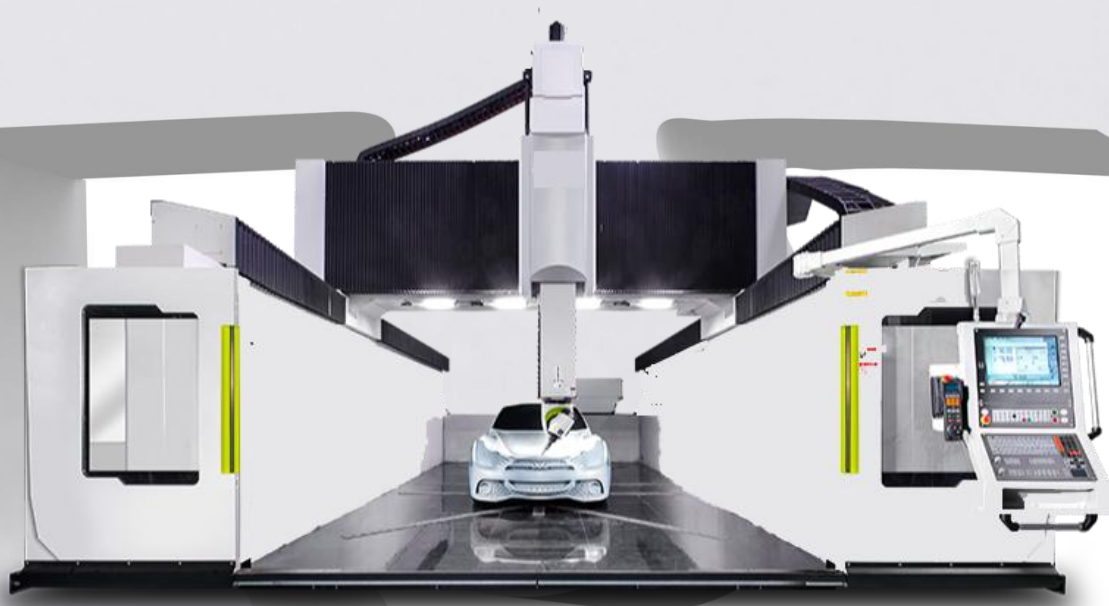


客户的需求就是我们所做的一切

All We Do Are Clients Demand



 **厦门扬森机械科技有限公司**
Xiamen YANGSEN Machinery Technology Co., Ltd

Pre-sales technical information
Five-Axis Machining Center CNC Machining YSMT-6030-5X

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1、 YSMT-6030-5X General introduction of gantry CNC machining center

1 Overview

1.1 Narrative

This technical task book is used for the ordering, design, manufacture, installation, commissioning and acceptance of the CNC gantry type machining center and auxiliary equipment of the user.

1.2 Installation position of gantry type CNC machining center

The gantry type CNC machining center described in this technical task book is installed in the workshop of the user.

2. Basic environment

2.1 Power supply voltage: AC 380V \pm 10%, 50Hz \pm 5%, 3-phase 5-wire system.

2.2 Use environment: The user is responsible for the power supply from the workshop to the equipment control cabinet.

3. Color of gantry CNC machining center

The color of the gantry type CNC machining center is painted with an international standard model.

4. The standards that the gantry type CNC machining center meets

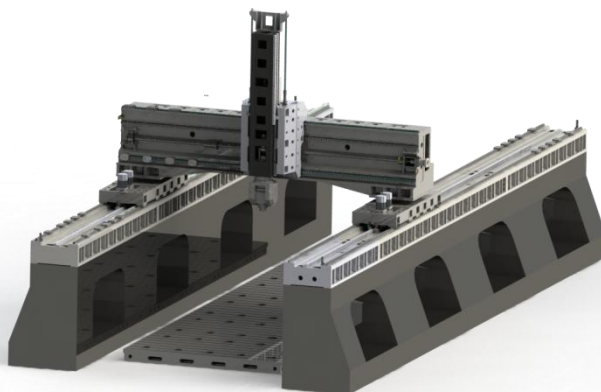
The ambient temperature detected by GB/T shall comply with the provisions of GB1093-89

Accuracy implementation standard: GB/T19362.2-2017

Machine tool electrical conforms to GB 5226.1-2008 electrical standard

2、 YSMT-6030-5X The main structure and technical characteristics of the gantry CNC machining center

The overall layout of the machine tool is a synchronous moving crane type gantry structure, with the workbench fixed and the gantry crane moving forward and backward; the left and right columns and the bed are distributed on both sides of the workbench. The gantry crane moves forward and backward on the X-axis, and the "box-in-box" symmetrical beam structure design.



