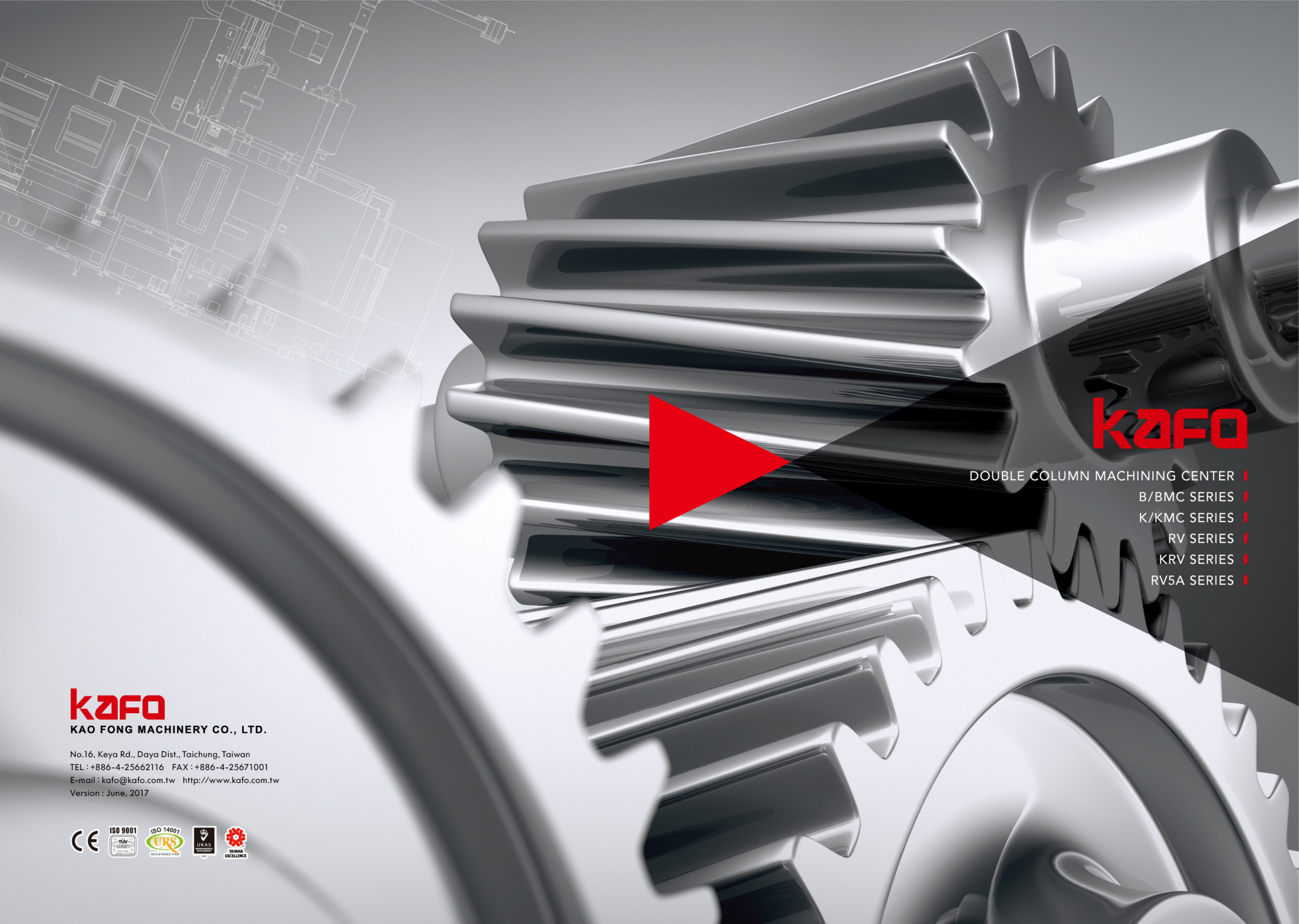

kafo

DOUBLE COLUMN MACHINING CENTER

B/BMC SERIES

K/KMC SERIES

RV SERIES

KRV SERIES

RV5A SERIES

kafo

KAO FONG MACHINERY CO., LTD.

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Version : June, 2017

KAO FONG MACHINERY CO., LTD.

TAIWAN EXCELLENCE

CONTENTS

KAO FONG MACHINERY CO., LTD was founded in 1968. KAFO developed with the growth of Taiwan Machinery industry market with accumulated experience.
KAFO produced traditional milling machine in the beginning and until now KAFO has complete production line for Vertical/Horizontal/Double Column/Machining Center. We focus on top of core technology and skill improvement, and keep our roots in Taiwan, which makes KAFO becomes the leading brand and loyal partner in all Die& Molds field and Machining field.

KAFO reserves the right to change or modify the specification.

" Steady Research & Development, Quality Control, Accumulate Experience "
exceed customer's expectations and think globally, act locally.

Kao Fong Machinery Co., Ltd was founded in 1968. By using the excellent technology follows the growth of Taiwan Machinery Industry Market, KAFO becomes the leading brand in Die & Molds field and Machining field. We focus on top of core technology and skill improvement with highest level of inspection as machine standard quality, which makes KAFO best competitive advantage for the past 40 years.

Kao Fong insists on the company policy of customer first, quality first, flat organization and transparent management to realize the commitment to customers for best quality products, rapid response and on time delivery, which provides our quality has been recognized by customers and makes KAFO as the international machine tool brand.

KAO FONG MACHINERY CO., LTD. PRESIDENT & CEO
SHEN, KUO-JUNG (DAVID, SHEN)

David Shen

KAO FONG MACHINERY CO., LTD.

ABOUT US

There are hundred thousands of KAFO machines running in worldwide, such as Europe, Middle East, Africa, Asia, Australia, South America, etc.

HOTA INDUSTRIAL MFG. CO., LTD.

KAO FONG MACHINERY CO., LTD.

KAO FONG HORIZONTAL & DOUBLE COLUMN MACHINING CENTER PRODUCTION LINE

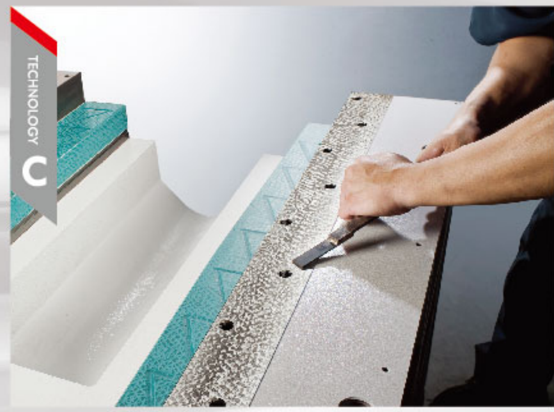
KAO FONG VERTICAL MACHINING CENTER PRODUCTION LINE

GLOBAL SALES & SERVICE NETWORK

Think Globally Act Locally | Use Enterprise Resource Effectively

KAO FONG MACHINERY CO., LTD.

ASSEMBLY



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

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

C SCRAPPING - the difference from other brand, with 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.

D World class spindle bearings.

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

TAIWAN EXCELLENCE

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

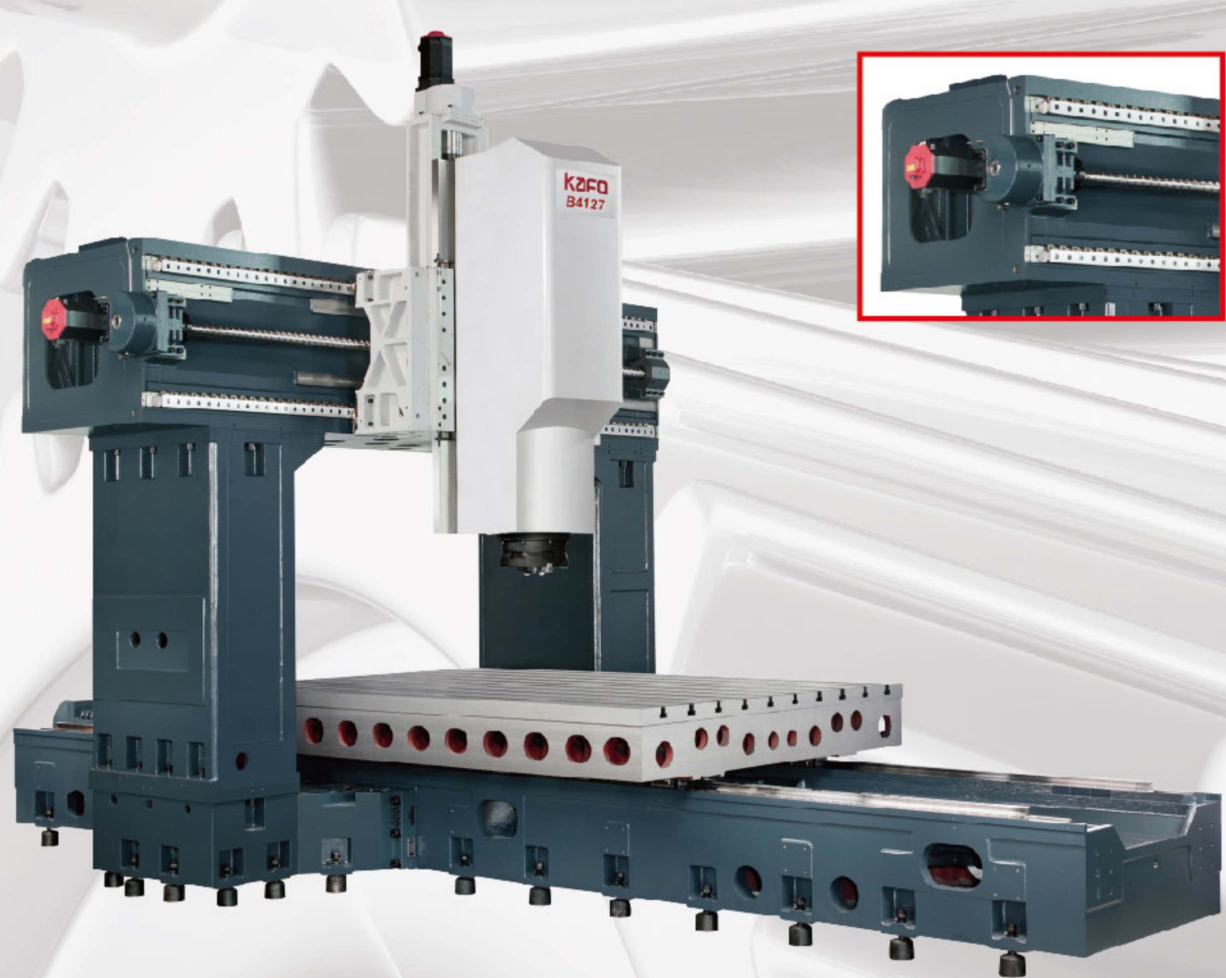
VIBRATION TEST

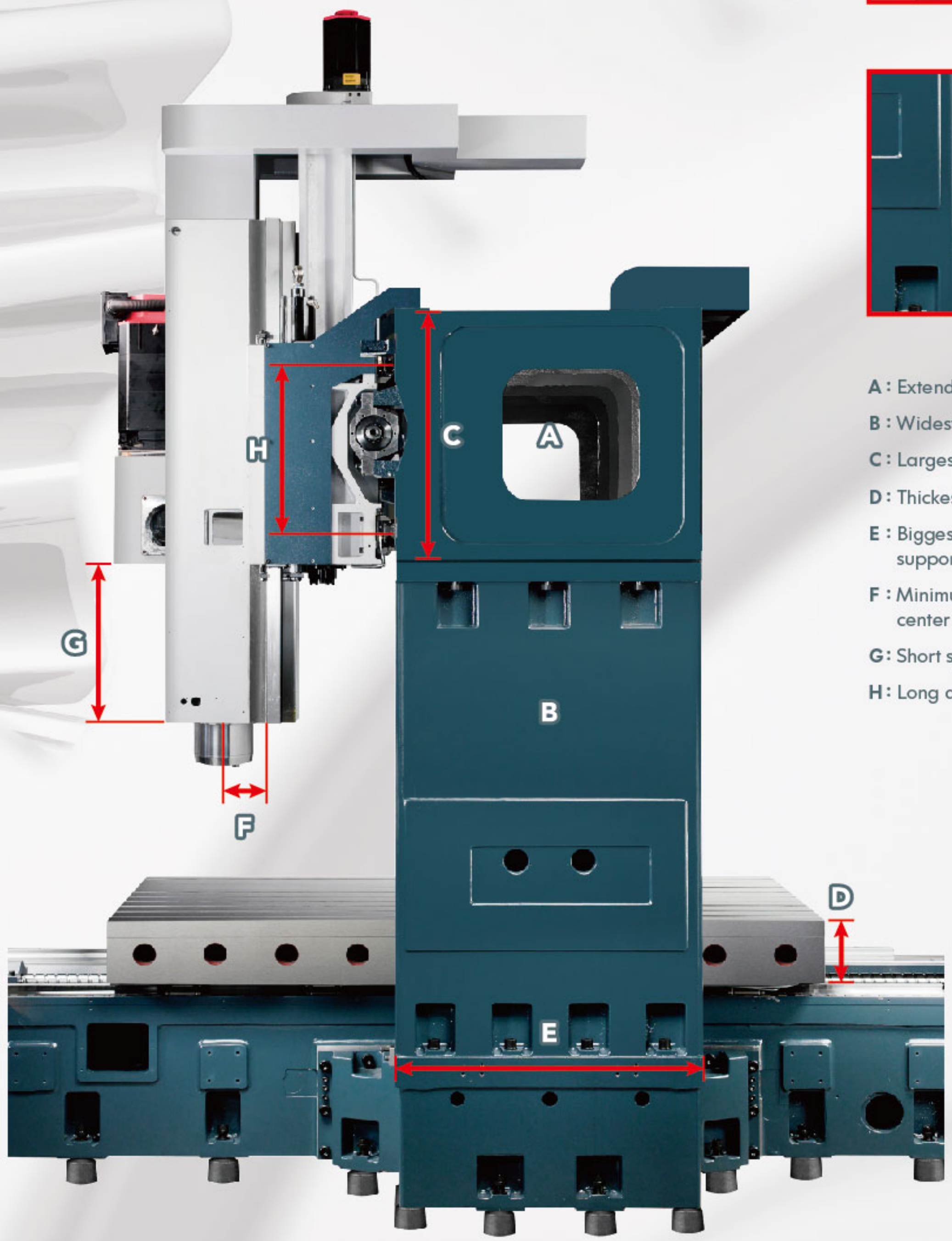
RIGIDITY TEST

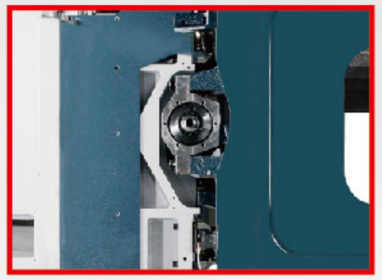
DOUBLE COLUMN MACHINING CENTER

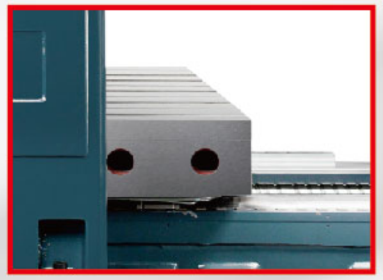
New Generation Designed, Providing Best Rigidity Structure

- 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 spindle design G
- 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
- Thermo-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 spindle design
H : Long distance between guideways

DOUBLE COLUMN MACHINING CENTER

CUSTOMIZED DESIGN

High Rigidity Structure, High Positioning Accuracy

A SUPERIOR BODY STRUCTURE

The machine bed, column, spindle head, cross slides and table are all analyzed and optimizes 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.

B 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.

C 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.

D BALL SCREW COOLING SYSTEM

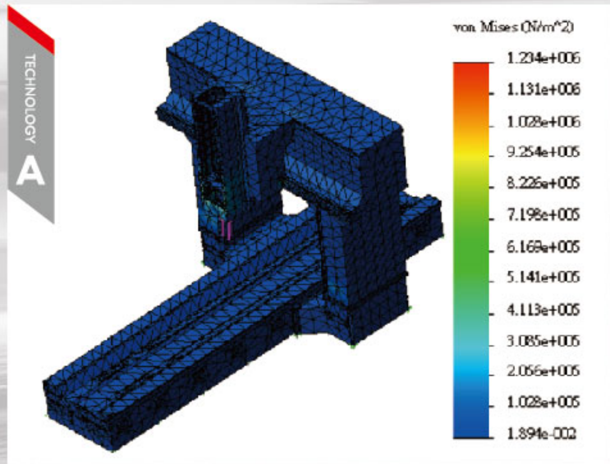
Each axis is driven by a large diameter, high precision ground, pre-loaded and double anchored ballscrew providing high accuracy, fast rapid federates and maximum feed thrust. Models with travel over 3m are equipped with cooling system through ballscrew on X-axis to alleviate thermal expansion, resulting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

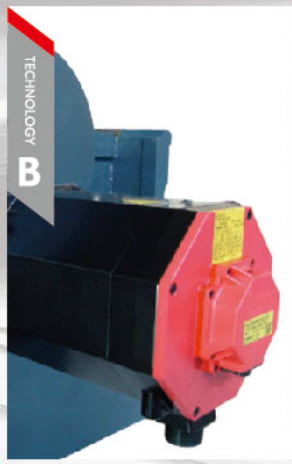
E SAFE AND STABLE TOOL MAGAZINE

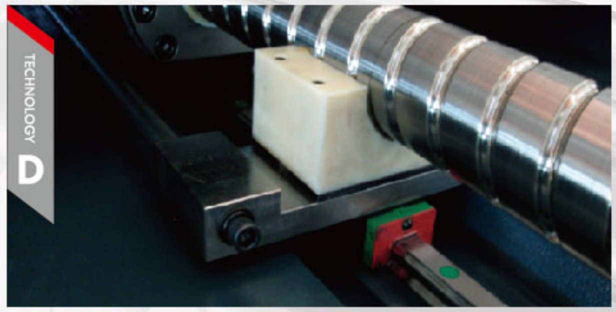
Modularized tool magazine offering protection and conveniences. Standard capacity is 30 tools. Optionally also offer customers 40, 60, 90 and 120 tools to choose from.

