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AGENT



2019/02

VMC-147 Vertical Machining Center

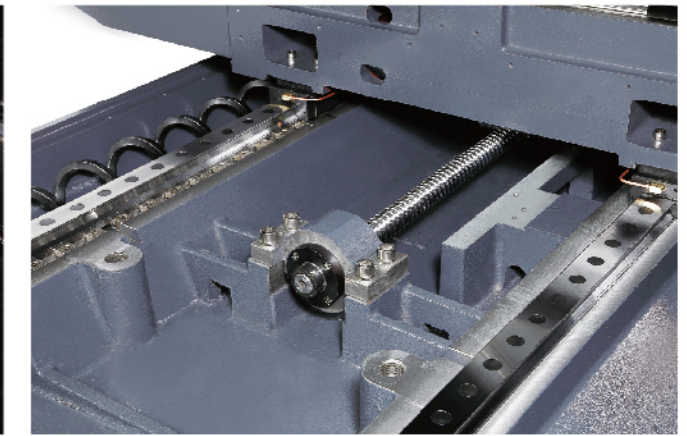
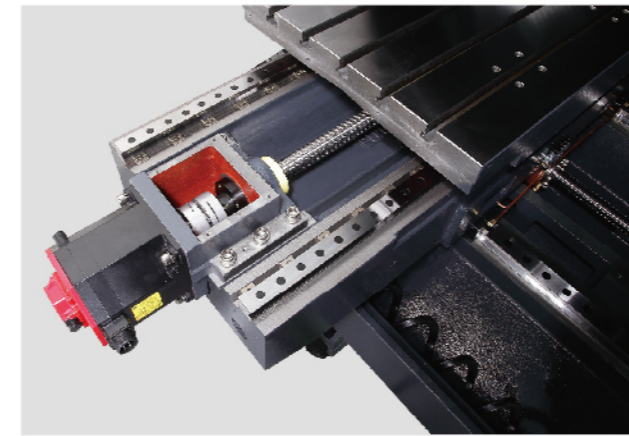
X.Y.Z Box Way

X.Y Roller Linear Way Z Box Way X.Y.Z Roller Linear Way

Design & Print OA-22423355

Various Spindle Selections

- Direct transmission** BBT40 10000/12000/15000rpm
 Spindle arbor 70mm
 BBT50 10000/12000rpm
 Spindle arbor 90mm
- Belt transmission** BBT40 10000rpm
 Spindle arbor 70mm
 BBT50 6000/8000rpm
 Spindle arbor 100mm
- Gear transmission** BBT50 6000rpm
 Spindle arbor 100mm

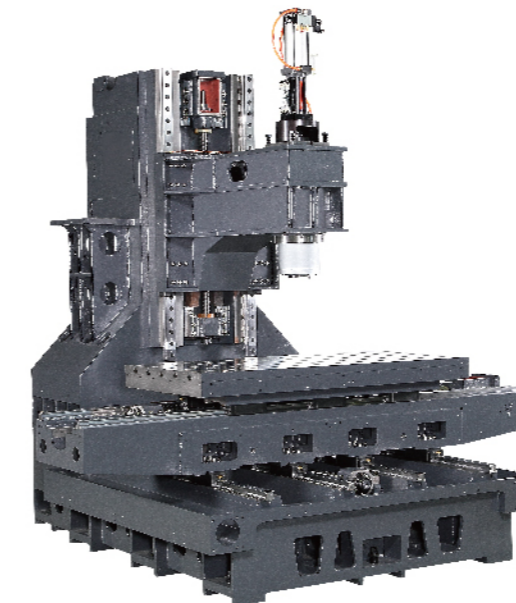


C3 Class Ballscrew

Triaxial ballscrews are equipped with diameter $\Phi 45$ and C3 class ballscrews. All ballscrews are dealt with pre-pressing and pre-stretching to ensure lowest backlash and heat deformation.

