

NOVICK



NOVICK GROUP
Novick Digital Equipment Co.,Ltd.

Addr: 8#, Fengxiang Scien-tech Development Zone,
Yangsong, Huairou, Beijing, PR of China, 101400
Tel.: +86-10-6167 8811-2019
Fax: +86-10-6167 8037
Hot line: +86-10-6167 8271 400-650-9707
E-mail: novick@novick.cn
Website: novickim@novick.cn

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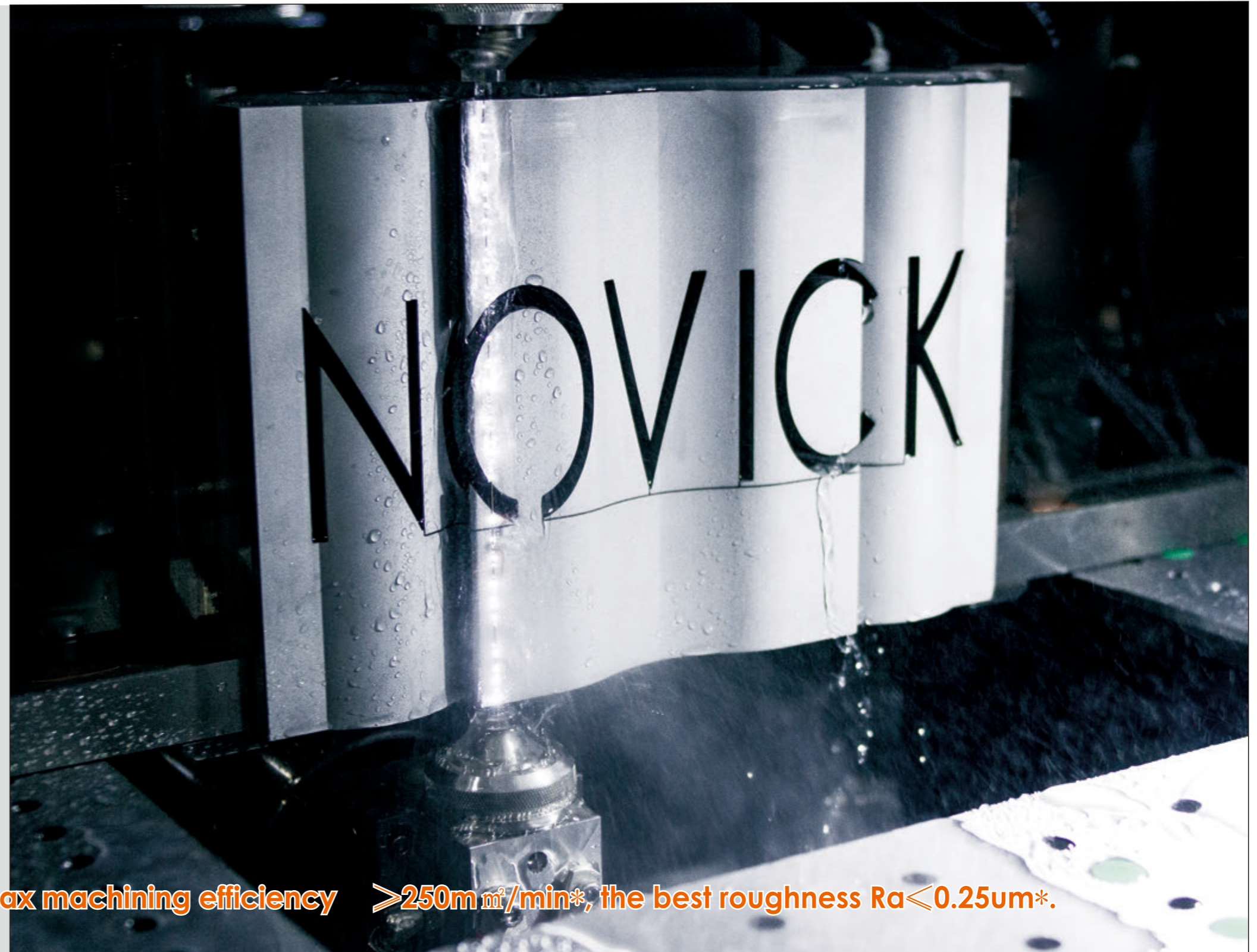
Cost-effective/Integrated machine/Humanized/Save