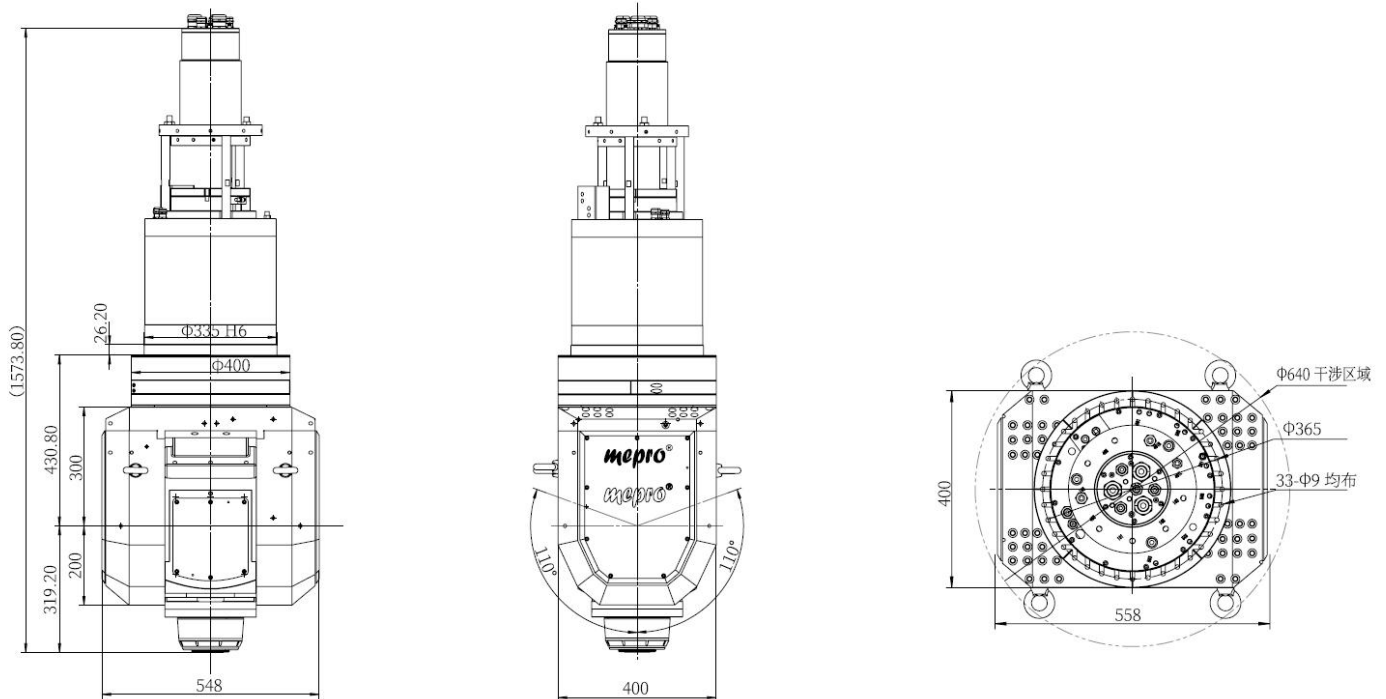
(Note: This picture is for reference only, not as a contract basis)

1. Machine tool spindle

The spindle adopts HSKA63 high-speed electric spindle. The spindle has a water-cooled internal cooling method that reduces the thermal deformation of the spindle and improves the stability of the spindle accuracy and the machining accuracy of the machine tool. The machine tool has spindle orientation and rigid tapping functions. The spindle box component adopts a double nitrogen liquid balancing cylinder mechanism to ensure the stability of the spindle box movement.

Five-axis linkage double swing milling head: A/C mechanical axis + electric spindle, fork-type integrated structure, with high rigidity, A/C axis adopts unique anti-backlash structure transmission.

