

BMV 45+

Vertical Machining Center - Agni+

End-to-end Range of Machining Centers



Sustained Quality Performance over the Years

Rigidity | Modularity | Productivity

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BFW
Bharat Fritz Werner

BMV 45+

BMV 45+ | BMV 45+ TC24 | BMV 45 + TC30

The BFW vertical machining centre Agni was built with the intention to serve the manufacturing industry as the basic contributor to shop-floor productivity and batch-production efficiency. As Agni (Fire God) takes on different forms & sizes based upon its offerings, Agni+ has the adaptability to adjust to a variety of spaces.

Assured performance backed by more than a hundred stringent tests on functionality, accuracy under diverse conditions, with reliability adherence to performance parameters, safety, environment protection and other aspects.

- » Sustained quality performance over the years due to excellent rigidity.
- » CAE based optimal structural design, and with thermal stability.
- » Operator's comfort is assured due to environment-friendly operation and design.
- » Smooth chip and coolant management.

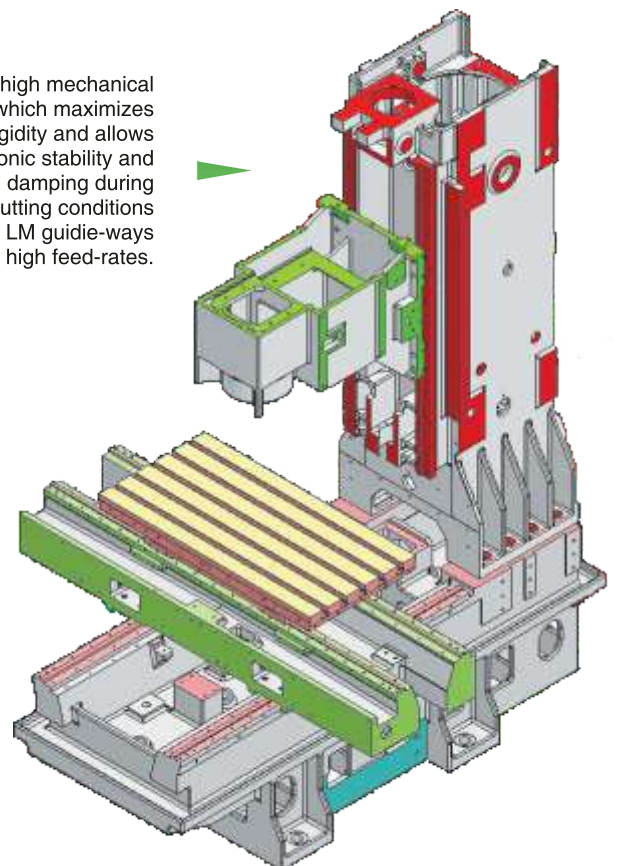
Adaptability to different kinds of coolant and chip handling systems. Including those deploying front chip disposal rear chip disposal, coolant tank with chip tray and chip conveyor.

- » Machine configuration of fixed column
- » C frame structure machine with a moving table for easy access
- » The complete structure is FEA proven with stringent analysis.
- » Features like linear scale feedback, through coolant, high speed motorized spindle are available as options.