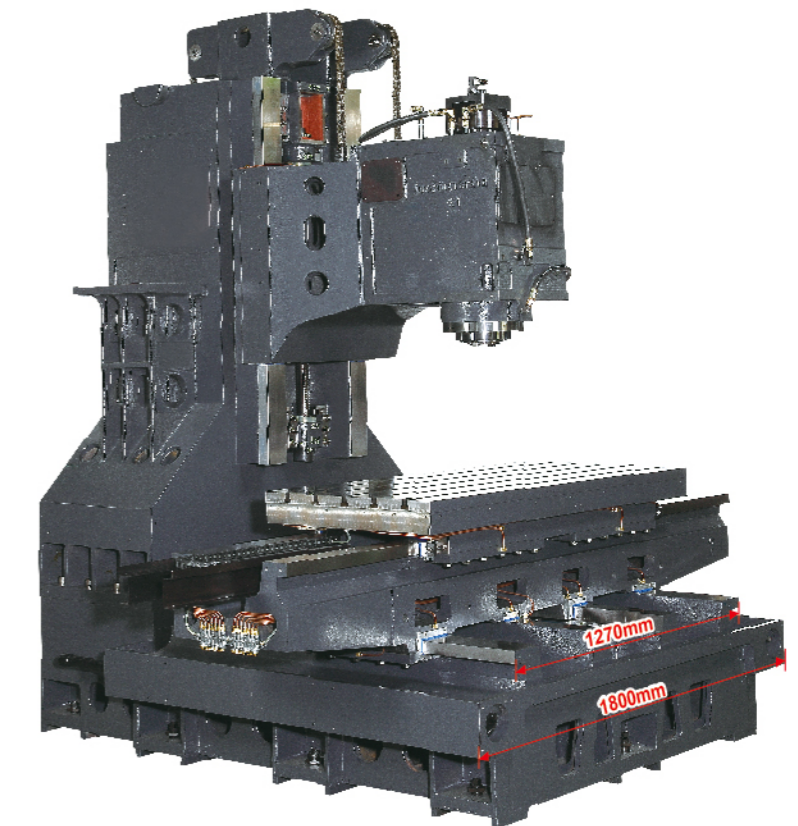
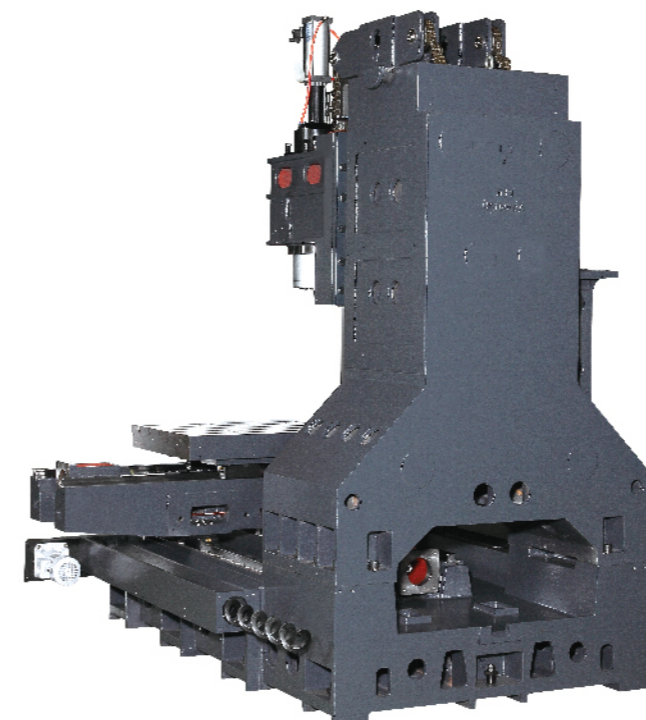
Strengthening the Support of the Ballscrew Both Ends

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



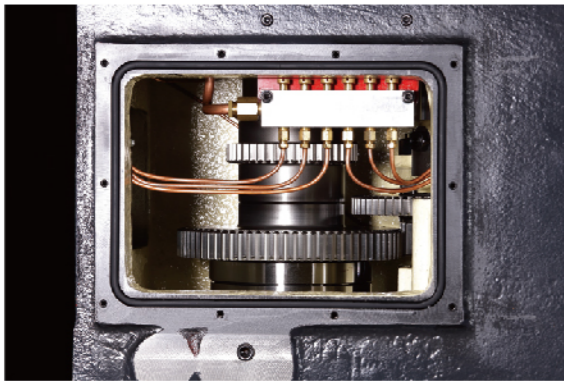
Solid and High Rigidity Structure of Body

Base, saddle, table, spindle head and column are enhanced by the ribs structure to improve machine rigidity and accuracy and to avoid machine deformation. Five major MEEHANITE castings are molded processed, heat-treated and ground in Taiwan.



