

»»»» PRIMA Pro



High Productivity Horizontal Machining Center

Prima 44 Pro | Prima 54 Pro | Prima 55 Pro | Prima 65 Pro



www.bfwindia.com

BFW
Bharat Fritz Werner

Horizontal Machining Centers

Series: Prima 44 Pro | Prima 54 Pro | Prima 55 Pro | Prima 65 Pro

Prima Pro series of Horizontal Machining Centers seamlessly combine our decades of experience in building HMC's with valuable feedback from our customers. It takes the HMC series to the next level in Reliability, Performance and Productivity.

Prima Pro is a machine, with many innovative first-in-class features as under

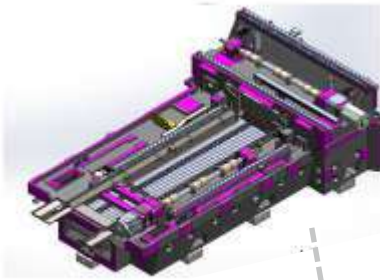
- Isolated machine elements from chip zone.
- Stainless steel lamella covers for X-Y axes and single sheet cover for Z axis
- Chip disposal through stainless steel chute right below the cutting zone.
- Fully enclosed machining area.
- Overhead shower wash with copious coolant flow.



Specifications	Unit	PRIMA 44 Pro	PRIMA 54 Pro	PRIMA 55 Pro	PRIMA 65 Pro
Pallet size	mm	500 x 400	630 x 500	630 x 500	800 x 630
Spindle taper	type	BT 40 (HSK A 63)		BT 50 (HSK A 100)	
Axes Traverse	mm	600,600,600	800,700, 800	800,700, 800	1000,850,1000
Job swing Dia x Ht (mm) Weight (kg)	mm	<div> <div>630</div> <div>650</div> <div>400</div> </div>	<div> <div>700</div> <div>800</div> <div>500</div> </div>	<div> <div>700</div> <div>800</div> <div>500</div> </div>	<div> <div>1050</div> <div>1300</div> <div>1000</div> </div>

Configuration

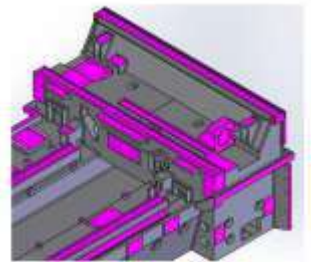
Inside bed slat conveyor
for easy chip evacuation



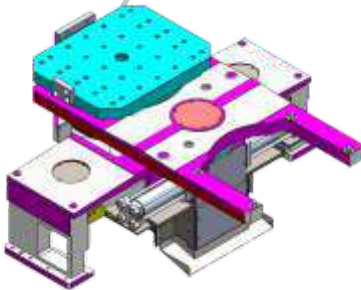
Next generation
double walled
column with special
ribbed construction



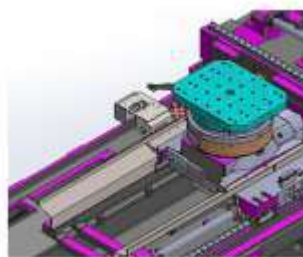
Raised bed construction
for maximum rigidity during
heavy machining



Stainless
steel lamella covers



Ergonomic design for ease in
maintenance



Z axis single sheet cover for
maintenance free usage



Roller type LM Guide-ways
for better rigidity
& sustained accuracy

Spindle

Cartridge type design of spindle ensures ease of maintenance & replacement. Prima spindle offer best-in-class power & torque.

