

Hannsa
Precision

VERTICAL MACHINING CENTERS

Quality Assurance

At HANNSA, we ensure that the quality of each machine will meet our customers' requirements. HANNSA machine tools are manufactured by a team of highly skilled technicians. Rigorous inspections and tests are conducted, enabling HANNSA to achieve the highest standards.



Hannsa **YLM**
Precision GLOBAL

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▶▶ **Box Way**

YH Series



ISO-9001



Group

YH SERIES

MACHINE-BOX WAY

Designed to Achieve Amazing Heavy Cutting Capacity

4 SLIDEWAYS

*Helping You to
Boost Your
Productivity!*

Hannsa
Precision

*Premium Construction!
Exceptional Stability!*



◀ YH1000-A
YH1200-A
YH1461-A

X, Y, Z-axis travel:

1020 x 610 x 610 mm (YH1000-A)
1200 x 610 x 610 mm (YH1200-A)
1400 x 610 x 610 mm (YH1461-A)

- Four box ways on the base
- Box ways on three axes
- 6000 rpm belt-drive spindle (BT50)
- 10,000 rpm belt-drive spindle (BT40)
- 24 tool arm type magazine
- Fully enclosed splash guard



▲ YH1400-A
YH1600-A
YH1800-A

X,Y,Z-axis travel:

1400 x 810 x 810 mm (YH1400-A)
1600 x 810 x 810 mm (YH1600-A)
1800 x 810 x 810 mm (YH1800-A)

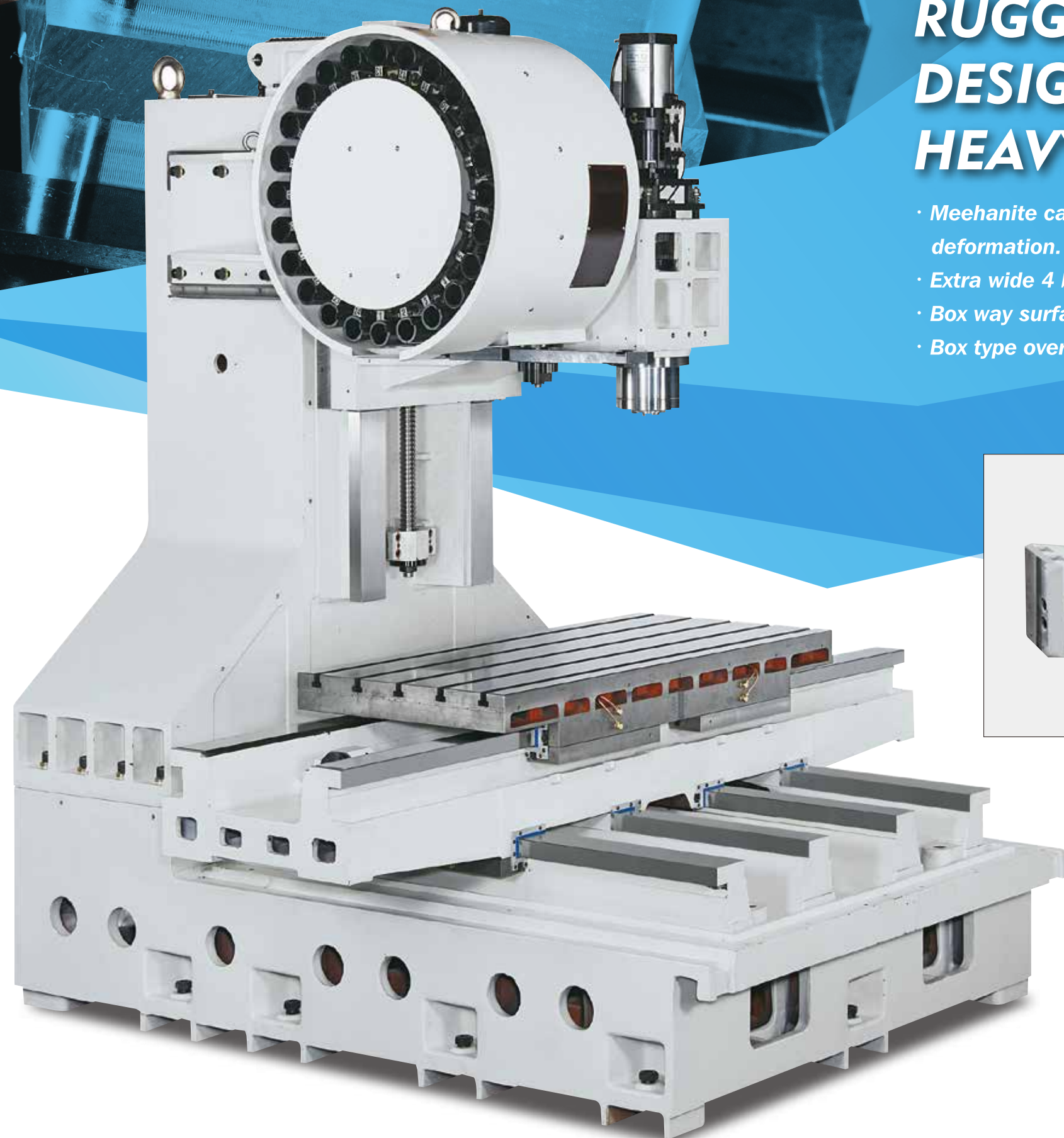
- Four box ways on the base
- Box ways on three axes
- 6000 rpm gear-drive spindle (BT50)
- 24 tool arm type magazine
- Semi-enclosed splash guard is standard
- Fully enclosed splash guard is optional

