

B BVMC SERIES VERTICAL MACHINING CENTER

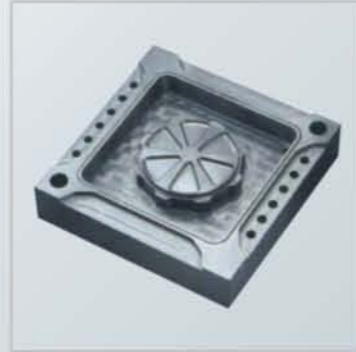
BVMC系列立式加工中心机

► Main Use and Range of Application

BVMC series CNC vertical machining center is a cooperative designed product with German company. We adopted advanced international idea of designing a modern structure machine tool and used the latest software to analyze various technical data. Most reliable and high quality components and spare parts have been introduced to this nice machine tool. No matter precise elements machining or moulds processing, BM-VMC series machining center will offer you excellent performance, high efficiency, higher accuracy and long-term stability

Suitable for: machining parts of automobile, mold industry and so on..

High efficiency
High accuracy
High stability
To realize excellent product for you



BVMC650

Vertical Machining Center



BVMC850

Vertical Machining Center



BVMC1060

Vertical Machining Center



B BVMC SERIES VERTICAL MACHINING CENTER

BVMC系列立式加工中心机

► Main Use and Range of Application

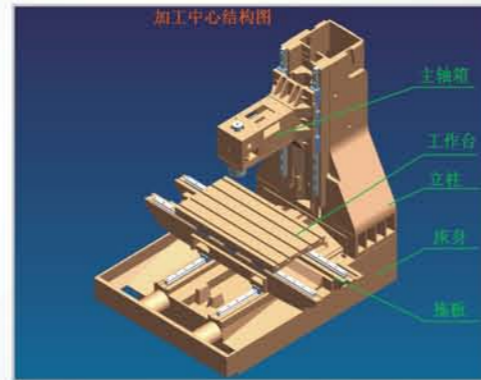
BM-VMC series machining center will offer you excellent performance, high efficiency, higher accuracy and long-term stability. We adopted advanced international idea of designing a modern structure machine tool and used the latest software to analyze various technical data. Most reliable and high quality components and spare parts have been introduced to this nice machine tool. No matter precise elements machining or moulds processing, BM-VMC series machining center will offer you excellent service.

1 Mechanical advantage-Main machine

Castings of VMC machining center are made by advanced Meehanite casting iron. Such kind of material is very stable and can make sure there is no distortion after long-term using. Grade of casting is GC-275. We adopted integrated forming technology, box structure, plus our large 5 axis machining center machine to finish processing of them by just once fixing, this characteristic makes sure good rigidity, high intensity excellent geometrical precision of VMC machines. At the same time it promises long term stability and accuracy. Other companies choose normal casting and steel plates welding method to produce machine bed parts; these machines are bad in performance, easy to happen resonance, easy to break down, short life, can't do heavy cutting work, will lead to great loss.

Use of mechanite cast iron GC40 (Gc275)

Mechanite cast iron GC40 is suitable for casting with thickness 10-15mm. This kind casting is good in compact structure, good intensity, suitable hardness, low coefficient of friction, it has feature of self-lubricating, after quenching treatment, and it is widely used as workpiece which have friction of its surface, such as machine tools bed, seat, working table, and cylinder, and so on.



2 Mechanical advantage-"人" structure column

"人" structure is adopted as column to support spindle box and its movement in Z axis direction, Using such design can improve rigidity and cutting stability of machining remarkably, with this design, our machine is suitable for heavy cutting and large table load.



3 Mechanical advantage-unique tool changing structure

A: Special material as this structure, processed by precious machining and unique heat treatment, accelerates changing tools; this design is much accurate (no impaction to spindle) and smooth without noise.

B: We adopt particular, stable air pressure driving oil as method of spindle losing tools, double-action, it is much excellent in speed and stability of than just using air pressure or oil driving.

