

BMV 65

Vertical Machining Center - Sooraj

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 65

Fixed Column Vertical Machining Centre

BMV65 | BMV65 TC24 | BMV65 TC20

The BFW vertical machining centre Sooraj | BMV 65 was built with the intention to serve the manufacturing industry as the basic contributor to shop-floor productivity and batch-production efficiency.

Sooraj redefines precision machining standards. The rigid structure and precise spindle ensure sustained high quality performance. The speed and feed rate fulfill the criteria necessary for cost effective machining.

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

Operator's comfort due to environment-friendly working and design.

Smooth chip and coolant management.

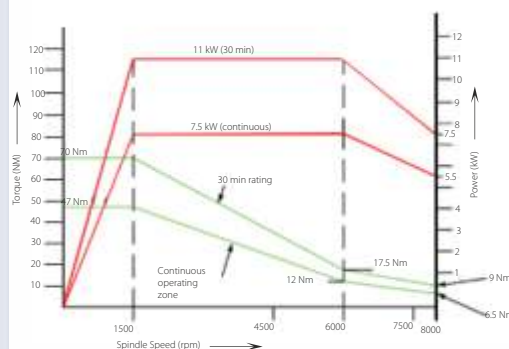
Adaptability to different kinds of coolant and chip handling systems. Including those employing front chip disposal, coolant tank with chip tray and chip conveyor.

- 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.

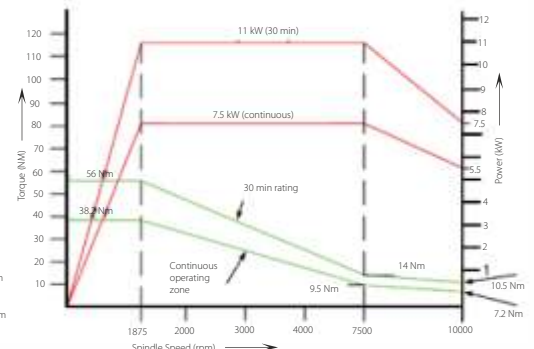


Spindle Characteristics

BMV 65 - 8000 RPM
Spindle Motor - Fanuc Alpha 8/8000 (7.5/ 11 kW)
Max Spindle Speed - 8000 Rpm



BMV 65 - 10000 RPM
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Max Spindle Speed - 10000 Rpm



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CNC Features | Functions

CNC FUNCTIONS	FANUC Oi MF	Siemens 828D PPU24X	Mitsubishi M80A
Display	8.4" colour LCD	8.4" 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 (2 MB)
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	54 (306) pairs	51 pairs	54 pairs
Background editing	S	Any time edit	S
Backlash compensation	S	S	S
Pitch error compensation	S	S	S
Bi-directional pitch error compensation	O	O	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
Program restart/ block search in CF card	S	S	S
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	O	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

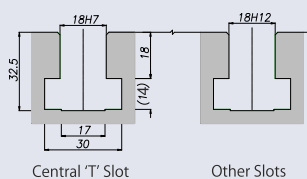
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Standard & Optional Features

Specifications	BMV65	BMV65 TC24	BMV65 TC20
AC servo drives	S	S	S
AC variable speed spindle motor	S	S	S
Hardened and ground linear motion 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
Telescopic covers with wipers	S	S	S
Full machine guard	S	S	S
Manual pulse generator	S	S	S
RS 232 serial/ USB interface	S	S	S
Leveling pads	S	S	S
Maintenance tool kit	S	S	S
Coolant gun, Air gun, 3 tier lamp, Rigid taping	S	S	S
Ring coolant around spindle	S	S	S
Hydraulic counter balance	O	O	O
Front chip disposal	S	S	S
Higher spindle power	O	O	O
30 tools automatic tool changer	O	O	O
40 tools automatic tool changer	O	O	O
Chip conveyor in lieu of coolant tank with chip tray	O	O	O
2/ 3 axes with linear glass scale feedback	O	O	O
Ball screw type automatic pallet changer with twin pallets	O	O	O
16 / 25 / 14 - bar coolant through spindle	O	O	O
Provision for 4th and 5th axis rotary table	O	O	O
4th axis rotary table	O	O	O
Voltage stabiliser	O	O	O
Ultra isolation transformer	O	O	O
Increased Day-Light area through column raiser block	O	O	O
Half machine guard with base mounted pendant	O	O	O
Spindle mounted probe	O	O	O
Table mounted probe	O	O	O
Hard part probing (Fanuc, Siemens, Mitsubishi)	O	O	O
Higher spindle with chiller unit	O	O	O