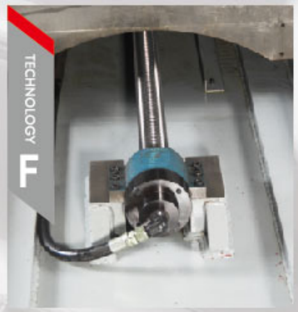
F PRECISE ROLLER TYPE LINEAR GUIDE WAYS

Feeding systems of X and Y axes adopt the roller type linear guide 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.





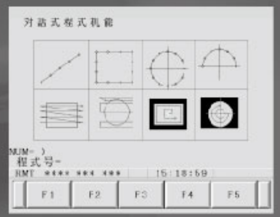




KAO FONG Customized Calculator Software Features (Option)

MULTI-FUNCTION STATE DISPLAY

- SPINDLE/AXIS LOAD
- TOOLS STATE DISPLAY
- CONTROLLER RUNNING TIMER
- FEED RATE STATE
- SPINDLE SPEED STATE
- COORDINATE STATE
- WORK PIECES COUNTER
- DATE/TIME STATE
- MACHINING TIME STATE
- SOFT-KEY FUNCTION

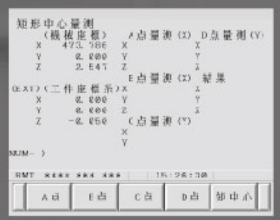


G-MENU

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

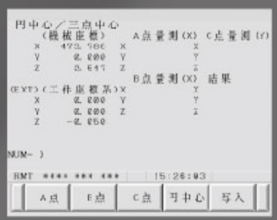
CALCULATING FUNCTION

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



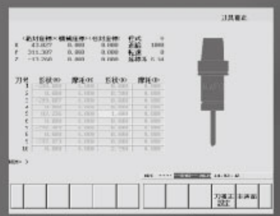
CENTER OF RECTANGLE FUNCTION

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



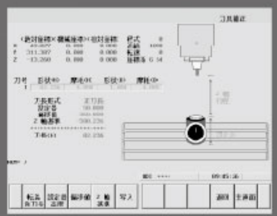
CENTER OF CIRCLE FUNCTION

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



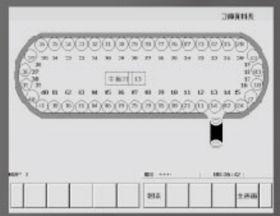
TOOL LENGTH MEASUREMENT AND SETTING

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



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.

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.

DOUBLE COLUMN MACHINING CENTER

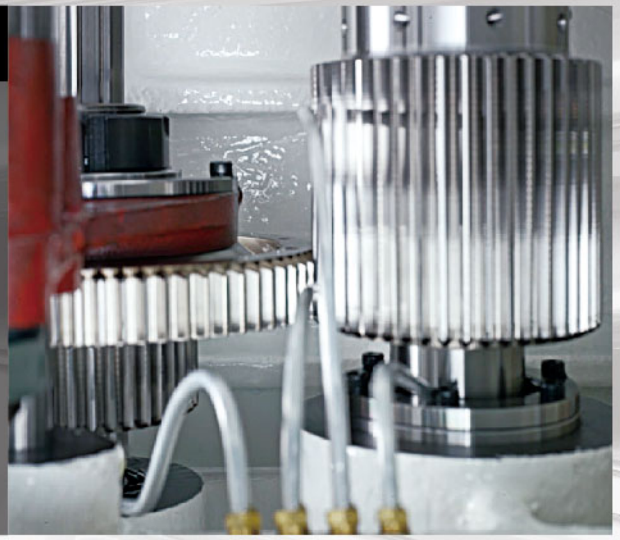
HIGH SPEED AND PRECISION SPINDLE DESIGN

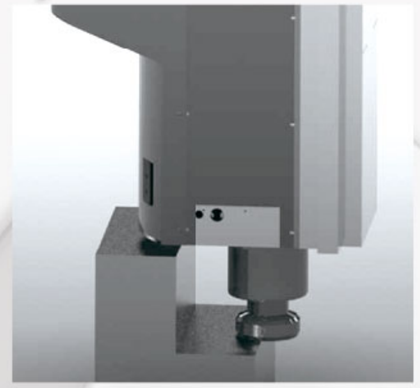
- Using new generation 8000rpm direct driven spindle with high speed, high precision, high performance spindle motor, available high-quality rigid tapping. Without noise, backlash and vibration problems, standard accessories with spindle oil coolant system to control thermal displacement then getting best accuracy.
- Using Ø100mm ceramic bearing with the spindle, after long time machining the vibration and thermal displacement could be controlled very well for keeping good tolerance of the dimension and accuracy of the shape.

High Torque & Low Noise Gear Box Design

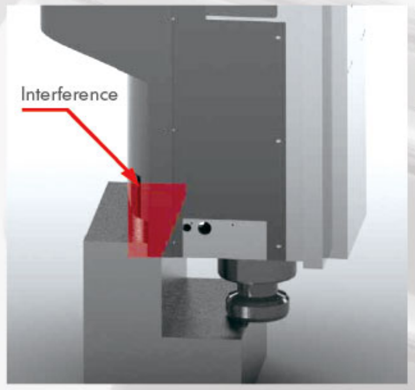
Gear spindle with 6000rpm: superior power, high speed and accurate precision. Ceramic ball bearing of ID Ø100 is able to achieve high torque of 728N-m while the spindle speed is 341rpm, which is good for heavy duty cutting.

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

RV TOOL MAGAZINE : STANDARD 60 TOOLS. OPTION 90 TOOLS AND 120 TOOLS

DOUBLE COLUMN MACHINING CENTER

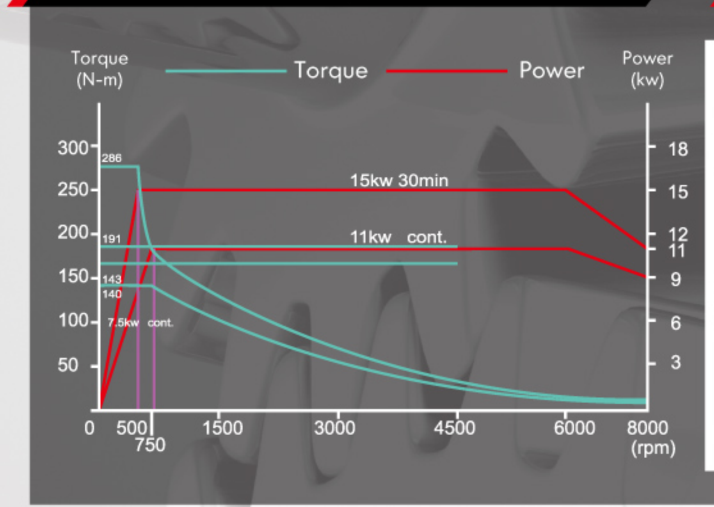
New Generation Spindle Designed With Powerful Machining Ability

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

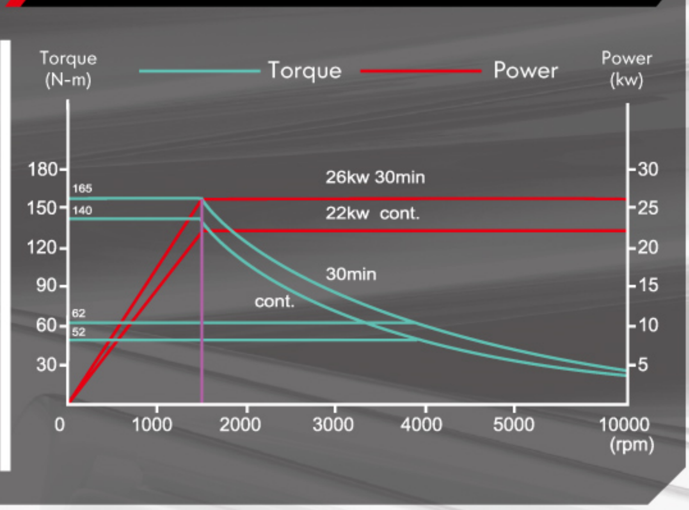
- Upgrading the output torque of gear head spindle (which is 10% bigger than other manufacturer)
- Upgrading the main bearing diameter of gear head spindle to 100mm (which is 10mm above than other manufacturer)

Strong motor 22/26kW (35HP) is driven by two step gear box, spindle speed 6000rpm and powerful torque to 728Nm, which is most suitable for heavy cutting.
Also available with roller type bearing spindle 4000rpm could be used in much heavier cutting.

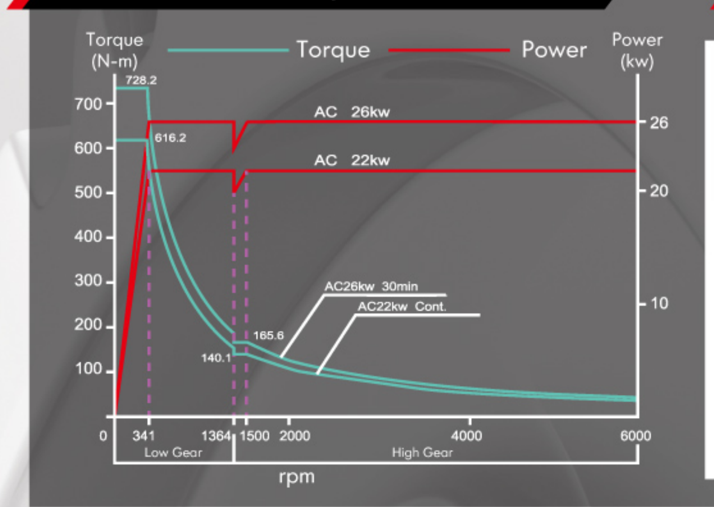
BT50 Direct-Driven 8000 rpm (FANUC aP22i/8000)



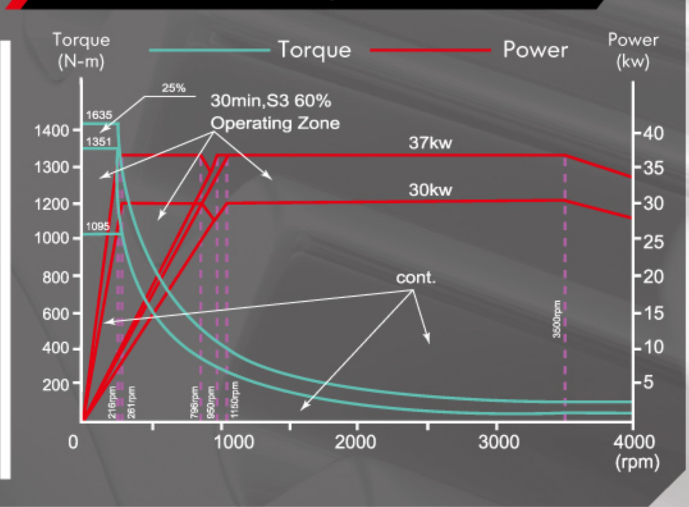
BT50 Direct-Driven 10000 rpm (FANUC a22i/10000)



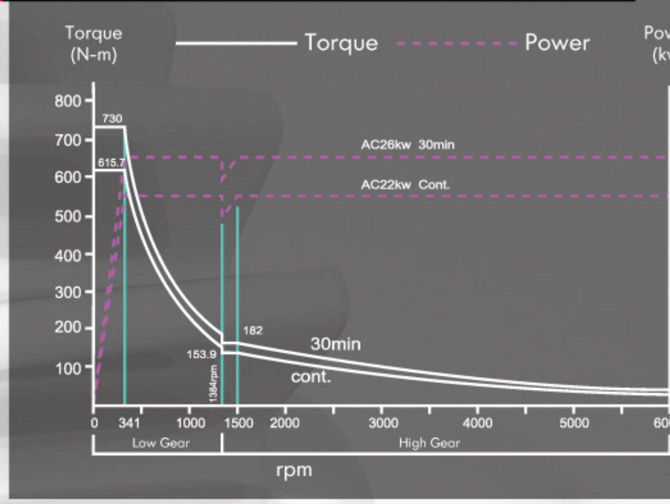
BT50 Gear Head 6000 rpm (FANUC a22i/7000)



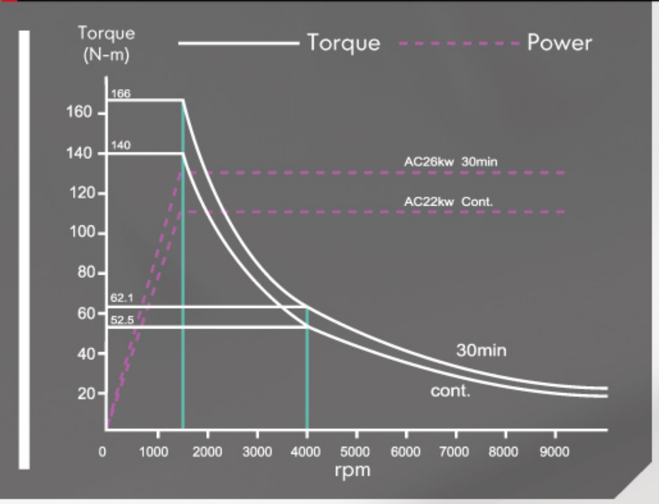
BT50 Gear Head 4000 rpm (FANUC a30/6000)



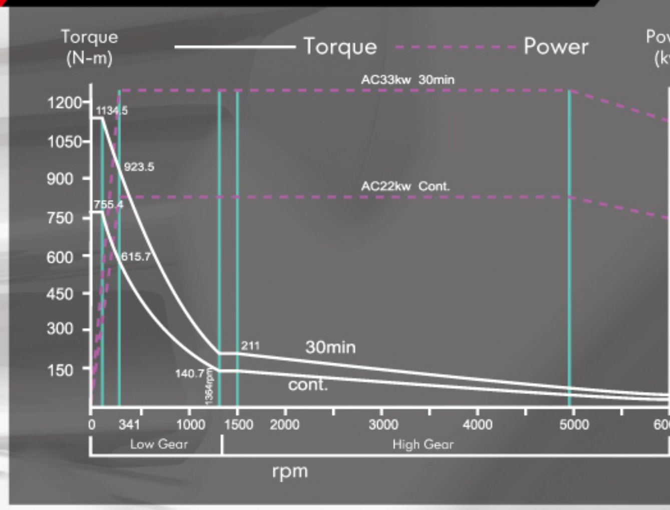
BT50 Gear Head 6000 rpm (MITSUBISHI SJ-V26-01ZT-04)



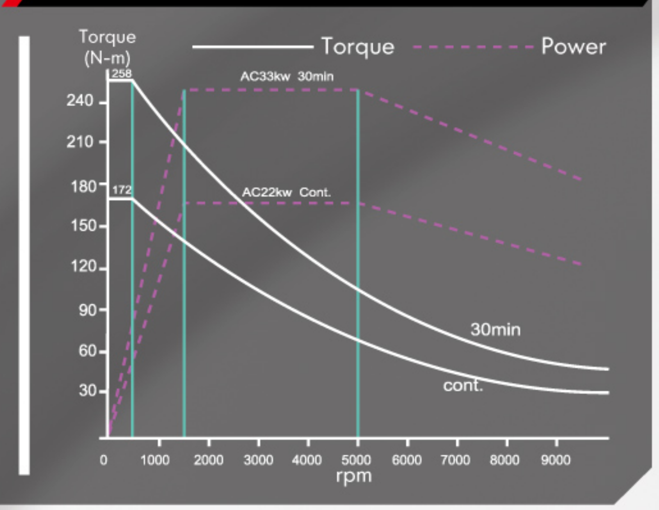
BT50 Direct-Driven 10000 rpm (MITSUBISHI SJ-VK30-21ZT)



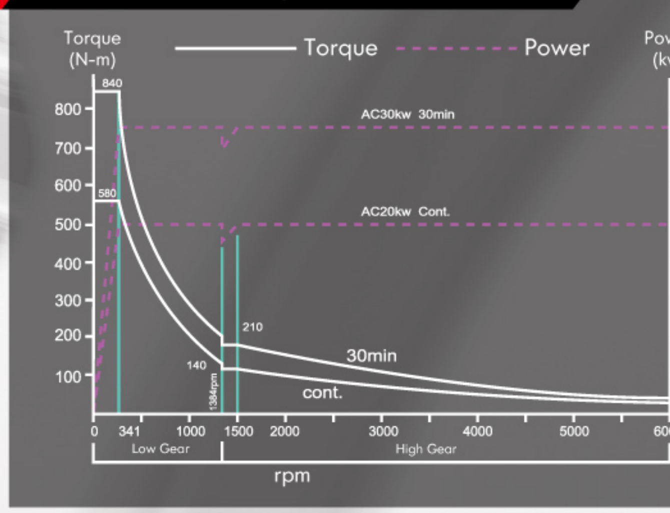
BT50 Gear Head 6000 rpm (SIEMENS 1PH8137-1CA1)



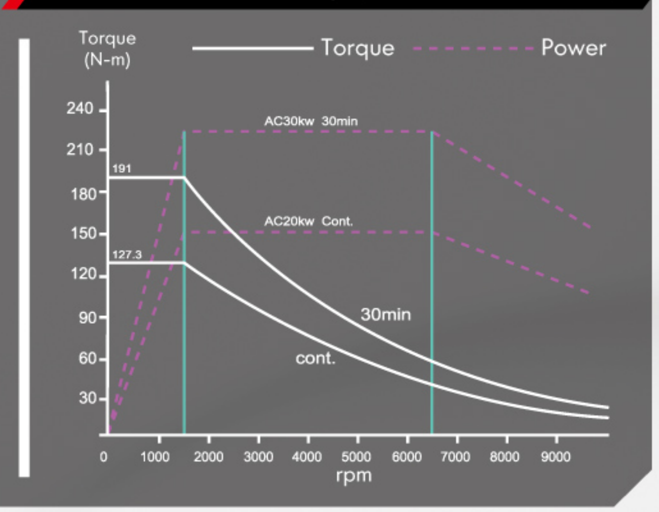
BT50 Direct-Driven 10000 rpm (SIEMENS 1PH8137-OLA1)



BT50 Gear Head 6000 rpm (HEIDENHAIN QAN260L)



BT50 Direct-Driven 10000 rpm (HEIDENHAIN QAN260L)



DOUBLE COLUMN MACHINING CENTER

Attached Milling Head Design

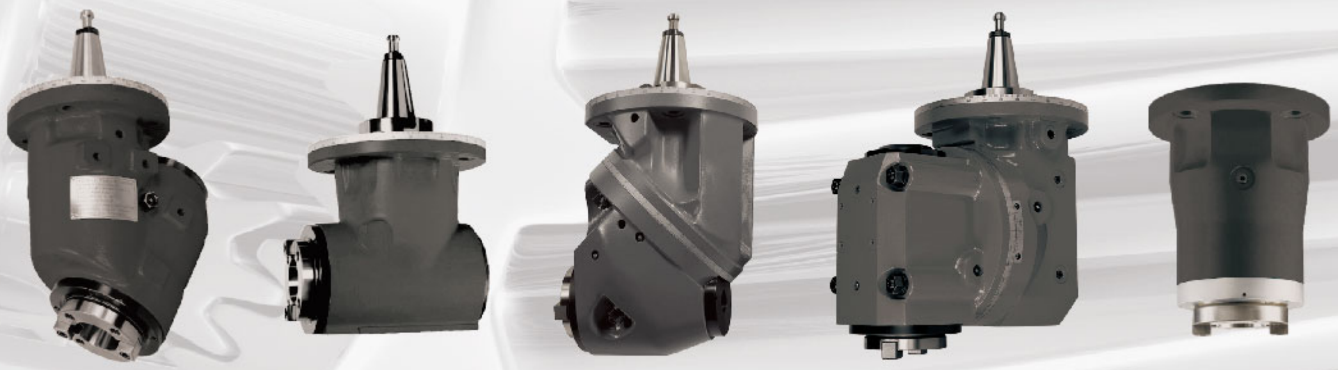
Manual 30° Angle Milling Head

Manual Universal Head (C50)

Manual Extension Head

Manual 90° Angle Milling Head

Manual Universal Head (H50)



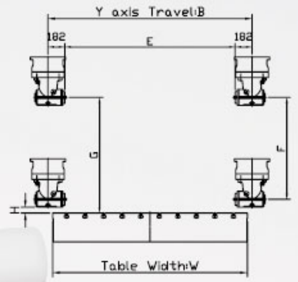
CHANGE AND INDEXING MECHANISM OF MILLING HEAD

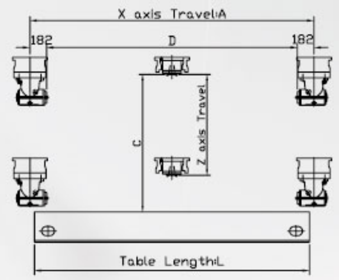
Item / Type	Head Change	Milling Head Indexing	Clamping	Angle
All Manual	Manual	Manual	Manual / Bolts	1°

MANUAL ANGLE MILLING HEAD CHANGING UNIT (opt.)

