability Accuracy (ISO 8636)	mm	0.03	0.035	0.035	0.04	0.03	0.035	0.035	0.04
ATC System									
Tool Magazine Capacity		Vertical 30(40/60) Vertical Horizontal 40(60/90/120)				Vertical 30(40/60) Vertical Horizontal 40(60/90/120)			
Tool Diameter (with adjacent tools)	Ømm	Ø125				Ø125			
Max. Tool Diameter (without adjacent tools)	Ømm	Vertical Ø215 / Vertical Horizontal Ø250				Vertical Ø215 / Vertical Horizontal Ø250			
Max. Tool Length	mm	Vertical 400 / Vertical Horizontal 450				Vertical 400 / Vertical Horizontal 450			
Max. Tool Weight	kg	20				20			
Tool Shank Type		BT50/CAT50				BT50/CAT50			
Pull Stud		P50T-1				P50T-1			
Others									
Guideway of X/Y/Z Axis		Roller Linear Guideway / Roller Linear Guideway / Roller Linear Guideway				Roller Linear Guideway / Roller Linear Guideway / Roller Linear Guideway			
Power Supply	kVA	50				50			
Net Weight (RVM/RV)	kg	69000/72000	75000/78000	87000/90000	99000/102000	72000/75000	78000/81000	90000/93000	102000/105000
Gross Weight (RVM/RV)	kg	76000/79000	83000/86000	96000/99000	110000/1130000	79000/82000	86000/89000	99000/102000	113000/116000
Length x Width x Height	mm	15955x7850/ 9110x6652	17955x7850/ 9110x6652	21955x7850/ 9110x6652	25955x7850/ 9110x6652	15955x8350/ 9610x6652	17955x8350/ 9610x6652	21955x8350/ 9610x6652	25955x8350/ 9610x6652

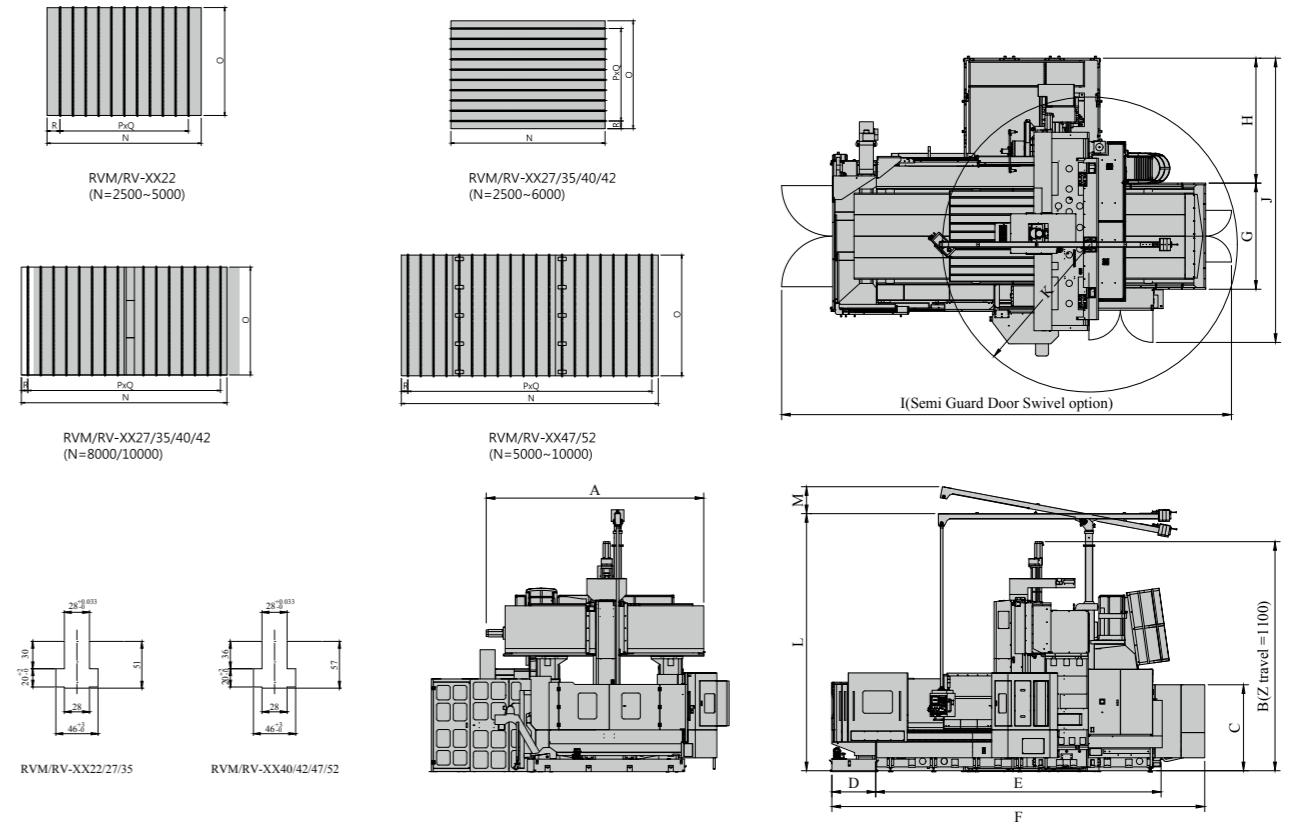
RVM/RV SERIES DOUBLE COLUMN MACHINING CENTER

