

HB 400/HB 600/HB 800

CNC WIRE CUTTING MACHINE



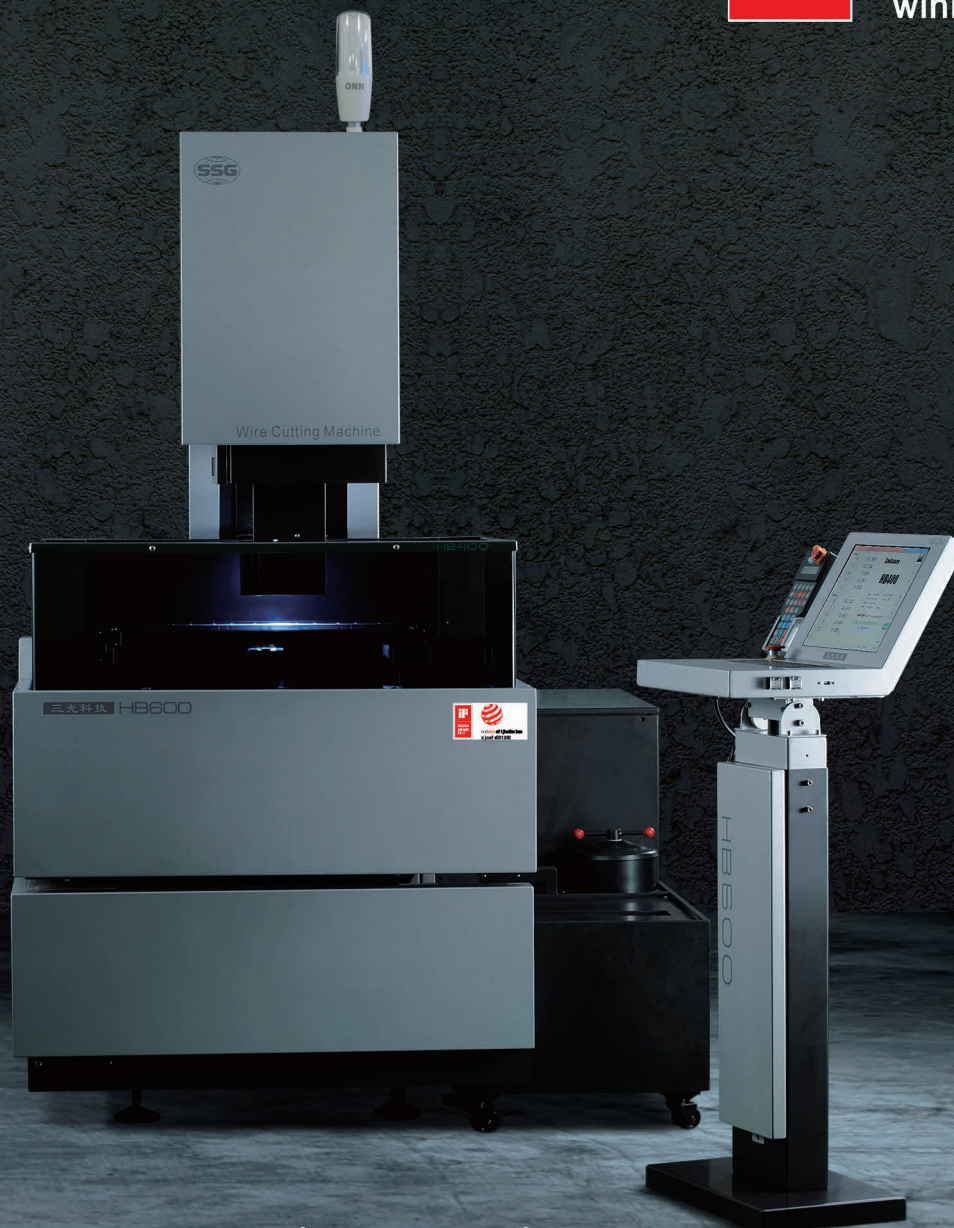
SSG 三光科技
Since 1966

Wire Cutting Machine

HB 400



HB 600



red dot design award
winner 2017

Inheritance • innovation

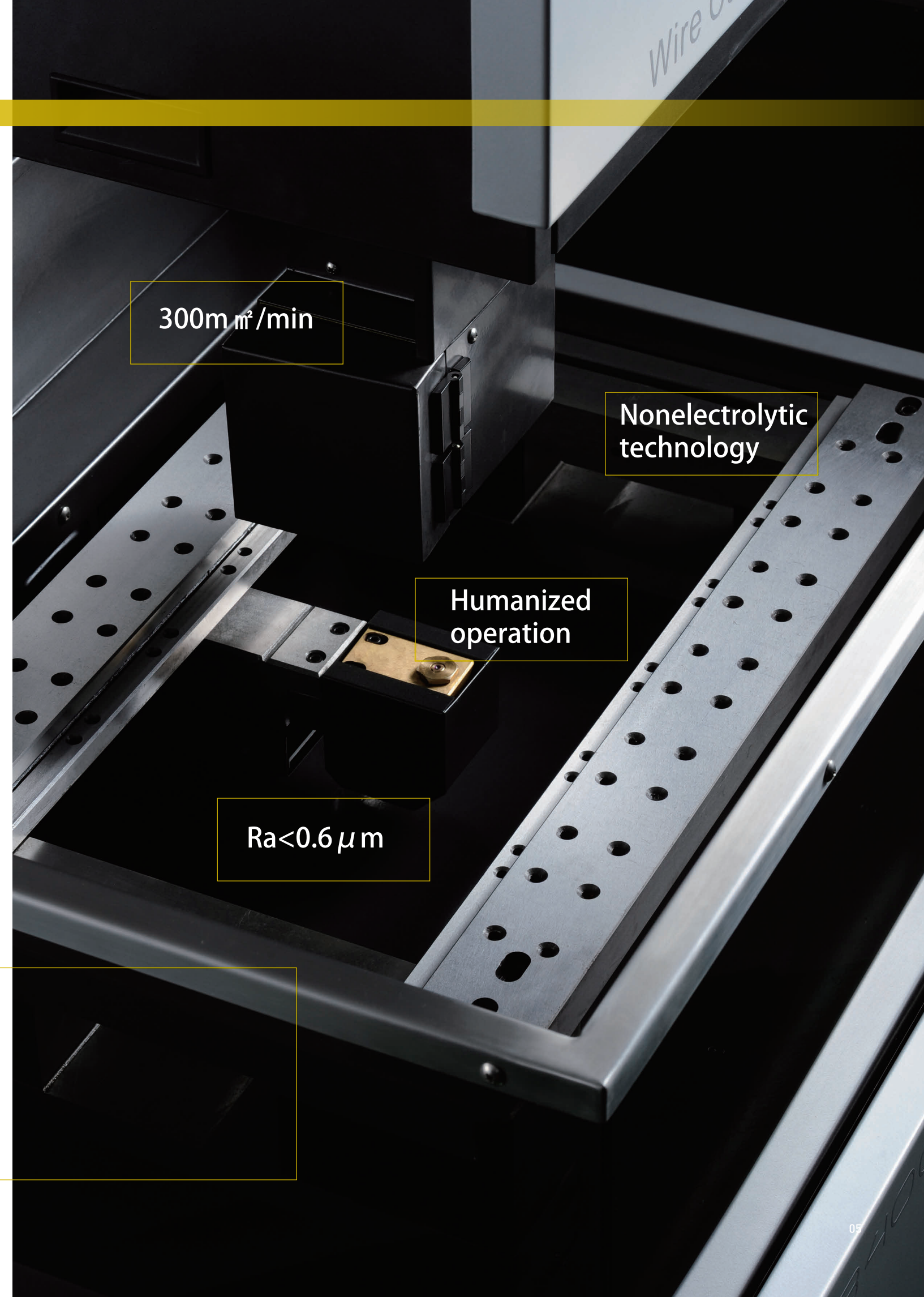
No dream, no future! Suzhou Sanguang Science & Technology has been devoted to realizing the dream of science & technology. It keeps pushing forward improvement of technologies and quality in electromachining industry of China. Sanguang will continue to transform the concept of technological innovation into industry standard. We will continuously develop new technologies and more advanced products to help you to realize your dreams and witness the bright future

Challenge the limit again.



The new generation of 4 axes servo system medium-speed wire cutting machine HB400 with performance comprehensively innovated, perfect integrated design and minimum space in workshop help you to realize maximum production value.

- Best Surface Finish is below $Ra0.6\mu m$
- Maximum efficiency is up to $300mm^2/min$
- Unique nonelectrolytic power supply technology