AG360(T)/560(T) PRECISE CNC BRASS WIRE-CUT EDM MACHINE

A new generation brass wire-cut EDM machine with full function and high accuracy

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- High quality castings with heavy wall thickness, high rigidity machine structure with "T" type bed casting
- HEIDENHAIN linear scales will give more accuracy
- Advanced water filtration system, machining with purified water, the proprietary technology of liquid level automatic follow structure.
- Most advanced and stable automatic wire threading (AWT) system. Quick automatic wire threading.
- Side door structure, door lock and the handle make the water tank door open and close safety and convenient.
- Thickening stainless steel worktable, Large load-bearing, make the machining convenient. Heavy duty stainless steel work table which can bear heavy loads and easy for cutting bigger jobs.
- Graphics CNC interface which is based on WINDOWS XP, simple and easy to achieve multitask operation.
- Inbuilt large capacity of database for various materials, which makes the selection of parameters very easy.
- Intelligent corner strategy, anti broken wire function, memory function, expert machining parameters system.



Superior machining performance, max machining efficiency $>250\text{m}^3/\text{min}^*$, the best roughness $Ra \leq 0.25\mu\text{m}^*$.

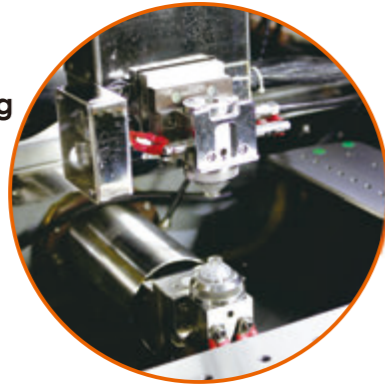
* optional

Higer requirements, higher accuracy.

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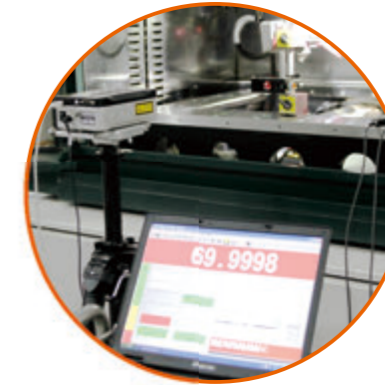
● Lower arm with water cooling

Lower arm water circulation maintains the temperature and optimize the cutting conditions, which also ensures the machining accuracy.



● Laser measure

The location accuracy of X/Y/U/V/Z axes are all tested by laser measure under ISO 230-2 standard, ensures the location accuracy reliably.



● Water cooling system

High accuracy water cooling equipment, the difference between environment and water temperature is about 0.5°C, ensures the minimum thermal deformation of the machine and workpiece.



● Flying probe E-test machine

Each PCB board is tested on line by flying probe E-test machine, ensure the high quality of each electronic component and each welding spot.



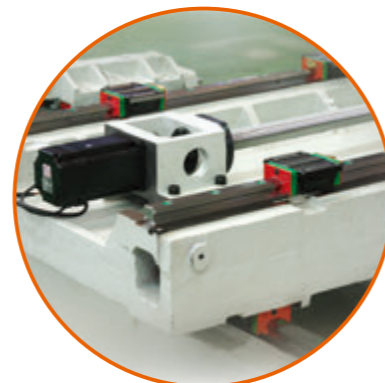
● Centralized automatic lubrication system

Centralized automatic lubrication system ensures proper lubrication of ball screws and guide way regularly. It saves the time and avoids the damages caused by not doing lubrication manually.



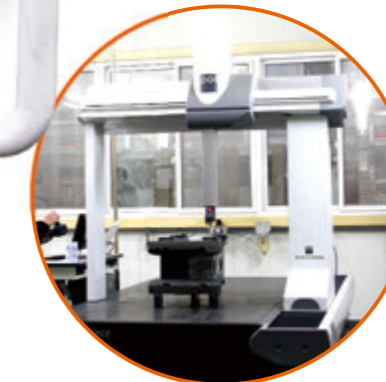
● High accuracy ball screw and linear guideway

XYUVZ axes all adopt high accuracy linear guide way and $\phi 32$ mm ball screws, connected with AC servo system directly, makes axes move sensitively and maintain high accuracy.