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



Unit : mm

Model \ Item	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
RV/RVM-2622					5620	8300			9565					2500			8	
RV/RVM-3122					6620	9300			10565					3000			10	
RV/RVM-4122	4930		2060	1630	8620	11300		2065	12565	6475				4000	1600	250	14	250
RV/RVM-5122					10620	13300			14565					5000			18	
RV/RVM-2627					5620	7540			9316					2500				
RV/RVM-3127					6620	8740			10516					3000				
RV/RVM-4127				1030	8620	10740			12515					4000		200	9	150
RV/RVM-5127	5215		2046		10620	12680	2470		14456	6950				5000				
RV/RVM-6127					12620	15700			16858					6000				
RV/RVM-8127				1630	16620	19700			20634					8000			30	
RV/RVM-10127					20620	24600			25736					10000	2100	250	38	125
RV/RVM-3135					6620	8650			11420					3000				
RV/RVM-4135				1030	8620	10800			13310					4000		200	9	150
RV/RVM-5135	5950	5000			10620	12900			15410	7450			5350	5000				
RV/RVM-6135					12620	15400			17410					6000				
RV/RVM-8135				1630	16620	19400			22090					8000			30	
RV/RVM-10135					20620	23400			26090					10000		250	38	125
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		200	12	100
RV/RVM-6140	6360				12620	15500			17910					6000				
RV/RVM-8140				1630	16620	20200			22270					8000			30	
RV/RVM-10140					20620	24200			26270					10000		250	38	125
RV/RVM-4142				1030	8620	10800			14340					4000				
RV/RVM-5142					10620	12900			16440					5000		200	14	200
RV/RVM-6142	6702				12620	15500	3970		18440	8590				6000	3200			
RV/RVM-8142				1630	16620	19800			23140					8000			30	
RV/RVM-10142					20620	24500			28040					10000			38	
RV/RVM-5147					10620	13546			15955					5000			19	
RV/RVM-6147					12620	15546			17955					6000			23	
RV/RVM-8147	7850				16620	19546	4570		21955	9110				8000	3700		31	
RV/RVM-10147		5410 (Z travel =1000)			20620	23546			25955				5852 (Z travel =1000)	10000		250	39	125
RV/RVM-5152					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