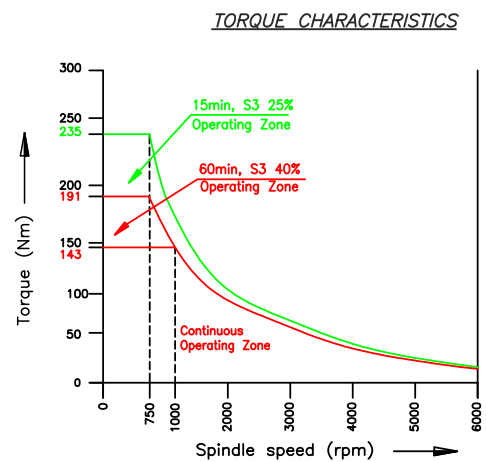
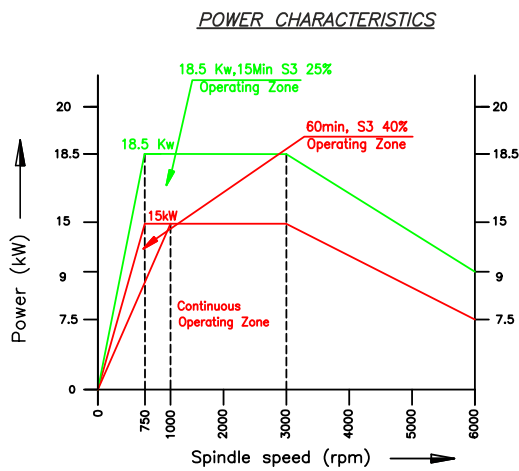
Robust spindle with $\varnothing 80$ bearing ID on Prima 44 Pro & 54 Pro & $\varnothing 100$ bearing ID on Prima 55 Pro offers unmatched performance.

Prima 65 Pro comes with a 1:1 gear driven spindle with $\varnothing 100$ bearing ID offering best cutting performance.

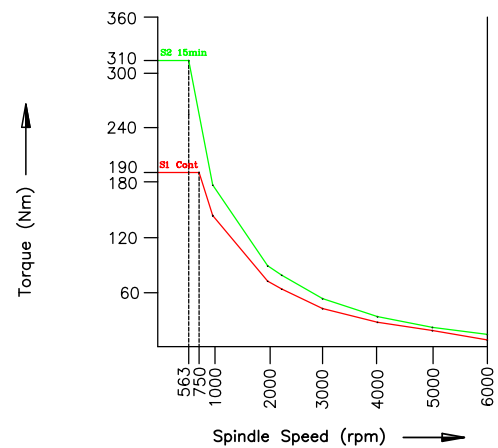
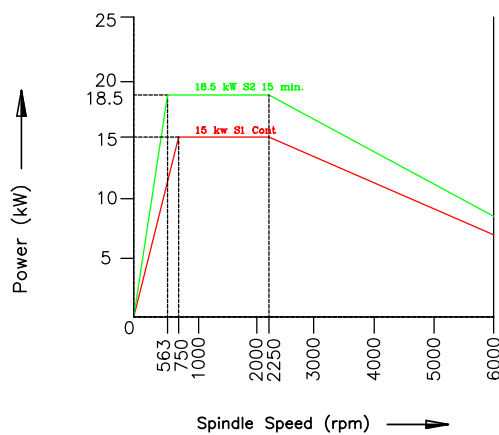


Spindle Characteristics

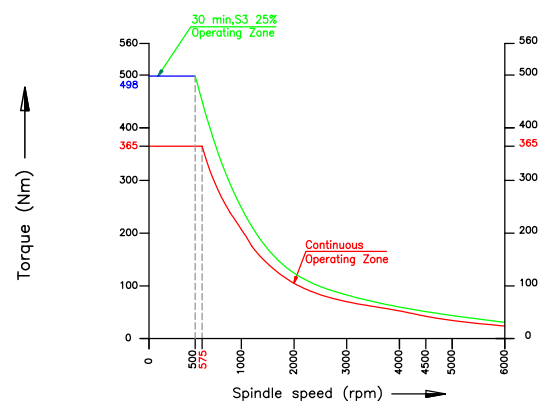
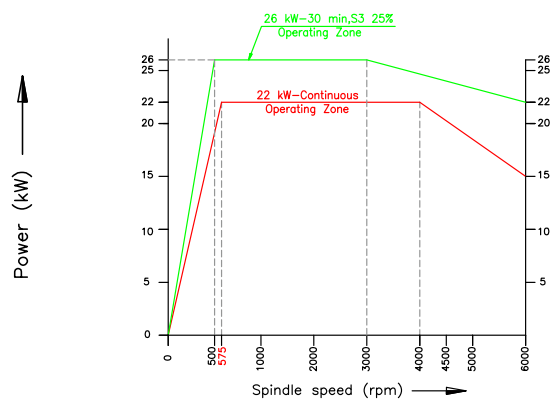
Standard - Prima 44 Pro/ 54 Pro