YH SERIES

Hannsa
Precision

RUGGED CONSTRUCTION DESIGNED TO MEET YOUR HEAVY CUTTING NEEDS!

- Meehanite cast iron is tempered for stress relief to ensure structural stability without deformation.
- Extra wide 4 box ways are hardened and precision ground.
- Box way surfaces are coated with Turcite-B for wear resistance.
- Box type oversized column provides an increase in structural rigidity and stability.



Heavy Column

The box type massive column is scientifically rib reinforced to achieve greater stability when performing heavy cutting.



4 Box Ways on the Base

The massive base is designed with 4 box ways combined with large span between the ways. This provides firm support for heavy loads without deformation of the table.

SPINDLE HEAD

The spindle head is solidly constructed ensuring maximum stability during cutting.



◀ 24-tool Arm Type Magazine

- Bi-directional, random tool selection.
- Tool change can be quickly accomplished in only 2.5 seconds (tool to tool)(60Hz).



▲ Gearbox (For models YH1000-A / YH1200-A / YH1461-A)(Option)

The high performance gearbox produces high torque output at low speeds, making the machine suitable for heavy cutting.

Belt-drive Spindle (standard) **(For all models)**

- 6,000 rpm spindle speed is standard. (BT50)
- 10,000 rpm spindle speed is standard. (BT40)
- 12,000 rpm spindle speed is optional. (BT40)
- Choice of spindle nose tapers - CAT40 and DIN40.
- The spindle is dynamically balanced for extremely smooth running.



Gear Box-drive Spindle (standard) **(For models YH 1400-A / YH 1600-A / YH 1800-A)**

- Spindle speed – 6,000 rpm.
- BT50 spindle nose taper.
- The spindle is dynamically balanced for extremely smooth running.



Direct-drive spindle (Optional) **(For all models)**

- Choice of spindle speed – 8,000 or 10,000 rpm. (BT50)
- Choice of spindle speed – 12,000 or 15,000 rpm. (BT40)
- The spindle is dynamically balanced for extremely smooth running.



Rear Flushing Device (optional)

The optional rear flushing device provides efficient removal of chips.



4th Axis Rotary Table (optional)

- The rigidly constructed 4th axis rotary table is excellent at indexing accuracy and repeatability.
- Minimum indexing unit is 0.001°



Oil Skimmer (optional)

The disc type oil skimmer is used for removing floating oil on coolant, preventing coolant deterioration and odor.



Air Gun

The air gun allows the operator to clean the workpiece.



Cleaning Spray Gun

The cleaning gun is used for cleaning the workpiece and machine.



