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

Pre-sales technical information

YS760A-S800

High Speed Engraving and Milling Machine

Xiamen Yangsen CNC Equipment Co.，Ltd.
Add: No.586-590 Shanbian Rd.Dongfu Industrial Zone Haicang Dist，Xiamen，Fujian Province, China 361027
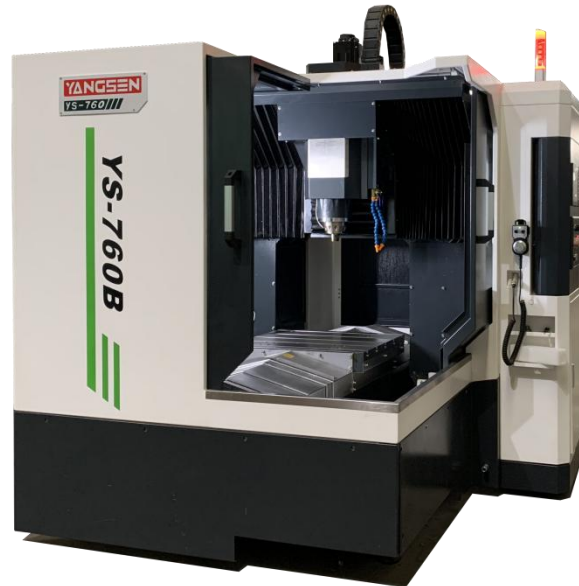T: +86-592-6682467
Website: www.cncyangsen.com

Contents

1. Features

Features of YS760A-S800 machine:

1. Independently developed numerical control system engraving and milling machine with high speed, high precision and stable performance;

2. The standard configuration surrounds the chip flushing mechanism;

3. Machine tool parts belong to famous brands of famous factories.

BAOTN注油器	亚德客气源处理装置	欧易热交换器	高压水泵47米扬程

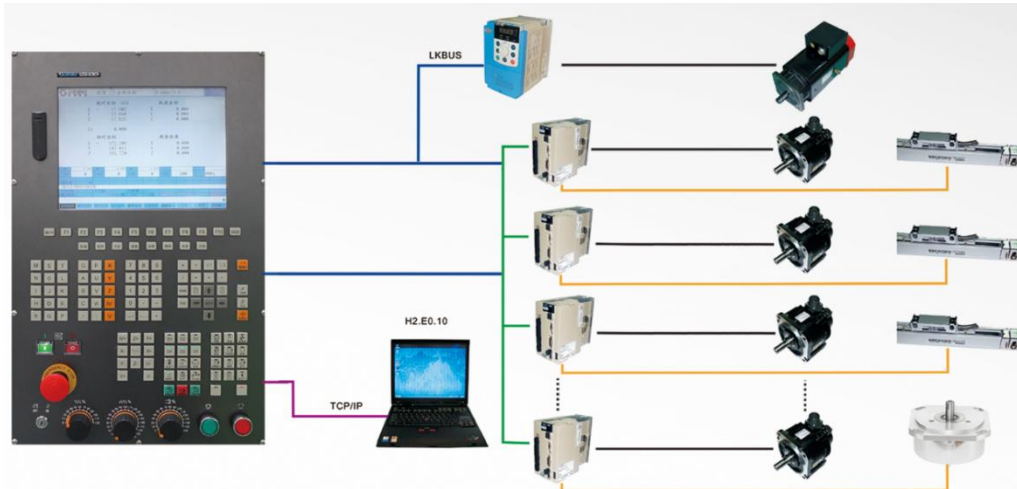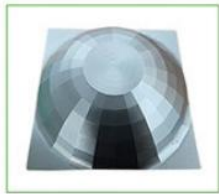| 施耐德电气元器件	日本产LED照明灯	高亮LED带蜂鸣警示灯	主要零配件

4. Self-developed CNC system;

The system adopts 10nm fine interpolation technology: without using fine interpolation technology, the machining accuracy of the workpiece can only be controlled at 1um. After using fine interpolation technology, the interpolation accuracy reaches 10nm, and the control accuracy is improved by two orders of magnitude.

