



Since 1997 we always insist on this sincere service



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AGENT



2020/08

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VMC-147 VMC-167 Series

Vertical Machining Center

X · Y · Z Box Way X · Y · Z Roller Linear Way

X · Y Roller Linear Way Z Box Way

Various Spindle Selections

Direct transmission BBT40 10000/12000/15000rpm
Spindle arbor 70mm

BBT50 10000/12000rpm
Spindle arbor 90mm

Belt transmission BBT40 10000/12000
Spindle arbor 70mm

BBT50 6000/8000rpm
Spindle arbor 100mm

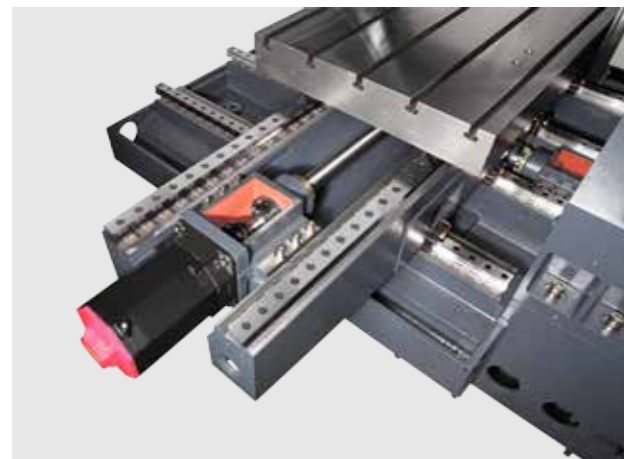
Gear transmission BBT50 6000rpm
Spindle arbor 100mm



Gear Spindle with High-Low Torque Design

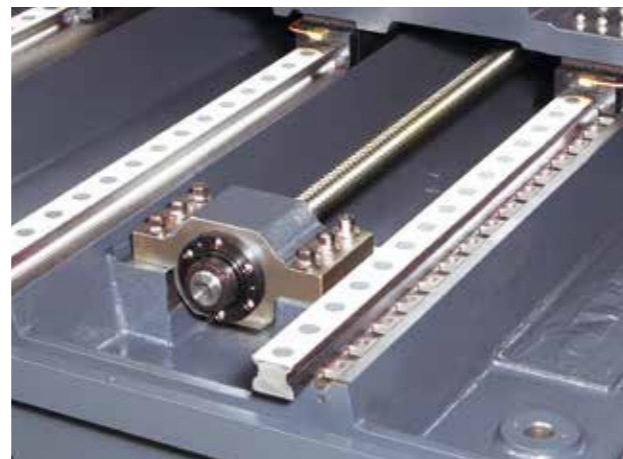
Gear designed by two stage transmission, lower speed is suitable for heavy cutting and provides the maximum torque 520Nm in S2 30 minutes.(Option 620Nm, 730Nm)

Using high precision P4 class bearings, gear materials are produced by chrome molybdenum alloy steel with heat treatment and precision grind. (Made by HAMADA JAPAN)



C3 Class Ballscrew

Triaxial ballscrews are equipped with C3 class ballscrews. All ballscrews are dealt with pre-pressing and pre-stretching to ensure lowest backlash and heat deformation.



