



BMV60 Series
CNC Vertical
Machining Centers

For powerful and precise performance

Chakra variants
BMV60, BMV60 T20, BMV60 TC20,
BMV60 TC24



Bharat Fritz Werner Ltd.



Innovations • Partnerships • Values

BMV60 Series

CNC Vertical Machining Centers

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The BMV60 series vertical machining center **Chakra** redefines precision machining standards! The rigid structure, small foot print, and precise spindle ensure sustained high quality performance. The high speed and feed rate fulfill the criteria necessary for cost effective machining.

The arm type tool magazine uses variable pocket coding. Linear motion guide ways, variable speed AC spindle drives, CNC system with digital drive are some outstanding features of this BMV60 series machining center.



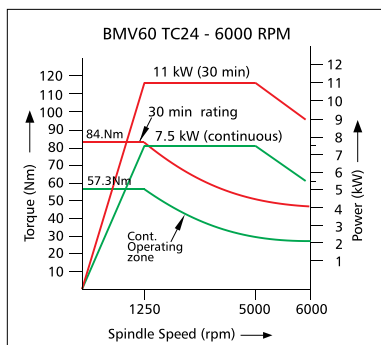
BMV60TC24

Standard and Optional Features

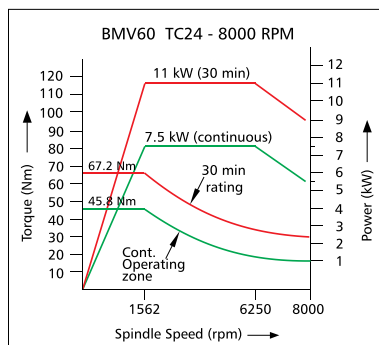
	Chakra Variants			
	BMV60	BMV60 T20	BMV60 TC24	BMV60 TC20
AC servo drives	S	S	S	S
AC variable speed spindle motor	S	S	S	S
Hardened and ground linear motion guide ways	S	S	S	S
Hardened and ground ball screws	S	S	S	S
Feedback through absolute encoder	S	S	S	S
Auto tool clamp declamp	S	S	S	S
Centralised auto lubrication	S	S	S	S
Spindle taper air blow	S	S	S	S
Rigid tapping	O	S	S	S
Basic coolant system with chip tray	S	S	S	S
Telescopic covers and wipers	S	S	S	S
Full machine guard	S	S	S	S
Hydraulic counter balancing	S	S	S	S
Manual pulse generator	S	S	S	S
RS 232 serial interface	S	S	S	S
Leveling pads	S	S	S	S
Maintenance tool kit	S	S	S	S
Higher spindle speed with chiller unit-8000/ 10000 rpm	O	O	O	O
Higher spindle power 11/ 15 kW	O	O	O	O
BT50 spindle taper	O	NA	NA	S
Chip conveyor in lieu of chip tray	O	O	O	O
Linear glass scale feedback	O	O	O	O
High pressure coolant through spindle	O	O	O	O
AC for electrical cabinet	O	O	O	O
CNC rotary axis as 4th axis	O	O	O	O
Auto pallet changer with twin pallets	O	NA	O	O
Edge finder	O	O	O	O
High column	O	O	O	O
Voltage stabiliser	O	O	O	O
Coolant gun	O	O	O	O
Air gun	O	O	O	O
Ring coolant around spindle	O	O	O	O

[S] Standard [O] Optional [NA] Not Available

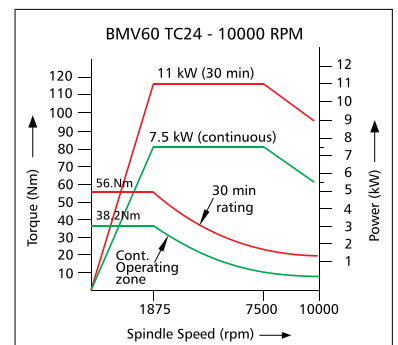
Spindle Speed 6000 rpm (Fanuc 0iMC)



Spindle Speed 8000 rpm (Fanuc 0iMC)



