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Xiamen Yangsen NC Equipment Co., Ltd

Technical Document
YSH-800 HMC

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1. Corporate Culture Introduction

Yangsen NC Equipment Co., Ltd. is a high-tech enterprise specializing in the development, design, production and manufacture of CNC machine tools and CNC machine tools. The company is based on Taiwan's manufacturing technology, and at the same time integrates many years of manufacturing experience from many equipment manufacturers, constantly absorbing domestic and foreign. With the advanced scientific research achievements in the same industry, it has developed into an exclusive manufacturer with complete production and assembly machining centers today.

The company's products include vertical machining center, high-speed machining center, high-speed drilling and tapping machine, gantry machining center, horizontal machining center, etc. The main customer groups are precision mold manufacturing, automobile manufacturing, electronic communication industry, precision parts Processing industry and aerospace industry, etc. The company has been operating with integrity. The business philosophy of sustainable innovation, with the most cost-effective products, perfect products and perfect services, provides customers with the best solutions, creates the greatest value for customers, and enhances the competitiveness of customers' products.

In the future, the company will continue to adhere to the high-quality policy of "customer first, market first; technology-based, quality wins: the concept, to create value for customers. Innovate research, keep improving, and wholeheartedly meet customer needs and expectations.

Main business: high-speed high-precision engraving and milling machine, vertical machining center series, high-speed drilling and tapping machine, gantry machining center series, horizontal machining center series. Enterprise service: To provide better products and services, we have been working hard and persevering forever. We aim to build a brand, be honest and trustworthy, and achieve mutual benefit and win-win. We help users use equipment better through continuous technological updates and perfect service system, because of our profession we keep improving.

Technical support: professional engineers come to solve equipment selection for customers. Solve the processing requirements of various products of customers, help users choose suitable and economical solutions, and make the products selected by users more cost-effective.

Quality control: Our products have passed ISO9001 quality system and ISO14000 environmental management system certification

After-sales service: The after-sales service network all over the country is the guarantee for our products to be sold all over the country.



2. YSH-800 Machine Features:

- 1. The X/Y/Z axes adopt high-strength and high-speed linear roller guides, with a rapid feed rate of 36/36/30 (m/min); each axis guide adopts imported heavy-duty roller linear guides with a preload of V3 grade, high load-bearing capacity and stable precision;
- 2. The spindle motor is equipped with β iiP30/8000 high-torque generalized motor as standard. The outer diameter reaches 190mm and the high rigidity Taiwan spindle has a unique labyrinth device and labyrinth blowing device on the nose of the spindle to effectively protect the spindle. The maximum spindle speed can reach 6000rpm, which has the characteristics of high rigidity and high precision;
- 3. The machine tool parts are from famous manufacturers and brands, and are equipped with top-notch configurations in the industry.



The machine tool parts belong to the famous brand of famous factory, and the top configuration in the industry.

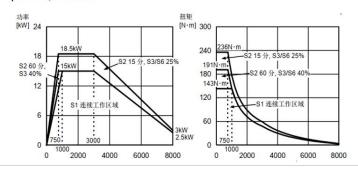


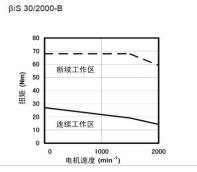
4. Three-axis motor torque diagram and spindle motor torque diagram



系统	0 <i>i</i> -MF Plus (5)	额定功率ĸw	额定扭矩N.m	最大扭矩N.m
X轴	βis 30/2000-B	3	27	68
Y轴	βis 30/2000-B	3	27	68
z轴	βis 30/2000-B	3	27	68
主轴SP	β <i>i</i> IP 30/8000-B	15/18.5	143	236

βiIP 30/8000-B





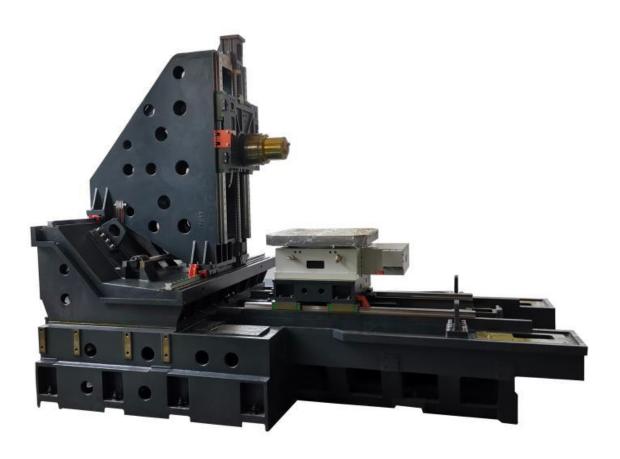
No.: YSH-800

5. Four-axis turntable parameter table

规格/型号		单位	HIT-800		
盘面尺寸		Ømm	800*800		
平置总高 度	水平时	mm	395		
盘面总高 度	水平时	mm	340		
中心孔直径		Ømm	直径65H7深10		
工作台T型槽	宽度	mm	7*18-100		
最小分割单位	Ì.	Deg.	1°		
分割精度		Sec.	6"		
重覆精度		Sec.	单向1"	双向2"	
伺服马达	发那科		βis22/20	000	
总减速比			1: 180		
盘面最高转数	数	r.p.m	11.1		
容许驱动扭矩	E	Kgf-m	86		
容许切削力		Kgf-m	2900		
刹车扭矩		Kgf-m	14000		
最大工件负载		kg	2000		
转台重量		kg	1000		