C: Large capacity tool magazine with 24 tools, advanced cam type tools changing system is equipped, random memory of magazine management, which much faster and stable in changing tools. (Optional)



4 Mechanical advantage- high precious, high rigid spindle

Spindle of our VMC machine are made by top brand in TAIWAI. The range of spindle speed is 8000-12000. Spindle taper is No. 40, which strengthen of cutting power. Belt transmission can reduce slip; noise caused by transmission and hears generation. We use high- power motor for spindle and other three axes. High width torque outputting, even working with slow speed, it can output high torque. This is suitable for heavy cutting work.



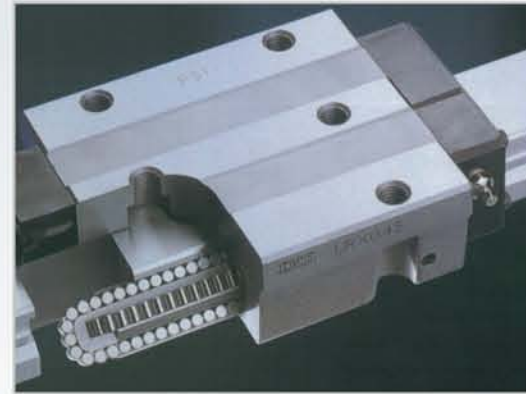
5 Mechanical advantage-Precious ball screw

Screws of X, Y, Z axes are provided by worldwide famous manufacturer, such as HIWIN, PMI inn Taiwan, specification of screw: P3 precious level, diameter is 40mm, guide lead 12mm. Such kind screws are leading in speed and accuracy. As to support of screw, we used fixed support with pretension, which enhance transmission. Bearing for holding up screws are made by NSK in Japan, NSK bearing have much better performance than others in many aspects, such as loading, rigidity, motility. Coupling, which is used for connecting screw and motor are American plum blossom-sharp. This structure is characterized in high efficiency, good rigidity, transferring with big torque, turning with high efficiency, but small self-running inertia, it is suitable for high speed working.



6 Mechanical advantage-Optimized structure of heavy rail linear guide

Roller guide (Standard) or ball screw guide (Optional) for X,Y,Z axis of Baoma machines, which is provided by worldwide well know enterprises. Comparing with ball screw guide, leading and damping properties of roller guide has been improved 30% and 15% respectively, comparing with steel guide, dynamic motion function has been improved 300%, at the same condition, machining efficiency will be 2-15% better, lift of machine will be 3-6 times longer, so no need to break machine own to repair, it will save production cost.



7 Mechanical advantage-Adopt three slide blocks for spindle axes

Adopting three slide blocks for single axis will enhance load capacity around 30% ,with this method the load capacity and the rigidity will be improved .



8 Mechanical advantage-Nut integrated design

Nut block for screw and main machine body are built together for every axis, with this design, machine will get better rigidity and won't lost accuracy while heavy cutting with acceleration movement impact.



9 Friendly use operation interface, excellent looking of outside cover

Oil and water separated design keep working solution away from lubricating oil
Excellent chip cleaner (optional)
Safe and convenient operation platform



B BVMC SERIES VERTICAL MACHINING CENTER BVMC系列立式加工中心机

Electrical Advantage

1. Adopt original FANUC, Mitsubishi 64 bit high performance CNC system, all connecting cables are imported
2. Modularization design layout in electrical cabinet, this design is easy for malfunction diagnosis and repair, and also easy to add latest function in the future
3. 8.4' color TFT-LCD monitor, high speed and high accuracy machining mode
4. Unique stable air press to loose tools, it shorten time of changing tools
5. Random shortcut choosing tools method, it shorten time of waiting for a new tool
6. Multi-language
7. Automatic input of workpiece coordinates
- 8 Rigid taping
9. Big torque of three axes, large power servo motor connect with spindle directly
- 10.Can be connected to the Internet



B BVMC CONTROL SYSTEM

BVMC控制器功能

●: Standard Function ▲: Optional Function

1. CPU and Control Axes

- 1.1 64 bit CPU
- ▲ 1.2 Max. Number of Control Axes (NC+SP+PLC+external axes):11
- ▲ 1.3 Max Number of spindle: 2
- ▲ 1.4 Max Number of NC: 6
- 1.5 Number of coincidence acting axes: 4

