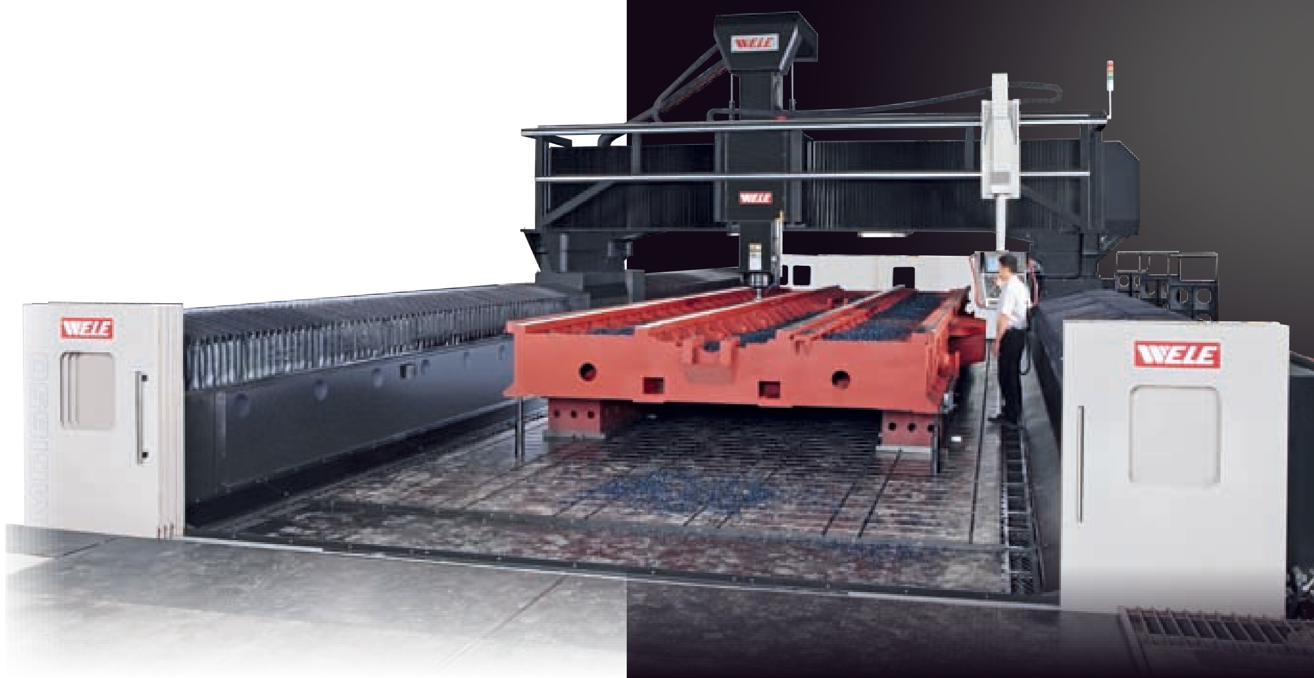
WELE

We lead the way by a new business model

ISO 9001 ISO 14000 2013 TAMI Supreme Excellence Award

MC SERIES

Universal moving Gantry Multi-purpose Machining Center



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WELE MECHATRONIC CO., LTD

WELE Offer the excellent quality, create the brand value

- Our core value is to satisfy the customer's demand, Create mutual benefit for the customer and ourself.
- WELE was derived from an excellent blood relationship of MIRL of Industrial Technology Research Institute.
- Professional Technique, Excellent Workmanship & Skill, Sincerity Service, Quality Assurance.
- WELE = Familiar Faces + Professional Technique + Service
- A JTEKT group (TOYODA Koki) Strategic Alliance Company

Z axis Travel

1,000mm (STD)；; 1,200mm, 1,400mm (OPT)。

Spindle Design

Geared 6,000 rpm [STD],
Geared 4,000 rpm [OPT],
Built-in 8,000 rpm [OPT]

Feedrate

Rapid traverse (G00) in X/Y/Z axes:
10/18/12 m/min (MG-xx30 Series)

Auto Head Storage

Automatic Multi-head storage design [OPT]

Positioning Accuracy

Use twin servo motor and twin precise linear scale to synchronize driving on X axis.

Foundation Design

Widen foundation design has enhanced rigidity and provide stable foundation while in heavy cutting or high accuracy machining.

Table

Standard bed module design concept, provide sufficiently loading capacity: 2500 kg/m^2

Chip Conveyor

The machine equipped with twin screw chip auger along the X axis within full travel, which convenience for chip removal.