Strengthening the Support of the Ballscrew Both Ends

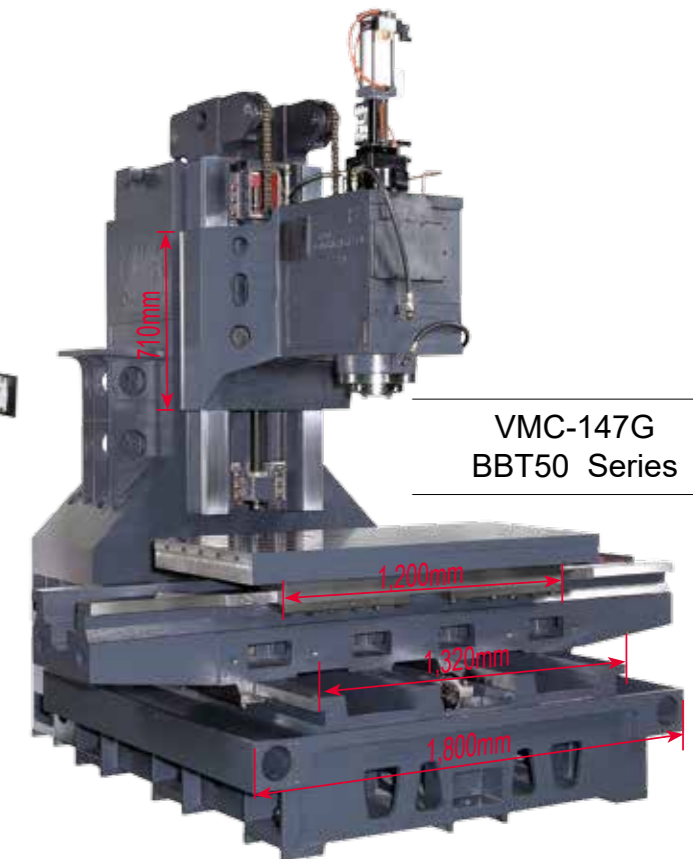
The both ends of ballscrews are installed with 4 sets supporting bearings separately. The machine base is supported by ten points of leveling pads and bolts.

High-Low Gear, Spindle of Heavy Cutting *X,Y,Z Axes Box Way*



Solid and High Rigidity Structure of Body

Base, saddle, table, spindle head and column are enhanced by the ribs structure to improve machine rigidity and accuracy, and avoid machine deformation.



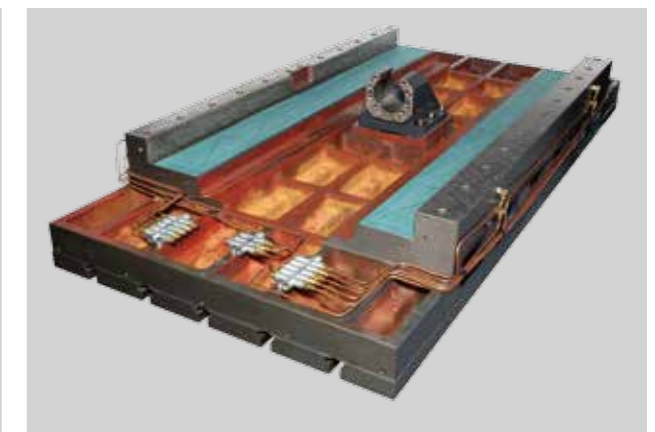
VMC-147G
BBT50 Series

Five major MEEHANITE castings are made in Taiwan, the quality is stable and excellent.



Dual Screw Chip Conveyors

One piece casting for chip flute and bottom base could solve the problem of leaking.



Hand Scraping and Copper Oil Tubing

Volume distributor with copper oil tubing to enhance resisting acid and corrosiveness.

Five major MEEHANITE castings are made in Taiwan, the quality is stable and excellent.

VMC-167 GL
BBT50 Series



Five major MEEHANITE castings are made in Taiwan, the quality is stable and excellent.

VMC-147DH
BBT50 Series



Y axis using four high rigidity and high loading roller linear guideway, and enlarged slider blocks.



X axis using two high rigidity and high loading roller linear guideway, and enlarged slider blocks.

items	VMC-147 series			VMC-167 series		
	X Axis	Y Axis	Z Axis	X Axis	Y Axis	Z Axis
Guideway Width mm	45	45	Box way	45	45	Box way
Guideway Quantity	2	4	Box way	2	4	Box way
Slider Blocks Quantity	6	8	Box way	6	8	Box way
Slider Blocks Size mm (L*W*H)	189*86*62	189*86*62	Box way	189*120*52	189*86*62	Box way



Direct Driven Spindle

- Using ceramic series bearing
BBT-50 Bearing: the outer diameter is 140mm and the inner diameter is 90mm to enhance the rigidity and cutting ability.

