

Omega

3050 | 3070 | 4050 | 4070



Drilling and Milling Made Easy

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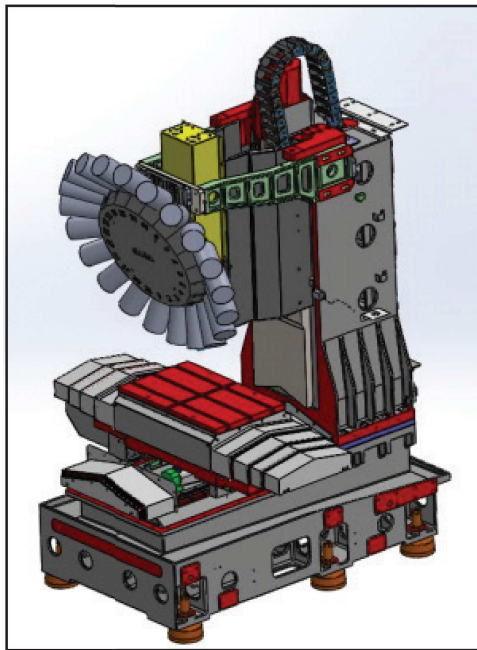
Omega

High Speed Machining Centres

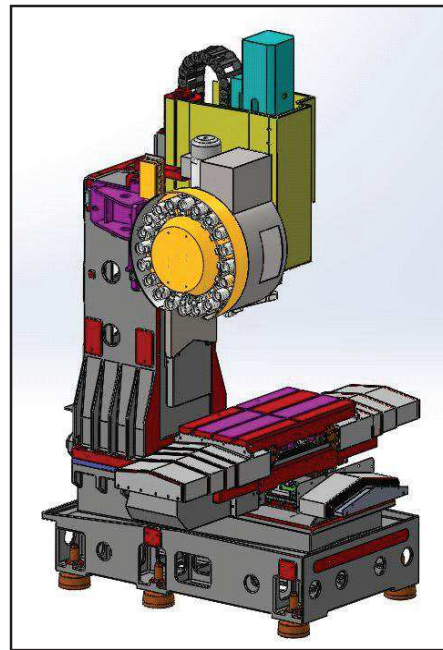
High Speed Vertical Machining Center

A robust, thermally stable structure, along with insanely high rapid rates of 60/60/48 m/min for X/Y/Z Axis & directly coupled spindles which can reach rotation speeds of 24,000 revolutions per minute. And many more features make the vertical machining centre a flexible one, ensuring Precision and productivity.

Having put tremendous efforts on design & continual improvements based on established assets over the globe, we now claim that the vertical machining centre has touched extreme heights, & thus we call it OMEGA.



OMEGA – 3050 | 3070



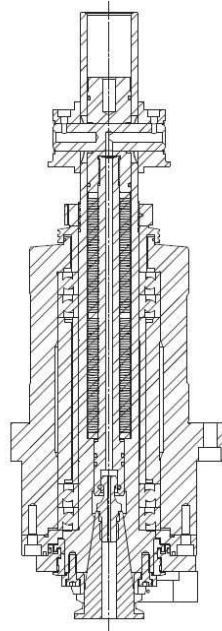
OMEGA – 4050 | 4070

Model	Omega 3050	Omega 3070	Omega 4050	Omega 4070
Spindle	BBT - 30		BT 40	
Table size (mm)	650 x 400	850 x 410	650 x 400	850 x 410
Axes strokes (mm)	500 / 400/ 350	700 / 400/ 350	500/ 400/ 450	700/ 400/ 450
Tool magazine	21 tools, Direct pickup		24 tools, Side-mounted with ATC arm	