Linear guide way

All axes guideways equipped with ultra-heavy precision roller linear guide ways; Besides, when X axis travel is more than 6 meter, feed system will be using rack & pinion driving system.

Column Design

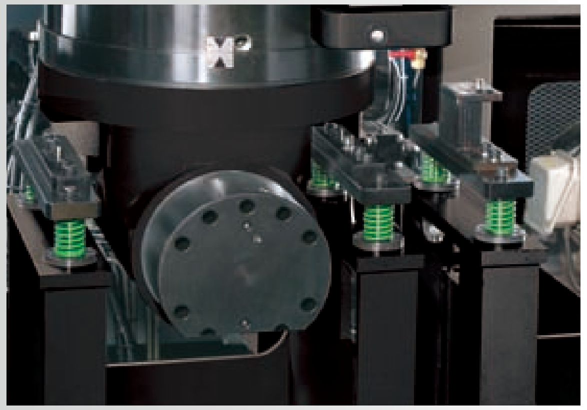
A well simulated column design can prevent the cutting force created the bending moment.

Variously operator panel

Providing swing type operator panel (moving in horizontal direction), or hanging type operator panel (moving in four direction); Movable handwheel is designed by ergonomic, convenience for user operation in working full envelope.

Specialize Optional accessories, Enhance machine efficiency

- MG series spindle head can be equipped with new generation design for automatic 5˚ index mechanism & multi-head which is optional available to provide multi-faces machining and value added for customer.



- To satisfy the customer's requirement, provide the automatic multi-head exchange function, and create excellent working efficiency.
- Every head storage position has positioning sensor to ensure that the multi-head is in the right position.

- The automatic tool length measurement system can be detecting the tool wear out condition while the machine in operation. All the measured tool data will be feedback to the controller automatically to compensate the offset value. It can be assure to finish the workpiece precisely, well accuracy.

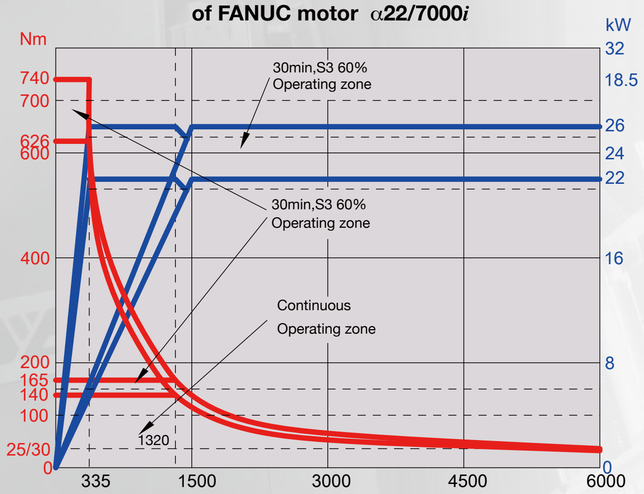
- Automatic head storage system with anti-dust design. The cover will prevent the chip and dust contamination. Increase the reliability of automatic head exchange system.
- Automatic head storage system, can be storing multi-head for 5 sets max.

- Above figure indicates the MG series with 32 tools tool magazine, head storage, spindle temperature control system and others.

- Equipped with 3 axes handwheel, easy to approach the workpiece and set up the tool position; Especially for large Die & Mold.. and so on.

