



HA Series CNC Servo System Molybdenum Wire-Cut Machine



New HA series

Super Star Has Arrived

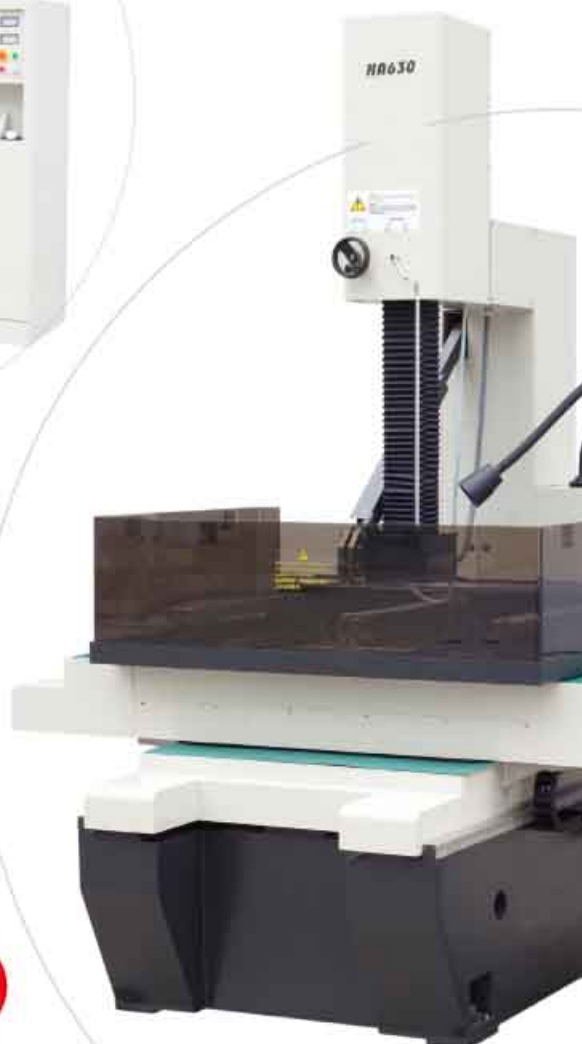
SSG, with rich experience of over 40 years in research and development of EDM technology, has applied the technology of SODICK brass wire CNC WEDM to develop the new HA series CNC servo system molybdenum Wire-cut Machine. This new launched product has achieved the highest level in comprehensive performance.



HA320



HA800



HA630



HA400



HA500



Strong Heart Intelligent Brain Enduring Skeleton

Highlights

Strong Heart

Patented "Green Power Control System", achieves high cutting speed, low electrode wear ratio, best surface finish, concept of high efficiency energy-saving and environmental protection. Wire feeding system is controlled by imported frequency inverter, which can increase the life time of wire feeding mechanism and guarantee good cutting surface finish of workpiece. Patented "Bi-direction tensioning mechanism", overcomes the insufficient responsive of tension change in mono-direction tensioning device, which maintains a consistent tension even in taper cutting.

Intelligent Brain

Professional industrial computer enhances the stability and reliability of work. We are the first company to use imported servo system on molybdenum wire-cut Machine in China, which increases the cutting speed and surface finish in multi-cut process.

Exchange data interface including RS232, LAN and USB, ease for data exchange. Intelligent programming system makes G-code programming easily implemented.

Enduring Skeleton

Both precisely designed machine structure and high-strength ductile cast iron ensure the durability and strength. The accuracy of machines is maintained by advanced machining process. AC servo system is linked up with precision linear guide ways, ball screws and backlash compensation function, in order to achieve the accuracy level of brass wire-cut Machines. New designed guarding system prevents the dielectric fluid from spilling out during cutting process, which keeps a clean working environment.



