

Hannsa
Precision

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.

品質保證

穎漢保證每一台機器品質都將徹底達到客戶的要求。穎漢機器是由一群專業技術人員精心打造而成。此外，每一台機器均歷經嚴格的檢驗與測試，以達到最高的品質標準。

DANGER
危險
Keep hands, clothing and body away from rotating spindle. Machine starts and moves automatically, can cause severe injury.
1. Set in manual mode before operating spindle.
2. Turn off and lock out power at electrical panel before service.
手動方式更換刀頭時請將旋轉刀頭及機台鎖住並切斷電源。
1. 選擇手動方式更換刀頭。
2. 電力切斷後再工作。

VERTICAL MACHINING CENTER

立式加工中心機

Box Way Series 硬軌系列

Hannsa
Precision

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16937.07.105.CE



ISO-9001



Group

MACHINE-BOX WAY

硬軌系列 HANNSA PRECISION



YH1000-B (BT40)
YH1000-A (BT50)

YH1200-A / 1461-A
(4 Slideways / 4 硬軌底座)

**Helping You to
Boost Your
Productivity!**

幫助您
輕鬆提升產能!

X,Y,Z-axis travel / X,Y,Z軸行程：
1000 x 510 x 530 mm (YH1000-B)
1020 x 610 x 610 mm (YH1000-A)

- Two box ways on base / 底座為2硬軌構造。(YH 1000B)
- Four box ways on base / 底座為4硬軌構造。(YH 1000A)
- Box ways on three axes / 三軸全硬軌。
- 10000 rpm belt-drive spindle
10000 rpm 皮帶式主軸。(YH 1000B)
- 6000rpm belt-drive spindle
6000rpm 皮帶式主軸。(YH 1000A)
- BT40 spindle taper / 主軸錐度 BT40。(YH 1000B)
- BT50 spindle taper / 主軸錐度 BT50。(YH 1000A)
- 24 tool arm type magazine
24刀刀臂式刀庫。
- Fully enclosed splash guard / 全密閉式護罩。

X,Y,Z-axis travel / X,Y,Z軸行程：
1200 x 610 x 610 mm (YH1200-A)
1400 x 610 x 610 mm (YH1461-A)

- Four box ways on base / 底座為4硬軌構造。
- Box ways on three axes / 三軸全硬軌。
- 10000 rpm belt-drive spindle
10000 rpm 皮帶式主軸。
- BT40 spindle taper / 主軸錐度 BT40。
- 24 tool arm type magazine
24刀刀臂式刀庫。
- Fully enclosed splash guard / 全密閉式護罩。

YH1400-A / 1600-A / 1800-A
(4 Slideways / 4 硬軌底座)

**Designed to
Perform Amazing
Heavy Cutting
Capacity**

令人讚嘆的
重切削威力

X,Y,Z-axis travel / X,Y,Z軸行程：
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 base / 底座為4硬軌構造。
- Box ways on three axes / 三軸全硬軌。
- 6000 rpm gear-drive spindle
6000 rpm 齒輪式主軸。
- BT50 spindle taper / 主軸錐度 BT50。
- 24 tool arm type magazine / 24刀刀臂式刀庫。
- Semi- enclosed splash guard is standard
半密閉式護罩為標準配備。
- Fully enclosed splash guard is optional
全密閉式護罩為選購配備。