Spindle Characteristics

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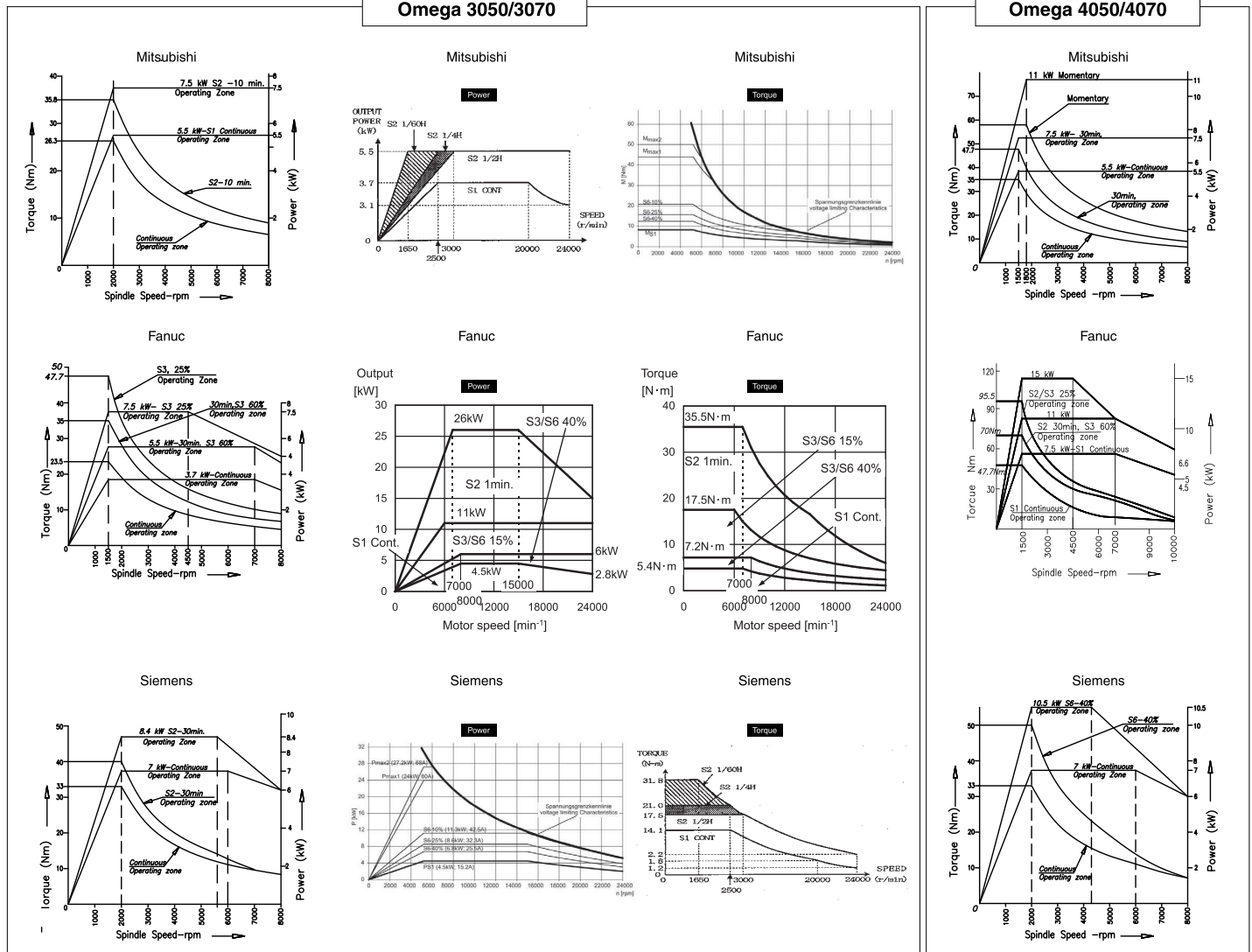
Spindle Assembly

- In-line type spindle drive with low inertia coupling
- Cartridge type spindle
- The spindle is supported on four precision angular contact ball bearings
- Tool clamping through disc spring
- Tool declamping through cam and lever

Omega 4050/4070

Omega 3050/3070

Omega 4050/4070



CNC Features

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High Speed Machining Centres