300m²/min

Nonelectrolytic
technology

Humanized
operation

Ra<0.6 μm

Innovative mechanical structure aims at the best performance.

Comprehensively meet the latest national standard for medium-speed wire cutting EDM (JB/T11999.1-2014)

Four-axis (X, Y, U and V) AC servo integrating low-speed wire cutting technology and combined with four-axis ball screw and linear guide brings unprecedented accuracy guarantee and substantially improves taper machining performance.



LED light

The machine tool is equipped with high-brightness LED light and working condition indicator light*, enabling you to grasp the running state of the equipment at any time.

* represents options



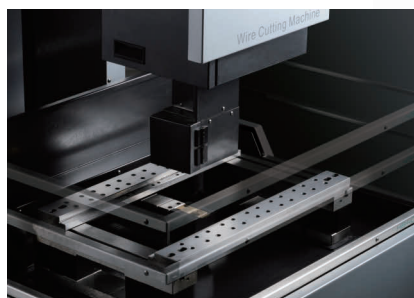
Centralized lubrication

Screws of guide rails are lubricated by lubricating pump to make maintenance of the machine tool more convenient, and waste oil is collected in a centralized way to keep the workshop clean.



Protect environment

Frame-shaped water-retaining structure prevents leakage of the cutting fluid in the machining area to keep the work environment clean.