Standard - Prima 55 Pro

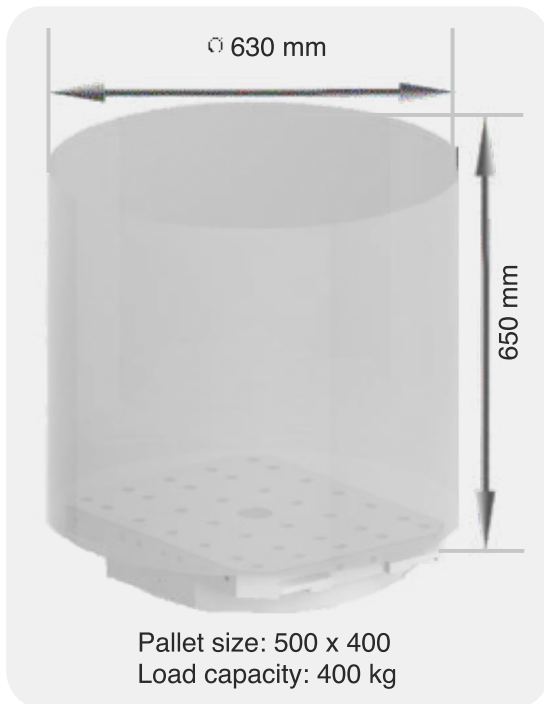


Standard - Prima 65 Pro

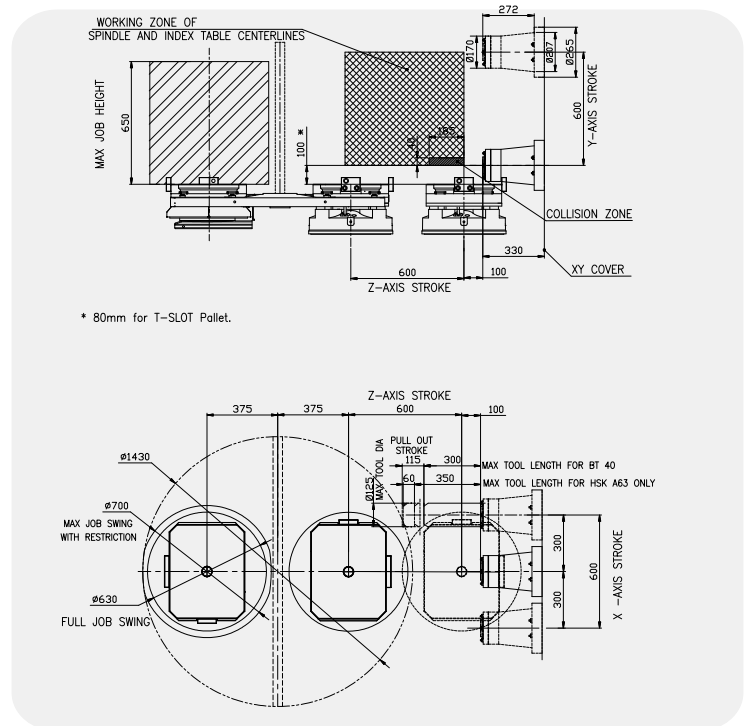


PRIMA Pro

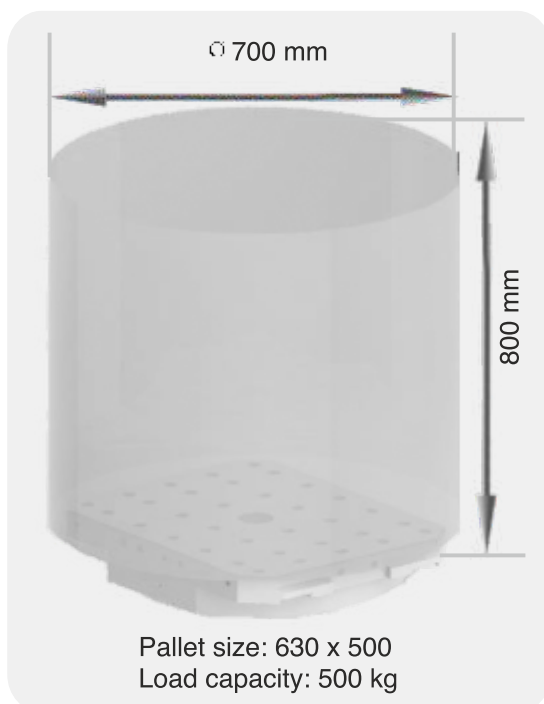
Job size - Prima 44 Pro



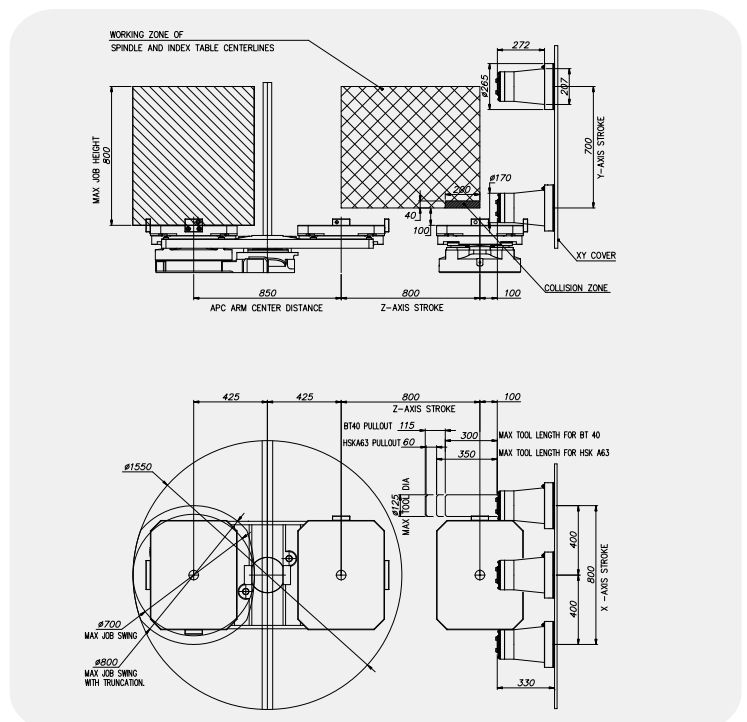
Stroke Diagram - Prima 44 Pro



Job size - Prima 54 Pro

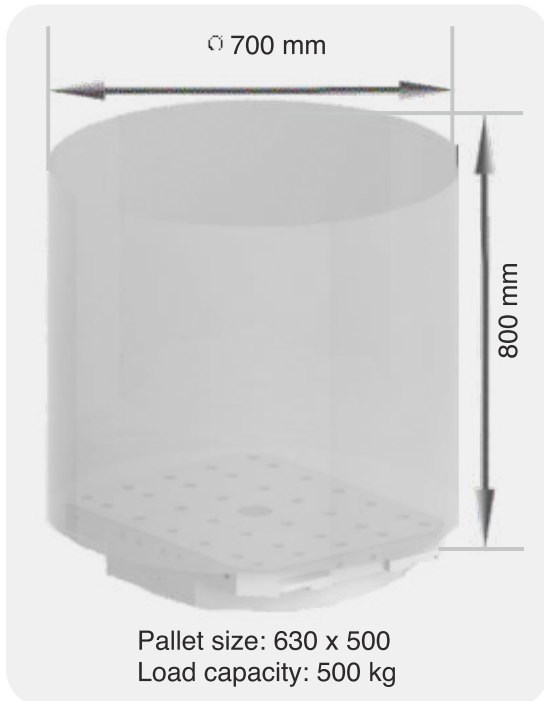


Stroke Diagram - Prima 54 Pro

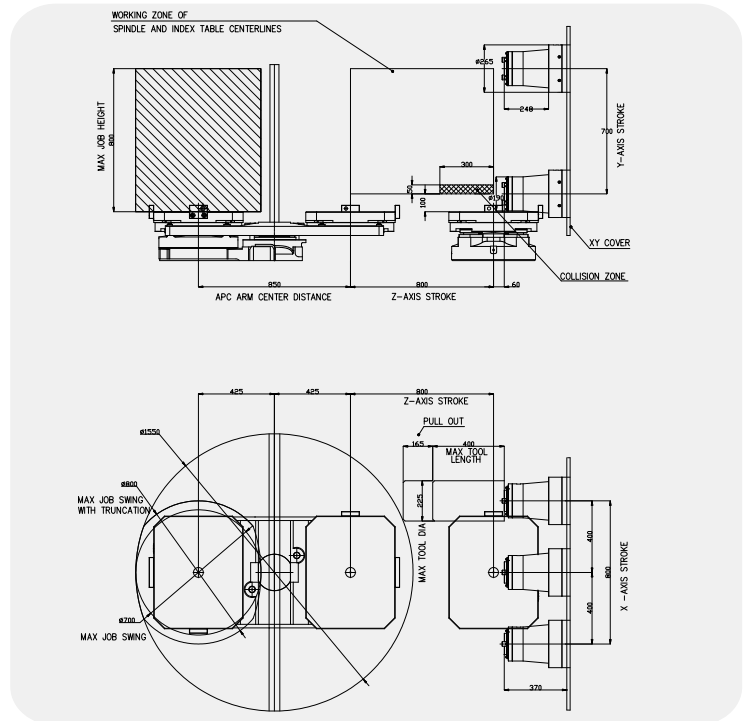


>>>> PRIMA Pro

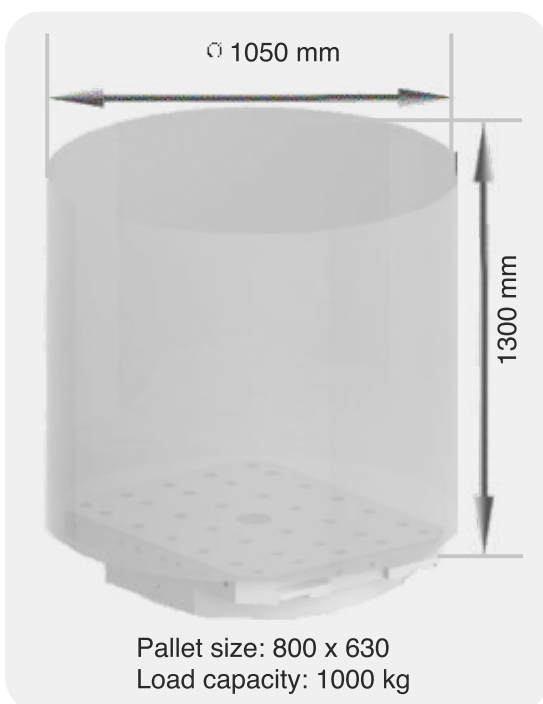
Job size - Prima 55 pro



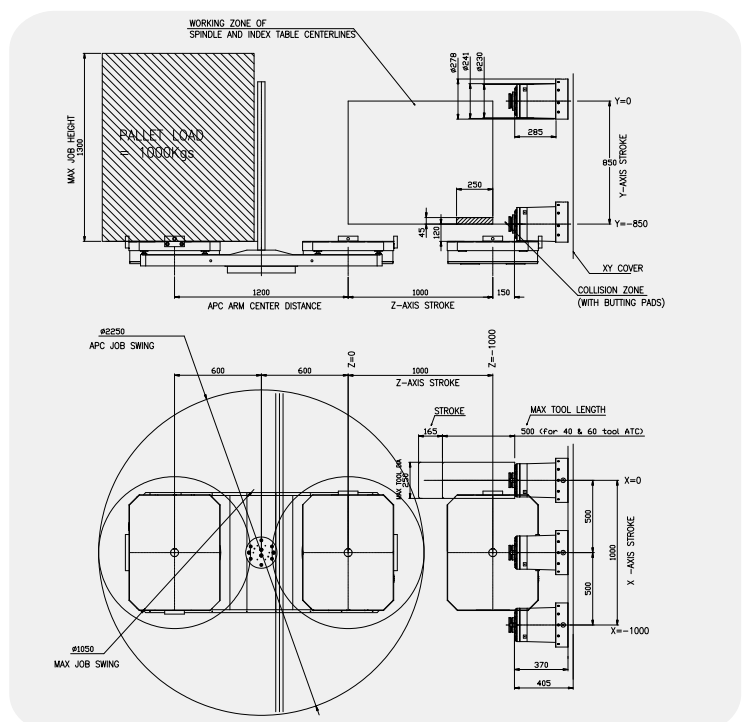
Stroke Diagram - Prima 55 Pro



Job size - Prima 65 Pro



Stroke Diagram - Prima 65 Pro



Applications



Manifold



Differential Carrier



Flywheel Housing



