

WELE

WELE

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WELE

We lead the way by a new business model

MG SERIES



Universal moving Gantry
Multi-purpose Machining
Center



WELE MECHATRONIC CO., LTD
A TOYODA Strategic Alliance Company

CE
ISO 9001 ISO 14001
TOYODA qualified class,
precise manufacturing

MG640	MG530	MG630	MG830	MG1030	AA65 Series	AA80 Series	AA90 Series	AQ50 Series	AQ65 Series	UG Series	
MG840	MG1040	MG650	MG850	MG1050	RB Series	SB Series	LB Series	MB Series	HB Series	UB Series	MG Series

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 MIRC 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/m²

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.

MG640	MG530	MG630	MG830	MG1030	AA65 Series	AA80 Series	AA90 Series	AQ50 Series	AQ65 Series	UG Series	
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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.



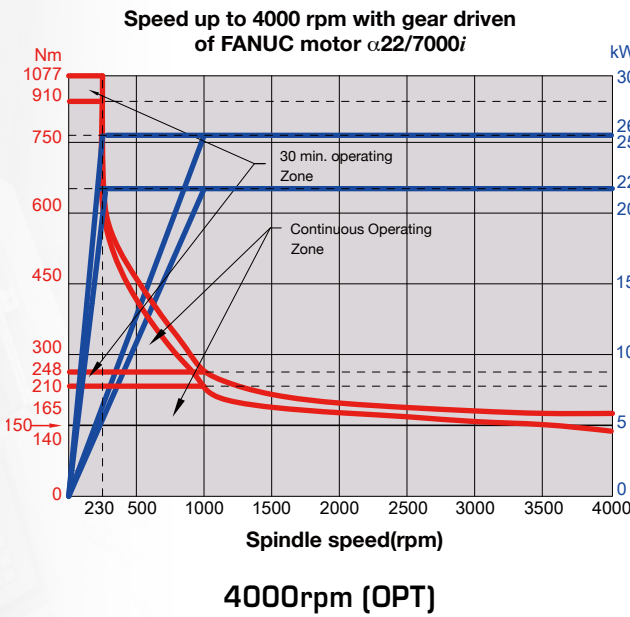
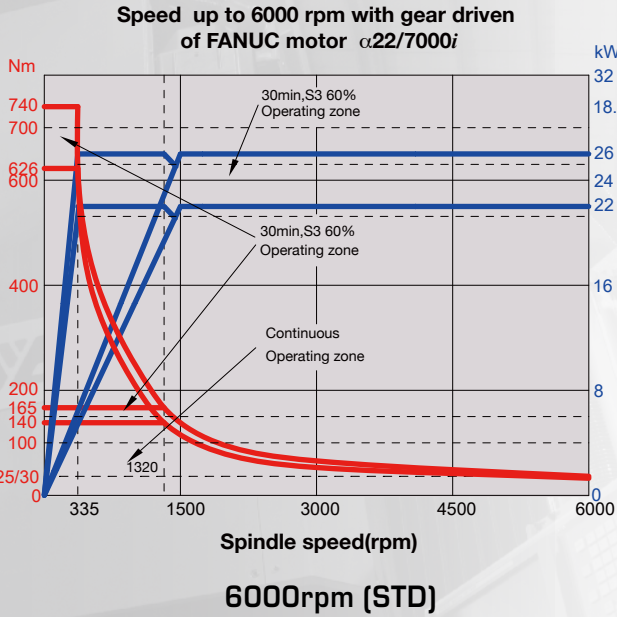
- Above figure indicates the MG series with 32 tools tool magazine, head storage, spindle temperature control system and others.



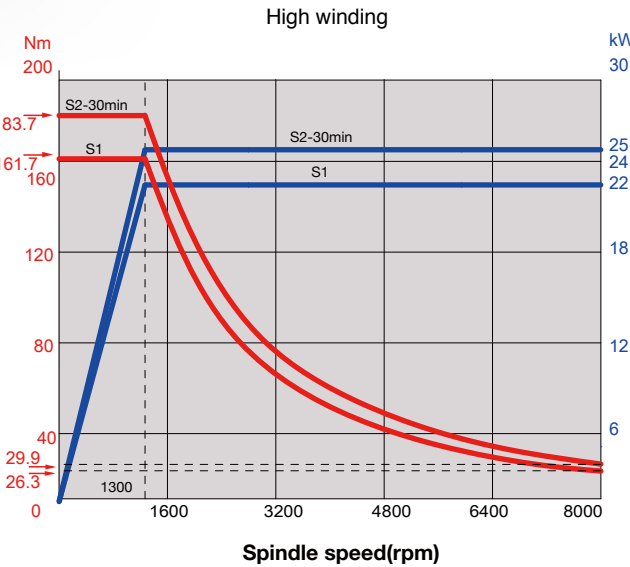
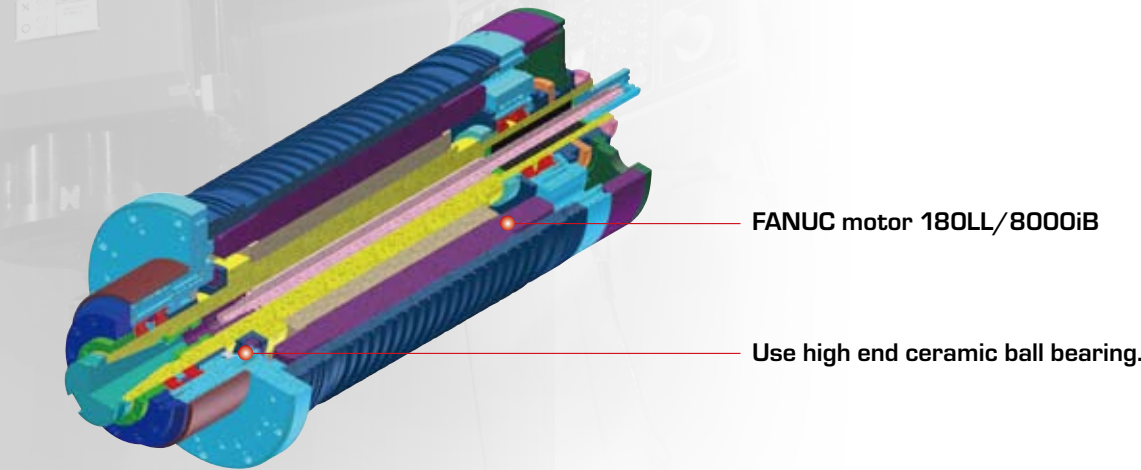
- Equipped with 3 axes handwheel, easy to approach the workpiece and set up the tool position; Especially for large Die & Mold.. and so on.

