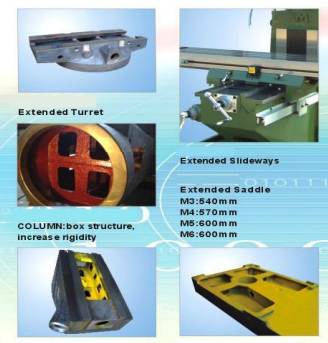




### Variable Speed Head



**Extended Saddle**  
M3: 640mm  
M4: 570mm  
M6: 600mm

**KNEE: double wall structure, increase rigidity**

**BOTTOM: box structure, increase rigidity**

- Optional Accessories:**
- Power Feeder
  - Digital Readout System
  - Machine Vise
  - Collet Set
  - Clamping Kits
  - Luxury Halogen Work Lamp
  - Coolant System
  - Chip Pan
  - Auto-Oil Lubrication System
  - Power Drawbar System

- Standard Accessories:**
- Draw Bar
  - Tool Box and Tools
  - Front and back Machine Guards
  - Electrical Cabinet & Control Panel
  - Manual Oil Lubrication System
  - Standard Halogen Work Lamp

### Specifications:

Model	Dimensions	Standard	Extended	mm	M2		M3		M4		M5		M6			
					(228×1067)9"×42"	(254×1270)10"×50"	(254×1320)10"×52"	(280×1370)11"×54"	(305×1370)12"×54"	(254×1270)10"×50"	(254×1320)10"×52"	(280×1370)11"×54"	(305×1370)12"×54"			
Working Table	(X-axis) Max. Longitudinal Travel	Auto	Manual	mm	607 ▲	727 ▲	780 ▲	830 ▲	880 ▲	930 ▲	770 ▲	890 ▲	770 ▲	870 ▲		
	(Y-axis) Max. Cross Travel			mm	305 ▲	340 ▲	400 ▲	450 ▲	500 ▲	550 ▲	430 ▲	480 ▲	460 ▲	500 ▲		
Ram	(Z-axis) Max. Vertical Travel			mm	350 ▲	340 ▲	400 ▲	450 ▲	500 ▲	550 ▲	430 ▲	480 ▲	460 ▲	500 ▲		
	Ram Travel			mm	340	340	400	450	500	550	430	480	460	500		
Spindle Taper Type	Quill Travel			mm	RB											
	Quill Feed			mm/rev	0.04, 0.08, 0.15											
Spindle Speed	Step Number			steps	16											
	Low Range			rpm	70, 110, 180, 270, 600, 975, 1540, 2310											
T-Slot	High Range			rpm	140, 220, 360, 540, 1200, 1950, 3080, 4620											
	Slot No. × Width × Pitch			no. × mm × mm	3 × 16 × 76											
Motor	Voltage			V	220/380/415/440											
	Fluorescent Horsepower			HP	50/60											
Other	Machine Dimensions (L × W × H)			mm	1340 × 1680 × 1950		1500 × 1680 × 2140		1600 × 1730 × 2210		1500 × 1780 × 2300		1600 × 1780 × 2400			
	Net Weight			Kg	1050		1400		1500		1500		1650			

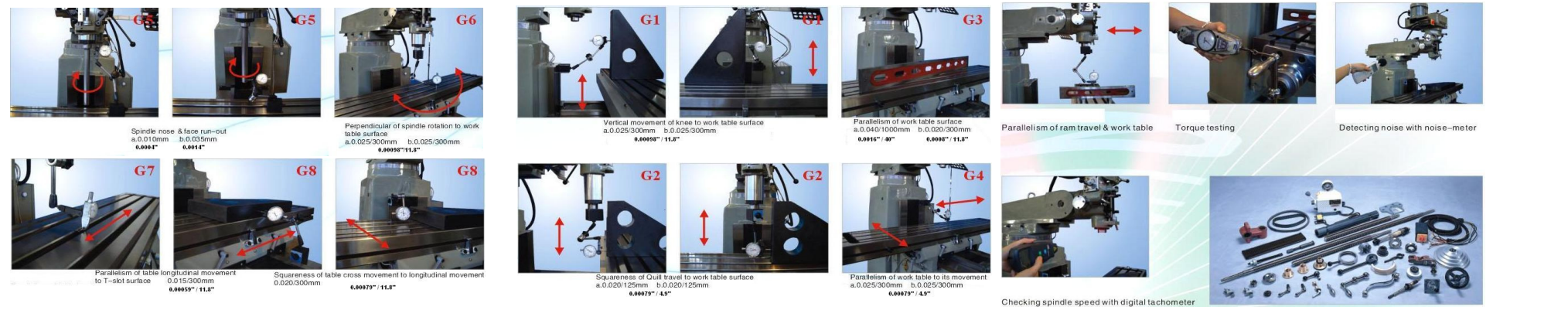
The shown machines RAM, COLUMN, BOTTOM and KNEE are modified with box and double wall structure respectively to increase rigidity. Extended SLIDEWAYS, TURRET, SADDLE increase machine precision.