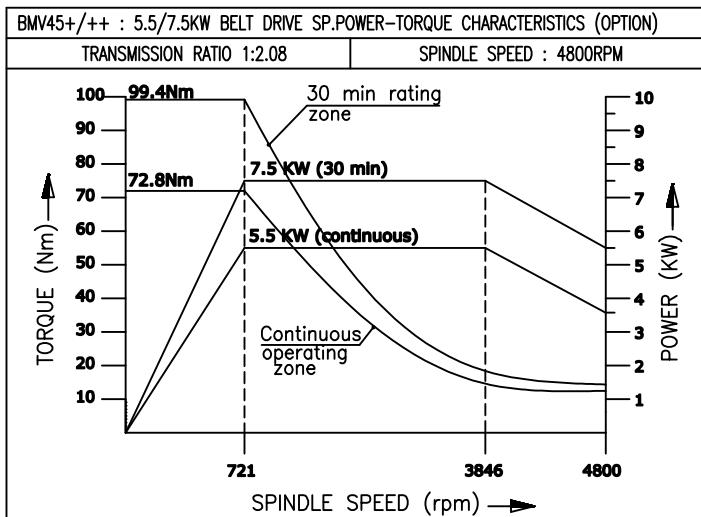
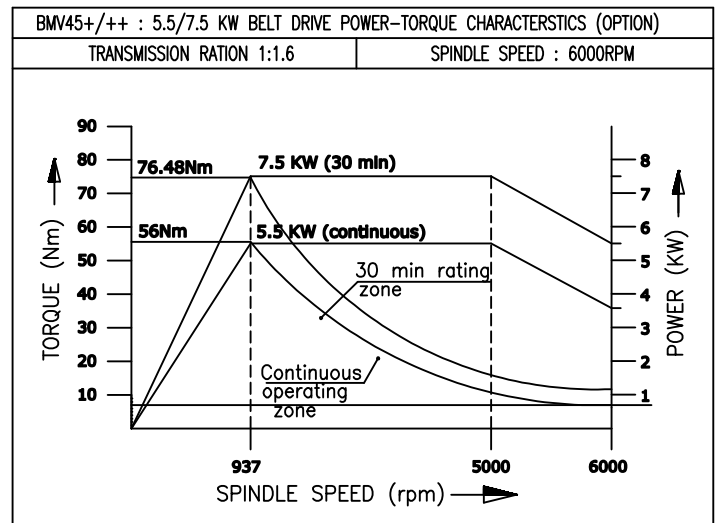
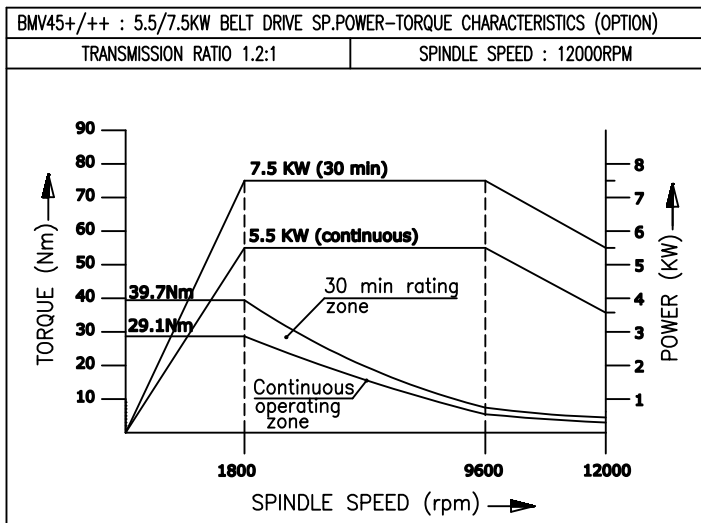
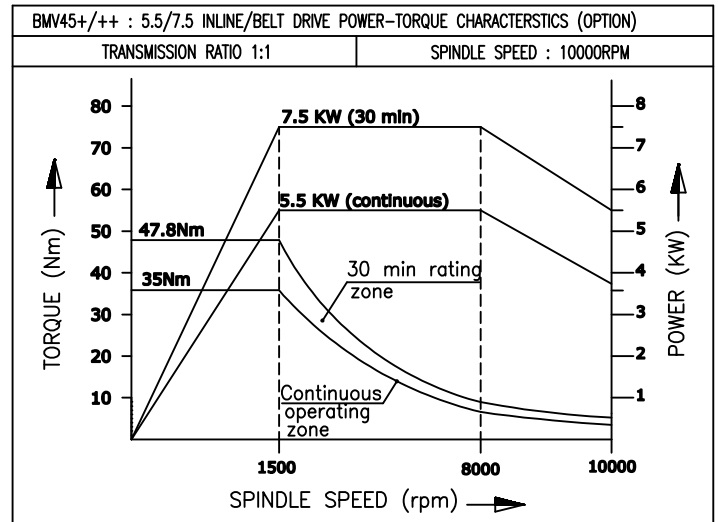
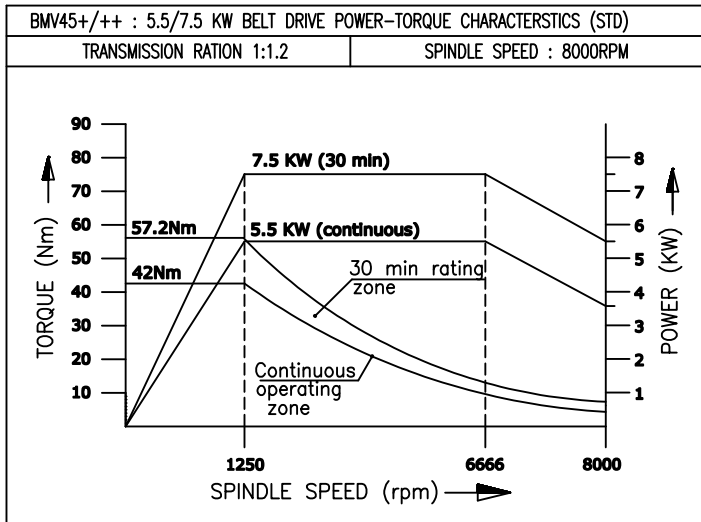
High quality balanced spindle on large precision bearings eliminates vibration and offers accurate machining under heavy load



