

Your Reliable Partner



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DBM Series

Jiangsu Dawei Precision Technology Co. Ltd.

Add: No. 188, Zhonghuan Road, Yongxing Street, Chongchuan District, Nantong City

Tel: +86-513-85602596

Business hotline: 4001054088

Fax: +86-513-85603916

E-mail: gskz@ntgskz.com

+86-513-85302638

Website: www.gosunmachine.com



DW-2023-04 DBM E



DBM Series

Horizontal Boring & Milling Machining Centers

Dawei Precision Technology
Leading Horizontal Machining Trend ▶

Jiangsu Dawei Precision Technology Co., Ltd. is built by Taiwan technical team, specializing in R & D and production of horizontal boring and milling machining centers and horizontal machining centers. Adhering to the advanced technology and quality concept of Taiwan company, Dawei has become a brand trusted by customers.





Cutting speed X/Y/Z/W (m/min)

DBE-110/DBM-110 Series
10/10/10/6

DBM-130 Series
10/10/10/5

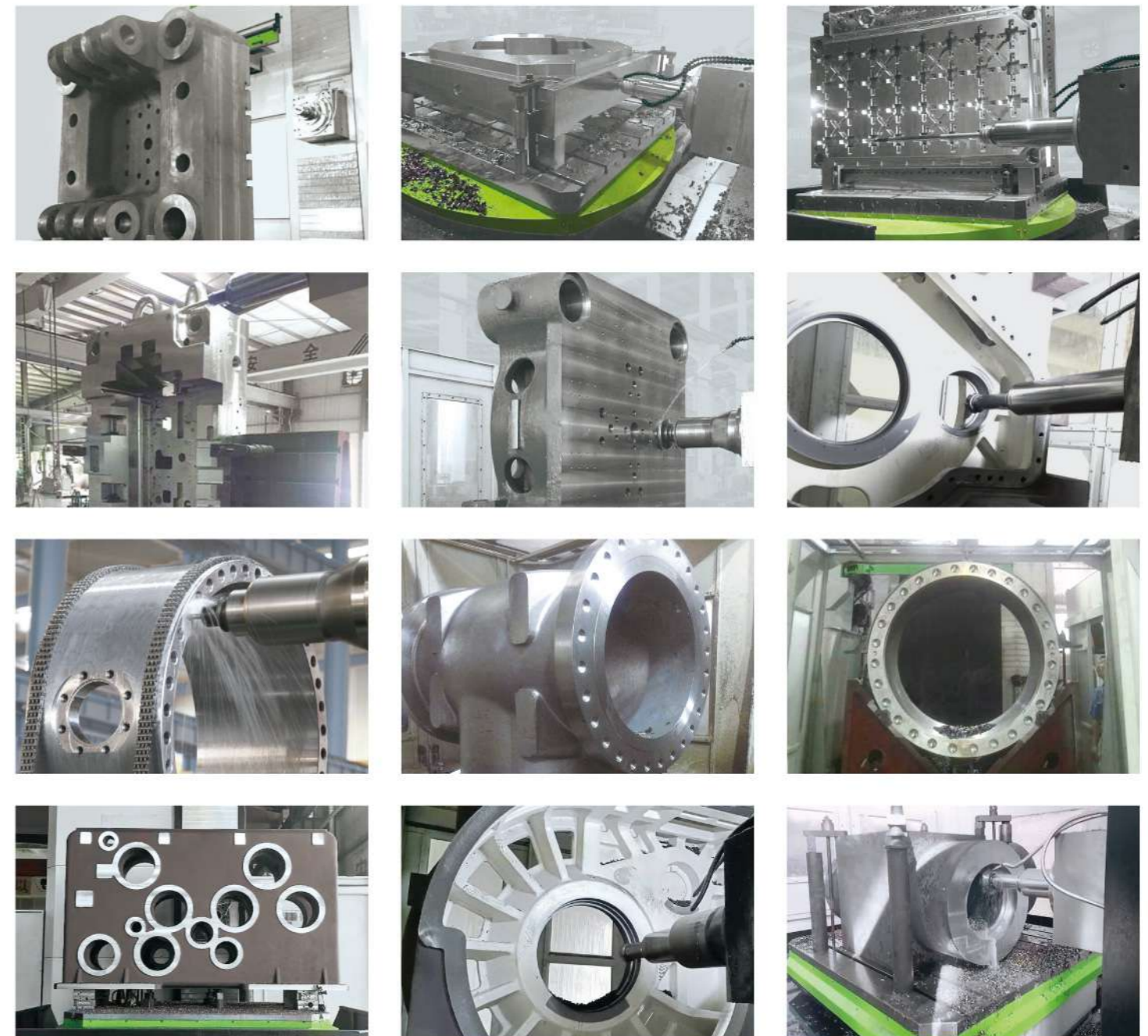
Rapid traverse speed X/Y/Z/W (m/min)

DBE-110
12/12/12/8

DBM-110 Series / DBM-130 Series
10/10/10/8

Application field

Dawei's equipment can meet the needs, including energy, oil, shipbuilding, structural parts, engineering machinery, civil aviation, engine, heavy machinery and other manufacturing fields.



DBM Series

Horizontal Boring & Milling Machining Centers

(Spindle Box Middle Mounting Structure)



DBM Series

Horizontal Boring & Milling Machining Centers

(Spindle Box Side Mounting Structure)



Relying on techniques and experiences
Being edged tools of production of customers
Keep leading position continuously in industry

DBE series structure



DBM series structure
(Middle Mounting)



Meehanite castings in integrated casting formation and resistant to abrasion, stress elimination enables high shock resistance, and the capability of vibration absorption is higher than common cast iron, so as to improve stability of machine tool.
Oil and coolant are recycled for prevention of pollution and in compliance with the requirements of environmental protection.
Feedback of axial positions adopts absolute optical scale to posit at all machining points precisely and to avoid the step of return to home position of each travel.

