

Virat

Double Column Vertical Machining Center



Right Solution for Large Sized Components!

Series 1	Series 2	Series 3	Series 4
1020 1030	1520 1530 1540	2030 2040 2060	3040 3060

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BFW
Bharat Fritz Werner

Double column vertical machining center for heavy-duty roughing & finishing of large sized components

Virat series are the double column vertical machining centers which are symbolizes of greater rigidity, exceptional power and incredible efficiency.

These series offers tailor made solutions for machining large sized components for Die-could, Automotive, Aerospace, Mining, Agriculture, Construction and Textile sectors to keep the pace with growing market application.

Virat is a machine, with many best-in-class features as under:

Advanced body structure:

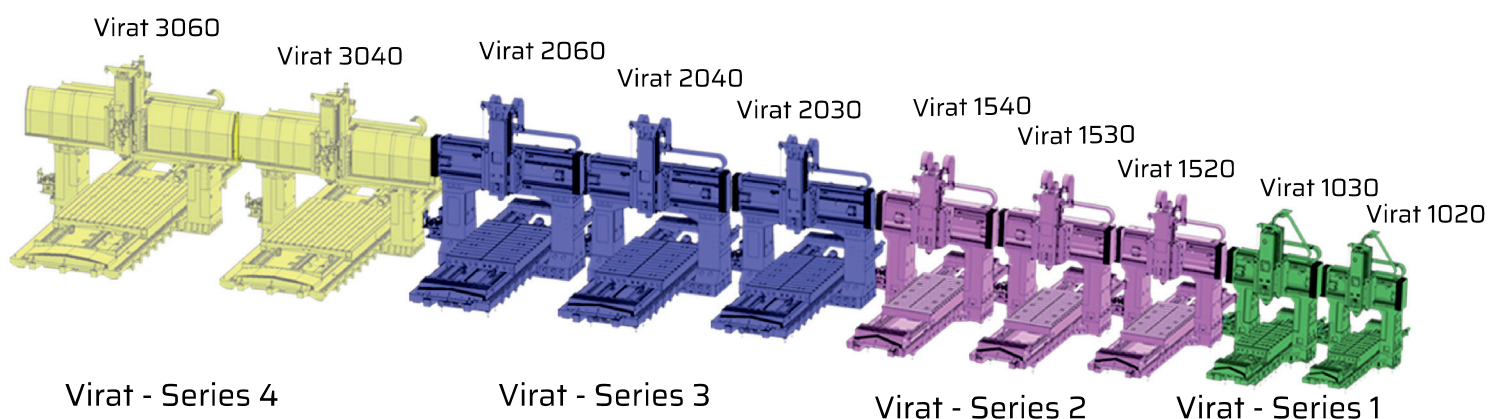
- Integrated column & cross beam (on series 1 & series 2)
- Strong & rigid structure with internal rib design
- Minimum throat distance