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 of 520Nm. (Option 620Nm,730Nm). Gear materials are produced by chrome molybdenum alloy steel with heat treatment and precision grind. (Made by HAMADA)



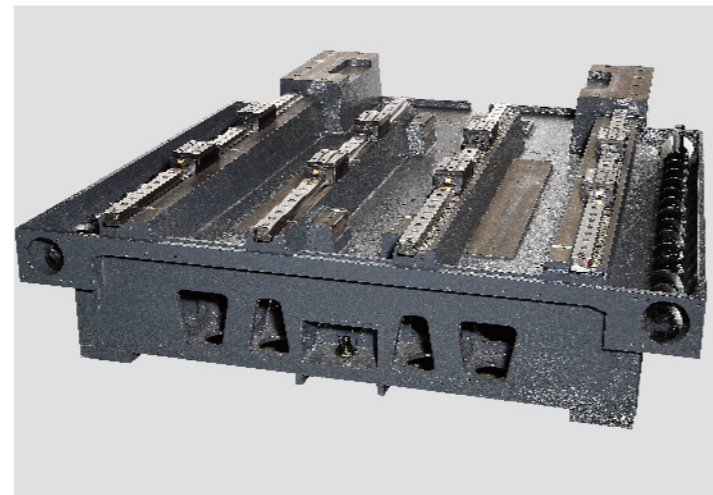
Heavy Loading Roller Linear Guideway

	Guideway Width	Guideway Quantity	Slider Quantity
X	45mm	2	6
Y	45mm	4	8
Z	55mm	2	4

Using enlarged slider blocks to enhance machine rigidity and loading.

Dual Screw Chip Conveyors

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



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(ISO230-2) 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.

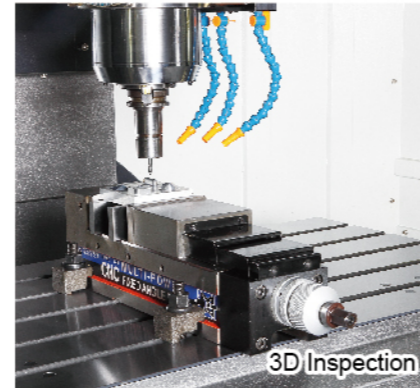
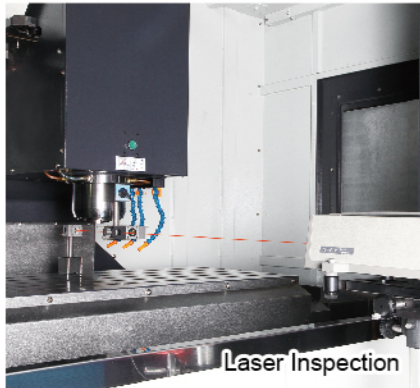
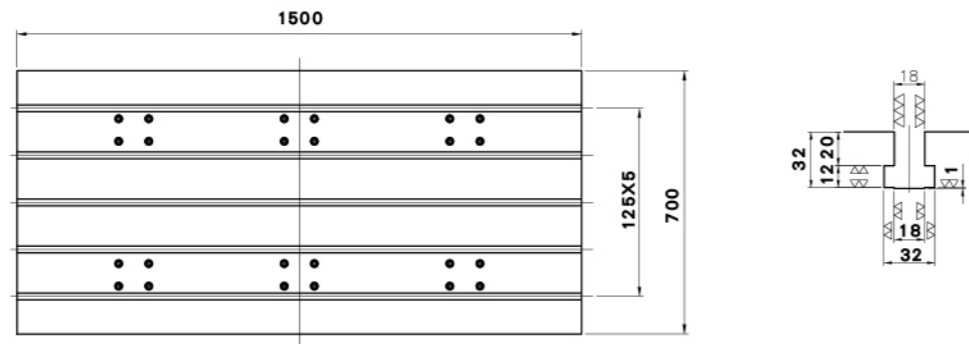
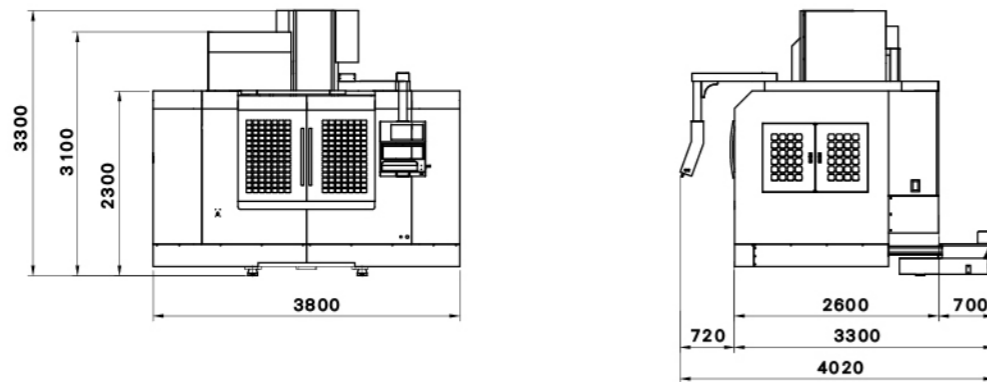