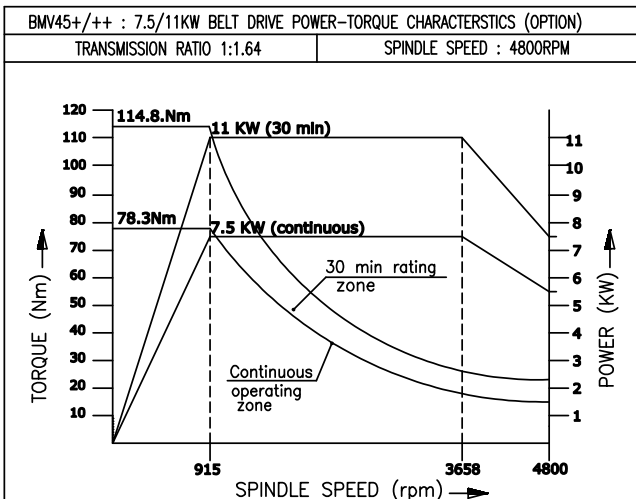
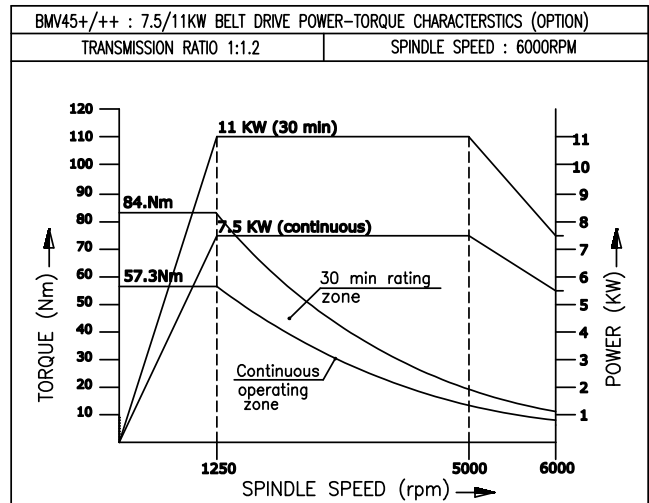
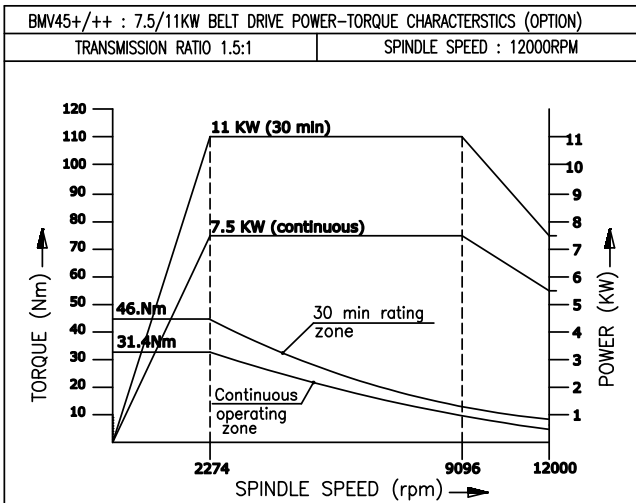
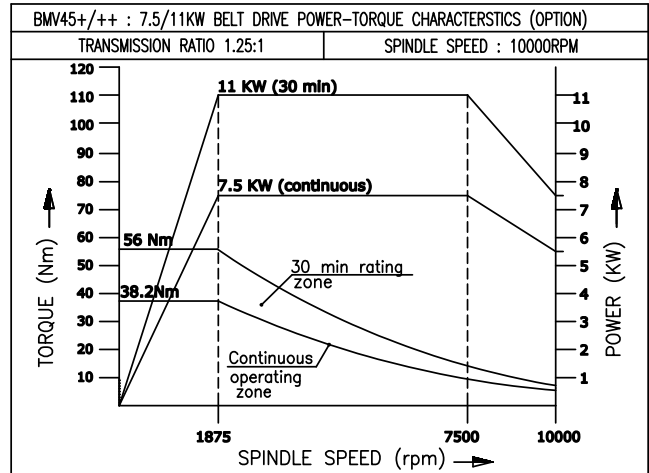
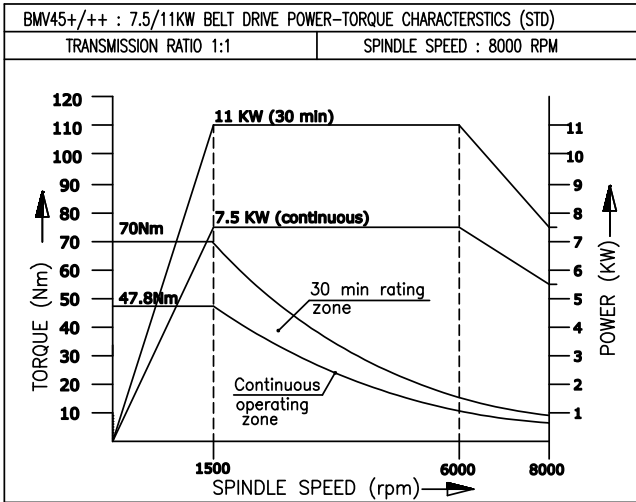
Cast iron with a high mechanical performance which maximizes structure rigidity and allows optimum harmonic stability and maximum damping during demanding cutting conditions on BMV45+, LM guide-ways on all axis allowing high feed-rates.