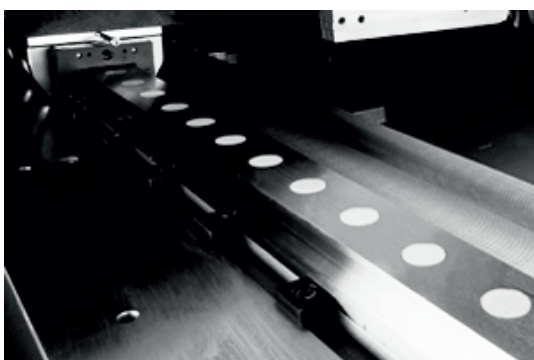
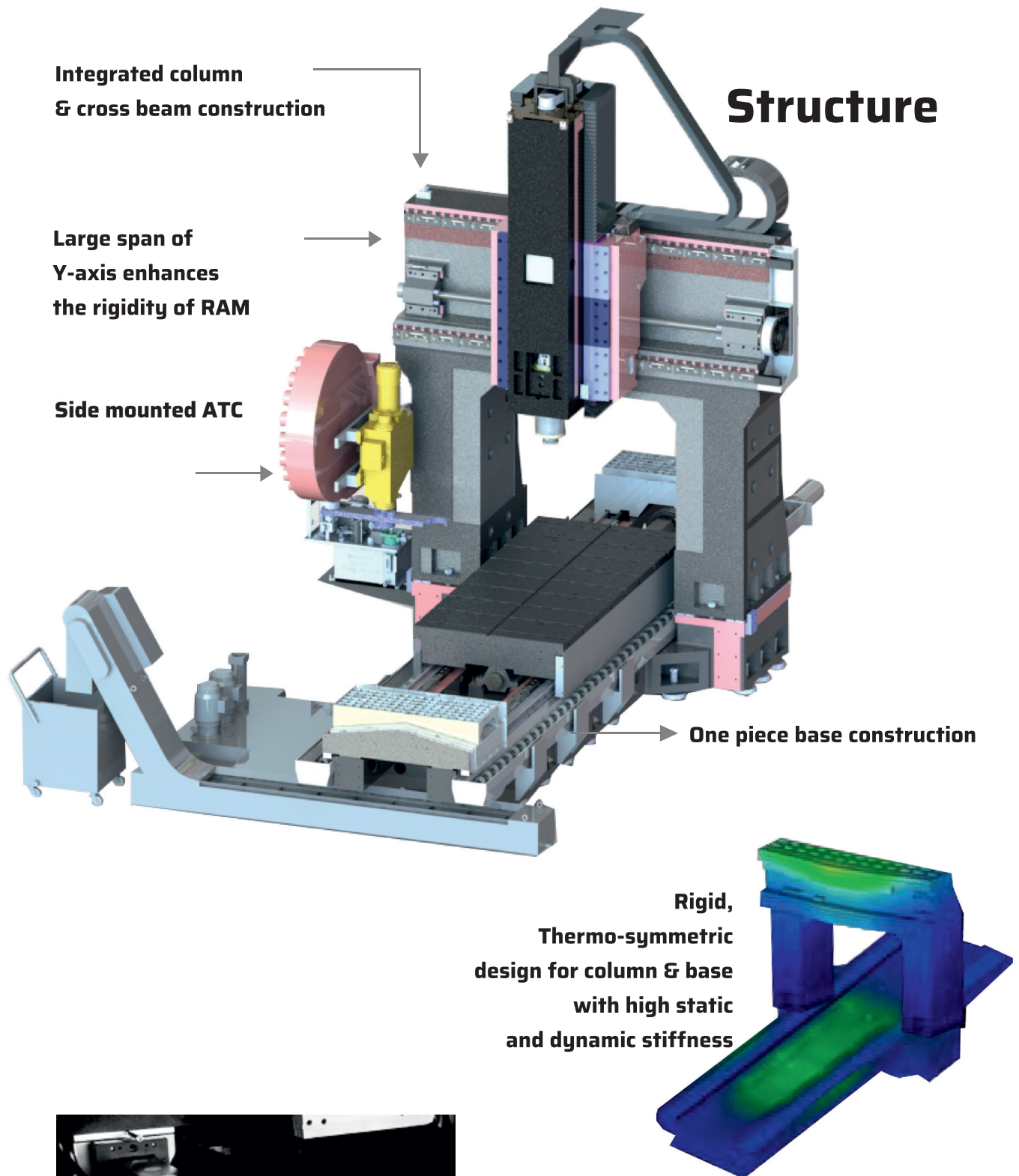
Guide-ways:

- Roller type LM guide-ways on X/Y/Z axis
- Hardened and ground box guide-way on Z-axis (on Virat 1020 and Virat 1030 model only)
- Linear glass scale feedback as option



Virat series product range: Modular structure





Roller type linear motion guides for:

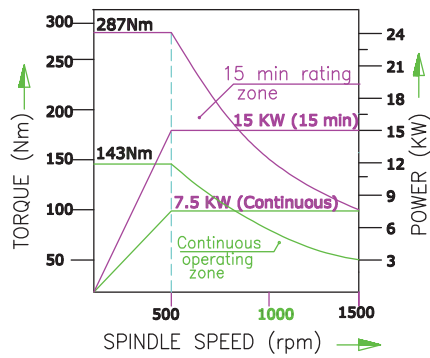
Low friction table movement
Better dynamic and stable load-bearing capacity.
Superior geometric accuracy and surface quality.
Better anti-vibration behavior to extend tool life.

Power & Torque - Virat Series

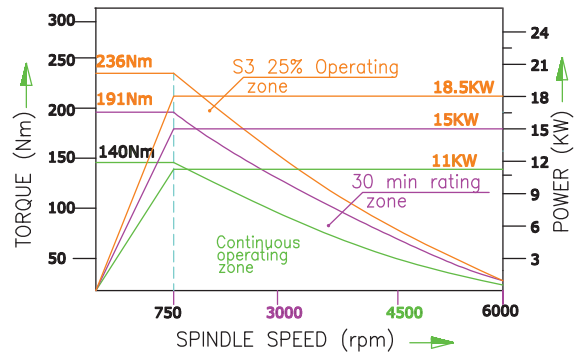
VIRAT 1000 series

MOTOR : FANUC ALPHA P22

FANUC 11/15 kW INLINE DRIVE- LOW SPEED WINDING



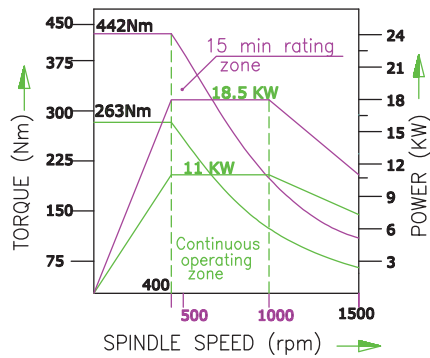
FANUC 11/15 kW INLINE DRIVE- HIGH SPEED WINDING