Spindle Speed 10000 rpm (Fanuc 0iMC)





▲ T20 - 20 tools umbrella/ carousel magazine



▲ TC 24 - high speed 24 pocket tool magazine with arm reduces the non-cutting time



▲ High quality balanced spindle on large precision bearings eliminates vibration and offers accurate machining under heavy load. For high speeds spindle chiller is offered as option



◀ Rugged structure of high quality, stress relieved casting and the thermosymmetrically arranged LM guide ways for chatter free precision machining under extreme working conditions

CNC FUNCTIONS

- Linear interpolation
- Circular interpolation
- Helical interpolation
- Absolute/ incremental programming
- Canned cycles
- Work piece co-ordinate system
- Cutter compensation
- Background editing
- Backlash compensation
- Pitch error compensation
- Polar co-ordinate
- Scaling, mirroring
- History of operator alarms and messages
- Look ahead function
- Custom macro B/ parametric programming
- Simple tool life management
- Multi-language display
- Program restart/ block search
- Manual pulse generator

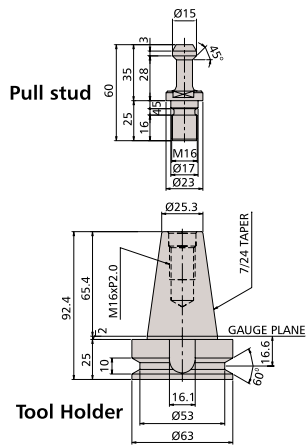
Options

- 4th axis
- 4th and 5th axis
(Available with Siemens 810D/ 840D)

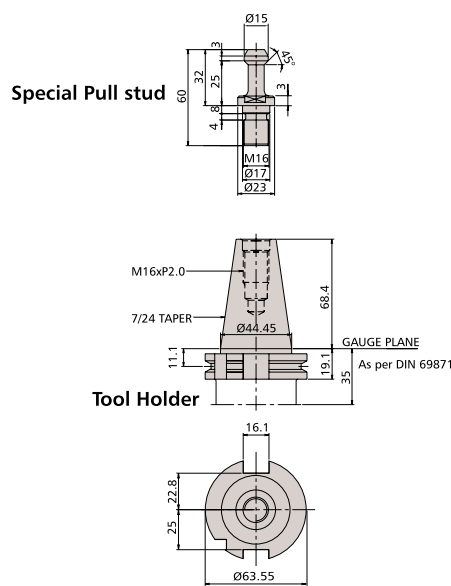
FEATURES\ SYSTEM	FANUC-OiMC	SIEMENS-810D PCU20/ PCU 50	SIEMENS-802D (OPTION)
Display	8.4" colour LCD	10.4" colour TFT	10.4" colour TFT LCD
Simultaneously controllable axes	3 axes (max. 4 axes)	3 axes (max. 4 axes)	3 axes (max. 4 axes)
Minimum input increment	0.001 mm, 0.001 deg	0.001 mm, 0.001 deg	0.001 mm, 0.001 deg
Spindle speed command	5-digit S code	5-digit S code	5-digit S code
Spindle speed override	50% ~ 120% (in steps of 10%)	50% - 120% (in steps of 10%)	50% ~ 120% (in steps of 10%)
Feed override	200% (in steps of 10%)	150% (in steps of 10%)	150% (in steps of 10%)
Feed rate command	4-digit F code	4-digit F code	4-digit F code
Inch/ mm conversion	Yes	Yes	Yes
Part program storage length	256 kB	1.5 MB	256 kB
Number of part programs	400	Unlimited	200
Sub program nesting	4 levels	7 levels	7 levels
Number of tool offsets	400	100	100
Program number/ Sequence number search	Yes	Yes	Yes
Single block	Yes	Yes	Yes
Optional stop	Yes	Yes	Yes
Dry run	Yes	Yes	Yes
DNC operations	Through RS232C/ PCMCIA	Through RS232C/ PCMCIA/ ETHERNET	Through RS232C
Run hour and part count	Yes	Yes	Yes
Help function	Yes	Yes	Yes
Graphic function	Yes	Yes	Yes
Graphic simulation	Yes	Yes	Yes
Nurbs	-	Yes	-
Spline interpolation	-	Yes (option)	-
Ethernet facility	Yes (option)	Yes	-
Remote diagnosis	Yes (option)	Yes (option)	-