Z Axis Roller Liner Guideway

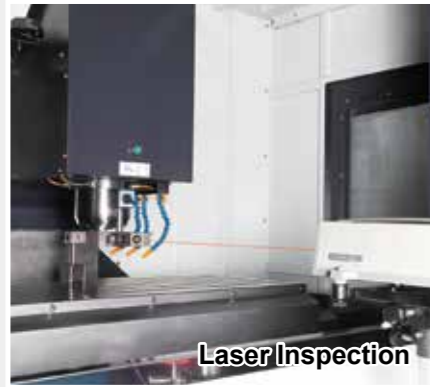
- Z Axis using two width 55mm high rigidity and high loading roller linear guideway and four enlarged slider blocks.
Z Axis slider blocks: size 235*100*70mm

Three Axes Auto Grease Lubrication System

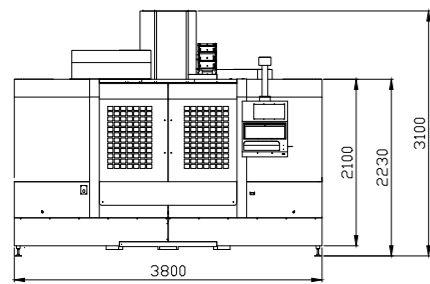
- Using environmental automatic grease lubrication system.

Strict Quality Inspection Regulation

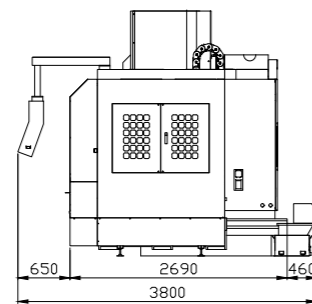
- ① Each machine has 100% full inspection.
- ② Entire machine has Geometric Accuracy Test.
- ③ Ball-Bar inspection: Use circular tester to adjust accuracy of roundness and machine.
- ④ Laser inspection: According to VDI3441 standard, machine will do multiple back and forth operation with compensation to meet the suitable machine accuracy. Each machine has individual inspection report.
- ⑤ Spindle dynamic balancing correction. This can ensure the spindle stability during high rotation speed.



Machine Dimension (mm)



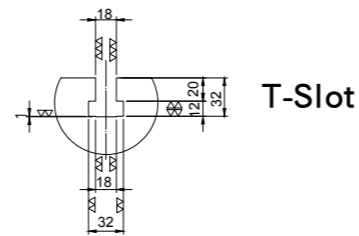
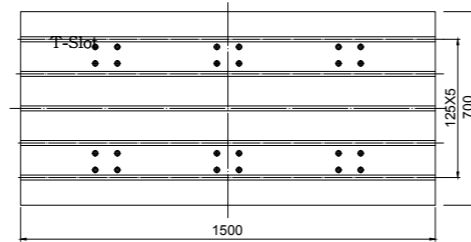
VMC-147 Series



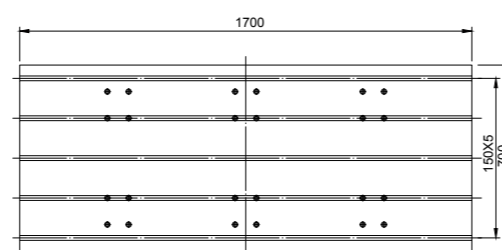
VMC-167 Series

Table Dimension (mm)

VMC-147 Series



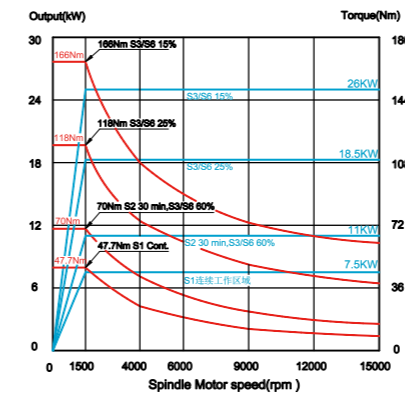
VMC-167 Series



LEADYANG reserves the right to change the appearance design and specifications. And the above specifications are subject to change without notice.