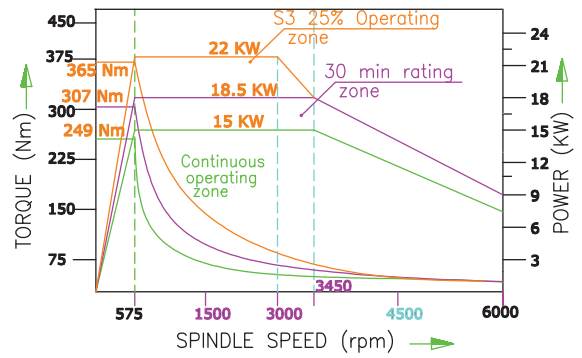
VIRAT 1500 series

MOTOR : FANUC ALPHA P30

FANUC 15/18.5 kW INLINE DRIVE- LOW SPEED WINDING



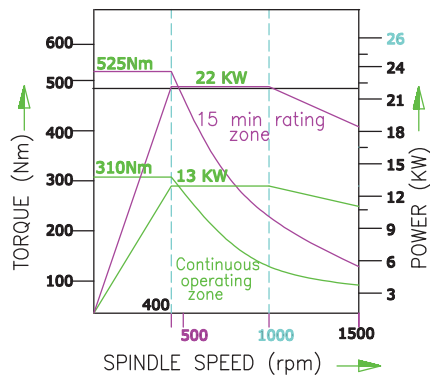
FANUC 15/18.5 kW INLINE DRIVE- HIGH SPEED WINDING