### Characteristics:

- The machine is of excellent configuration with wide working range and small area requirement. Head swivel angles are 90° left/right and 45° front/back. Ram not only is movable in front and back direction but also can be rotated 360° horizontally to greatly extend the machine's working range.
- The machine body is made of S1230 Casting with maximum rigidity and reliability. Spindle is made of Chrome Molybdenum Steel, tempering and carburizing heat treated Spindle is assembled with precision Ball Bearing that provides wide cutting range and high precision.
- Three axes nuts on the screws are made of PBC-2 for maximum wear resistance and long lifetime.
- X-, Y- and Z-axes slideways are laminated with wear resistant material, Turcite-B for easy operation, minimum wear out and long durability.
- Working Table and Slideways are treated with inductive surface hardening and precision ground for maximum wear resistance. Equipped with manual oil lubrication system for concentrate lubrication on Working Table and knee.
- Equipped with modified Control Panel and Electrical Cabinet with 110V and 220V output sockets.
- RB, NT 30, NT 40 Spindle Tapers are available.

### Specifications: Subject to Change Without Notice

Model	M2	M2+	M3	M3+	M3++	M4	M4+	M5	M5+	M6	M6+
Table Size	9x42	9x60	10x50	10x52	10x54	10x52	10x54	11x54	12x54	12x54	12x58
Table Travel - X	23.89 (X)	31.89 (X)	28.74 (X)	30.71 (X)	32.68 (X)	29.53 (X)	31.49 (X)	30.32 (X)	30.32 (X)	30.32 (X)	34.25 (X)
Table Travel - X	With Power Feed		36.61 (X)	35.43 (X)	37.4 (X)	36.22 (X)	34.25 (X)	35 (X)	35 (X)	39 (X)	
Table Travel - Y	No Power Feed		12 (Y)	12 (Y)	15.75 (Y)	15.75 (Y)	16.53 (Y)	16.53 (Y)	17.91 (Y)	16.93 (Y)	18.11 (Y)
Table Travel - Y	Cross		12 (Y)	12 (Y)	15.75 (Y)	15.75 (Y)	16.53 (Y)	16.53 (Y)	17.91 (Y)	16.93 (Y)	18.11 (Y)
Table Travel - Z	Vertical		13.78 (Z)	13.78 (Z)	15.75 (Z)	15.75 (Z)	16.9 (Z)	16.9 (Z)	18.11 (Z)	18.11 (Z)	18.11 (Z)
Table Travel - Z	Vertical		13.78 (Z)	13.78 (Z)	15.75 (Z)	15.75 (Z)	16.9 (Z)	16.9 (Z)	18.11 (Z)	18.11 (Z)	18.11 (Z)
RAM Travel - Y	Horizontal		13.34	13.34	21.6	21.6	21.6	24	24	24.4	24.4
Head Tilt	Front/Back		45	45	45	45	45	45	45	N/A	N/A
Head Tilt	Left/Right		90	90	90	90	90	90	90	90	90
Head/RAM Rotation	Orbital		360	360	360	360	360	360	360	360	360
Quill Travel - Z'	Vertical		5	5	5	5	5	5	5	4.92	4.92
Quill feeds	Vertical	INCH/REV	0.0016, 0.0031, 0.0059	0.0016, 0.0031, 0.0059	0.0016, 0.0031, 0.0059	0.0016, 0.0031, 0.0059	0.0016, 0.0031, 0.0059	0.0016, 0.0031, 0.0059	0.0016, 0.0031, 0.0059	0.0016, 0.0031, 0.0059	0.0018, 0.0034, 0.0056
Spindle Taper	Taper		R8/NT30	R8/NT30	R8/NT30	R8/NT30	R8/NT30	R8/NT30	R8/NT30	R8/NT30	NT40
