



Shibaura Machine

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GOTEMBA plant

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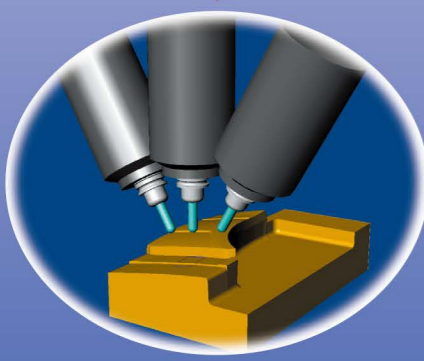
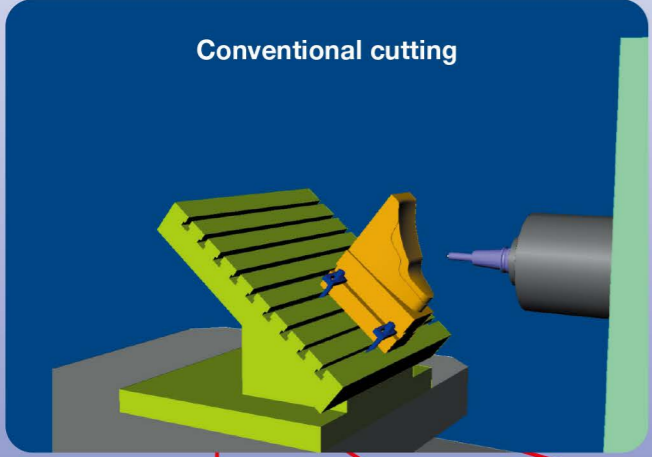


* We reserve the right to change any of specifications in this catalog without notice in order to effect improvements.

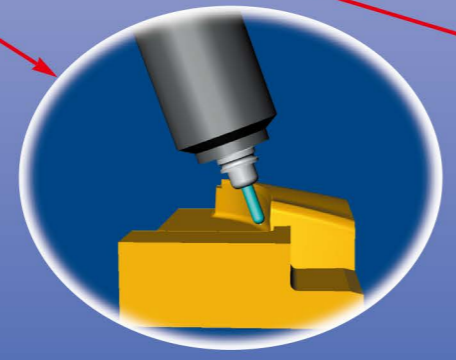
WELCOME TO THE DEBUT of our new machine to meet the demand of a time, The compact 5-axis machining center to contribute to the industry of Die-mold, IT, and Aircraft

- Highly efficient and extremely high quality machining by the new concept 5-axis machining center with rotary table and swivel head
- With no ram axis, highly stable machining by crossrail elevating
- Easy set-up for slant machining operation by 2-axis rotating function with optional angle positioning
- High productivity improved by process intensive operation

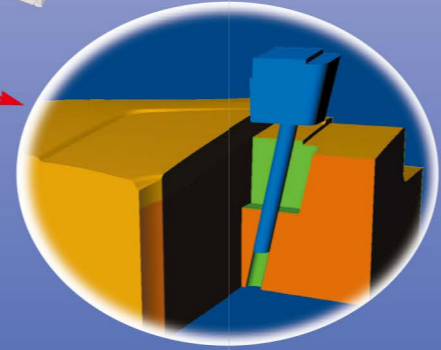
Easy set-up for slant machining and machining samples



- Minimize numbers of cutting tool by cutting point rotation
- Reducing machining time by the suitable cutting speed on the cutting point of tools