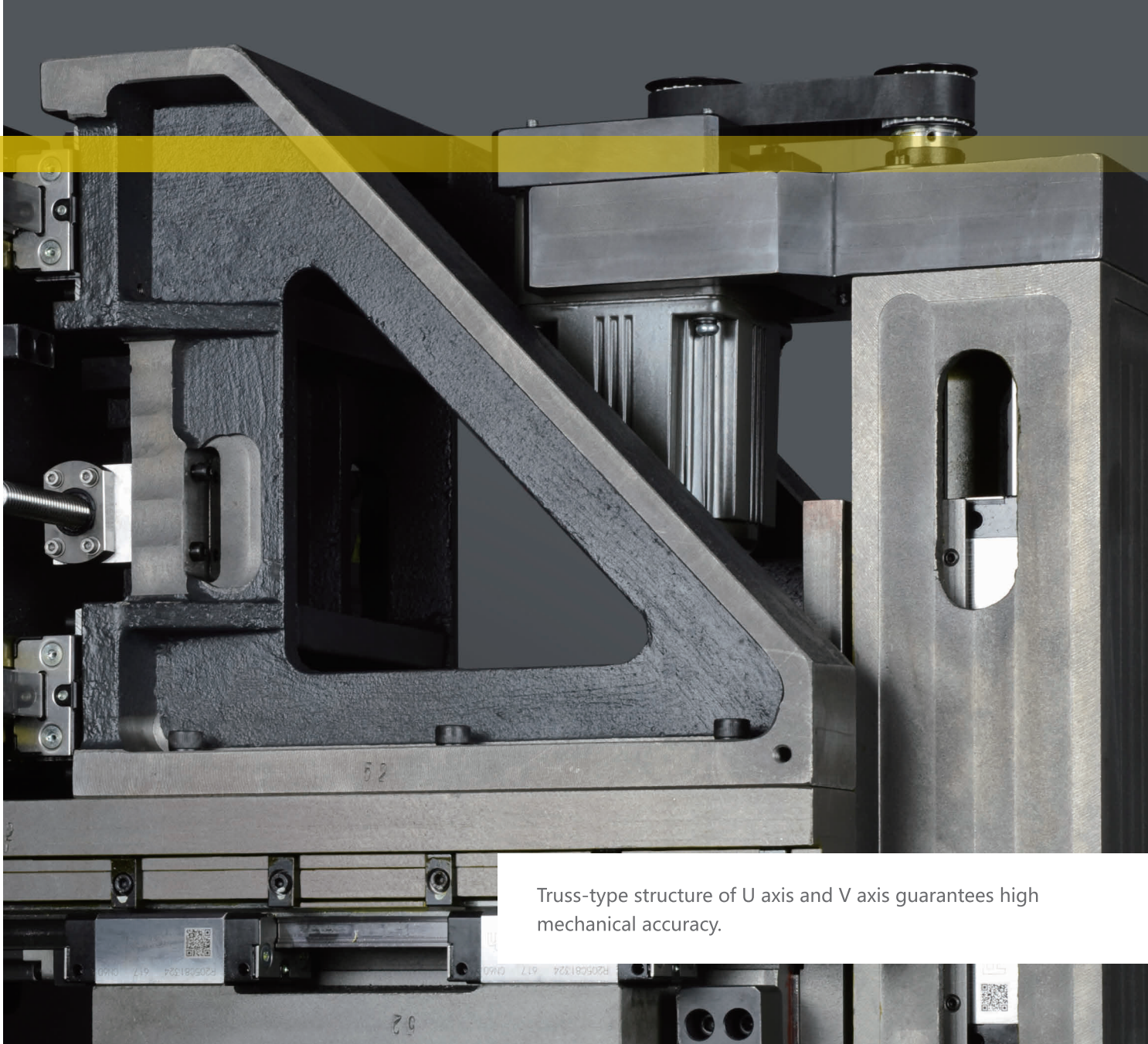
Elevating manger

The brand-new elevating manger can be lowered to "0" without being opened or removed, making it more convenient to set work-pieces and greatly saving the space.

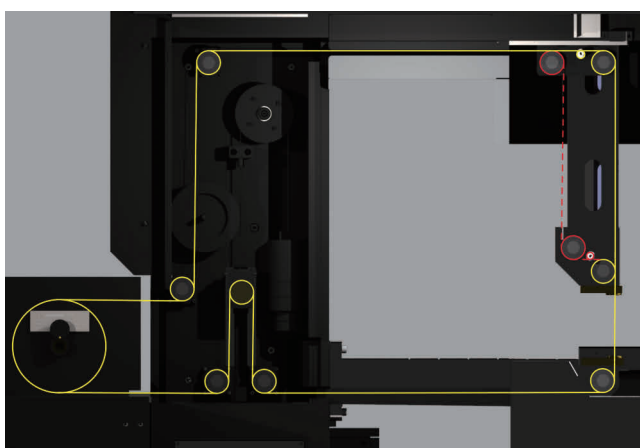


Operation is more comfortable

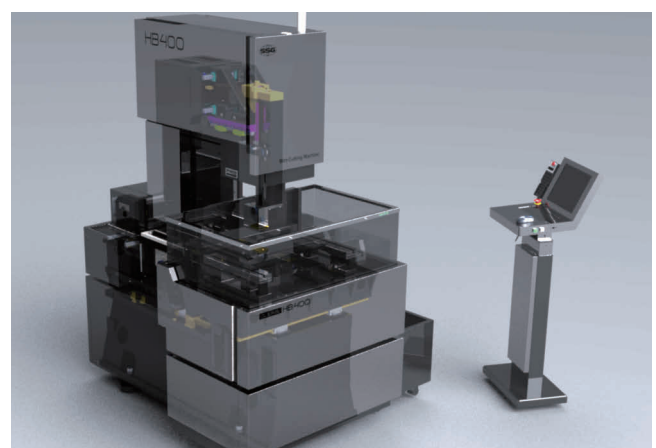
The position of operating floor can be adjusted randomly, making it easier to control the machine tool.



Truss-type structure of U axis and V axis guarantees high mechanical accuracy.



Two ways of wire threading meet different machining needs and substantially prolong service life of the guider.
Unified locating datum is used for all guide wheels, making it very easy to be replaced.

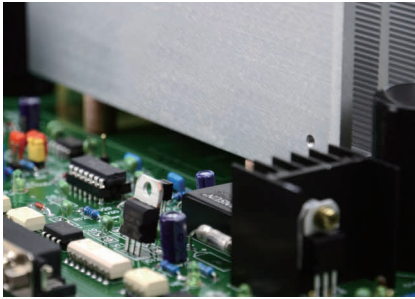


Independent layout of X axis and Y axis and optimal configuration of high-quality thick-walled castings and stiffeners for the body of machine tool fully inhibit deformation of the body under load. With compact structure and reasonable layout, the whole machine tool only covers an area of 4m², greatly saving the space in your plant.

Meticulous design.

Comprehensively meet the latest national standard for medium-speed wire cutting EDM (JB/T11999.1-2014)

Forward-looking design concept and wide use of low-speed wire cutting technologies ensure unprecedented machining performance and realize machining reliability and consistency on the basis of high efficiency.



Unique nonelectrolytic power supply technology

High-speed nonelectrolytic power supply inhibits electrolytic corrosion, prevents "softened layer" and improves surface quality.