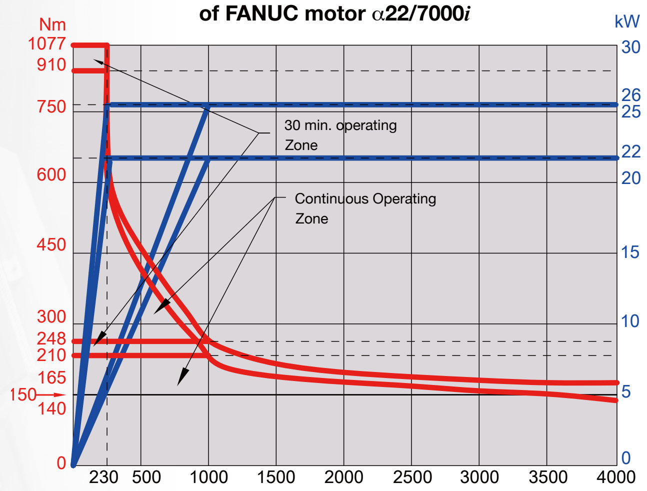
Variable Geared Spindle

Speed up to 6000 rpm with gear driven of FANUC motor α22/7000*i*



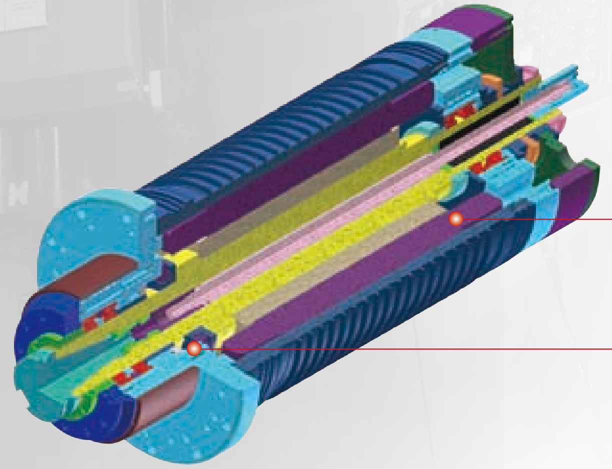
6000rpm (STD)

Speed up to 4000 rpm with gear driven of FANUC motor α22/7000*i*



4000rpm (OPT)

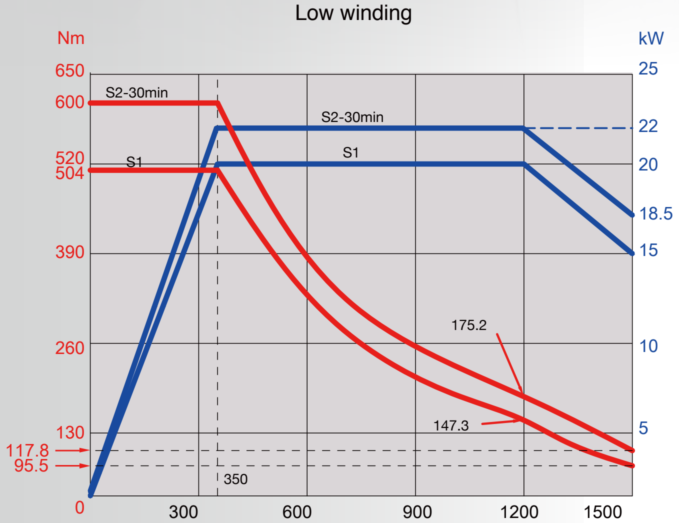
8000 RPM Built-in Spindle (OPT)



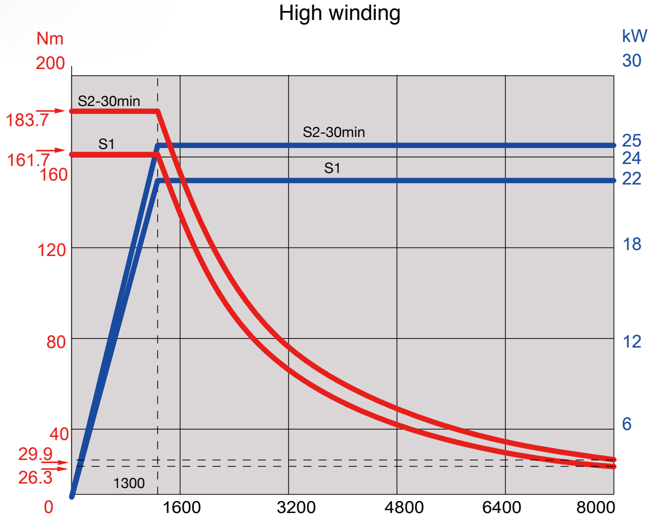
FANUC motor 180LL/8000iB

Use high end ceramic ball bearing.