3. Optomechanical characteristics



Opto-mechanical features:

- 1. The machine is equipped with a spiral chip conveyor interface and a cutting flushing device to automatically discharge chips in a timely manner.
- Avoid the thermal impact of chips on the machine tool and ensure the high precision of machine tool processing;
- 2. The new column structure is an equilateral triangle, which shortens the distance from the spindle to the slider and shortens the cutting moment.
- 3. A horizontal machining center base includes a base body; the base body is divided into a column installation area and a processing area.
- Increase the area occupied by the machine tool and improve the rigidity of the machine tool.
- 4. The wooden mold of the casting is made of aluminum-wood combination, resin sand casting, and HT300 workbench.
- 5. The CNC turntable adopts a high-rigidity nickel alloy copper turbine, which is durable and wear-resistant, and has high splitting stability; a double strong locking device with an extra-large locking surface, which is resistant to heavy cutting; it adopts three high-precision clutch teeth for positioning, and the repeatable positioning accuracy reaches 2 ".



4. Technical parameters:

Subject	Specification	Unit	YSH-800
	X/Y/Z-axis	mm	1300/1200/1000
Travel	Spindle Nose to worktable	mm	150-1150
114,61	Spindle center to Column	mm	150-1350
	Three-Axis Guideway		滚柱导轨
	Worktable Size (LW)	mm	800*800
	Maximum Table Load	kg	2000
Worktable	Table Screw	No/mm	1° *360
	T-Slot		5*18-100
	Number of Pallet		1
	Spindle Type (Model number /	mm	BT50
Spindle	Spindle Speed	rpm	6000
	Spindle Drive Type		皮带式
Feedrate	Rapid Traverse(X/Y/Z)	m/min	36/36/30
recurate	Cutting Feedrate (X/Y/Z)	mm/min	10000
	Automatic Tool Changer		链式刀库
	Type of Tool Shank	type	BT50
Tool	Tool Storage Capacity	tools	40
Changer	Max. Tool Diameter (Adjacent)	mm	125
Change	Max.Tool Diameter (Empty)		250
	Max.Tool Length	mm	450
	Max.Tool Weight	kg	25
	Tool Change Time	sec	4.5
	Spindle Motor		B iip30/8000
Motor	Three-Axis Servo Motor + B Axis	kw	B is30/2000/ B is30/2000/ B is30B/2000+BIS22/2000
	Cutting water pump motor	m/h-m	4-60
A	Accuracy	mm	±0.005
Accuracy	Repeatability	mm	±0.003
Power	Power Requirement	kva	30
Required	Air Pressure Requirement	Kg/cm	6~8
Other	External Dimensions ((L/W/H))	mm	5839*4636*3050
Onlei	Gross Weight	t	18.5



5.List of main accessories

No.:	Description	QTY	Brand	Specification
1	CNC System	1 Set	Japan FANUC	FANUC-0i-MF
2	Spindle Servo Motor	1 Set	Japan FANUC	Biip30/8000
3	X, Y, Z, A Servo Motor	1 Each	Japan FANUC	Bis30/2000/Bis30/2000/ Bis30B/2000+BIS22/2000
4	Main Shaft rear Bearing	1 set	Japan KOYO	7020*2
5	Spindle Front Bearings	1 set	Japan KOYO	7020*4
6	X, Y, Z Axis Screw Bearings	1 set Each	Japan NSK	40TAC72
7	X, Y, Z Axis Ball Screw	1 set Each	Japan NSK	Ø50*P16*C3/Ø50*P16*C3/Ø50*P12*C3
8	X-Axis Linear Guide	rails 2	Japanese THK	SRG55LC-2 pieces * 2 sliders
9	Y-Axis Linear Guide	rails 2	Japanese THK	SRG55LC-2 pieces * 2 sliders
10	Z Axis Linear Guide	rails 2	Japanese THK	SRG55LC-2 pieces * 2 sliders
11	Spindle Unit	1 Set	YANGSEN	BTT50/190
12	Tool Magazine (Optional)	1 Set	Deda	45T
13	Cutting Fluid Pump	1 Set	YANGSEN	LDPB4V-60-1350W
14	Automatic Lubrication System	1 Set	Zhenghe/SKF	4L
15	Main Pneumatic Components	1 Set	Japan SMC	
16	Main Electrical Components	1 Set	Schneider	
17	Heat Exchanger	1 Set	Ouyi	
18	Hydraulic Station Components	1 Set	Taiwan	
19	Chip Removal Device	1 Set	Two Screws	One Chain plate
20	Oil Cooler	1 Set	Ruike	
21	oil-water separator	1 set	Quanguan	

If any supplier fails to supply, it will be replaced by the same quality brand.