Tool Shank Details

BT 40 (STANDARD)



DIN/ISO40 (OPTION)



BT 50 (OPTION)

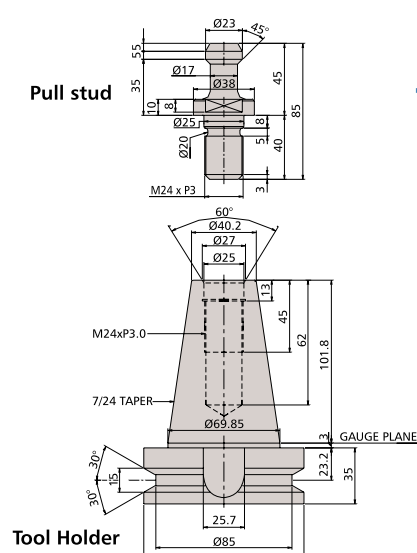
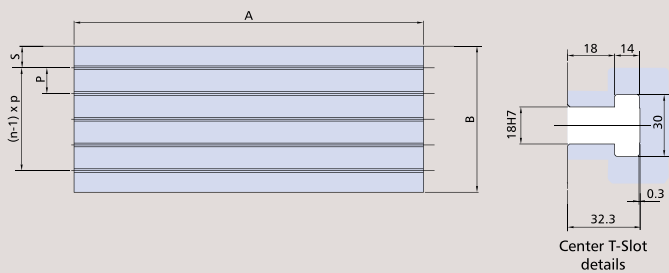
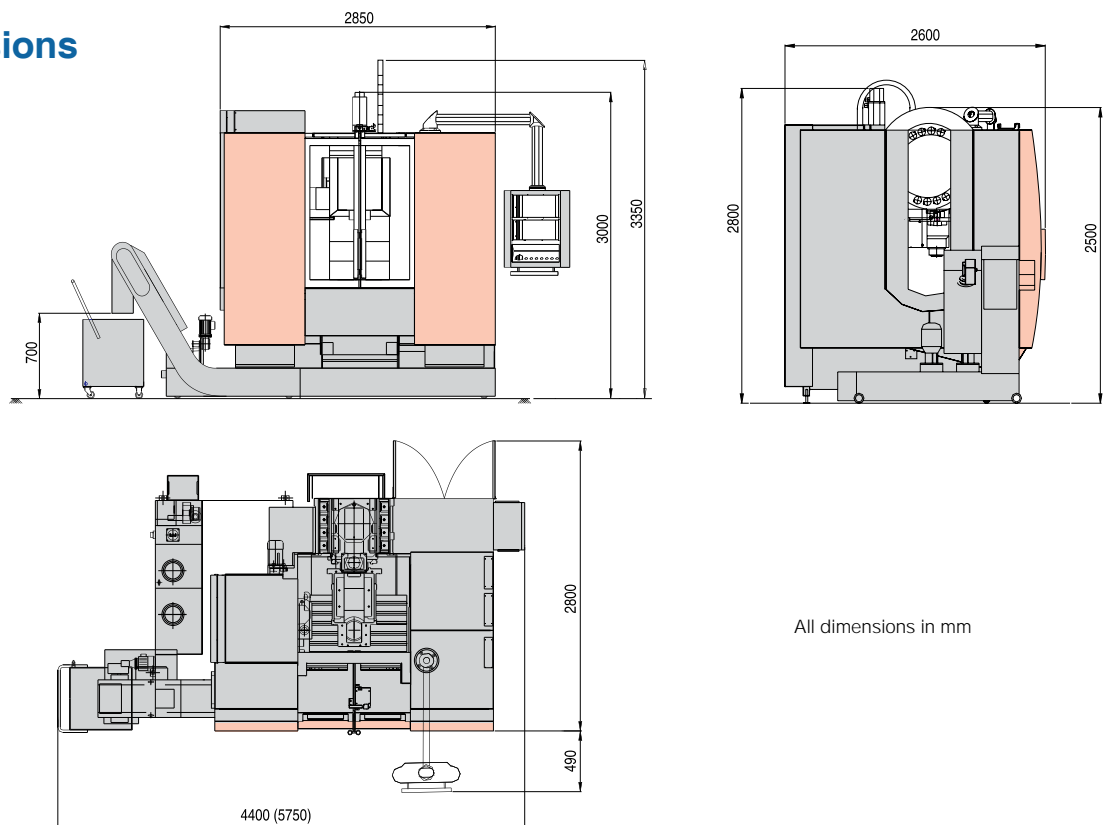