Features	Mitsubishi	Fanuc	Siemens
10.4" color LCD display	S	S	S
Part program memory	500 KB	2 MB	1 MB
Number of register able programmes.	1000	1000	300
Look ahead	675 Blocks	40 Blocks	150 Blocks
High speed positioning	S	S	S
Fast spindle orientation	S	S	S
Faster fixed cycles	S	S	S
Background editing	S	S	S
Work piece co-ordinate system	S	S	S
Special canned cycles	S	S	S
Custom macros	S	S	S
Mirror image	S	S	S
Scaling	S	S	S
Coordinate system rotation	S	S	S
Linear interpolation	S	S	S
Circular interpolation	S	S	S
Cylindrical interpolation	S	S	S
Helical interpolation	S	S	S
Polar coordinate command	S	S	S
Dry run	S	S	S
Feedrate override	S	S	S
Tool length compensation	S	S	S
Cutter radius compensation	S	S	S
Backlash compensation	S	S	S
Pitch error compensation	S	S	S
Rigid tapping	S	S	S
Rigid tapping retract function	S	S	S
Tool life management	S	S	S
Run hour and part count display	S	S	S
Ladder diagram display	S	S	S
Manual pulse generator	S	S	S
Help function	S	S	S
User-friendly online guide	S	S	S
Alarm history	S	S	S
Memory card interface and Edit	S	S	S
USB port interface	S	S	S
Fast Ethernet port with data server	S	S	S
Pop up screen for easy Edit	S	S	S
Graphic simulation 2D (static)	S	Animation , tool path drawing only	S
Graphic simulation-3D (offline)	O	NA	O
High speed skip function for probes	O	O	O
Higher part program memory capacity for 3 MB (Siemens), 1 and 2 MB (Mitsubishi)	O	NA (only through external device)	O
Advanced surface function for die-mould	O	Optional	O
Auto servo turning	O	S	S
Nano interpolation	O	STD	S
True to size tooling display	O	NA	S
Remote reporting of process and machine info	NA	NA	S
400 V technology for superior energy efficiency	NA	NA	S

S: Standard, O: Optional, NA: Not Applicable

Cutting Capacity

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High Speed Machining Centres

Omega 3050 / 3070			
Metal	Milling	Drilling	Tapping
Aluminium	400 cc/min (68 cc/min/kW)	Ø 48 (0.1 mm/rev)	M24 x 2
Cast iron (GGG40)	120 cc/min (32 cc/min/kW)	Ø 28 (0.1 mm/rev)	M14 x 2
C45 steel	60 cc/min (20 cc/min/kW)	Ø 28 (0.1 mm/rev)	M14 x 1.5

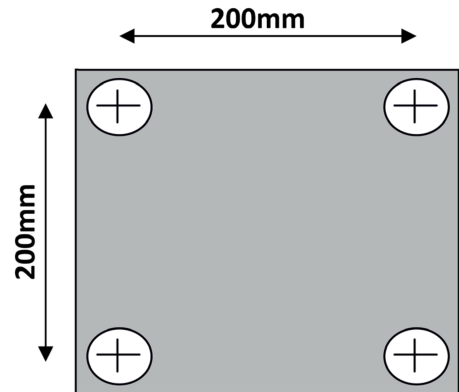
Omega 4050 / 4070			
Metal	Milling	Drilling	Tapping
Aluminium	550 cc/min (75 cc/min/kW)	Ø 55 (0.15 mm/rev)	M36 x 3
Cast iron (GGG40)	150 cc/min (32 cc/min/kW)	Ø 32 (0.15 mm/rev)	M18 x 2
C45 steel	75 cc/min (20 cc/min/kW)	Ø 32 (0.15 mm/rev)	M16 x 2

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High Speed Machining Centres