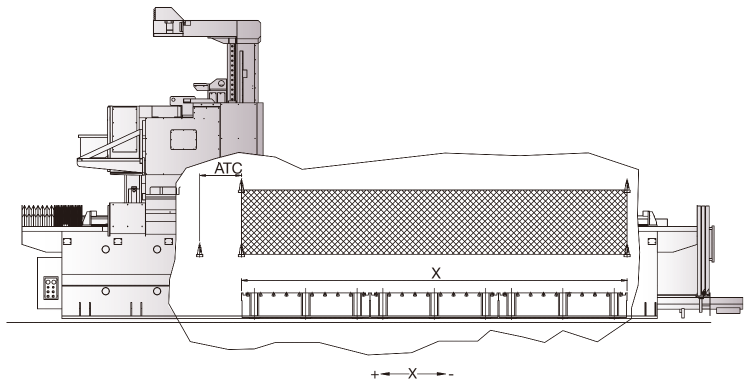
Low winding

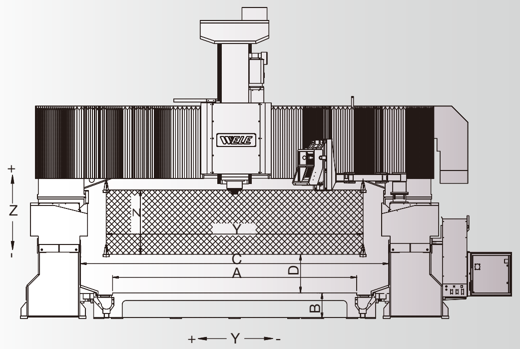


High winding



Inside of working Area Dimensions - Vertical

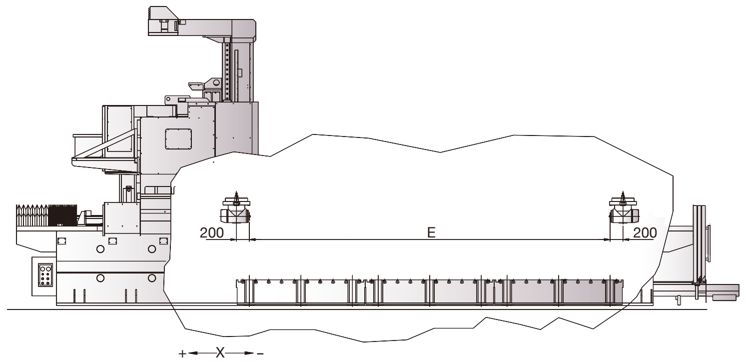


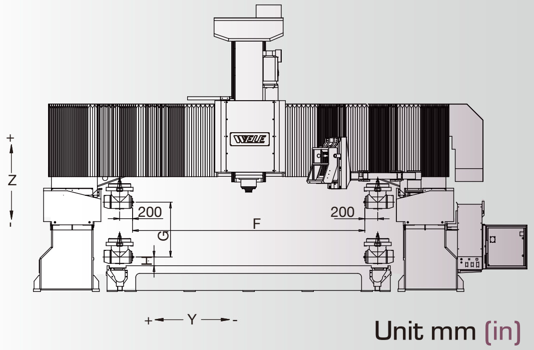


Unit mm (in)

Model \ Item	X	Y	Z	A	B	C	D	E	F	G	H	ATC
MG530	5000 (196.9)	3000 (118.1)	1000 (39.4)	2800 (110.2)	400 (15.7)	3800 (149.6)	200 (7.9)	4600 (181.1)	2600 (102.4)	850 (33.5)	135 (5.3)	650 (25.6)
MG630	6000 (236.2)	3000 (118.1)	1000 (39.4)	2800 (110.2)	400 (15.7)	3800 (149.6)	200 (7.9)	5600 (220.5)	2600 (102.4)	850 (33.5)	135 (5.3)	650 (25.6)
MG830	8000 (315)	3000 (118.1)	1000 (39.4)	2800 (110.2)	400 (15.7)	3800 (149.6)	200 (7.9)	7600 (299.2)	2600 (102.4)	850 (33.5)	135 (5.3)	650 (25.6)
MG1030	10000 (393.7)	3000 (118.1)	1000 (39.4)	2800 (110.2)	400 (15.7)	3800 (149.6)	200 (7.9)	9600 (378)	2600 (102.4)	850 (33.5)	135 (5.3)	650 (25.6)
MG640	6000 (236.2)	4000 (157.5)	1000 (39.4)	3800 (149.6)	400 (15.7)	4800 (189)	200 (7.9)	5600 (220.5)	3600 (141.7)	850 (33.5)	135 (5.3)	650 (25.6)
MG840	8000 (315)	4000 (157.5)	1000 (39.4)	3800 (149.6)	400 (15.7)	4800 (189)	200 (7.9)	7600 (299.2)	3600 (141.7)	850 (33.5)	135 (5.3)	650 (25.6)
MG1040	10000 (393.7)	4000 (157.5)	1000 (39.4)	3800 (149.6)	400 (15.7)	4800 (189)	200 (7.9)	9600 (378)	3600 (141.7)	850 (33.5)	135 (5.3)	650 (25.6)
MG650	6000 (236.2)	5000 (196.9)	1000 (39.4)	4800 (189)	400 (15.7)	5800 (228.3)	200 (7.9)	5600 (220.5)	4600 (181.1)	850 (33.5)	135 (5.3)	650 (25.6)
MG850	8000 (315)	5000 (196.9)	1000 (39.4)	4800 (189)	400 (15.7)	5800 (228.3)	200 (7.9)	7600 (299.2)	4600 (181.1)	850 (33.5)	135 (5.3)	650 (25.6)
MG1050	10000 (393.7)	5000 (196.9)	1000 (39.4)	4800 (189)	400 (15.7)	5800 (228.3)	200 (7.9)	9600 (378)	4600 (181.1)	850 (33.5)	135 (5.3)	650 (25.6)