List of main accessories YSMT-6030-5X





参数表		
A轴最大扭矩	Nm	1060
A轴最大转速	rpm	60
A轴抱紧扭矩	Nm	4000 (60bar)
A轴转角范围	°	±110
A轴编码器类型	-	绝对式
A轴定位精度	μ	8 VDI344 I
A轴重复定位精度	μ	4 VDI344 I
C轴最大扭矩	Nm	1350
C轴最大转速	rpm	60
C轴抱紧扭矩	Nm	4000 (60bar)
C轴转角范围	°	±360
C轴编码器类型	-	绝对式
C轴定位精度	μ	8 VDI344 I
C轴重复定位精度	μ	4 VDI344 I
主轴参数		
主轴S7扭矩	Nm	120
主轴S6扭矩	Nm	85
主轴S1扭矩	Nm	72
主轴最高转速	rpm	18000
主轴额定转速	rpm	4000
主轴额定功率	kW	30
主轴额定电流	A	70(S1)/82(S6)
刀柄	-	HSK-A63
润滑方式	-	油脂润滑

2. Feed transmission of each axis

The X-axis adopts bilateral double drive, that is, both the left and right slides are equipped with a double motor rack and pinion drive structure, which can effectively eliminate transmission gaps and improve the positioning accuracy and repeatability accuracy of the machine tool.

Z-direction transmission uses AC servo motor as the power source and ball screw as the transmission component. The ball screw is fixedly supported at both ends. It is supported by an imported special precision bearing group and pre-stretched in both directions to ensure the feed stiffness and life of the screw. The Z-axis motor has an automatic brake function. In the event of a power outage, the automatic brake will hold the motor shaft tightly so that it cannot rotate.

3. Guide rail form

The X-axis guide rail pair uses four heavy-duty linear guide rails with small friction coefficient and high sensitivity; small vibration at high speed and no crawling at low speed. The drive shaft has high positioning accuracy and excellent servo drive performance; at the same time, it has large load-bearing capacity and good cutting vibration resistance, which can improve the dynamic characteristics of the machine tool and increase the accuracy, stability and service life of the machine tool;

The Y-axis crossbeam guide rail pair uses two heavy-duty linear guide rails; the guide rails are arranged in a stepped manner, with a large span and sufficient bending stiffness and torsional stiffness.

The Z-axis guide rail pair uses four heavy-duty linear guide rails and 10 slide blocks to ensure smooth cutting during processing. It adopts a ram 400*420 structure.

4. Basic parts of machine tools

The bed, columns, beams, spindle box, etc. are all cast using high-strength cast iron materials and resin sand technology. In order to meet the heavy load cutting of machine tools, the cross beam adopts a large cross-section and has sufficient bending stiffness and torsional stiffness. These large parts are designed optimally with the aid of computer three-dimensional software, and the stiffeners are reasonably arranged to improve the stiffness of the large parts.

5. Machine tool lubrication

The lubrication of machine tools is divided into two forms: grease lubrication and automatic thin oil lubrication.

Grease lubrication parts: three coordinate bearings

Automatic thin oil lubrication parts: ball screw pair, linear guide rail, cast iron-coated friction guide rail pair

Automatic thin oil lubrication is a timed and quantitative fully automatic method. The action is automatically controlled by the CNC system and can detect and alarm.

6. Cutting cooling and chip removal system

The cutting cooling of machine tools adopts external cooling, and the coolant is emulsified and non-corrosive liquid. The chips are sent to the trolley through two chain plate chip conveyors on the bed.

7. Machine tool protection device

The bed guide rail (X-axis) of the machine tool adopts a rust-proof metal telescopic protective cover; the cross-beam guide rail (Y-axis) adopts an organ-type protection; the entire machine tool adopts simple protection to prevent iron filings and coolant from splashing, making the operator safe and comfortable work in an environment.

8. Electrical system

This machine tool adopts the German Siemens ONE CNC system. The spindle drive unit, feed drive unit, AC spindle motor, and AC feed servo motor are all imported originals with advanced performance, stability and reliability.

9. Paint packaging

The color of the machine tool shall be based on the manufacturer's standard color standard. If the user has special requirements, specify the color requirements when signing the agreement. In addition to the machine tool packaging box, the electrical cabinet and machine tool accessories are packed in sturdy wooden boxes, and the machine tool host is transported in bare metal to ensure the machine tool installation cycle.

10. Machine tool foundation

The foundation must be a solid, rigid, smooth concrete foundation, and meet the requirements of the manufacturer's foundation drawings. The standard installation position of the equipment is ground installation, and the host machine and all related accessories are placed on the ground. If the factory building has height restrictions, You can choose foundation sinking and indicate it in the agreement, otherwise it will not sink by default.

