

All We Do Are Clients Demand



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

**Pre-sales technical information**

**YSL-1782-Belt-BBT50-6K**

**(Gearbox)-24T-MF**

**Vertical Machining Center**

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## Contents

1. Introduction to Corporate Culture -----	Page 3
2. Machine Features -----	Page 4
3. Optical and mechanical -----	Page 6
4. Technical -----	Page 7
5. List of main -----	Page 8
6. Machine Tool Standard -----	Page 9
7. Customer Selection -----	Page 9
8. List of tools and materials included in the -----	Page 10
9. Installation, commissioning, training and -----	Page 10
10. After-sales service -----	Page 11
11. Machine Tool Working -----	Page 11



## **1. Introduction to corporate culture**

Yangsen NC Equipment Co., Ltd. is a high-tech enterprise specializing in the development, design, production and manufacturing of CNC machine tools and CNC machine tools. The company is based on Taiwan's manufacturing technology, while integrating the many years of manufacturing experience of many equipment manufacturers, and constantly absorbing advanced scientific research results from domestic and foreign peers. It has developed into today's professional manufacturer with complete production and assembly machining centers.

The company's products include vertical machining centers, high-speed machining centers, high-speed drilling and tapping machines, gantry machining centers, horizontal machining centers, etc. The main customer groups are precision mold manufacturing, automobile manufacturing, electronic communications, precision parts processing and aerospace industries. The company has always been operating with integrity. The business philosophy of sustainable innovation provides customers with the best solutions with the most cost-effective products and perfect products and perfect services, creating the greatest value for customers and enhancing the competitiveness of their products.

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



Main products: high-speed and high-precision engraving and milling machines, vertical machining center series, high-speed drilling and tapping machines, gantry machining center series, and horizontal machining center series.

Enterprise service: We have been working hard and will never give up to provide better products and services. We aim to build a brand, be honest and trustworthy, and achieve mutual benefit and win-win results. We help users use their equipment better through continuous technological updates and a complete service system. Because of our professionalism, we keep improving.

Technical support: Professional engineers come to customers to help them choose equipment. They solve customers' processing requirements for various products and help users choose suitable and economical solutions, making 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 nationwide after-sales service network is the guarantee for our products to be sold nationwide.

## 2. Features of the whole machine



### Machine features:

Ultra-high performance machining center

1. Use 24T disc tool magazine to improve processing efficiency .
2. Both X/Y axes are equipped with high-power motors as standard, and the Z axis uses a larger motor. The Z axis adds nitrogen balance, which enables fast and accurate positioning and reduces vibration;
3. The spindle motor is equipped with a 15-18.5 KW high-torque generalized motor as standard. The spindle torque is significantly improved compared with other brands of the same type, which is very suitable for heavy cutting;

4. The machine tool parts are from famous brands and have advanced configurations in the industry.

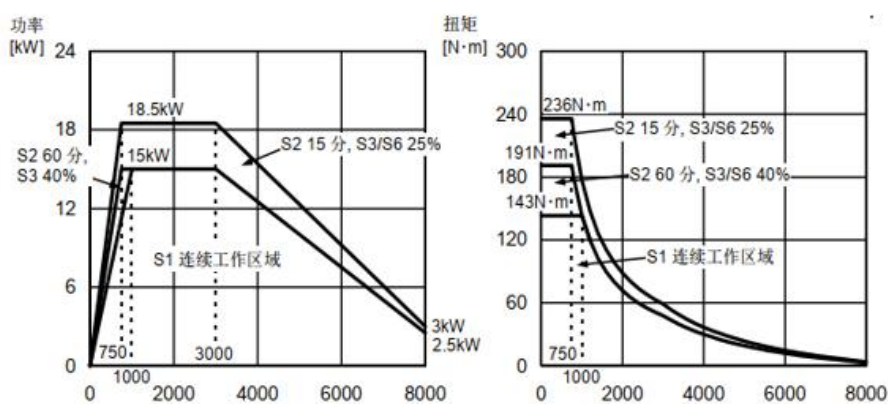




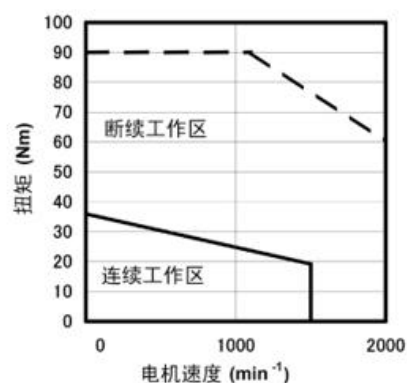
## 5. Torque diagrams for main and three axes

