



Multi-Axis
Turn-Mill
Composite
Machining
Center





MT-210

Turn-Mill Centers with Boxways

The MT-210 is equipped with a swing milling head, a 16-tool turret, a 16-tool magazine, and twin spindles. It is capable of both turning and milling operations. Suitable for machining materials such as aluminum, medium carbon steel, as well as various lowvolume, complex workpieces, light cutting parts, and prototype manufacturing.

Main Spindle & Sub-Spindle

- A2-5 spindle, 6" manual chuck, Bar capacity $\Phi 45$.
- The servo motor is 1.5 kw with a maximum speed of 2,000 rpm.
- Use Harmonic gears to replace the original CS/CF axis mechanism.
- The servo motor is belt-driven, and CS axis uses a 10-tooth clutch for positioning transmission.

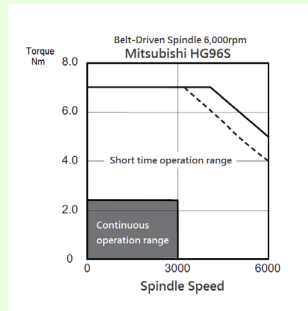




Milling Spindle



- T30 belt-driven spindle, the servo motor is 0.75 kW with a maximum speed of 6,000 rpm.
- The spindle adopts B-axis vvs the swivel indexing ranging from 105° to +105°.
- B-axis uses Harmonic gears, the minimum indexing 6°.

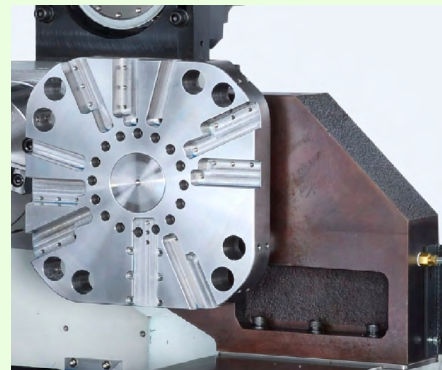


Armless Type Tool Magazine 16 tools

max. diameter	Φ85	mm
max. length	200	mm
max. loading	3	kg
tool change time	4.8	seconds

Servo Turret 16 tools

Turning Tool Holder	12x12 mm	(10 stations)
Boring Bar Tool Holder	Φ25 mm	(8 stations)





Standard Accessories:

- Mitsubishi M830A, 15" LCD
- A2-5 spindle 3,000rpm (2 sets)
- 6" 3-jaw manual chuck (2 sets)
- Soft jaws*2set / Hard jaw*2set
- 16 tools servo turret (front)
- Boring bar bushings $\phi 25$
- MT Taper sleeve ($\phi 25$)
- BT30 belt-driven spindle 6,000rpm
- 16 tools armless tool magazine
- Coolant system
- Leveling bolts and pads
- Auto lubrication system
- Tool box
- End of program indicator (3-color)

Optional Accessories:

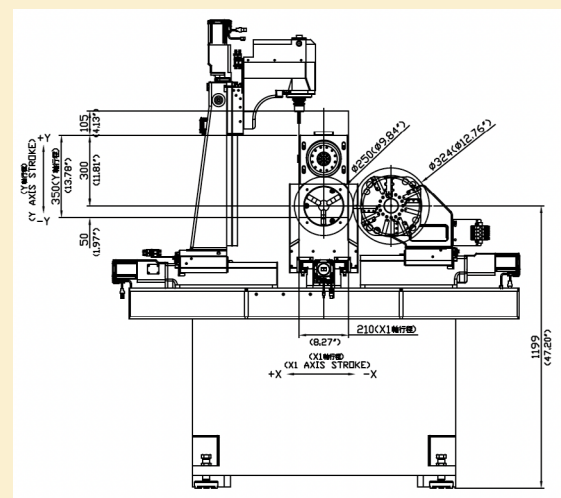
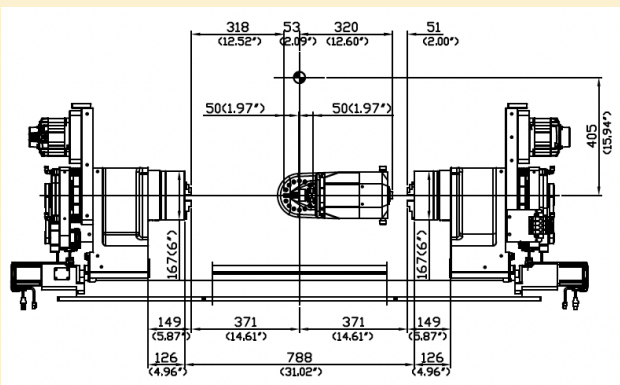
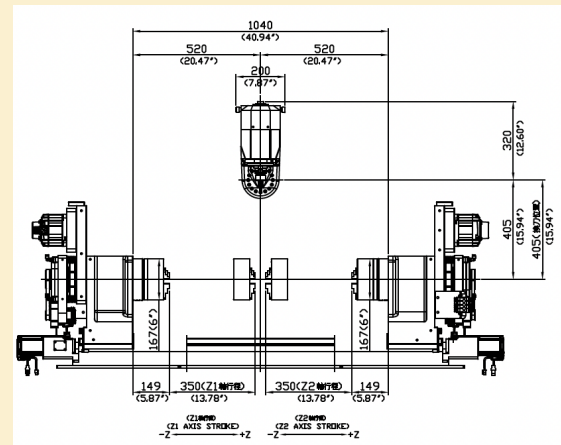
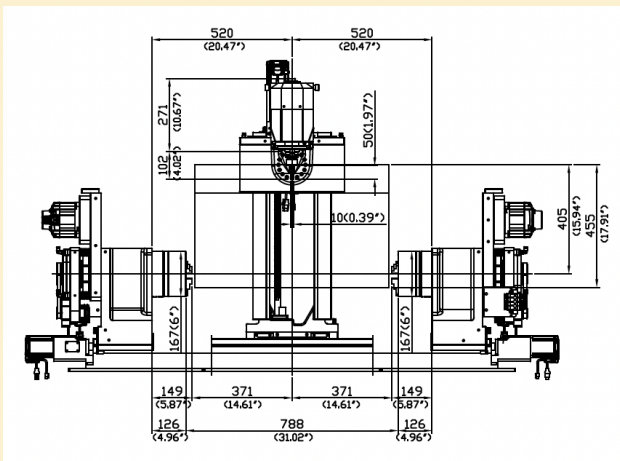
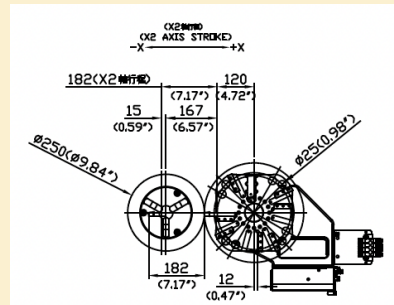
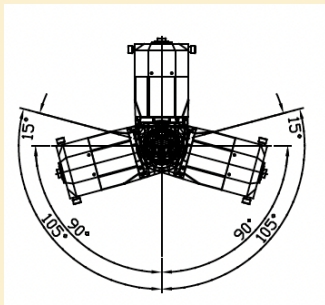
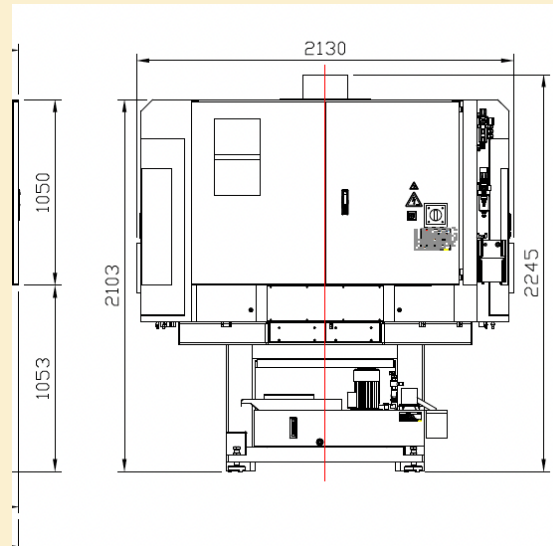
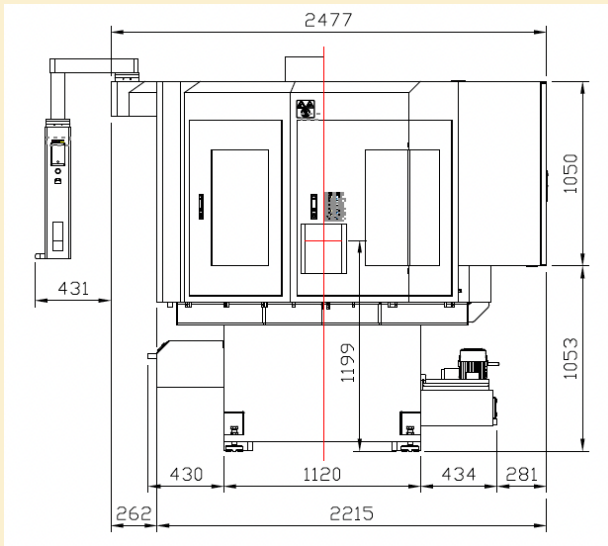
- Oil skimmer
- Oil & mist collector
- Coolant gun
- Air conditioner for electrical cabinet
- Tool setter device
- Transformer
- Stabilizer
- CE Certificate