Table Dimension(mm)

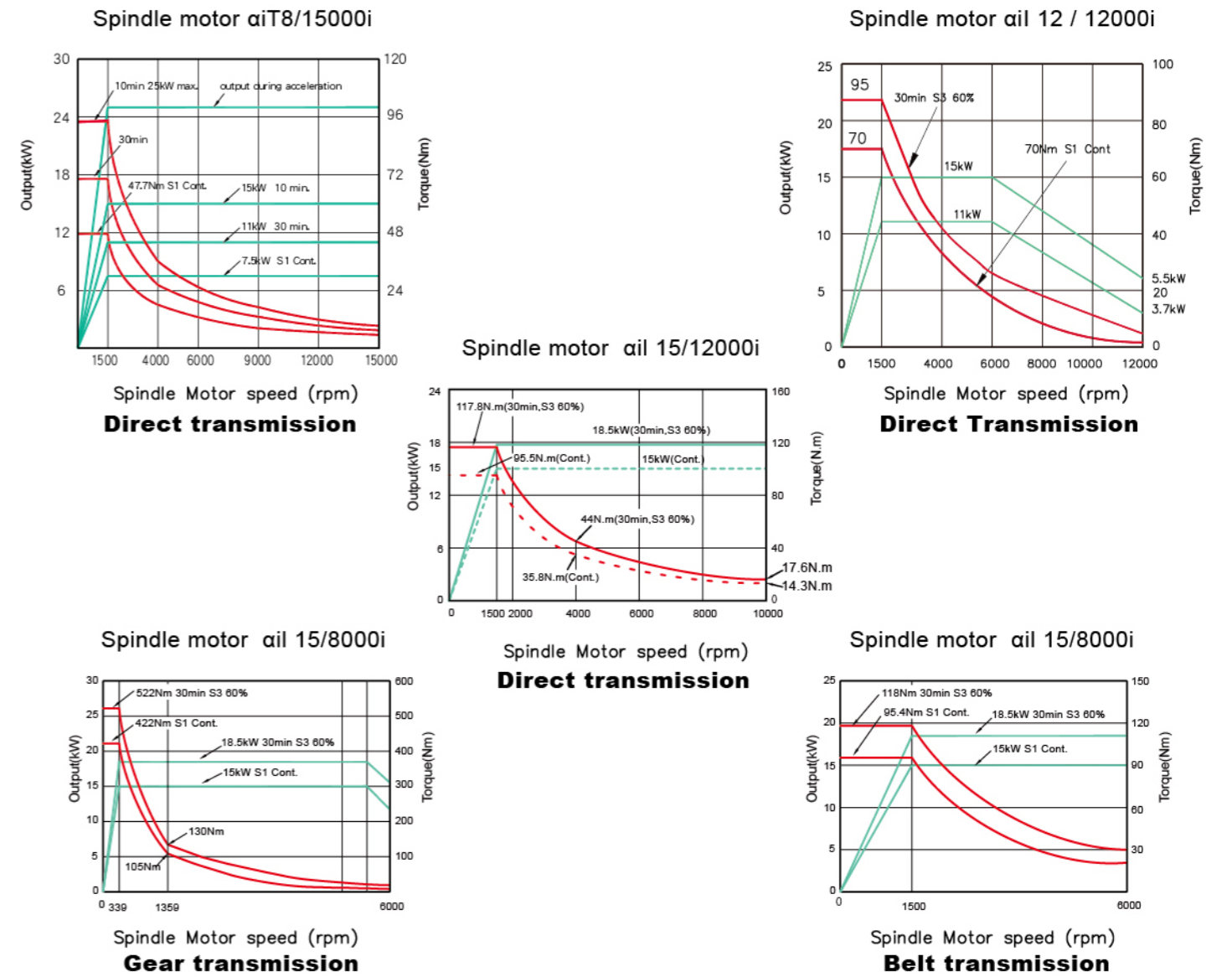


Machine Dimension(mm)

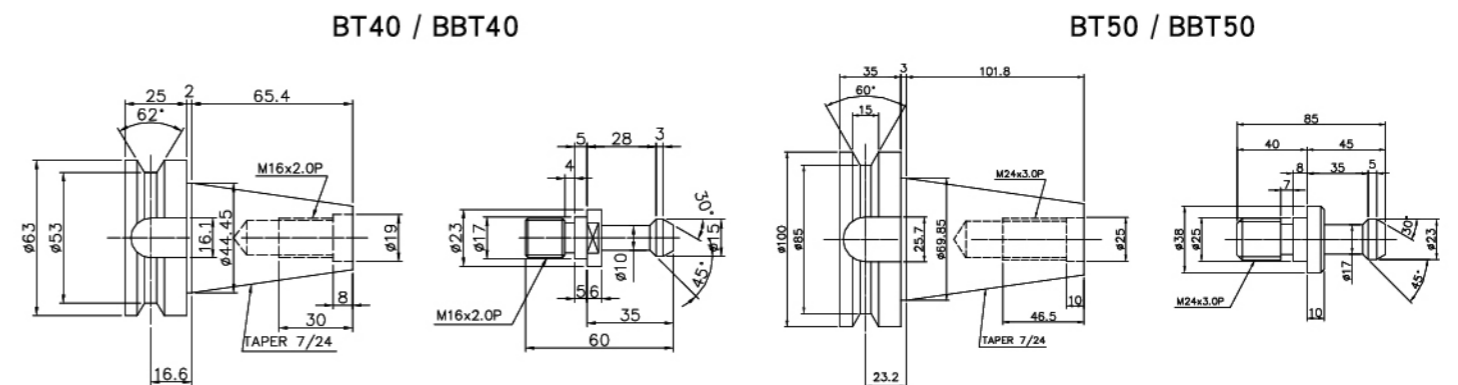


LEADYANG reserves the right to change the appearance design and specifications. And the above specifications are subject to change without notice.

Spindle Power and Torque Curve



Tool Taper Dimension(mm)