Air Conditioner for Electrical Cabinet (optional)

Offering even better cooling to the electrical cabinet, prolonging electrical components' life.



Spindle Oil Cooler

The spindle oil cooler is used to ensure a constant temperature of the spindle, even during long running times. This helps maintain spindle accuracy at all times.



Chain Type Chip Conveyor (optional)



Chip Auger

The chip auger delivers chips to the chip conveyor for easy removal.

QUALITY ASSURANCE

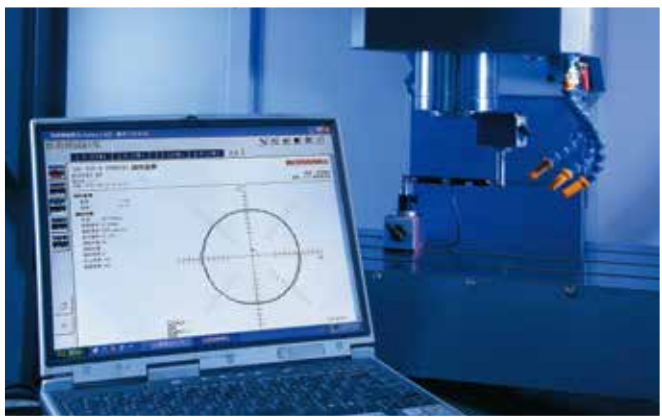
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Laser Inspection

A sophisticated laser unit is employed to inspect the three axes' accuracy, including linear positioning, positioning accuracy, pitch error and backlash, etc. With the laser inspection, positioning accuracy and repeatability are guaranteed.

- **Positioning accuracy:** $\pm 0.005 / 300 \text{ mm}$
- **Repeatability:** $\pm 0.003 \text{ mm}$

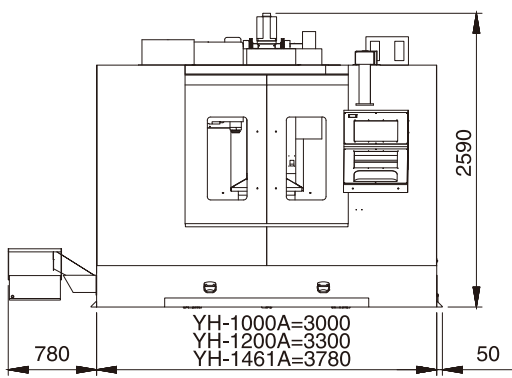
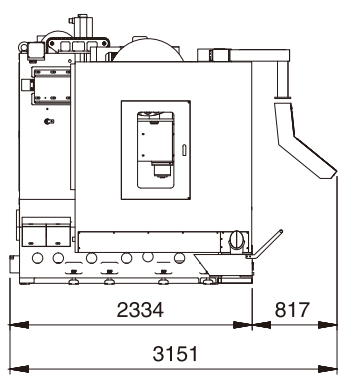
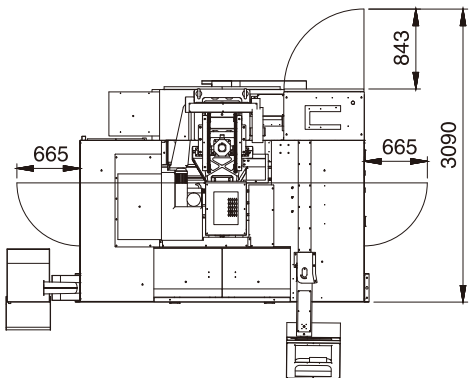


Ball Bar Test

A ball bar tester is employed for inspecting servo accuracy, static and dynamic geometric errors.