3. Main technical parameters of gantry CNC machining center

Subject	Specification	unit	YSMT-6030-5X
Travel	X/Y/Z axis	mm	6000*2000*1000
	Spindle nose to the worktable surface	mm	350-1850
	Gantry passable width	mm	3000
Worktable	worktable (L*W)	mm	6000*2000
	Worktable max load	t/m ²	10
	T SLOT	mm	36*200
Spindle	Spindle type	mm	HSKA63
	Spindle speed	rpm	18000
	Spindle delivery type		Electric spindle
Feed rate	Feed rate (X/Y/Z)	m/min	20/20/20
	The max cutting feed rate	mm/min	10000
Motor	Spindle motor	kw	30
	Three-axis servo motor	kw	4.3*4/5.2/5.2
	Cutting water pump motor	kw	4-10
Accuracy(GB/T 19362.2-2017)	Positioning	mm	0.04/0.025/0.015
	Repeatability	mm	0.025/0.015/0.01
Power requirement	Power requirement	kva	60
	Air pressure requirement	Kg/cm	6~8
Others	L*W*H	mm	Appr 11000*8120*6200
	Weight	T	Appr 68

4. List of main parts of gantry CNC machining center

No.	Product name	Qty	Manufacture	Specification
1	Controller	1 pc	Siemens	SINUMERIK-ONE
2	Five-axis linkage double swing milling head	1 set	IBAG	30KW
3	X, Y, Z servo motor	1set	Siemens	4.3*4/5.2/5.2
4	Spindle bearing (Front)	1set	NSK	
5	Spindle bearing (Back)	1set	NSK	
6	X/Y Axis transmission	1 Unit	Taiwan	Double rack and pinion
7	Z Axis transmission	1 Unit	THK	5010
8	X linear guide way	4pcs	THK	55-gauge heavy-duty roller rail
9	Y linear guide way	2pcs	THK	55-gauge heavy-duty roller rail
10	Spindle	1Set	IBAG	HSKA63
11	Coolant pump	1 Set	YANGSEN	4-10
12	Automatic lubrication system	2 Set	SKF	4L
13	Main pneumatic components	1Set	Japan SMC	
14	Main electric components	1Set	France	Schneider
15	Electric cabinet air conditioning	1Set	Riko	
16	Three Shaft-driven bicycle mode and gear ratio	1Set	Japan Nidec/NBK	
17	Chip removal device	1Set		chain plate chip removal
18	Oil cooler	1 Set	Rico	
19	Three-axis grating ruler (Optional)	1Set	Heidenhain / Fagor	

Note: The manufacturer preserves the rights to exchange parts at equivalent values.

Customer Optional configuration

No	Specification	Remark
1.	Primo D4 Workpieces online inspection	
2	NC4 F230 tool setter	
3	24T umbrella type tool magazine	

5. Main attachment list:

NO	Function	Specification	Quantity	Remark
1	Allen wrench	1.5---10	1 set	
2	screwdriver	word, cross	1 set	
3	raw tape		2 volumes	
4	glass glue	porcelain white	1 bottle	
5	Electronic handwheel		1pcs	
6	card reader		1pcs	
7	Memory card		1pcs	
8	cable	5 meters, 20 meters	2pcs	
9	snap ring		1pcs	
10	screw		1 package	
11	machine tool ground		1 stick	
12	Bellows connector		1pcs	
13	toolbox		1pcs	
14	foundation		1 set	
Accompanying documents				
1	Machining Center System Operation Manual	U disk	1 copy	
2	Certification		1 copy	
3	Packing List		1 copy	
4	Machine tool circuit diagram		1 copy	