● Coordinate measuring machine

The flatness, straightness, verticality and location of the machine key parts are all strictly tested by coordinate measuring machine, ensure the high accuracy of the parts.

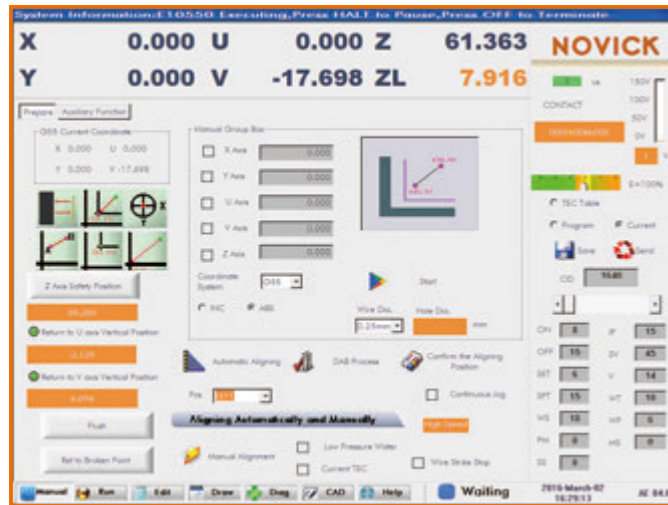


● High accuracy rail grinding

The rail mounting surface of the casting are grinded by high accuracy rail grinding, improved the parallelism, verticality and straightness of the surface, ensure the higher accuracy of rail mounting.



Easy Graphics CNC system makes the operating easily.



Machining preparation

- Can move, edge find, corner find, center find, wire alignment, spark alignment automatically. Can control the wire running, wire speed, wire tension, machining contact movement, water flushing pressure, feeding and drawing off water of water tank, conductivity.
- When operate each prepare function, the screen will show corresponding in time, ensure the operate accuracy, which is simple, visual and convenient.

Erosion monitoring

- Flexible view operation, the drawing can be simulated to two and three dimensional.
- Support the zoom and translation of the machining status in time.
- Monitor the machining trace in time.

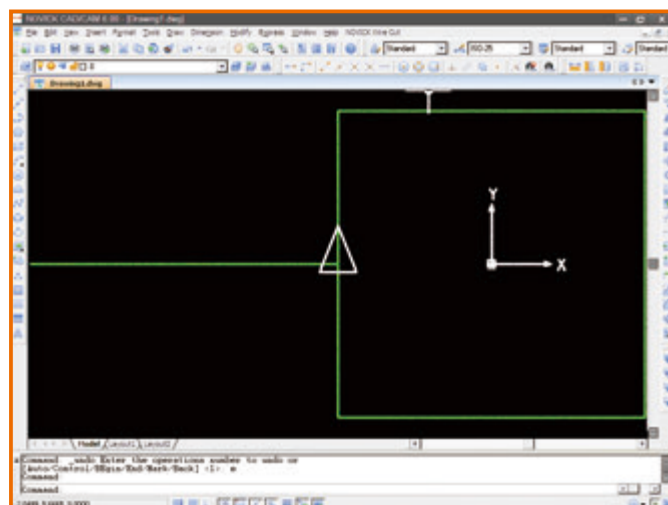
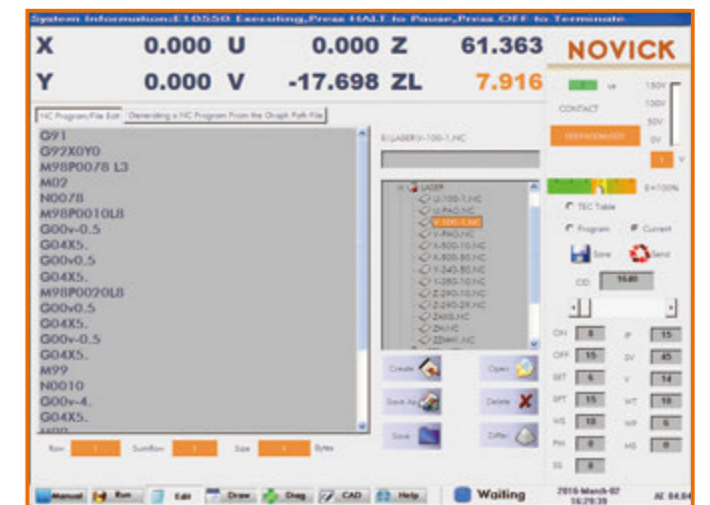


Machining optimization

- Show the machining status, machining voltage, electro-discharge rate, machining speed in time.
- Amend the machining parameters in time.
- Check the machining time in time.