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

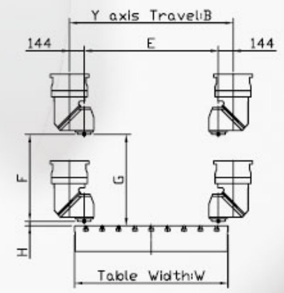
Manual 90° Angle Head Machining Range

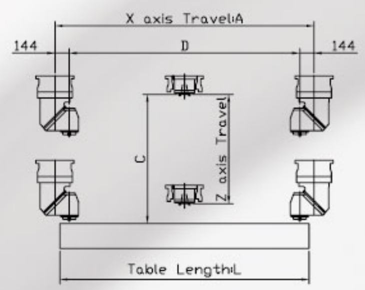




Z axis travel	Height of column	A	B	C	D	E	F	G	H
mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
900	1710	X axis travel	Y axis travel	1100	X axis travel-364	Y axis travel-364	700	847	63
1100	1910	X axis travel	Y axis travel	1300	X axis travel-364	Y axis travel-364	900	1047	63
1300	2110	X axis travel	Y axis travel	1500	X axis travel-364	Y axis travel-364	1100	1247	63

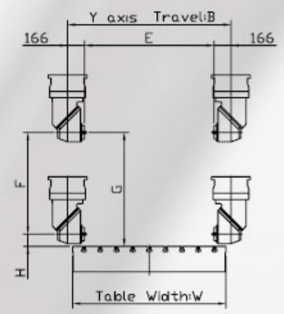
Manual Universal Head 0° Machining Range

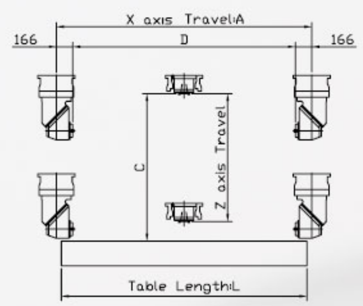




Z axis travel	Height of column	A	B	C	D	E	F	G	H
mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
900	1710	X axis travel	Y axis travel	1100	X axis travel-288	Y axis travel-288	650.5	694.5	44
1100	1910	X axis travel	Y axis travel	1300	X axis travel-288	Y axis travel-288	850.5	894.5	44
1300	2110	X axis travel	Y axis travel	1500	X axis travel-288	Y axis travel-288	1050.5	1094.5	44

Manual Universal Head 90° Machining Range

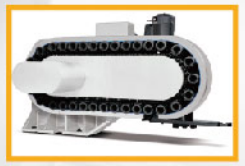




Z axis travel	Height of column	A	B	C	D	E	F	G	H
mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
900	1710	X axis travel	Y axis travel	1100	X axis travel-332	Y axis travel-332	601.5	722.5	121
1100	1910	X axis travel	Y axis travel	1300	X axis travel-332	Y axis travel-332	801.5	922.5	121
1300	2110	X axis travel	Y axis travel	1500	X axis travel-332	Y axis travel-332	1001.5	1122.5	121

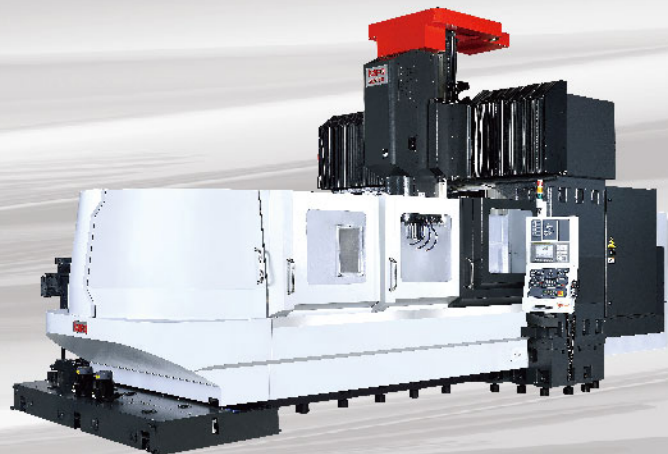
DOUBLE COLUMN MACHINING CENTER

B/BMC SERIES

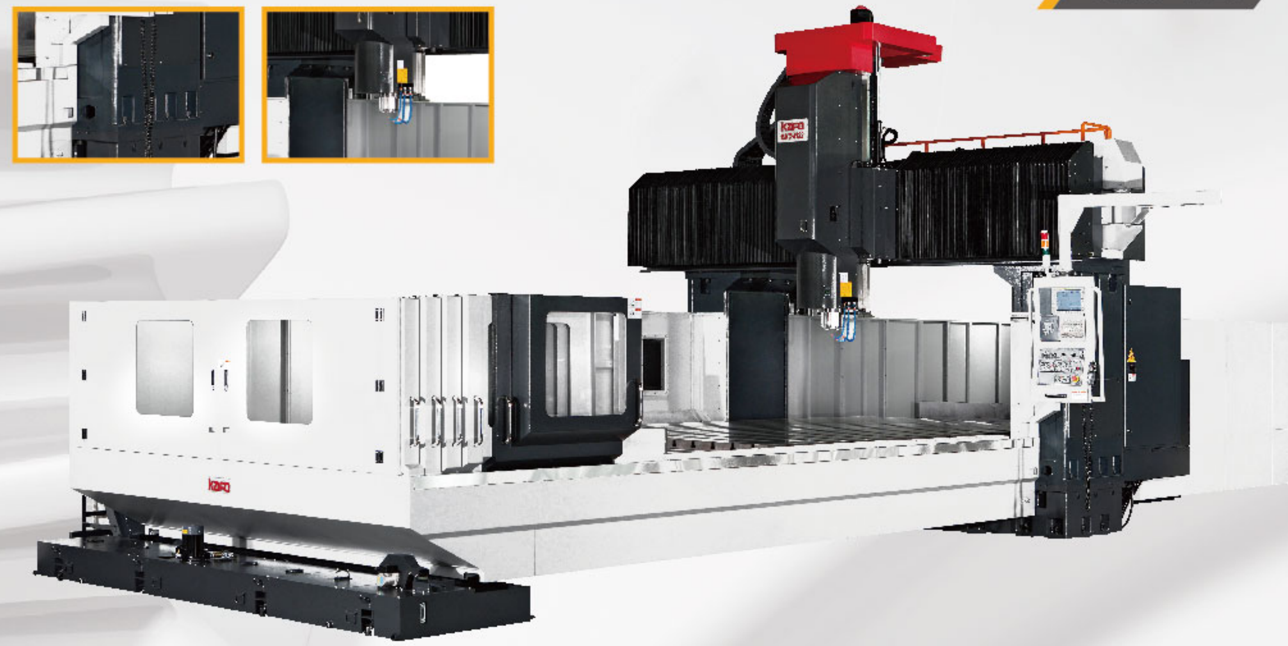


BMC-2012

B-2616

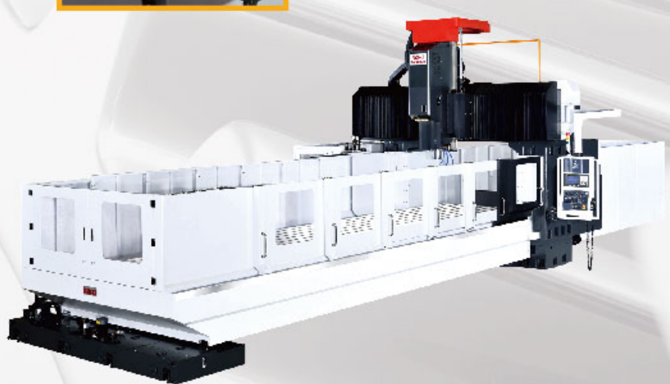


BMC-4122

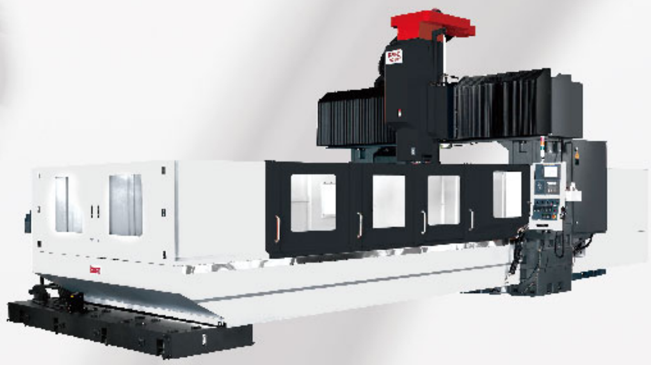


B-3116

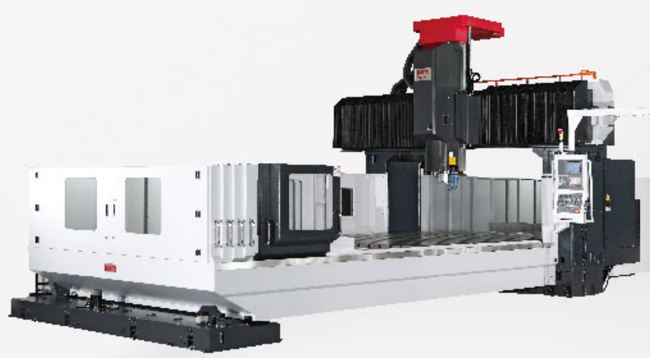
BMC-6122



BMC-4127



BMC-5131



B/BMC SERIES DOUBLE COLUMN MACHINING CENTER

DOUBLE COLUMN MACHINING CENTER

KAFO B/BMC SERIES SPECIFICATION

/ Model		B-2012A/ BMC-2012 (#40 Direct-driven)	B-2012/ BMC-2012 (#50Gear/Direct-driven)	B-3012A/ BMC-3012 (#40 Direct-driven)	B-3012/ BMC-3012 (#50 Gear/Direct-driven)	B-2015/ BMC-2015	B-3015/ BMC-3015	B-2616/ BMC-2616
/ Travel								
X-axis	mm	2100	2100	3100	3100	2100	3100	2600
Y-axis	mm	1200				1500		1600
Z-axis	mm	800 (OP1000)				800 (OP1000)		STD900 (OP1100)
Distance from spindle nose to table surface	mm	150-950 (OP150-1150)	200-1000 (OP200-1200)	150-950 (OP150-1150)	200-1000 (OP200-1200)	200~1000 (OP200-1200)		200-1100 (OP200-1300)
Distance between two columns	mm	1350				1650		1700
/ Table								
Table Dimension(X)	mm	2000	2000	3000	3000	2000	3000	2500
Table Dimension(Y)	mm	1100				1400		1500
T-slots (Size x Number x Pitch)	mm	22x7x160				22x9x160		
Max. Loading Capacity	kg	4000	4000	5000	5000	6000	7000	9000
/ Spindle								
Spindle Motor Output (Continuous/30mins)	kW	15/18.5				15/18.5 (OP 22/26)		22/26 (OP30/37)
Spindle Speed (Gear)	rpm	×	STD6000 / OP4000	×	STD6000 / OP4000	STD6000 / OP4000		
Spindle Speed (Direct-driven)(Optional)	rpm	STD8000 / OP10000、12000	OP8000 / OP10000	STD8000 / OP10000、12000	OP8000 / OP10000	OP8000 / OP10000		
Spindle Taper		BT40	BT50	BT40	BT50	BT50		
Spindle bearing bore diameter	Ømm	70	100	70	100	100		
/ Feed								
Rapid travel rate (X/Y/Z)	m/min	20/20/15	20/20/15	20/20/15	20/20/15	20/20/15	20/20/15	24 / 24 / 15
Cutting Feed Rate	mm/min	10000				10000		
Feed Motor	kW	4.0/4.0/4.0	4.0/4.0/4.0	4.0/4.0/4.0	4.0/4.0/4.0	4.0/4.0/4.0	4.0/4.0/4.0	4.0/4.0/4.0
/ Accuracy								
Positioning Accuracy (JIS 6338)	mm	±0.01 Full travel				±0.01 Full travel		
Positioning Accuracy (VDI 3441)	mm	P0.020	P0.020	P0.025	P0.025	P0.020	P0.025	P0.020
Repeatability Accuracy (JIS 6338)	mm	±0.003				±0.003		
Repeatability Accuracy (VDI 3441)	mm	Ps=0.015	Ps=0.015	Ps=0.02	Ps=0.02	Ps=0.015	Ps=0.02	Ps=0.015
/ ATC System								
Tool Magazine Capacity		32(*40)	30(*40/60)	32(*40)	30(*40/60)	30(*40/60)		
Tool Diameter (with adjacent tools)	Ømm	Ø75	Ø125	Ø75	Ø125	Ø125		
Max. Tool Diameter (without adjacent tools)	Ømm	Ø127	Ø215	Ø127	Ø215	Ø215		
Max. Tool Length	mm	300	400	300	400	400		
Max. Tool Weight	kg	7	20	7	20	20		
Tool Shank Type		BT40/CAT40	BT50 / CAT50	BT40/CAT40	BT50 / CAT50	BT50 / CAT50		
Pull Stud		P40T-1	P50T-1	P40T-1	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 / Box Way(OP Roller linear guideway)	Roller linear guideway / Roller linear guideway / Roller linear guideway	Roller linear guideway / Roller linear guideway / Box Way(OP Roller linear guideway)	Roller linear guideway / Roller linear guideway / Box Way		
Power Supply	kVA	35				35		
Net Weight (B/BMC)	kg	18000/20500	18000/20500	22500/25000	22500/25000	19000/21500	24000/26500	28500/31000
Gross Weight (B/BMC)	kg	21000/23500	21000/23500	25500/28000	25500/28000	22000/24500	27000/29500	32000/34500
Length X Width X Height	mm	6040x4300 x4340	6040x4300 x4340	8040x4300 x4340	8040x4300 x4340	6040x4530 x4260	8040x4530 x4260	7790x3590/ 4100x4570

KAFO reserves the right to change or modify the specification.

/ Model		B-3116/ BMC-3116	B-4116/ BMC-4116	B-5116/ BMC-5116	B-6116/ BMC-6116	B-2622/ BMC-2622	B-3122/ BMC-3122	B-4122/ BMC-4122
/ Travel								
X-axis	mm	3100	4100	5100	6100	2600	3100	4100
Y-axis	mm	1600				2200		
Z-axis	mm	Standard 900 (Optional 1100)						
Distance from spindle nose to table surface	mm	200~1100 (Optional 200~1300)						
Distance between two columns	mm	1700				2300		
/ Table								
Table Dimension(X)	mm	3000	4000	5000	6000	2500	3000	4000
Table Dimension(Y)	mm	1500				2100		
T-slots (Size x Number x Pitch)	mm	22x9x160				28x10x200		
Max. Loading Capacity	kg	11000	14000	17000	20000	11000	14000	17000
/ Spindle								
Spindle Motor Output (Continuous/30mins)	kW	22/26 (Optional 30/37)						
Spindle Speed (Gear)	rpm	Standard 6000 / Optional 4000						
Spindle Speed (Direct-driven)(Optional)	rpm	Optional 8000 / Optional 10000						
Spindle Taper		BT50						
Spindle bearing bore diameter	Ømm	100						
/ Feed								
Rapid travel rate (X/Y/Z)	m/min	24 / 24 / 15	20 / 24 / 15	15 / 20 / 15	10 / 20 / 15	20 / 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	6.0 / 4.0 / 4.0	7.0 / 4.0 / 4.0	7.0 / 4.0 / 4.0	6.0 / 4.0 / 4.0
/ Accuracy								
Positioning Accuracy (JIS 6338)	mm	±0.01 Full Travel						
Positioning Accuracy (VDI 3441)	mm	P0.025	P0.030	P0.040	P0.050	P0.025	P0.025	P0.030
Repeatability Accuracy (JIS 6338)	mm	±0.003						
Repeatability Accuracy (VDI 3441)	mm	Ps=0.02	Ps=0.025	Ps=0.03	Ps=0.035	Ps=0.015	Ps=0.02	Ps=0.025
/ 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	32500/35000	36500/39000	39000/41500	43000/45500	30000/32500	32000/34500	36000/38500
Gross Weight (B/BMC)	kg	36000/38500	40000/42500	42500/45000	46500/49000	33500/36000	35500/38000	40000/42500
Length X Width X Height	mm	8840x3590/ 4100x4570	10750x3590/ 4100x4570	12660x3590/ 4100x4570	14570x3590/ 4100X4570	7540x5100/ 5400x4570	8540x5100/ 5400x4570	10750x5100/ 5400x4570

KAFO reserves the right to change or modify the specification.