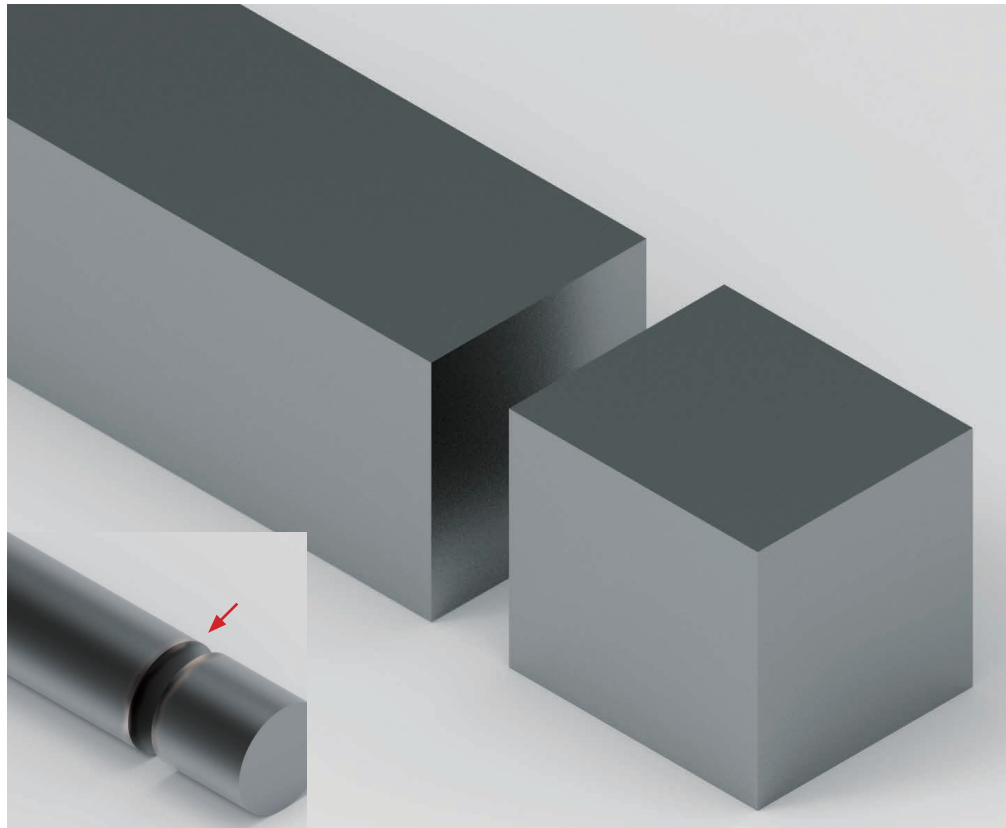


Four-axis AC servo control

Effective integration of low-speed wire cutting technology and imported AC servo system for four axes (X, Y, U and V) make cutting faster and more accurate.

nonelectrolytic machining

The titanium alloy minimizes the contamination on the surface of materials through discharge control during machining with nonelectrolytic power supply, preventing oxidation and discoloration on the surface.



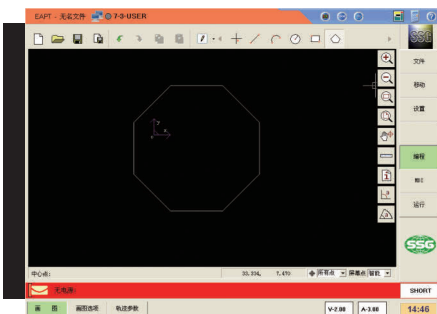
The surface of work-pieces is oxidized and cut edge turns blue during machining with ordinary power supply.



Visual and intelligent man-machine interactive system

On the basis of fully understanding and researching the operating habit of customers and successful experience, a new man-machine interactive system is launched. Its visual and orderly interface helps users to quickly grasp it.

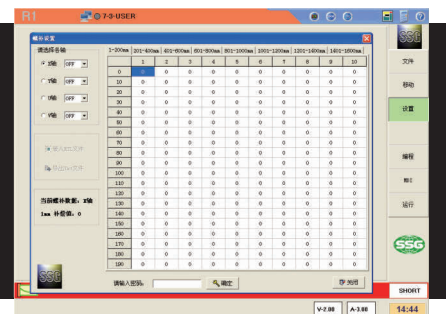
- Copyrighted Windows platform makes the system stable and reliable.
- High-resolution 15in large screen display
- The hand feeling of keyboard and mouse is excellent.
- Powerful technological parameter database.



Built-in programming graphics, automatically prepared machining code programs and multiple CPU functions realize simultaneous machining and programming.



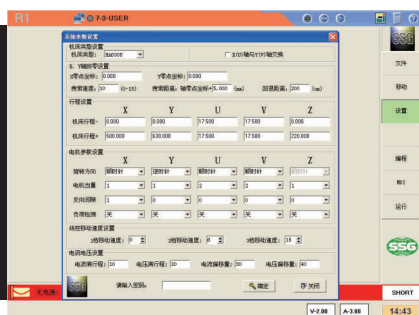
Parallel compensation, clearance angle setting, program image, corner optimization, scaling and other super functions make operation easy.



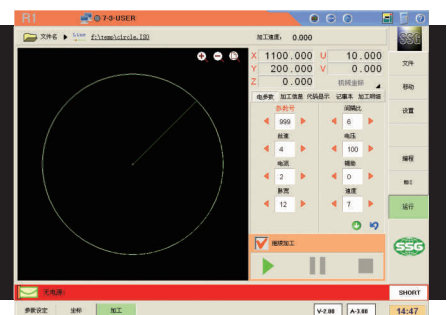
Laser ranging calibration and pitch compensation data is open in a real-time way.



Multi-coordinate system functions can rapidly switch between work-pieces.