Files management

- Windows XP operating platform
- Operate the NC software and edit, delete, copy, rename, check the NC drawing.

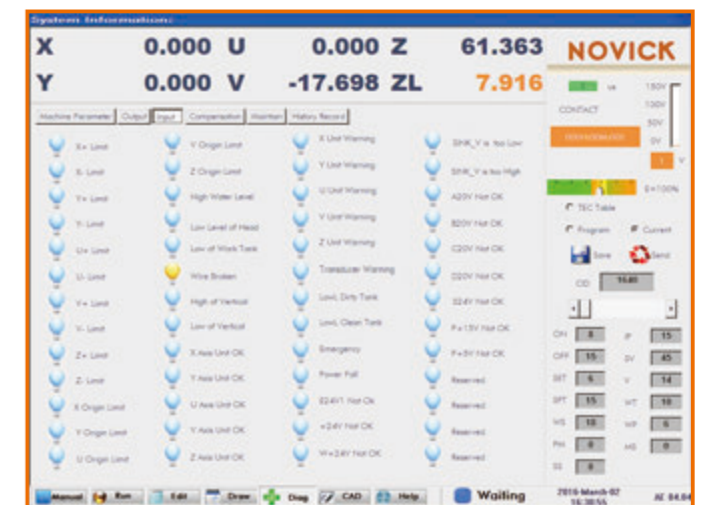


CAD / CAM

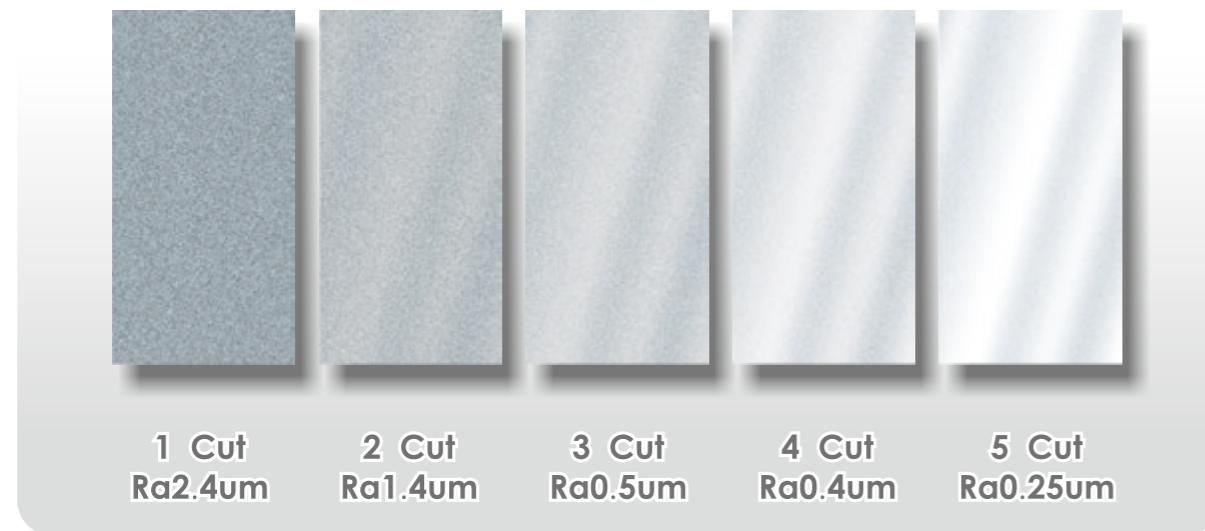
- Use the professional CAD drawing software and intellectualized CAM system.
- Completely compatible with the latest AutoCAD version.
- Support mobile client glance over the drawing.

