



AWEA MECHANTRONIC CO., LTD.

HEADQUARTERS

629, Suezhetou Section, Kwanpu Rd., Wenshan Li,
Hsinpu, Hsinchu 305, Taiwan
TEL : +886-3-588-5191
FAX : +886-3-588-5194
Website : www.awea.com

CENTRAL TAIWAN SCIENCE PARK BRANCH

15, Keyuan 2nd Rd., Central Taiwan Science Park,
Taichung 407, Taiwan
TEL : +886-4-2462-9698
FAX : +886-4-2462-8002

ISO 9001



ISO 14001



 LE HUNG	CÔNG TY TNHH CÔNG NGHỆ LÊ HÙNG Địa chỉ Hà Nội: Mai Hiền, Mai Lâm, Đông Anh, Thành Phố Hà Nội Điện thoại: 024.32001203 Fax: 024.32007513 Email: kinhdoanh@lehungtech.com.vn Website: www.lehungtech.com.vn Hotline: 0903.439.682		
	Địa chỉ VP phía Nam: P.2006, tòa nhà Lotus Sen Hồng, Dĩ An, Bình Dương. Điện thoại: 0903.202.682 Hotline: 0906.209.682 Email: thanhtrau@lehungtech.com.vn		

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BM SERIES

Super Rigidity Vertical Machining Centers



SUPER RIGIDITY

Structure Design Providing Ultimate Heavy-duty Cutting Performance

AWEA in house made gear box spindle provides the best torque combination. Box way on 3 axes to fulfill reliable and stable heavy-duty cutting requirement. Precise hand scraping on key contact surfaces to ensure the best support and consistent machine accuracy.



BM-2500
(X:2,500 / Y:1,000 / Z:1,000)



BM-1400
(X:1,400 / Y:800 / Z:700)

BM-850
(X:850 / Y:600 / Z:600)

(Unit:mm)

BM Series

850 / 1020 / 1200 / 1460 / 1400
1600 / 1800 / 2100 / 2500

Super Rigidity Vertical Machining Centers

With the advanced R&D technology and strict quality control, BM series is specially made for heavy cutting machining needs, which have rigid and stable machine structure for extensive application.

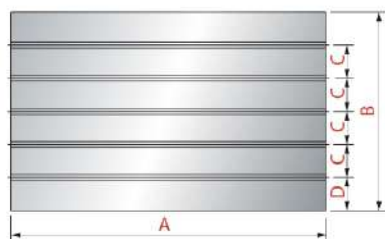
BM series offers excellent performance with reasonable and affordable price.

- Depends on the different machining requirement, we provides various modular spindle combinations to achieve optimal cutting performance.
- 3 axes are equipped with box ways which is precisely grinded and throughly heat treated, especially suitable for heavy cutting.
- Highly efficient 24T arm type magazine design provides fast and reliable tool change system.
- The wide range BM series, X travel start from 850 mm to 2,500 mm ; Y / Z travel start from 600 mm to 1,000 mm to meet your various machining requirements.



Dimensions

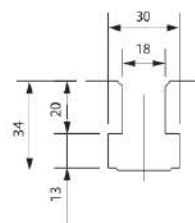
Table Dimensions



Models	A	B	C	D	No. ¹⁾
BM-850	1,050	600	100	100	5
BM-1020	1,120	600		100	5
BM-1200	1,300	600		100	5
BM-1460	1,500	650		125	5
BM-1400				5	
BM-1600	1,700	800	150	100	5
BM-1800	2,000			5	
BM-2100	2,300	1,000		7	
BM-2500	2,700			50	7
BM-850-APC	800	460	—	—	5

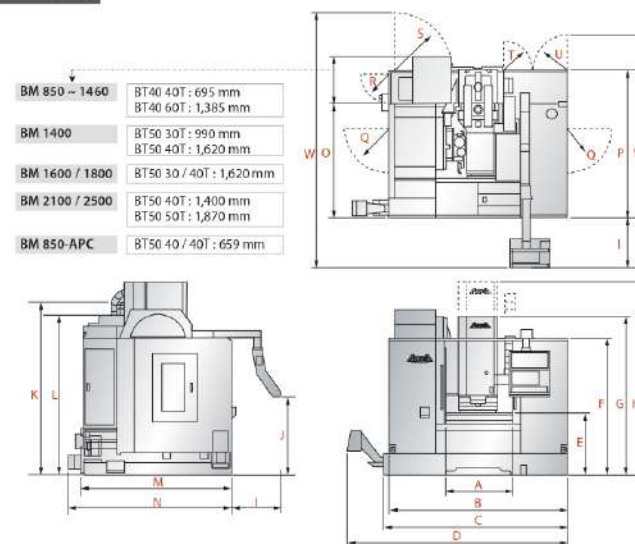
*1 : No. = Number of T-slots

T-slot Dimensions



(Unit: mm)