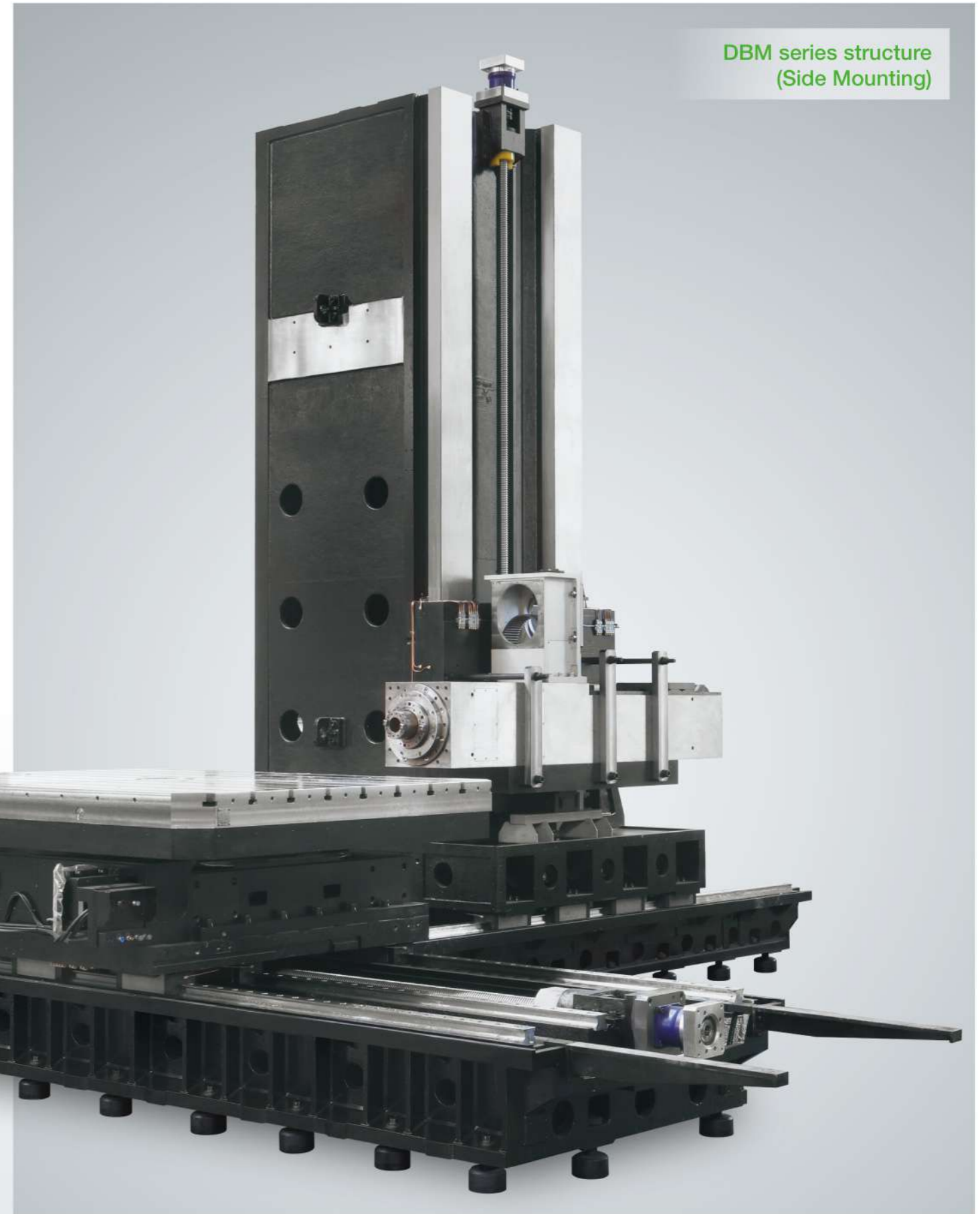


Equipped with grating ruler feedback on both X,Y,Z axes
X,Z axis configuration heavy-duty roller type linear guide rail

Provide high-precision rapid feed while ensuring stable support when the workbench is overloaded.

Ball screw and heavy-load linear roller guideway

C3 grade high precision ball screw and high precision P grade heavy load roller linear slide rail design to ensure that the heavy cutting axial and radial force.



DBM series structure
(Side Mounting)



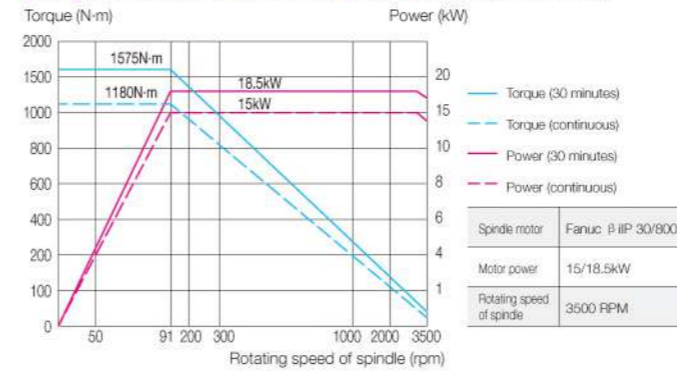
The spindle head is one-piece casting, which has higher rigidity than the general combined spindle structure and improves the stability of the machine tool. It has stronger cutting ability and higher precision.

The spindle uses cylindrical double row roller NN bearing with large spacing, high precision and high rigidity, so it has excellent heavy cutting ability.