DOUBLE COLUMN MACHINING CENTER

KAFO B/BMC SERIES 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
/ Travel							
X-axis	mm	5100	6100	8100	10100	3100	4100
Y-axis	mm	2200				2700	
Z-axis	mm	Standard 900 (Optional 1100)					
Distance from spindle nose to table surface	mm	200~1100 (Optional 200~1300)					
Distance between two columns	mm	2300				2800	
/ Table							
Table Dimension (X)	mm	5000	6000	8000	10000	3000	4000
Table Dimension (Y)	mm	2100				2600	
T-slots (Size x Number x Pitch)	mm	28x10x200				28x13x200	
Max. Loading Capacity	kg	20000	23000	26000	29000	15000	18000
/ Spindle							
Spindle Motor Output (Continuous/30mins)	kW	22/26 (Optional 30/37)					
Spindle Speed (Gear)	rpm	Standard 6000 / Optional 4000					
Spindle Speed (Direct-driven)(Optional)	rpm	Optional 8000 / Optional 10000					
Spindle Taper		BT50					
Spindle bearing bore diameter	Ømm	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
Cutting Feed Rate	mm/min	10000					
Feed Motor	kW	6.0 / 4.0 / 4.0				7.0 / 4.0 / 4.0	6.0 / 4.0 / 4.0
/ Accuracy							
Positioning Accuracy (JIS 6338)	mm	±0.015 Full Travel					
Positioning Accuracy (VDI 3441)	mm	P0.040				P0.025	P0.030
Repeatability Accuracy (JIS 6338)	mm	±0.003					
Repeatability Accuracy (VDI 3441)	mm	Ps=0.030				Ps=0.02	Ps=0.025
/ 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	40000/42500	47500/50000	62500/65000	77500/80000	36500/39000	43000/45500
Gross Weight (B/BMC)	kg	44000/46500	53500/56000	70500/73000	87500/90000	40500/43000	47000/49500
Length X Width X Height	mm	12750x5100/ 5400x4570	14800x5100/ 5400x4570	18740x5100/ 5400x4570	22740x5100/ 5400x4570	8540x5600/ 5900x4570	10800x5600/ 5900x4570

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/ Model		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	4100	5100	6100
Y-axis	mm	2700				3100		
Z-axis	mm	Standard 900 (Optional 1100)				1100		
Distance from spindle nose to table surface	mm	200~1100 (Optional 200~1300)				200~1300		
Distance between two columns	mm	2800				3200		
/ Table								
Table Dimension (X)	mm	5000	6000	8000	10000	4000	5000	6000
Table Dimension (Y)	mm	2600				2900		
T-slots (Size x Number x Pitch)	mm	28x13x200						
Max. Loading Capacity	kg	20000	23000	26000	29000	18000	20000	23000
/ Spindle								
Spindle Motor Output (Continuous/30mins)	kW	22/26 (Optional 30/37)						
Spindle Speed (Gear)	rpm	Standard 6000 / Optional 4000						
Spindle Speed (Direct-driven)(Optional)	rpm	Optional 8000 / Optional 10000						
Spindle Taper		BT50						
Spindle bearing bore diameter	Ømm	100						
/ Feed								
Rapid travel rate (X/Y/Z)	m/min	12 / 20 / 15	10 / 20 / 15	10 / 20 / 15	8 / 20 / 15	15 / 20 / 15	12 / 20 / 15	10 / 20 / 15
Cutting Feed Rate	mm/min	10000						
Feed Motor	kW	6.0/4.0/4.0	6.0/4.0/4.0	6.0/4.0/4.0	6.0/4.0/4.0	6.0/4.0/4.0	6.0/4.0/4.0	6.0/4.0/4.0
/ Accuracy								
Positioning Accuracy (JIS 6338)	mm	±0.015 Full Travel						
Positioning Accuracy (VDI 3441)	mm	P0.040	P0.040	P0.05	P0.05	P0.030	P0.040	P0.050
Repeatability Accuracy (JIS 6338)	mm	±0.003						
Repeatability Accuracy (VDI 3441)	mm	Ps=0.030	Ps=0.030	Ps=0.035	Ps=0.045	Ps=0.025	Ps=0.030	Ps=0.035
/ 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	48200/50700	55500/58000	61500/64000	67500/70000	51000/53500	53000/55500	57250/59750
Gross Weight (B/BMC)	kg	52200/54700	59500/62000	65500/68000	71500/74000	55000/57500	57000/59500	61250/63750
Length X Width X Height	mm	12900x5600/ 5900x4570	14860x5600/ 5900x4570	18900x5600/ 5900x4570	22900x5600/ 5900x4570	10800x6100/ 6400x4570	12900x6100/ 6400x4570	14900x6100/ 6400x4570

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B/BMC SERIES DOUBLE COLUMN MACHINING CENTER

DOUBLE COLUMN MACHINING CENTER

B/BMC SERIES

KAFO B/BMC SERIES 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		4000				
Z-axis	mm	1100						
Distance from spindle nose to table surface	mm	200~1300 (STD)						
Distance between two columns	mm	3200		3750				
/ Table								
Table Dimension (X)	mm	8000	10000	4000	5000	6000	8000	10000
Table Dimension (Y)	mm	2900		3200				
T-slots (Size x Number x Pitch)	mm	28x13x200		28x15x200				
Max. Loading Capacity	kg	26000	29000	15000	18000	23000	26000	29000
/ Spindle								
Spindle Motor Output (Continuous/30mins)	kW	22/26 (Optional 30/37)						
Spindle Speed (Gear)	rpm	Standard 6000 / Optional 4000						
Spindle Speed (Direct-driven)(Optional)	rpm	Optional 8000 / Optional 10000						
Spindle Taper		BT50						
Spindle bearing bore diameter	Ømm	100						
/ Feed								
Rapid travel rate (X/Y/Z)	m/min	10 / 15 / 15	8 / 15 / 15	15 / 15 / 15	12 / 15 / 15	10 / 15 / 15	10 / 15 / 15	8 / 15 / 15
Cutting Feed Rate	mm/min	10000						
Feed Motor	kW	6.0/4.0/4.0	6.0/4.0/4.0	6.0/4.0/4.0	6.0/4.0/4.0	6.0/4.0/4.0	6.0/4.0/4.0	6.0/4.0/4.0
/ Accuracy								
Positioning Accuracy(JIS 6338)	mm	±0.015 Full Travel						
Positioning Accuracy(VDI 3441)	mm	P0.060	P0.060	P0.03	P0.04	P0.050	P0.060	P0.070
Repeatability Accuracy(JIS 6338)	mm	±0.003						
Repeatability Accuracy(VDI 3441)	mm	Ps=0.045	Ps=0.045	Ps=0.025	Ps=0.030	Ps=0.035	Ps=0.045	Ps=0.055
/ 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	69000/71500	75000/77500	65000/68000	70000/73000	75000/78000	85000/88000	95000/98000
Gross Weight (B/BMC)	kg	73000/75500	79000/81500	71000/74000	76000/79000	81000/84000	91000/94000	102000/103000
Length X Width X Height	mm	18900x6100/ 6400x4570	22900x6100/ 6400x4570	10800x7000/ 7500x5050	12900x7000/ 7500x5050	14900x7000/ 7500x5050	18900x7000/ 7500x5050	22900x7000/ 7500x5050

KAFO reserves the right to change or modify the specification.

STANDARD & OPTIONAL LIST

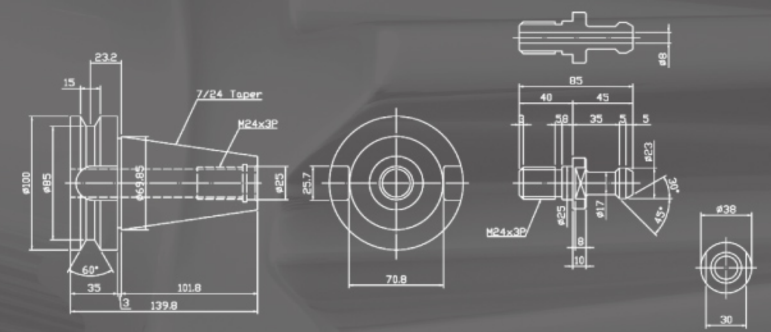
● : Standard ○ : Optional ☆ : Counsulting Required × : Inadaptable

Specification/Model	B/BMC2012~3012 (DBC1350MM)	B/BMC2015~3015 (DBC1650MM)	B/BMC2616~6116 (DBC1700MM)	B/BMC2622~10122 (DBC2300MM)	B/BMC3127~10127 (DBC2800MM)	B/BMC4131~10131 (DBC3200MM)	B/BMC4140~10140 (DBC3750MM)
BT-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)	○	○	○	○	○	○	○
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	●	●	●	●	●	●	●
Woking Light	●	●	●	●	●	●	●
Tri-color status light	●	●	●	●	●	●	●
RS232 interface	●	●	●	●	●	●	●
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)	○	○	○	○	○	○	○
90° Milling head (manual changing/Auto indexing)	○	○	○	○	○	○	○
Universal milling head (manual changing/indexing	○	○	○	○	○	○	○
90° indexing	○	○	○	○	○	○	○
Extension milling head	○	○	○	○	○	○	○
Head storing swivel shelf	○	○	○	○	○	○	○
Counterweight Arm-type operating control box	×	×	○	○	○	○	○
Foot rest	○	○	○	○	○	○	○
Automatic tool length measurement	○	○	○	○	○	○	○
Automatic workpiece measurement	○	○	○	○	○	○	○
FANUC 0i-MF controller (8.4LCD)	●	●	●	●	●	●	●
FANUC 31i controller (10.4LCD)	○	○	○	○	○	○	○
MITSUBISHI controller	○	○	○	○	○	○	○
Heidenhain controller	○	○	○	○	○	○	○
CNC rotary table	○	○	○	○	○	○	○

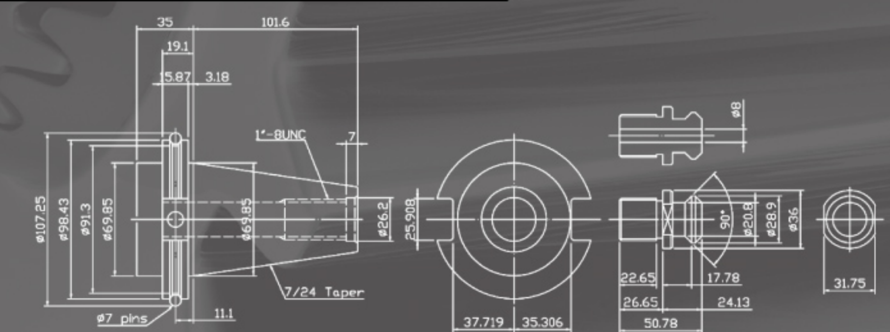
DOUBLE COLUMN MACHINING CENTER

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)

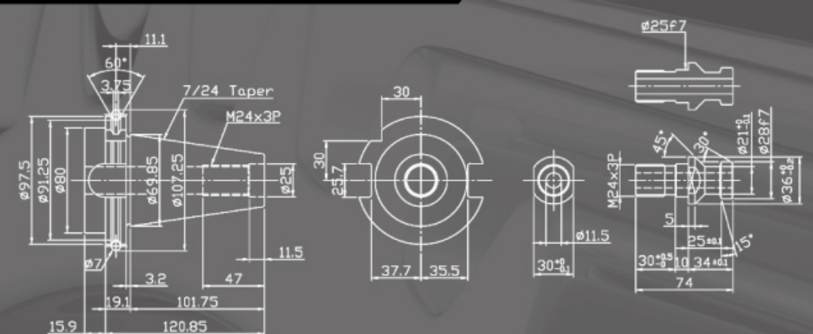
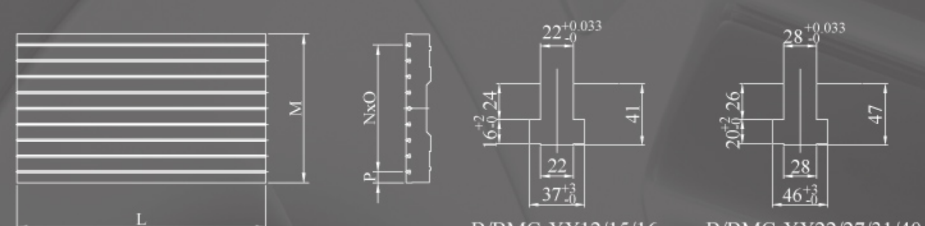
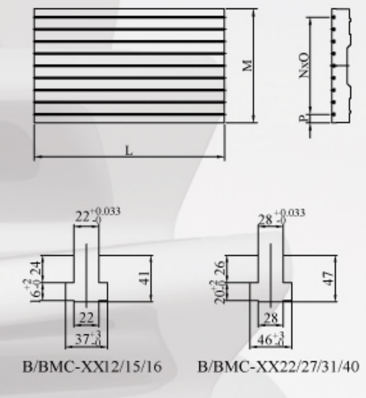
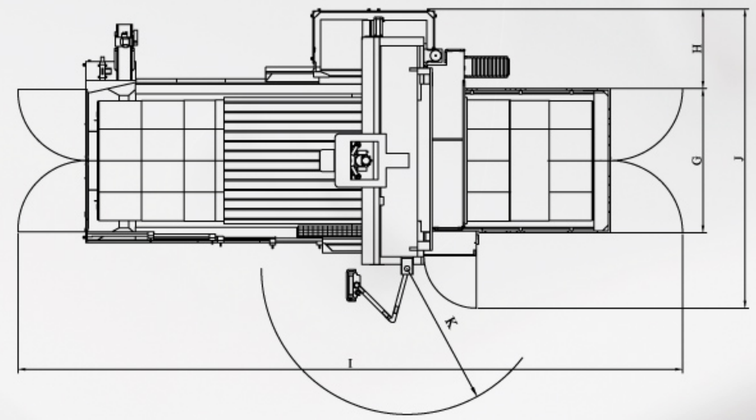


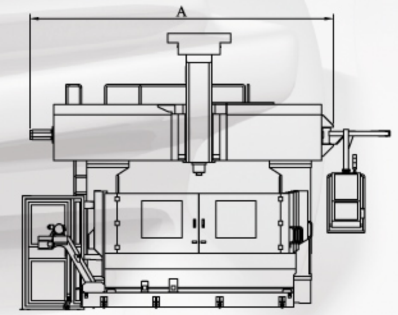
TABLE DRAWING

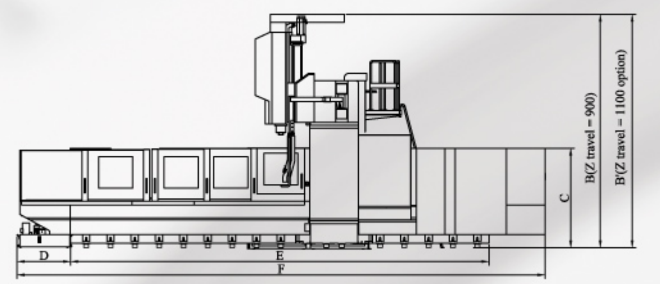


MACHINE LAYOUT









unit : mm

Item \ Spec	A	B	B'	C	D	E	F	G	H	I	J	K	L	M	N	O	P
B/BMC-2012	3080	4340	4940	1960	815	4245	6040	1410	1560	6900	4000	1890	2000	1100	160	6	70
B/BMC-3012	3080	4340	4940	1960	815	6245	8040	1410	1560	8900	4000	1890	3000	1100	160	6	70
B/BMC-2015	3380	4260	4940	1960	830	4245	6040	1710	1560	7300	4000	1890	2000	1400	160	8	60
B/BMC-3015	3380	4260	4940	1960	830	6245	8040	1710	1560	9300	4000	1890	3000	1400	160	8	60
B/BMC-2616	3960	4570	5050	2046	1200	5700	7790	1915	1595	8370	5055	3300	2500	1500	160	8	110
B/BMC-3116	3960	4570	5050	2046	1200	6700	8840	1915	1595	9420	5055	3300	3000	1500	160	8	110
B/BMC-4116	3960	4570	5050	2046	1200	8700	10750	1915	1595	11330	5055	3300	4000	1500	160	8	110
B/BMC-5116	3960	4570	5050	2046	1200	10700	12660	1915	1595	11280	5055	3300	5000	1500	160	8	110
B/BMC-6116	3960	4570	5050	2046	1200	12700	14570	1915	1595	13280	5055	3300	6000	1500	160	8	110
B/BMC-2622	4760	4570	5050	2050	1030	5620	7540	2470	1600	9350	5600	3300	2500	2100	200	9	150
B/BMC-3122	4760	4570	5050	2050	1030	6620	8540	2470	1600	10350	5600	3300	3000	2100	200	9	150
B/BMC-4122	4760	4570	5050	2050	1030	8620	10750	2470	1600	12560	5600	3300	4000	2100	200	9	150
B/BMC-5122	4760	4570	5050	2050	1030	10620	12750	2470	1600	14560	5600	3300	5000	2100	200	9	150
B/BMC-6122	4760	4570	5050	2050	1030	12620	14800	2470	1600	16610	5600	3300	6000	2100	200	9	150
B/BMC-8122	4760	4570	5050	2050	1030	16620	18740	2470	1600	20550	5600	3300	6000	2100	200	9	150
B/BMC-10122	4760	4570	5050	2050	1030	20620	22740	2470	1600	24550	5600	3300	6000	2100	200	9	150
B/BMC-3127	5300	4570	5050	2060	1030	6620	8540	2970	1600	10400	6110	3300	3000	2600	200	12	100
B/BMC-4127	5300	4570	5050	2060	1030	8620	10750	2970	1600	12580	6110	3300	4000	2600	200	12	100
B/BMC-5127	5300	4570	5050	2060	1030	10620	12800	2970	1600	14630	6110	3300	5000	2600	200	12	100
B/BMC-6127	5300	4570	5050	2060	1030	12620	14860	2970	1600	17100	6110	3300	6000	2600	200	12	100
B/BMC-8127	5300	4570	5050	2060	1030	16620	18900	2970	1600	21600	6110	3300	8000	2600	200	12	100
B/BMC-10127	5300	4570	5050	2060	1030	20620	22950	2970	1600	26100	6110	3300	10000	2600	200	12	100
B/BMC-4131	5710	4570	5050	2045	1045	8620	10800	3420	1710	13425	6800	3300	4000	2900	200	13	150
B/BMC-5131	5710	4570	5050	2045	1045	10620	12900	3420	1710	15425	6800	3300	5000	2900	200	13	150
B/BMC-6131	5710	4570	5050	2045	1045	12620	14900	3420	1710	17425	6800	3300	6000	2900	200	13	150
B/BMC-8131	5710	4570	5050	2045	1045	16620	18900	3420	1710	21425	6800	3300	8000	2900	200	13	150
B/BMC-10131	5710	4570	5050	2045	1045	20620	22900	3420	1710	25425	6800	3300	10000	2900	200	13	150
B/BMC-4140	6750	4570	5050	2090	1030	8620	12250	3960	1790	13350	6490	3300	4000	3200/3500	200/150	15/17	200
B/BMC-5140	6750	4570	5050	2090	1030	10620	14250	3960	1790	15350	6490	3300	5000	3200/3500	200/150	15/17	200
B/BMC-6140	6750	4570	5050	2090	1030	12620	16250	3960	1790	17350	6490	3300	6000	3200/3500	200/150	15/17	200
B/BMC-8140	6750	4570	5050	2090	1030	16620	20250	3960	1790	19350	6490	3300	8000	3200/3500	200/150	15/17	200
B/BMC-10140	6750	4570	5050	2090	1030	20620	24250	3960	1790	21350	6490	3300	10000	3200/3500	200/150	15/17	200

DOUBLE COLUMN MACHINING CENTER

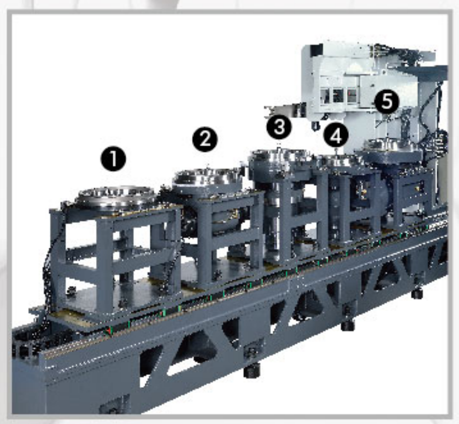
5 FACE MACHINING CENTER

Greater 5-face Machining Performance Could Be Satisfied Customer's Multi-processing Requirements.