5. Machine tool standard configuration

NO.:	Items	NO.:	Items
1	Fully enclosed protective cover 13 Warning light (with buzzer)	13	Warning Light (With Buzzer)
2	Automatic lubrication system 14-foot blocks	14	Floor Pads
3	Toolbox 15 Network transmission and CF card function	15	Network Transmission and CF Card Function
4	Work lights 16 rigid tapping	16	Rigid Tapping
5	Electrical box heat exchanger 17 Disc oil-water separator	17	Disc oil-water separator
6	Spindle nose labyrinth dustproof blowing		
7	Spindle annular water outlet		
8	Iron cutting disc and chip box		
9	M30 automatic power-off device		
10	Spiral chip conveyor + chain plate chip conveyor		
11	Portable chip-blowing air gun		
12	Machine cleaning water gun		

6. Machine tool Optional configuration

NO.:	Items	NO.:	Items
1	CNC systems such as Siemens and		
1	Mitsubishi CNC systems		
2	Three-Axis Optical Ruler		
3	Electrical Cabinet Thermostat		
3	Control Device (Air Conditioner)		
4	Chip Fluid Water Cooling Device		
5	Automatic Tool Detection Device		
6	Oil mist recovery system		
7	Spindle oil cooling device		

If the user chooses other special configurations, please contact the technical department.



8. List of attached tools and materials

No.:	Item	Specification	QTY	Remarks
1	Hex wrench	1.5-10	1 Set	
2	Screwdriver	Slotted	1 Each	
3	Screwdriver	Phillips	1 Each	
4	Raw material Tape		2 Rolls	
5	Glass Glue	Porcelain white	1 Bottle	
6	Electronic Handwheel		1 pcs	
7	Card Reader		1 pcs	
8	Memory Card		1 pcs	
9	Cables	5 Meters, 20 Meters	2 Pieces	
10	Clamping rings		1 pcs	
11	Screws		1 Pack	
12	Machine Tool Rods		1 Stick	
13	Corrugated pipe joints		1 pcs	
14	Toolbox		1 pcs	
15	Footing		6 Set	
16	User manual		1 pcs	
17	Certificate of Conformity		1 pcs	

9. Installation, commissioning, training and acceptance

- 1. Installation and commissioning: After the machine tool arrives at the customer's factory, our service engineer will go to the customer's factory in time to carry out installation and commissioning and on-site training.
- 2. Customers can choose to send operators to our company to be responsible for the preliminary training for about a week, and then our company will conduct on-site training at the customer's place during installation and commissioning.
- 3. Acceptance: Accuracy acceptance, according to the ex-factory accuracy inspection table provided by the supplier, inspect the items that are conditionally inspected at the customer's place, and test the inspection items that do not meet the inspection conditions, such as positioning accuracy, spindle taper hole accuracy



inspection stick test etc., no testing shall be carried out at the buyer's place, or the buyer shall send personnel to the supplier's factory for inspection and acceptance through negotiation between the two parties.

10 Xiamen Yangsen NC Equipment After-sales Commitment Letter

- 1. Pre-sales service: Janssen's sales team will provide users with the best processing solutions, including machine tool selection, option configuration, tool and fixture selection, lubricating oil, cutting fluid management and other series of services. And can provide turnkey projects.
- 2. Maintenance response time: Our company has a service team of up to 50 people and is equipped with a complete service vehicle. After receiving the user's notification of failure, we will respond within 8 hours.
- 3. Parts inventory: Janssen has a special production workshop and parts inventory in Xiamen, with strong strength and complete inventory. There are commonly used parts inventories in each office to provide users with the fastest repair parts.
- 4. Machine tool maintenance: All machine tools within the warranty period enjoy free maintenance services, and machine tools outside the warranty period can purchase maintenance services at an economical and reasonable price. And PCs can plan equipment management and maintenance processes according to customer needs.
- 5. Maintenance charges after the warranty period: The charging standard is clearly marked and the real price is charged, only the cost is charged, and the user is served with the concept of openness, fairness and fairness. After the maintenance period, our company is responsible for providing spare parts at preferential prices for a long time, and the maintenance service fee time is not more than 48 hours;
- 6. Ad hoc old user service department: closely track the use of machine tools, and deal with maintenance complaints in a timely manner.
- 7. Maintenance supervision: the general manager also serves as the director of the after-sales service department, supervises the quality of maintenance services in real time, and protects the rights of customers.
- 8. Warranty: From the date of acceptance of the equipment, a one-year warranty period is provided. During the warranty period, our company is responsible for free maintenance for equipment failures caused by users. If the fault is caused by improper use by the user, the cost fee will be charged after the service.



11. Machine Tool Working Conditions

1. Three-phase AC power supply: $380V\pm10\%$, -15%; $50Hz\pm1Hz$

2. Ambient temperature: $8 \sim 40 \text{C}^{\circ}$

3. Relative humidity: ≤80%

4. Air pressure: $0.6 \sim 0.8$ MPA

Xiamen Yangsen NC Equipment Co., Ltd

The company's products are constantly being developed and improved, and specifications may be changed without notice. Some images in this document may contain optional items.

The pictures in this document are for reference only, and the actual product shall prevail.