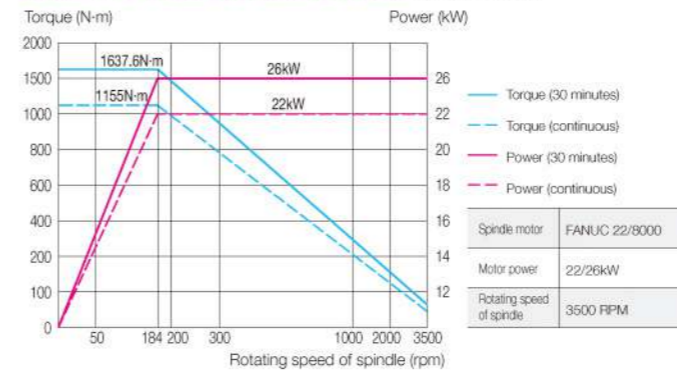


Spindle power torque diagram

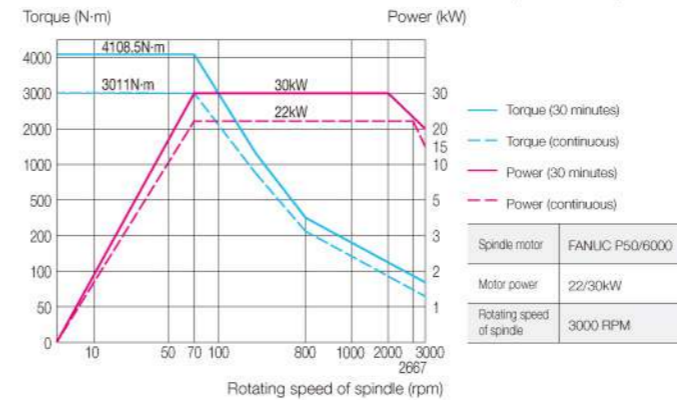
DBE-110 Fanuc β iIP 30-8000 15_18.5kW (Standard)



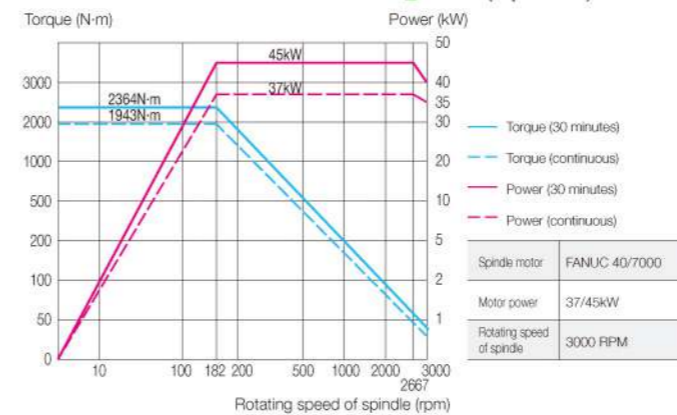
DBM-110 Fanuc 22-8000 22_26kW (Standard)



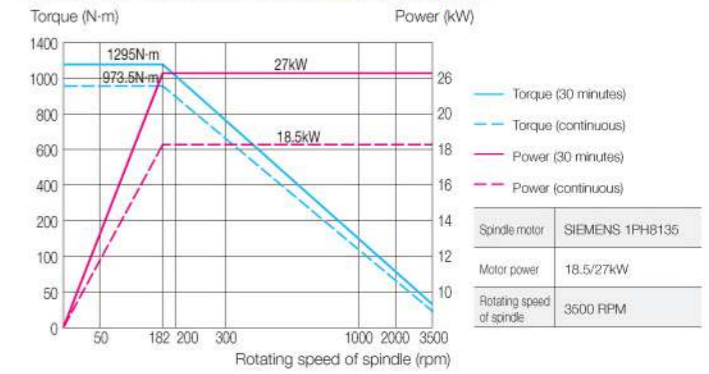
DBM-130/130B Fanuc P50-6000 22_30kW (Standard)



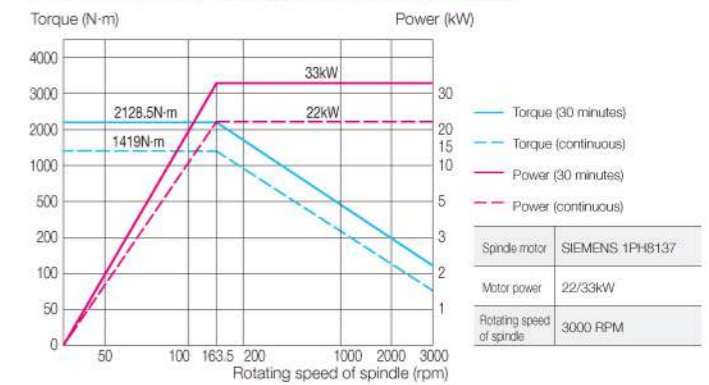
DBM-130/130B Fanuc 40-6000 37_45kW (Optional)