6. The main function table of the electrical system of the gantry type CNC machining center

CNC system: SIUMERIK ONE

NO	Function	Explanation	Remark
Hardware Configuration			
1	Number of control axes	5 axis	Standard configuration
2	Simultaneously control the number of axes	5 axis	Standard configuration
3	Axis name	X、 Y、 Z、 A/C	Standard configuration
4	CNC system		Standard configuration
5	Operating area		Standard configuration
6	Machine operator panel		Standard configuration
7	Handheld operating unit		Standard configuration
8	Ethernet interface		Standard configuration
9	USB port	2x USB 2.0	Standard configuration
10	PLC program	Built-in SIMATIC S7-200	Standard configuration
11	PLC function	Up to 4096 flags, 128 timers, 64 counters	Standard configuration
12	PLC peripheral module	PP72/48D PN	Standard configuration
13	CF card interface	1pcs	Standard configuration
14	Raster scale interface	3 axis	Standard configuration
System functions			
1	Minimum pulse equivalent	Linear axis 0.001 mm, rotational axis 0.001 °	Standard configuration
2	Feed rate per minute/revolution		Standard configuration
3	Feed and rapid feed		Standard configuration
4	Feed rate adjustment 0~120%		Standard configuration
5	Spindle speed limit		Standard configuration
6	Spindle constant speed cutting		Standard configuration
7	Spindle monitoring		Standard configuration
8	Spindle orientation accurate stop		Standard configuration
9	Spindle magnification 50-120%		Standard configuration
10	Spindle speed display		Standard configuration
11	Acceleration with impact limitation		Standard configuration
12	Programmable acceleration		Standard configuration
13	FRAME	Implement coordinate system transformation and bevel machining	Standard configuration
15	Forward looking function or forward-looking function	Implementing frequent motion control in high-speed machining	Standard configuration

NO	Function	Explanation	Remark
16	tool radius compensation		Standard configuration
17	Length Compensation		Standard configuration
18	Compensation for screw pitch error		Standard configuration
19	Measurement system error compensation		Standard configuration
20	backlash compensation		Standard configuration
21	Quadrant error compensation		Standard configuration
22	Tool Management	The machine tool needs to be equipped with a tool magazine	
Interpolation function			
1	Accurate stop		Standard configuration
2	feed hold		Standard configuration
3	cutting		Standard configuration
4	Three coordinate linear interpolation		Standard configuration
5	Arbitrary two coordinate arc interpolation		Standard configuration
6	D+N spiral interpolation (arc interpolation up to two axis linear interpolation)		Standard configuration
Program			
1	Tapping		Standard configuration
2	Chamfering/rounded corners		Standard configuration
3	Metric, English or mixed size programming		Standard configuration
4	Programming	Comply with DIN66025 standard, with High-level programming language programming features	Standard configuration
5	Absolute or incremental programming		Standard configuration
6	Variable and parameter operation		Standard configuration
7	Dynamic Program Caching (FIFO)		Standard configuration
8	7-level subroutine nesting		Standard configuration
9	Program Jumps and Branches		Standard configuration
10	Macro program		Standard configuration
11	Translation and rotation of coordinate systems		Standard configuration
12	Simultaneous programming and processing		Standard configuration
13	Program instruction returns reference point		Standard configuration
14	Profile programming and fixed loop programming		Standard configuration
15	Mirroring and scaling		Standard configuration
16	Plane selection		Standard configuration
17	Workpiece Coordinate System		Standard configuration
18	Fixed cycle of drilling and milling process		Standard configuration

NO	Function	Explanation	Remark
19	Zero offset		Standard configuration
20	Program segment retrieval		Standard configuration
21	Program number retrieval		Standard configuration
22	Background editing		Standard configuration
23	PROGRAM PROTECT		Standard configuration
24	Select program through directory		Standard configuration
25	3MB user memory (RAM)	Can be used for part programs, tool compensation, and data offset	Standard configuration
Safety protection function			
1	Programmable machining area limitations		Standard configuration
2	Program testing function		Standard configuration
3	Emergency stop		Standard configuration
4	Software limit monitoring		Standard configuration
5	Hardware limit monitoring		Standard configuration
6	Contour monitoring		Standard configuration
8	Static monitoring		Standard configuration
9	Location monitoring		Standard configuration
10	Speed monitoring		Standard configuration
11	Processing area restrictions		Standard configuration
13	Safety function clock monitoring measuring circuit, overheat, voltage, memory, Limit switch		Standard configuration
Operating mode			
1	AUTOMATIC (Automatic)	Including program operation, program interruption, idle operation, single program segment, etc	Standard configuration
2	JOG (manual) adjustment	Including REF mode, incremental mode (x1, x10, x100, x1000, x10000, and any incremental)	Standard configuration
3	MDA manual data input		Standard configuration
4	TEACHIN	Interactive program generation in conjunction with machine tools	Standard configuration
Operation and display			
1	Diagnostic function and screen protection with text display for NC and PLC		Standard configuration
2	Self-diagnostic function display		Standard configuration
3	Current position display		Standard configuration
4	Graphic display		Standard configuration
5	Program display		Standard configuration
6	Software bug display		Standard configuration
7	Operation error display		Standard configuration
8	Actual cutting speed display		Standard configuration