Machining Lines

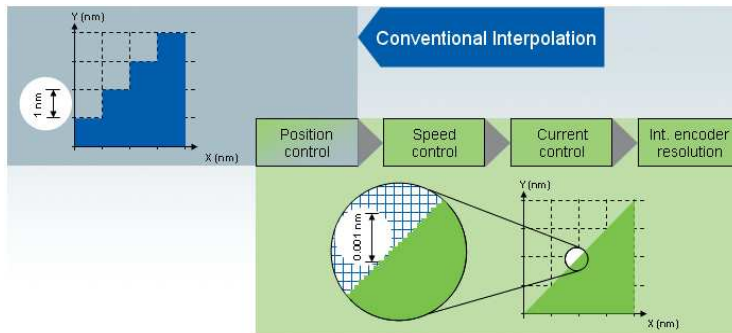


CD variation (X): < 0.008 mm

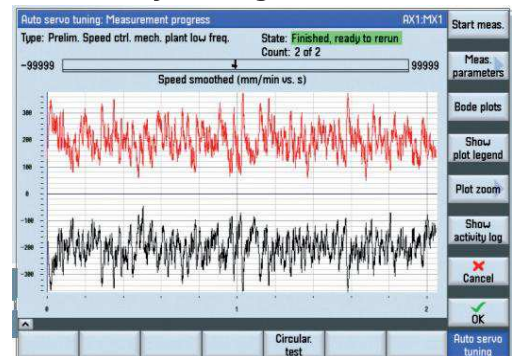
CD variation (Y): < 0.008 mm

Number of parts: 30

Nano interpolation

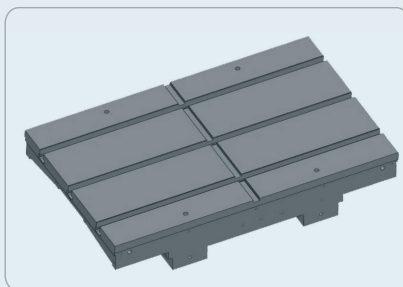


Automatic servo tuning and circularity settings



Flexibility

Various table options:



Fixed table



Rotary table



Tilting rotary table

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Applications



Automotive (IC Engine & EV) :



Hydraulics / Pump Industry



Telecommunications & Electronics



General Engineering



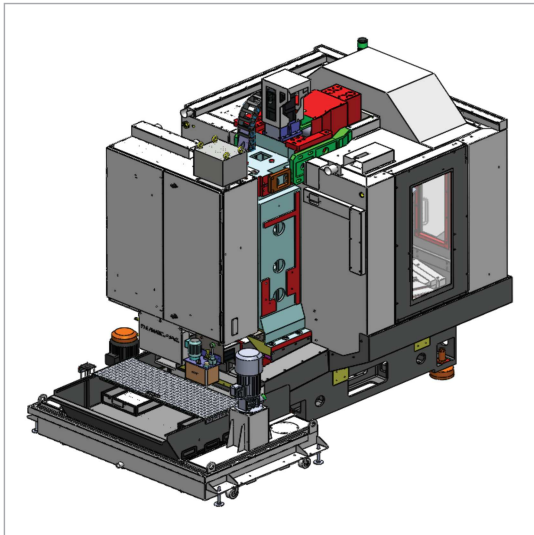
Aerospace



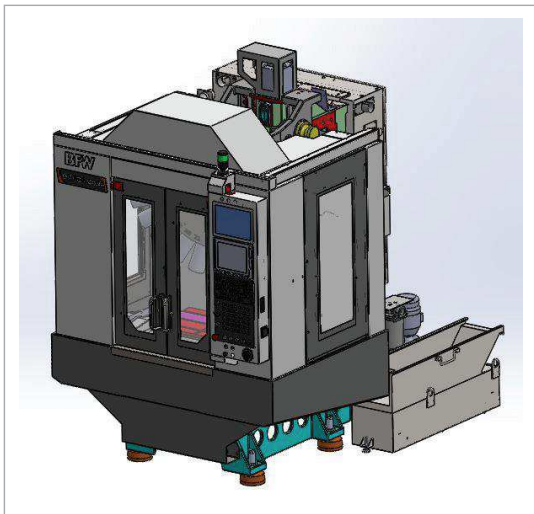
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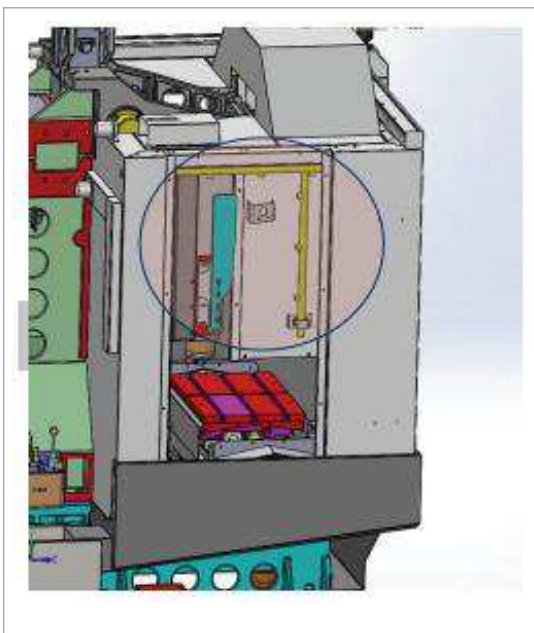
Easy Maintenance



- ▶ Platform on tank for easy access to electrical cabinet, pneumatic panel & lubrication tank



- ▶ Wide ERP Doors provided on both sides of machine for visualizing machining & also for maintenance / cleaning machine.