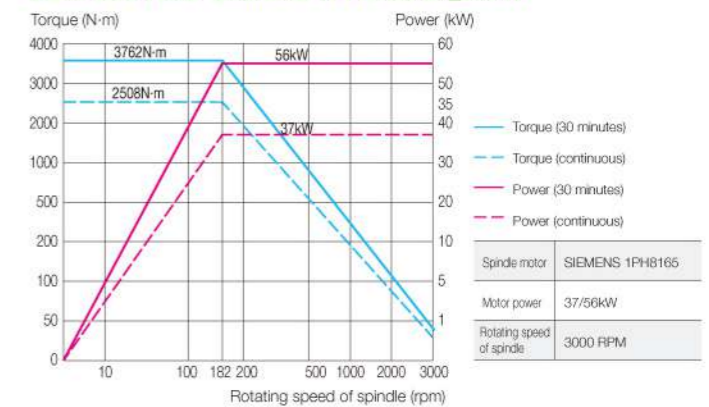
DBM-110 Siemens 1PH8135 18.5_27kW

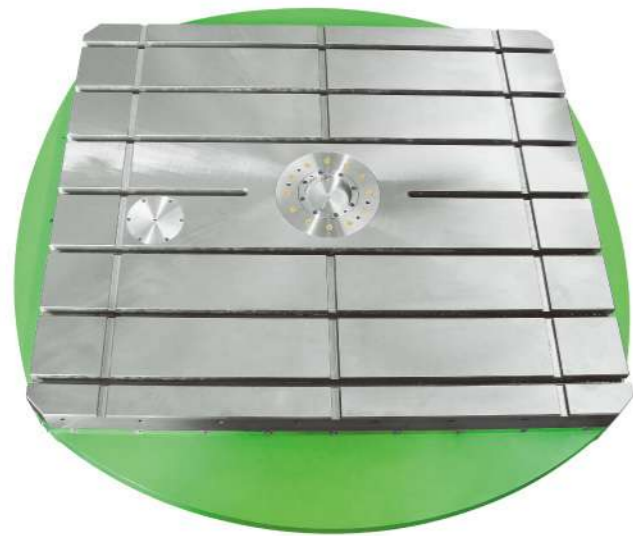


DBM-130/130B Siemens 1PH8137 22_33kW



DBM-130/130B Siemens 1PH8165 37_56kW





The rotary table is driven by worm gear

The worm gear drive is used in the mechanical transmission part of the slewing table. Compact structure, stable transmission, vibration, shock and noise are small. The large transmission ratio can be obtained by single stage transmission, which is beneficial to the realization of the indexing required by the rotary table.

The rotating worktable (B-axis) has circular grating feedback control to ensure positioning accuracy.

The rotating worktable can be hydraulically positioned and locked in any position.

Substantial functions & guarantee for high precision

Indexing action is kept reliable and stable dependent on drive of large-diameter sliding surface and double gears 90° locating pins independently researched and developed by Dawei guarantees high precision. In addition hydraulic and T-bolts are used for solid clamp.



Exquisite scraping process



Worktable size (mm)

DBE-110	DBM-110
1250×1250	1400×1600

DBM-130	DBM-130B
1600×1800	1800×2200

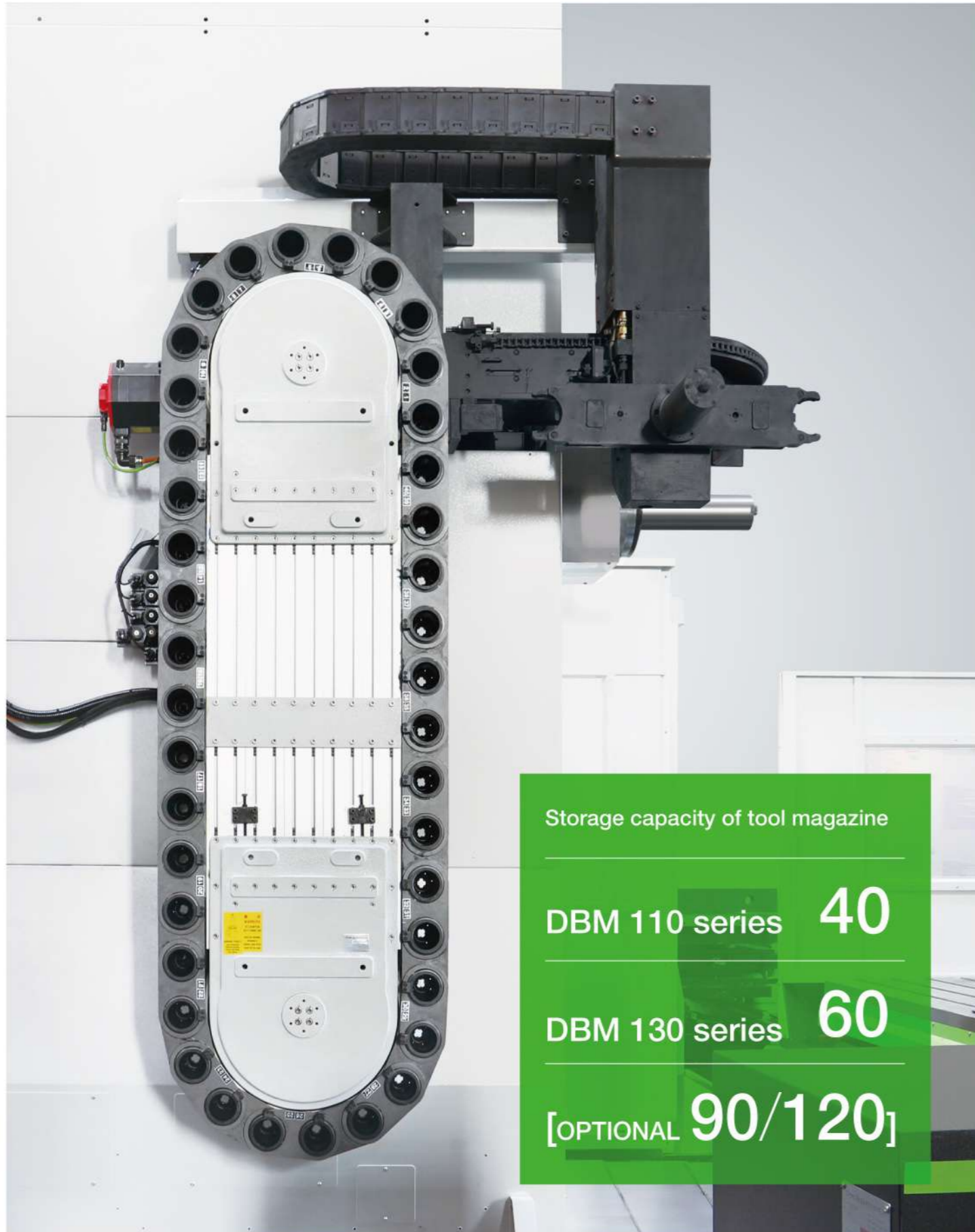
Division angle	DBE-110
	1° [Standard]