Inside of working Area Dimensions - Horizontal





Unit mm (in)

Model \ Item	E	F	G	H
MG530	4600 (181.1)	2600 (102.4)	850 (33.5)	135 (5.3)
MG630	5600 (220.5)	2600 (102.4)	850 (33.5)	135 (5.3)
MG830	7600 (299.2)	2600 (102.4)	850 (33.5)	135 (5.3)
MG1030	9600 (378)	2600 (102.4)	850 (33.5)	135 (5.3)
MG640	5600 (220.5)	3600 (141.7)	850 (33.5)	135 (5.3)
MG840	7600 (299.2)	3600 (141.7)	850 (33.5)	135 (5.3)
MG1040	9600 (378)	3600 (141.7)	850 (33.5)	135 (5.3)
MG650	5600 (220.5)	4600 (181.1)	850 (33.5)	135 (5.3)
MG850	7600 (299.2)	4600 (181.1)	850 (33.5)	135 (5.3)
MG1050	9600 (378)	4600 (181.1)	850 (33.5)	135 (5.3)

Technical Specifications

Specification / Model	Unit	MG530	MG630	MG830	MG1030	MG640	MG840	MG1040	MG650	MG850	MG1050
Travel											
X travel (Left & right)	mm (in)	5000 (196.9)	6000 (236.2)	8000 (315)	10000 (393.7)	6000 (236.2)	8000 (315)	10000 (393.7)	6000 (236.2)	8000 (315)	10000 (393.7)
Y travel (in & out)	mm (in)	3000 (118.1)			3000 (118.1)	4000 (157.5)			5000 (196.9)		
Z travel (up & down)	mm (in)	1000 (39.4)			1000 (39.4)	1000 (39.4)			1000 (39.4)		
Distance from spindle nose to table top	mm (in)	200-1200 (7.9-47.2)			200-1200 (7.9-47.2)	200-1200 (7.9-47.2)			200-1200 (7.9-47.2)		
Distance between columns	mm (in)	3800 (149.6)			3800 (149.6)	4800 (189)			5800 (228.3)		
Table											
Table size (X direction)	mm (in)	5000 (196.9)	6000 (236.2)	8000 (315)	10000 (393.7)	6000 (236.2)	8000 (315)	10000 (393.7)	6000 (236.2)	8000 (315)	10000 (393.7)
Table size (Y direction)	mm (in)	2800 (110.2)			2800 (110.2)	3800 (149.6)			4800 (189)		
Table load capacity	kg(lb)/m²	2500 (5512)			2500 (5512)	2500 (5512)			2500 (5512)		
Table T slot size (W x distance)	mm (in)	28x200 (1.1x7.9)			28x200 (1.1x7.9)	28x200 (1.1x7.9)			28x200 (1.1x7.9)		
Spindle											
Spindle motor (cont./30 min. rating)	kW (HP)	22/26 (30/35)			22/26 (30/35)	22/26 (30/35)			22/26 (30/35)		
Spindle speed (Two steps geared)	rpm	10-6000			10-6000	10-6000			10-6000		
Spindle output torque (cont./30 min. rating)	Nm (ft-lb)	626/740 (461/545)			626/740 (461/545)	626/740 (461/545)			626/740 (461/545)		
Spindle taper		BT#50			BT#50	BT#50			BT#50		
Pull Stud		MAS 403P50T-1 (45˚)			MAS 403P50T-1 (45˚)	MAS 403P50T-1 (45˚)			MAS 403P50T-1 (45˚)		
Feedrate											