Diagnosis

- Fault diagnosis function can help operator to do the fault clearing convenient.
- Pitch compensate
- Check and upgrade the software version.



AC MOSFET high speed electroless generator



Machining equipment: AG360

Material: Carbide YG8

Thickness: 25mm

Brass wire diameter: 0.25mm

- Use the alternating polarity high speed electroless pulse power, keep the stability of the cation and anion, restrain the electrolytic corrosion, avoid the softening layer, prolong the mould service life.
- Special and advanced fine machining module, as to the 30mm workpiece, the roughness can be less than Ra0.4um.
- Professional mirror fine machining power, the best roughness is < Ra0.25um.

Corner control strategy

- The system have various and intellectualized corner control strategy. The system can control the corner automatically. With the more complicated shape and corner, the advantage will be more obvious.



With corner strategy



Without corner strategy

Workpiece material: SKD11
Wire material: brass wire
Wire diameter: 0.25mm
Thickness: 24.7mm
Cutting times: 1 main cut+ 2 trim cut
Cooperate clearance: 0.005mm
Machining accuracy: +/-0.005mm
Machining time: 270min
Roughness: ra0.5um

Workpiece material: Cr12
Wire material: brass wire
Wire diameter: 0.25mm
Thickness: 50.2mm
Cutting times: 1 main cut+ 2 trim cut
taper: 15°
Cooperate clearance: 0.005mm
Machining accuracy: +/-0.005mm
Machining time: 126min*2
Roughness: ra0.44um

Workpiece material: SKD11
Wire material: brass wire
Wire diameter: 0.25mm
Thickness: 24.7mm
Cutting times: 1 main cut+ 2 trim cut
Cooperate clearance: 0.005mm
Machining accuracy: +/-0.003mm
Machining time: 160min
Roughness: ra0.44um

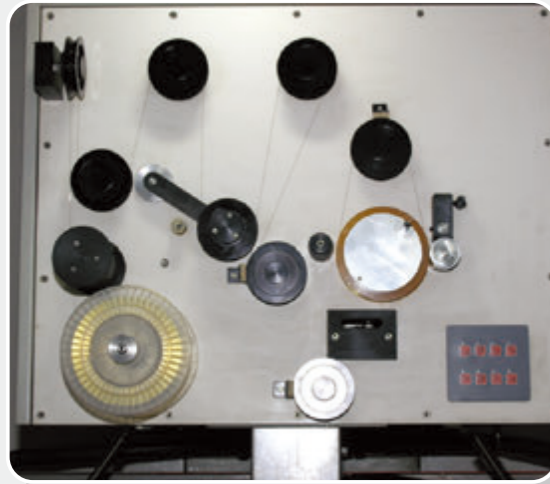
Workpiece material: SKD11
Wire material: brass wire
Wire diameter: 0.25mm
Thickness: 19.2mm
Cutting times: 1 main cut+ 2 trim cut
Cooperate clearance: 0.005mm
Machining accuracy: +/-0.003mm
Machining time: 480min
Roughness: ra0.44um

Workpiece material: Cr12
Wire material: brass wire
Wire diameter: 0.25mm
Thickness: 23mm
Cutting times: 1 main cut+ 2 trim cut
Machining accuracy: +/-0.002mm
Machining time: 75min
Roughness: ra0.45um

Workpiece material: SKD11
Wire material: brass wire
Wire diameter: 0.25mm
Thickness: 23.1mm
Cutting times: 1 main cut+ 3 trim cut
Cooperate clearance: 0.003mm
Machining accuracy: +/-0.003mm
Machining time: 65min
Roughness: ra0.35um

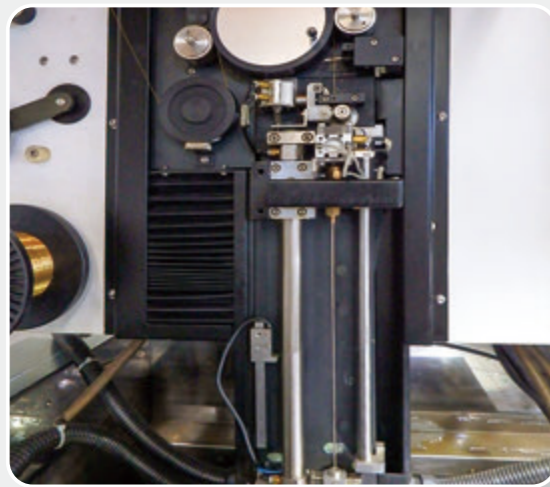
Workpiece material: Cr12
Wire material: brass wire
Wire diameter: 0.25mm
Thickness: 19.6mm
Cutting times: 1 main cut+ 2 trim cut
Machining accuracy: +/-0.002mm
Machining time: 78min
Roughness: ra0.45um