KMC-5122

This series with special designed, with 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.



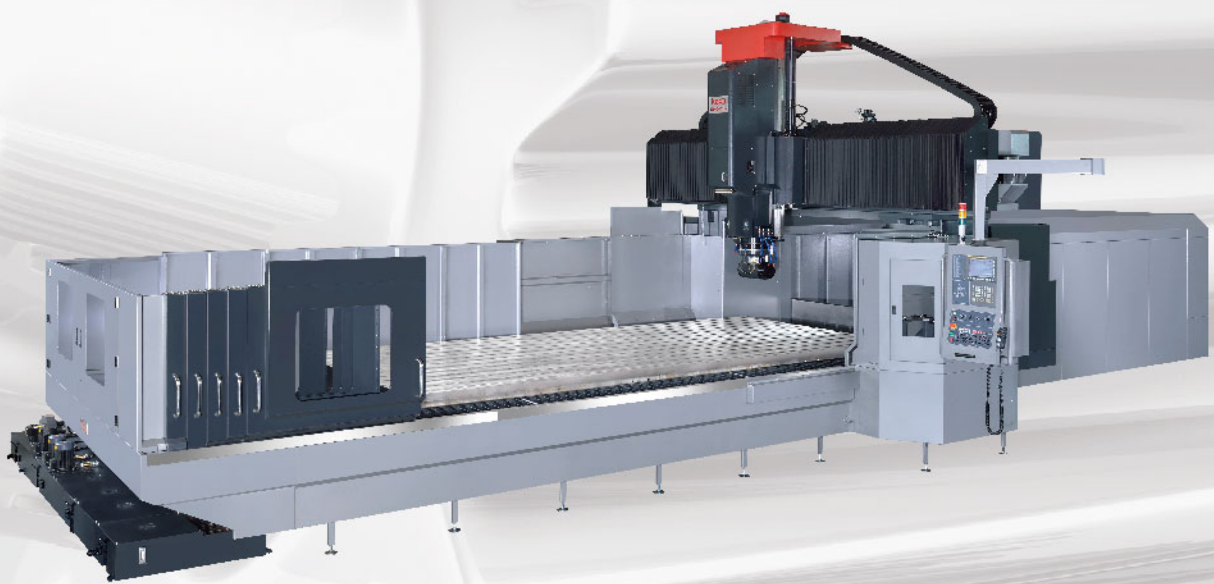
Optional Milling Head By Request

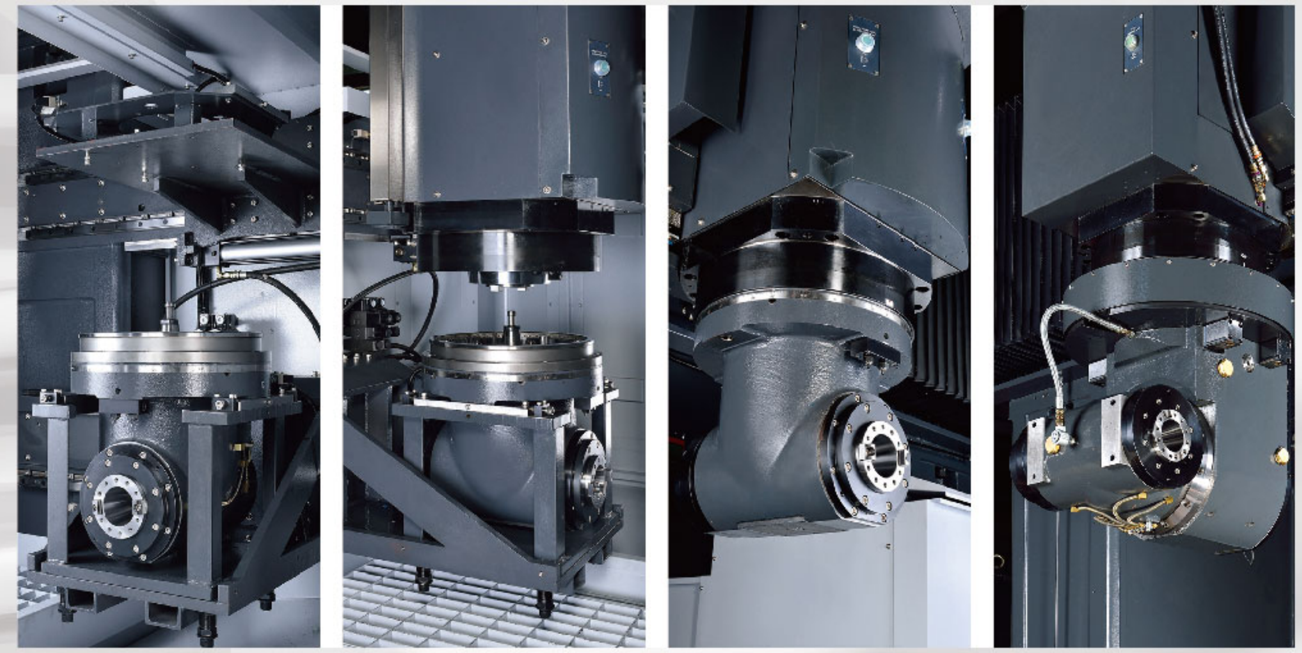
90° Head/Universal Head / Extension Head/ Speed-up type Extension Head

DOUBLE COLUMN MACHINING CENTER

K/KMC/RV SERIES

KMC-6135



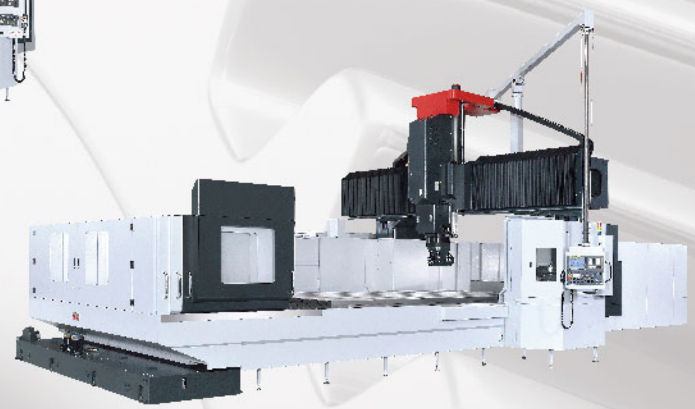


K SERIES AND RV SERIES : SIMPLE AND CONVENIENT HEAD CHANGING UNIT

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

KMC-3135

KMC-4135



RV-3135

RV-4140

K/KMC/RV SERIES DOUBLE COLUMN MACHINING CENTER

DOUBLE COLUMN MACHINING CENTER

KAFO K/KMC SERIES SPECIFICATION

/ Model		K- 2622 KMC-2622	K- 3122 KMC-3122	K- 4122 KMC-4122	K-5122 KMC-5122	K-6122 KMC-6122
/ Travel						
X-axis	mm	2600	3100	4100	5100	6100
Y-axis	mm	2200				
Z-axis	mm	Standard 1100				
Distance from spindle nose to table surface	mm	200~1300 (Standard), 200~1500, 200~1700, 400~1300, 400~1500 (Optional)				
Distance between two columns	mm	1700				
/ Table						
Table Dimension(X)	mm	2500	3000	4000	5000	6000
Table Dimension(Y)	mm	1500				
T-slots (Size x Number x Pitch)	mm	22x9x160				
Max. Loading Capacity	kg	9000	11000	14000	17000	20000
/ Spindle						
Spindle Motor Output (Continuous/30mins)	kW	22/26 (Optional 30/37)				
Spindle Speed (Gear)	rpm	Standard 6000 / Optional 4000				
Spindle Taper		BT50				
Spindle bearing bore diameter	Ømm	100				
/ Feed						
Rapid travel rate (X/Y/Z)	m/min	24 / 24 / 15	24 / 24 / 15	20 / 24 / 15	15 / 20 / 15	10 / 20 / 15
Cutting Feed Rate	mm/min	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	
/ Accuracy						
Positioning Accuracy (JIS 6338)	mm	±0.01 Full Travel				
Positioning Accuracy (VDI 3441)	mm	P0.020	P0.025	P0.030	P0.040	P0.050
Repeatability Accuracy (JIS 6338)	mm	±0.003				
Repeatability Accuracy (VDI 3441)	mm	Ps=0.015	Ps=0.020	Ps=0.025	Ps=0.030	Ps=0.035
/ 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 (K/KMC)	kg	32000/34500	34500/37000	37500/40000	40500/43000	43500/46000
Gross Weight (K/KMC)	kg	35500/38000	37500/40500	41000/43500	44000/46500	47000/49500
Length X Width X Height	mm	7790x4100/ 4675x5050	8660x4100/ 4675x5050	10750x4100/ 4675x5050	12850x4100/ 4675x5050	14950x4100/ 4675x5050

KAFO reserves the right to change or modify the specification.

/ Model		K-2627 KMC-2627	K-3127 KMC-3127	K-4127 KMC-4127	K-5127 KMC-5127	K-6127 KMC-6127	K-8127 KMC-8127	K-10127 KMC10127
/ Travel								
X-axis	mm	2600	3100	4100	5100	6100	8100	10100
Y-axis	mm	2700						
Z-axis	mm	Standard 1100						
Distance from spindle nose to table surface	mm	200~1300 (Standard), 200~1500, 200~1700, 400~1300, 400~1500 (Optional)						
Distance between two columns	mm	2300						
/ Table								
Table Dimension(X)	mm	2500	3000	4000	5000	6000	8000	10000
Table Dimension(Y)	mm	2100						
T-slots (Size x Number x Pitch)	mm	28x10x200						
Max. Loading Capacity	kg	11000	14000	17000	20000	23000	26000	29000
/ Spindle								
Spindle Motor Output (Continuous/30mins)	kW	22/26 (Optional 30/37)						
Spindle Speed (Gear)	rpm	Standard 6000 / Optional 4000						
Spindle Taper		BT50						
Spindle bearing bore diameter	Ømm	100						
/ Feed								
Rapid travel rate (X/Y/Z)	m/min	20 / 20 / 15	20 / 20 / 15	15 / 20 / 15	15 / 20 / 15	10 / 20 / 15	10 / 20 / 15	8 / 20 / 15
Cutting Feed Rate	mm/min	10000						
Feed Motor	kW	7.0 / 4.0 / 4.0	7.0 / 4.0 / 4.0	6.0 / 4.0 / 4.0	6.0 / 4.0 / 4.0	6.0 / 4.0 / 4.0	6.0 / 4.0 / 4.0	6.0 / 4.0 / 4.0
/ Accuracy								
Positioning Accuracy (JIS 6338)	mm	±0.01 Full Travel		±0.015 Full Travel				
Positioning Accuracy (VDI 3441)	mm	P0.025	P0.025	P0.030	P0.040	P0.050	P0.060	P0.070
Repeatability Accuracy (JIS 6338)	mm	±0.003						
Repeatability Accuracy (VDI 3441)	mm	Ps=0.015	Ps=0.020	Ps=0.025	Ps=0.030	Ps=0.035	Ps=0.045	Ps=0.055
/ 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 (K/KMC)	kg	33500/36000	35500/38000	39500/42000	43500/46000	51000/53500	66000/68500	81000/83500
Gross Weight (K/KMC)	kg	37000/39500	38000/40500	42000/44500	47500/50000	57000/59500	74000/76500	91000/93500
Length X Width X Height	mm	7540x5600/ 5900x5050	8740x5600/ 5900x5050	10740x5600/ 5900x5050	12790x5600/ 5900x5050	14740x5600/ 5900x5050	18740x5600/ 5900x5050	22740x5600/ 5900x5050

KAFO reserves the right to change or modify the specification.

DOUBLE COLUMN MACHINING CENTER

K/KMC SERIES

KAFO K/KMC SERIES SPECIFICATION

Model		K-3135 KMC-3135	K-4135 KMC-4135	K-5135 KMC-5135	K-6135 KMC-6135	K-8135 KMC-8135	K-10135 KMC-10135
Travel							
X-axis	mm	3100	4100	5100	6100	8100	10100
Y-axis	mm	3500					
Z-axis	mm	Standard 1100					
Distance from spindle nose to table surface	mm	200~1300 (Standard)					
Distance between two columns	mm	2700					
Table							
Table Dimension(X)	mm	3000	4000	5000	6000	8000	10000
Table Dimension(Y)	mm	2100					
T-slots (Size x Number x Pitch)	mm	28x10x200					
Max. Loading Capacity	kg	15000	18000	20000	23000	26000	29000
Spindle							
Spindle Motor Output (Continuous/30mins)	kW	22/26 (Optional 30/37)					
Spindle Speed (Gear)	rpm	Standard 6000 / Optional 4000					
Spindle Taper		#50					
Spindle bearing bore diameter	Ømm	100					
Feed							
Rapid travel rate (X/Y/Z)	m/min	20 / 20 / 15	15 / 20 / 15	12 / 20 / 15	10 / 20 / 15	10 / 15 / 15	8 / 15 / 15
Cutting Feed Rate	mm/min	10000					
Feed Motor	kW	7.0/4.0/4.0	6.0/4.0/4.0	6.0/4.0/4.0	6.0/4.0/4.0	6.0/4.0/4.0	6.0/4.0/4.0
Accuracy							
Positioning Accuracy (JIS 6338)	mm	±0.015 Full Travel					
Positioning Accuracy (VDI 3441)	mm	P0.025	P0.030	P0.040	P0.050	P0.060	P0.070
Repeatability Accuracy (JIS 6338)	mm	±0.003					
Repeatability Accuracy (VDI 3441)	mm	Ps=0.02	Ps=0.025	Ps=0.030	Ps=0.030	Ps=0.045	Ps=0.055
ATC System							
Tool Magazine Capacity		30/40					
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 (K/KMC)	kg	42000/44500	48000/50500	53000/56500	60000/62500	72000/74500	84000/86500
Gross Weight (K/KMC)	kg	46000/48500	52500/54500	58000/60500	64000/66500	76000/78500	82000/90500
Length X Width X Height	mm	8650x5950/ 6180x5050	10860x5950/ 6180x5050	12910x5950/ 6180x5050	14860x5950/ 6180x5050	18770x5950/ 6180x5050	22770x5950/ 6180x5050

KAFO reserves the right to change or modify the specification.

Model		K- 4140 KMC-4140	K- 5140 KMC-5140	K- 6140 KMC-6140	K- 8140 KMC-8140	K- 10140 KMC-10140
Travel						
X-axis	mm	4100	5100	6100	8100	10100
Y-axis	mm	4000				
Z-axis	mm	Standard 1100				
Distance from spindle nose to table surface	mm	200~1300 (Standard)				
Distance between two columns	mm	3200				
Table						
Table Dimension(X)	mm	4000	5000	6000	8000	10000
Table Dimension(Y)	mm	2600				
T-slots (Size x Number x Pitch)	mm	28x13x200				
Max. Loading Capacity	kg	18000	20000	23000	26000	29000
Spindle						
Spindle Motor Output (Continuous/30mins)	kW	22/26 (Optional 30/37)				
Spindle Speed (Gear)	rpm	Standard 6000 / Optional 4000				
Spindle Taper		#50				
Spindle bearing bore diameter	Ømm	100				
Feed						
Rapid travel rate (X/Y/Z)	m/min	15 / 20 / 15	12 / 20 / 15	10 / 20 / 15	10 / 15 / 15	8 / 15 / 15
Cutting Feed Rate	mm/min	10000				
Feed Motor	kW	6.0 / 4.0 / 4.0				
Accuracy						
Positioning Accuracy (JIS 6338)	mm	±0.015 Full Travel			±0.035 Full Travel	
Positioning Accuracy (VDI 3441)	mm	P0.0300	P0.040	P0.050	P0.06	P0.07
Repeatability Accuracy (JIS 6338)	mm	±0.003			±0.003/300	
Repeatability Accuracy (VDI 3441)	mm	Ps=0.025	Ps=0.030	Ps=0.035	Ps=0.045	Ps=0.055
ATC System						
Tool Magazine Capacity		30/40				
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 (K/KMC)	kg	44000/47500	48500/51000	56000/58500	62000/64500	74000/76500
Gross Weight (K/KMC)	kg	48000/50500	52000/54500	60000/62500	66000/68500	78000/80500
Length X Width X Height	mm	10770x6450/ 6680x5050	12770x6450/ 6680x5050	14770x6450/ 6680x5050	18770x6450/ 6680x5050	22770x6450/ 6680x5050

KAFO reserves the right to change or modify the specification.