Cylinder Head



Housing



Manifold



Cylinder Block



Flywheel Housing



Trumpet Housing



Crankshaft



Valve Body



Knuckle



Front Axle Beam



Differential Housing



Axle Beam



Front Axle Support



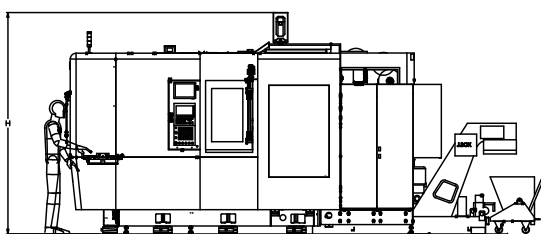
Trumpet Housing for Tractor

Many more..

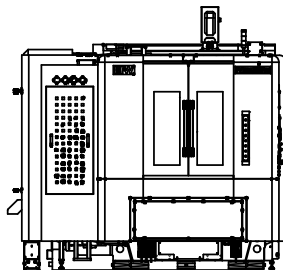
Standard Features

Standard & Optional features	PRIMA 44 Pro	PRIMA 54 Pro	PRIMA 55 Pro	PRIMA 65 Pro
Roller type guide-ways for all linear axes	S	S	S	S
Precise ball screws for all linear axes	S	S	S	S
Electronic counter balance for the vertical axes	S	S	S	S
Automatic centralized lubrication system	S	S	S	S
AC servo drives for all axes	S	S	S	S
Air blast for spindle taper cleaning	S	S	S	S