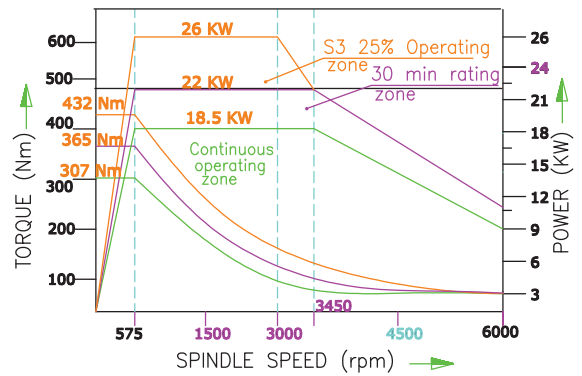
VIRAT 2000 series

MOTOR : FANUC ALPHA P40

FANUC 18.5/22 kW INLINE DRIVE- LOW SPEED WINDING

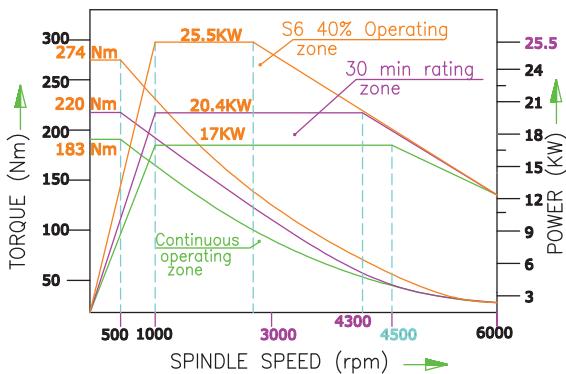


FANUC 18.5/22 kW INLINE DRIVE- HIGH SPEED WINDING



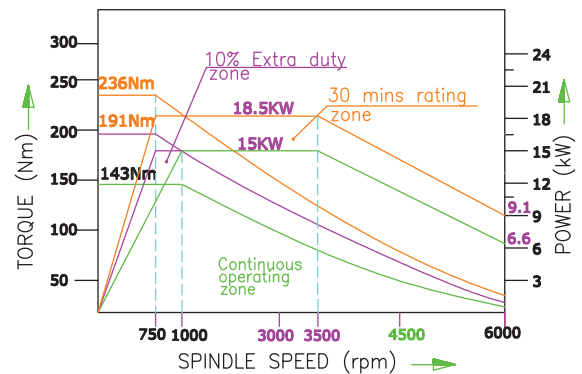
VIRAT 1000 series

SIEMENS 17/25.5 kW INLINE DRIVE



VIRAT 1000 series

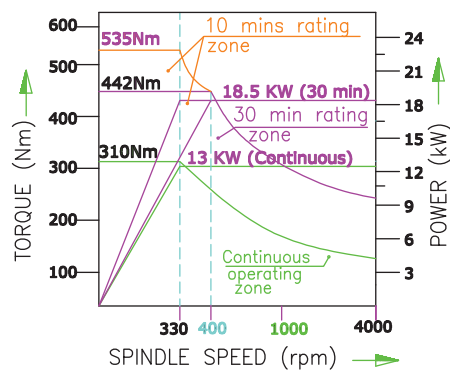
MITSUBISHI 15/18.5 kW INLINE DRIVE



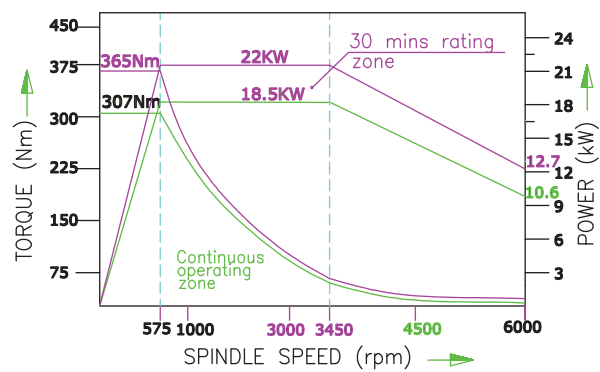
Power & Torque - Virat Series

VIRAT 1500/2000/3000 series

MITSUBISHI 15/18.5 kW INLINE DRIVE- LOW SPEED WINDING

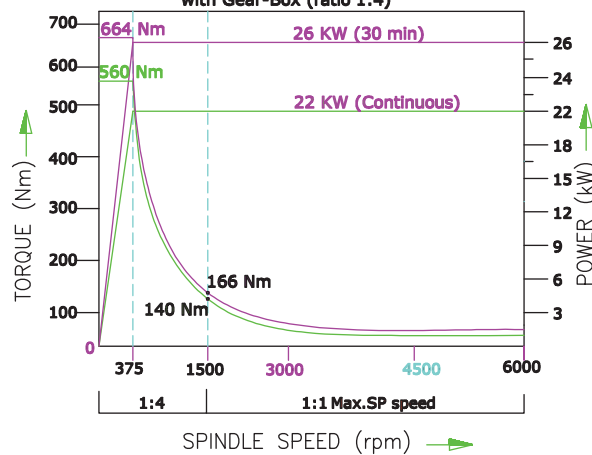


MITSUBISHI 18.5/22 kW INLINE DRIVE-HIGH SPEED WINDING

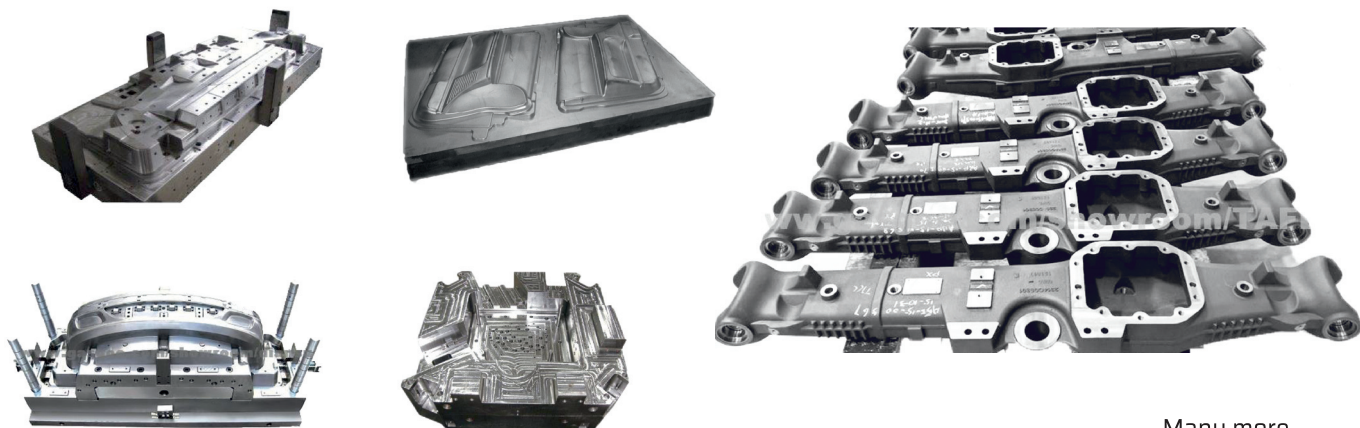


VIRAT 1500/2000/3000 series

FANUC Alpha I22 with Gear-Box (ratio 1:4)



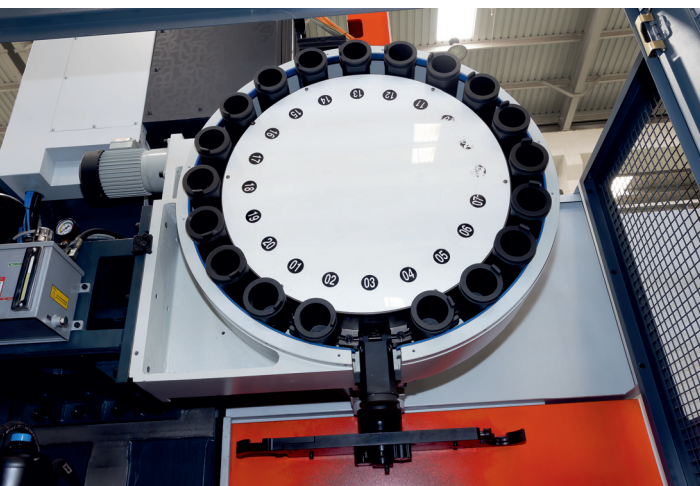
Applications:



Many more ...