Spindle Characteristics - Fanuc

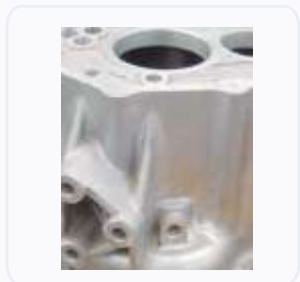


Spindle Characteristics - Fanuc



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Applications



Many more...

CNC Features & Functions

CNC FUNCTIONS	FANUC Oi MF	Siemens 828D PPU24X	Mitsubishi M80A
Display	10.4" colour LCD	10.4" colour TFT	8.4" colour LCD
Maximum feed axes	5(7)	5	8
Number of simultaneously controllable axis	4	4	4
Minimum input increment	0.001 mm, 0.001°	0.001 mm, 0.001°	0.001 mm, 0.001°
Spindle speed function	5-digit S code	5-digit S code	5-digit S code
Spindle speed override	50 % - 120 % (in steps of 10 %)		
Feed override	200 % (in steps of 10 %)		
Feed rate command	4-digit F code	4-digit F code	4-digit F code
Inch- mm conversion	S	S	S
Part program storage length	512 KB (2 MB)	1 MB (3 MB with PPU)	500 KB
Number of part programs	400 (1000)	750	1000
Number of sub-program call levels	10	11	10
Number of tool off sets	400	160	400
Program number/ sequence number search	S	S	S
Number of look-ahead function blocks	40 (200 with AICC-II) (400 with spl hardware)	150 (300 with PPU 26X) (450 with * PPU28X)	1350
Single block, Exact stop, Dry run	S	S	S
DNC operations	RS232C/ PCMCIA/ Embedded Ethernet	Ethernet/ CF/Pendrive	RS232C/ SD
Run hour and part count	S	S	S
Help function	S	S	S
Graphic display	S	S	S
Nurbs	NA	S	NA
Embedded ethernet, Front USB interface	S	S	S
Fast ethernet/ data server	O	S	S
Machining condition selection system	O	S	S
Remote diagnosis	S	O	NA
High speed skip or probe function	S	S	S
Dynamic graphic display	O	O	NA
CNC FEATURES			
Linear interpolation	S	S	S
Circular interpolation	S	S	S
Helical interpolation	S	S	S
Absolute/ incremental programming	S	S	S
Tool radius compensation	S	S	S
Canned cycles for drilling and milling	S	S	S
Work piece co-ordinate system	56 (300) pairs	51 pairs	54 pairs
Background editing	S	Any time edit	S
Backlash compensation	S	S	S
Pitch error compensation	S	S	S
Polar co-ordinate, Scaling, mirroring	S	S	S
History of operator alarms and messages	S	S	S
Look-ahead function	S	S	S
Custom macro B/ parameter programming	S	S	S
Simple tool life management	S	S	S
Multi language display	S	S	S (* in SD/ USB)
Program restart/ block search in CF card	S	S	S (* in SD/ USB)
Program edit in CF card, Nano interpolation	S	S	S
Manual pulse generator	S	S	S
Automatic data backup	S	in CF card	S
Cylindrical interpolation	S	O	S
Spline interpolation	O	O	S
Cutter compensation	S	S	S
4 th axis	O	O	O
4 th & 5 th axis	O	Not possible with PPU 24x (possible with PPU 26x)	O