Tool clamping through disc spring and de-clamp by hydraulics	S	S	S	S
Basic coolant system with bed wash and flood coolant	S	S	S	S
Stainless steel lamella covers on linear axes	S	S	S	S
Hydraulic power pack for machine functions	S	S	S	S
Spindle taper BT40 (Prima 44 Pro & Prima 54 Pro) & BT50 (Prima 55 Pro & Prima 65 Pro)	S	S	S	S
Spindle taper HSK A 63 (Prima44 Pro & Prima 54 Pro) & HSK A 100 (Prima 55 Pro & Prima 65 Pro)	O	O	O	O
Belt driven spindle	S	S	S	NA
Gear driven spindle	NA	NA	NA	S
Absolute encoder for all axes	S	S	S	S
10.4" color LCD display	S	S	S	S
Backlash & pitch error compensation	S	S	S	S
Rigid tapping and retract function	S	S	S	S
Linear, circular and helical interpolation	S	S	S	S
Polar co-ordinate programming	S	S	S	S
Tool life management	S	S	S	S
Machine alarm diagnostics	S	S	S	S
Over head shower wash	S	S	S	S
Energy saving function	S	S	S	S
Operator door safety interlock	S	S	S	S
Coolant gun, machine lamp and 3 tier signal tower lamp	S	S	S	S
Automatic pallet changer (Rotary type)	S	S	S	S
Fanuc OiMF+, B series motors & drives	O	O	O	O
Linear scales	O	O	O	O
Chip conveyor with chip trolley	O	O	O	O
High pressure coolant through spindle system (16 bar/ 40 bar) with non consumable filtration system	O	O	O	O
Thermal compensation sensors for linear axes	O	O	O	O
Continuous rotary table (0.001 deg x 360,000 positions)	O	O	O	O
Measuring probe	O	O	O	O
Mist collector	O	O	O	O
Hydraulic connections for fixture through rotary distributor (Top side)	O	O	O	O