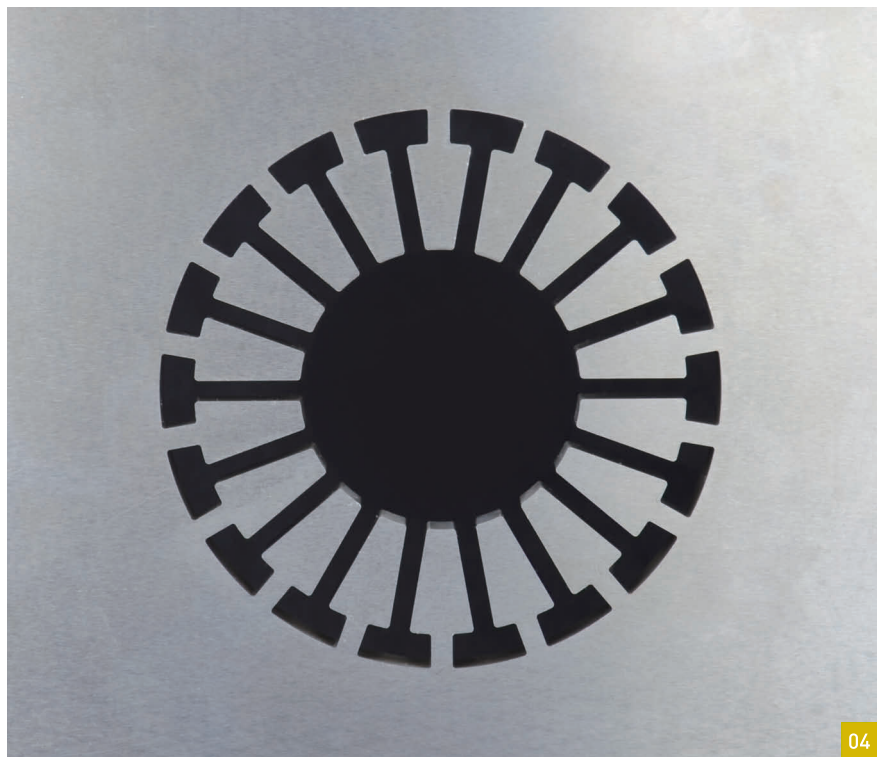
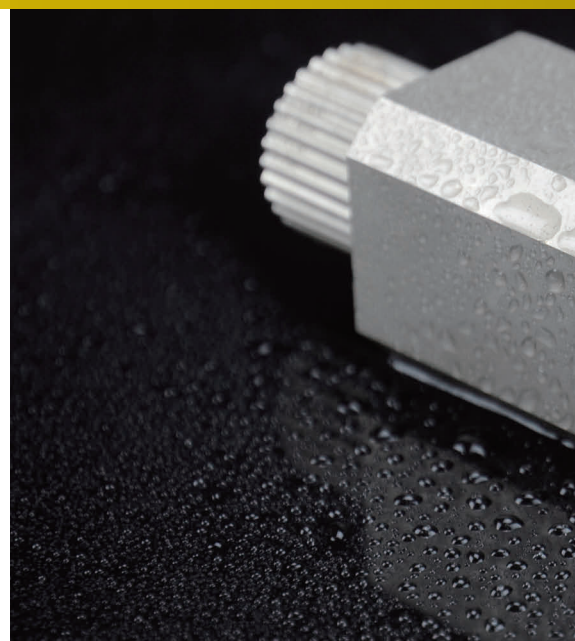
X axis and Y axis can be randomly exchanged to adapt to different machining states and working habits. Movement speed of wire controller is freely set.



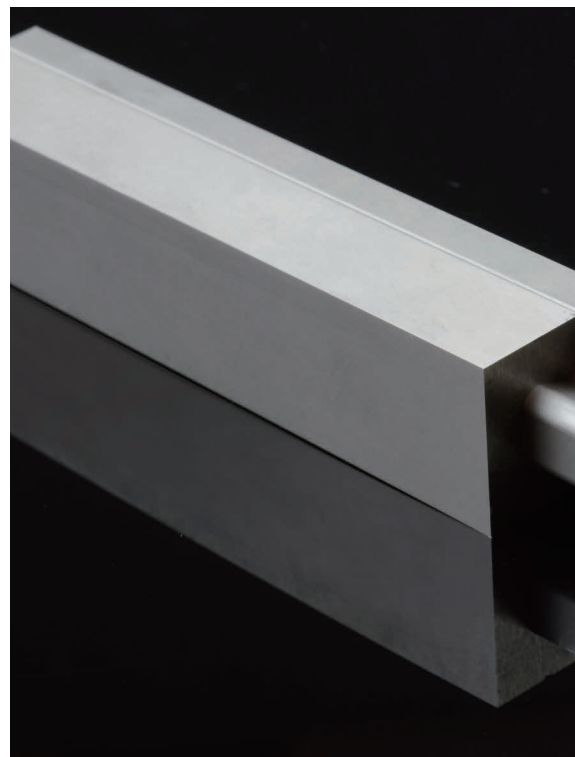
Tracking of machining information and machining monitoring ensure safe unmanned operation.