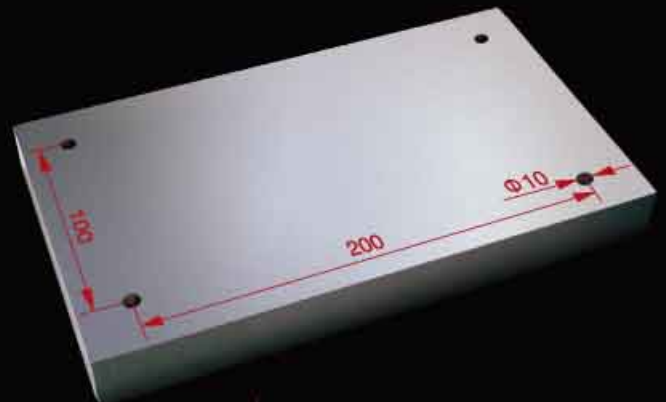
[4D workpiece]
Model: HA320
Electrode dia.: $\Phi 0.18\text{mm}$
Material: Cr12
Roughness: $0.9\mu\text{m}$

★ Patent no.:
ZL200720043578.0

★ Patent no.:
ZL200420080400.X



*[Precision punch & die]
Model: HA500
Electrode dia.: $\Phi 0.18\text{mm}$
Material: SKD61
Roughness: $0.9\mu\text{m}$*



*[Pitch sample]
Model: HA800
Electrode dia.: $\Phi 0.18\text{mm}$
Material: SKD11
Pitch accuracy: $14\mu\text{m}$
Shape accuracy: $9\mu\text{m}$*

CNC System

SKD control system, granted patents as "Green Power Control Supply", can perform multi-cut process and achieve a good roughness during fast cutting.

Green Power Control Supply

Patented Green Power Control Supply, enables easy cutting of diameter (wear less than 0.005 mm in 100,000 mm square), delivering a highly efficient performance.

AC Servo System

Japanese AC servo system provides a stable movement of worktable, resulting in the higher cutting speed and accuracy.

Industrial Computer

Professional industrial computer enhances the stability and reliability of working.

Ease of Operation

Axes movement and wire speed can be easily controlled by Hand Panel.

Control Unit

The soldering process of PCBs through wave solder machine, has passed both static and dynamic tests. The control unit proved through high temperature aging test can ensure the stability and reliability in long period of operation.

Data Exchange

Data input and output through RS232, USB and LAN.



SKD series controller

[waterproof keyboard]



Clear layout,
easy for maintenance



Hand Panel, easy for operation



Multi Cut
Improves machine cutting
accuracy, surface finish
and productivity.



Make a drawing



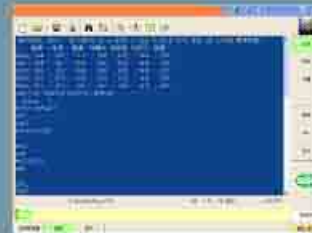
Set machining parameter



Generate machining
code automatically



Run the
machining code



>> when the average productivity is 50mm²/min machine can get Ra≤1.0μm, accuracy ≤0.01mm.



Japanese AC servo system



Imported frequency inverter



Data exchange ports



High performance industrial computer

Mechanical Structures

The production of HA series WEDM meets the high quality requirements, with all major components imported and various technologies patented, in order to enhance the machining accuracy and positioning accuracy.



Precise Machining

Major parts are machined on "OKUMA" double-column five-face machining center in order to ensure the machining accuracy.



Imported Ac servo system is linked up with precision linear guide ways, ball screws to ensure the positioning accuracy, the positioning accuracy can be adjusted through backlash compensation after long period of operation.

High Quality Machine Construction

The development of machine structure is optimized by Finite Elements Analysis, which confirms the structure is rigid extremely. Machine body, X-Y table and column are made by high strength ductile cast iron, the whole structure is box structure, which ensures high rigidity and strength.



Double Pump Coolant System



High Precision Ball Screw



Japanese AC Servo Motor

Patented "bi-directional tensioning mechanism" can adjust the tension for different machining requirement, and overcome the insufficient responsive of tension change in mono-direction tensioning device.