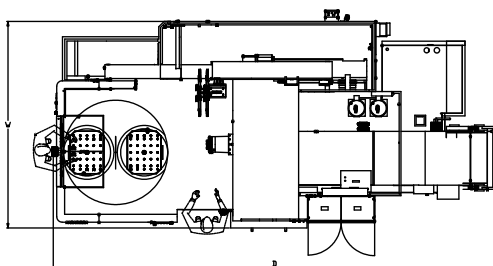
Machine Dimensions



SIDE VIEW



FRONT VIEW



TOP VIEW

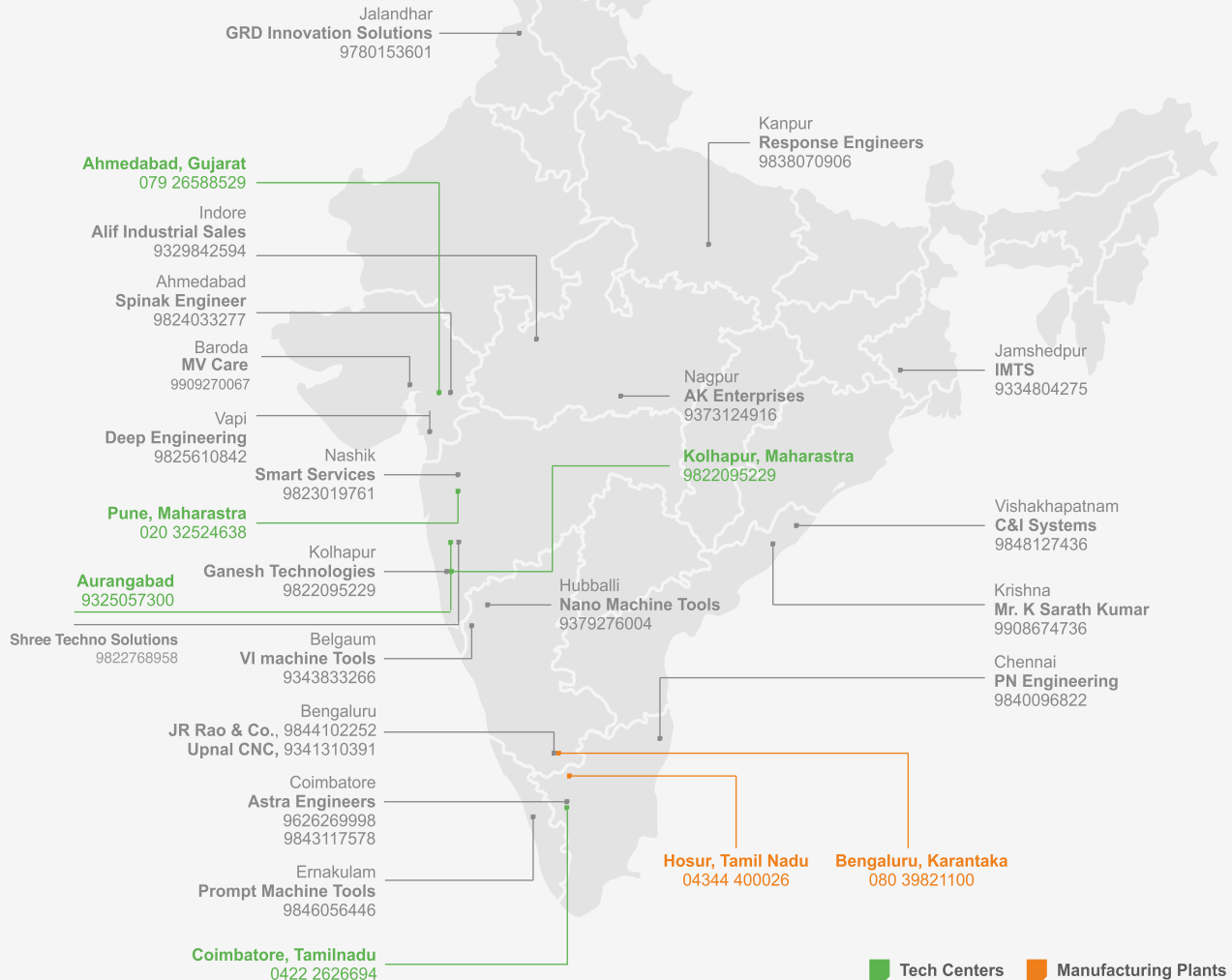
Standard machine with coolant tank and 24 tools magazine in Prima 44 Pro, Prima 54 Pro and 40 tools magazine in Prima 55 Pro & Prima 65 Pro