- ▶ In addition to slope on frame for chip flow, we also provide shower ducts in which pressurized coolant is supplied all over the machine, this helps to evacuate the chips away from the machining zone

Ergonomics

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▼ Minimum distance between the front door and machine table to ensure ease in loading of components.



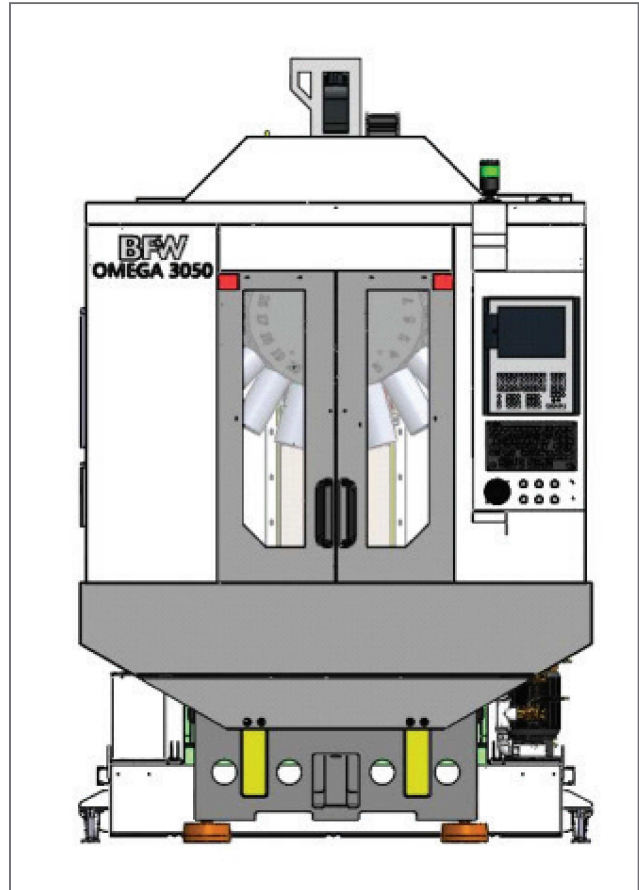
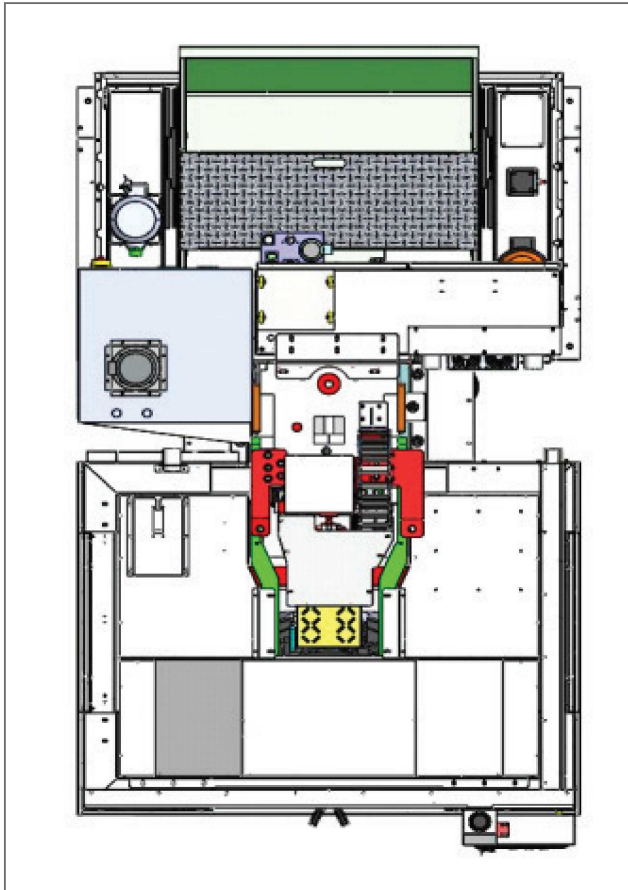
▶ Apart from ensuring minimum distance from door to headstock, we also provide Tool declamp button on headstock for easy loading of tools on to spindle.