NO	Function	Explanation	Remark
9	Chinese and English menu display		Standard configuration
10	Alarm information display		Standard configuration
11	Multiple sets of M-code instruction sets		Standard configuration
Data Communication			
1	USB port	Backup NC data, PLC data, and programs to a USB flash drive for input and output data	Standard configuration
2	CF card interface	Data input and output transmission through CF card	Standard configuration

7. The operating environment and testing requirements of the gantry CNC machining center

1. Working environment of the machine tool

The working environment of the machine tool is directly related to the performance and normal operation of the machine tool. If the temperature is too high, the control mechanism in the numerical control system will fail or malfunction; if the temperature is too low, the working conditions of the lubrication system and hydraulic system will deteriorate, resulting in machine tool failure or damage to machine tool parts. Therefore, we recommend that the machine be used under the following conditions:

The temperature in the factory building can generally work normally in the temperature range of 0°C ~ 38°C, within this range, the error of the day should not exceed 5°C. Note: If the temperature in the factory building exceeds this range, the machining accuracy of the machine tool will be reduced.

The detected ambient temperature should comply with the provisions of GB1093-89.

Relative humidity <75%

The dust concentration in the air shall not exceed 10mg/m³, and shall not contain acid, salt and corrosive gas.

Atmospheric pressure 86 ~ 106kpa

Machine tools should be installed away from vibration and heat sources. The power in the workshop where the machine tool is installed should be below 0.5G (G is the acceleration of gravity).

2. Machine tool testing requirements

During machine tool inspection, the inspection instruments and inspection tools should be placed in the inspection environment for sufficient time to keep them in an isothermal state. During the inspection, the influence of factors such as air flow, sunlight or external heat flow should also be avoided. The ambient temperature for evaluating the position accuracy of the machine tool is based on 20°C, but generally the following conditions should be met.

Ambient temperature 0°C ~ 38°C.

Before testing, the machine tool should be kept in the testing environment for no less than 12 hours.

Any temperature gradient in the space occupied by the machine tool shall not exceed 0.5°C/h.

8. Gantry type CNC machining center installation, commissioning and acceptance training

1. The preparations before the installation of the machine tool that the user needs to carry out

Machine Tool Installation and Commissioning Preparation Form

No	
* Foundation preparation *	
1	According to the foundation drawings provided by the manufacturer, find a professional design institute to design the foundation construction drawings based on the actual soil conditions of the user.
2	Produce the foundation according to professional foundation construction drawings, and the foundation must be a sturdy, rigid, and smooth concrete foundation that meets the requirements of the manufacturer's foundation drawings.
3	After the foundation is laid and the concrete has completely solidified, the machine tool can be installed.
4	Preparation of incoming power supply: The machine tool power supply must have a separate power supply and be equipped with a regulated power supply ($380 \pm 10\% V$, $50 \pm 0.5\text{Hz}$, 100KVA), and the ground wire must be grounded separately to avoid being connected to the power ground wire of other equipment (easy to interfere with the CNC system).
5	<p>Other: grouting tools, foot rod bushings, etc.</p> <p>Secondary grouting cement confirmation:</p> <p>Customers are requested to make a choice according to the actual situation, which is convenient for reasonable arrangements for installation and commissioning. The cement label is the old national standard, and the ambient temperature is required to be above 10°C.</p> <p>Cement label:</p> <p>425#-500#</p> <p>600#</p> <p>800#</p> <p>Grouting material</p> <p>The maintenance time of the foundation after the second grouting:</p> <p>Not less than 30 da</p> <p>Not less than 20 days</p> <p>Not less than 15 days</p> <p>Health preservation time after adding early strength agent:</p> <p>Not less than 20 days</p> <p>Not less than 15 days</p> <p>Not less than 8-10 days</p> <p>Situation statement:</p> <p>Only when the above conditions are met, our company can go to make an adjustment. If the installation and commissioning conditions are not met, we will not be able to guarantee the progress of the installation and commissioning.</p>

* Machine pre-installation conditions *	
6	The workshop where the machine tool is installed must be complete, and the foundation of the machine tool must be completed according to the requirements of the foundation plan.
7	Unpacking tools, lifting equipment and hoisting ropes must be prepared.
8	Preparation of consumables: anti-wear hydraulic oil ISO-L-HL46 (200 liters), precision guideway lubricating oil ISO-L-HG68 (10 liters), oil cooler ISO VG32 (60 liters), washing oil for cleaning machine tools (50 liters), cleaning cloth, etc.
9	Preparation of tools and slings: unpacking tools, lifting equipment and hoisting ropes (self-made by Party A)
10	Inspection tool preparation: two spirit levels, a pair of equal-height measuring blocks, a square ruler L=1000mm, a dial indicator, a magnetic gauge base, a square gauge L \geq 500, and an inspection stick.
11	There must be no equipment with large interference such as electric welding machines near the machine tool. If large interference will cause inaccurate positioning accuracy, coordinate drift or even machine tool crash for no reason.