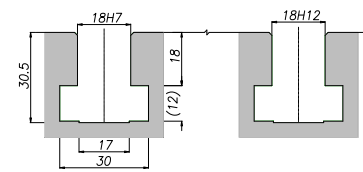
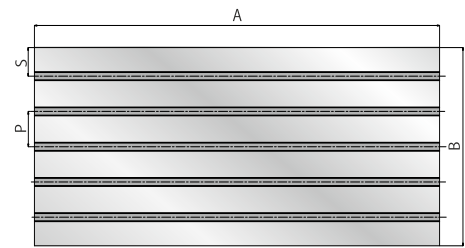
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Standard and Optional Features

Specifications	BMV45+	BMV45+TC24	BMV45+TC30
AC servo drives	S	S	S
AC variable speed spindle motor	S	S	S
Hardened and ground LM guide-ways & ball screws	S	S	S
Feedback through absolute encoder	S	S	S
Automatic tool clamping-unclamping	S	S	S
Centralised automatic -lubrication	S	S	S
Spindle taper air blow	S	S	S
Rigid tapping**	O	S	S
Rear chip disposal	S	S	S
Basic coolant system with tray	S	S	S
Telescopic covers with wipers	S	S	S
Full machine guard	S	S	S
Hydraulic counterbalance	O	O	O
Mobile manual pulse generator	S	S	S
RS 232 serial interface	S	S	S
Levelling pads	S	S	S
Maintenance tool kit	S	S	S
8000 rpm spindle speed	S	S	S
10000 rpm spindle speed	O	O	O
11/ 15 kW spindle power	O	O	O
BT 50 spindle taper	O	O	O
Chip conveyor in lieu of chip tray	O	O	O
Linear glass scale feedback for two and all three axes	O	O	O
High pressure coolant through spindle	O	O	O
AC for electrical cabinet	O	O	O
200/ 250 Ø CNC rotary axis as 4 th axes	O	O	O
Automatic pallet changer with twin pallets	O	O	O
Edge finder	O	O	O
Column height block	O	O	O
Voltage stabiliser	O	O	O
3-tier lamp	O	O	O
Coolant gun, air gun	O	O	O
Ring coolant around spindle	O	O	O