MG640	MG530	MG630	MG830	MG1030	AA65 Series	AA80 Series	AA90 Series	AQ50 Series	AQ65 Series	UG Series	
MG840	MG1040	MG650	MG850	MG1050	RB Series	SB Series	LB Series	MB Series	HB Series	UB Series	MG Series

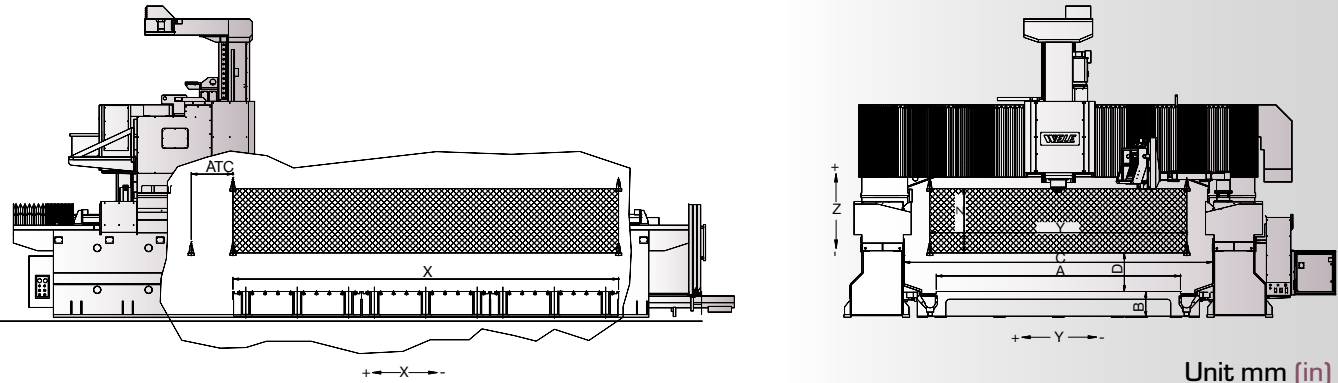
Variable Geared Spindle



8000 RPM Built-in Spindle (OPT)

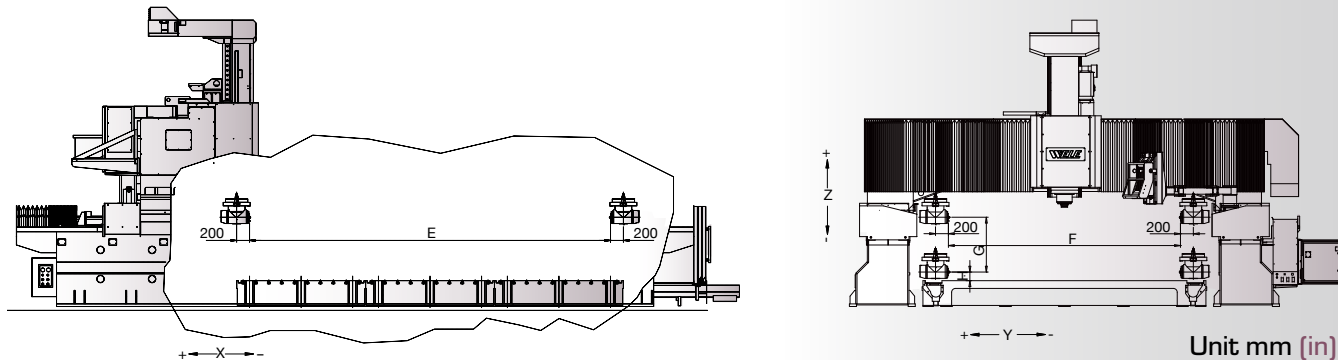


Inside of working Area Dimensions - Vertical



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



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)

MG640	MG530	MG630	MG830	MG1030	AA65 Series	AA80 Series	AA90 Series	AQ50 Series	AQ65 Series	UG Series	
MG840	MG1040	MG650	MG850	MG1050	RB Series	SB Series	LB Series	MB Series	HB Series	UB Series	MG Series

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.

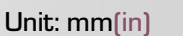
* *Specially order like MG-xx30, MG-xx40, MG-xx50 etc. are also available on request.

Standard and Optional accessories

Tool Shank and Pull Stud Dimension

DIN50

Machine Dimension and Space Requirement

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