2. Corrections Associated with The memory capacity

- 2.1 Standard capacity of machining program memory /number of program: 600meters/400
- 2.2 Max number of common variable group: 600
- 2.3 Max number of tool compensation group: standard 400
- 2.4 Max number of coordinate extension: 54 groups

3. Machining Speed and Precision Support Method

- ▲ 3.1 High speed machining mode III :G05P3 (16.8m above)
- 3.2 High Accuracy control 1: G61.1 (8.4m/min)
- 3.3 High speed and high accuracy mode? (G5.1Q1):G5.1Q1 (16.8m/min)
- 3.3 High speed and high accuracy model II (G5P10000):G5P10000 (33m/min)

4. Special Edit Mode

- 4.1 buffer emendation (memory/MDI/Computer Link B)
- ▲ 4.2 buffer emendation (HPS)
- 4.3 whole page edit/whole sentence edit

5. Display Real Time Connect with Computer

- 5.1 display: 9 inch LCD (amber)
- ▲ 5.2 display-optional: 8.4" TFT-LCD
- ▲ 5.3 IC card high speed program server + Ethernet (HPS): HR831 + HR832 + IC Card
- 5.4 Computer online B (Max pre-read capacity is 32KB, about 500 units/time): 32KB/500B, Transfer Rate: 38400bps
- ▲ 5.5 Ethernet (10/100Mbps) HR831 + HR832

6. Language and Graph

- 6.1 support language (Japanese, English, Chinese, French, Spanish):13 countries (including simplified Chinese)
- 6.2 PCL program wire-protected
- 6.3 graph simulation
- 6.4 tool path check
- 6.5 Zoom in and zoom out of graph, center keep



Funuc Control System

7. Operation and Ability of Program Support

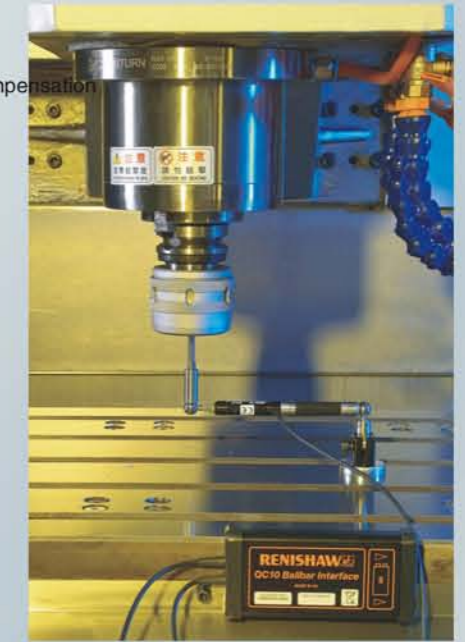
- 7.1 Measure center of workpiece: B3A version
- 7.2 Ability of automatic input for compute, and measure of workpiece coordinate compensation
- 7.3 Restart program
- 7.4 Exchange of coordinate display value
- 7.5 Check halt
- 7.6 Round milling
- 7.7 Compensation of workpiece position
- 7.8 Program coordinate turn around
- 7.9 Peck synchronism tapping/deep hole tapping (can trace back to R point)
- 7.a Proportion zoom (G50/G51): B3A version
- 7.b Parameters mirror
- 7.c External mirror
- 7.d Program mirror
- 7.e Special regular recycle program (G34/35/36/37.1)

8. Interpolation Ability

- 8.1 Polar coordinate command (G15/16)
- 8.2 Cylinder interpolation (G07.1)
- 8.3 Threading interpolation (G17 -19 + G02/G03)

9. Maintenance Ability and Others

- 9.1 Parameters backup
- 9.2 Waveform display
- ▲ 9.3 Easy program interface: Magicpro-NAVI MIL
- ▲ 9.4 APLC (open user interface): APLC
- ▲ 9.5 UI of PC version: PRO-CAM/M
- ▲ 9.6 MEL Link (1 to 5 DNC S/W software): MEL LINK
- ▲ 9.7 M70S series: operation, program alarm/parameters electric book