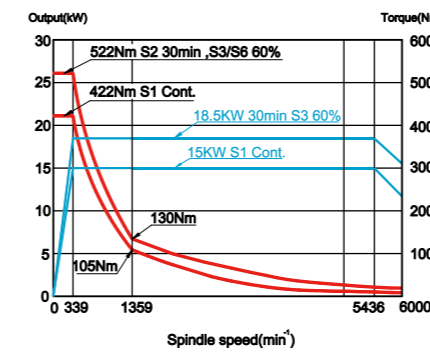
Spindle Power and Torque Curve

Spindle motor ailT8/15000-B



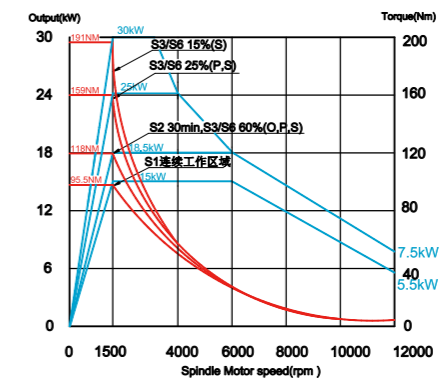
Direct Transmission

Spindle motor ail15 / 8000-B



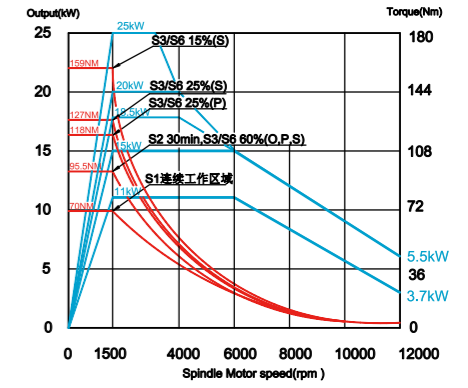
Gear Transmission

Spindle motor ail 15 / 12000-B



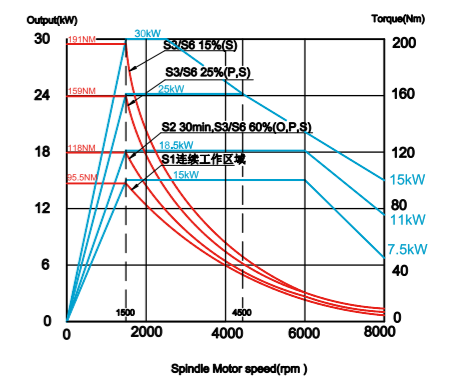
Direct Transmission

Spindle motor ail12/12000-B



Direct Transmission

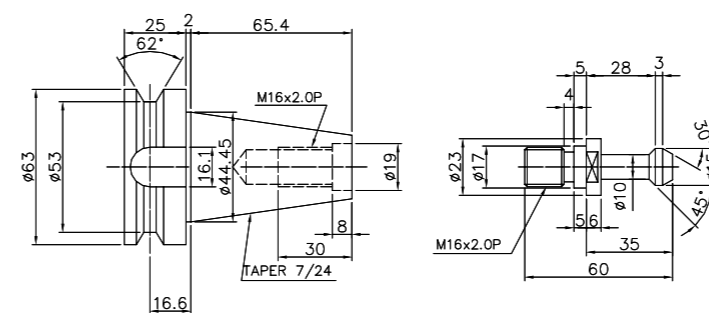
Spindle motor ail15 / 8000-B



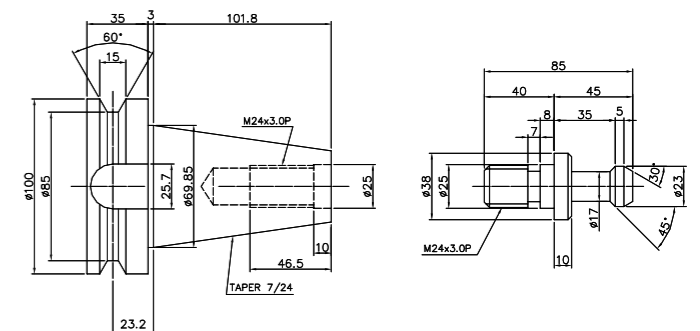
Belt Transmission

Tool Taper Dimension (mm)