Machine Dimensions

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High Speed Machining Centres



Machine model	All dimensions in mm		
	W	D	H
Omega 3050	1,650	2,950	3,050
Omega 3070	1,650	2,950	3,050
Omega 4050	2,050	2,950	3,050
Omega 4070	2,050	2,950	3,050

Depth (D) of the machine includes coolant tank and will vary based on the other accessories selected.

Machine model	All dimensions in mm				
	A	B	C1	C2	D
Omega 3050	650	400	300	400	350
Omega 3070	650	400	300	400	350
Omega 4050	850	410	300	400	450
Omega 4070	850	410	300	400	450

C1 150 mm height block

C2 250 mm height block

Technical Specification

Omega

High Speed Machining Centres

Description	Unit	Omega 3050	Omega 3070	Omega 4050	Omega 4070
Traverse:					
Long/Trans./Vert.-X/Y/Z	mm	500 / 400 / 350	700 / 400 / 350	500 / 400 / 450	700 / 400 / 450
Spindle nose to table top min./max.	mm	150 / 500		150 / 600	
Spindle center to column front	mm	454			
Table height from floor	mm	900			
Rapid traverse X/Y/Z	m/mm	60 / 60 / 48			
Feed rate	m/mm	40			
Spindle					
Power, cont./ 30 min/ S6-Siemens	kW	7 / 8.4		7 / 10.5	
Power, cont/ 30 min/ instant - Mitsubishi	kW	5.5 / 7.5		5.5 / 7.5	
Power, cont./ 30 min/56 Fanuc	kW	3.7 / 5.5 / 7.5		7.5 / 11 / 15	
Torque, cont./ 30 min./ S6-Siemens	kW	33 / 40		33 / 50	
Torque, cont./ 30 min./ instant- Mitsubishi	Nm	26 / 36		35 / 47.7	
Torque, cont./ 30 min./56-Fanuc	Nm	23.5 / 35		47.5 / 70 / 95.5	
Taper	Type	BBT 30		BT 40 (HSK A 63)	
Speed	rpm	80-8000 (120-12000, 15000, 20000, 24000)		80-8000 (100-10000)	
Table					
Size	mm	650 x 400	850 x 410	650 x 400	850 x 410
T-slot (no. x size x pitch)	mm	3 x 14 x 125			
Maximum safe load on table	kg	300			
Automatic Tool Changer					
Tool changing system		Direct pick-up		Twin arm (servo-driven arm)	
Tool storage capacity	No	2		24	
Pull stud		MAS		MAS	
Max tool with adjacent pocket empty	mm	80 (100)		65 / 125	
Max tool weight	kg	3		6	
Tool change time (T-T)	S	1.4		1.9	
Tool change time (C-C)	S	1.7		2.7	
Accuracy As Per ISO 230-2					
Positioning A	mm	0.012			
Repeatability R	mm	0.010			
Machine Installation data					
Basic machine weight	kg	2500	2800	2700	3000
Floor space (machine with coolant tank)	mm x mm	~ 1650 x 2800	~ 2050 x 2800	~ 1650 x 2800	~ 2050 x 2800
Total connected load	kVA	16		16	
Compressed air	bar	6			
Power supply		415 V AC, 50 Hz, 3 Phase			
CNC System	S	Mitsubishi M80 / Fanuc 0IMF+ / Siemens 828 D			