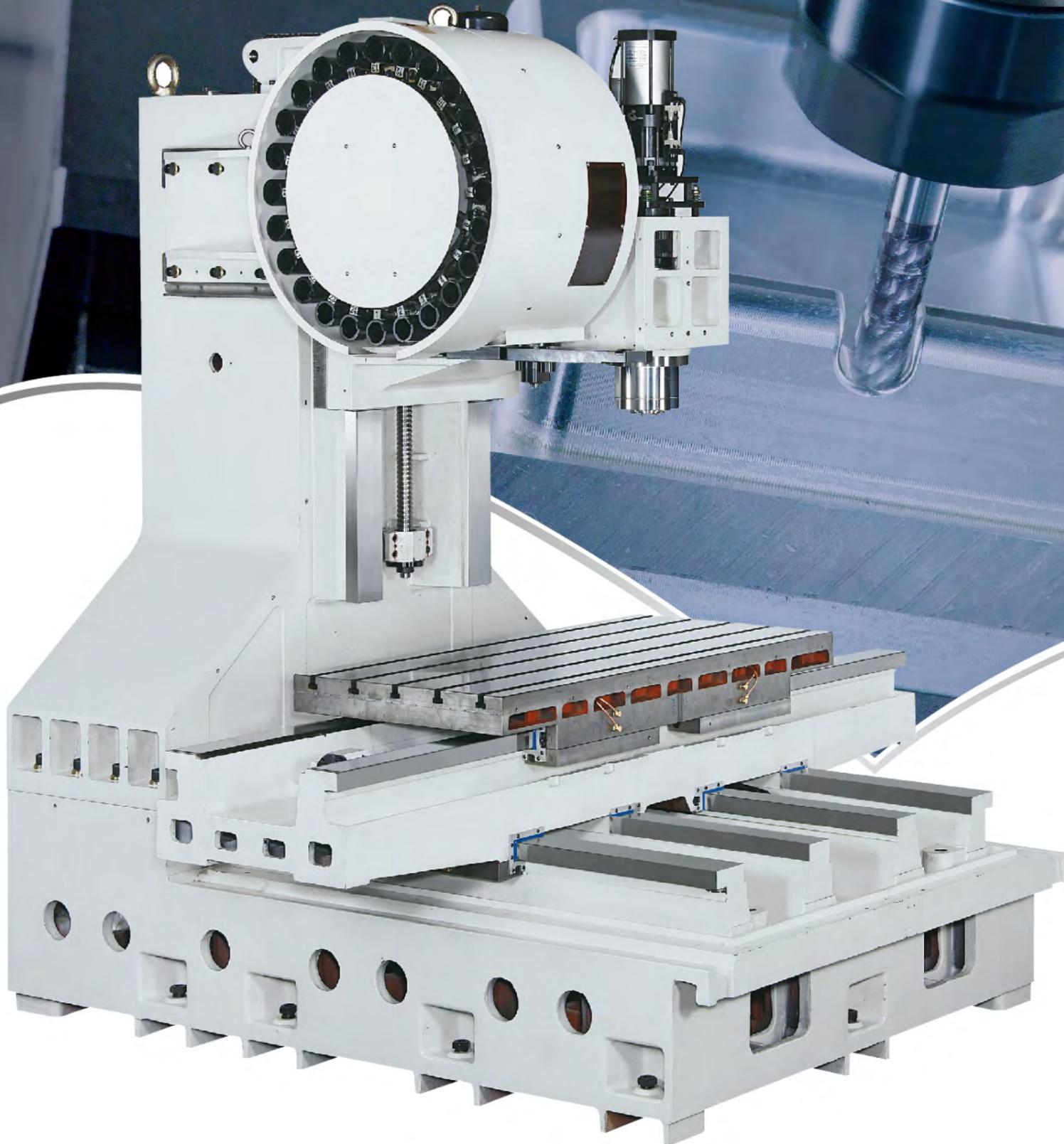
*Massive Construction!
Exceptional Stability!*
結構穩重!
非凡的穩定性!



Rugged Construction Designed to Meet your Heavy Cutting Demand!

高剛性結構 徹底滿足重切削需求!