Capacity	Swing over bed	Ø380 mm
	Max. machining dia.	Ø250 mm
	Max. machining length	250 mm
Travels	X1, X2 axis	210 mm, 182 mm
	Y axis	350 mm
	Z1, Z2 axis	300 mm, 300 mm
Main-spindle/ Sub-Spindle	Spindle speeds	3,000 rpm
	Spindle nose	A2-5
	Spindle bore dia.	Ø56 mm
	Front bearing inner dia.	Ø80 mm
	Draw Bar Dia.	Ø42 mm
Milling-Spindle	Chuck diameter	6"
	Tool shank	BT-30
	Spindle speeds	6,000 rpm (Belt-driven)
B axis	A-axis index	0.2° (360°)
	Rotary angle	±105°
	Index	6 Arcmin
	Max. speed	20 rpm
	Repeatability accuracy	6 Arcmin
C1 & C2-axis	Max. torque	4 Nm
	Rotary angle	360°
	Index	6°
	Max. speed	3,000 rpm
Tool magazine	Max. torque	400 Nm
	Tool capacity	16 pcs
	Max. tool diameter	Ø85 mm
	Max. tool length	200 mm
	Max. tool weight	3 kgs
Front turret	Tool change time (T-T)	4.8 sec
	Type	Servo
	Tool capacity	16 items
	Square tool shank	12 mm x 12 mm
Motor	Boring bar shank	Ø25 mm
	Turning spindles	1.5 kw ea.
	Milling-Spindle	0.75 kw
	B axis	0.4 kw
	X1, X2 axis	0.75 ea.
	Y axis	0.75 kw
	Z1, Z2-axis	0.75 kw ea.
	C1, C2-axis	0.4 kw ea.
	Tool magazine	0.75 kw, 0.4 kw
	Front turret	0.4 kw
	Coolant pump	1.06 kw
Power	Requirement	15 KVA
Machine size	Height	225 cm
	L x W	213 cm x 248 cm
	Net weight	3,000 kg

Note: Specifications are subject to change without further notice.

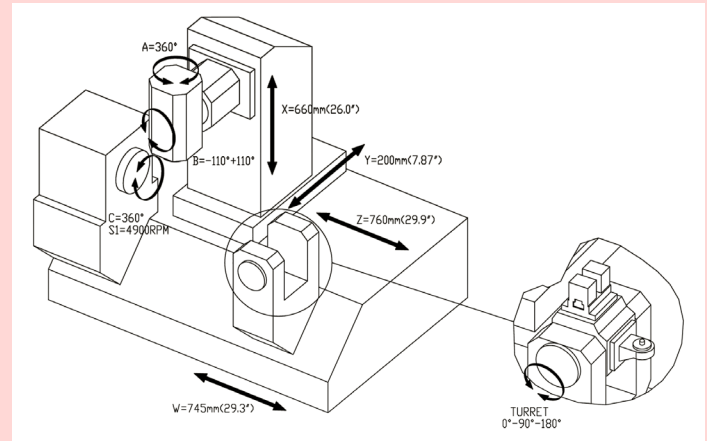
Machine Dimensions

MT-210





Recipient of the Taiwan Excellence award 2011



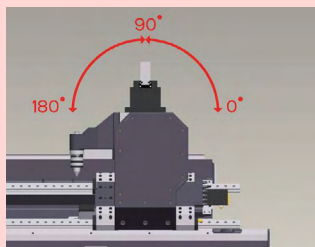
- Front inclined 45° bed, rear stepped design
- 90° orthogonal columns for Y-axis
- X/Y/Z axes adopt high rigidity roller linear guideways
- Rotary B-axis with $\pm 110^\circ$ Rotation (rotation)
- Patented multi-functional rotary tailstock which allows angle adjustments from 0° , to 90° , to 180° depending on processing requirements. (optional)
- Sub-spindle function (optional)
- Automation module and parts collecting device (optional)
- Arm-type tool magazine with 36 tools, with an option to expand to 72 tools.
- Complete Machine Automation Module Design and Planning

MT-540

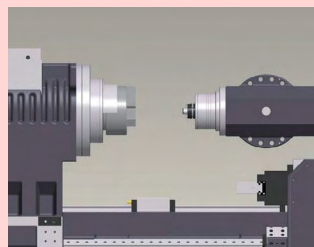
Turn-Mill Centers with Linear Guideways



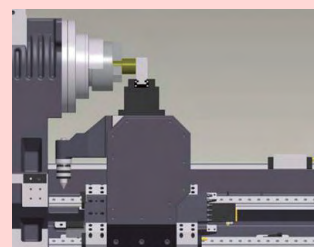
Multi-functional Tailstock



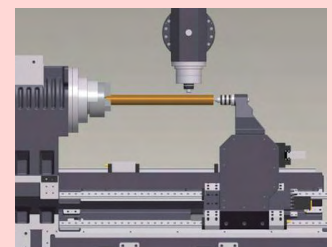
Rotary tailstock with 3-angle adjustment.