BT40 / BBT40



BT50 / BBT50



▶ X,Y, Z Axis Box Way

items	unit	VMC-147G	VMC-147B	VMC-147D	VMC-167G	VMC-167B	VMC-167D
TRAVEL							
X/Y/Z Axis Travel	mm	1400 / 720 / 650			1620 / 720 / 650		
Spindle Nose to Table	mm	150-800	100-700	150-800	150-800	100-750	150-800
Spindle Center to Column		790			790		
Types of Guideway (X/Y/Z)		Box Way / Box Way / Box Way			Box Way / Box Way / Box Way		
TABLE							
Table Size	mm	1500x700			1700x700		
T-slot Size	mm	18x5x125			18x5x125		
Max. Table Load	kgs	1500			1800		
SPINDLE							
Spindle Transmission		Gear type	Belt type	Belt type	Direct type	Gear type	Belt type
Spindle Taper		BBT-50	BBT-40	BBT-50	BBT-50	BBT-50	BBT-40
Spindle Speed	rpm	6000	10000/12000	6000/8000	10000/12000	6000	10000/12000
Spindle Motor (cont./30mins)	kw	15 / 18.5	11 / 15	15 / 18.5	15 / 18.5	15 / 18.5	11 / 15
CUTTING FEED RATE							
X/Y/Z Rapid Travel Rate	m/min	16 / 16 / 12			16 / 16 / 12		
X/Y/Z Cutting Feed Rate	m/min	1-12			1-12		
A.T.C							
Tool Change Method		Cam Driven Arm Type			Cam Driven Arm Type		
Magazine Capacity	set	BT40 24 / 30 / 36	BT50 24 / 32	BT40 24 / 30 / 36	BT50 24 / 32	BT40 24 / 30 / 36	BT50 24 / 32
Tool Change Time (Tool to Tool)	sec	2	3.5	2	3.5	2	3.5
Max. Tool Diameter	mm	75 / 150	110 / 210	75 / 150	110 / 210	75 / 150	110 / 210
Max. Tool Length	mm	250	250	250	250	250	250
Max. Tool Weight	kgs	7	15	7	15	7	15
ACCURACY STANDARD VDI3441							
Positioning Accuracy	mm	0.008			0.01		
Repetitive Positioning	mm	0.007			0.008		
Ball-Bar Accuracy	mm	0.012 / 300			0.012 / 300		
ACCESSOORY EQUIPEMT							
Spindle Coolant Ability	Kcal	2600	840 / 1250	1250	2600	2600	840/1250
Cutting Coolant Pump	W	1270*2			1270*2		
Grease System Pump	W	100			100		
OTHERS							
Air Pressure Requirement	kgs/cm ²	6			6		
Electric Power Requirement	Kva	35			35		
Machine Weight (Approx)	kgs	12800	12000	12000	13300	12500	12500

NOTE:

- Standard controller: MITSUBISHI, FANUC, SIEMENS series and FAGOR series.
- LEADYANG reserves the right to change the design. And the above specifications are subject to change without notice.