SYSTEM PROCESSING COMPARISON TABLE:

System		Yangsen S800	Nordson H	Brand 21MA	Brand M80
Processing 1 Gem surface (polished)	Processing tech.	Tool: D4R2 F3000/S18000	Tool: D4R2 F3000/S18000	Tool: D4R2 F3000/S18000	Tool: D4R2 F3000/S18000
		Time: 25'5''	Time: 28'15''	Time: 34'53''	Time: 27'43''
	Comparison Results	The corner effect is best. No overcut on the surface.	The corner effect is good. No overcut on the surface.	The corner effect is good. Overcut on the surface.	The corner effect is very good, No overcut on the surface.
		The processing effect of Yansen S800 & M80 is the best, system S a little faster, over cut on the surface in MA21.			
Processing 2 Four stage mode (polished)	Processing tech.	Tool: D6R3 F3000/S18000	Tool: D6R3 F3000/S18000	Tool: D6R3 F3000/S18000	Tool: D6R3 F3000/S18000
		Time: 15'18''	Time: 18'32''	Time: 22'25''	Time: 17'26''
	Comparison Results	The surface effect is good.	The surface effect is good.	The surface effect is good.	The surface effect is good.
		Surface processed by several systems has good effect, and Yansen S800 potential in processing speed.			

Engraving machine samples:

2. Optomechanical Features

YS760A-S800 optical machine features:

1. Independent research and development of the latest optical machine, the workbench area is 700mm×600mm;

2. The bed is made of high-grade cast iron;

3. "∏"-shaped integral casting structure, heightened and widened, and the weight of the bed is up to 3.8 tons;

4. The spindle speed can reach 27000r/min;

5. The XYZ axis adopts high-strength, high-speed and high-precision Taiwan Shangyin roller rail;

6. The three-axis adopts Taiwan HIWIN lead screw, which is pre-tensioned to prevent heat stretching and provide excellent positioning accuracy and rigidity of the machine tool;

7. Convex base, lighter front end, more compact foot support, better overall rigidity, and more stable processing;

8. The spindle box is integrally formed, and the flange spindle improves the rigidity of the machine tool.

Performance comparison of old and new YS760A

1. Spindle Structure

Old   New
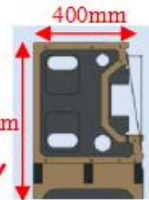

Clamping spindle structure   Box flange spindle structure

The box-flange spindle structure and its large size increase the rigidity of the spindle, and better protect the spindle bearings, increasing the service life of the spindle.

2. Ladder rail structure

Stepless guideway structure   Ladder guide rail structure   Enlarged and widened "∏" shaped beam

1. The stepped guide rail structure can reduce the distance between the center of gravity of the Z-axis components and the action center of the screw, and increase the life of the transmission screw, bearing and line rail;

2. The enlarged and widened "∏"-shaped integrated beam increases the rigidity of the casting, increases the load capacity, and more effectively guarantees the machining accuracy.

3. The new structural casting increases the Z-axis stroke from 270mm to 350mm

3. System Upgrade

Old　　　　　New

H system　　　　K system

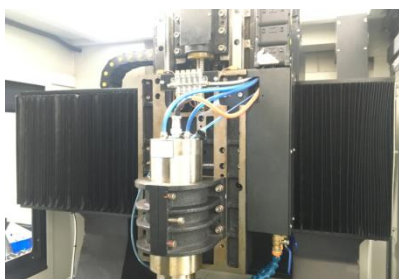| Hardware	K system	H system
CPU	Quad-core 1GHZ	Dual-core 400MHZ
SSD	2GB	512MB
Memory	1GB	64MB
External Display	Display with HDMI interface	No
USB Interface	2 USB2.0	No
Network Interface	100MB rate 5-10MB/S	10MB rate 1MB/S
SD card	Ok	Ok

Function configuration	K system	H system
Nano imputation	Ok	No
Interpolation period	0.1 milliseconds	1 millisecond
Processing Mode	6 groups of processing modes	No
Lettering pattern	Ok	No
Tool rotation	Ok	No
Breakpoint pattern	10000 records/S	3000 records/S
Surface Smoothing	Ok	No
Remote update	Ok	No