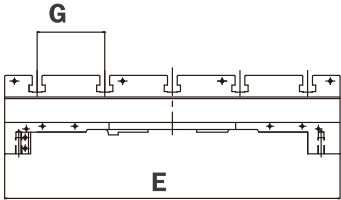
MACHINE DIMENSIONS

YH 1000-A / 1200-A / 1461-A



TABLE

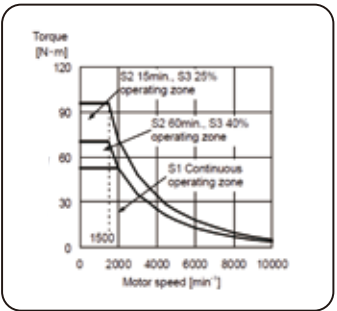
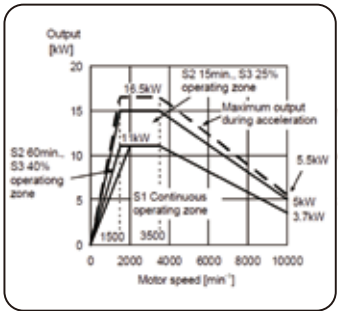
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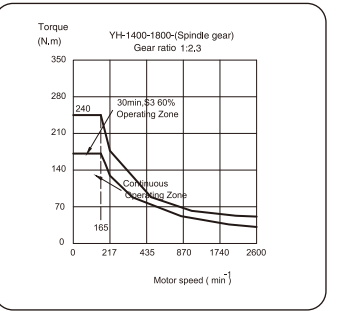
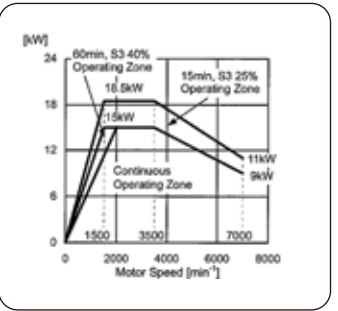
MODEL	E	F	G
YH 1000-A	620	1100	5 x 18 x 125
YH 1200-A	620	1300	5 x 18 x 125
YH 1461-A	620	1400	5 x 18 x 125
YH 1400-A	840	1600	5 x 22 x 150
YH 1600-A	840	1800	5 x 22 x 150
YH 1800-A	840	2000	5 x 22 x 150

SPINDLE MOTOR TORQUE DIAGRAMS

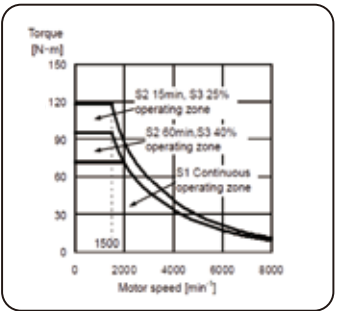
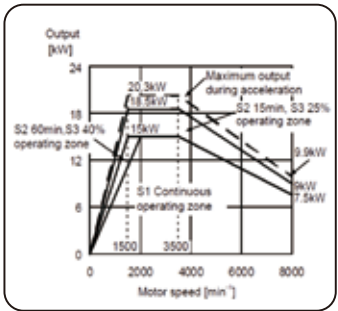
MODEL 11/15 kw



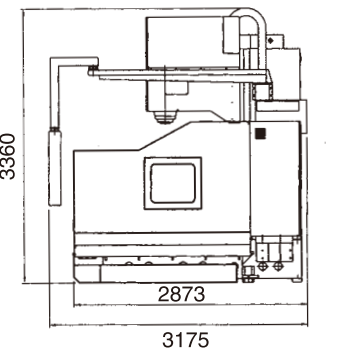
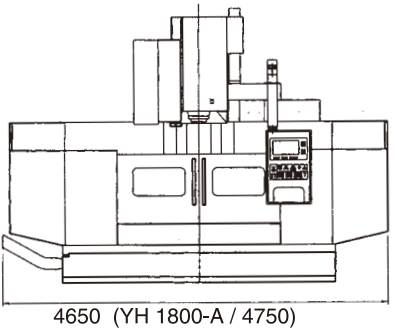
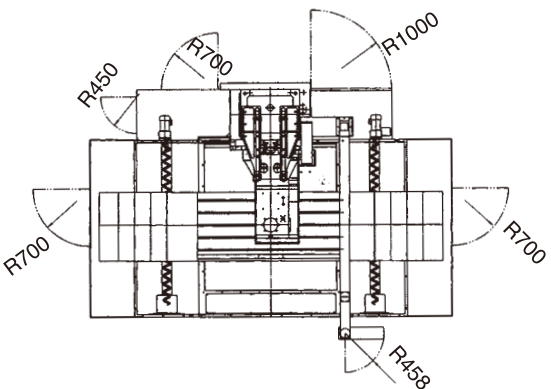
MODEL 15/18.5 kw (Gear Type)