▶ XY Axes Linear Guideway, Z Axis Box Way

items	unit	VMC-147BL	VMC-147DL	VMC-47GL	VMC-167BL	VMC-167DL	VMC-67GL
TRAVEL							
X/Y/Z Axis Travel	mm	1400 / 720 / 650			1620 / 720 / 650		
Spindle Nose to Table	mm	100-750	150-800	150-800	100-750	150-800	150-800
Spindle Center to Column		790			790		
Types of Guideway (X/Y/Z)		Roller Linear / Roller Linear / Box Way			Roller Linear / Roller Linear / Box Way		
Width of Guideway (X/Y)	mm	45 / 45 / Box Way			45 / 45 / Box Way		
Slider Quantity (X/Y)		6 / 8			6 / 8		
TABLE							
Table Size	mm	1500x700			1700x700		
T-slot Size	mm	18x5x125			18x5x125		
Max. Table Load	kgs	1500			1800		
SPINDLE							
Spindle Transmission		Belt type	Belt type	Direct type	Gear type	Belt type	Belt type
Spindle Taper		BBT-40	BBT-50	BBT-50	BBT-50	BBT-40	BBT-50
Spindle Speed	rpm	10000 / 12000	6000/8000	10000/12000	6000	10000/12000	6000
Spindle Motor (cont./30mins)	kw	15 / 18.5			15 / 18.5		
CUTTING FEED RATE							
X/Y/Z Rapid Travel Rate	m/min	24 / 24 / 12			20 / 20 / 12		
X/Y/Z Cutting Feed Rate	m/min	1-12 m/min			1-12 m/min		
A.T.C							
Tool Change Method		Cam Driven Arm Type			Cam Driven Arm Type		
Magazine Capacity	set	BT40 24 / 30 / 36	BT50 24 / 32	BT40 24 / 30 / 36	BT50 24 / 32	BT40 24 / 30 / 36	BT50 24 / 32
Tool Change Time (Tool to Tool)	sec	2.0	3.5	2.0	3.5	2.0	3.5
Max. Tool Diameter	mm	75 / 150	110 / 210	75 / 150	110 / 210	75 / 150	110 / 210
Max. Tool Length	mm	250	250	250	250	250	250
Max. Tool Weight	kgs	7	15	7	15	7	15
ACCURACY STANDARD VDI3441							
Positioning Accuracy	mm	0.007			0.008		
Repetitive Positioning	mm	0.006			0.007		
Ball-Bar Accuracy	mm	0.012 / 300			0.012 / 300		
ACCESSOORY EQUIPEMT							
Spindle Coolant Ability	Kcal	840 / 1250	1250	2600	2600	840 / 1250	1250
Cutting Coolant Pump	W	1270*2			1270*2		
Grease System Pump	W	100			100		
OTHERS							
Air Pressure Requirement	kgs/m ²	6			6		
Electric Power Requirement	Kva	35			35		
Machine Weight (Approx)	kgs	11200	11200	11200	12000	11700	11700

- Standard machine can be put in 40"HQ. Depends on customer's request, the column can be heightened by having 200mm riser blocks, can't be put in 40"HQ
- Above accuracy value is in accordance with the new machine and standard inspection status of the test data.