If all items in this form are known and properly prepared, please send it to the manufacturer by fax as follows. If the confirmation has been completed but the above items are not implemented, the manufacturer will not be responsible for any problems caused. If there are special instructions, please indicate when returning.

2. Machine tool installation

Before the machine tool arrives at the destination, the user should make preparations for foundation installation and secondary grouting (after the contract is signed and becomes effective, the standard machine tool manufacturer is responsible for providing the foundation drawing within one month), so as not to have a major impact on the accuracy of the machine tool.

After the machine tool arrives at the destination, the user is responsible for unloading and lifting during installation and commissioning. After the machine is safely moved to the working position, the manufacturer is responsible for the initial adjustment, and the user performs the secondary grouting.

Before the commissioning personnel go, the user needs to complete the pre-installation preparations proposed by the manufacturer.

The user needs to notify the manufacturer two days in advance to carry out commissioning, and before the installation and commissioning, the user and the service personnel will unpack the box together, count according to the contract quantity and packing list, the user will carry out the construction according to the requirements of the foundation plan, lead the three-phase power line to the electrical cabinet, provide lifting equipment and cooperate with the manufacturer's installation and commissioning personnel;

After the installation and commissioning work is completed, the final acceptance of the machine tool is carried out.

3. Machine tool acceptance

Acceptance: carried out in the user's factory, Xiamen Jansen CNC Equipment Co., Ltd. will send personnel to carry out installation and commissioning, and the acceptance content will still be inspected according to the pre-acceptance content. After the final acceptance is passed, both parties will sign on the [NC installation and commissioning final acceptance work order];

Acceptance related matters:

The acceptance criteria refer to the technical agreement and the factory certificate. After passing the acceptance, the user will confirm and fill in the [CNC Installation and Commissioning Final Acceptance Worksheet]

The accuracy indicators of the machine tool are inspected according to the technical agreement and the accuracy inspection table of the certificate of conformity. Accuracy implementation standard: GB/T19362.2-2017

4. Training

Teachers: 10 professional senior lecturers with rich theoretical and practical experience will train the students on machine tool operation and programming system, and the engineers of our company's technical department will explain the maintenance of the machine tool mechanical structure and electrical system to the students.