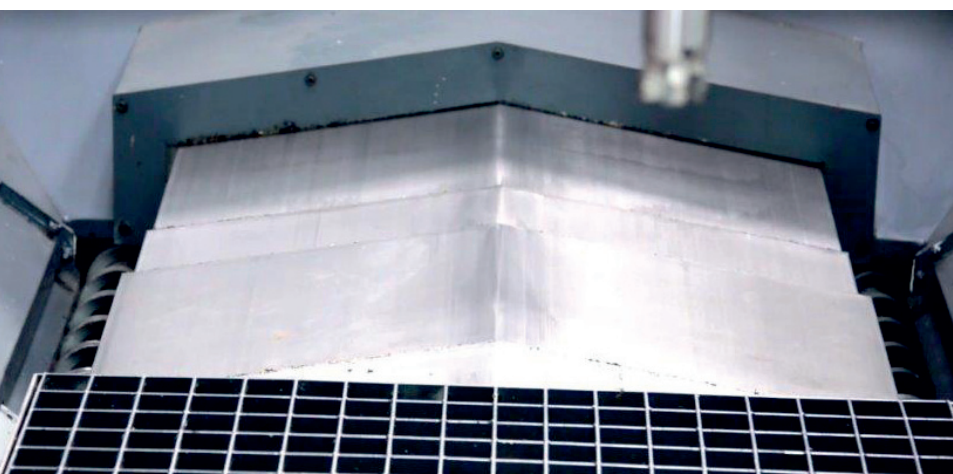
- ▲ Operator panel with swing arm for easy accessibility to working area enabling better operator friendliness



- ▲ Tool magazine - robust tool changer, 20 tools ATC



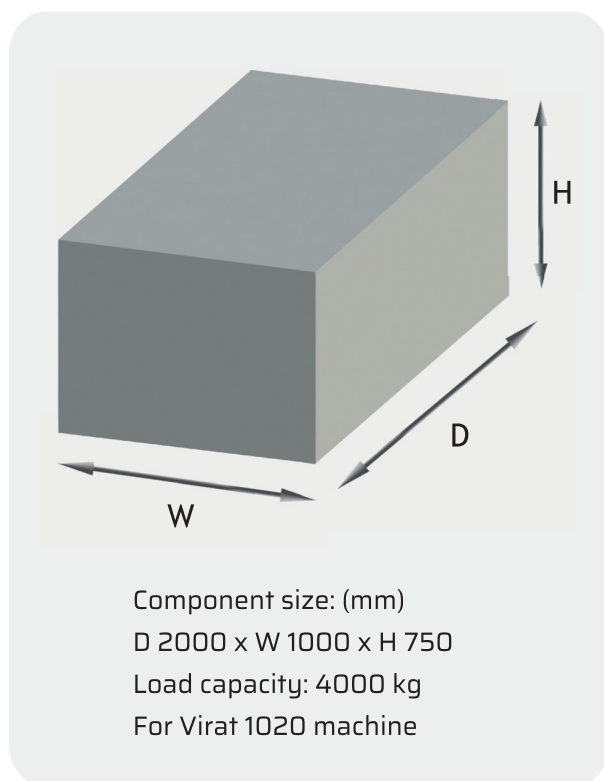
- ▲ An exclusive design of moving RAM in Z axis increases the dynamic characteristics and ensures rigidity, stability and vibration free cutting, thus improving surface finish of machined components.



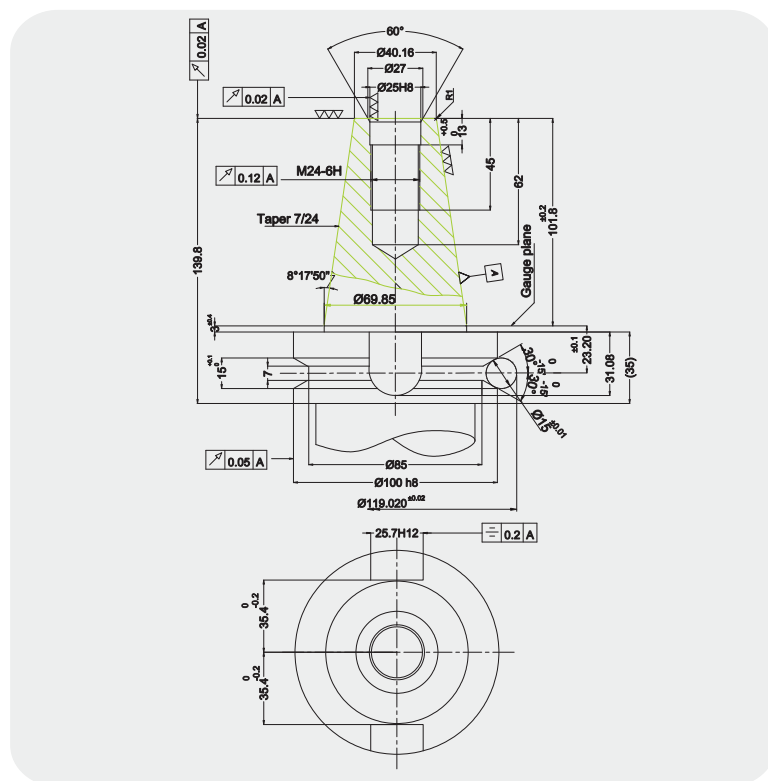
- ▲ Screw conveyor on both side of table for easy chip flow management