- 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.
- 米漢納鑄件，經回火處理以消除應力，確保最佳結構穩定性，且無變形之慮。
- 超寬4硬軌，經熱處理硬化及精密研磨。滑軌表面貼口Turcite-B耐磨片，耐磨耗性優異。
- 超大形箱立柱結構，可提升結構剛性與穩定性。



4 Box Ways on Base (YHA)
4 硬軌底座 (YHA)

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

穩定的底座具有4硬軌，配合硬軌之間的大跨距設計，除了提供重負荷的穩支撐，而且也避免工作台變形。



Heavy Column
壯碩的立柱

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

採用箱形結構設計的立柱，具穩重特性，再搭配完善的肋骨強化設計。在重切削時可達到較佳的穩定性。

Belt-drive Spindle (standard)

皮帶式主軸 (標準配備)

(For all models / 適用所有機型)

- 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—BT40, CAT40 and DIN40.
- The spindle is dynamically balanced for extremely smooth running.
- 標準主軸轉速6,000 rpm。(BT50)
- 標準主軸轉速10,000 rpm。(BT40)
- 12,000 rpm為選配。(BT40)
- 可選擇BT40, CAT40, DIN40主軸錐度。
- 主軸經動平衡校正，運轉極順暢。

Gear Box-drive Spindle (standard)

齒輪式主軸 (標準配備)

(For models / 適用機型 YH 1400-A, YH 1600-A, YH 1800-A)

- Spindle speed – 6,000 rpm.
- #50 spindle nose taper.
- The spindle is dynamically balanced for extremely smooth running.
- 可選擇6000 rpm主軸轉速。
- 主軸錐度#50。
- 主軸經動平衡校正，運轉極順暢。

Direct-drive spindle (Optional)

直結式主軸 (選配)

(For all models / 適用所有機型)

- Choice of spindle speed – 8,000 rpm. (BT50)
- Choice of spindle speed – 10,000 or 12,000 or 15,000 rpm. (BT40)
- The spindle is dynamically balanced for extremely smooth running.
- 可選擇8000 rpm主軸轉速(BT50)。
- 可選擇10000、12000及15000rpm主軸轉速(BT40)。
- 主軸經動平衡校正，運轉極順暢。

**Air Conditioner For Electrical Cabinet (optional)**

電氣箱冷氣機 (選配)

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

電氣箱冷氣機提供電氣箱優異的冷卻效果，以延長電氣零組件之使用壽命。

**Spindle Oil Cooler**
主軸油溫冷卻器

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.

主軸油溫冷卻器使主軸在長時間運轉，也能維持在常溫狀態。隨時確保主軸之高精度。

**Oil Skimmer (optional)**

油水分離機 (選配)

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

碟圓盤式油水分離機可將切削液上面之浮油刮除，避免切削液變質及惡臭。

**Chip Auger**
螺旋排屑裝置

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

此螺旋排屑裝置可將切屑輸送至切屑輸機，使除屑更方便。

**Chain type chip conveyor (optional)**

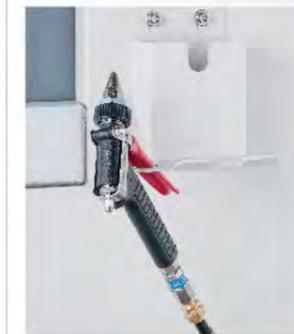
鏈條式鐵屑輸送機 (選配)

**Rear Flushing Device (optional)**

後沖裝置 (選配)

The optional rear flushing device provides efficient removal of chips.

後沖裝置具有強勁的沖屑能力。

**Cleaning Spray Gun**
清洗噴槍

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

清洗噴槍用於消除工件及機器上之切屑。

**Air Gun**
空氣噴槍

The air gun allows the operator to clean the workpiece.

氣槍可應用於消除工件上面之切屑。

**4th Axis Rotary Table (optional)**

第4軸旋轉工作台 (選配)

The rigidly constructed 4th axis rotary table is excellent in indexing accuracy and repeatability.

Minimum indexing unit is 0.001°

具有高剛性的第4軸旋轉工作台，展現優異的定位精度與重複精度。

最小分度精度0.001°。

**Spindle Head 主軸頭**

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

主軸頭擁有高剛性特性，以確保切削時之獨特穩定性。

Gearbox (YHA Option)

齒輪箱 (YHA 選配)

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

搭配使用高性能的齒輪箱，於低速時提供大扭力輸出，適合重切削。

**24-tool Arm Type Magazine**

24刀臂式刀庫

- Bi-directional, random tool selection.
- Tool change can be quickly accomplished in only 2.5 seconds (tool to tool)(60Hz).
- 選刀方式為雙向，任意式選刀。
- 快速換刀只需2.5秒即可完成(刀對刀)(60Hz)。



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Laser Inspection 鐳射檢驗

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 can be guaranteed.

