

客户的需求就是我们所做的一切

All We Do Are Clients Demand

**Technical Document**

**YSV-1160**

**Xiamen Yangsen NC Equipment Co., Ltd**

**Address: No. 586-590 Shanbian Rd. Dongfu Industrial Zone Haicang Dist,  
Xiamen, Fujian Province, China 361027**

**Tel: (0086) --0592—6682467**



## Content

1. Corporate Culture Introduction
2. Features of the whole machine
3. Optomechanical characteristics
4. Technical parameters
5. List of main accessories
6. Machine tool standard configuration
7. Machine tool selection and configuration
8. Attached tools and information list
9. Installation, commissioning, training and acceptance
10. After-sales service concept
11. Working conditions of machine tools



## 1. Corporate Culture Introduction

Yangsen CNC 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. Machine Features:



YSV系列

超高性能型



### 3. YSV-1160 Machine Features:

Ultra High-Performance Machining Center

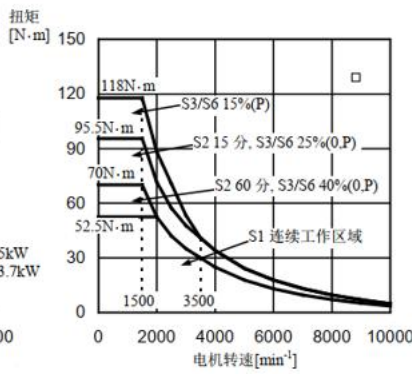
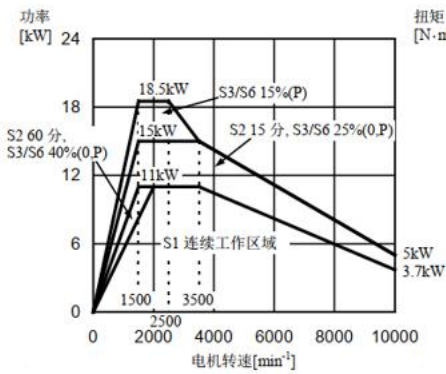
1. Using Taiwan frequency conversion tool magazine, the tool change time is shortened to 1.4S, which effectively improves the processing efficiency;
2. All three axes are equipped with large torque output as standard, enabling fast and accurate positioning;
3. The spindle motor is equipped with a 11-15KW high-torque generalized motor as standard, and the spindle torque is significantly improved compared with other brands of the same model, which is very suitable for heavy cutting;
4. The machine tool parts belong to the famous brand of famous factory, and the advanced configuration in the industry.



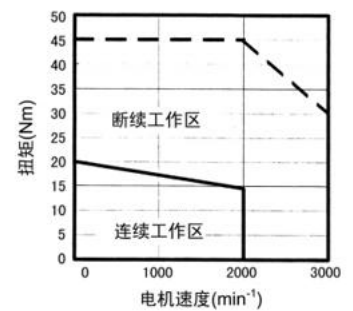
Spindle and Triaxial Torque

系统	Oi-MF Plus (5)	额定功率kW	额定扭矩N.m	最大扭矩N.m
X轴	$\beta$ is 22/3000-B	3	20	45
Y轴	$\beta$ is 22/3000-B	3	20	45
Z轴	$\beta$ is 22/3000-B	3	20	45
主轴SP	$\beta$ il 12/10000-B	11	52.5	118

$\beta$ il 12/10000-B



$\beta$ is 22/3000-B



Charts



### 3. Optomechanical characteristics

**台湾主轴**  
BT40、外径150mm最高转速10000r/min、标配主轴环喷、(可选配主轴直联15000)

**日本NBK联轴器**  
**日本NSK轴承**  
日本NSK螺距10外径40mmC3级丝杠  
丝杠预拉处理、防止热廷伸

**工作台尺寸1200X600**  
工作台6滑块支撑，刚性强确保有力切削

**Y轴超大跨距745mm**

**高级铸件**  
精密HT300高牌号铸铁、高刚性结构是机床稳定运行的基础  
三轴有效行程X/Y/Z为1100/600/600

**三轴采用德国力士乐线轨**  
宽度45mm、高强度、高刚性

### YSV-1160 Optomechanical characteristics:

1. The German Rexroth line rail is adopted, and the line rail width reaches 45mm;
2. The Y-axis has a super large span of 745mm;
3. Supported by 6 sliding seats on the X axis, strong rigidity ensures powerful cutting;
4. The three-axis adopts PMI outer diameter 40mm C3 grade screw, and the three-axis adopts NSK original bearing (3062), 3+2 mode, pre-tensioning treatment to prevent thermal displacement;
5. The outer diameter is 150mm and the high-rigidity BBT spindle is designed with ring spraying;

两面定位系统

**BIG-PLUS 两面定位主轴系统** **BIG PLUS SPINDLE SYSTEM**



●通过确立完善的量规系统,实现了锥面、端面同时两面定位的系统。

●采用BIG-PLUS系统的公司: 日本66家 其它国家90家

获得第23届发明大奖/池本发明功劳奖

BIG-PLUS的种种优点:

- 提高加工表面和加工尺寸精度
- 提高ATC的重复精度
- 延长刀具寿命
- 高速旋转时Z方向尺寸稳定
- 抑制重切削时因振动引起的锥柄变色(微动磨损)
- 提高镗孔加工的圆度

6. Adopt Taiwan original ultra-high-speed cutting cylinder, the cutting time can reach 0.28S;
7. The bed of the machine tool is made of precision HT300 high-grade cast iron.