系统	0i-MF Plus (5)	额定功率kW	额定扭矩N.m	最大扭矩N.m
X轴	$\beta/iS$ 40/2000-B	3	36	90
Y轴	$\beta/iS$ 40/2000-B	3	36	90
Z轴	$\beta/iS$ 40/2000-B	3	36	90
主轴SP	$\beta/iP$ 30/8000-B	15	143/572 (gear)	236/944 (gear)

$\beta/iP$  30/8000-B



$\beta/iS$  40/2000-B





### 3. Optical machine characteristics

#### Optical machine features:


1. Adopt Rexroth linear rail;
2. Extra large span on the Y axis;
3. X-axis 6 slide support, strong rigidity to ensure powerful cutting;
4. The three axes use NSK original bearings (3062), 3+2 mode, pre-tensioned to prevent thermal displacement;
5. BBT 50 spindle ring spray design;

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



## 4. Technical Parameters

Item	Specification	unit	YSL-1782
Trave	X/Y/Z axis	mm	1700/820/750
	Distance from spindle nose to worktable	mm	150-900
	Distance from spindle center to column track	mm	880
	Track form		Linear Guides
Worktable	Workbench size (L*W)	mm	1800*800
	Maximum load-bearing capacity of	kg	1500
	T-Slot	No/mm	7 -22*110
Spindle	Spindle taper hole (model/installation)	mm	BBT50
	Spindle speed	rpm	6000
	Maximum speed	rpm	4500
	Spindle drive mode		Gearbox
Feed	X/Y/Z axis rapid feed	m/min	24/24/24
	Maximum cutting feed	mm/	10000
Tool Change	Tool changing method		Side mount
	Tool handle specifications	type	BT50
	Tool capacity	tools	twenty four
	Maximum tool diameter (cutting tool)	mm	105
	Maximum tool diameter (without tool)	mm	200
	Maximum tool length	mm	350
	Maximum tool weight	kg	15
	Fastest tool change time	sec	4.9
Motor	Spindle motor	kw	βiIP 30 / 8000
	Three-axis servo motor	kw	Bis 40 / 2 000 Bis 40 / 2 000 Bis 40B / 2 000
	Cutting water pump motor	m/hm	4- 30
Accuracy	Positioning accuracy	mm	±0.005
	Repeat positioning accuracy	mm	±0.003
Power requirements	Power requirements	kv	30
	Air source requirements	Kg/cm	6~8
Machine size	Length*Width*Height	mm	4800*3800*3800
	weight	t	13

## V. List of main accessories

No	name	quantity	Manufacturer	Specifications
1	CNC system	1 pc	FANUC	FAUNC-OI-MF-Plus
2	Spindle servo motor	1 pc	FANUC	$\beta$ iIP 30 / 8000
3	X, Y, Z servo motors	1 each	FANUC	$\beta$ is 40 / 2 000 $\beta$ is 40 / 2 000 $\beta$ is 40B / 2 000
4	Spindle front bearing	1 group	TPI	7016*3
5	Spindle rear bearing	1 group	TPI	7016* 3
6	X, Y, Z axis ball screw bearings	1 group each	Japan NACHI	
7	X, Y, Z axis ball screw	1 group each	PMI	$\varnothing$ 50*P10*C3
8	X-axis linear guide	2	Rexroth	55
9	Y-axis linear guide	4	Rexroth	45
10	Z-axis linear guide	2	Rexroth	55
11	Spindle unit	1 set	YANGSEN	BBT 5 0
12	Tool magazine (optional)	1 set	YANGSEN	24 discs
13	Cutting fluid pump	1 Set	YANGSEN	
14	Automatic lubrication system	1 Set	YANGSEN	
15	Cylinder assembly	1 group	YANGSEN	
16	Main pneumatic components	1 set	AirTac/SMC	
17	Main electrical components	1 set	Schneider	
18	Main drive toothed belt	1 group	Gates	
19	X, Y, Z axis coupling	1 set each	Japan NBK	
20	Heat Exchanger	1 unit	OuYi	
21	Chip removal device	1 unit	Quan Guan	Chain plate type

If a supplier is unable to supply, we will replace it with a brand of equal quality.