Tailstock at 0° - Surface avoidance



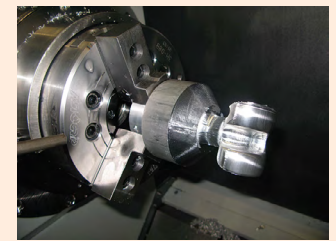
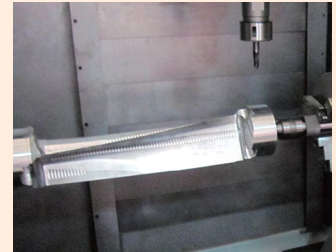
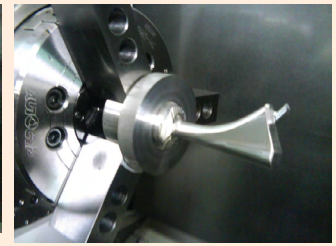
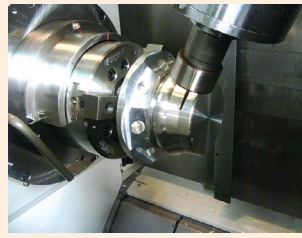
Tailstock at 90° - Clamping workpiece



Tailstock at 180° - Power tailstock (for long bars)



Milling B-axis rotation angle $\pm 110^\circ$
Built-in milling spindle speed 12,000rpm



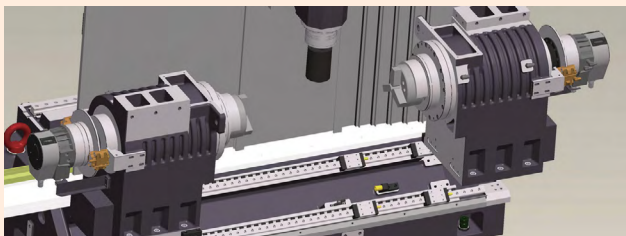
Industries for
market applications

MT-540



Modular Designs (Optional)

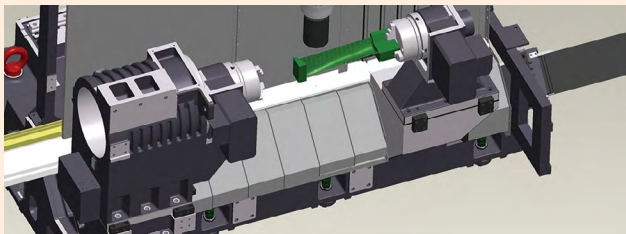
Twin Spindle System



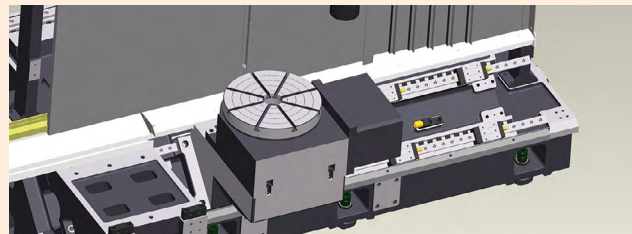
Automation Module and Parts Catcher System