MODEL 15/18KW



YH 1400-A / 1600-A / 1800-A



SPECIFICATIONS

MODEL	UNITS	YH 1000-A	YH 1200-A	YH 1461-A	YH 1400-A	YH 1600-A	YH 1800-A
TABLE							
Working Surface	mm (inch)	1100 x 620 (43.3 x 24.4)	1300 x 620 (51.18 x 24.4)	1400 x 620 (55.11 x 24.4)	1600 x 840 (62.99 x 33.07)	1800 x 840 (70.86 x 33.07)	2000 x 840 (78.74 x 33.07)
T-Slots (Number x Size x Distance)	mm (inch)	5 x 18 x 125 (5 x 0.7 x 4.9)	5 x 18 x 125 (5 x 0.7 x 4.9)	5 x 18 x 125 (5 x 0.7 x 4.9)	5 x 22 x 150 (5 x 0.86 x 5.9)	5 x 22 x 150 (5 x 0.86 x 5.9)	5 x 22 x 150 (5 x 0.86 x 5.9)
Max. Table Load	kg (lbs)	900 (1980)	1000 (2200)	1000 (2200)	2000 (4400)	2200 (4840)	2500 (5500)
TRAVEL							
Longitudinal Travel (X)	mm (inch)	1020 (40.15)	1200 (47.24)	1400 (55.11)	1400 (55.11)	1600 (62.99)	1800 (70.86)
Cross Travel (Y)	mm (inch)	610 (24.01)	610 (24.01)	610 (24.01)	810 (31.88)	810 (31.88)	810 (31.88)
Headstock Travel (Z)	mm (inch)	610 (24.01)	610 (24.01)	610 (24.01)	810 (31.88)	810 (31.88)	810 (31.88)
Distance Between Spindle End and Table Top	mm (inch)	150-760 (5.9-29.9)	150-760 (5.9-29.9)	150-760 (5.9-29.9)	200-1010 (7.8-39.7)	200-1010 (7.8-39.7)	200-1010 (7.8-39.7)
Distance Between Spindle Center and Column Surface	mm (inch)	690 (27.16)	690 (27.16)	690 (27.16)	870 (34.2)	870 (34.2)	870 (34.2)
SPINDLE							
Spindle Nose	type	BT 50 / DIN 50 / CAT 50	BT 40 / CAT 40 / DIN 40	BT 40 / CAT 40 / DIN 40	BT 50 / CAT50 / DIN50	BT 50 / CAT50 / DIN50	BT 50 / CAT50 / DIN50
Spindle Speeds	rpm	6000	10000	10000	6000	6000	6000
Mechanism of Transmission	type	Belt	Belt	Belt	Gear Box	Gear Box	Gear Box
FEED							
Cutting Feed	mm / min (inch / min)	10000 (393.7)	10000 (393.7)	10000 (393.7)	10000 (393.7)	10000 (393.7)	10000 (393.7)
Rapid Traverse (X / Y / Z)	M /min (inch / min)	20 / 20 / 16 (787 / 787 / 629)	20 / 20 /16 (787 / 787 / 629)	20 / 20 /16 (787 / 787 / 629)	15 / 15 / 12 (590 / 590 / 472)	15 / 15 / 12 (590 / 590 / 472)	15 / 15 / 12 (590 / 590 / 472)
AUTO TOOL CHANGER (ATC)							
Tool Holder Diameter	mm (inch)	50 (1.96)	40 (1.57)	40 (1.57)	50 (1.96)	50 (1.96)	50 (1.96)
Tool Storage Capacity	set	24	24	24	24	24	24
Max. Tool Diameter	mm (inch)	125 (4.9)	70 (2.75)	70 (2.75)	125 (4.9)	125 (4.9)	125 (4.9)
Max. Tool Length	mm (inch)	300 (11.8)	300 (11.8)	300 (11.8)	300 (11.8)	300 (11.8)	300 (11.8)
Max. Tool Weight	kg (lbs)	15 (33)	7 (15.4)	7 (15.4)	15 (33)	15 (33)	15 (33)
Tool to Tool (60Hz)	sec	4	2.5	2.5	4	4	4
MOTORS							
Spindle Motor Output (Cont. / 30 min.)	kw	FANUC (11 / 15) (20HP)	FANUC (11 / 15) (20HP)	FANUC (11 / 15) (20HP)	FANUC (15 / 18.5) (25HP)	FANUC (15 / 18.5) (25HP)	FANUC (15 / 18.5) (25HP)
Drive Motors X, Y, Z axis	(kw / hp)	0iMF (10.4") (2.5/3.4) (2.5/3.4) (2.5/3.4) option 32iMB (10.4") (3/4) (3/4) (3/4)	0iMF (10.4") (2.5/3.4) (2.5/3.4) (2.5/3.4) option 32iMB (10.4") (3/4) (3/4) (3/4)	0iMF (10.4") (2.5/3.4) (2.5/3.4) (2.5/3.4) option 32iMB (10.4") (3/4) (3/4) (3/4)	0iMF (10.4") (3/4) (3/4) (3/4) option 32iMB (10.4") (2/3) (2/3) (3/4)	0iMF (10.4") (3/4) (3/4) (3/4) option 32iMB (10.4") (4/5.4) (4/5.4) (4/5.4)	0iMF (10.4") (3/4) (3/4) (3/4) option 32iMB (10.4") (4/5.4) (4/5.4) (4/5.4)
MACHINE SPACE & WEIGHT							
Floor Space	mm (inch)	3000 x 2334 x 2590 (118.1 x 91.8 x 101.9)	3300 x 2334 x 2590 (129.9 x 91.8 x 101.9)	3780 x 2334 x 2590 (148.8 x 91.8 x 101.9)	4650 x 2873 x 3360 (183.1 x 113.1 x 132.2)	4650 x 2873 x 3360 (183.1 x 113.1 x 132.2)	4750 x 2873 x 3360 (187 x 113.1 x 132.2)
Net Weight	kg (lbs)	8400 (18510)	8200 (18070)	9000 (19840)	15500 (34170)	16500 (36370)	18500 (40780)
Air Source	kg / cm²	6	6	6	8	8	8
Electrical Power Supply	KVA	25	25	25	30	30	30