Rapid traverse rate X axis	mm (in)/min	10000 (393.7)			10000 (393.7)	10000 (393.7)			10000 (393.7)		
Rapid traverse rate Y, Z axes	mm (in)/min	18000 / 12000 (708.7 / 472.4)			18000 / 12000 (708.7 / 472.4)	15000 / 12000 (590.6 / 472.4)			12000 (472.4)		
Cutting feedrate (max)	mm (in)/min	1-10000 (0.04-393.7)			1-10000 (0.04-393.7)	1-10000 (0.04-393.7)			1-10000 (0.04-393.7)		
Tool magazine											
Tool magazine capacity	pockets	32			32	32			32		
Max. tool diameter / adjacent pocket empty	mm (in)	127/215 (5/8.5)			127/215 (5/8.5)	127/215 (5/8.5)			127/215 (5/8.5)		
Max. tool length (from guage line)	mm (in)	400 (15.7)			400 (15.7)	400 (15.7)			400 (15.7)		
Max. tool weight	kg (lb)	20 (44)			20 (44)	20 (44)			20 (44)		
Accuracy											
Positioning accuracy (JIS 6338)	mm (in)	±0.025 (0.001)/Full travel			±0.025 (0.001) /Full travel	±0.025 (0.001)/Full travel			±0.025 (0.001)/Full travel		
Positioning accuracy (VDI 3441)	mm (in)	P≦0.030 (0.0012)	P≦0.035 (0.0014)	P≦0.040 (0.0016)	P≦0.050 (0.0020)	P≦0.035 (0.0014)	P≦0.040 (0.0016)	P≦0.050 (0.0020)	P≦0.035 (0.0014)	P≦0.040 (0.0016)	P≦0.050 (0.0020)
Repeatability (JIS 6338)	mm (in)	±0.010 (0.0004)			±0.010 (0.0004)	±0.010 (0.0004)			±0.010 (0.0004)		
Repeatability (VDI 3441)	mm (in)	Ps≦0.022 (0.0008)	Ps≦0.026 (0.0010)	Ps≦0.030 (0.0012)	Ps≦0.038 (0.0015)	Ps≦0.026 (0.0010)	Ps≦0.030 (0.0012)	Ps≦0.038 (0.0015)	Ps≦0.026 (0.0010)	Ps≦0.030 (0.0012)	Ps≦0.038 (0.0015)
Other											
Total required power (AC220V±10%, 3 Phase, 60Hz/50Hz)	kVA	80			80	80			80		
Pneumatic pressure requirement	kg/cm²	5			5	5			5		
Space requirement & weight											
Machine length (area required)	mm (in)	10710 (421.7)	12275 (483.3)	14275 (562)	16275 (640.7)	12275 (483.3)	14275 (562)	16275 (640.7)	12260 (482.7)	14270 (561.8)	16270 (640.6)
Machine width (area required)	mm (in)	6560 (258.3)	6560 (258.3)	6560 (258.3)	6560 (258.3)	7560 (297.6)	7560 (297.6)	7560 (297.6)	8560 (337)	8560 (337)	8560 (337)
Machine height	mm (in)	4200 (165.4)	4200 (165.4)	4200 (165.4)	4200 (165.4)	4200 (165.4)	4200 (165.4)	4200 (165.4)	4200 (165.4)	4200 (165.4)	4200 (165.4)
Machine weight	kg (lb)	67000 (147710)	79000 (174165)	103000 (227076)	127000 (279987)	96000 (211644)	117000 (257941)	140000 (308647)	104000 (229281)	126000 (277782)	148000 (326284)