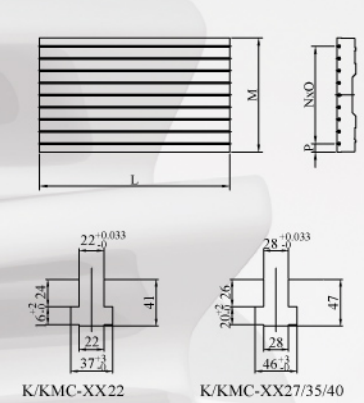
DOUBLE COLUMN MACHINING CENTER

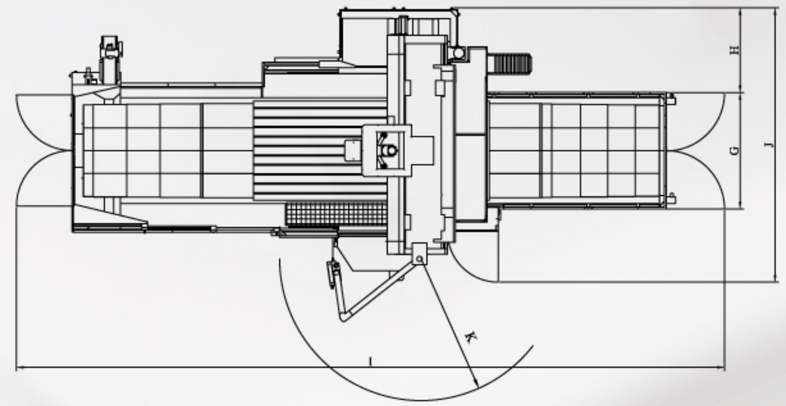
K/KMC SERIES

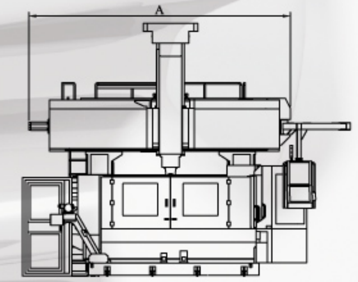
/ Model		K-4142/ KMC-4142	K-5142/ KMC-5142	K-6142/ KMC-6142	K-8142/ KMC-8142	K-10142/ KMC-10142
/ Travel						
X-axis	mm	4100	5100	6100	8100	10100
Y-axis	mm	4200				
Z-axis	mm	1100				
Distance from spindle nose to table surface	mm	200~1300 (STD)				
Distance between two columns	mm	3750				
/ Table						
Table dimension (X)	mm	4000	5000	6000	8000	10000
Table dmension (Y)	mm	3200/3500				
T-slot (Size x Number x Pitch)	mm	28x15x200 / 28x17x200				
Max. loading capacity	kg	15000	18000	23000	26000	29000
/ Spindle						
Spindle motor output (Continuous/30 mins)	kW	22/26(OP:30/37)				
Spindle speed (Gear)	rpm	STD:6000 / OP:4000				
Spindle taper		BT50				
Spindle bearing bore diameter	Ømm	100				
/ Feed						
Rapid travel rate (X/Y/Z)	m/min	20/15/15	15/15/15	12/15/15	10/15/15	8/15/15
Cutting feed rate	mm/min	10000				
Feed motor	kW	6.0/4.0/4.0	6.0/4.0/4.0	6.0/4.0/4.0	6.0/4.0/4.0	6.0/4.0/4.0
/ Accuracy						
Positioning accuracy (JIS 6338)	mm	0.015 Full travel				
Positioning accuracy (VDI 3441)	mm	P0.03	P0.04	P0.05	P0.06	P0.07
Repeatability (JIS 6338)	mm	0.003/300			± 0.003/300	
Repeatability (VDI 3441)	mm	Ps=0.025	Ps=0.030	Ps=0.035	Ps=0.045	Ps=0.055
/ 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		P50-1				
/ Others						
Guideway of X/Y/Z axis		Roller Liner/Roller linear/Box way				
Power supply	kVA	45				
Net Weight (B/BMC)	kg	65500/68500	70500/73500	75500/78500	85500/88500	95500/98500
Gross Weight (B/BMC)	kg	71500/74500	76500/79500	81500/84500	91500/94500	102500/103500
Floor space (L x W x H)	mm	12250x7215/ 7315x5050	14250x7215/ 7315x5050	16250x7215/ 7315x5050	20250x7215/ 7315x5050	24250x7215/ 7315x5050

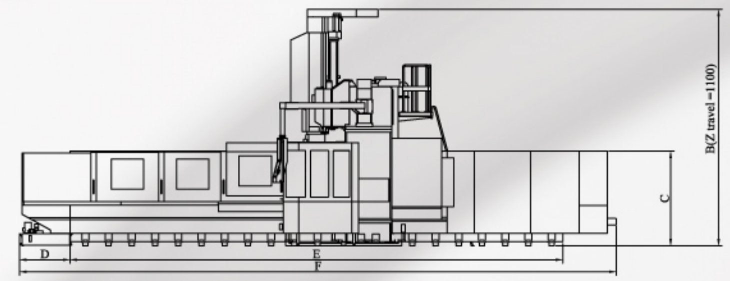
KAFO reserves the right to change or modify the specification.

/ MACHINE LAYOUT & SPACE REQUEST









unit : mm

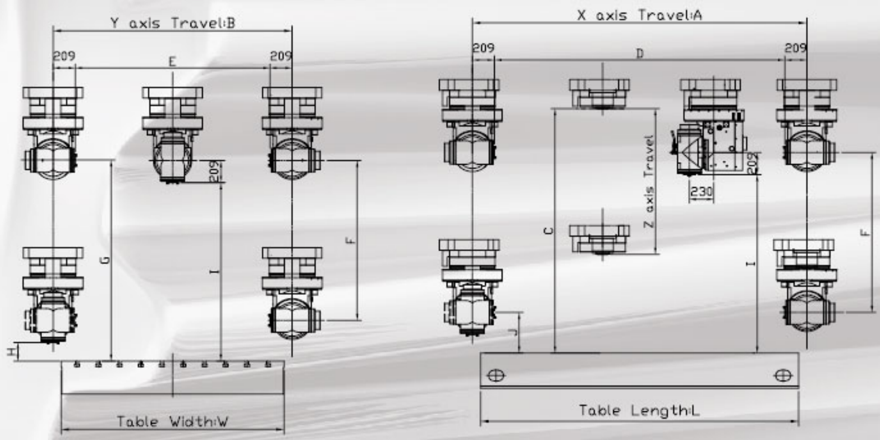
Item \ Spec	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
K/KMC-2622	4760	5050	2046	1115	5700	7790	1910	1721	9280	5181	3300	2500	1500	160	8	110
K/KMC-3122	4760	5050	2046	1115	6700	8660	1910	1721	10150	5181	3300	3000	1500	160	8	110
K/KMC-4122	4760	5050	2046	1115	8700	10750	1910	1721	12240	5181	3300	4000	1500	160	8	110
K/KMC-5122	4760	5050	2046	1115	10700	12850	1910	1721	14340	5181	3300	5000	1500	160	8	110
K/KMC-6122	4760	5050	2046	1115	12700	14950	1910	1721	16440	5181	3300	6000	1500	160	8	110
K/KMC-2627	5270	5050	2060	1030	5620	7540	2470	1750	9350	5750	3300	2500	2100	200	9	150
K/KMC-3127	5270	5050	2060	1030	6620	8740	2470	1750	10350	5750	3300	3000	2100	200	9	150
K/KMC-4127	5270	5050	2060	1030	8620	10740	2470	1750	12550	5750	3300	4000	2100	200	9	150
K/KMC-5127	5270	5050	2060	1030	10620	12790	2470	1750	14600	5750	3300	5000	2100	200	9	150
K/KMC-6127	5270	5050	2060	1030	12620	14740	2470	1750	16650	5750	3300	6000	2100	200	9	150
K/KMC-8127	5270	5050	2060	1030	16620	18740	2470	1750	20550	5750	3300	6000	2100	200	9	150
K/KMC-10127	5270	5050	2060	1030	20620	22740	2470	1750	24550	5750	3300	6000	2100	200	9	150
K/KMC-3135	5950	5050	2060	1030	6620	8650	2920	1890	10820	6320	3300	3000	2100	200	9	150
K/KMC-4135	5950	5050	2060	1030	8620	10860	2920	1890	12820	6320	3300	4000	2100	200	9	150
K/KMC-5135	5950	5050	2060	1030	10620	12910	2920	1890	14820	6320	3300	5000	2100	200	9	150
K/KMC-6135	5950	5050	2060	1030	12620	14860	2920	1890	16820	6320	3300	6000	2100	200	9	150
K/KMC-8135	5950	5050	2060	1030	16620	18770	2920	1890	20820	6320	3300	8000	2100	200	9	150
K/KMC-10135	5950	5050	2060	1030	20620	22770	2920	1890	24820	6320	3300	10000	2100	200	9	150
K/KMC-4140	6480	5050	2060	1030	8620	10770	3420	1890	12820	6820	3300	4000	2600	200	12	100
K/KMC-5140	6480	5050	2060	1030	10620	12770	3420	1890	14820	6820	3300	5000	2600	200	12	100
K/KMC-6140	6480	5050	2060	1030	12620	14770	3420	1890	16820	6820	3300	6000	2600	200	12	100
K/KMC-8140	6480	5050	2060	1030	16620	18770	3420	1890	20820	6820	3300	8000	2600	200	12	100
K/KMC-10140	6480	5050	2060	1030	20620	22770	3420	1890	24820	6820	3300	10000	2600	200	12	100
K/KMC-4142	6750	5050	2090	1030	8620	12250	3960	1790	13350	6490	3300	4000	3200/3500	200/150	15/17	200
K/KMC-5142	6750	5050	2090	1030	10620	14250	3960	1790	15350	6490	3300	5000	3200/3500	200/150	15/17	200
K/KMC-6142	6750	5050	2090	1030	12620	16250	3960	1790	17350	6490	3300	6000	3200/3500	200/150	15/17	200
K/KMC-8142	6750	5050	2090	1030	16620	20250	3960	1790	19350	6490	3300	8000	3200/3500	200/150	15/17	200
K/KMC-10142	6750	5050	2090	1030	20620	24250	3960	1790	21350	6490	3300	10000	3200/3500	200/150	15/17	200

DOUBLE COLUMN MACHINING CENTER

K/KMC SERIES

KAFO Automatic Universal Head

Item / Spec	KAFO Automatic Universal Head
Indexing	C/A Axis Curve Coupling (5° X 72 indexing)
Rotating	Auto
Spindle HP	25 kW
Transfer Torque (Max.)	750 Nm
Spindle Taper	BT50
Spindle Speed	3500 rpm
Put-in Force	1300-1500 kg
Lubrication	Oil-Mist
L x W x H	740 x 566 x 806
Total Weight	686 KG

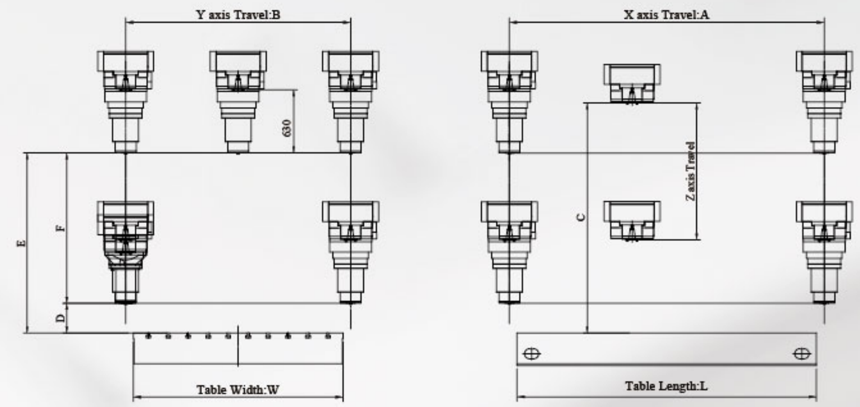


unit : mm

Z axis travel	Height of column	A	B	C	D	E	F	G	H	I	J
1100	1910	X axis travel	Y axis travel	1300	X axis travel-418	Y axis travel-418	478	887	200	678	409
1300	2110	X axis travel	Y axis travel	1500	X axis travel-418	Y axis travel-418	678	1087	200	878	409

Speed-up Type Extension Head

Item / Spec	Speed-up Type Extension Head
Indexing	Curve Coupling
Lock Way	Hydraulic Auto Lock
Spindle HP	18.5kW
Transfer Torque (Max.)	Low 29Nm/ 10min High60Nm/ 1.5min
Spindle Taper	BT-50
Spindle Speed (Max.)	STD10000rpm/ OP12000rpm
Clamping Force	1350~1650kg
Lubrication	Oil-mist
L x W x H (mm)	475x475x818mm
Total Weight	460kg

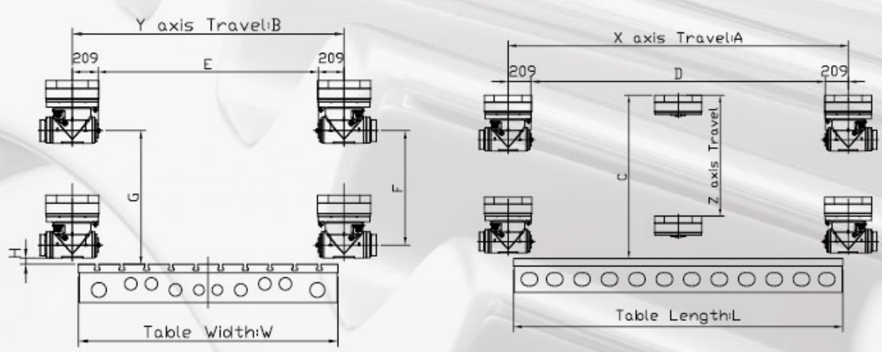


unit : mm

Z axis travel	Height of column	A	B	C	D	E	F
1100	1910	X axis trave	Y axis travel	1300	200	670	470
1300	2110	X axis trave	Y axis travel	1500	200	870	670

KAFO Automatic 90° Angle Head

Item / Spec	KAFO Automatic 90° Angle Head
Indexing	Curve Coupling (5° X 72 indexing)
Rotating	Auto
Spindle HP	25 kW
Transfer Torque (Max.)	750 Nm
Spindle Taper	BT50
Spindle Speed	4500 rpm
Put-in Force	1300-1500 kg
Lubrication	Oil-Mist
L x W x H	485 x 430 x 506
Total Weight	350 KG

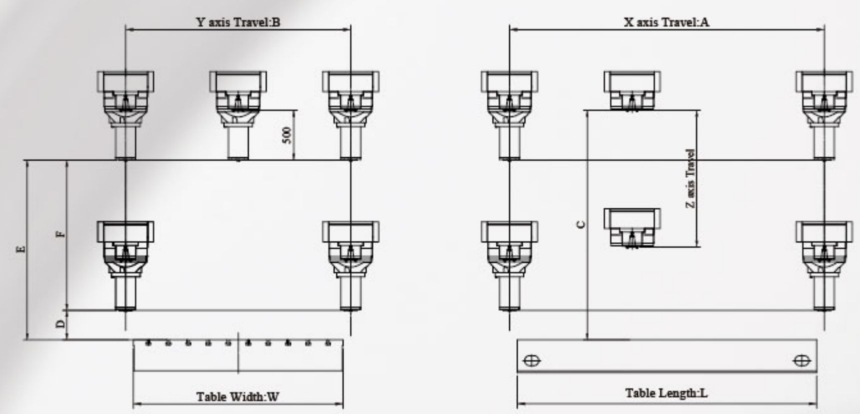


unit : mm

Z axis travel	Height of column	A	B	C	D	E	F	G	H
1100	1910	X axis travel	Y axis travel	1300	X axis travel-418	Y axis travel-418	927	1080	50
1300	2110	X axis travel	Y axis travel	1500	X axis travel-418	Y axis travel-418	1127	1280	50

Extension Head

Item / Spec	Extension Head
Indexing	Curve Coupling
Lock Way	Hydraulic Auto Lock
Spindle HP	25kW
Transfer Torque(Max.)	728Nm
Spindle Taper	BT-50
Spindle Speed(Max.)	3000rpm
Clamping Force	1800~2100kg
Lubrication	Grease Lubrication
L x W x H (mm)	430x430x686mm
Total Weight	320kg



unit : mm

Z axis travel	Height of column	A	B	C	D	E	F
1100	1910	X axis trave	Y axis travel	1300	200	800	600
1300	2110	X axis trave	Y axis travel	1500	200	1000	800

DOUBLE COLUMN MACHINING CENTER

RV SERIES

KAFO RV SERIES SPECIFICATION

/ Model		RV-3135	RV-4135	RV-5135	RV-6135	RV-8135	RV-10135
/ Travel							
X-axis	mm	3100	4100	5100	6100	8100	10100
Y-axis	mm	3500					
Z-axis	mm	1100					
Distance from spindle nose to table surface	mm	200~1300					
Distance between two columns	mm	2700					
/ Table							
Table Dimension(X)	mm	3000	4000	5000	6000	8000	10000
Table Dimension(Y)	mm	2100					
T-slots (Size x Number x Pitch)	mm	28x10x200					
Max. Loading Capacity	kg	14000	17000	20000	23000	26000	29000
/ Spindle							
Spindle Motor Output (Continuous/30mins)	kW	22/26 (Optional 30/37)					
Spindle Speed (Gear)	rpm	6000					
Spindle Speed (Gear)(Optional)	rpm	4000					
Spindle Taper		#50					
Spindle bearing bore diameter	Ømm	100					
/ Feed							
Rapid travel rate (X/Y/Z)	m/min	20 / 20 / 15	15 / 20 / 15	15 / 20 / 15	12 / 20 / 15	10 / 20 / 15	8 / 20 / 15
Cutting Feed Rate	mm/min	10000					
Feed Motor	kW	7.0/4.0/4.0	6.0/4.0/4.0				
/ Accuracy							
Positioning Accuracy (JIS 6338)	mm	±0.015 Full Travel					
Positioning Accuracy (VDI 3441)	mm	P0.025	P0.03	P0.04	P0.05	P0.06	P0.07
Repeatability Accuracy (JIS 6338)	mm	±0.003					
Repeatability Accuracy (VDI 3441)	mm	Ps=0.02	Ps=0.025	Ps=0.030	Ps=0.035	Ps=0.045	Ps=0.055
/ ATC System							
Tool Magazine Capacity		40/60/90/120					
Tool Diameter (with adjacent tools)	Ømm	Ø125					
Max. Tool Diameter (without adjacent tools)	Ømm	Ø215					
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 axis		Roller linear guideway / Roller linear guideway / Box Way					
Power Supply	kVA	45					
Net Weight (RV)	kg	38000	43000	48000	53000	63000	73000
Gross Weight (RV)	kg	43500	48500	53500	58500	68500	78500
Length X Width X Height	mm	8650x6960 x5240	10650x6960 x5240	12670x6960 x5240	14670x6960 x5240	18670x6960 x5240	22670x6960 x5240

KAFO reserves the right to change or modify the specification.