Spindle Nose to Table Dist.	Min - Max	INCH	1.77 - 17.52	1.77 - 17.52	2.56 - 18.31	2.56 - 18.31	1.97 - 18.90	1.97 - 18.90	1.97 - 20.47	1.97 - 20.47	2.56 - 21.46
Spindle to Column Dist.	Min - Max	INCH	8.47 - 17.72	8.47 - 17.72	8.47 - 23.23	8.47 - 23.23	7.48 - 23.23	7.48 - 23.23	8.47 - 27.56	8.47 - 27.56	8.47 - 27.56
Max Table Work Load	Weight	Kg (LB)	250 (550)	250 (550)	250 (550)	250 (550)	250 (550)	300 (660)	300 (660)	300 (660)	300 (660)
T-Slots	Standard	MM (INCH)	3x16x63 (0.63x2.48)	3x16x63 (0.63x2.48)	3x16x63 (0.63x2.48)	3x16x63 (0.63x2.48)	3x16x63 (0.63x2.48)	3x16x76 (5/8x3)	3x16x76 (5/8x3)	3x16x80 (0.63x3.15)	3x16x80 (0.63x3.15)
Vari-Speed Spindle	Speed	RPM	60-4200	60-4200	60-4200	60-4200	60-4200	60-4200	60-4200	60-3600	60-3600
Step Head Spindle	Low Speed	RPM	70, 110, 180, 270, 600, 975, 1540, 2310								
Step Head Spindle	High Speed	RPM	140, 220, 360, 540, 1200, 1950, 3080, 4620								
Spindle Stepgear	N	STEPS	16	16	16	16	16	16	16	16	16
Spindle Motor	Voltage	VAC 3 Phase	220/380/415/440	220/380/415/440	220/380/415/440	220/380/415/440	220/380/415/440	220/380/415/440	220/380/415/440	220/380/415/440	220/380/415/440
Spindle Motor	Frequency	Hz	50/60	50/60	50/60	50/60	50/60	50/60	50/60	50/60	50/60
Spindle Motor	Horsepower	Hp	3	3	3	3	3	3	5	5	5
Machine	Overall Dimension	INCH	53x66x77	53x66x77	59x66x85	59x66x85	59x66x85	63x69x87	59x71x91	59x71x91	63x71x95
Machine	Weight	Kg (LB)	1050 (2310)	1050 (2310)	1200 (2640)	1200 (2640)	1200 (2640)	1400 (3080)	1500 (3300)	1500 (3300)	1650 (3630)



Spindle nose & face run-out  
a. 0.01mm  
b. 0.03mm  
0.0014" / 0.0014"

Perpendicular of spindle rotation to work table surface  
a. 0.025/300mm  
b. 0.025/300mm  
0.00098" / 11.8"

Vertical movement of knee to work table surface  
a. 0.025/300mm  
b. 0.025/300mm  
0.00098" / 11.8"

Parallelism of work table surface  
a. 0.040/1000mm  
b. 0.020/300mm  
0.0016" / 40" / 0.0008" / 11.8"

Parallelism of ram travel & work table

Torque testing

Detecting noise with noise-meter

Parallelism of table longitudinal movement to T-slot surface  
0.0014" / 0.0014"

Squareness of table cross movement to longitudinal movement to T-slot surface  
0.00055" / 11.8"

Squareness of table cross movement to longitudinal movement to T-slot surface  
0.00075" / 11.8"

Squareness of Quill travel to work table surface  
a. 0.020/125mm  
b. 0.020/125mm  
0.00075" / 43"

Parallelism of work table to its movement  
a. 0.025/300mm  
b. 0.025/300mm  
0.00075" / 43"

Checking spindle speed with digital tachometer

Checking spindle speed with digital tachometer

Checking spindle speed with digital tachometer

Checking spindle speed with digital tachometer

Checking spindle speed with digital tachometer