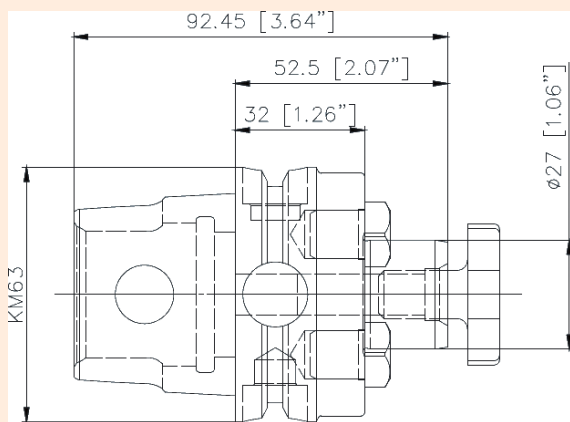


Rotary Clamping Device

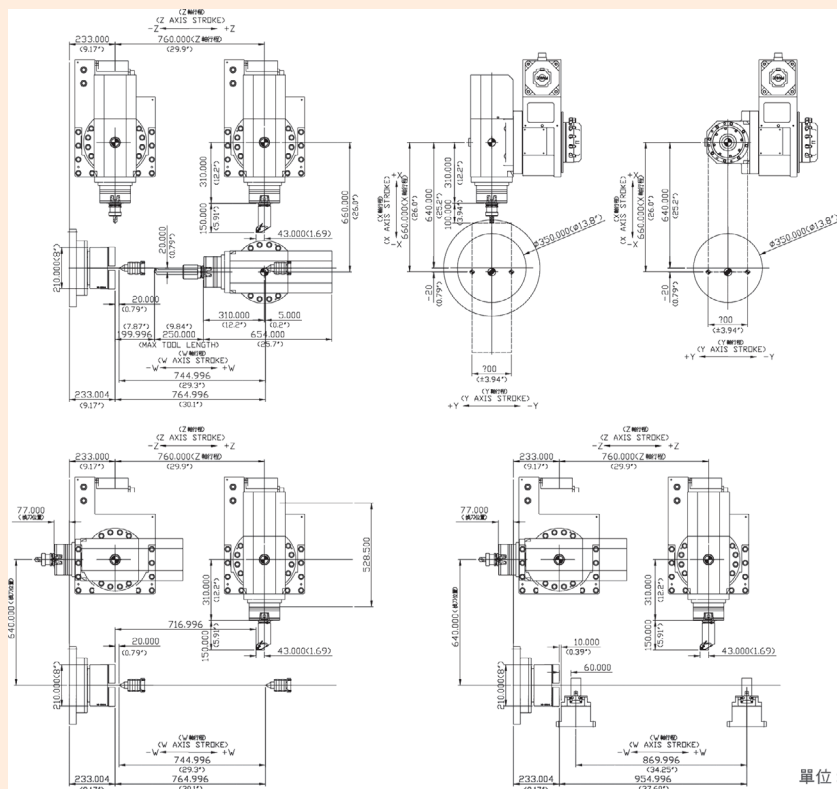
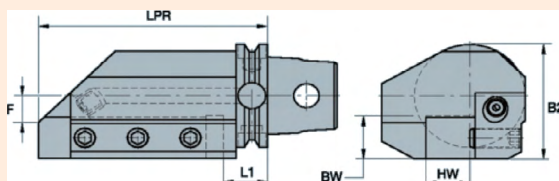


Rotary Table Device





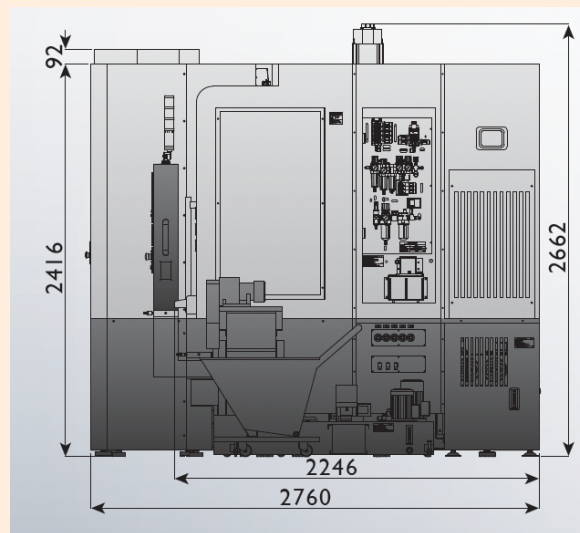
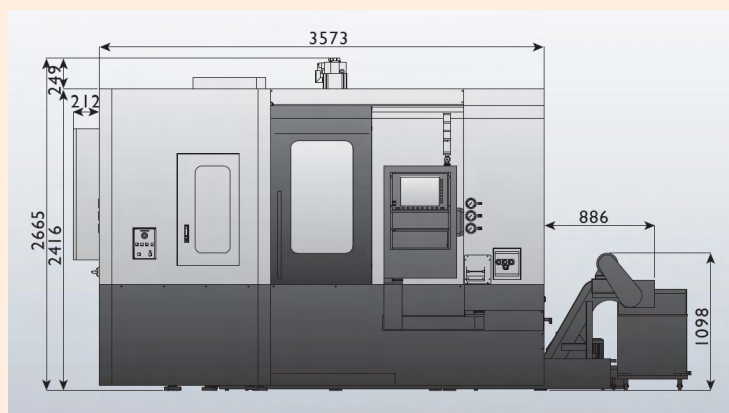
Tool Dimensions Drawing



Work Envelope and Tool Interference Diagram

Dimensional Drawings

Unit: mm



Metric

ORDER NUMBER	CATALOG NUMBER	L1	LPR	F	HW	BW	B2	NM	KG
2255545	KM63TSSTAR2525M RIGHT HAND	25	130	11	25	25	68	57	3,83
2255544	KM63TSSTAR2525M LEFT HAND	25	130	11	25	25	68	57	3,83

Imperial

ORDER NUMBER	CATALOG NUMBER	L1	LPR	F	HW	BW	B2	FT.LBS	LBS.
2384740	KM63TSSTAR16 RIGHT HAND	.906	5.118	.443	1.00	1.00	2.70	42	8.46
2384741	KM63TSSTAR16 LEFT HAND	.906	5.118	.443	1.00	1.00	2.70	40	8.46

Note: Specifications are subject to change without further notice.