- Easy access into the undercut area

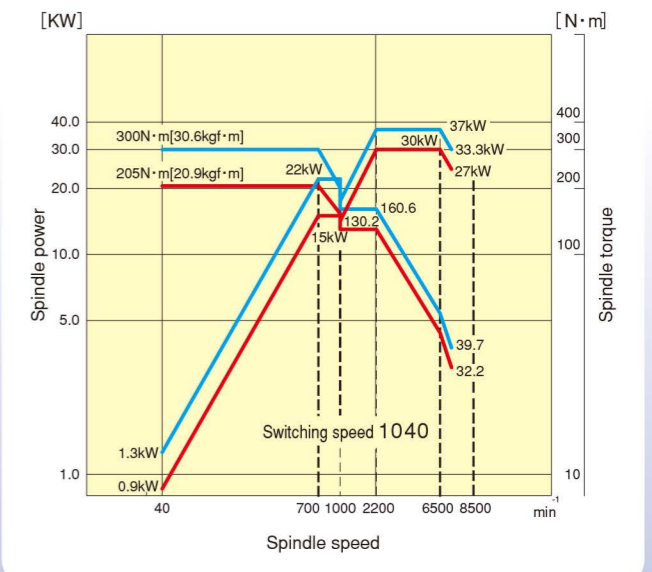


- Simultaneous machining of locating pin holes and pockets by optional angle control for the spindle onto workpiece,