***Product specifications and accessories are subject to change without notice.*
***Specially order like MG-xx30, MG-xx40, MG-xx50 etc. are also available on request.*

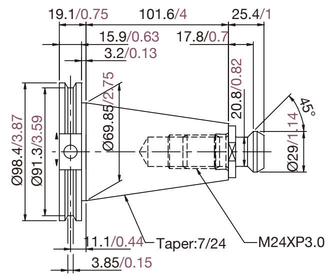
Standard and Optional accessories

● : Standard ○ : Option

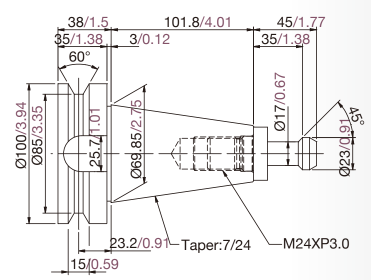
Specification / Model	MG530	MG630	MG830	MG1030	MG640	MG840	MG1040	MG650	MG850	MG1050
BT50 spindle taper+MAS pull stud	●	●	●	●	●	●	●	●	●	●
DIN50 spindle taper	○	○	○	○	○	○	○	○	○	○
CAT50 spindle taper+ANSI pull stud	○	○	○	○	○	○	○	○	○	○
4,000 rpm geared spindle (30/35HP)	○	○	○	○	○	○	○	○	○	○
6,000 rpm geared spindle (30/35HP)	●	●	●	●	●	●	●	●	●	●
8,000 rpm built-in spindle (30/34HP) BT50	○	○	○	○	○	○	○	○	○	○
10,000 rpm direct driven spindle (25/30HP) BBT50	○	○	○	○	○	○	○	○	○	○
Z travel of 1000 mm (39.4"), G0:12m/min.	●	●	●	●	●	●	●	●	●	●
Z travel of 1200 mm (47.2"), G0:12m/min.	○	○	○	○	○	○	○	○	○	○
Z travel of 1400 mm (55.1"), G0:10m/min.	○	○	○	○	○	○	○	○	○	○
Column raise up for 200mm (7.9")	○	○	○	○	○	○	○	○	○	○
Column raise up for 400mm (15.7")	○	○	○	○	○	○	○	○	○	○
Spindle & gearbox temperature control system	●	●	●	●	●	●	●	●	●	●
Adjustable torque-limit clutch (3 axes)	●:YZ	●:YZ	●:YZ	●:YZ	●:YZ	●:YZ	●:YZ	●:YZ	●:YZ	●:YZ
External pulse coder (3 axes)	●:YZ	●:YZ	●:YZ	●:YZ	●:YZ	●:YZ	●:YZ	●:YZ	●:YZ	●:YZ
Centralized automatic lubricating system	●	●	●	●	●	●	●	●	●	●
Full splash guard	●	●	●	●	●	●	●	●	●	●
Sliding operator's door	●	●	●	●	●	●	●	●	●	●
Flood Coolant system (Pump & tank)	●	●	●	●	●	●	●	●	●	●
Recycling lubricating oil collector for 3 axes	●	●	●	●	●	●	●	●	●	●
Twin screw & caterpillar types conveyor	●	●	●	●	●	●	●	●	●	●
32 tools capacity of tool magazine	●	●	●	●	●	●	●	●	●	●
60 tools capacity of tool magazine	○	○	○	○	○	○	○	○	○	○
Rigid tapping	●	●	●	●	●	●	●	●	●	●
Footswitch for tool clamping	●	●	●	●	●	●	●	●	●	●
Remote handwheel control	●	●	●	●	●	●	●	●	●	●
Work light	●	●	●	●	●	●	●	●	●	●
Operation cycle finish and alarm lights	●	●	●	●	●	●	●	●	●	●
RS232 interface	●	●	●	●	●	●	●	●	●	●
Spray hose for chip wash down	●	●	●	●	●	●	●	●	●	●
Heat exchanger	●	●	●	●	●	●	●	●	●	●
Oil Skimmer	○	○	○	○	○	○	○	○	○	○
Foundation bolt kit	●	●	●	●	●	●	●	●	●	●
Machine manuals	●	●	●	●	●	●	●	●	●	●
Linear scale feedback system for 3 axes	●:X ○:YZ	●:X ○:YZ	●:X ○:YZ	●:X ○:YZ	●:X ○:YZ	●:X ○:YZ	●:X ○:YZ	●:X ○:YZ	●:X ○:YZ	●:X ○:YZ
Coolant through the tool adapter	○	○	○	○	○	○	○	○	○	○
Coolant through the spindle (Form A) w/1000 liter tank	○	○	○	○	○	○	○	○	○	○
Auto multi-head exchange and index in every 5° mechanism	○	○	○	○	○	○	○	○	○	○
Auto multi-head storage system	○	○	○	○	○	○	○	○	○	○
Auto index for Angular head (90 degree)	○	○	○	○	○	○	○	○	○	○
Auto index 30° head	○	○	○	○	○	○	○	○	○	○
Universal head indexable (C axis automatic and A axis manually)	○	○	○	○	○	○	○	○	○	○
Extension head	○	○	○	○	○	○	○	○	○	○
Swing type operator panel (moveable in horizontal direction)	●	●	●	●	●	●	●	●	●	●
Hanging type operator panel (moveable in four direction)	○	○	○	○	○	○	○	○	○	○
Automatic tool length measurement (Renishaw or Blum)	○	○	○	○	○	○	○	○	○	○
Automatic workpiece measuring system (Renishaw or Blum)	○	○	○	○	○	○	○	○	○	○
FANUC 31iM controller	●	●	●	●	●	●	●	●	●	●
Heidenhain iTNC 530 controller	○	○	○	○	○	○	○	○	○	○
4th axis interface prepared	○	○	○	○	○	○	○	○	○	○
CNC rotary table	○	○	○	○	○	○	○	○	○	○