Working Range	Chuck size	8" in.
	Maximum swing	Ø540 mm (Ø21.3" in.)
	Maximum machining diameter	Ø350 mm (Ø13.8" in.)
	Maximum machining length	700 mm (27.56" in.)
	Slant angle of bed	0°
Main Spindle	Speed	4,900 rpm
	Spindle nose	A2-6
	Spindle bore diameter	STD: Ø62 mm (Ø2.4" in.) OPT: Ø79 mm (Ø3.1" in.)
	Draw bar diameter	STD: Ø52 mm (Ø2.05" in.) OPT: Ø66 mm (Ø2.6" in.)
	Spindle motor	22 KW (29.5 HP)
Milling head	Tool shank type (milling/ turning)	KM 63UT
	Miling spindle speed	12,000 rpm
	Maximum milling spindle torque	160 Nm
	Milling spindle motor	29.3 KW (39.3 HP)
	Minimum division	360°/15°
B-axis	Rotation angle	±110° / 0.001°
	Maximum speed	16.7 rpm
	Repeatability accuracy	±3 sec
C-axis	Rotation angle	360° / 0.001°
	Maximum speed	120 rpm
Travel range	X-axis Travel	660 mm (26.0" in.)
	Rapid traverse	36 m/min
	Z-axis	760 mm (29.9" in.)
	Rapid traverse	36 m/min
	Y-axis	200 mm (7.87" in.)
	Rapid traverse	36 m/min
	W-axis	745 mm (29.3" in.)
	Rapid traverse	30 m/min
Tailstock	Multifunctional rotary tailstock (OPT)	0° , 90° , 180°
	Quill bore taper	STD: MT No. 4 OPT: MT No. 5
	Tailstock travel	745 mm (29.33" in.)
	Tool magazine	
	Tool capacity	STD: 36 OPT: 72
Machine size	Length	4,700 mm (185" in.)
	Width	2,800 mm (110.2" in.)
	Height	2,700 mm (106.3" in.)
Controller system	Type	FANUC 31i/SIEMENS 840D