	DBM-110/130/130B
	0.001° [Standard]

Locating precision	DBE-110/DBM-110/130/130B
	10"

Repetitive precision	DBE-110/DBM-110/130/130B
	4"





Reliable automated tool magazine

Automatic toolchanger is composed of tool magazine and tool changing arms. Automatic toolchanger is installed separately from machine tool with the purpose of preventing adverse influences of vibration during running of automatic toolchanger and other reasons on precision. Tool selection adopts the method of fixed address in the shortest path. All tools return to original position, therefore, the problem of collision between large-size tools is only considered in initial installation. Two-way tool magazine adopts the shortest path.



Max. tool size

Max. tool diameter

Φ125mm

Continuous

Φ250mm

No tools at adjacent position

Max. tool length

DBE-110

500mm

DBM-110/130/130B

600mm

Max. tool weight

25kg

30kg

[OPTIONAL]

Extremely high stability and maintainability

Rapid and simple daily check

Maintenance items of machine tool such as lubrication control units are centrally installed at the back of machine tool with convenience for check during daily maintenance.

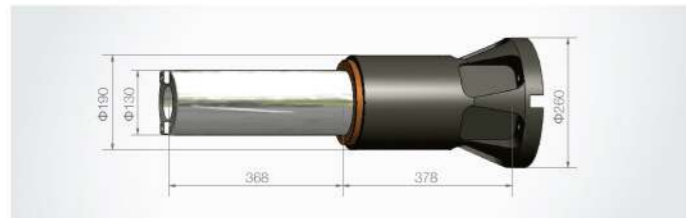


Spindle extension

DBM-110 spindle extension



DBM-130 spindle extension



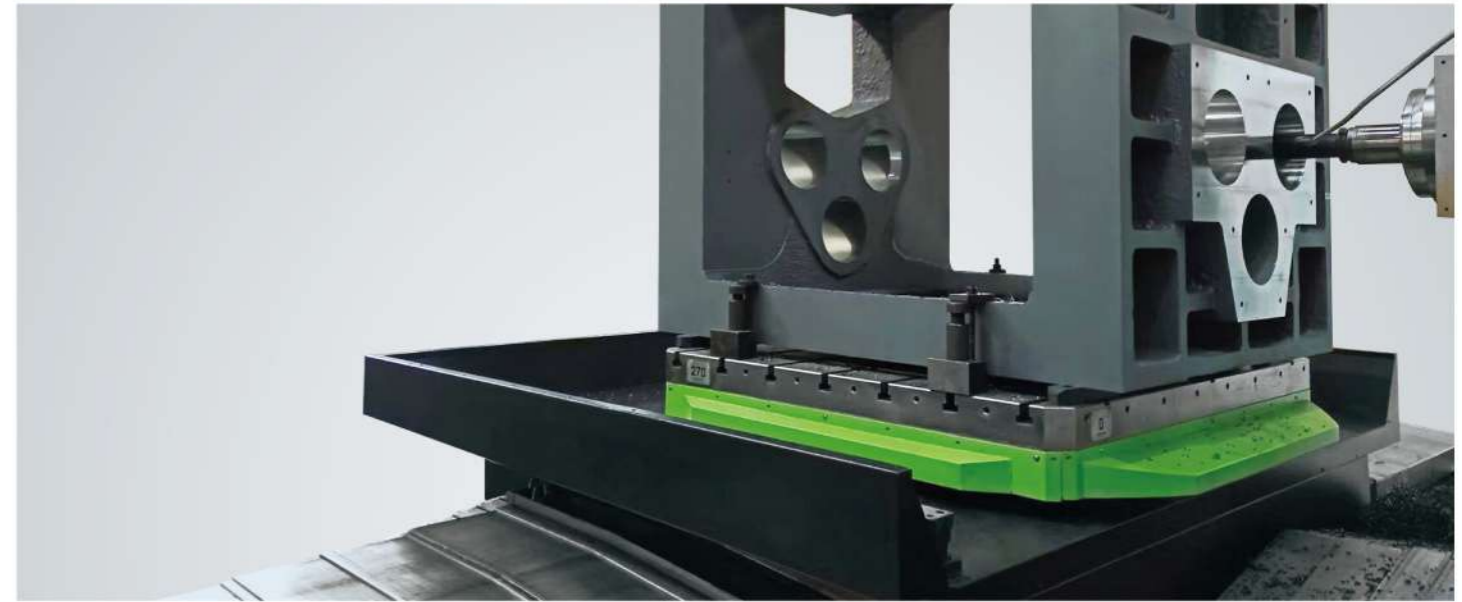
Design with emphasis on work efficiency of operators

Widening pedals of operators and shortening distance between workpieces and operating panel are helpful for improving efficiency of aligning and clamping operations.



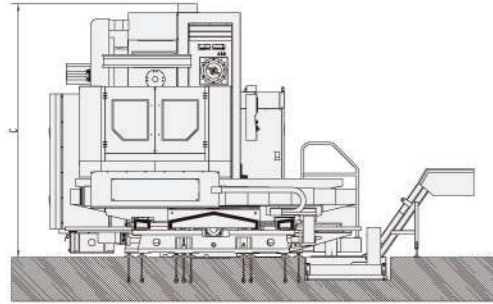
Humanized design of control system

Simply and readily understood operating panel is favorable for convenience of operation, and the height and type of operating cabinet comply with ergonomic design.