Table Top and Pallet Top Details



MODEL	CLAMPING AREA		T - SLOTS		
	A	B	S	n	P
TABLE					
BMV60 (All models)	1250	600	100	5	100
PALLET					
BMV60 TC20/ 24	1050	510	55	5	100
P - CD between T-Slots			n - number of T-Slots		

Machine Dimensions



All dimensions in mm

(Figures in brackets are for machines with automatic pallet changer)



Chakra

SPECIFICATIONS	UNIT	BMV60	BMV60 T20	BMV60 TC24	BMV60 TC20
Table					
Clamping area	mm x mm	600 x 1250	600 x 1250	600 x 1250	600 x 1250
No./ Width/ CD of T-slots	No./ mm/ mm	5/ 18/ 100	5/ 18/ 100	5/ 18/ 100	5/ 18/ 100
Max. safe load on table	kg	1200	1200	1200	1200
Distance from table to spindle face	mm	140-750 (390-1000)	140-750 (390-1000)	140-750 (390-1000)	140-750 (390-1000)
Traverse					
X-axis	mm	1050	1050	1050	1050
Y-axis	mm	610	610	610	610
Z-axis	mm	610	610	610	610
Axis Drive					
Feed rates	mm/ min	1-10000	1-10000	1-10000	1-10000
Rapid traverse X/ Y/ Z axes	m/ min	32/ 32/ 32	32/ 32/ 32	32/ 32/ 32	32/ 32/ 32
Spindle					
Power (Cont./ 30 min. rating)	kW	7.5/ 11 (11/ 15)	7.5/ 11 (11/ 15)	7.5/ 11 (11/ 15)	7.5/ 11 (11/ 15)
Speed	rpm	6000 (8000/ 10000)	6000 (8000/ 10000)	6000 (8000/ 10000)	6000
Taper		BT40 (BT50)*	BT40	BT40	BT50
Auto Tool Changer					
Number of tools	Nos.	-	20	24	20
Max. tool diameter with adj. pocket full/ empty	mm	.	80/ 125	75/ 140	130/ 220
Max. tool length	mm	-	250	250	250
Max. tool weight	kg	-	8	8	15
Tool change time (tool to tool)	sec	-	9	2.5	4.0
Auto Pallet Changer (option)					
No. of pallets	no	2	-	2	2
Pallet size	mm x mm	510 x 1050	-	510 x 1050	510 x 1050
Max. safe load per pallet	kg	600	-	600	600
Accuracy					
Positioning	mm	± 0.005	± 0.005	± 0.005	± 0.005
Repeatability	mm	± 0.003	± 0.003	± 0.003	± 0.003
Installation Data					
Machine weight	kg	8000	8500	8500	9000
Total connected load	kVA	23	24	30	24
Pneumatic supply	bar	6	6	6	6
Power supply		415V, 50 Hz, 3 Phase			
CNC System		Fanuc OiMC (Siemens 802D/ 810D)			

Note: High-end CNC system offered as optional.
Figures within brackets are optional.

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An ISO9001:2000 and ISO14001:2004 Machine Tool Manufacturer

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Dealer/ Representative

Resident representatives at Aurangabad, Jamshedpur and Kanpur

We are continuously working on the development of our products, the information contained in this brochure is subject to modification.

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