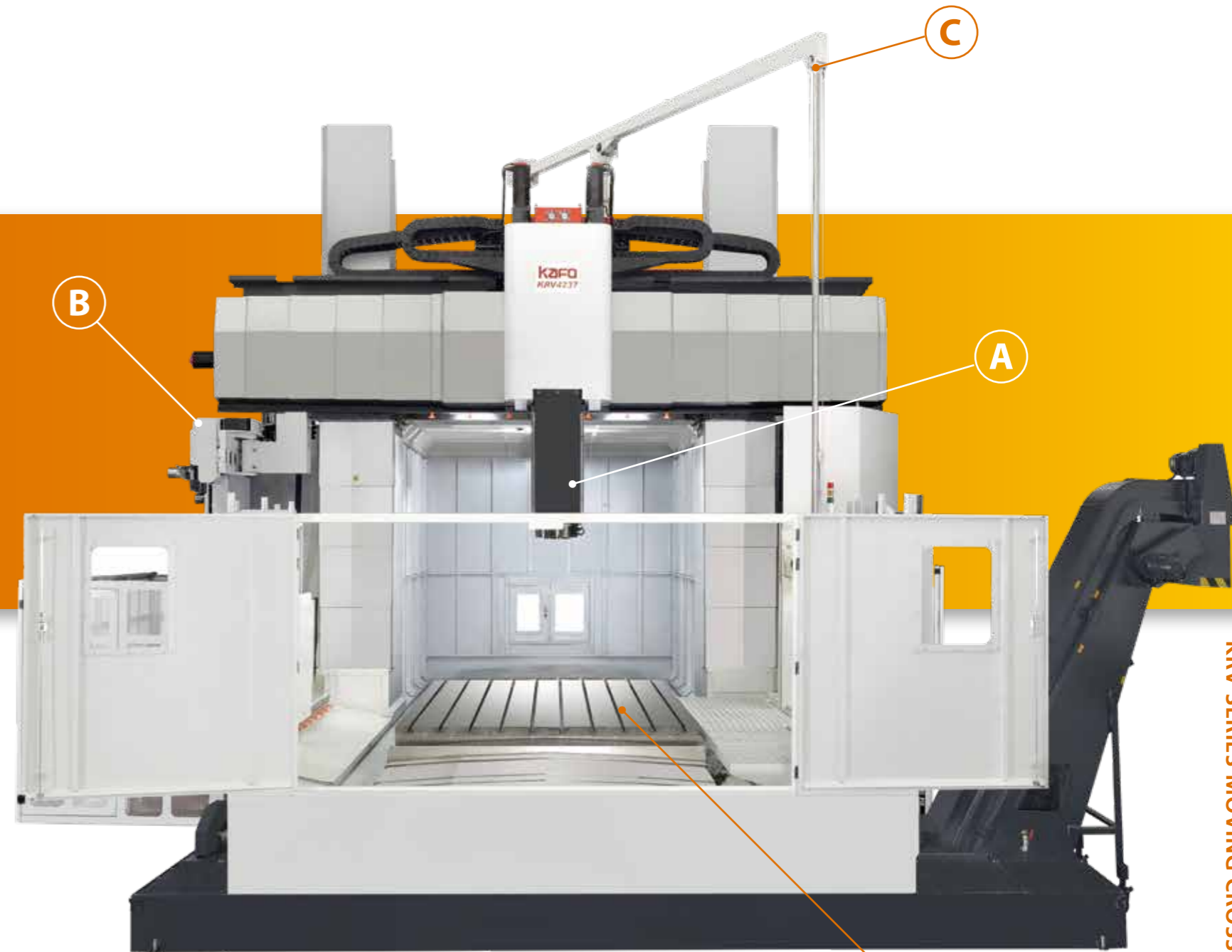
RVM/RV SERIES 5-FACED DOUBLE COLUMN MACHINING CENTER

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



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



/ RACK & PINION STRUCTURE OF MILLING HEAD STORAGE



/ HEAD UNIT (Z-AXIS DOUBLE BALLSCREW TRANSMISSION)



/ TOOL CHANGE ARM AT ANY POAITION



/ 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	
Travel				
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	Standard 900 / Optional 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	mm	2700	3200	3700
Table				
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		
Spindle				
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		
Feed				
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)		
Accuracy				
Positioning Accuracy (JIS 6338)	mm	±0.015 Full Travel		
Positioning Accuracy (ISO 8636)	mm	0.03/0.04/0.05/0.07/0.09		
Repeatability Accuracy (JIS 6338)	mm	±0.003		
Repeatability Accuracy (ISO 8636)	mm	0.025/0.03/0.035/0.055/0.07		
ATC System				
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		
Others				
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