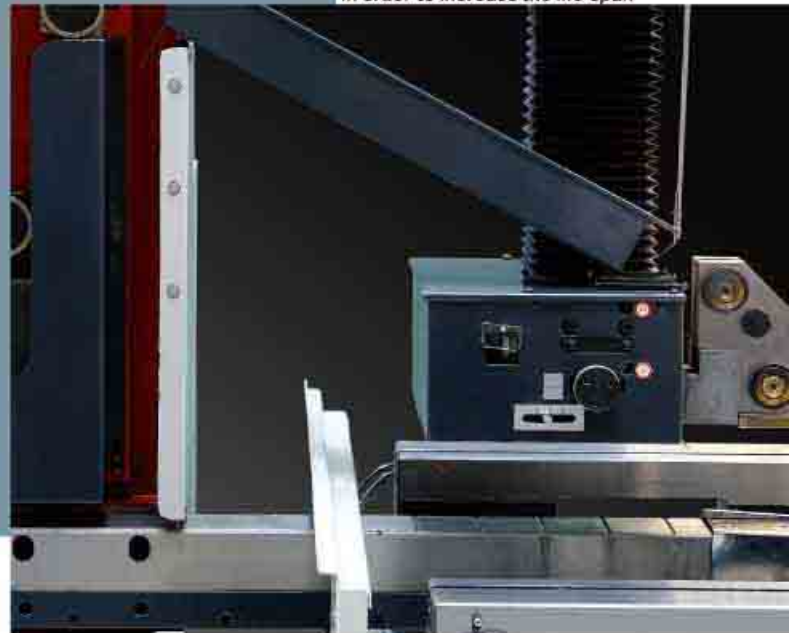
Eco & Safety

New designed guarding systems can prevent the dielectric fluid from spilling out during cutting process, which helps maintain a clean working environment. Safety limit switch on wiredrum mechanism is installed to ensure operation safety.

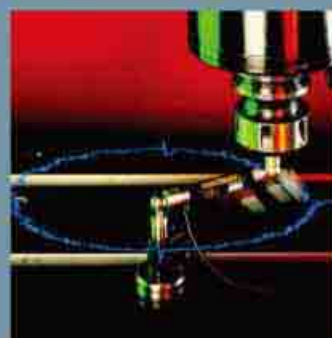
>> New running system of molybdenum wire, equipped with constant tensioning device and guarding system



Limit switch on wire drum mechanism, and the surface of wire drum through special treatment in order to increase the life-span



Components checked on German "ZEISS" CMM



Machine accuracy checked by England "RENISHAW" ballbar



Machine accuracy checked by "HP" laser measurement system

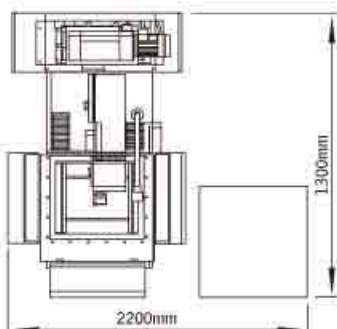
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The accuracy of SSG machines are checked by CMM, ballbar and laser measurement system, in order to guarantee the machines performance achieve to excellent level.