5 axis milling head

Two turrets

Tool magazine

Twin spindle

Large work envelope for both lathe operations – turning and milling

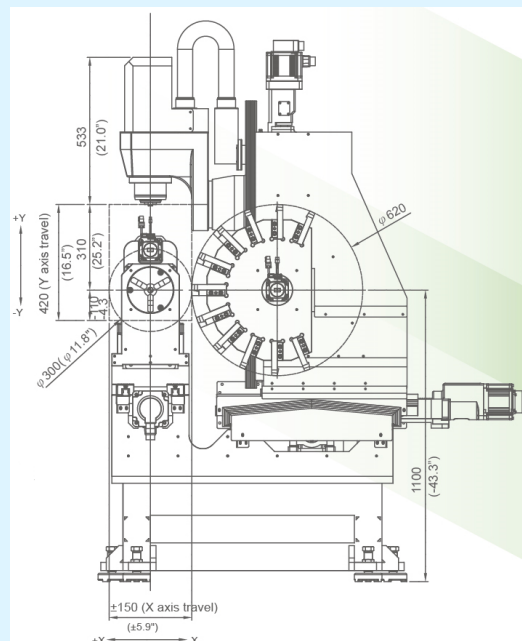
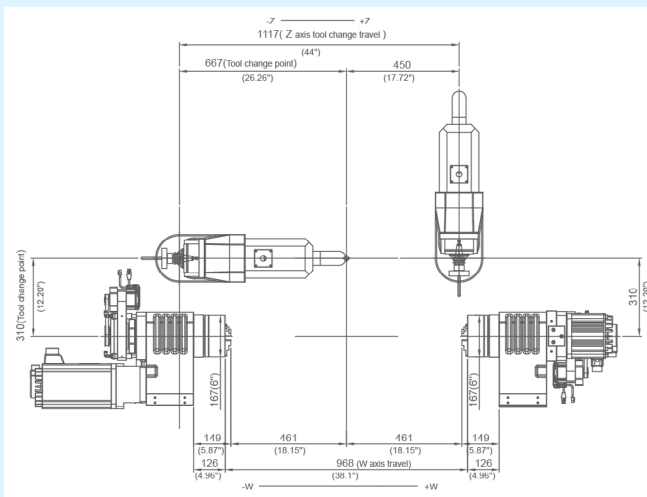
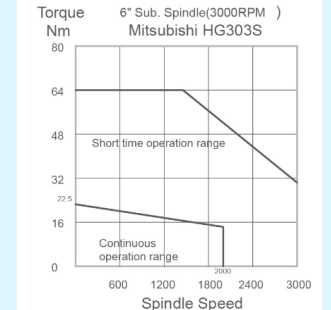
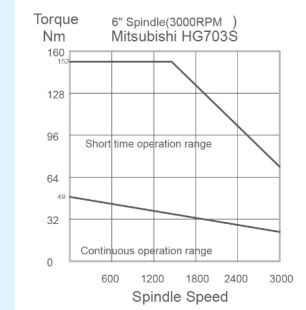
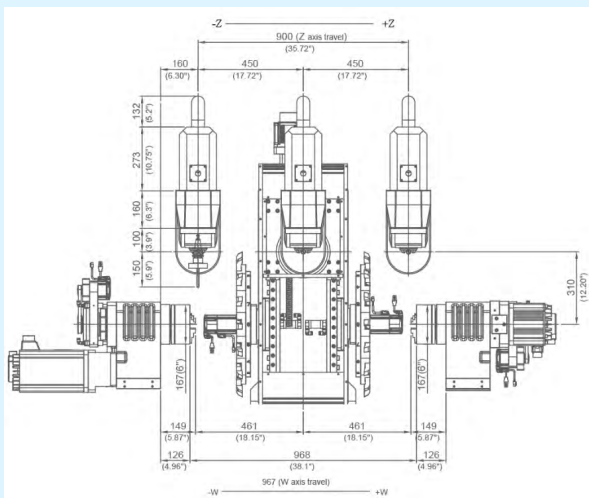
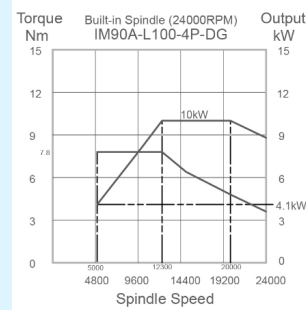
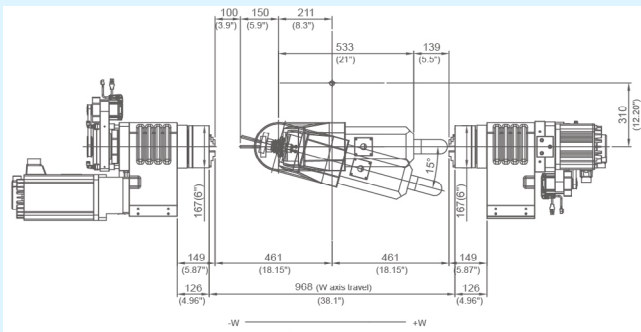
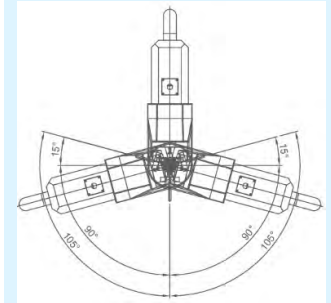
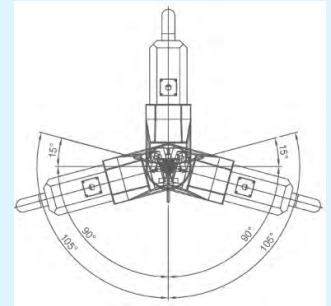
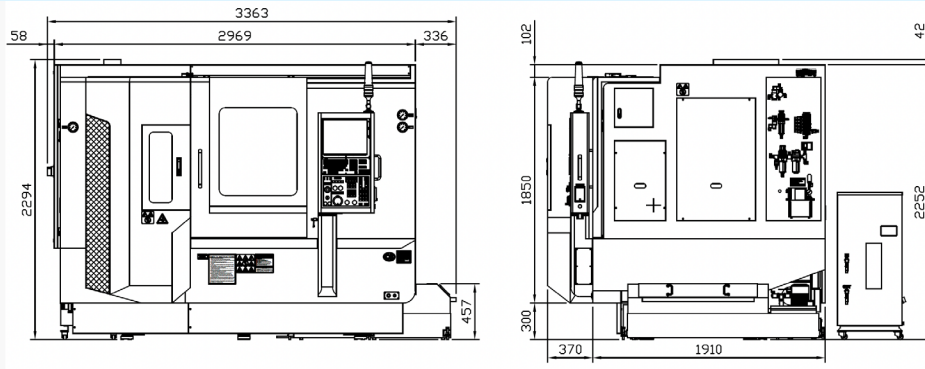
MT-900

Turn-Mill Centers with Linear Guideways

All 6 sides of a part can be machined without an operator to manually re-fixture the workpiece, so nearly any part can be machined in an automated manner.



Machine Dimensions



MT-900



Standard Accessories:

- Mitsubishi M830VS, 15" LCD
- BBT30 built-in spindle 24,000rpm
- 24 tools auto tool change
- A2-5 spindle 3,000rpm (for Main-spindle & Sub-spindle)+CS with Heidenhain angle encoder
- 6" 3-jaw hydraulic chuck (for Main-spindle & Sub-spindle)
- Soft jaws * 2sets / Hard jaw * 2sets
- 11 tools servo turret (left & right)
- Boring bar holder * 6pcs
- Wedge type tool clamping * 22pcs
- Boring bar bushings (Ø8, 10,12,16, 20,25) x φ32 * 2sets
- Taper sleeve MT no. 1, 2 x φ32 * 2sets
- Coolant system
- Leveling bolts and pads
- Auto lubrication system
- Foot pedal for chuck * 2sets
- Tool box
- End of program indicator (3-colors)