- Positioning accuracy: $\pm 0.005/300$ mm
- Repeatability: ± 0.003 mm

本公司採用精密鐳射儀器檢驗三軸之精度。檢驗項目包括線性定位，定位精度，節距誤差及背隙等。透過鐳射檢驗以保證最佳定位精度與重覆精度。

- 定位精度： $\pm 0.005/300$ mm
- 重覆精度： ± 0.003 mm

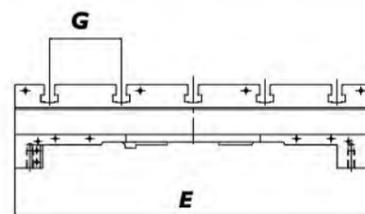
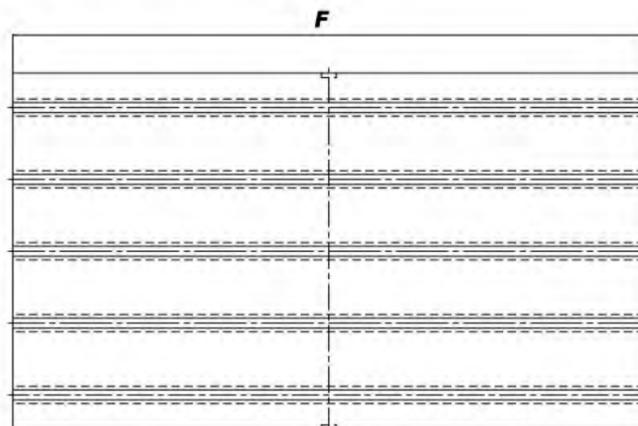


Ball Bar Test 循圓測試

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

採用循圓測試儀以檢驗伺服精度，靜態與動態幾何誤差。

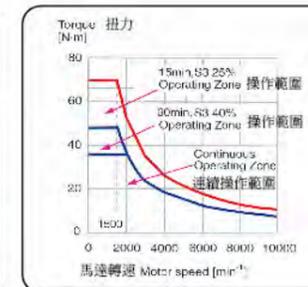
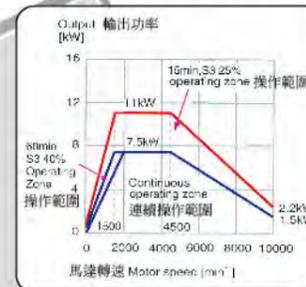
Machine Dimensions 加工區域圖



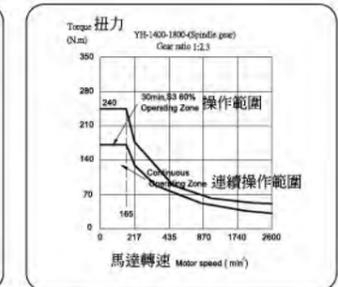
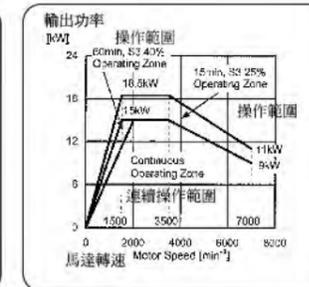
MODEL 機型	E	F	G
YH 1000-B	560	1050	5 x 18 x 100
YH 1000-A	620	1100	5 x 18 x 125
YH 1200-A	620	1300	5 x 18 x 125
YH 1461-A	620	1400	5 x 18 x 125
YH 1400-A	840	1600	5 x 22 x 150
YH 1600-A	840	1800	5 x 22 x 150
YH 1800-A	840	2000	5 x 22 x 150