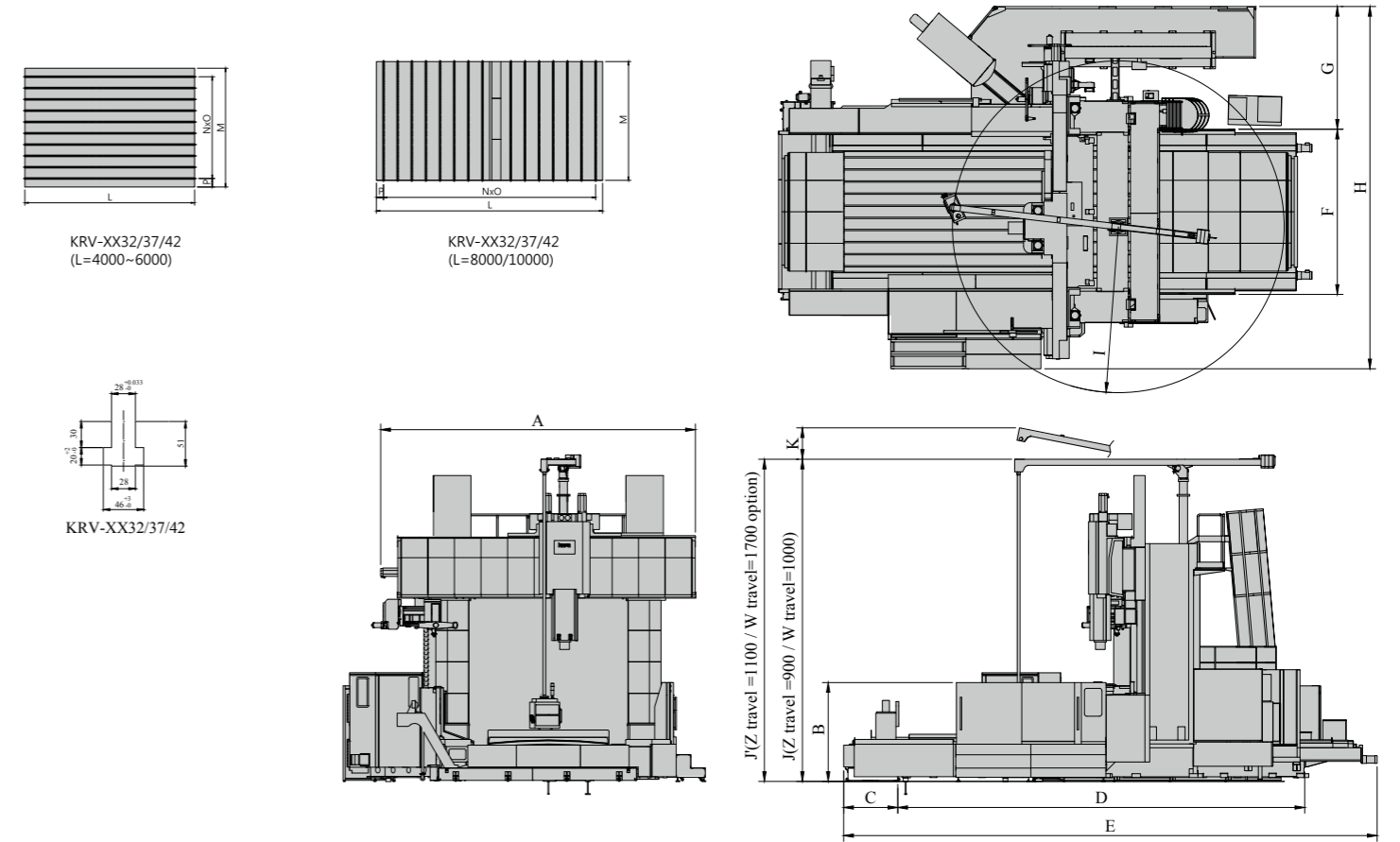


TABLE AND MACHINE LAYOUT

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			30	
KRV-10237				20330	23350								10000			37	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			30	
KRV-10242				20330	23350								10000			37	250

Unit : mm

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

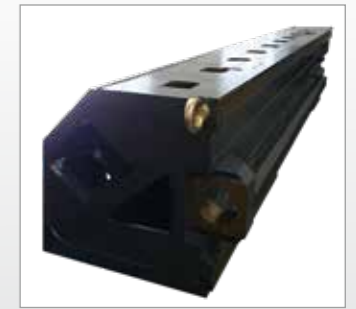
- Travel of X/Y/Z (X:3100, Y:3500, Z:1100mm)(OP:1300mm)
Specially for machining the structure of Aerospace industry.
- Rapid of X/Y/Z (20 m/min, acceleration:0.15G)
High dynamic performance