Tool Shank and Pull Stud Dimension

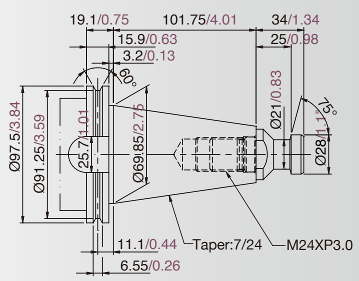
Unit: mm/in



CAT50

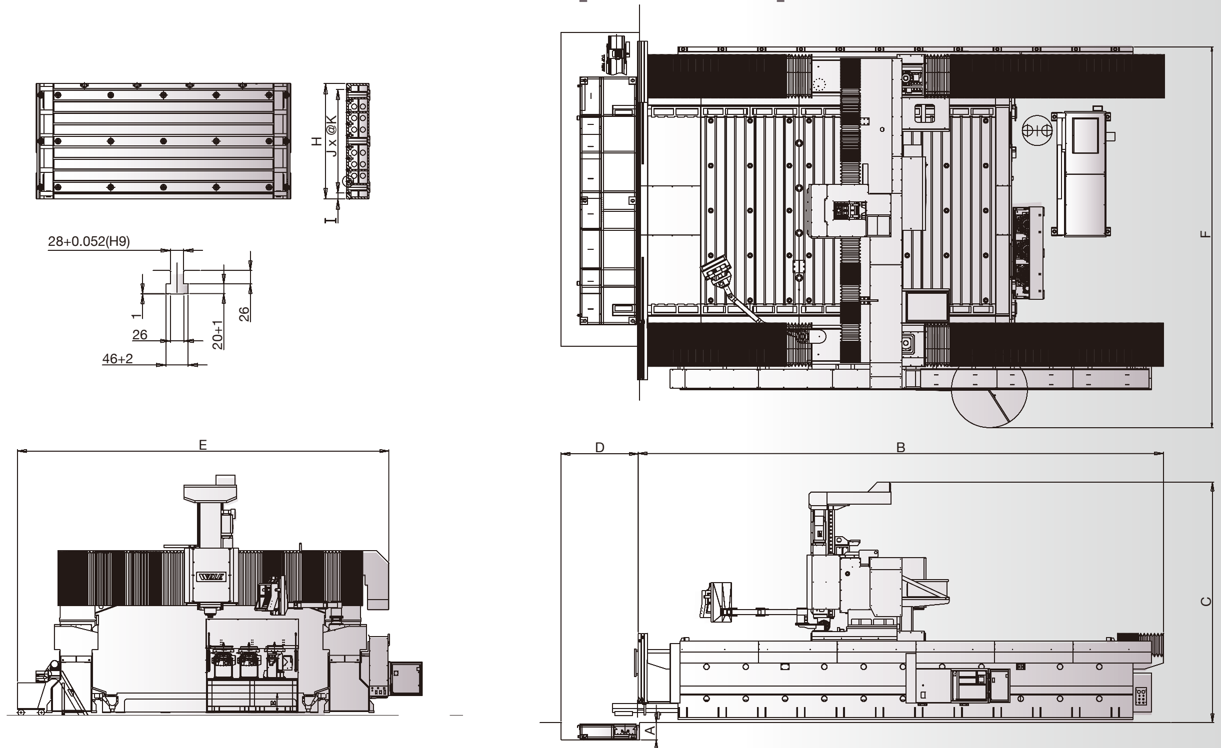


BT50



DIN50

Machine Dimension and Space Requirement



Unit: mm(in)

Model\Item	A	B	C	D	E	F	G	H	I	J	K
MG530	350 (13.8)	9130 (359.4)	4200 (165.4)	1580 (62.2)	6560 (258.3)	6810 (268.1)	5400 (212.6)	2000+3000 (78.7+118.1)	100 (3.9)	24 (0.9)	200 (7.9)
MG630		10695 (421.1)						2000x3 (78.7x3)		29 (1.1)	
MG830		12695 (499.8)						2000x4 (78.7x4)		39 (1.5)	
MG1030		14695 (578.5)						2000x5 (78.7x5)		49 (1.9)	
MG640	350 (13.8)	10695 (421.1)	4200 (165.4)	1580 (62.2)	7560 (297.6)	7810 (307.5)	6400 (252)	2000x3 (78.7x3)	100 (3.9)	29 (1.1)	200 (7.9)
MG840		12695 (499.8)						2000x4 (78.7x4)		39 (1.5)	
MG1040		14695 (578.5)						2000x5 (78.7x5)		49 (1.9)	
MG650	350 (13.8)	10750 (423.2)	4200 (165.4)	1510 (59.4)	8560 (337)	8810 (346.9)	7400 (291.3)	2000x3 (78.7x3)	100 (3.9)	29 (1.1)	200 (7.9)
MG850		12760 (502.4)						2000x4 (78.7x4)		39 (1.5)	
MG1050		14760 (581.1)						2000x5 (78.7x5)		49 (1.9)	