Workpiece material: Cr12
Wire material: brass wire
Wire diameter: 0.25mm
Thickness: 24.7mm
Cutting times: 1 main cut+ 2 trim cut
Machining accuracy: +/-0.005mm
Machining time: 125min
Roughness: ra0.46um



Constant wire tension system

- Independent research and development, proprietary technology, maturity design, stable and reliable.
- The electrode wire is controlled through the high accuracy magnetic power clutch, the tension is stable and can be controlled by programming.



Automatic threading system(optional)

- Automatic cut
- Automatic threading
- Repeat threading
- Move to the next hole site and automatic threading



Automatic wire alignment system

- Special software design, can automatic calculate the movement distance of the upper and lower closed wire guide, operate simply and practical.
- Automatic edit upper and lower closed wire guide position, ensure the high accuracy taper machining.

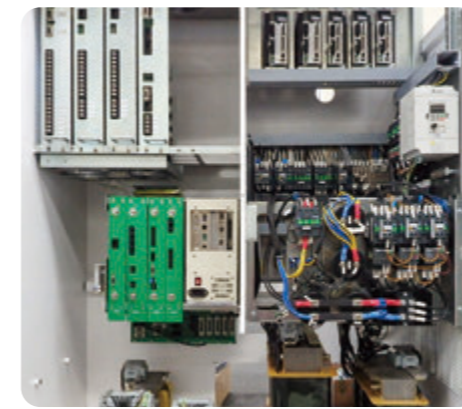


Visualized water tank door

- Side door structure, door lock and the handle make the water tank door open and close safety and convenient.
- Visualized design, ensure to observe the machining station anytime.

Operating platform

- Windows XP, Graphics CNC interface, ensure the multitask operation.
- USB interface and internet interface make the file transfer conveniently.
- 15" TFT-LCD display, standard mouse and keyboard.
- The operating platform can upper and lower rotation, ensure the operate conveniently.

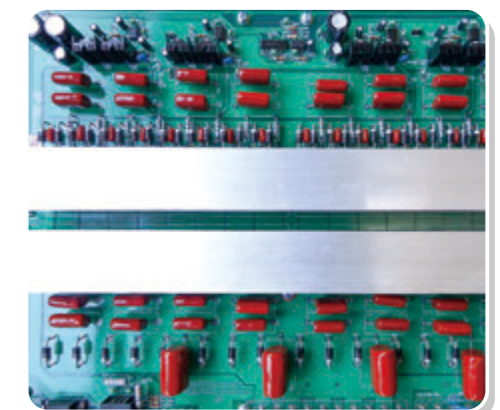


Modular design cabinet

- The cabinet is designed with isolated control section and power section, isolated high thermal and low thermal, ensure the best working environment for electric circuit and the consistence of the machine reliable and function.
- The key parts are equipped with power filter, reduce the conducted interference of electric circuit.