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



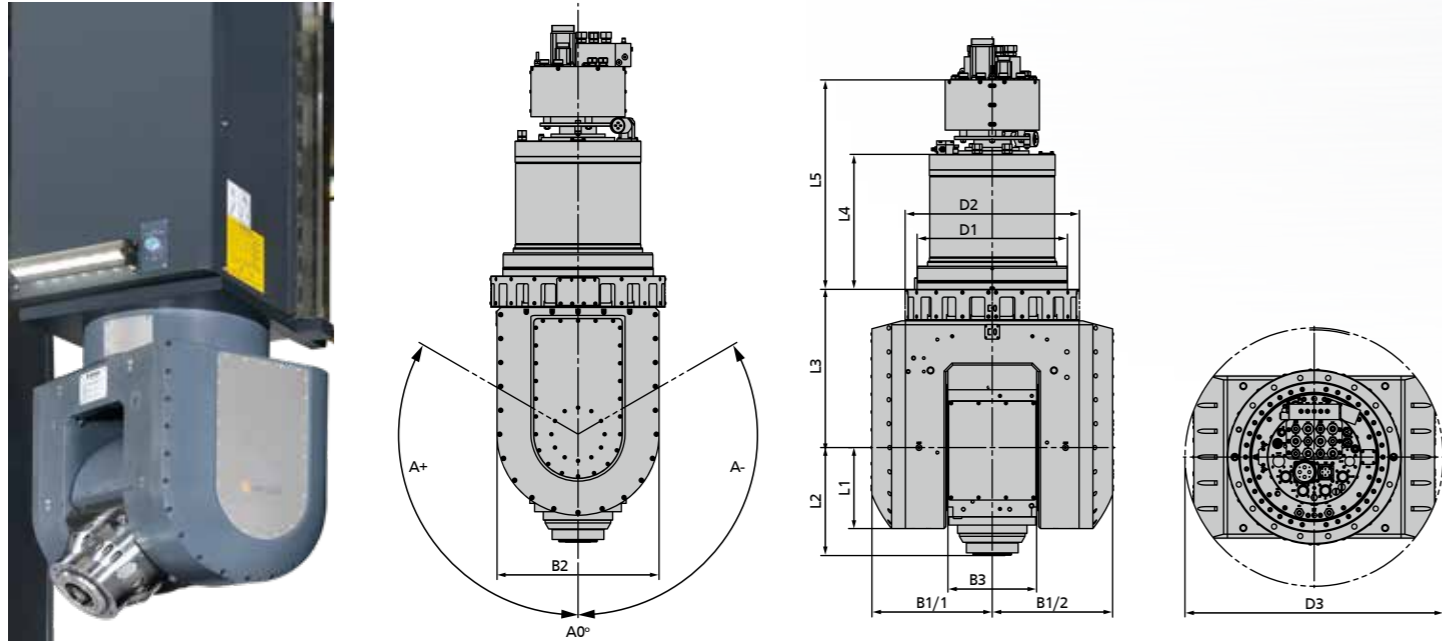
- High Precision (Positioning Accuracy $\pm 5\mu\text{m}$)
Kessler 2-axis Head