S: standard, O: optional

Table Top & Pallet Top Details



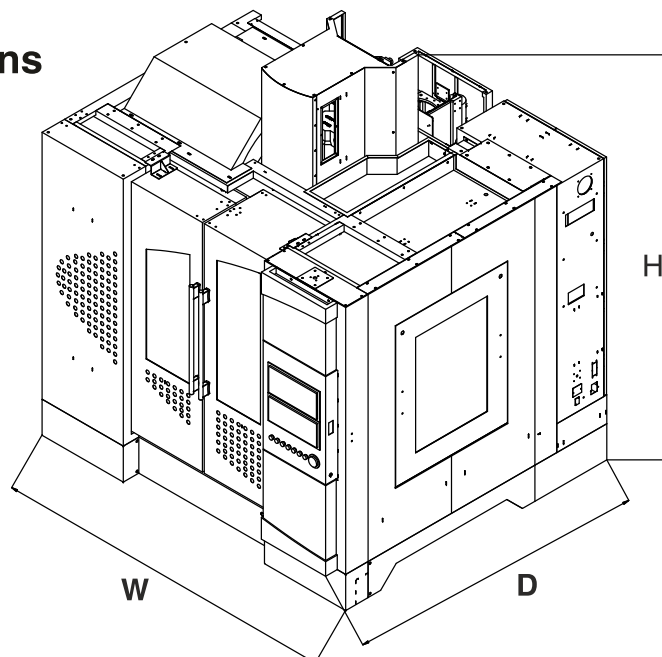
Central 'T' Slot Other Slots

T-SLOT DETAILS

Model	Clamping Area		T-Slots		
	A	B	S	N	P
Table	1000	510	55	5	100
Pallet	800	475	105	3	100

P-CD between T-slots n-number of T-slots

Machine Dimensions



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Technical Specification

Specifications	Unit	BMV45+	BMV45+ TC24	BMV45+ TC30
Capacity:				
Table Longitudinal travel (X-Axis)	mm	600	600	600
Table cross travel (Y - Axis)	mm	450	450	450
Head stock travel (Z - Axis)	mm	500	500	500
Spindle nose face to table top	mm	100 - 600	100 - 600	100 - 600
Increased daylight area with column height block (Optional)	mm	300 - 800	300 - 800	300 - 800
Distance from floor to table	mm	955	955	955
Spindle center - column front distance	mm	480	480	480
Table:				
Table size	mm	900 x 450	900 x 450	900 x 450
T - slot (No./ size/ pitch)	mm	5/18/80	5/18/80	5/18/80
Maximum load on table standard	kg	500	500	500
Spindle & Axes:				
Taper		BT-40	BT-40	BT-40
Speed standard (without chiller)	rpm	8000	8000	8000
Speed optional - I	rpm	10000	10000	10000
Spindle Power - Standard:				
Fanuc/ Mitsubishi, Cont./ 30 min. rating	kW	5.5/ 7.5	5.5/ 7.5	5.5/ 7.5
Siemens, Cont./ S6-40% rating	kW	5.5/8.3	5.5/8.3	5.5/8.3
Spindle power - Optional (High power)				
Fanuc/ Mitsubishi, Cont./ 30 min. rating	kW	7.5/ 11	7.5/ 11	7.5/ 11
Siemens, Cont./ S6-40% rating	kW	9/ 13.5	9/ 13.5	9/ 13.5
Rapid traverse - X/Y/Z - standard	m/ min	32	32	32
Rapid traverse - X/Y/Z - optional	m/ min	40	40	40
Feed rate	mm/ min	1-10,000	1-10,000	1-10,000
Guide ways	Type	LM	LM	LM
Accuracy ISO 10791-4 [ISO 230 - 2]				
Positioning accuracy	mm		0.012	
Repeatability	mm		0.009	
Automatic Tool Changer:				
Tool change system		NA	Twin Arm	Twin Arm
Tool storage capacity - Standard (Optional)	Nos.	NA	24	30
Pull stud		MAS 403 - P40T-1	MAS 403 - P40T-1	MAS 403 - P40T-1
Maximum tool dia with all pockets full	mm	NA	75	75
Maximum tool dia adjacent pockets empty	mm	NA	140	140
Maximum tool length	mm	NA	250	250
Maximum tool weight	kg	NA	8	7
Tool to tool time	sec	NA	2.5	2.5
Automatic Pallet Changer (Optional):				
Number of pallets	Nos.	NA	2	2
Pallet size	mm x mm	NA	800 x 430	800 x 430
Maximum safe load per pallet	kg	NA	350	350
Installation Data:				
Floor space (L x B)	mm x mm	2230 x 2650	2230 x 2250	2230 x 2650
Machine height (H)	mm	2760	2760	2760
Basic machine weight	kg	4250	4500	4600
Total connected load (basic standard machine)	kVA	22	24	24
Total connected load (basic standard machine with high power spindle)	kVA	25	27	27

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 Karnataka

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Tech Centres

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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, Mylampatti (PO) Coimbatore - 641 062. Ph (0422) 262669, E-mail: bfwcoimbatore@bfw.co.in
 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: bfwmumbai@bfw.co.in
 New Delhi : 510, Mahatta Towers, 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: bfwpunepune@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 (Maharastra)- 9370958107, Hosur (Tamilnadu) 9342336169

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