Training period: 3-5 days

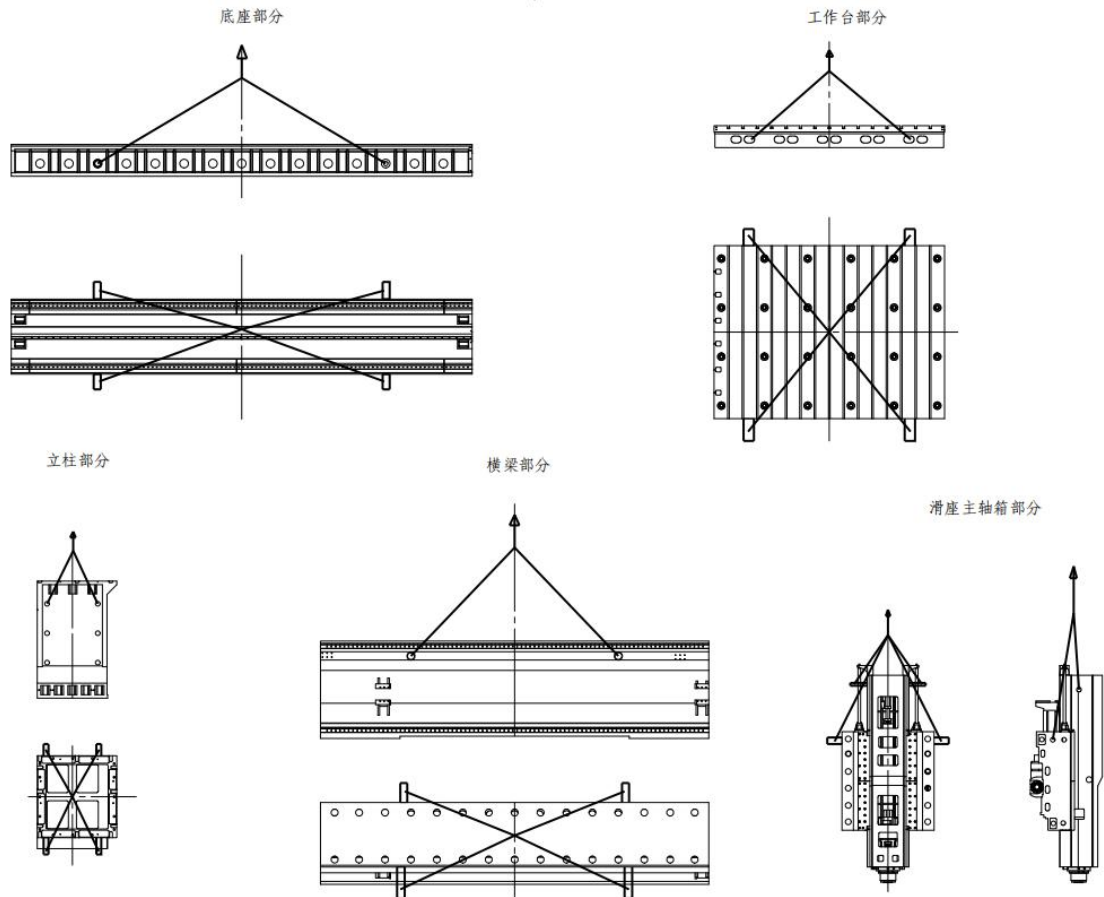
Training location: Customers can choose to send operators to our company for training, or to conduct on-site training during machine tool installation and commissioning.

9. YSMT-6030-5X Table of recommended oil and grease for gantry type CNC machining center

Lubrication part name		Name	Oil quantity	Viscosity	time interval
Hydraulic pump station	Knife punching cylinder	Hydraulic oil	200L	ISO VG46	a year
	Counterbalance cylinder				
	Recommended brand (Optional)	SHELL (Shell) brand: SHELL TELLUS46			
		Great Wall brand: L-HM46 anti wear hydraulic oil			
Thermostatic oil tank	Spindle group cooling	Hydraulic oil	60L	ISO VG32	a year
	Gearbox				
	Recommended brand (Optional)	SHELL (Shell) brand: SHELL TELLUS32			
		Great Wall brand: L-HM32 anti wear hydraulic oil			
Centralization lubrication	Lubrication of three-axis screw and track and sliding guide rail	Way Oils	10L	ISO VG68	Supply oil every 30 minutes
	Recommended brand (Optional)	SHELL brand: SHELL TONNA T68			
		The Great Wall brand is L-G68 guide rail oil			
Magazine lubrication		Guide rail lubricating oil	Please refer to the tool magazine manual	ISO VG 150	Supply based on actual oil level alarm signal

If all items in this form are known and properly prepared, please send it to the manufacturer by fax as follows. If the confirmation has been completed but the above items are not implemented, the manufacturer will not be responsible for any problems caused. If there are special instructions, please indicate when returning.

10. Hoisting diagram of gantry type CNC machining center



11. Xiamen Yangsen NC equipment after-sales commitment letter

1. Pre-sales service: Yangsen'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 100 people and is equipped with fully equipped service vehicles. We will respond within 8 hours after receiving the user's fault report.
3. Parts inventory: Yangsen has a dedicated production workshop and parts inventory in Xiamen. It has strong strength and complete inventory. It has commonly used parts inventory in each office to provide users with the fastest maintenance parts.
4. Machine tool maintenance: All machine tools within the warranty period enjoy free maintenance services. 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. Maintenance charges after the warranty period: The charging standards are clearly stated and the actual price is charged. Only the cost is charged, and users are served with the concept of openness, and fairness. After the maintenance period, our company is responsible for providing long-term spare parts at preferential prices, and the maintenance service fee will not exceed 48 hours;
6. Special old user service department: closely track the use of machine tools and handle maintenance

complaints in a timely manner.

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 to protect customer rights.

8. Warranty: The equipment will be provided with a one-year warranty from the date of acceptance. During the warranty period, our company will be responsible for free repairs for equipment failures caused by normal users. If the failure is caused by improper use by the user, a cost fee will be charged after the service.

Xiamen Yangsen NC Equipment Co., Ltd.

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

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