Job size

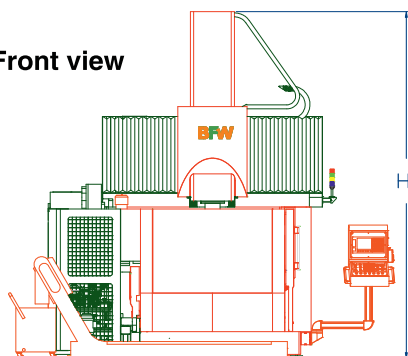


Tool shank details

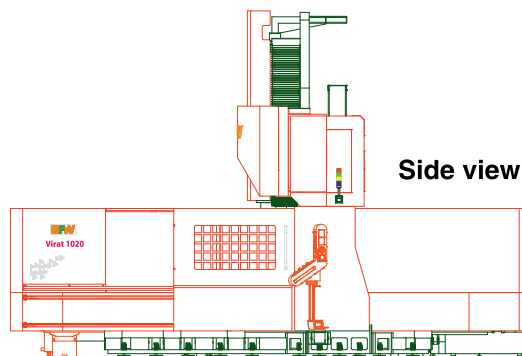


Machine dimensions

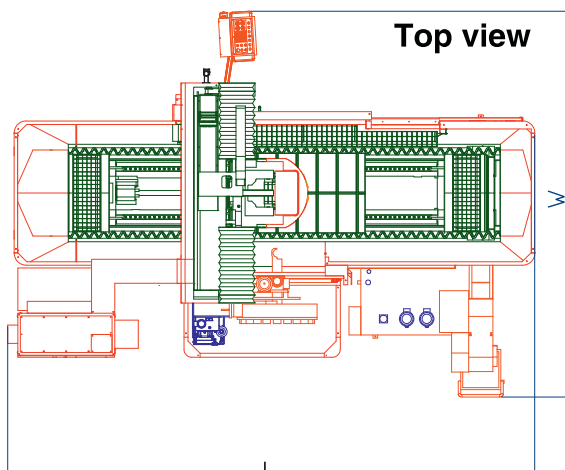
Front view



Side view



Top view



		Virat 1020	Virat 1030	Virat 1520	Virat 1530	Virat 1540
W	mm	~ 4900	~ 4900	~ 5500	~ 5500	~ 5500
L	mm	~ 6900	~ 9900	~ 6900	~ 9900	~ 13000
H	mm	~ 4400	~ 4400	~ 5200	~ 5200	~ 5200

		Virat 2030	Virat 2040	Virat 2060	Virat 3040	Virat 3060
W	mm	~ 6200	~ 6200	~ 6200	~ 8000	~ 8000
L	mm	~ 9900	~ 13000	~ 16000	~ 14000	~ 17000
H	mm	~ 5200	~ 5200	~ 5200	~ 5200	~ 5200