## 6. Standard configuration of machine tools

NO	name	No	name
1	Fully enclosed protective cover	12	Warning light (with buzzer)
2	Automatic lubrication system	13	Anchor blocks
3	Toolbox	14	Workpiece cooling system
4	Work Light	15	Network transmission and CF card function
5	Electrical box heat exchanger	16	Rigid tapping
6	Spindle air curtain dust protection system	17	Door opening protection device (protective door)
7	Spindle ring water outlet	18	Portable Chip Blowing Air Gun
8	Iron chip disc and chip box		
9	M30 automatic power off device		
10	Machine cleaning water gun		
11	Portable Chip Blowing Air Gun		

## 7. Customer Selection Configuration

No	Option name and specification	Quantity	Remark
1	Tanjia HI-500 CNC four-axis rotary table	1	
2	Chuck SK-16	1	Diameter 350mm
3	Manual tailstock HTTJ-400	1	
4	Hydraulic station	1	
5	Gearbox 1:4	1	Italian BF

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

## 8. List of tools and materials

No	name	Specification or mark	Quantity	Remark
1	Hexagon wrench	1.5---10	1 set	
2	screwdriver	One word	1	
3	screwdriver	Cross	1	
4	Raw tape		2 volumes	
5	Glass glue	Porcelain White	1 bottle	
6	Electronic handwheel		1	
7	Card reader		1	
8	Memory Card		1	
9	Network cable	5m, 20m	2	
10	Clamping ring		1	
11	screw		1 pack	
12	Machine tool ground		1 piece	
13	Bellows fittings		1	
14	Toolbox		1	
15	Footing		6	
16	User Manual		1 serving	
17	Certificate of Compliance		1 serving	

## IX. Installation, commissioning, training and acceptance

1. Installation and commissioning: After the machine tool arrives at the customer's factory, our service engineers will go to the customer's factory in time to carry out installation, commissioning and on-site training.

2. Customers can choose to send operators to our company for preliminary training for about a week, and then our company will conduct on-site training at the customer's site during

installation and commissioning.

3. Acceptance: Precision acceptance, according to the factory precision inspection form provided by the supplier, the items that can be inspected at the customer's site will be inspected. For inspection items that do not meet the inspection conditions, such as positioning accuracy, spindle taper hole precision inspection rod test, etc., no inspection will be carried out at the buyer's site, or the two parties will negotiate and the buyer will send personnel to the supplier's factory for inspection and acceptance.

## **10. After-sales service concept**

1. Pre-sales service: Jansen's sales team will provide users with the best processing solutions, including machine tool selection, option configuration, tool and fixture selection, lubricant, cutting fluid management and other services. Turnkey projects can also be provided.
2. Repair response time: Our company has a service team of up to 100 people and is fully equipped with service vehicles. We will respond within 2 hours after receiving the user's fault notification.
3. Parts inventory: Janssen has a dedicated production workshop and parts inventory in Xiamen. It has strong strength and complete inventory. All offices have commonly used parts inventory to provide users with the fastest maintenance 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. We can also plan equipment management and maintenance processes according to customer needs.
5. Repair charges after the warranty period: The charging standards are clearly marked and only the cost is charged. We serve users with an open, fair and equitable philosophy.
6. Special service department for old users: closely follow up the use of machine tools and handle maintenance complaints in time.
7. Maintenance Supervision: The general manager also serves as the director of the after-sales service department, supervising the quality of maintenance services in real time and protecting





the rights of customers.

## **11. Machine tool working conditions**

1. Three-phase AC power supply:  $380V \pm 10\%$ ,  $-15\%$ ;  $50Hz \pm 1Hz$
2. Ambient temperature:  $8 \sim 40^{\circ}C$
3. Relative humidity:  $\leq 80\%$
4. Gas source pressure:  $0.6 \sim 0.8$  MPA