Spindle Motor Torque Diagrams

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

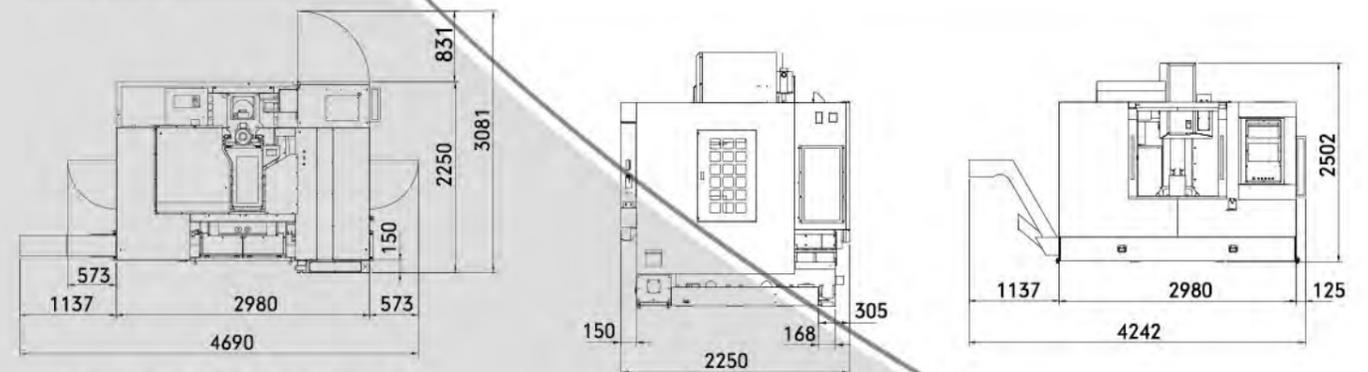


YH 1400-A / 1600-A / 1800-A

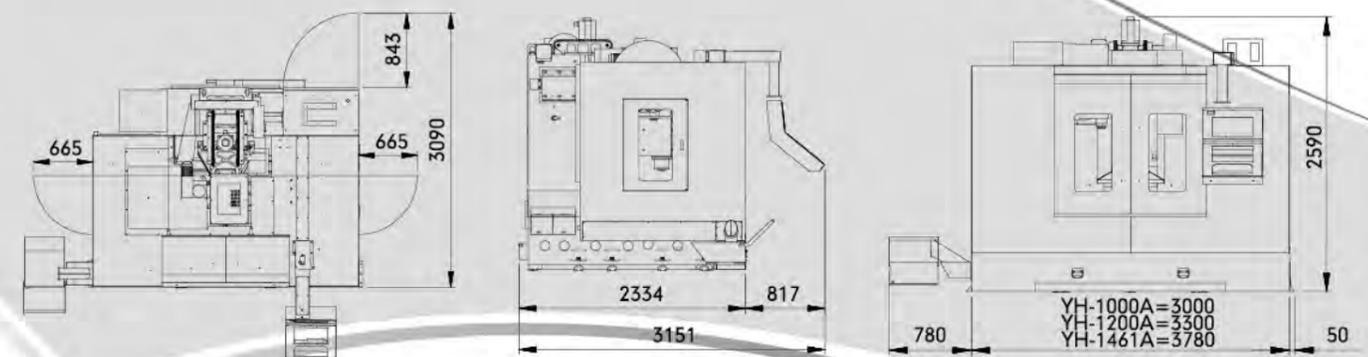


Machine Dimensions 機器外觀尺寸圖

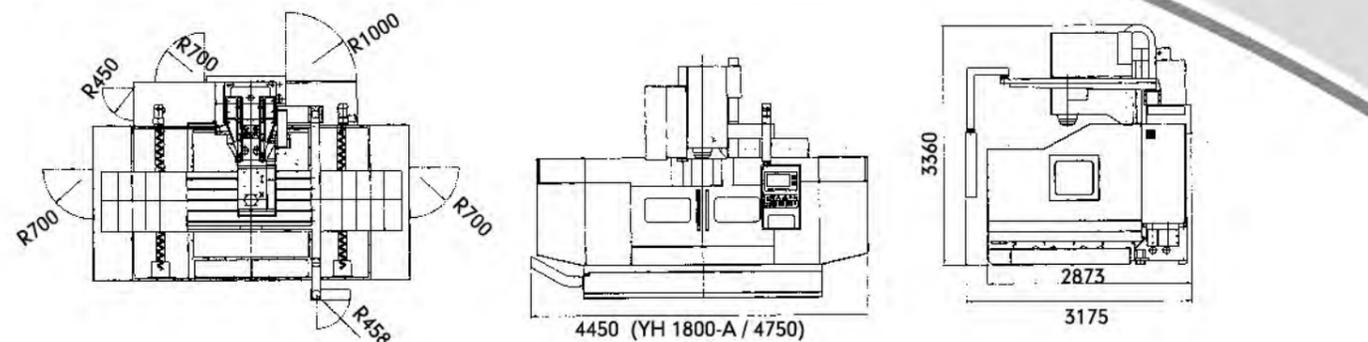
YH 1000-B



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



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



MODEL 型號	UNITS 單位	YH 1000-B	YH 1000-A	YH 1200-A	YH 1461-A	YH 1400-A	YH 1600-A	YH 1800-A
TABLE 工作台								
Working Surface 工作台尺寸	mm (inch)	1050 x 560 (41.3 x 22)	1100 x 620 (43.3 x 24.41)	1300 x 620 (51.81 x 24.41)	1400 x 620 (55.11 x 24.41)	1600 x 840 (62.99 x 33.07)	1800 x 840 (70.87 x 33.07)	2000 x 840 (78.74 x 33.07)
T-Slots (Number x Size x distance) T型槽尺寸(槽數 x 寬數 x 間距)	mm (inch)	5 x 18 x 100 (5 x 0.7 x 3.93)	5 x 18 x 125 (5 x 0.70 x 5)	5 x 18 x 125 (5 x 0.70 x 5)	5 x 18 x 125 (5 x 0.7 x 5)	5 x 22 x 150 (5 x 0.86 x 5.9)	5 x 22 x 150 (5 x 0.86 x 5.90)	5 x 22 x 150 (5 x 0.86 x 5.90)
Max. Table Load 最大負載	kg (lbs)	650 (25.6)	900 (1980)	1000 (2200)	1000 (2200)	2000 (4400)	2200 (4840)	2500 (5500)
TRAVEL 行程								
Longitudinal Travel (X) X軸行程	mm (inch)	1020 (40)	1020 (40)	1200 (47.2)	1400 (55.1)	1400 (55)	1600 (63)	1800 (70.8)
Cross Travel (Y) Y軸行程	mm (inch)	550 (20)	610 (24.01)	610 (24.01)	610 (24.01)	810 (31.89)	810 (31.89)	810 (31.89)
Headstock Travel (Z) Z軸行程	mm (inch)	530 (20.8)	610 (24.01)	610 (24.01)	610 (24.01)	810 (31.89)	810 (31.89)	810 (31.89)