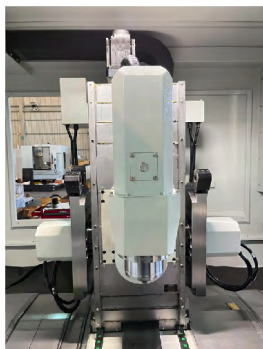
Optional Accessories:

- Duet 3D PC Touchscreen Control and CS axis with change Harmonic gear + manual chuck
- Oil skimmer
- Oil & mist collector
- Coolant gun
- Bar feeder
- Interface for bar feeder
- Parts catcher
- Chain type chip conveyor + Cart
- Air conditioner for electrical cabinet
- Tool setter
- Workpiece measurement
- Transformer
- Stabilizer
- CE certificate

Capacity	Swing over bed	Ø500 mm
	Max. machining diameter	Ø300 mm
	Max. machining length	922 mm
Travels	X/Y/Z/B axis	±150/420/900/±105 mm
	C1/C2/A axis	360 mm /360 mm /360 mm
	W-axis	968 mm
Main/ Sub-Spindle	Spindle speeds	3,000 rpm
	Spindle nose	A2-5
	Spindle bore diameter	Ø56 mm
	Front bearing inner diameter	Ø80 mm
	Draw bar diameter	Ø45 mm
	Chuck diameter	6" in.
Milling Spindle	Tool shank	BBT-30
	Spindle speeds	24,000 rpm
	Spindle torque	7.8 Nm
	A-axis index	1 Arcmin
B-axis	Rotary angle	±105
	Index	1 Arcmin
	Max. speed	4,000 rpm
	Repeatability accuracy	±0.1 Arcmin
	Max. torque	1,080 Nm
C-axis (C1 & C2)	Rotary angle	360°
	Index	1 Arcmin
	Max. speed	3,000 rpm
	Max. torque	49 Nm
Tool magazine	Tool capacity	24 pcs
	Max. tool diameter/ length	Ø80 mm x 150 mm
	Max. tool weight	3 kgs
	Tool change time(T-T)	4.8 sec
Turret (Left/Right)	Type	Servo
	Tool capacity	11 pcs
	Square tool shank	20 mm x 20 mm
	Boring bar shank	Ø32 mm
Motor	Main-spindle	7 kw
	Sub-spindle	3 kw
	Milling Spindle	10 kw
	X/Y/Z/B/W axis	1*5 kw
	Tool magazine	1 kw
	Turret(Left/Right)	0.75*2 kw
	Hydraulic oil pump	0.75 kw
	Coolant pump	0.85 kw
Power	Requirement	30 KVA
Machine size	L x W x H	336 cm x 228 cm x 229 cm
	Net weight	5,000 kg
Packing size	L x W x H	394 cm x 230 cm x 254 cm
	Gross weight	5,284 kg

MT-900





Watch the
video:



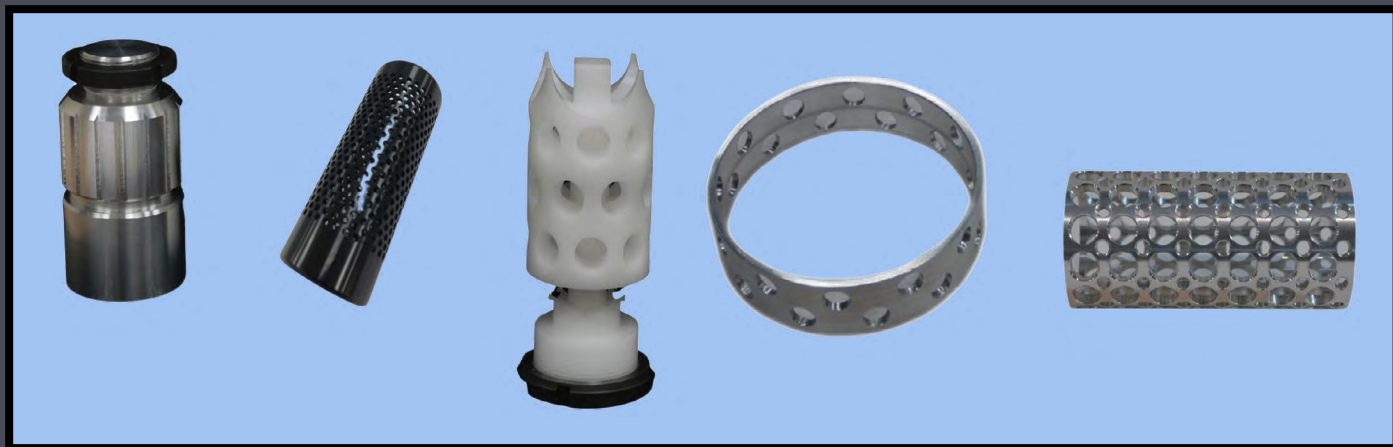
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MT-900



Create complex workpieces in one machining setup.



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