#### 4. Technical parameters:

Item	Spec	Units	YSV-1160
Travel	X/Y/Z axis	mm	1100/600/600
	Spindle nose to table distance	mm	120-720
	Distance from spindle center to column track	mm	650
	track form		Linear guide
Worktable	Table size (L*W)	mm	1200*600
	The Max. load capacity of the workbench	kg	1000
	T-slot	No/mm	5-18×100
Spindle	Spindle taper hole (model/installation size)	mm	BBT40
	Spindle RPM	rpm	10000
	Max. spindle speed	rpm	8000
	Spindle drive mode		Belt
Feed	X/Y/Z axis rapid feed	m/min	36/36/36
	Cutting feed	mm/min	10000
Tool Changer	Tool change		Arm type
	Handle Specifications	type	BT40
	Tool Capacity	tools	24
	Max. Tool Diameter (Proximity Tool)	mm	80
	Max. Tool Diameter (Without Proximity Tool)	mm	120
	Max. Tool Length	mm	300
	Max. Tool Weight	kg	7
	Fastest tool change time	sec	1.4
Motor	Spindle motor	kw	βII12/10000
	3 axis servo motor	kw	βis22/3000/βis22/3000/βis22B/3000
	Cutting water pump motor	m/h-m	4-60
Accuracy	positioning accuracy	mm	±0.005
	Repeatability	mm	±0.003
Power requirement	power requirements	kva	20
	Air source requirements	Kg/cm	6~8
Machine size	L*W*H	mm	3150*2950*2900
	weight	t	7



## 5. List of main accessories

ITEM	DESCRIPTION	Q'TY	MANUFACTURER	SPECIFICATION
1	CNC System	1	Japan FANUC	FANUC-OI-MF
2	Spindle Servo Motor		Japan FANUC	βi112/10000
3	X, Y, Z Servo Motor	Each 1	Japan FANUC	βis22/3000/βis22/3000/βis22B/3000
4	Spindle Front Bearings	1 set	Japan KOYO	7014*3
5	Spindle Rear Bearing	1 set	Japan KOYO	7014*2
6	X, Y, Z Axis Screw Bearing	Each 1	Japan NSK	30TAC62
7	X, Y, Z Axis Screw	Each 1	Germany IF/PMI	Ø40*P12*C3
8	X-Axis Linear Guide	2	Japan THK/Germany Rexroth	45
9	Y-Axis Linear Guide	2	Japan THK/Germany Rexroth	45
10	Z-Axis Linear Guide	2	Japan THK/Germany Rexroth	45
11	Spindle Unit	1	YANGSEN	BBT40/150
12	Tool Magazine (Optional)	1	Okada	24T Disc Type
13	Cutting Fluid Pump	1	YANGSEN	LDPB4V-60-1350W
14	Automatic Lubrication System	1	Japan SHOWA /SKF	2L
15	Booster Cylinder Assembly	1 set	Taiwan HINAKA	4.5T
16	Main Pneumatic Components	1	AirTAC	
17	Main Electrical Components	1	Schneider	
18	Spindle Drive Components	1 set	American Gates	
19	X, Y, Z Axis Coupling	Each 1	Japan NBK	
20	Heat Exchanger	1	Ou Yi	
21	Air Counterweight	1	AirTAC	

**If any supplier cannot supply it, it will be replaced by a brand of the same quality.**





## 6. Machine tool standard configuration

NO.:	Items	NO.:	Items
1	24T Disc Tool Magazine	12	Warning Light (With Buzzer)
2	Fully Enclosed Hood	13	Floor Pads
3	Automatic Lubrication System	14	Workpiece Cooling System
4	Toolbox	15	Network Transmission And CF Card Function
5	Working Lamp	16	Rigid Tapping
6	Electrical Box Heat Exchanger	17	Safety Door
7	Spindle Nose Air Blow	18	Air Gun
8	Portable Chip Blowing Air Gun	19	Machine Cleaning Water Gun
9	Spindle Coolant Nozzles		
10	Iron Chipping Disc And Chip Storage Box		
11	M30 Automatic Power Off Device		

## 7. Machine Tool Selection and Configuration

NO.:	Items	NO.:	Items
1	Siemens, Mitsubishi CNC system	9	Oil Mist Collector System
2	28T Disc Tool Magazine	10	Automatic Tool Presetter
3	CTS ( Coolant through Spindle )	11	Tool Breakage System
4	Spindle Oil Cooler	12	4th Axis Rotary Table (Taiwan Xuyang)
5	X/Y/Z Optical Linear Scale	13	Disc Oil Skimmer
6	Chain Plate Chip Conveyor	14	DDS 12000RPM
7	Air Conditioner for Electric Cabinet	15	DDS 15000RPM
8	Coolant System		

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	Allen Wrench	1.5-10	1 Set	
2	Screwdriver	Slotted	1 Each	
3	Screwdriver	Phillips	1 Each	
4	Raw 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	Cable	5 Meters, 20 Meters	2 Pieces	
10	Snap Ring		1 PCs	



11	Screw		1 Package	
12	Machine Tool Ground		1 Stick	
13	Bellows Connector		1 PCs	
14	Toolbox		1 PCs	
15	Floor Mat		1 Set	
16	Operation Manual		1 PCs	
17	Certification		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±10%, -15%; 50Hz±1Hz
2. Ambient temperature: 8 ~ 40C°
3. Relative humidity: ≤80%
4. Air pressure: 0.6 ~ 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.