Distance Between Spindle End and Table Top 主軸鼻端至工作台面距離	mm (inch)	100-630 (3.93 - 24.8)	150-760 (5.9-29.9)	150-760 (5.9-29.9)	150-760 (5.9-29.9)	200-1010 (7.9-39.8)	200-1010 (7.9-39.7)	200-1010 (7.9-39.7)
Distance Between Spindle Center and Column Surface 主軸中心至立柱端面距離	mm (inch)	600 (23.6)	690 (27.17)	690 (27.17)	690 (27.17)	870 (34.2)	870 (34.2)	870 (34.2)
SPINDLE 主軸								
Spindle Nose 主軸端孔斜度	type	BT 40 / CAT 40 / DIN 40	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 主軸轉速	r.p.m	10000	6000	10000	10000	6000	6000	6000
Mechanism of Transmission 傳動	type	Belt 皮帶式	Belt 皮帶式	Belt 皮帶式	Belt 皮帶式	Gear Box 齒輪式	Gear Box 齒輪式	Gear Box 齒輪式
FEED 給進								
Cutting Feed 切削給進	mm / min (inch / min)	10000 (393.7)	10000 (393.7)	10000 (393.7)	10000 (393.7)	10000 (393.7)	10000 (393.7)	10000 (393.7)
Rapid Traverse (X / Y / Z) 快移速度	M / min (inch / min)	24 / 24 / 24 (945 / 945 / 945)	20 / 20 / 16 (787 / 787 / 630)	20 / 20 / 16 (787 / 787 / 630)	20 / 20 / 16 (787 / 787 / 630)	15 / 15 / 12 (590 / 590 / 472)	15 / 15 / 12 (590 / 590 / 472)	15 / 15 / 12 (590 / 590 / 472)
AUTO TOOL CHANGER (ATC) 自動換刀裝置								
Tool Holder 刀把型式	type	BT40	BT50	BT40	BT40	BT50	BT50	BT 50
Tool Storage Capacity 刀具儲存容量	set	Arm 24 / 24刀(刀臂式)	Arm 24 / 24刀(刀臂式)	Arm 24 / 24刀(刀臂式)	Arm 24 / 24刀(刀臂式)	Arm 24 / 24刀(刀臂式)	Arm 24 / 24刀(刀臂式)	Arm 24 / 24刀(刀臂式)
Max. Tool Diameter 最大刀徑	mm (inch)	80 (3.1)	125	80 (3.1)	80 (3.1)	125 (5)	125 (5)	125 (5)
Max. Tool Length 最大刀長	mm (inch)	300 (11.8)	300 (11.8)	300 (11.8)	300 (11.8)	300 (11.8)	300 (11.8)	300 (11.8)
Max. Tool Weight 最大刀重	kg (lbs)	7 (15.4)	15 (33)	7 (15.4)	7 (15.4)	15 (33)	15 (33)	15 (33)