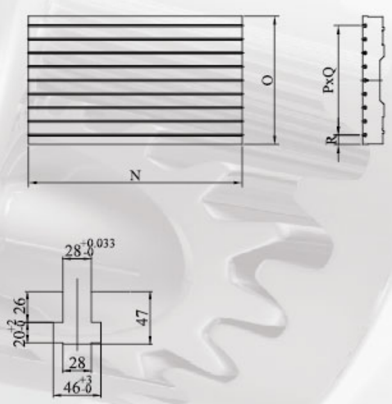
/ Model		RV-4140	RV-5140	RV-6140	RV-8140	RV-10140
/ Travel						
X-axis	mm	4100	5100	6100	8100	10100
Y-axis	mm	4000				
Z-axis	mm	1100				
Distance from spindle nose to table surface	mm	200~1300				
Distance between two columns	mm	3200				
/ Table						
Table Dimension(X)	mm	4000	5000	6000	8000	10000
Table Dimension(Y)	mm	2600				
T-slots (Size x Number x Pitch)	mm	28x13x200				
Max. Loading Capacity	kg	18000	20000	23000	26000	29000
/ Spindle						
Spindle Motor Output (Continuous/30mins)	kW	22/26 (Optional 30/37)				
Spindle Speed (Gear)	rpm	6000				
Spindle Speed (Gear)(Optional)	rpm	4000				
Spindle Taper		#50				
Spindle bearing bore diameter	Ømm	100				
/ Feed						
Rapid travel rate (X/Y/Z)	m/min	15 / 20 / 15	15 / 20 / 15	12 / 20 / 15	10 / 20 / 15	8 / 20 / 15
Cutting Feed Rate	mm/min	10000				
Feed Motor	kW	6.0/4.0/4.0				
/ Accuracy						
Positioning Accuracy (JIS 6338)	mm	±0.015 Full Travel				
Positioning Accuracy (VDI 3441)	mm	P0.030	P0.040	P0.050	P0.060	P0.070
Repeatability Accuracy (JIS 6338)	mm	±0.003				
Repeatability Accuracy (VDI 3441)	mm	Ps=0.025	Ps=0.030	Ps=0.035	Ps=0.045	Ps=0.055
/ ATC System						
Tool Magazine Capacity		40/60/90/120				
Tool Diameter (with adjacent tools)	Ømm	Ø125				
Max. Tool Diameter (without adjacent tools)	Ømm	Ø215				
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 axis		Roller linear guideway / Roller linear guideway / Box Way				
Power Supply	kVA	45				
Net Weight (RV)	kg	46000	52000	58000	70000	82000
Gross Weight (RV)	kg	52000	58500	64500	76500	88500
Length X Width X Height	mm	10650x7460 x5240	12670x7460 x5240	14670x7460 x5240	18670x7460 x5240	22670x7460 x5240

KAFO reserves the right to change or modify the specification.

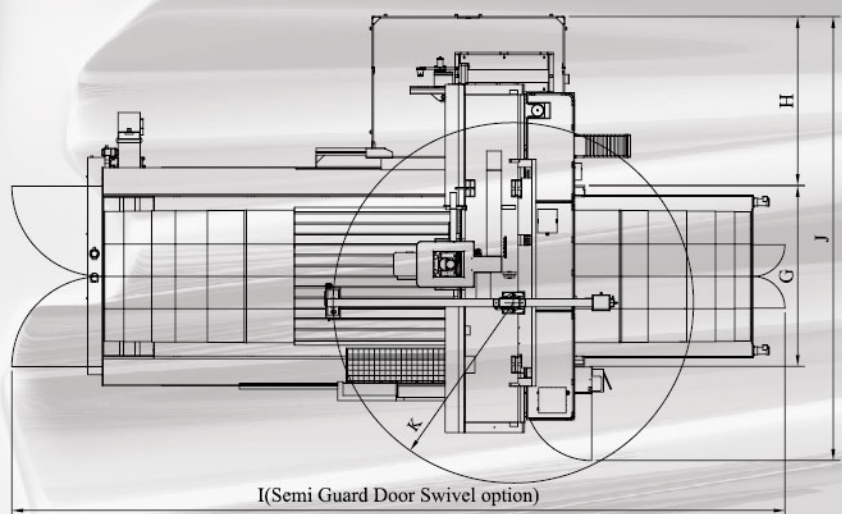
MOVING CROSS RAIL DOUBLE COLUMN MACHINING CENTER

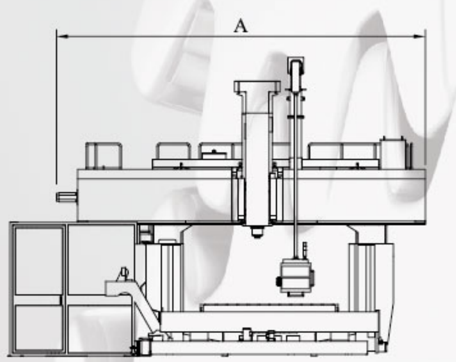
K/KMC/RV SERIES

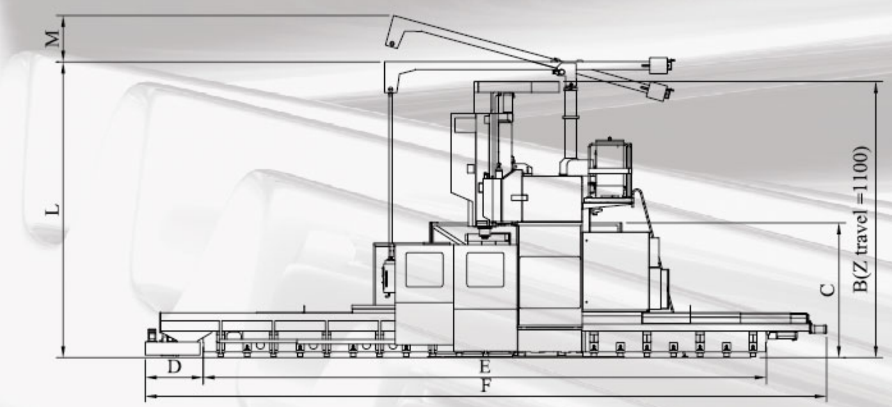
MACHINE LAYOUT



RV-XX35/40







unit : mm

Model/Item	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
RV-3135	5950	5050	2060	1030	6620	8650	2920	2800	10820	7450	4000	5240	900	3000	2100	200	9	150
RV-4135	5950	5050	2060	1030	8620	10650	2920	2800	12820	7450	4000	5240	900	4000	2100	200	9	150
RV-5135	5950	5050	2060	1030	10620	12670	2920	2800	14820	7450	4000	5240	900	5000	2100	200	9	150
RV-6135	5950	5050	2060	1030	12620	14670	2920	2800	16820	7450	4000	5240	900	6000	2100	200	9	150
RV-8135	5950	5050	2060	1030	16620	18670	2920	2800	20820	7450	4000	5240	900	8000	2100	200	9	150
RV-10135	5950	5050	2060	1030	20620	22670	2920	2800	24820	7450	4000	5240	900	10000	2100	200	9	150
RV-4140	6480	5050	2060	1030	8620	10650	3420	2800	12820	7950	4000	5240	900	4000	2600	200	12	100
RV-5140	6480	5050	2060	1030	10620	12670	3420	2800	14820	7950	4000	5240	900	5000	2600	200	12	100
RV-6140	6480	5050	2060	1030	12620	14670	3420	2800	16820	7950	4000	5240	900	6000	2600	200	12	100
RV-8140	6480	5050	2060	1030	16620	18670	3420	2800	20820	7950	4000	5240	900	8000	2600	200	12	100
RV-10140	6480	5050	2060	1030	20620	22670	3420	2800	24820	7950	400	5240	900	10000	2600	200	12	100

STANDARD & OPTIONAL LIST

● : Standard ○ : Optional ☆ : Counsulting Required × : Inadaptable

Specification/Model	K/KMC-2622~6122 (DBC1700MM)	K/KMC-2627~10127 (DBC2300MM)	K/KMC-3135~10135 (DBC2700MM)	K/KMC-4140~10140 (DBC3200MM)	K/KMC-4142~10142 (DBC3750MM)	RV-3135~10135 (DBC2700MM)	RV-4140~10140 (DBC3200MM)
BT-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)	○	○	○	○	○	○	○
Z-axis riser 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	○	○	○	○	○	●	●
ATC90 tools magazine	×	×	×	×	×	○	○
ATC120 tools magazine	×	×	×	×	×	○	○
Rigid tapping function	●	●	●	●	●	●	●
Foot pedal for manual tool release	●	●	●	●	●	●	●
Movable MPG handwheel	●	●	●	●	●	●	●
Working light	●	●	●	●	●	●	●
Tri-color status light	●	●	●	●	●	●	●
RS232 interface	●	●	●	●	●	●	●
Spray gun for cleaning	●	●	●	●	●	●	●
Leveling bolts and pads	●	●	●	●	●	●	●
Manual and operate books	●	●	●	●	●	●	●
Linear scales (X/Y/Z axes)	○	○	○	○	○	○	○
Coolant through tool and tool holder	○	○	○	○	○	○	○
Coolant through spindle (20 bar)	○	○	○	○	○	○	○
90° angle milling head (auto change/indexing)	○	○	○	○	○	○	○
Universal milling head (manual change/indexing)	○	○	○	○	○	○	○
30° angle milling head (auto change/indexing)	○	○	○	○	○	○	○
Extension milling head	○	○	○	○	○	○	○
Head storing swivel shelf	○	○	○	○	○	○	○
Arm type operating control box	○	○	○	○	○	●	●
Foot rest	○	○	○	○	○	○	○
Automatic tool lengh measurement	○	○	○	○	○	○	○
Automatic workpiece measurement	○	○	○	○	○	○	○
FANUC 0i-MF controller with 8.4"LCD panel	●	●	●	●	●	●	●
FANUC 31i controller with 10.4"LCD panel	○	○	○	○	○	○	○
FANUC 32i controller with 10.4"LCD panel	○	○	○	○	○	○	○
CNC rotary table	○	○	○	○	○	○	○

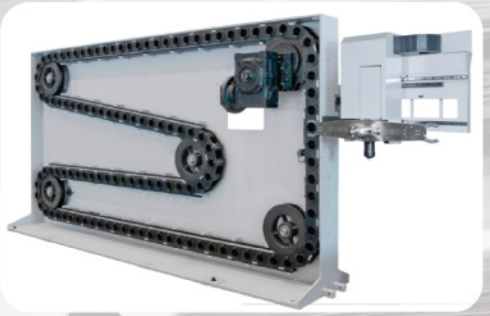
KAO FONG

KRV-8237 Characteristic

- Three axes travel (X:8200, Y:3700, Z:900mm) is bigger than other manufacturer.
- Three axes rapid speed with cooling system through ballscrew (X:10,Y20,Z:20m/min) :FASTEST
- W axis travel standard : 1000mm, option : 1700mm
- Horizontal Spindle Speed 3500rpm : 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

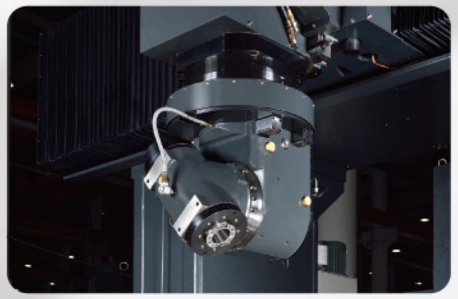
KRV-8237

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).

A Automatic attached head change



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.

Enclosed Type Auto Sliding Door (Exclusive)

Gear Rack Driving Head Storage

Head Part

Arm Type Magazine Structure

Ball Screw

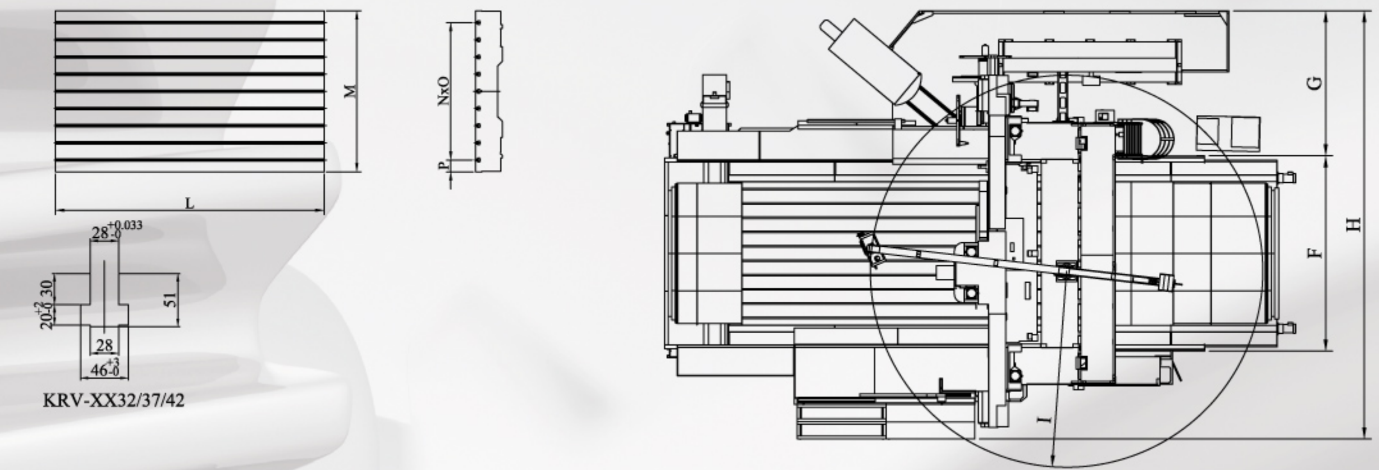
KAO FONG

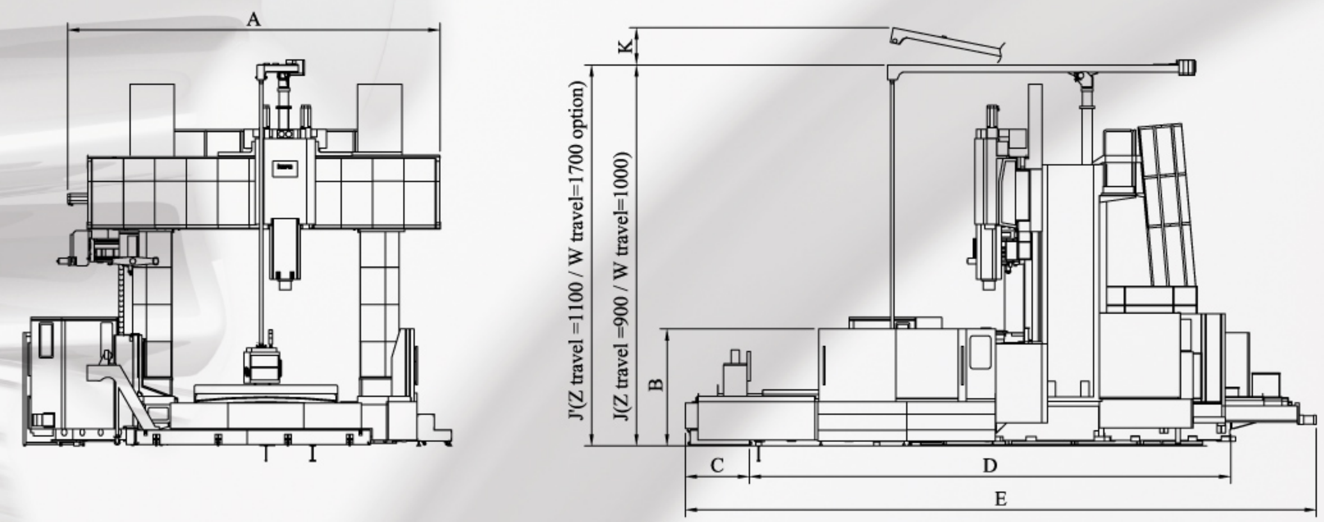
KRV SERIES

/ Model		KRV4232/5232/6232 /8232/10232	KRV4237/5237/6237 /8237/10237	KRV4242/5242/6242 /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	-150~1750/-150~2650		
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	28x8x250	28x10x250	28x12x250
Max.Loading capacity	tons	25 / 30 / 30 / 30 / 30	25 / 30 / 30 / 30 / 30	25 / 30 / 30 / 30 / 30
/ Spindle				
Spindle motor (continuous/30mins)	kW	37/45		
Spindle Speed (Built-in grease) Stabdard	rpm	6000		
Spindle Speed (Built-in Oil-Air) Option	rpm	8000		
Spindle taper		#50		
Spindle bearing bore diameter	Ømm	100		
/ Feed				
Rapid Travel rate X	m/min	20/20/20/10/10	20/20/20/10/10	20/20/20/10/10
Rapid Travel rate Y	m/min	20	20	20
Rapid Travel rate Z	m/min	20	20	20
Rapid Travel rate W	m/min	2.4	2.4	2.4
Cutting feed rate (X/Y/Z)	mm/min	10000		
Cutting feed rate (W)	mm/min	3000		
Feed motor	kW	X(6)/Y(7)/W(7x2)/Z(6x2)	X(6)/Y(7)/W(7x2)/Z(6x2)	X(6)/Y(7)/W(7x2)/Z(6x2)
/ Accuracy				
Positioning Accuracy (JIS 6338)	mm	±0.015 Full Travel		
Positioning Accuracy (VDI 3441)	mm	P0.03/P0.04/P0.05/P0.07/P0.09	P0.03/P0.04/P0.05/P0.07/P0.09	P0.03/P0.04/P0.05/P0.07/P0.09
Repeatability Accuracy (JIS 6338)	mm	±0.003		
Repeatability Accuracy (VDI 3441)	mm	P0.025/P0.03/P0.035/P0.055/P0.07	P0.025/P0.03/P0.035/P0.055/P0.07	P0.025/P0.03/P0.035/P0.055/P0.07
/ ATC System				
Tool Magazine Capacity		40 / 60 / 90 / 120		
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/W axis		Roller linear gudideway / Roller linear guideway / Roller linear guideway / Roller linear guideway		
Power Supply	kVA	65		
Machine net weight	tons	49/53/57/67/77	56/62/68/80/92	64/71/78/93/108
Floor space requirement (WxH)	mm	6980x5850	7480x5850	7980x5850
Floor space requirement (L)	mm	13015/15015/17015 /19015/21015	13015/15015/17015 /19015/21015	13015/15015/17015 /19015/21015

KAFO reserves the right to change or modify the specification.