All dimensions in mm

Technical Specifications

		Series 1			Series 2				Series 3				Series 4	
Specifications:	Unit	Virat - 1020	Virat - 1030		Virat 1520	Virat 1530	Virat 1540		Virat 2030	Virat 2040	Virat 2060		Virat 3040	Virat 3060
Model														
X - axis travel (table longitudinal)	mm	2000	3000		2000	3000	4000		3000	4000	6000		4000	6000
Y - axis travel (saddle Transverse)	mm	1200	1200		1700	1700	1700		2400	2400	2400		3000	3000
Z - axis travel (Ram Vertical)	mm	800	800		1000	1000	1000		1000	1000	1000		1000	1000
Spindle nose face to table top	mm	150~950			200~1200				200~1200				300~1300	
Increased daylight with column HT (option)	mm	200			300				300				400	
Distance from floor to table	mm	~ 820			~ 870				~ 1020				~ 1020	
Distance between column	mm	~ 1300			~ 1800				~ 2500				~ 3500	
Table														
Table size	mm	1000 x 2200	1000 x 3200		1500 x 2200	1500 x 3200	1500 x 4200		2000 x 3200	2000 x 4200	2000 x 6200		3000 x 4200	3000 x 6200
Table working area	mm	1000 x 2000	1000 x 3000		1500 x 2000	1500 x 3000	1500 x 4000		2000 x 3000	2000 x 4000	2000 x 6000		3000 x 4000	3000 x 6000
T - slot (No./ size/ Pitch)	mm	7 x 22 x 250	13 x 22 x 250		9x22x250	15 x 22 x 200	20 x 22 x 200		13 x 28 x 250	17 x 28 x 250	21 x 28 x 250		17 x 28 x 250	21 x 28 x 250
Max. Load on table std.	kgs	4000	5000		6000	8000	10000		1000	12000	14000		16000	18000
Axes														
Rapid traverse - X /Y /Z std.	m/ min	20/ 20/ 15	15/ 20/ 15		18/ 20/ 15	15/ 20/ 15	12/ 20/ 15		15/ 15/ 12	12/ 15/ 12	10/ 15/ 12		10/ 10/ 10	8/ 10/ 10
Feed rate	mm/ min	1-10000			1-10000				1-10000	1-8000	1-6000		1 - 8000	1 - 6000
Spindle taper, power - torque & speed														
Spindle: Inline drives: std														
Spindle taper	type	BT50			BT50				BT50				BT50	
Fanuc power - cont/ 30 min (torque)	kW	11/ 15 kw (147/ 288 Nm)			15/ 18.5 kw (263/ 442 Nm)				18.5/ 22 kw (310/ 525 Nm)				22/ 30 kw (365/ 498 Nm)	
Mitsubishi power - cont/30 min (torque)	kW	15/ 18.5 kW(143/ 236 Nm)			18.5/ 22 kw (310/ 442 Nm)				18.5/ 22 kw (310/ 525 Nm)				18.5/ 22 kw (310/ 442 Nm)	
Siemens power - cont/ S6/ 40 % (torque)	kW	17/ 25.5 kW(183/ 274 Nm)			17/ 25.5 kw (183/ 274 Nm)				17/ 25.5 kw (183/ 274 Nm)				17/ 25.5 kw (183/ 274 Nm)	
Speed: std	rpm	6000			6000				6000				6000	
Spindle: Inline gear box drive 1:4, gear ratio Option - Fanuc/ Siemens/ Mitsubishi														
Power - cont/ 30 min (torque)		22/ 26 kW (560/ 664 Nm) (560/ 688 Nm) in Siemens			22/ 26 kW (560/ 664 Nm) (560/ 688 Nm) in Siemens				22/ 26 kW (560/ 664 Nm) (560/ 688 Nm) in Siemens				22/ 26 kW (560/ 664 Nm) (560/ 688 Nm) in Siemens	
Speed: std (chiller for gearbox)	rpm	6000			6000				6000				6000	
Spindle: Belt Drive HP: option with coolant through tool														
Fanuc power - cont/ 30 min (torque)		15/ 18.5 kw (350/ 588 Nm)			18.5/ 22 kw (412/ 698 Nm)				18.5/ 22 kw (465/ 788 Nm)				22/ 26 kw (745/ 880 Nm)	
Mitsubishi power - cont/30 min (torque)		15/ 18.5 kW (190/ 314 Nm)			18.5/ 22 kw (413/ 589 Nm)				18.5/ 22 kw (413/ 589 Nm)				18.5/ 22 kw (413/ 589 Nm)	
Siemens power - cont/ S6/ 40 % (torque)		17/ 25.5 kW(244/ 364 Nm)			17/ 25.5 kw (244/ 364 Nm)				17/ 25.5 kw (244/ 364 Nm)				17/ 25.5 kw (244/ 364 Nm)	
Speed: std		4000			4000				4000				4000	
Automatic tool changer: Twin arm														
Tool change system	type	arm type			arm type				arm type				arm type	
Tool storage capacity - std/ opt	Nos.	20(24)(30 with height block)			20(24)(30)				20(24/ 30/ 60/120)				20(24/ 30/ 60/120)	
Max tool dia with all pockets full	mm	130			130				130				130	
Max tool dia with adjacent pockets empty	mm	220			220				220				220	
Max tool length	mm	350			350				350				350	
Pull stud	type	MAS 403 P50T - 1			MAS 403 P50T - 1				MAS 403 P50T - 1				MAS 403 P50T - 1	
Accuracy as per ISO-230-2 (full stroke)														
Positioning accuracy (without scale/ with scale)	mm	0.020/ 0.010	0.025/ 0.015		0.020/ 0.010	0.025/ 0.015	0.035/ 0.020		0.025/ 0.015	0.035/ 0.020	0.035/ 0.030		0.020	0.030
Repeatability Accuracy (without scale/ with scale)	mm	0.015/ 0.008	0.020/ 0.012		0.015/ 0.008	0.020/ 0.012	0.025/ 0.015		0.020/ 0.012	0.025/ 0.015	0.035/ 0.020		0.015	0.020
Installation data														
Floor space (WxD)	mm	~ 4900 x 6900	~ 4900 x 9900		~ 5500 x 6900	~ 5500 x9900	~ 5500 x13000		~ 6200 x 9900	~ 6200 x 13000	~ 6200 x 16000		~ 8000 x 14000	~ 8000 x 17000
Machine height (H)	mm	~4400	~4400		~ 5200	~ 5200	~ 5200		~ 5200	~ 5200	~ 5200		~ 6000	~ 5200
Basic machine weight (Approximate)	kgs	~20000	~24000		~ 26000	~ 30000	~ 34000		~ 32000	~ 36000	~ 40000		~ 55000	~ 60000

Standard features:

- ▶ BT 50 spindle -6000 rpm
- ▶ AC servo drives
- ▶ Hardened & ground LM roller guide-ways for X, Y & Z axis
- ▶ Hardened & ground box guide-ways for Z axis (series 1)
- ▶ Hardened & ground ball-screws for all the 3 axis
- ▶ In-line spindle
- ▶ ATC with 20 tool magazine for BT50 tool holder
- ▶ Air blast for spindle taper cleaning
- ▶ Tool clamping through disc spring & de-clamp by hydraulics
- ▶ Air curtain for spindle
- ▶ Centralised lubrication system
- ▶ Hydraulic counterbalance for vertical axis
- ▶ Feedback through absolute encoder
- ▶ Rigid taping facility
- ▶ RS 232 serial interface for PC connection
- ▶ Sliding covers, bellows and splash guards
- ▶ Instruction manuals
- ▶ 3 tier lamp
- ▶ machine lamp
- ▶ Leveling and foundation kit
- ▶ Mobile MPG
- ▶ Standard coolant system with chip tray
- ▶ Coil conveyor on either side of bed
- ▶ Maintenance tool kit
- ▶ Semi-enclosure splash guard
- ▶ 8.4” color LCD display
- ▶ ATC auto door
- ▶ Coolant gun
- ▶ Air gun
- ▶ Coolant nozzle at spindle
- ▶ AC for electrical cabinet