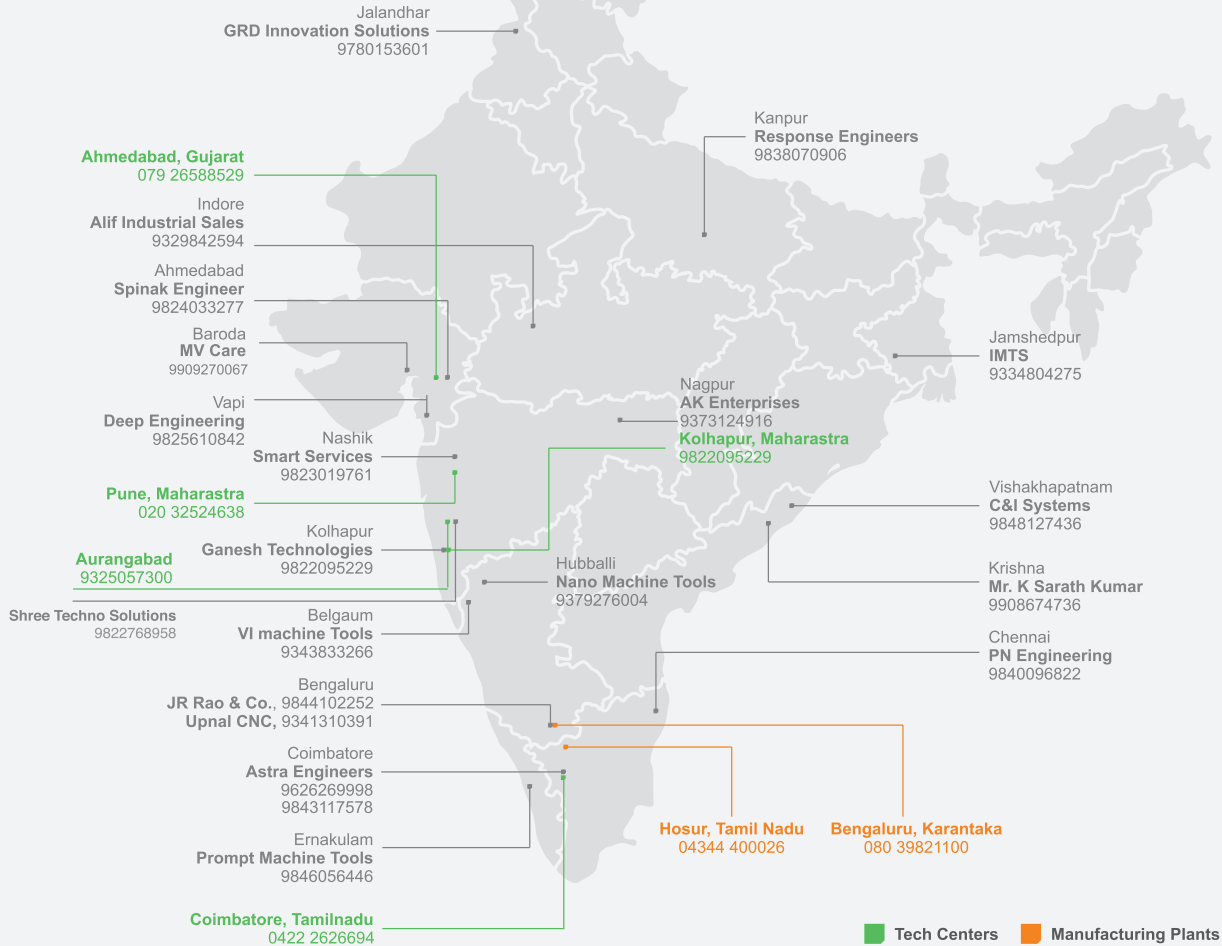
Standard Features

- LM guide-ways for all axes
- Ball-screws for all axes
- Centralised oil lubrication system
- Absolute encoder feedback for all axes
- Air blast for spindle taper cleaning
- Electronic counter-balance for vertical axis
- Tool damping through disc-springs and lever
- Coolant tank
- Feedback through absolute encoder
- Spindle taper air blow
- Rigid tapping
- Full machine guard
- Levelling pads
- Maintenance tool kit
- 8000 rpm spindle speed 3-tier lamp
- Coolant gun

Optional Features

- Increased day light area
- Provision for 4th and 5th axes
- Chip conveyor and drum filtration
- High pressure coolant through spindle (16 bar/ 40 bar) with suitable filtration Oil skimmer
- Automatic front door
- Tool breakage sensor
- Interfacing for robot loading
- Voltage stabiliser
- Air gun
- AC for electrical cabinet

Network



International Network

- Bangladesh
- Bahrain
- China
- France
- Germany
- Iran
- Kuwait
- Netherlands
- Oman
- Poland
- Qatar
- Russia
- Saudi Arabia
- Sri Lanka
- South Africa
- Thailand
- Turkey
- UAE



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