▶ XY Z Axes Linear Guideway

items	unit	VMC-147BH		VMC-147DH		VMC-167BH		VMC-167DH			
TRAVEL											
X/Y/Z Axis Travel	mm	1400 / 720 / 650		1400 / 720 / 650		1620 / 720 / 650		1620 / 720 / 650			
Spindle Nose to Table	mm	100~750	150~800	100~750	150~800	100~750	150~800	100~750	150~800		
Spindle Center to Column		790		790		790		790			
Types of Guideway (X/Y/Z)		Roller Linear / Roller Linear / Roller Linear		Roller Linear / Roller Linear / Roller Linear		Roller Linear / Roller Linear / Roller Linear		Roller Linear / Roller Linear / Roller Linear			
Width of Guideway (X/Y)	mm	45 / 45 / 55		45 / 45 / 55		45 / 45 / 55		45 / 45 / 55			
Slider Quantity (X/Y)		6 / 8 / 4 / (6)		6 / 8 / 4 / (6)		6 / 8 / 4 / (6)		6 / 8 / 4 / (6)			
TABLE											
Table Size	mm	1500 x 700		1500 x 700		1700 x 700		1700 x 700			
T-slot Size	mm	18 x 5 x 125		18 x 5 x 125		18 x 5 x 125		18 x 5 x 125			
Max. Table Load	kgs	1500		1500		1800		1800			
SPINDLE											
Spindle Transmission		Belt type		Direct type		Belt type		Direct type			
Spindle Taper		BBT-40	BBT-50	BBT-40	BBT-50	BBT-40	BBT-50	BBT-40	BBT-50		
Spindle Speed	rpm	10000 / 12000	6000 / 8000	10000 / 12000	15000	10000 / 12000	10000 / 12000	6000 / 8000	10000 / 12000	15000	10000 / 12000
Spindle Motor (cont./30mins)	kw	11 / 15 (15 / 18.5)	15 / 18.5	11 / 15(15/18.5)	7.5 / 11	15 / 18.5	11 / 15 (15 / 18.5)	15 / 18.5	11 / 15	7.5 / 11	15 / 18.5
CUTTING FEED RATE											
X/Y/Z Rapid Travel Rate	m/min	24 / 24 / 20		24 / 24 / 20		20 / 20 / 20		20 / 20 / 20			
X/Y/Z Cutting Feed Rate	m/min	1-12 m/min		1-12 m/min		1-12 m/min		1-12 m/min			
A.T.C											
Tool Change Method		Cam Driven Arm Type		Cam Driven Arm Type		Cam Driven Arm Type		Cam Driven Arm Type			
Magazine Capacity	set	BT40 24 / 30 / 36	BT50 24 / 32	BT40 24 / 30 / 36	BT50 24 / 32	BT40 24 / 30 / 36	BT50 24 / 32	BT40 24 / 30 / 36	BT50 24 / 32		
Tool Change Time (Tool to Tool)	sec	2	3.5	2	3.5	2	3.5	2	3.5		
Max. Tool Diameter	mm	75 / 150	110 / 210	75 / 150	110 / 210	75 / 150	110 / 210	75 / 150	110 / 210		
Max. Tool Length	mm	250	250	250	250	250	250	250	250		
Max. Tool Weight	kgs	7	15	7	15	7	15	7	15		
ACCURACY STANDARD VDI3441											
Positioning Accuracy	mm	0.007		0.007		0.008		0.008			
Repetitive Positioning	mm	0.006		0.006		0.007		0.007			
Ball-Bar Accuracy	mm	0.012 / 300		0.012 / 300		0.012 / 300		0.012 / 300			
ACCESSOORY EQUIPEMT											
Spindle Coolant Ability	Kcal	840 / 1250	1250	840 / 1250	2600	2600	840 / 1250	1250	840 / 1250	2600	2600
Cutting Coolant Pump	W	1270*2		1270*2		1270*2		1270*2			
Grease System Pump	W	60		60		60		60			
OTHERS											
Air Pressure Requirement	kgs/cm ²	6		6		6		6			
Electric Power Requirement	Kva	35		35		35		35			
Machine Weight (Approx)	kgs	10000		10000		10500		10500			

NOTE:

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▶ Accessories

Standard Accessories

- 10.4 Inch LCD screen
- Fully enclosed splash guard
- Dual screw chip conveyor for Y Axis
- Three axes telescopic covers
- Heat exchanger for electric cabinet
- Spindle oil cooling system
- Spindle air blast (automatic controlled by M07 program)
- Cutting cooling system
- Spindle water ring with 4 blast (Gear : 3 blast)
- Chips flush system on both sides
- 3-axes auto lubrication system
- Removable MPG
- Oil purifier (proportion type)
- Leveling pads and bolts
- Tri-color indicating light
- Air / water gun for chip remove
- Work lights on both sides
- Auto power off (M30)
- RS232C interface
- Tool box and adjustment tools
- Accuracy inspection report
- Machine operating and maintenance manual
- E-Book of program operating and operating

Optional Accessories

- Six slider blocks for Z Axis
- Spindle HSK A63 15000/18000rpm
- Built-in Spindle HSK A63 20000/24000rpm
- Independent water pump for water gun
- Oil coolant device of deep drilling
- Chain or scrape plate type chip conveyor
- Air conditioner for electric cabinet
- CNC Rotary Table
- Auto tool length measurement
- Auto workpiece measurement
- Data server & 2G memory
- Three axes linear scales
- Oil mist collector
- Oil mist blast system
- Disc type oil skimmer
- 20/30/70 BAR C.T.S and external filtration tank
- 20/30/70 BAR C.T.S with paper filter
- BT40/BBT40: 24/30/36 Tools capacity
- BT50/BBT50: 24/32 Tools capacity