01



04



01

Punch&Die

Thickness: 40 mm

Material of workpiece: SKD61

Roughness Ra < 0.6μm

Cutting times: 4

Fit clearance: 5μm

02

Punch&Die

Thickness: 40 mm

Material of workpiece: SKD61

Roughness Ra < 0.6μm

Cutting times: 4

Fit clearance: 5μm

03

Tapper Cutting

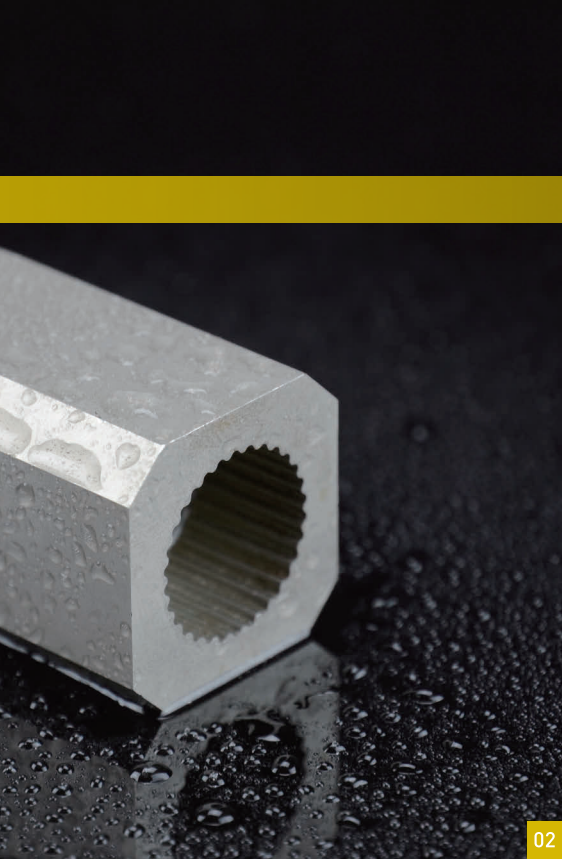
Thickness: 60 mm

Material of workpiece: SKD11

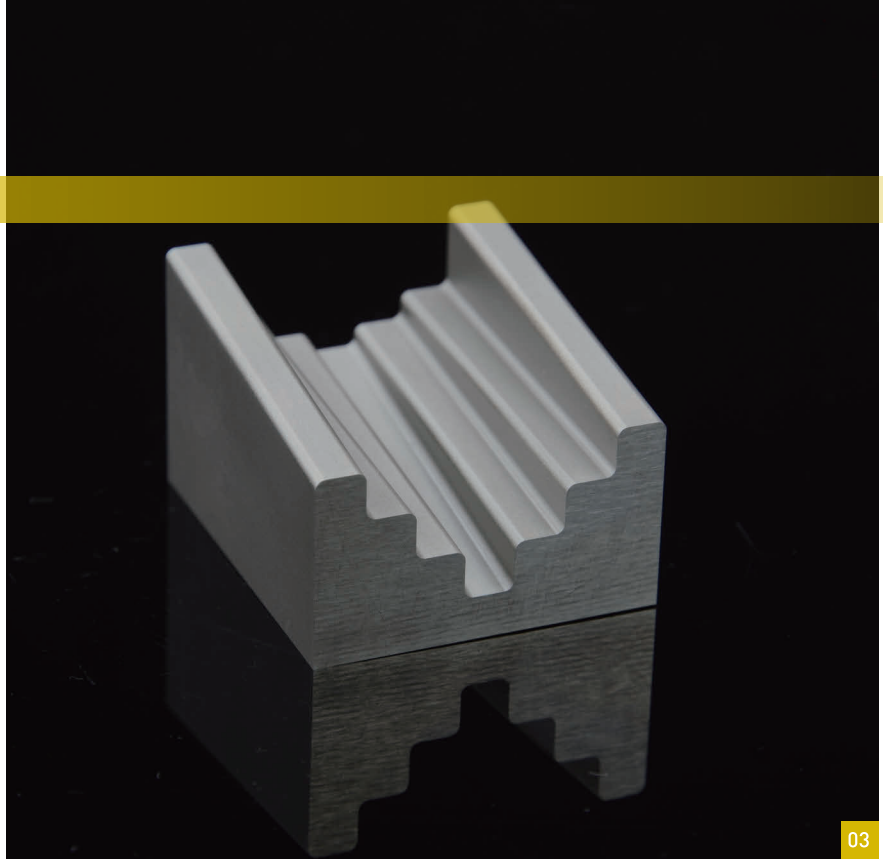
Roughness Ra < 0.8μm

Cutting times: 4

Taper angle $\pm 6^\circ$



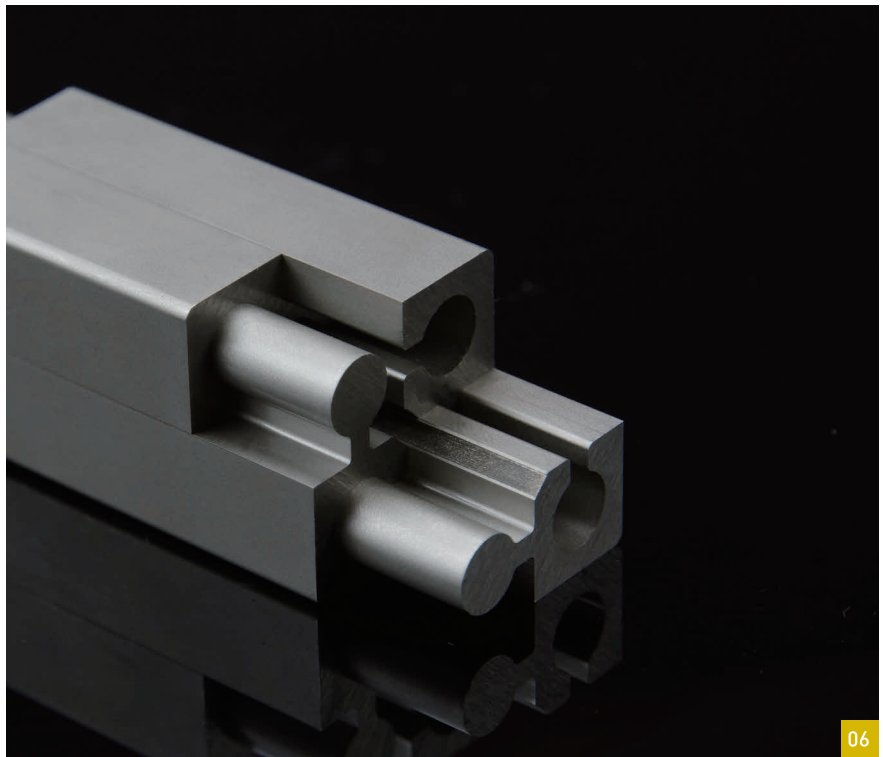
02



03



05



06

04

Motor Stator

Thickness: 20 mm
Material of workpiece: Cr12
Roughness $R_a < 0.6\mu\text{m}$
Pitch Accuracy $< 0.009\text{ mm}$

05

High Height Straight Cutting

Thickness: 200 mm
Material of workpiece: Cr12
Up&Down Consistency 0.008mm
Cutting times: 1

06

Punch&Die

Thickness: 40 mm
Material of workpiece: SKD61
Roughness $R_a < 0.6\mu\text{m}$
Cutting times: 4
Fit clearance: $5\mu\text{m}$



Ball-bar is used for dynamic accuracy test to ensure that dynamic performance of the machine tool meets standard requirements.

Elaborate manufacturing.