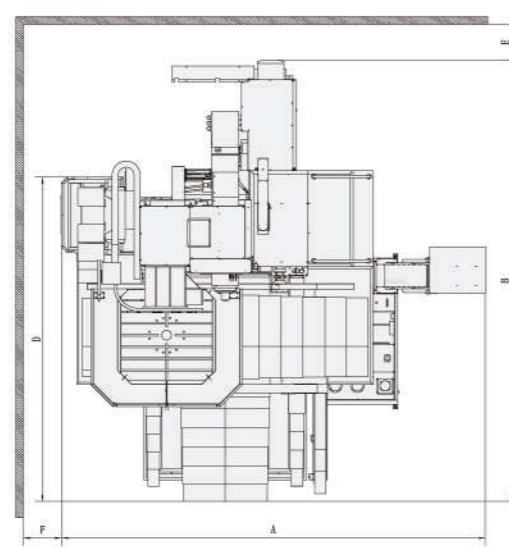


Cross Slide Type

Front view

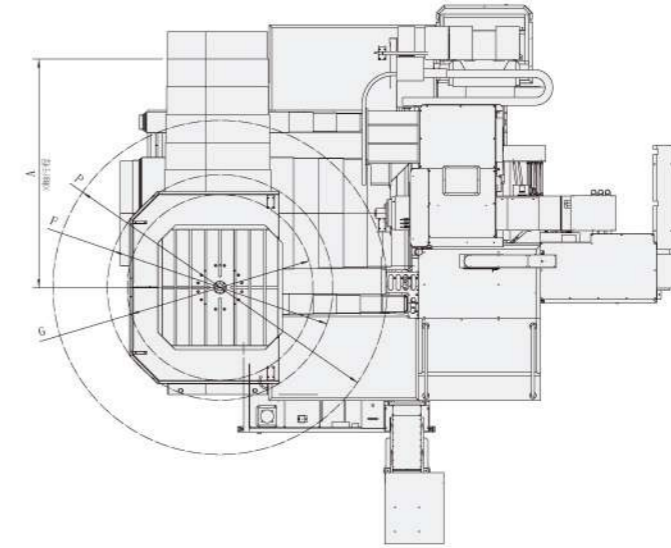
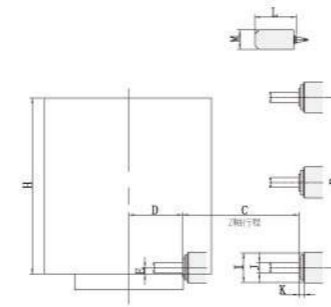


Top view



DBE-110	
A	5800
B	6100
C	3500
D	4600
E	500
F	500

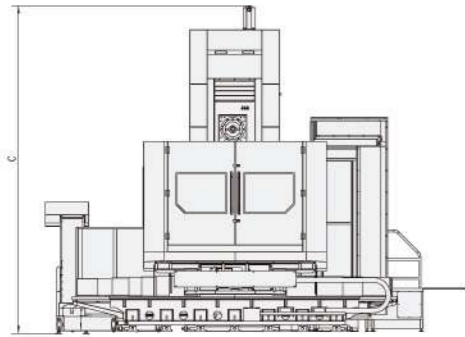
Cross Slide Type



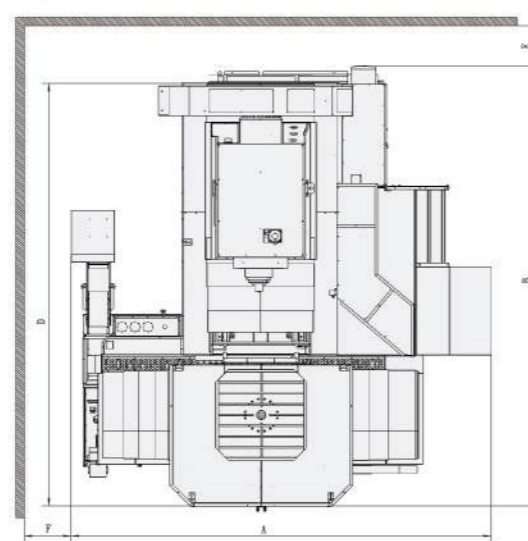
DBE-110	
A	1700
B	1400
C	1200
D	625
E	0
F	φ2500
G	φ2000
H	1400
I	φ350
J	φ110
K	65
L	500
M	250
P	3700

Spindle Box Middle Mounting Type

Front view

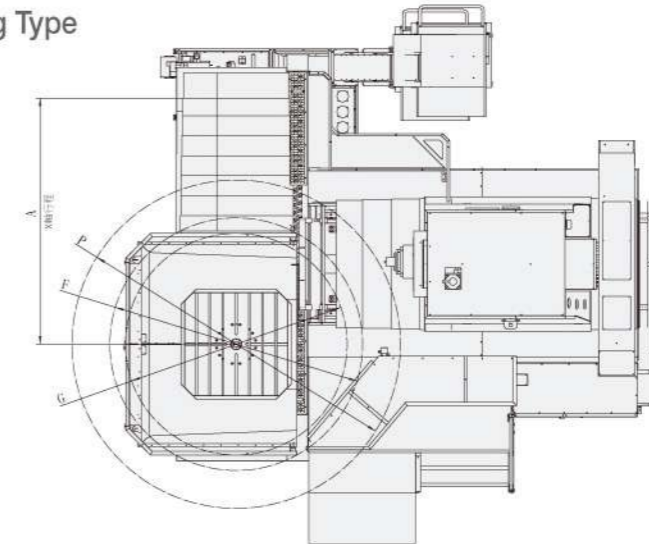
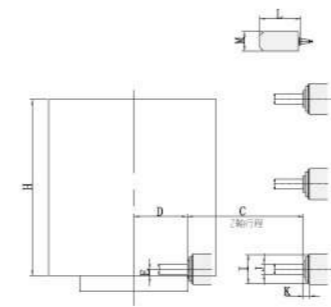