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

RVM5A/RV5A SERIES DOUBLE COLUMN MACHINING CENTER

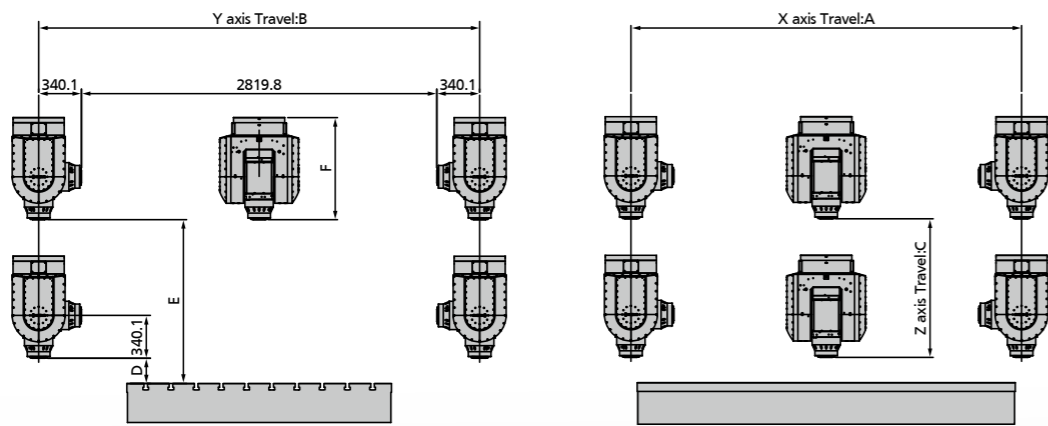
/ KESSLER SPECIFICATION & DIMENSION



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



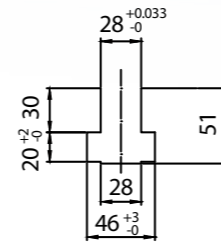
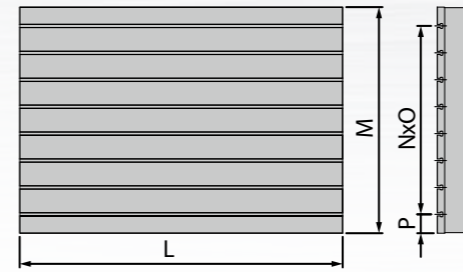
Unit : mm

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

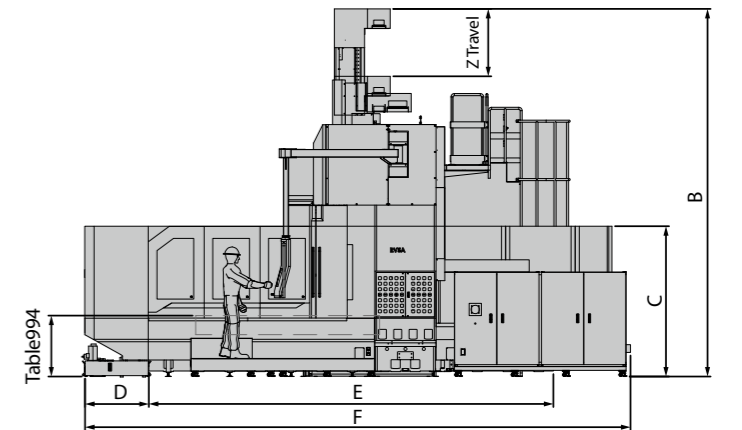
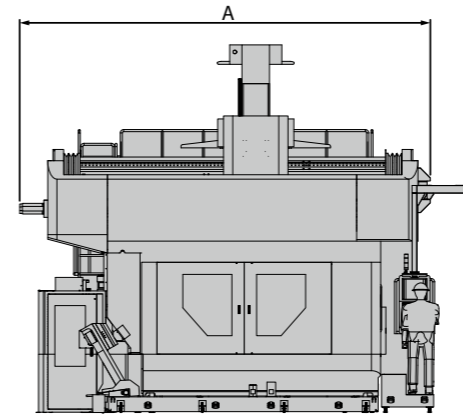
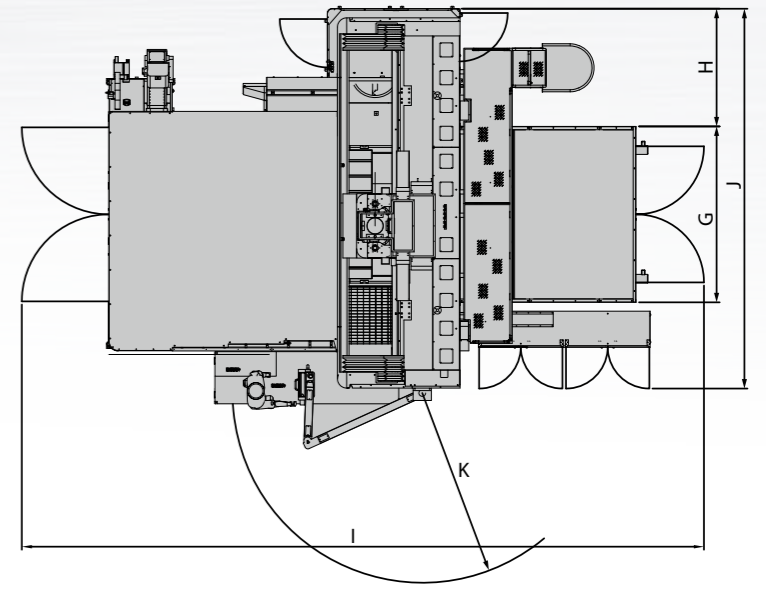
DUAL AXES HEAD (A/C) SPECIFICATION