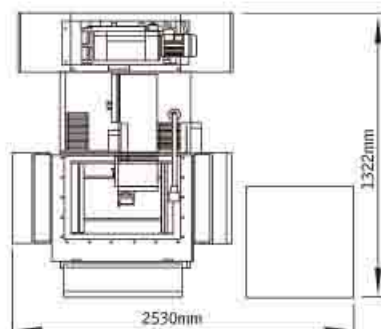
Specifications

			HA320	HA400
Machine body	Table travel	mm	250 x 320	320 x 400
	Max. Workpiece thickness	mm	300	350
	Max. taper angle	/thickness mm	6° /50	6° /50
	Wire diameter	mm	φ 0.13-0.25	φ 0.13-0.25
	Wire traveling speed	m/s	Controlled by frequency inverter	
	Machine weight	net/ gross kg	1200 / 1400	2000 / 2300
	Machine dimensions	L x W x H mm	1524 x 1296 x 1967	1725 x 1322 x 1900
Worktable	Max. workpiece size	L x W x H mm	840 x 580 x 300	860 x 660 x 200
	Max. weight of workpiece	kg	350	500
Dielectric tank	Filtering precision	mm	0.01	0.01
	Capacity	L	65	65
	Working method		Double pump filtration system	
Pulse power	Max machining speed*	mm ² /min	≥200	≥200
	Best surface finish	Ra≤μm	1.0	1.0
	Max.machining current	A	6	6
Controller	Hardware configuration			
	Conecting port			
	Programme code			
	Axis numbers			
	Manual control			
	Menu language			
Power supply	Power			
	Working temperature range			
	Power consumption			

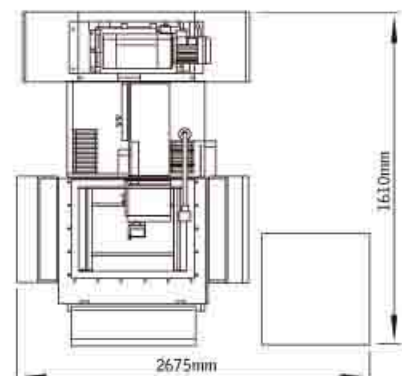
* Maximum cutting speed is performed on first-cut



HA320 layout diagram



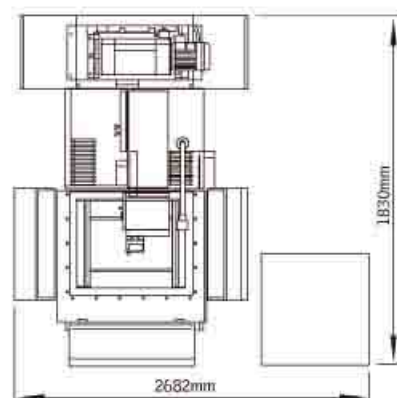
HA400 layout diagram



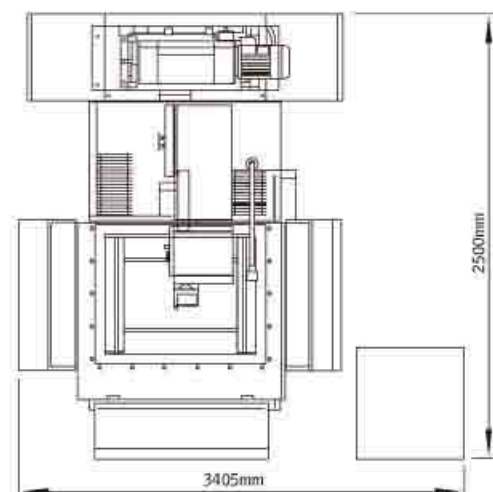
HA500 layout diagram



HA500	HA630	HA800	HA1600
400 x 500	500 x 630	630 x 800	1200 x 1600
400	500	500	600
6 /50	6 /50	6 /50	6 /50
φ 0.13-0.25	φ 0.13-0.25	φ 0.13-0.25	φ 0.13-0.25
Controlled by frequency inverter			
2270 / 2610	3000 / 3500	3550 / 4110	8800 / 9600
1796 x 1608 x 2289	1872 x 1842 x 2429	2595 x 2500 x 2523	4100 x 3845 x 2250
930 x 720 x 400	1220 x 840 x 500	1490 x 950 x 500	1880 x 1300 x 600
700	900	1200	5000
0.01	0.01	0.01	0.01
65	65	65	65
Double pump filtration system			
≥200	≥200	≥200	≥200
1.0	1.0	1.0	1.0
6	6	6	6
industrial control computer, LCD, Japanese AC servo system, import inverter			
RS232, USB and LAN			
ISO code			
4-axis simultaneous control, realizing pitch compensation			
Standard			
Chinese, English			
3-380V±10% 50 ±1Hz			
10-35 °C			
1.2KVA			



HA630 layout diagram



HA800 layout diagram