4. Chip removal system - automatic chip flushing system

The 55m high-lift water pump cooperates with the surrounding chip flushing device to provide high-pressure hydraulic power to flush the iron chips generated during the processing into the chip discharge groove and discharge them automatically; the bottom row of stainless steel wrapping effectively reduces the adhesion of the iron chips, making it easier for the iron chips to rush in In the chip flute; this system greatly saves the cleaning time of machine tool iron chips and improves production efficiency; timely chip removal also better protects the machine tool.
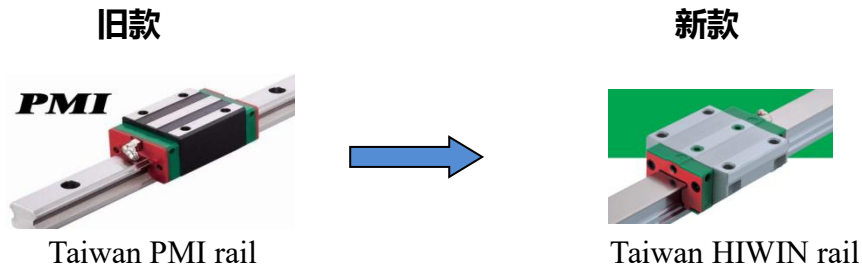
5、organ cover

Old　　　　　　　　　　　　　　　New

The new organ cover adopts a fully enclosed design, which more effectively protects the electrical components and mechanical parts on the Z-axis.

6、line track

旧款

新款

Taiwan PMI rail

Taiwan HIWIN rail

Taiwan Shangyin Roller Rail has better precision and rigidity and longer service life.

4. Technical parameters

Project	Specification	Unit	YS760A-S800
Travel	X/Y/Z axis	mm	700/600/300
	Distance from spindle nose to worktable	mm	90-390
	Gantry width mm	mm	750
	Track form		Ball guide rail
Worktable	Table size (L*W)	mm	700*600
	The maximum load capacity of the	kg	400
	T-slot	No/mm	5-16×125
Spindle	Spindle taper hole (model/installation size)	mm	BT30
	Spindle speed	rpm	27000
	Spindle drive mode		Electric spindle
Feed	X/Y/Z axis rapid feed	m/min	15/15/12
	Cutting feed	mm/min	12000
Motor	Electric spindle	kw	7.5-11
	Three-axis servo motor	kw	0.85/0.85/1.3B
	Cutting water pump motor	m/h-m	4-60
Precision	Positioning accuracy	mm	±0.005
	Repeatability	mm	±0.003
Power requirement	Power requirements	kva	9
	Air source requirements	Kg/cm	6~8
Machine size	L*W*H	mm	2100*2100*2550
	Weight	t	3.8
Line track	Width	mm	30
Screw	Diameter	mm	32
Matching system			YANGSEN

4. Main accessories

No.	Name	Qty	Manufacturer	Specification
1	CNC system	1	YANGSEN	YANGSENS8000
2	Electric spindle	1	YANGSEN	7.5-11KW
3	X, Y, Z servo motor	Each 1	Yaskawa	0.85/0.85/1.3
4	Main shaft front bearing	1	Youte	
5	Spindle rear bearing	1	Youte	
6	X, Y, Z axis screw bearings	Each 1	Japan NSK	
7	X, Y, Z axis ball screw	Each 1	Bank of Taiwan	Ø32*P5*C3 level
8	X-axis linear guide	2	Bank of Taiwan	SNS-R1605 (30 track)
9	Y-axis linear guide	2	Bank of Taiwan	SNS-R1605 (30 track)
10	Z axis linear guide	2	Bank of Taiwan	SNS-R1605 (30 track)
11	Oil cooler	1	Rico	
12	Switching power supply	2	Ming Wei	Taiwan
13	Cutting fluid pump	1	YANGSEN	4-60
14	Automatic lubrication system	1	Proton	2L
15	Electrical terminal	1	Wanke	Germany
16	Main pneumatic components	1	Taiwan AirTAC	
17	Main electrical components	1	Schneider	
18	X, Y, Z axis coupling	Each 1	Japan NBK	
19	Heat exchanger	1	Ou Yi	
20	Flashlight	1	Japanese machine	Japan
21	Tool magazine	1	YANGSEN	Hat style 16T

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

5.Standard configuration

No.	Name	No.	Name
1	Automatic tool setting instrument	10	Warning light (with buzzer)
2	Fully enclosed hood	11	Floor blocks
3	Automatic lubrication system	12	Workpiece Cooling System
4	Toolbox	13	Network transmission and SD card function
5	Working lamp	14	Portable chip blowing air gun
6	Electrical box heat exchanger	15	
7	Chip car		
8	Spindle oil cooling device		
9	Large flow chip flushing device		

6. Optional configuration

No.	Name and specification	choose	Remark
1	Hat style tool magazine 16T	√	
2	BT30-27000 rpm spindle	√	
3			
4			
5			

Note: If this configuration is selected, tick √ in the corresponding item box