B VMC SERIES VERTICAL MACHINING CENTER

BVMC系列立式加工中心机

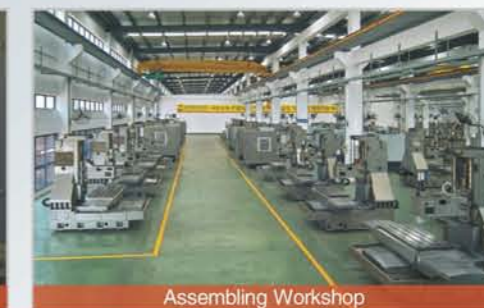
► Specification

Model / Unit	BVMC-650	BVMC-850	BVMC-1060	BVMC-1370	
Travel/space	X/Y/Z axis travel (mm)	600/500/500	800/500/600	1000/600/600	1300/700/650
	Table upper surface to spindle nose end face (mm)	105~605	120~720	120~720	150~800
	Table to spindle nose (mm)	560	570	670	770
Accuracy	Positioning accuracy (mm)	± 0.005	± 0.005	± 0.005	± 0.005
	Re-positioning accuracy (mm)	± 0.003	± 0.003	± 0.003	± 0.003
Table	Table dimension (mm)	700 × 520	1000 × 520	1200 × 620	1500 × 720
	Max.load of table (Kg)	600	800	1000	1500
	Driving power(x,y,z) (kw)	1.5, 1.5, 1.5	2, 2, 2	2, 2, 2	3.5, 3.5, 3.5
	T shape groove (mm)	18T × P125 × 3	18T × P100 × 5	18T × P130 × 5	18T × P130 × 5
Spindle	Spindle speed (rpm)	8000/12000	8000/10000/12000	8000/10000/12000	6000/8000
	Spindle bore taper	Taper No.40	Taper No.40	Taper No.40(No.50 optional)	Taper No.50
Traverse speed	Rapid traverse speed(XYZ) (mm/min)	24000/36000	24000/36000	24000/36000	32000/48000
	Cutting traverse speed(XYZ) (mm/min)	12000	12000	12000	12000
Auto changing Tool system	Tool model	BT40	BT40	BT40(BT50 Optional)	BT50
	Tool capacity (pcs)	16	16(24 Optional)	16(24 Optional)	24
	Tool exchange time(t-l/c-c)	7/13	7/13 (3.5/7)	7/13 (3.5/7)	3.5/7
Spindle motor	Spindle power AC(30min/successive)	7.5/5.5	7.5/5.5 (11/7.5)	11/7.5	15/11
Power	Electricity(KVA)	18	22	25	30
	Air power(MPa/L/min)	0.6/200	0.6/200	0.6/200	0.6/200
Outer size and weight	Machine height (mm)	2500	3000	3100	3200
	Floor space (mm)	2100 × 2100	2400 × 2500	2900 × 2700	3600 × 2800
	Net weight (kg)	5800	7000	8500	12000

► List of parts from famous manufacturer for our machine

No	Name	Brand	Manufacturer
01	Casting	Mechanite cast GC-275	Japanese STK
02	Travel Switch	SN02D12-502-M	German EQCHMER
03	Shield cable		German
04	Switch power		Taiwan Meanwell
05	Air switch	NSC100B3075 + NSC100R0TDS	
06	Button switch		Japanese IDEC
07	Contactora	JC1-D	French Schneider
08	Lubricating pump	20103-1	Chinese and American Joint venture
09	Bering for screw	30TAC/62BDBC/10PN7B	Japanese NSK
10	Coupling	ID: φ 35- φ 28/OD × L: φ 65 × φ 90	USA LOVEJOY
11	Bal screw	R40-12K5-FDC series P3 accuracy	Taiwan HIWIN/PIM
12	Gudieway	RGH45 and HGH45 series	Taiwan HIWIN/PIM
13	Spindle	8000-10000 RPM	Taiwan ROYAL/KENTURN/Jujiang
14	Tool Magazine	Umbrella 16 sets Disc 16/24 sets	Taiwan shengyu Taiwan HDW
15	Auto chip conveyor	Chain type	Chengrun
16	Oil cooler for spindle	MC015C-03	Beijing Sanhe Tongfei
17	Tool Presetter		Taiwan
18	CNC Controller	Mitsubishi M70B Fanuc OI-MD (α motor) Fanuc OI-MD (β motor) Fanuc OI-MD-MATE SIEMENS 802D SYNTEC Chinese brand	Japanese Mitsubishi Japanese Fanuc Japanese Fanuc Japanese Fanuc German SIEMENS Taiwan Syntec Wuhan NC Central
19	4th Axis	TK3200E CNC-201R	Yantai Huanqiu Taiwan Hengyong