Top view



DBM-110	
A	6700 / 7200
B	7800
C	4850 / 5350
D	6800
E	500
F	500

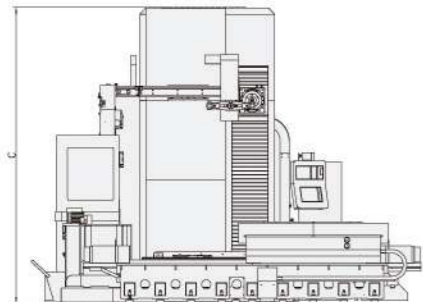
Spindle Box Middle Mounting Type



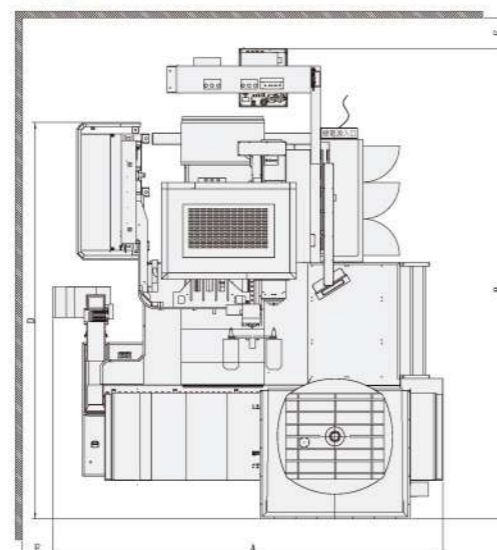
DBM-110	
A	2500
B	1600
C	1500
D	700
E	100
F	φ3300
G	φ2860
H	1700
I	φ350
J	φ110
K	65
L	600
M	250
P	4435

Spindle Box Side Mounting Type

Front view

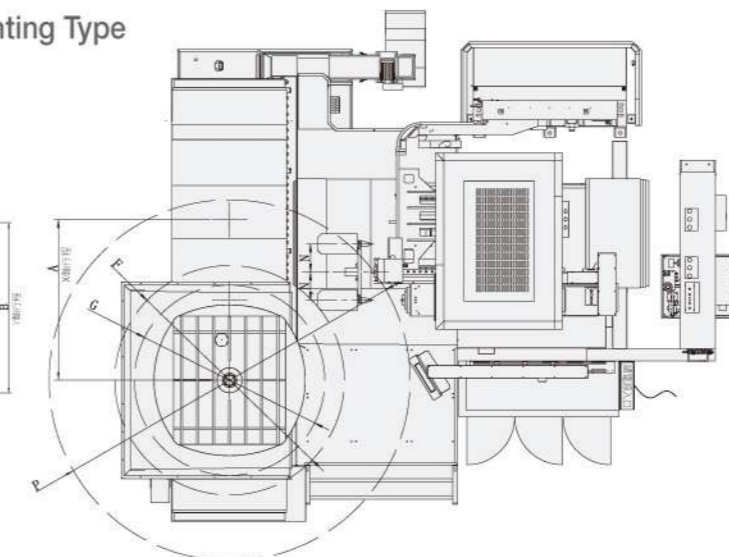
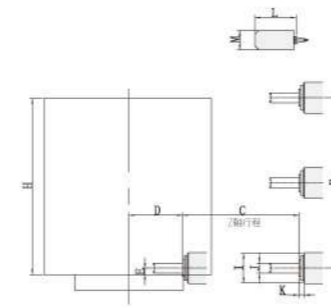


Top view



	DBM-130	DBM-130B
A	7200 / 8200	7245 / 8245
B	8150 / 8650	8580 / 9080
C	4850 / 5350	4850 / 5350
D	7300 / 7800	7740 / 8240
E	500	500
F	500	500

Spindle Box Side Mounting Type



	DBM-130	DBM-130B
A	3000	3000
B	2000	2000
C	1500	1500
D	700	850
E	100	100
F	φ3350	φ3520
G	φ2860	φ3200
H	2100	2100
I	φ380	φ380
J	φ130	φ130
K	132	132
L	600	600
M	250	250
P	4495	4905

		DBE-110	DBM-110	DBM-130	DBM-130B
Travel					
X-axis travel (standard)	mm	1700	2500	3000	3000
X-axis travel (optional)	mm	-	3000	4000	4000
Y-axis travel (standard)	mm	1400	1600	2000	2000
Y-axis travel (optional)	mm	-	2000	2500	2500
Z-axis travel (standard)	mm	1200	1500	1500	1500
Z-axis travel (optional)	mm	-	-	2000	2000
W-axis travel (standard)	mm	550	550	700	700

Spindle					
Center of spindle to worktable surface	mm	0~1400	100~1700	100~2100	100~2100
Nose of spindle to work center	mm	-70~1680	-100~1950	-40~2160	100~2300
Spindle diameter	mm	110	110	130	130
Spindle taper		ISO 50	ISO 50	ISO 50	ISO 50
Rotating spindle speed (standard)	rpm/min	2500	2500	2000	2000
Rotating spindle speed (optional)	rpm/min	3500	3500	3000	3000
Number of steps of rotating speed of spindle		2 Steps	2 Steps	2 Steps	2 Steps
Transmission mode		Belt + ZF gearbox	Belt + ZF gearbox	Belt + ZF gearbox	Belt + ZF gearbox