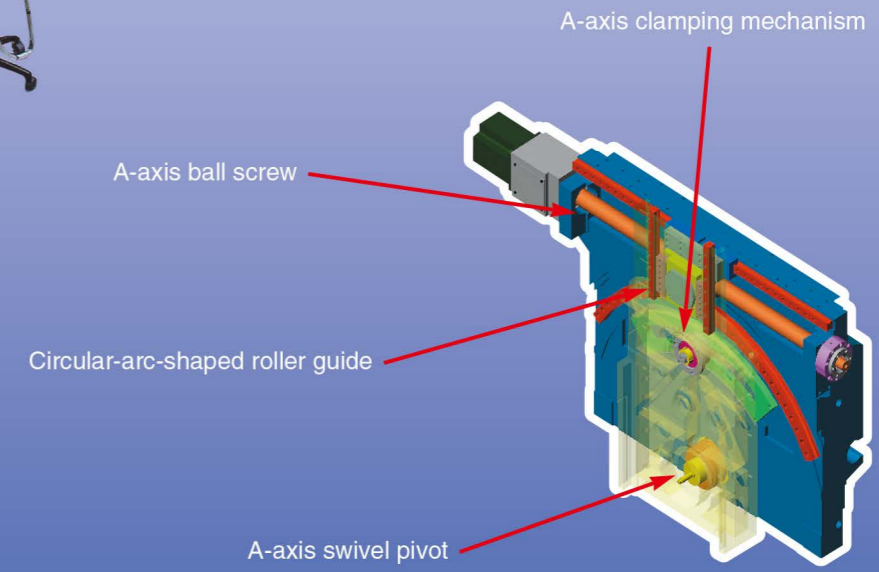
Spindle torque output diagram

1. Standard spindle head 40 - 8,000 min⁻¹











Unique A-axis swing mechanism

Heavy-duty-cutting capacity acceptable in the various industries



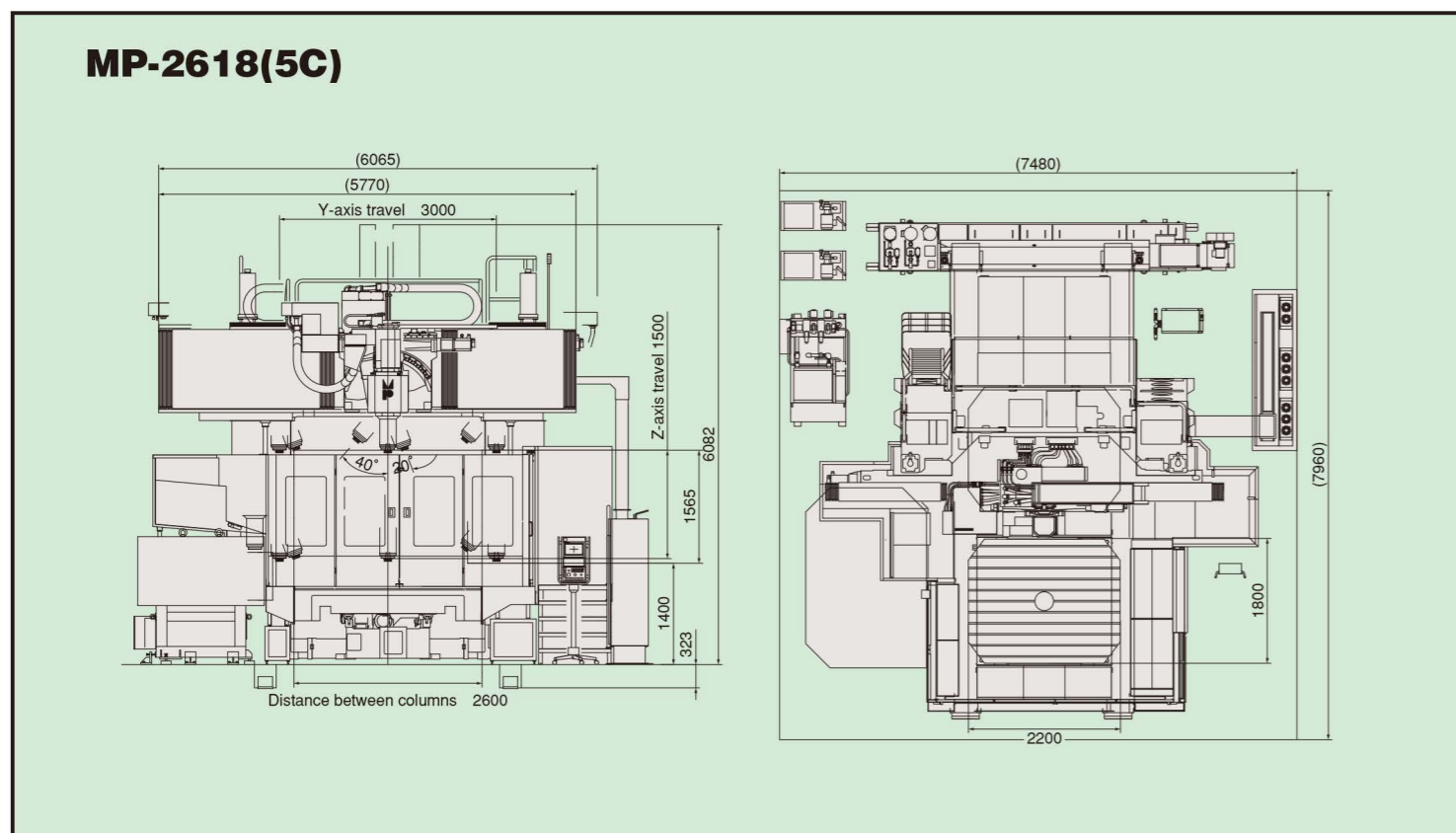
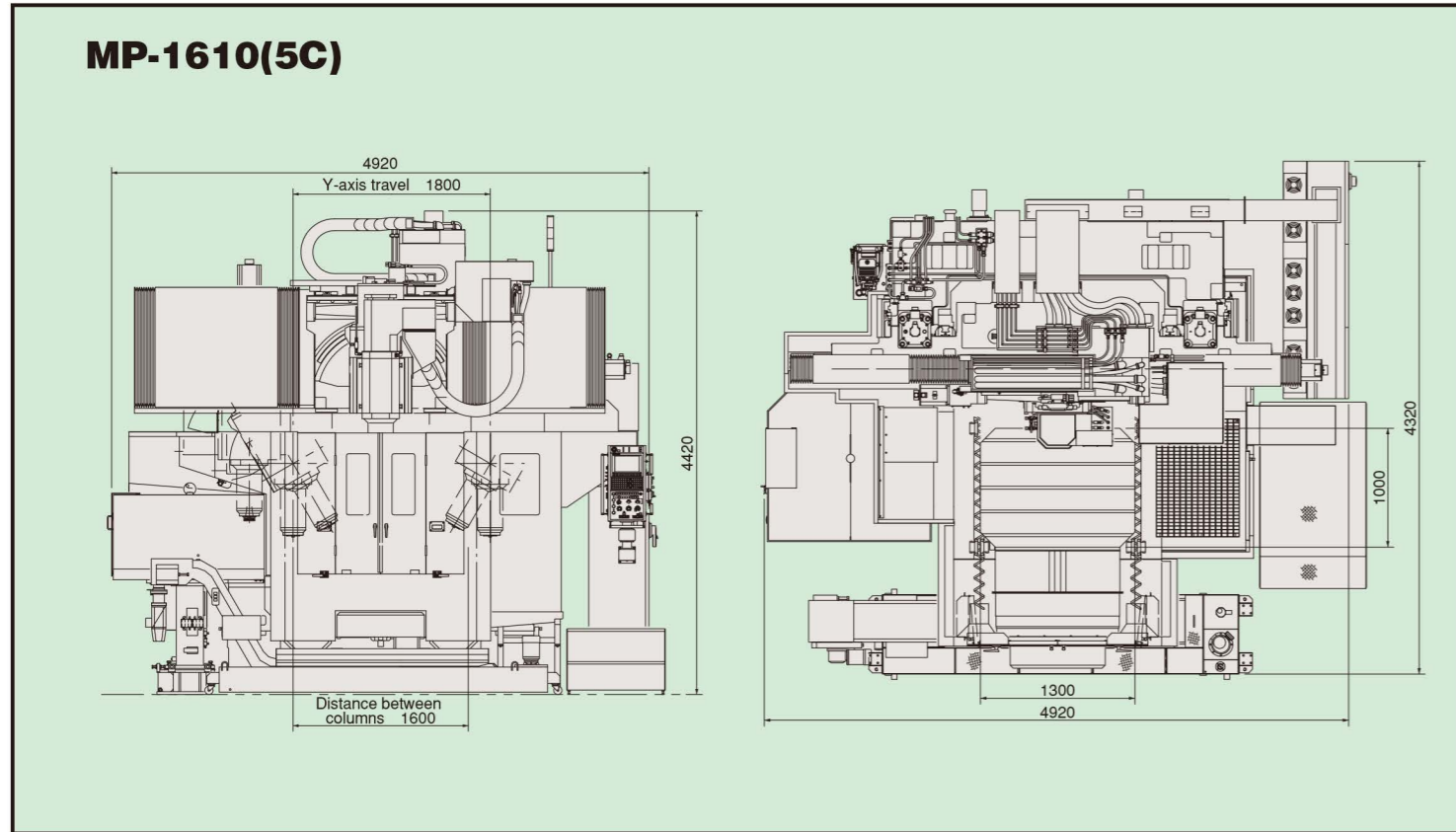
Examples of machining data