MACHINE LAYOUT & SPACE REQUEST





unit : mm

Model/Item	A	B	C	D	E	F	G	H	I	J	J'	K	L	M	N	O	P
KRV-4232	6000	2050	1160	10330	13015	2910	2535	6980	3425	5850	6750	560	4000	2000	250	7	125
KRV-5232	6000	2050	1160	12330	15015	2910	2535	6980	3425	5850	6750	560	5000	2000	250	7	125
KRV-6232	6000	2050	1160	14330	17015	2910	2535	6980	3425	5850	6750	560	6000	2000	250	7	125
KRV-8232	6000	2050	1160	16330	19015	2910	2535	6980	3425	5850	6750	560	8000	2000	250	7	125
KRV-10232	6000	2050	1160	18330	21015	2910	2535	6980	3425	5850	6750	560	10000	2000	250	7	125
KRV-4237	6500	2050	1160	10330	13015	3410	2535	7480	3425	5850	6750	560	4000	2500	250	9	125
KRV-5237	6500	2050	1160	12330	15015	3410	2535	7480	3425	5850	6750	560	5000	2500	250	9	125
KRV-6237	6500	2050	1160	14330	17015	3410	2535	7480	3425	5850	6750	560	6000	2500	250	9	125
KRV-8237	6500	2050	1160	16330	19015	3410	2535	7480	3425	5850	6750	560	8000	2500	250	9	125
KRV-10237	6500	2050	1160	18330	21015	3410	2535	7480	3425	5850	6750	560	10000	2500	250	9	125
KRV-4242	7000	2050	1160	10330	13015	3910	2535	7980	3425	5850	6750	560	4000	3000	250	11	125
KRV-5242	7000	2050	1160	12330	15015	3910	2535	7980	3425	5850	6750	560	5000	3000	250	11	125
KRV-6242	7000	2050	1160	14330	17015	3910	2535	7980	3425	5850	6750	560	6000	3000	250	11	125
KRV-8242	7000	2050	1160	16330	19015	3910	2535	7980	3425	5850	6750	560	8000	3000	250	11	125
KRV-10242	7000	2050	1160	18330	21015	3910	2535	7980	3425	5850	6750	560	10000	3000	250	11	125

KAO FONG

RV5A SERIES

RV5A FIXED DOUBLE-COLUMN SERIES

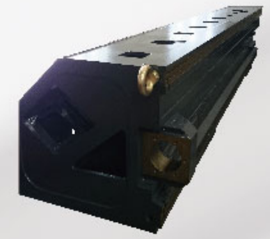
- The whole series with A/C axis specially for the workpiece designed with complex structure can reach high efficiency with 5-AXIS simultaneous machining.
- Symmetry design in whole machine to let cutting loading & thermal equilibrium balanced .
- RV5A adapts three axes with ballscrew cooling system can reduce the ballscrew thermal displacement, and raise the positioning accuracy and pepeatability accuracy in each axis.Adapting Heidenhain linear scales and close loop control can enhace the accuracy efficiently.
- Z axis with dual-ballscrew design . The spindle and ballscrews mounted parallelly with 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.

High Precision
(Positioning Accuracy ±5sec)
Kessler 2-axis Head

Specification of this machine:

1. Travel of X/Y/Z(X:3100,Y:3500,Z:1300)
Specially for machining the structure of Aerospace industry.

2. Rapid of X/Y/Z(20 m/min,acceleration:0.15G)
High dynamic performance



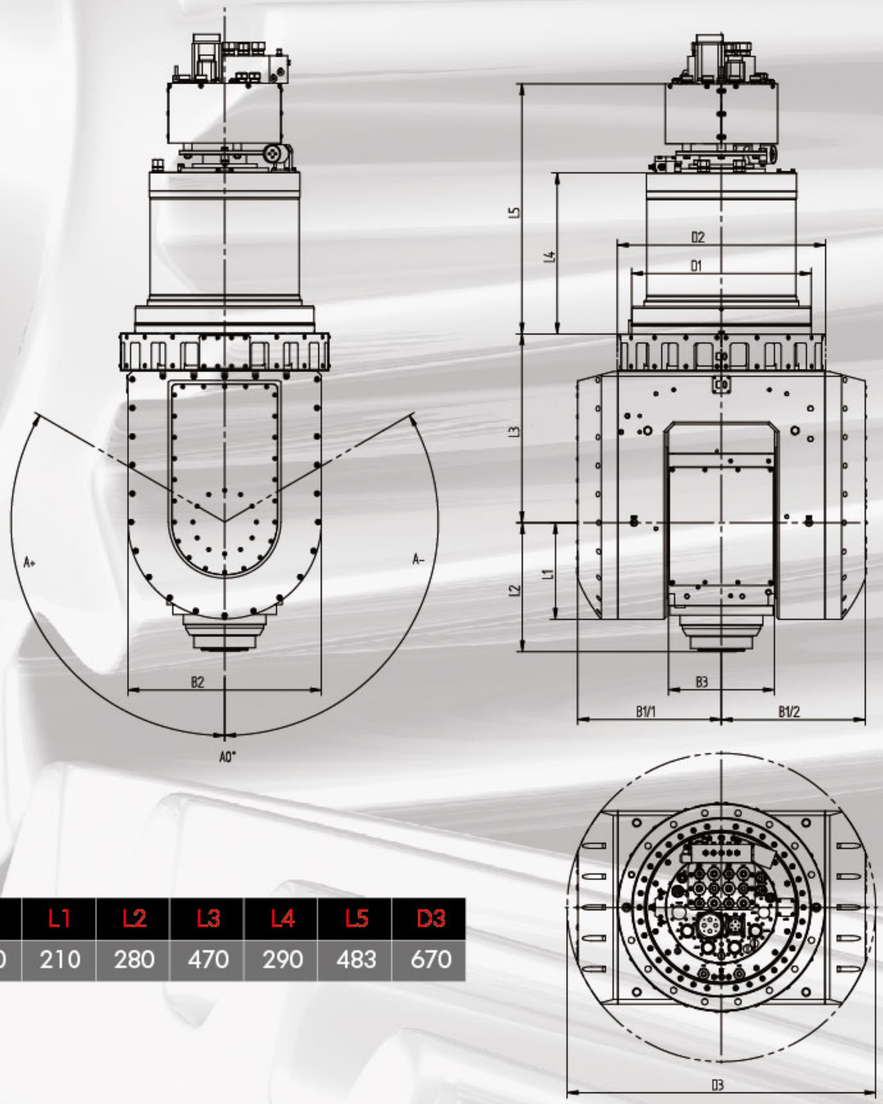
Casting with topology design has the feature of light material but high rigidity

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

KAO FONG

RV5A SERIES

KESSLER SPEFICIATION & DIMENSION



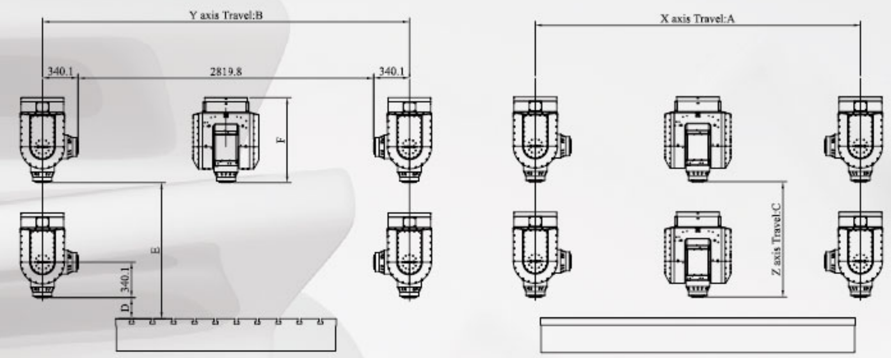
unit : mm

D1	D2	B1/1	B1/2	B2	B3	L1	L2	L3	L4	L5	D3
335	406	312	312	420	240	210	280	470	290	483	670

Dual Axes Head (A/C)			
Specification		SMALL 2AK	
		A Axis SWE 036-648.835	C Axis SWE 029-648.836
Rated Torque	(Nm)	382	810
Max. Torque	(Nm)	575	1100
Clamping Torque (P MAX)	(Nm)	2160	1680
Clamping Torque (P O)	(Nm)	1200	930
Clamping System		Pneumatic	Pneumatic
Swivelling Angle	(°)	±105	±200
Positioning Accuracy	(″)	±5	±3

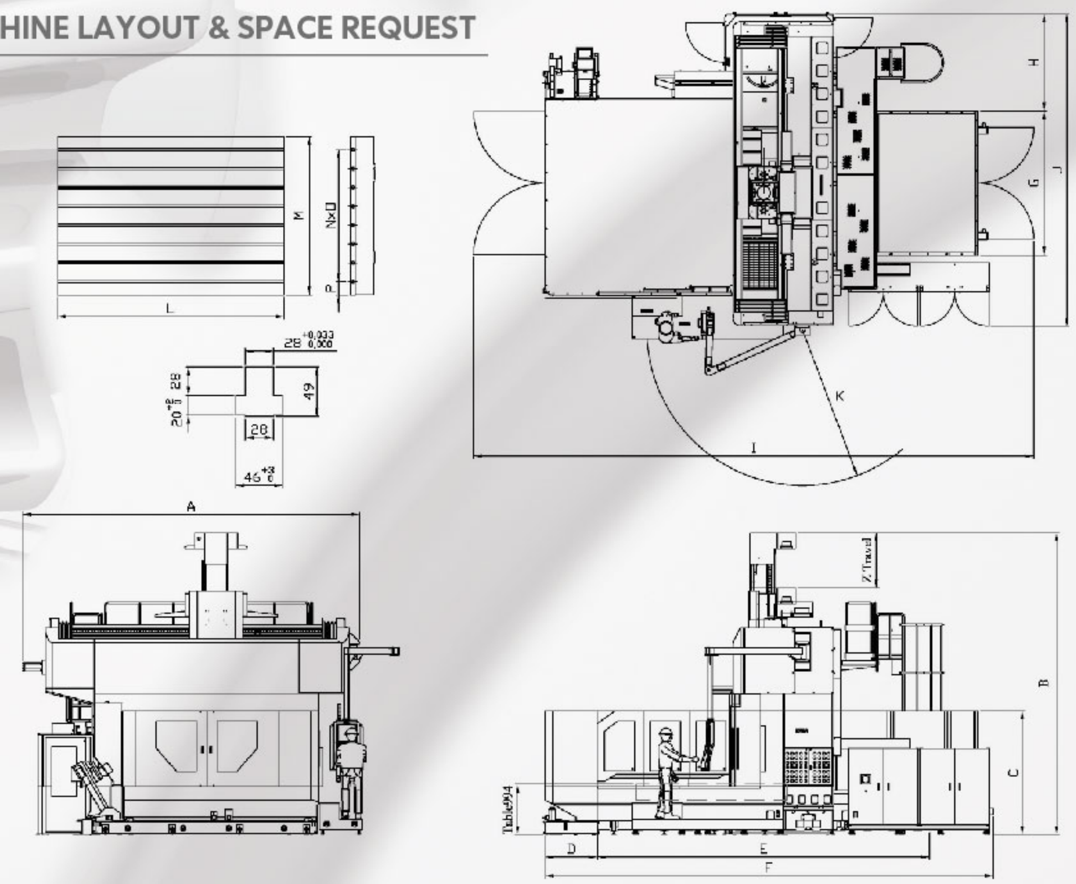
KAFO reserves the right to change or modify the specification.

RV5A-3135 Z=1100 Kessler HSK 100A 2-AXIS SPINDLE HEAD MACHINING RANGE



Height of column	A	B	C	D	E	F
mm	mm	mm	mm	mm	mm	mm
2534	3100	3500	1100	200	1300	810.1

MACHINE LAYOUT & SPACE REQUEST



unit : mm

Model/Item	Z travel	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
RV5A -3135	1100	6700	6000	2460	1030	6600	8900	2870	1930	11200	6200	3100	3000	2100	250	7	175
RV5A -4135		6700	6000	2460	1030	8600	10900	2870	1930	13200	6200	3100	4000	2100	250	7	175
RV5A -5135		6700	6000	2460	1030	10600	12900	2870	1930	15200	6200	3100	5000	2100	250	7	175
RV5A -6135		6700	6000	2460	1030	12600	14900	2870	1930	19200	6200	3100	6000	2100	250	7	175
RV5A -3135	1300	6500	6870	2460	1030	6600	8760	2920	2140	10500	7000	2250	3000	2100	250	7	175
RV5A -4135		6500	6870	2460	1030	8600	8760	2920	2140	12500	7000	2250	4000	2100	250	7	175
RV5A -5135		6500	6870	2460	1030	10600	8760	2920	2140	14500	7000	2250	5000	2100	250	7	175
RV5A -6135		6500	6870	2460	1030	14600	8760	2920	2140	18500	7000	2250	6000	2100	250	7	175

KAFO RV5A SERIES SPECIFICATION

Model		RV5A-3135	RV5A-4135	RV5A-5135	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 dmension (Y)	mm	2100			
T-slot (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)/(45/45-HSK-A100)/(37/46-HSK-A63)			
Spindle torque(S1/S6)	Nm	(119/143-HSK-A100)/(120/145-HSK-A100)/(60/73-HSK-A63)			
Spindle taper		HSK-A100/HSK-A63			
Spindle bearing bore diameter	mm	Ø100/Ø70			
Spindle speed	rpm	12000/15000/24000			
Feed					
Rapid travel rate (X/Y/Z)	m/min	20/20/20	15/20/20	15/20/20	10/20/20
Cutting feed rate	mm/min	10000			
Feed motor	Kw	Siemens:35.6/35.6/(5.24,5.24) Heidenhain:14/14/(11,11)			
Accuracy					
Positioning accuracy (JIS 6338)	mm	±0.015 Full travel			
Positioning accuracy (VDI 3441)	mm	P0.025	P0.03	P0.04	P0.05
Repeatability accuracy (JIS 6338)	mm	±0.003			
Repeatability accuracy (VDI 3441)	mm	Ps=0.02	Ps=0.025	Ps=0.030	Ps=0.035
Atc System					
Tool magazine capacity		24/30/40/60			
Tool diameter (with adjacent tools)	Ømm	75/127			
Max. tool diameter (without adjacent tools)	Ømm	150/229			
Max. tool length	mm	300/450			
Max. tool weight	kg	7 / 20			
Tool shank type		HSK-A63 / HSK-A100			
Others					
Guideway of X/Y/Z axis		Roller linear way/Roller linear way/Roller linear way			
Power supply	kVA	300			
Net Weight	kg	39000	44000	49000	54000
Gross Weight	kg	44500	49500	54500	59500
Floor space (L x W x H)	mm	9000x6960x6000	11000x6960x6000	13000x6960x6000	15000x6960x6000
Controller		Siemens 840D(HEIDENHAIN iTNC640)			

KAFO reserves the right to change or modify the specification.

STANDARD & OPTION LIST

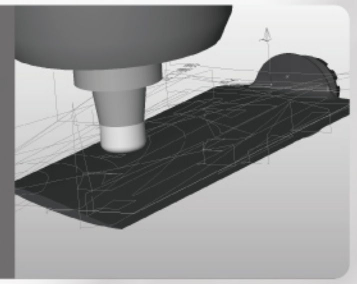
● : Standard ○ : Optional ☆ : Counsulting Required ✕ : Inadaptable

Specification/Model	RV5A-3135	RV5A-4135	RV5A-5135	RV5A-6135
Kessler Small 2AK 2-axis rotary system	●	●	●	●
Centralized lubrication system	●	●	●	●
Full 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	●	●	●	●
Work light	●	●	●	●
Tri-color status light	●	●	●	●
Spray gun for cleaning	●	●	●	●
Leveling bolts and pads	●	●	●	●
Manual and operate books	●	●	●	●
Full enlosure (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

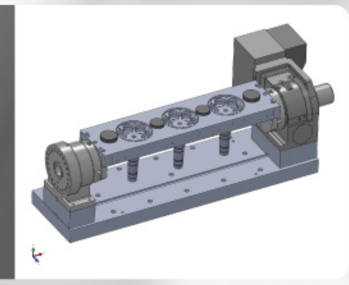


TOOLING

We offer the best tools which suit your machining demands

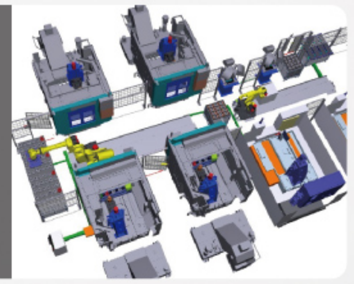
FIXTURE PLANNING

We assist customer to plan fixture to suit your workpiece



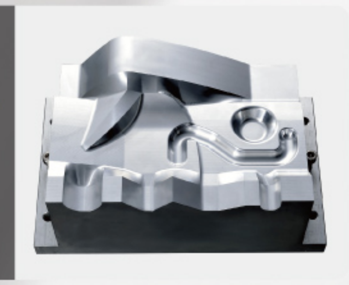
AUTOMATIC PRODUCTION LINE

We propose customer for automation system



TESTING WORKPIECE

Benz Mold sample



TESTING WORKPIECE

Cover Mold sample

KAO FONG MACHINERY CO., LTD.

KAO FONG

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.
- Mproving the processing efficiency through the work analysis, construction method and applica-tion test.

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

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

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- Office : Taipei City, Taiwan TEL : +886-2-22989800
- Office : Tainan City, Taiwan TEL : +886-6-2478061
- Agent : Taipei, Taoyuan, Tainan, Kaohsiung
- Mainland China
- Worldwide

Global Marketing Information

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I-operation

- Kao Fong Customized Calculator Software Features
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- Calculating Function
- Center of Rectangle Function
- Center of Circle Function
- Tool length Measurement and Setting
- Intelligent ATC System Management

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