Our Company reserves the right to change manufacturers when purchase the same quality parts



B VMC SERIES VERTICAL MACHINING CENTER

BVMC系列立式加工中心机

Standard Packing List

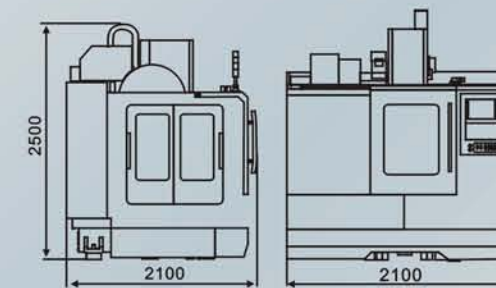
1. Main Machine Standard Accessories

No.	Name
01	Spindle(RPM 8000, adopt synchronous belt)
02	Spindle motor(SJ-PF series Mitsubishi spindle motor)
03	Working fluid supplier
04	Alarming lamp with three color
05	Blast protection quartz working lamp
06	Auto lubricating unit
07	Three axes screw protection
08	Fully closed electrical box and heat exchanger
09	Foundation block, screw and tool box
10	Fully closed sheet metal cover for prevent chip
11	RS-232C transmission interface
12	Air injection
13	Tools loose and tight equipment
14	Manual(include software manual)
15	Moving M.P.G
16	RS-232 transmission line one
17	Power line one
18	Working bulb two
19	Antirust packing

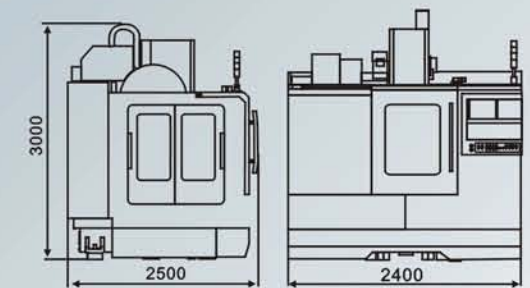
Standard Packing List

2. Supplied Accessories

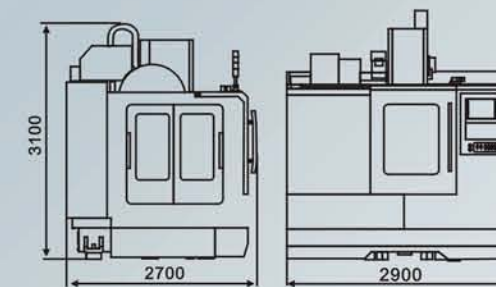
No.	Name	Quantity
01	Tools box	1
02	Operation manual	1
03	Program manual	1
04	Composite fixing plate	1
05	Tools holder and rivet	1
06	Machining&electric manual	1
07	Precision checking meter	1
08	Backup CD	1



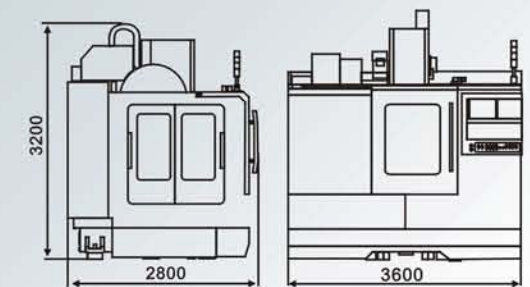
▶ BVMC650



▶ BVMC850



▶ BVMC1060



▶ BVMC1370