<p>Heavy-duty cutting</p>  <p>Test-piece material 1055 (SAE) Face-mill Φ100 mm Spindle Speed S640 (V200) Feed rate F1120 (f0.35/Blade) Stok removal 5X80 mm Swivel head index position 30°</p>	<p>Slant poket cutting</p>  <p>Test-piece material S55C (1055) Ball-end mill Φ30 mm Spindle Speed S1400 Feed rate F2400 Stok removal 25X1.2 mm Swivel head index position 10°</p>
<p>Constant-Z Contouring high speed feed-rate cutting</p>  <p>Test-piece material 1055 (SAE) Face-mill Φ100 mm Spindle Speed S640 Feed rate F2500 - 4000 Stok removal 1.5 mm Swivel head index position 0°</p>	<p>Inclined Gun-drilling 1</p>  <p>Test-piece material 1055 (SAE) Gun drill Φ23X450L (mm) Spindle Speed S1100 Feed rate F25 - 60 (Variable) Swivel head index position 11°</p>
<p>Contouring machining</p>  <p>Test-piece material 1055 (SAE) Ball-end mill Φ30 mm Spindle Speed S7000 Feed rate F4200 Swivel head index position 20°</p>	<p>Inclined Gun-drilling 2</p>  <p>Test-piece material 1055 (SAE) Gun drill Φ20X650L (mm) Spindle Speed S1300 Feed rate F25 - 60 (Variable) Swivel head index position 30°</p>
<p>Inclined tapping</p>  <p>Test-piece material S55C (1055) Tap M30X3.5 mm Spindle Speed S110 Feed rate F385 Swivel head index position 20°</p>	<p>Slant rib machining</p>  <p>Test-piece material 1055 (SAE) Ball-end mill Φ2X0.5degree Spindle Speed S8000 Feed rate F1500 Swivel head index position 25°</p>