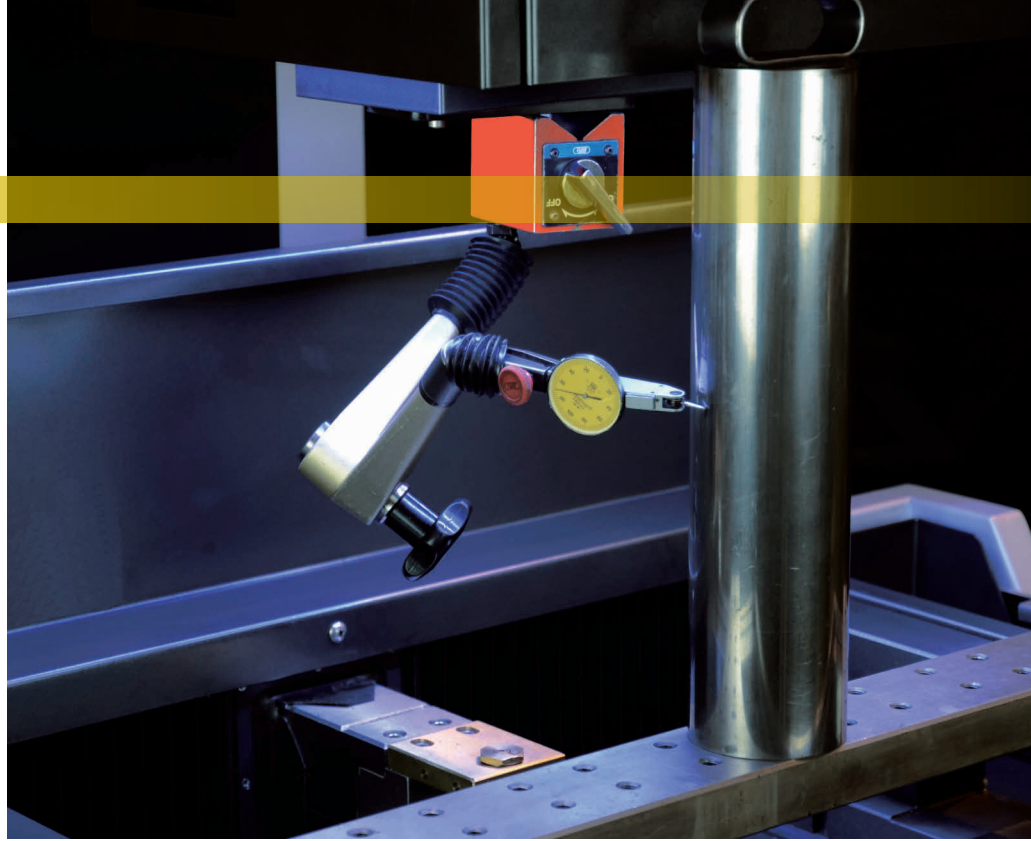
Comprehensively meet the latest national standard for medium-speed wire cutting (JB/T11999.1-2014)

The use of dual-frequency laser interferometer, three-coordinate measuring instrument, ball-bar, geometric accuracy measuring instrument and other high-precision testing instruments and inspection and test procedures executed in strict accordance with the latest national standard for medium-speed wire cutting run through the whole production process of products, guaranteeing the excellent quality of each product in an all-round way.

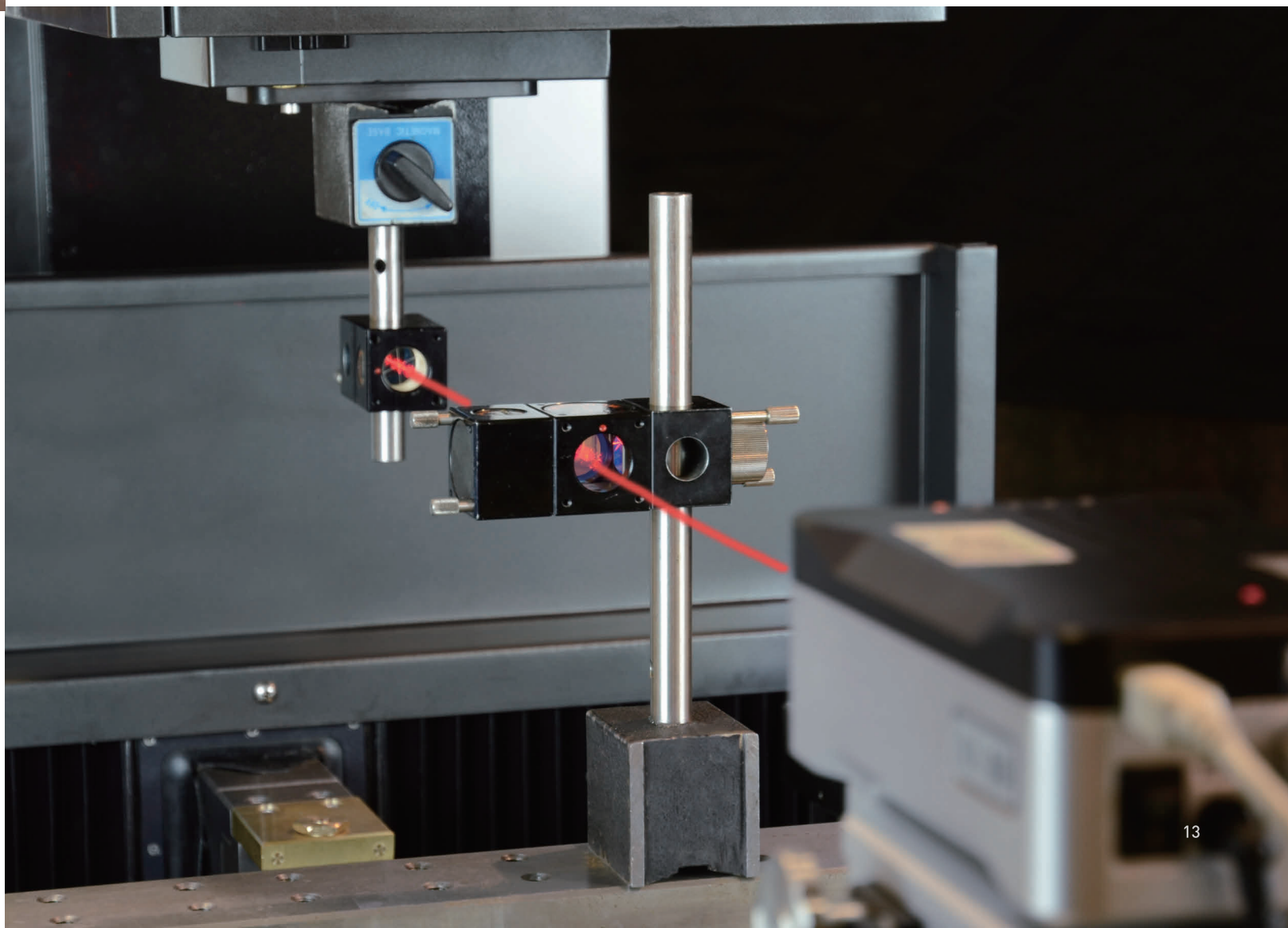


Key parts of the machine tool are strictly tested with three-coordinate measuring instrument to ensure accuracy of parts assembled by the machine tool.