Machine Specification

Model	Unit	VMC-147G	VMC-147BL	VMC-147DL	VMC-147GL	VMC-147BH		VMC-147DH	
TRAVEL									
X/Y/Z Axes Travel	mm	1400/700/650	1400/700/650			1400/700/650		1400/700/650	
Spindle Nose to Table	mm	150~800	150~800			100~750	150~800	100~750	150~800
Spindle Center to Column	mm	790	790			790		790	
Types of Guideway (X/Y/Z)		Box way/Box way/Box way	Roller linear/Roller linear/Box way			Roller linear/Roller linear/Roller linear		Roller linear/Roller linear/Roller linear	
Width of Linear Guideway (X/Y/Z)	mm		45/45/Box Way			45/45/55		45/45/55	
Slider Quantity(X/Y/Z)	pcs		6/8/Box Way			6/8/4(6)		6/8/4(6)	
TABLE									
Table Size	mm	1500x700	1500x700			1500x700		1500x700	
T-Slot Size	mm	18x5x125	18x5x125			18x5x125		18x5x125	
Max.Table Load	kgs	1800	1500			1500		1500	
SPINDLE									
Spindle Transmission		Gear type	Belt type	Direct type	Gear type	Belt type		Direct type	
Spindle Taper		BBT-50	BBT-50	BBT-50	BBT-50	BBT40	BBT50	BBT-40	BBT-50
Spindle Speed	rpm	6000	6000/8000	10000/12000	6000	10000	6000/8000	10000/12000	15000 10000/12000
Spindle Motor(cont./30mins)	kw	15/18.5	15/18.5	15/18.5	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	16/16/12	24/24/12	24/24/12	24/24/12	24/24/20		24/24/20	24/24/12
X/Y/Z Cutting Feed Rate	m/min	1-12	1-12	1-12	1-12	1-12		1-12	1-12 m/min
A.T.C (Optional)									
Tool Change Method		Cam Driven arm type		Cam Driven arm type		Cam Driven arm type		Cam Driven arm type	
Magazine Capacity	set	24/32	24/32	24/32	24/32	24/30/36	24/32	24/30/36	24/32
Tool Change Time(Tool to Tool)	sec	3.5	3.5	3.5	3.5	2	3.5	2	3.5
Max.Tool Diameter	mm	125/200	125/200	125/200	125/200	75/150	125/200	75/150	125/200
Max.Tool Length	mm	300	300	300	300	250	300	250	300
Max.Tool Weight	kgs	15	15	15	15	7	15	7	15
ACCURACY STANDARD ISO 230-2 (VDI3441)									
Positioning Accuracy	mm	0.008	0.007	0.007	0.007	0.007		0.007	0.007
Repetitive Positioning	mm	0.007	0.006	0.006	0.006	0.006		0.006	0.006
Ball-bar Accuracy	mm	0.012/300	0.01/300	0.01/300	0.01/300	0.01/300		0.01/300	0.01/300
ACCESSORY EQUIPMENT									
Spindle Coolant Ability	kcal	3000	1500	3000	3000	1000	1500	1000/1500	3000 3000
Cutting Coolant Pump	w	1270x2	1270x2			1270x2		1270x2	1270x2
Grease System Pump	w	100	100			60		60	60
Others									
Air Pressure Requirement	kgs/cm ²	6	6			6		6	6
Electric Power Requirement	kva	35	35			35		35	35
Machine Weight(Approx.)	kgs	12000	10500	10500	11500	10000		10000	10000

NOTE:

- Standard controller: Fanuc OiMF. Depend on customer's demand can choose Siemens series or Mitsubishi series.
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- Above accuracy value is in accordance with the new machine and standard inspection status of the test data.
- Depends on customer's request, the columns can be heightened by having one 200mm riser block as option.

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 coolant system
- Spindle air blast system (Automatic controlled by M07 program)
- Cutting coolant system
- Spindle water ring with 4 water blast.
- Chips flushing system on both sides
- 3-axs 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
- Fine molding machining function
- Tool box and adjustment tools
- Accuracy inspection report
- Machine operating and maintenance manual
- E-book of FANUC program operating and maintenance manual

Optional Accessories

- Spindle HSK A63 15000/18000 rpm
- Six slider blocks for Z axis
- 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 serve & 2G memory
- Three axes linear scales
- Oil mist blast system
- Oil mist collector
- Disc type oil skimmer
- 20/30/70 bar C.T.S and external filtration tank
- Transformer (380V)
- Japan NSK ballscrews of three axes
- 24/30/36 Tools magazine capacity (BT40/BBT40)
- 24/30/32 Tools magazine capacity (BT50/BBT50)