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



Unit : mm

TABLE AND MACHINE LAYOUT

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	1300	7040	6670			8600	11550	2920	2140	13500	7000	3220	4000				
RVM5A/RV5A-5135						10600	13550			15500			5000				
RVM5A/RV5A-6135						12600	15550			17500			6000				

RVM5A/RV5A SERIES DOUBLE COLUMN MACHINING CENTER

SPECIFICATION

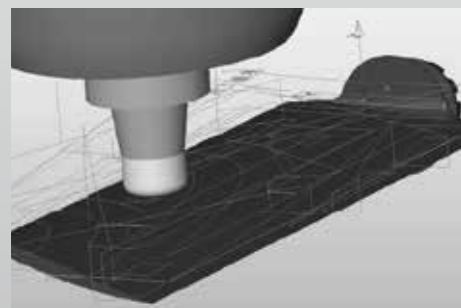
MODEL		RVM5A-3135 RV5A-3135	RVM5A-4135 RV5A-4135	RVM5A-5135 RV5A-5135	RVM5A-6135 RV5A-6135
Travel					
X-axis	mm	3100	4100	5100	6100
Y-axis	mm	3500			
Z-axis	mm	1100/1300			
Distance From Spindle Nose To Table Surface	mm	200~1300, 200~1500			
Distance between two columns	mm	2700			
Table					
Table Dimension (X)	mm	3000	4000	5000	6000
Table Dimension (Y)	mm	2100			
T-slots (Size x Number x Pitch)	mm	28x10x200			
Max. Loading Capacity	kg	13000	16000	20000	22000
Spindle					
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			
Feed					
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)			
Accuracy					
Positioning Accuracy (JIS 6338)	mm	±0.015			
Positioning Accuracy (ISO 8636)	mm	0.025	0.03	0.04	0.05
Repeatability Accuracy (JIS 6338)	mm	±0.003			
Repeatability Accuracy (ISO 8636)	mm	0.02	0.025	0.030	0.035
ATC System					
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			
Others					
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	9300x6960x6000	11300x6960x6000	13300x6960x6000	15300x6960x6000
Controller		Siemens 840D (HEIDENHAIN iTNC640)			

STANDARD & OPTIONAL LIST

● : Standard Specification ○ : Optional Specification

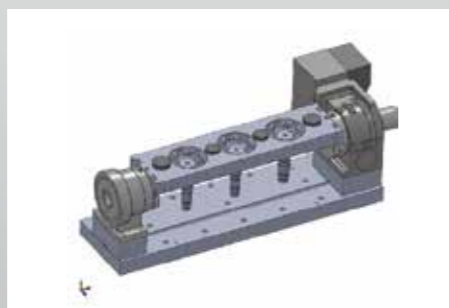
SPECIFICATION/MODEL	RVM5A-3135 RV5A-3135	RVM5A-4135 RV5A-4135	RVM5A-5135 RV5A-5135	RVM5A-6135 RV5A-6135
Kessler Small 2AK 2-axis Rotary System				
Centralized Lubrication System				
Semi Enclosure (without Top Cover) and Arm Type Operating Control Box (K Type)				
Head Side Punching System				
Dual Spiral and Lift-Up Chip Conveyor With Bucket				
Spindle Oil Chiller	●	●	●	●
Coolant Through Ballscrew For Three Axes				
Rigid Tapping Function				
Working Light				
Tri-Color Status Light				
Spray Gun For Cleaning				
Leveling Bolts and Pads				
Manual and Operate Books				
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				

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



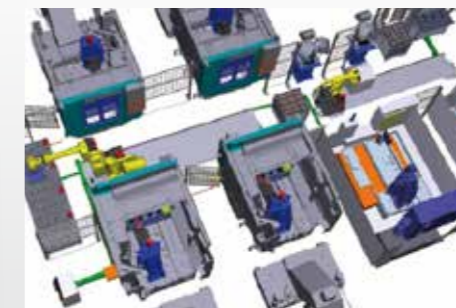
TESTING WORKPIECE

- Benz Mold sample



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

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.



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