Tool to Tool 刀對刀換刀(60Hz)	sec	2.5	4	2.5	2.5	4	4	4
MOTORS 馬達								
Spindle Motor Output (Cont. / 30 min.) 主軸驅動馬達 (連續運轉 / 30分額定)	kw	FANUC(7.5/11)(15HP)	FANUC (11 / 15) (20HP)	FANUC (7.5 / 11) (15HP)	FANUC (7.5 / 11) (15HP)	FANUC (15 / 18.5) (25HP)	FANUC (15 / 18.5) (25HP)	FANUC (15 / 18.5) (25HP)
		0iMF (8.4") (1.8/2.4)	0iMF (8.4")	0iMF (8.4")	0iMF (8.4")	0iMF (8.4")	0iMF (8.4")	0iMF (8.4")
		(1.8/2.4) (2.5/3.4)	(2.5/3.4) (2.5/3.4) (2.5/3.4)	(2.5/3.4) (2.5/3.4) (2.5/3.4)	(2.5/3.4) (2.5/3.4) (2.5/3.4)	(3/4) (3/4)(3/4)	(3/4) (3/4)(3/4)	(3/4) (3/4)(3/4)
Drive Motors X, Y, Z axis 伺服驅動馬達 X, Y, Z 軸	(kw / hp)	option	option	option	option	option	option	option
		31iMB (10.4") (2/3) (2/3) (3/4)	31iMB (10.4") (3/4) (3/4) (3/4)	31iMB (10.4") (3/4) (3/4) (3/4)	31iMB (10.4") (3/4) (3/4) (3/4)	31iMB (10.4") (2/3) (2/3) (3/4)	31iMB (10.4") (4/5.4) (4/5.4) (4/5.4)	31iMB (10.4") (4/5.4) (4/5.4) (4/5.4)
MACHINE SPACE & WEIGHT 機器佔地面積與重量								
Floor Space 佔地面積	mm (inch)	2980 x 2250 x 2502 (117.3 x 88.6 x 98.5)	3000 x 2250 x 2675 (118.1 x 88.6 x 105.3)	3450 x 2250 x 2675 (135.8 x 88.6 x 105.3)	3700 x 2250 x 2675 (145.6 x 88.6 x 105.3)	4450 x 2875 x 3360 (175.2 x 113.2 x 132.3)	4450 x 2875 x 3360 (175.2 x 113.2 x 132.3)	4750 x 2875 x 3360 (187 x 113.2 x 132.3)
Net Weight 機器淨重	kg (lbs)	4480 (10560)	8400 (18480)	8200 (18040)	9000 (19820)	15500 (34135)	16500 (36335)	18500 (40700)
Air Source 氣壓需求	kg/cm ²	6	6	6	6	8	8	8
Electrical Power Supply 電力需求	KVA	20	25	25	25	30	30	30