S: standard, O: optional, NA: not applicable

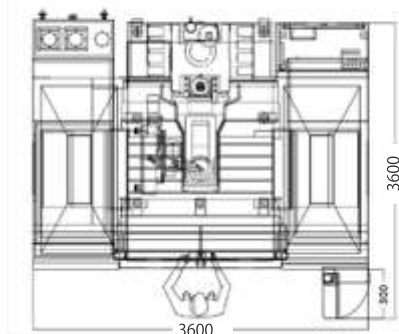
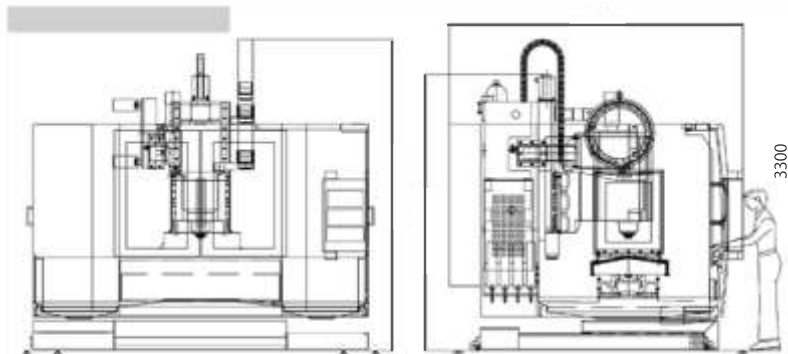
Table Top Details



T-SLOT DETAILS

Model	Clamping Area		T slots		
	A	B	n	p	S
Table	1500	650	5	125	75

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



Machine Dimensions

All dimensions in mm
~ 3600 W x 3600 D x 2760 H

Standard machine with coolant tank with 24 tools

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Specifications	Unit	BMV 65	BMV 65 TC24	BMV 65 TC20
Capacity:				
Table Longitudinal travel (X-Axis)	mm	1280	1280	1280
Table cross travel (Y - Axis)	mm	700	700	700
Head stock travel (Z - Axis)	mm	650	650	650
Spindle nose face to table top	mm	150 - 800	150 - 800	150 - 800
Increased daylight area with column height block (Optional)	mm	450 - 1100	450 - 1100	450 - 1100
Distance from floor to table	mm	1050	1050	1050
Spindle center - column front distance	mm	705	705	705
Table:				
Table size	mm	1500 x 650	1500 x 650	1500 x 650
T - slot (No./ size/ pitch)	mm	5/18/125	5/18/125	5/18/125
Maximum load on table standard	kg	1200	1200	1200
Spindle & Axes:				
Taper		BT-40	BT-40	BT-50
Speed standard	rpm	8000	8000	6000
Speed optional - I	rpm	10000	10000	8000
Speed optional - II	rpm	15000 (motorised)	15000 (motorised)	NA
Spindle Power - Standard:				
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
Spindle power - Optional (High power)				
Fanuc/ Mitsubishi, Cont./ 30 min. rating	kW	11/ 15	11/ 15	11/ 15
Siemens, Cont./ S6-40% rating	kW	11/ 16.5	11/ 16.5	11/ 16.5
Rapid traverse - X/Y/Z - standard	m/ min	24	24	24
Feed rate	mm/ min	1-10,000	1-10,000	1-10,000
Accuracy ISO 10791- 4 [ISO 230 - 2]				
Positioning accuracy (full stroke)	mm		0.020	
Repeatability (full stroke)	mm		0.016	
Automatic Tool Changer:				
Tool change system		NA	Twin Arm	Twin Arm
Tool storage capacity - Standard (Optional)	Nos.	NA	24	20
Pull stud		MAS 403 - P40T-1	MAS 403 - P40T-1	MAS 403 - P50T-1
Maximum tool dia with all pockets full	mm	NA	75	130
Maximum tool dia adjacent pockets empty	mm	NA	140	220
Maximum tool length	mm	NA	250	250
Maximum tool weight	kg	NA	8	15
Tool to tool time	sec	NA	2.5	4.8
Automatic Pallet Changer (Optional):				
Type of APC			Ball screw	Ball screw
Number of pallets	Nos.	NA	2	2
Pallet size	mm x mm	NA	1250 x 650	1250 x 650
Maximum safe load per pallet	kg	NA	600	600
Installation Data:				
Floor space (L x B)	mm x mm	3600 x 3600	3600 x 3600	3600 x 3600
Machine height (H)	mm	3300	3300	3300
Basic machine weight	kg	9000	9500	10000
Total connected load (basic standard machine)	kVA	25	28	27
Total connected load (basic standard machine with high power spindle)	kVA	30	33	32

Figures within brackets are optional features

NA - Not Available

Note: Floor space, weight & connected load indicated is subject to change based upon the accessories ordered along with machine

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