Spindle and motor					
Spindle motor	kW	15/18.5	22/26	22 / 30	22 / 30
Max. torque of spindle	Nm	1182/1457	1155/1840	3011/4109	3011/4109

Worktable					
Table size (standard)	mm	1250×1250	1400×1600	1600×1800	1800×2200
Table size (optional)	mm	-	1600×1800	-	-
Division angle	deg	1°(Standard)	0.001°	0.001°	0.001°
Reference aperture	mm	75H7	-	-	-
Max. load on worktable	kg	5000	8000	10000	15000
T-slot	mm	22H7×160×7	22H7×160×9	22H7×160×9	22H7×200×9

		DBE-110	DBM-110	DBM-130	DBM-130B
Precision					
Rotary table locating precision	arc-sec	10"	10"	10"	10"
Rotary table repetitive precision	arc-sec	4"	4"	4"	4"
Locating precision	mm	0.015	0.015	0.015	0.015
Repetitive locating precision	mm	0.01	0.01	0.01	0.01

Transmission mode					
X, Y, Z-axis		Direct-drive	Direct-drive	Direct-drive	Direct-drive
W-axis		Belt-drive	Belt-drive	Belt-drive	Belt-drive
Y-axis counterweight		Counterweight	Hyd. type	Hyd. type	Hyd. type

Feed speed					
Cutting speed X / Y / Z / W	m/min	10/10/10/6	10/10/10/6	10/10/10/5	10/10/10/5
Rapid traverse speed X / Y / Z / W	m/min	12/12/12/8	10/10/10/8	10/10/10/8	10/10/10/8

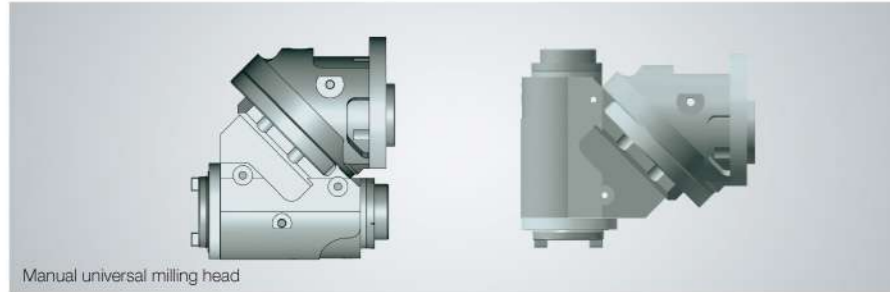
Tool magazine and automatic toolchanger (optional)					
Capacity of tool magazine		40	40	60	60
Tool selecting mode		Absolute	Absolute	Absolute	Absolute
Tool changing type		Arm type	Arm type	Arm type	Arm type
Tooling		BT / CAT / DIN #50	BT / CAT / DIN #50	BT / CAT / DIN #50	BT / CAT / DIN #50
Max. tool weight	kg	25	25	25	25
Max. tool length	mm	500	600	600	600
Max. tool diameter (no adjacent tool)	mm	Φ125/250	Φ125/250	Φ125/250	Φ125/250

Others					
Air pressure required	kgf/cm ²	6	6	6	6
Voltage requirement	KVA	65	65	88	95
Tank capacity	L	480	480	550	550
Floor area (length*width)	mm	5800×6100	6700×7800	7200×8150	7245×8580
Machine height	mm	3500	4850	4850	4850
Machine weight	kg	22000	30500	41000	43500

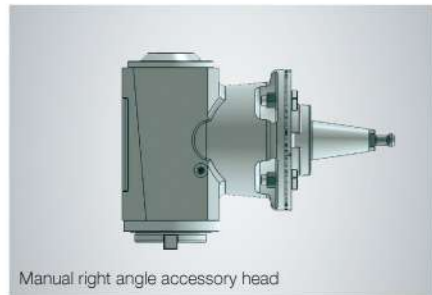
Note: specifications subject to change without notice.

Optional accessories

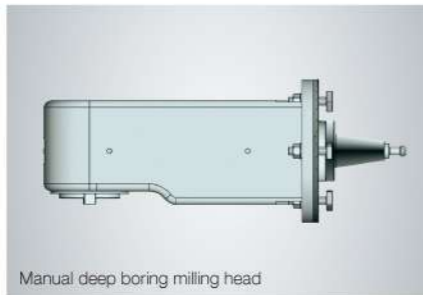
Various kind of milling head



Manual universal milling head



Manual right angle accessory head



Manual deep boring milling head

CNC facing head



Automated mechanical facing head



CNC Facing head

Automatic tool touch probe



High precision tool measurement and monitoring system, can adapt to a variety of harsh environment. Automatic detection of tool damage, wear and offset values, and effectively avoid the damage caused by the subsequent loss of tool. Reduce the downtime, improve the yield and quality.

Automatic workpiece probe



By measuring the contact signal between the head and the workpiece, the workpiece position is detected, the rotation deviation of the workpiece is corrected, the temperature drift of the machine tool is compensated, and the three-dimensional profile measurement of the workpiece can be carried out. Measurement accuracy, speed, with the cutting fluid can still maintain a high degree of accuracy.

Central water outlet

Multiple nozzles which directions can be adjusted are set on spindle ends to supply cutting oil for machined parts as appropriate so as to improve machining precision.



Protective cover



Protective cover for worktable and operator are optional mounting.

Water tank for central water outlet



Other products

DHM Series "T"-type Horizontal Machining Centers (Single station)



DHM Series "T"-type Horizontal Machining Centers (Double station)