Optional features:

- ▶ 40 tools magazine
- ▶ Linear glass scale for X, Y & Z axis
- ▶ Full splash guard
- ▶ Scrapper/ slat/ dual type conveyors with chip trolley
- ▶ Ring coolant
- ▶ Oil skimmer
- ▶ Voltage stabilizer
- ▶ Spindle mounted probe
- ▶ Coolant through spindle
- ▶ Machine color as per customer requirement
- ▶ Auto work piece measurement
- ▶ Spindle with the ger box
- ▶ 90 deg automatic head
- ▶ Transformer
- ▶ Spindle chiller

Associates in India

Ahmedabad : Spinak Engineering , 9824033277
 Bengaluru: JR Rao & Co, 9844102252
 Bengaluru: Upnal CNC, 9341310391
 Chennai: PN Engineering - 9840096822
 Coimbatore: Astra Engineers, 9626269998
 Ernakulam: Prompt Machine Tools, 9846056446
 Hubballi: Nano Machine Tools, 9379276004
 Indore: Alif Industrial Sales, 9329842594
 Jalandhar: GRD Innovation Solutions, 9780153601
 Jamshedpur: IMTS, 9334804275
 Kanpur: Response Engineers, 9838070906
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 Krishna: Mr K Sarath Kumar, 9908674736
 Nagpur: AK Enterprises, 9373124916
 Nashik: Smart Services, 09823019761
 Vishakhapatnam: C& I Systems, 9848127436
 Vapi: Deep Engineering, 9825610842
 Belgaum: VI Machine Tools, 9343833266

Manufacturing Plants in India

Bangalore: (080) 39821100
 Karnataka

Hosur: (04344) 400026
 Tamil Nadu

Tech Centres

Pune: (020) 32524638
 Maharashtra

Kolhapur: 9822095229
 Maharashtra

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Off Tumkur Road, Bangalore 560022, India.
 Ph +91 - 80-39821134/ 39821309
 Fax: +91 - 80-28394816, e-mail: bfwexports@bfw.co.in
 URL: www.bfwindia.com



Bharat Fritz Werner
 Off Tumkur Road, Bangalore 560022, India
 Ph 080-39821100/ 28395745
 Fax: 080-28394816, e-mail: bfwmarketing@bfw.co.in | URL: www.bfwindia.com

Belgaum : Block 4, Plot 737, Khanapur Road, Near Railway Gate 3, Udyambag, Belgaum 590008.
 Chennai : D22, First Floor, First Street, Sector 3, Ambattur Industrial Estate (South), Chennai - 600058. Ph: (044)26251505. E-mail: bfwchennai@bfw.co.in
 Coimbatore : 7, Karayampalayam Road, Mylapatti (PO) Coimbatore - 641 062. Ph (0422) 262669, E-mail: bfwcoimbatore@bfw.co.in
 Gurgaon : Spaze tech park; office no 769, 7th floor, tower B2, Sector 49, Sohna road, Gurgaon 0- 122018
 Hyderabad : Flat No 204, 1-11-229, Ramaveda Srisampada Apt. Near Shyamalal Bldgs, Begumpet, Hyderabad - 500016, Ph: (040) 27762035, E-mail: bfwhyderabad@bfw.co.in
 Kolkata : D - 4/ 4, Gillander House, 8, Netaji Subhash Road, Kolkata 700001. Ph (033) 40102140 - 42, 22623387, Fax (033) 4005691, E-mail: bfwkolkata@bfw.co.in
 Mumbai : 206, Runwal Commercial Complex, LBS Marg, Mulund West, Mumbai 400080. Ph: (022) 25653362/ 58. Fax: (033) 40056911. E-mail: bfwmbai@bfw.co.in
 New Delhi : 510, Mahatta Towwers, B - Block, Community Center, Janakpuri, New Delhi 110058. Ph: (011) 25522210. Fax: (011) 45629699. E-mail: bfwdelhi@bfw.co.in
 Pune : BFW House, 124 A, H block, MIDC, Pimpri, Pune 411018. Ph: (020) 32524638. E-mail: bfwpune@bfw.co.in
 Punjab : Suite No 205, 2nd floor, E-195, Industrial Area, Phase - VIII B, S A S Nagar, Mohali (Punjab) - 160071
 Rajkot : 85-86, 4th Floor, Samruddhi Bhavan, Opp. Bombay Garage petrol pump, Gondal Road, Rajkot 360002. E-mail: bfwrajkot@bfw.co.in

Representatives at Jamshedpur(Jharkhand) - 938030800, Kolhapur (Maharashtra)- 9370958107, Hosur (Tamilnadu) 9342336169

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