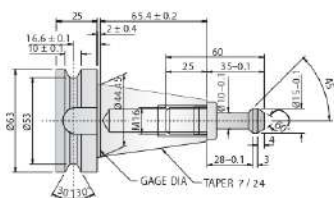
Machine Dimensions



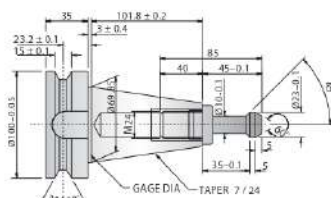
(Unit : mm)

Tool Shank and Pull Stud Dimensions

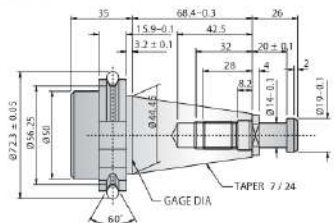
BT40



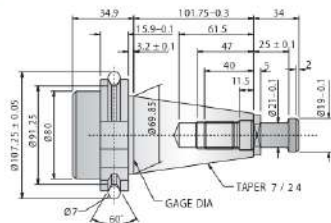
BT50



DIN40



DIN50



Models	A	B	C	D	E	F	G	H	I	J	K	L
BM-850	1,000	2,600	2,600	3,135	900	1,900	2,125	2,725	730	1,140	2,520	2,340
BM-1020		3,000	3,000	3,535		1,930						
BM-1200	3,300	3,400	3,400	3,935		2,050						
BM-1460	1,470	3,850	3,850	4,385	960	2,180	2,605	3,305	735	1,135	2,875	2,675
BM-1400	1,500	3,950	3,950	4,640		2,330						
BM-1600	1,800	4,400	4,400	5,090	1,050	2,330	2,585	3,385	725	1,160	3,330	3,205
BM-1800	2,070	4,880	4,880	5,570	1,100	2,765	3,765	635	1,135	3,530	3,405	
BM-2100	2,340	5,200	5,200	5,530		2,150	2,400	3,000	865	1,000	2,670	2,490
BM-2500	2,950	6,500	6,500	6,695								
BM-850-APC	850	2,600	2,800	--	1,050	2,150	2,400	3,000	865	1,000	2,670	2,490

Models	M	N	O	P	Q	R	S	T	U	V	W
BM-850							850 1,050	410	510	3,405	3,745 3,945
BM-1020	2,205	2,385	1,665	2,165	650	415					
BM-1200											
BM-1460											
BM-1400	2,935	3,115	2,245							4,265	
BM-1600	2,965	3,145	2,230	2,930	900					4,255	
BM-1800											
BM-2100	3,550	3,730	2,660	3,500	--	--	600	600		4,735	--
BM-2500											
BM-850-APC	3,040	--	2,500	2,995	650			410	510	3,505	3,905

Specifications are subject to change without notice.