Intelligent electroless impulse generator

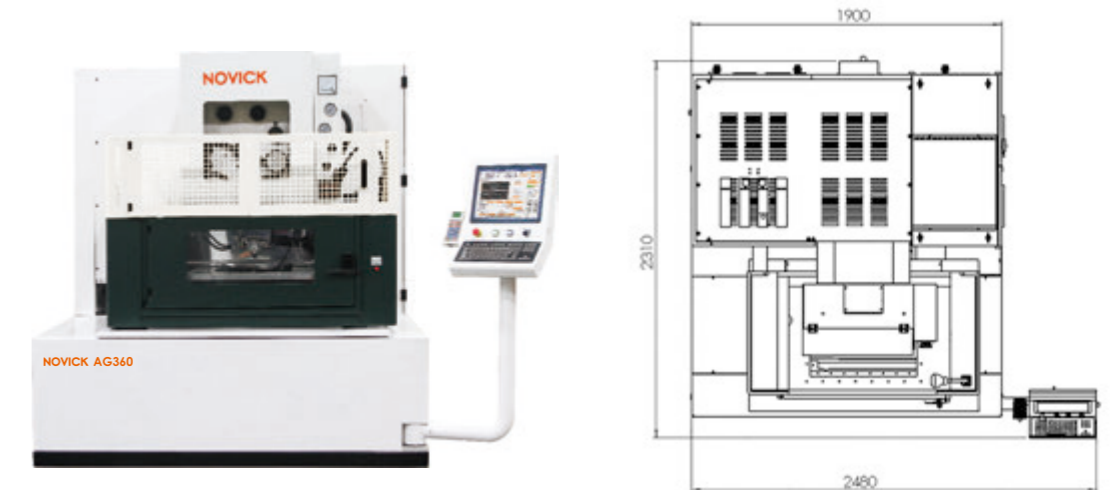
- The proprietary technology, use the high-power MOSFET tube as the switch device, compared with the traditional power, can reduce the energy 60%.



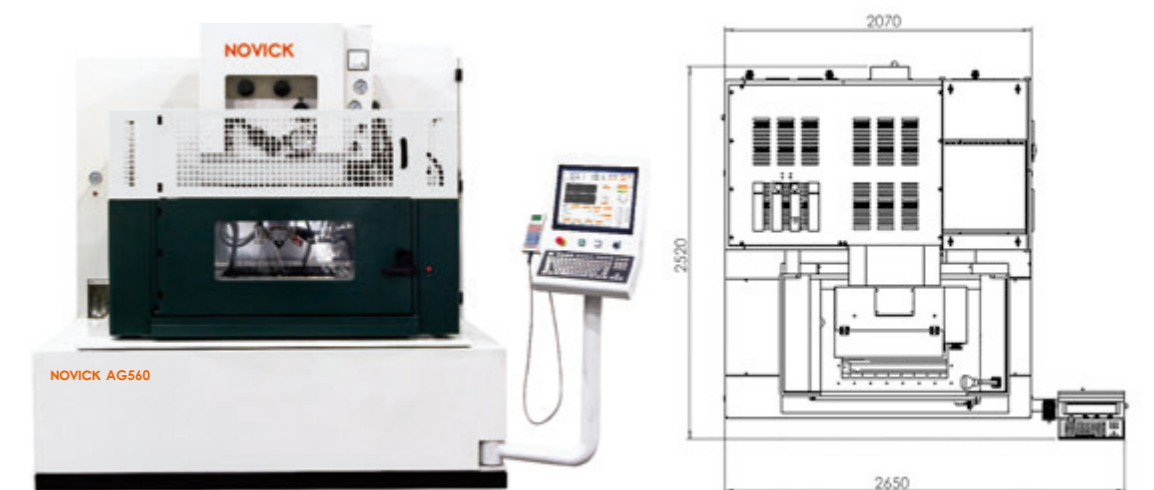
Technical specifications

Item	Unit	AG360	AG360T	AG560	AG560T
Size of machine(L×W×H)	mm	2310x 2480X2110	2310x 2480X2110	2520X2650x2110	2520X2650x2110
Weight of machine(without working oil)	kg	3000	3000	3550	3550
Travels X/Y/Z	mm	360x250x210	360x250x210	500x350x300	500x350x300
Travels U/V	mm	100 x100	90 x90	100 x100	90 x90
Max.cutting taper	°/mm	±30/50	±30/50	±30/50	±30/50
Size of work tank(L×W×H)	mm	910X680x260	910X680x260	1120X800x350	1120X800x350
Max.size of workpiece	mm	900x600x210	900x600x210	1000x600x295	1000x600x295
Max.weight of workpiece	kg	400	400	400	400
Size of worktable	mm	650X485	650X485	800X585	800X585
Distance between worktable and ground	mm	1000	1000	1000	1000
Diameter of closed wire guide	mm	Φ0.15~Φ0.30			
Wire tension	N	Automatic constant tension			
Wire speed	mm/s	30~200			
Threading device		Semi-automatic	Automatic	Semi-automatic	Automatic
Generator					
Max.cutting speed	mm ² /min	250(optional)			
Best roughness(Ra)	μm	<0.4(0.25 optional)			
Work type		AC MOSFET electro less generator			
Standard technics		Steel, carbide, copper, graphite			
CNC control system					
Control system		1.66GHz CPU			
Operation system		Windows XP			
Hardware configuration		16G CF card, 2G BRAM, 17"LCD			
Input/output interface		Keyboard, USB, local area network			
Axes controlled		XYUVZ 5 axes(4 axes controlled simultaneously)			
Memory function		With memory function			
Power supply system					
Standard power supply		3x380V±10% 50/60±1Hz			
Power input	KVA	7			
Environment requirements					
Clean air, and without direct sunlight.					
The indoor is without the dust source of grinding machine, chemical corrosion gas and vibration.					
Avoid the high dampness, the best is 40%~80%.					
The temperature requirements: insure accuracy20°+ 1°; insure working15°-30°.					