● The above specifications are subject to change without prior notice. 以上規格僅供參考，本公司保留修改規格的權力，恕不另行通知

STANDARD ACCESSORIES 標準配備

- Fully enclosed splash guard / 全罩式鈹金
- High semi-enclosed splash guard / 半密閉式防護鈹金 (YH 1400-A / 1600-A / 1800-A)
- Central automatic lubrication system / 中央自動潤滑系統
- Tools and tool box / 工具及工具箱
- Work lamp / 工作燈
- Work lamp / 工作燈 (lengthening stick type / 螢光燈管式) (YH 1400-A / 1600-A / 1800-A)
- Gearbox set / 齒輪箱 (YH 1400-A / 1600-A / 1800-A)
- Tri-colored lamp guard / 三色警示燈 (end-of-work lamp guard)
- Spindle air curtain / 主軸氣幕
- Spindle oil cooler (spindle oil temperature cooler)
主軸油冷裝置 (主軸油溫冷卻機)
- Cleaning spray gun / 清洗噴槍

- Air gun / 空氣槍
- Chip auger / 螺旋排屑裝置
- Chip collector / 集屑車
- Cooling liquid tank / 冷卻液水箱
- X / Y / Z slide way extension protecting cover / X / Y / Z軸滑道伸縮護蓋
- Horizontal adjustment block and screw / 水平調整塊及螺絲
- Wire-control hand wheel / 線控手輪
- Electrical box heat exchanger / 電氣箱熱交換器
- Rigid tapping / 剛性攻牙
- Automatic shutdown function / 自動斷電功能
- RS232 transmission interface / RS232傳輸介面
- Mechanical and electrical instructions / 機械及電氣操作說明書
- Spindle spray ring / 主軸環噴

OPTIONAL ACCESSORIES 選擇配備

- Mitsubishi controller / 三菱控制器
- Siemens controller / 西門子控制器
- Belt drive spindle 12000 rpm / 皮帶式12000轉主軸
- Direct-drive spindle #40 10000 / 12000 / 15000 rpm
#40直結式10000 / 12000 / 15000轉主軸
- Fully enclosed splash guard / 口密閉式鈹金 (YH 1400-A / 1600-A / 1800-A)
- Direct-drive spindle #50 10000 rpm / #50直結式8000轉主軸 (YHA系列)
- Gearbox set / 齒輪箱 (YHA系列)
- Chain type chip conveyor / 鏈條式鐵屑輸送機
- Rear flushing device / 後沖裝置
- Arm 30/30刀刀臂式自動換刀機構 (YHA系列)
- Optical scale / 光學尺

- Oil mist lubrication device / 油霧潤滑裝置
- Spindle CTS system (20 bar) / 主軸中心出水 (20 bar)
- CTS filter type 30 bar / 濾罐式主軸中心出水 (30 Bar)
- CTS filter type 70 bar / 濾罐式主軸中心出水 (70 Bar)
- Air conditioner for electrical box (3000 BTU) 電氣箱冷氣機 (3000 BTU)
- Automatic centering device (Renishaw OMP-60)
工件量測系統 (Renishaw OMP-60)
- NC rotary table / NC旋轉分度盤
- The 4th axis interface / 第四軸接線介面
- Transformer / 變壓器
- Rear Cover / 機身後方護罩鈹金 (YH1000-A / 1200-A / 1461-A)
- Oil skimmer / 油水分離機