		BM-850	BM-1020	BM-1200	BM-1460
SPECIFICATIONS					
X-axis travel	mm	850	1,020	1,200	1,400
Y-axis travel	mm	600			
Z-axis travel	mm	600			
Distance from spindle center to column	mm	680			
Distance from spindle nose to table center	mm	125 ~ 725			
WORKING TABLE					
Table size (X direction)	mm	1,050	1,120	1,300	1,500
Table size (Y direction)	mm	600	600	600	650
Table load capacity	kg	850	1,000	1,200	1,400
SPINDLE					
Spindle taper		BT40 / BT50 (Opt.)			
Spindle motor (cont. / 30 min.)	kW	7.5 / 11			
Spindle speed	rpm	Belt-drive 8,000			
FEED RATE					
X / Y axes rapid feed rate	m/min.	24			
Z-axis rapids feed rate	m/min.	20			
Cutting feed rate	m/min.	1- 15			
TOOL MAGAZINE					
Tool magazine capacity	T	24			
Max. tool length	mm	250			
Max. tool weight	kg	7			
Max. tool diameter / adj. pocket empty	mm	Ø 75 / Ø 150			
ACCURACY					
Positioning accuracy (JIS B 6338)	mm	± 0.01 / Full Travel			
Positioning accuracy (VDI 3441)	mm	P ≤ 0.012			
Repeatability (JIS B 6338)	mm	± 0.003			
Repeatability (VDI 3441)	mm	Ps ≤ 0.008			
GENERAL					
Control system		FANUC Oi-MF / 31i-MB		MITSUBISHI M80 / M800	
Pneumatic pressure requirement	kg/cm²	6			
Power requirement	kVA	25			
Coolant tank capacity	liter	250	310	315	320
Machine weight	kg	6,500	6,800	7,300	8,000

Standard Accessories

- 3 axes auto lubrication system
- 3 axes ball screw pretension
- Spindle air curtain
- Coolant nozzle around spindle
- Air blow system
- Front side chip auger
- Two sides chip auger
BM-1400 ~ 2500
- Fully enclosed splash guard
- Rigid tapping
- Lubricating oil recovering system
- Heat exchanger for electrical cabinet
- RS-232 Interface
- Tool box
- Air gun
- Coolant gun
- Alarm light
- Foundation bolt kit
- Automatic power-off system

		BM-1400	BM-1600	BM-1800	BM-2100	BM-2500
SPECIFICATIONS						
X-axis travel	mm	1,400	1,600	1,800	2,100	2,500
Y-axis travel	mm	800			1,000	
Z-axis travel	mm	700	800		1,000	
Distance from spindle center to column	mm	900			1,100	
Distance from spindle nose to table center	mm	200 ~ 900	200 ~ 1,000		200 ~ 1,200	
WORKING TABLE						
Table size (X direction)	mm	1,500	1,700	2,000	2,300	2,700
Table size (Y direction)	mm	800	800	800	1,000	1,000
Table load capacity	kg	1,800	2,000	2,200	3,000	4,000
SPINDLE						
Spindle taper		BT50 / BT40 (Opt.)			BT50	
Spindle motor (cont. / 30 min.)	kW	11 / 15			15 / 18.5	
Spindle speed	rpm	Belt-drive 6,000			Gear Spindle 6,000	
FEED RATE						
X / Y axes rapid feed rate	m/min.	20			15	
Z-axis rapids feed rate	m/min.	18			12	
Cutting feed rate	m/min.	1-12				
TOOL MAGAZINE						
Tool magazine capacity	T	24				
Max. tool length	mm	250				
Max. tool weight	kg	15				
Max. tool diameter / adj. pocket empty	mm	Ø 105 / Ø 210				
ACCURACY						
Positioning accuracy (JIS B 6338)	mm	± 0.01 / Full Travel				
Positioning accuracy (VDI 3441)	mm	P ≤ 0.012				
Repeatability (JIS B 6338)	mm	± 0.003				
Repeatability (VDI 3441)	mm	P _s ≤ 0.008				
GENERAL						
Control system		FANUC Oi-MF / 31i-MB		MITSUBISHI M80 / M800		
Pneumatic pressure requirement	kg/cm ²	6				
Power requirement	kVA	40				
Coolant tank capacity	liter	590	480	480	820	900
Machine weight	kg	13,000	15,000	17,000	20,000	22,000

Specifications are subject to change without notice.

Optional Accessories

- Arm type tool magazine 30 / 40T
- Belt-drive spindle BT40 10,000 rpm
- Gear spindle BT40 8,000 rpm BT50 6,000 rpm
- Direct-driven spindle BT40 10,000 rpm 12,000 rpm 15,000 rpm
- BT50 8,000 rpm 10,000 rpm
- Roof enclosed splash guard
- Coolant through spindle (Form A)
- Spindle thermal compensation
- X / Y / Z axes optical linear scale
- CNC rotary table
- Transformer
- Coolant through the tool adapter
- HEIDENHAIN , SIEMENS controllers
- Chips flush coolant system
- Caterpillar type chip conveyor & bucket
- Scraper type chip conveyor
- Automatic tool length measurement
- Oil skimmer
- Data server