Machine specifications

Machine specifications			MP-1610(5C)	MP-2618(5C)
Travel	X-axis travel (Longitudinal movement of table)	mm (in)	1 000 (39.37)	2 200 (86.61)
	Y-axis travel (Cross movement of spindle head)	mm (in)	1 800 (70.86)	3 000 (118.11)
	Z-axis travel (Vertical movement of crossrail)	mm (in)	600 (23.62)	1 500 (59.05)
	A-axis travel (Swivel head indexing)	deg	±30	
	C-axis travel (Table indexing)	deg	±360	
	Height (Distance from table top to spindle nose)	mm (in)	900 (35.43)	1 565 (61.61)
Distance between both inner side of frame		mm (in)	1 600 (62.99)	2 600 (102.36)
Table	Table working surface	mm (in)	1 000X1 300 (39.37X51.18)	1 800X2 200 (70.86X86.61)
	Table loading capacity	kg (lbs)	4 000 (8 800)	15 000 (33 000)
Spindle	Spindle speed range(continuous rating)	min ⁻¹	40~8 000	
	Type of spindle taper hole		7/24 taper N0.50	
Feedrate	Rapid traverse	X and Y axes mm/min (ipm)	20 000 (787.40)	
		Z axis mm/min (ipm)	5 000 (196.85)	
	Feedrate	A axis deg/min	1 000	1 000
		C axis deg/min	1 000	360
		X and Y axes mm/min (ipm)	1~10 000 (0.04~393.70)	
		Z axis mm/min (ipm)	1~5 000 (0.04~196.85)	
A axis deg/min	1~1 000	1~1 000		
C axis deg/min	1~720	1~360		
Tool	Type of tool shank		MAS BT50	
	Type of retention knob		MAS P50T-1 (45 degree)	
Motor	Spindle drive motor (30min. /cont. rating)	kW (hp)	37/30 (49/40)	
	Electric power supply		200/220V AC ±10%, 50/60 Hz ±1Hz	
	Power source requirement	kVA	120	
Power source	Compressed air source	MPa (psi)	0.5~0.8 (73~116)	
	Machine height	mm (in)	4 420 (174.1)	6 082 (239.45)
Machine size	Floor space	mm (in)	4 320X4 920 (170.08X193.70)	7 480X7 960 (294.49X313.39)
	Mass of machine	kg (lbs)	28 600 (63 052)	44 000 (97 002)
	CNC system			TOSNUC PX100
Accuracy	Positioning accuracy	mm (in)	X, Y, Z: ±0.007 A, C: ±5 (sec) (X, Y, Z: ±0.00028 A, C: ±5 (sec))	
	Repeatability	mm (in)	X, Y, Z: ±0.003 A, C: ±3 (sec) (X, Y, Z: ±0.00012 A, C: ±3 (sec))	
Painting color	Standard exterior painting color (two-toned coloring)		R4-383 (Munsell 5Y8.4/0.5) and N2.5	

GENERAL VIEW



From Die and Mold Machining to Forming
Shibaura Machine Group Value-Chain