* The above specifications are subject to change without prior notice.

STANDARD ACCESSORIES

- Fully enclosed splash guard
- High semi-enclosed splash gurad (YH 1400-A / 1600-A / 1800-A)
- Central automatic lubrication system
- Tools and tool box
- Work lamp
- Gearbox set (YH 1400-A / 1600-A / 1800-A)
- Tri-colored lamp guard
- Spindle air curtain
- Spindle oil cooler
- Cleaning spray gun
- Air gun
- Chip auger

- Chip collector
- Cooling liquid tank
- X / Y / Z slide way extension protecting cover
- Horizontal adjustment block and screw
- Wire-control hand wheel
- Electrical box heat exchanger
- Rigid tapping
- Automatic shutdown function
- Mechanical and electrical instructions
- Spindle spray ring
- RJ45 interface

OPTIONAL ACCESSORIES

- Mitsubishi controller
- Siemens controller
- Belt drive spindle 12,000 rpm
- Direct-drive spindle BBT40 12,000 / 15,000 rpm
- Fully enclosed splash guard (YH 1400-A / 1600-A / 1800-A)
- Direct-drive spindle BT50 8000 or 10,000 rpm
- Gearbox set (YH1000-A / 1200-A / 1461-A)
- Chain type chip conveyor
- Rear flushing device
- 30 tool magazine
- Optical scale
- Tool length setter

- CTS filter type 30 bar
- CTS filter type 70 bar
- Air conditioner for electrical box
- Workpiece measure device (Renishaw OMP-60)
- NC rotary table
- The 4th axis interface
- Transformer
- Rear Cover (YH1000-A / 1200-A / 1461-A)
- Oil skimmer