Strict geometric accuracy test ensures that all geometric accuracy indicators meet standard requirements.



Laser interferometer is used for test to reliably guarantee positional accuracy of the machine tool.

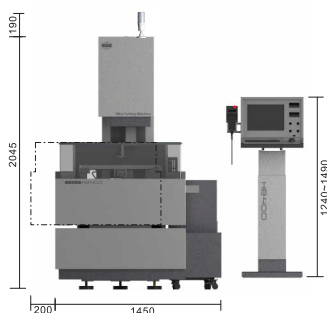




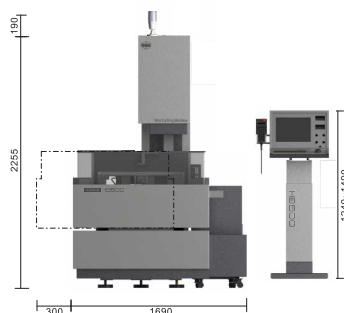
Wire Cutting Machine

			HB 400	HB 600	HB800
Machine Body	X,Y Table Travel	mm	400 x 300	600 x 400	800 x 600
	Wire Diameter	mm	φ0.10-0.25	φ0.10-0.25	φ0.10-0.25
	Wire Traveling Speed	m/s	1.18 -11.8	1.18 -11.8	1.18 -11.8
	Machine Weight	Net/Gross kg	1900/2100	2500/2800	3710/4000
	Machine Dimensions	L*W mm	2020x1700	2260x1870	2585x2535
Workpiece	Max.Workpiece Thickness	mm	300	400	500
	Max.Taper Angle	° /thickness	20° / 100	20° / 100	20° / 100
	Max. Workpiece Size	mm	580 x 460 x 300	1250 x 700 x 400	1710 x 935 x 500
	Max.Workpiece Weight	kg	500	900	2000
Dielectric Tank	Filtering Precision	mm	0.01	0.01	0.01
	Capacity	L	130	130	130
	Working method		Multi-filtration system	Multi-filtration system	Multi-filtration
Pulse Power	Max. Cutting Speed	mm ² /min	≥300	≥300	≥300
	Best Surface Finish	Ra≤μm	0.6	0.6	0.6
	Max.cutting Current	A	12	12	12
CNC Power Supply Unit	Hardware Configurations		LCD、 AC Servo System 、 Import Inverter		
	Connecting Port		USB 、 LAN		
	Program Code		ISO Code		
	Axis Numbers		4-axis Simultaneous Control, Realizing pitch compensation		
	Joy Stick		Standard		
	Language		Chinese、 English 、 Korean、 Japanese		
	Aluminum Machining		Option		
	Titanium Machining		Standard		
Power Supply	Power		3 ~ 380V±10%	50±1Hz	
	Working Temperature Range		10-35 ° C		
	Power Consumption		1.2KVA		
	Z axis Motor		Standard	HB800 Z Axis Numerical Control	

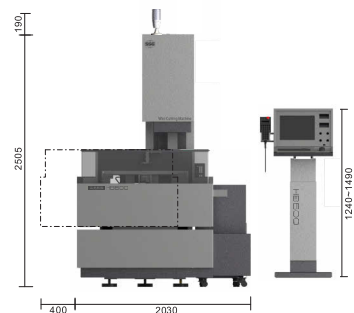
*Option Z axis Numerical Control
 Linear Motor (X,Y)
 Automatic oil injection
 Aluminum cutting device



HB400 Front view



HB600 Front view



HB800 Front view



About us

Suzhou Sanguang Science & Technology Co., Ltd. is a high-tech enterprise specialized in production and sales of electric discharged machine tools and a leading enterprise in electromachining in China. It was officially listed at NEEQ (stock code 430414) in 2014 as the first listed electromachining enterprise in China. Sanguang Science & Technology successively participated in research & development of National Science and Technology Major Project and "863" program, and undertook the research & development of National Science and Technology Major Project – precise, efficient and numerical control one-way WEDM machine tool. It has been a high-tech enterprise of Jiangsu since 1993. Its products are identified as famous-brand products and "3G" trademark is identified as a famous trademark in Jiangsu. It won second prize of science and technology in China's machinery industry.

Company History

1966 : Suzhou No.3 Optical Instrument Factory

1968 : Started to research Molybdenum wire cut EDM machines with photoelectric tracing

1969 : Developed and produced GDX-1 model

1982 : Developed and produced SSX-3 molybdenum wire cut EDM machine based on Single-board machine controller

1984 : DK7725D machine won the National Silver Medal

1989 : The company entered into partnership with COSMOS international Machinery Co.,Ltd Hongkong to set up a joint venture called Suzhou Sanguang Electric Machinery Co.,Ltd

1994 : Sodick Co.,Ltd Japan entered into partnership and the name of the company was changed into Suzhou Sodick-Sanguang Electric Machinery Co.,Ltd

1995 : Started to research and produced DK7632 Brass wire cut EDM machine

2008: Relocated at No.145 Songshan Road , SND China, plant area 38060m²

2010 : Multi-cutting molybdenum wire cut machine, HA series were released ;

2012 : The latest Brass wire cut machine, LA series were released

2014 : Became a public company , stock code : 430414

2016 : Developed and produced HB400, which won IF award of 2017

2018 : Released the latest Linear Motor machine HB400L

MANUFACTURER

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