AG360 layout



AG560 layout



team

- As a subsidiary company of Novick Group, Beijing Novick Digital Equipment CO.,Ltd. is a high-tech joint venture, which focuses on providing market with reliable and excellent performance metal cutting and EDM equipments.
- The company has formed a perfect team with sophisticated experiences ranging from R&D, manufacturing and marketing&sales. The company has launched more than twenty models of CNC products to the market, each product is satisfy the ISO-9001 quality control system. These products have been promoted and sold to more than twenty countries and districts of the world including China, the export quantity keeps first for many years.

Quality and service guarantee

- The ISO-9001 quality system with effective process control and advanced monitoring measurements ensures products delivered in the condition of good quality and high reliability.
- Professional sales and services network offers effective and quick technical consulting, training and service support both on theories and applications.



NOVICK(BEIJING) research and development



- 2002 Beijing Novick Digital Equipment Co.,Ltd. is established.
- 2003 Launched "Precise CNC Die-sinking EDM AF series" machines and "Precise CNC reciprocal wire-cut EDM AR series" machines.
- 2004 Passed ISO-9000 quality control system. Launched the internal fist set of "Precise CNC Diamond Tools EDM AT100 machine",and has got two patent of invention, it is the internal unique product.
- 2005 Got the honor of "Beijing high and new tech enterprises". Set up the distribution channel at Singapore, and sold the products to international market.
- 2006 Located at Yanxi scien-tech development zone, Huairou, Beijing. Cooperated with Italy CDM ROVELLA, exported Die-sinking EDM machines to Italy.
- 2007 Novick group was registered at Hongkong and Novick group was set up. Build production base at Gu'an industrial development zone, set up Langfang Novick Digital Equipment Co.,Ltd. Selected as "B-type enterprises" by Beijing Entry-Exit Inspection and Quarantine Bureau, the export inspection rate $\leq 45\%$. Launched "Precise CNC Brass wire-cut EDM AW series" machines.
- 2008 Selected as "district civilized unit" by Beijing Huairou Commission of construction of spiritual civilization.
- 2009 Precise CNC Brass wire-cut EDM AW series" machines are selected as the "major

national science and technology" project. Selected as "quality-assurance enterprises" by Beijing Entry-Exit Inspection and Quarantine Bureau."NOVICK" brand is authorized and registered by Chinese SAIC Trademark Office. "NOVICK" brand is activated.

- 2010 Selected as "Beijing city patent pilot unit" by Beijing Municipal Intellectual Property Bureau. Get the title of "Beijing torch plan".Set up the Ningbo 4S flagship store which is used for exhibition, sale and service. Novick group became the largest export domestic funded enterprise.
- 2011 Get the title of "Import and export enterprise with outstanding contribution". Get the title of "statistic enterprise".
- 2012 Precise CNC Brass wire-cut EDM machine type AW310T gain the "the second prize of the progress of science and technology of Beijing".
- 2013 Precise CNC Brass wire-cut EDM machine type AE1100 gain the project of "precision machine project".Launched "precise CNC Brass wire-cut EDM machine AE400". Set up Dongguan 4S flagship store. Precise CNC Brass wire-cut EDM machine type AW310T gain the national key new product certificate.
- 2014 Kunshan Novick Digital Equipment Co.,LTD. was set up. Get more than twenty national patents.



NOVICK(LANGFANG) production base