	Unit	PRIMA 44 Pro	PRIMA 54 Pro	PRIMA 55 Pro	PRIMA 65 Pro
W	mm	~ 2850	~ 2850	~ 3000	~ 3450
D	mm	~ 6350	~ 6550	~ 6550	~ 7430
H	mm	~ 2900	~ 3100	~ 3100	~ 3570

Technical Specifications

Specifications	Unit	PRIMA 44 Pro	PRIMA 54 Pro	PRIMA 55 Pro	PRIMA 65 Pro	
Spindle						
Spindle taper	type	BT 40 (HSK A 63)	BT 40 (HSK A 63)	BT 50 (HSK A 100)	BT 50 (HSK A 100)	
Spindle power & torque- cont/ int - standard	kW	15/18.5, 143/ 235 Nm		15/18.5, 190/ 310 Nm	22/26, 365/ 498 Nm	
Spindle Speed - standard (option)	rpm	6000 (8000)	6000 (8000)	6000	4500 (6000)	
Axes						
X/Y/Z axes	mm	600/ 600/ 600	800/ 700/ 800	800/ 700/ 800	1000/ 850/ 1000	
Feed rate	mm/ min	1 - 20000	1 - 20000	1 - 20000	1 - 20000	
Rapid traverse X/ Y/ Z axes	m/ min	40	40	40	40	
Pallet top to spindle centre (min./ max)	mm	100 - 700	100 - 800	100 - 800	120 - 970	
Pallet center to spindle face (min./ max)	mm	100 - 700	60 - 860	60 - 860	150 - 1050	
Index Table/ Rotary Table						
Pallet size	mm	x 00	630 x 500	630 x 500	800 x 630	
Pallet type		Tapped holes (M16 x 34)	T - slot			
Load capacity	kg	400	500	500	1000	
Maximum job size (dia x height)	mm	ø 630 x 650 (ø 700 with restriction)	ø 700 x 800 (ø 800 with restriction)	Y 700 x 800 (ø 800 with restriction)	ø 1050 x 1300	
Index positions Std (Option)	deg	360 x 1deg (720 x 0.5 deg)				
NC Rotary table - Option	deg	360,000 x 0.001 deg				
Automatic Tool Changer						
No of Tools - Std (Option1, Option 2)	No	24 (40) (60)	24 (40) (60)	40 (60)	40	60
Max tool dia with all pockets full	mm	75	75	125	125	
Max tool dia with adjacent pockets empty	mm	125	125	225	225	250/ 315
Maximum tool length	mm	300	300	400	450	500
Tool weight	kg	7	7	15 (40 tools) 25 (60 tools)	15	25
Tool change time	sec	2.2	2.2	3.5	4	
Chip to chip time (mm) as per ISO 10791- 9	sec	5.9	6.5	8.5	9.5	
Pull stud		MAS 403 PT 40 - 1	MAS 403 PT 40 - 1	MAS 403 PT 50 - 1	MAS 403 PT 50 - 1	
Accuracy as per ISO 230 - 2						
Linear axes						
Positioning A	mm	0.010	0.010	0.010	0.010	
Repeatability R	mm	0.008	0.008	0.008	0.008	
B axis - Index Table						
Positioning A	arc sec	8	8	8	8	
Repeatability R	arc sec	6	6	6	6	
B axis - Rotary Table						
Positioning A	arc sec	12	12	12	12	
Repeatability R	arc sec	9	9	9	9	
Automatic Pallet Changer		180 deg swing type	180 deg swing type	180 deg swing type	180 deg swing type	
CNC System		Mitsubishi (Fanuc Oi MF+)	Mitsubishi (Fanuc Oi MF+)	Mitsubishi (Fanuc Oi MF+)	Mitsubishi (Fanuc Oi MF+)	
Installation Data						
Basic weight of machine	kg	~ 10,000	~ 13,500	~ 14,000	~ 20,000	
Floor Area for Std. Machine W x D	mm	~ 2400 x 6300	~ 2850 x 6550	~ 3000 x 6550	~ 3450 x 7430	
Total connected load	kVA	~ 35	~ 45	~ 48	~ 60	
Compressed air	bar	6	6	6	6	
Power supply		415 V ± 10 % AC, 50 ± 2 % Hz, 3 phase				

Network



International Network

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