

GE SERIES *Wire Cut EDM*

The best solution of CNC Wire EDM technology



Rising Star Award



National Award of Outstanding SMEs



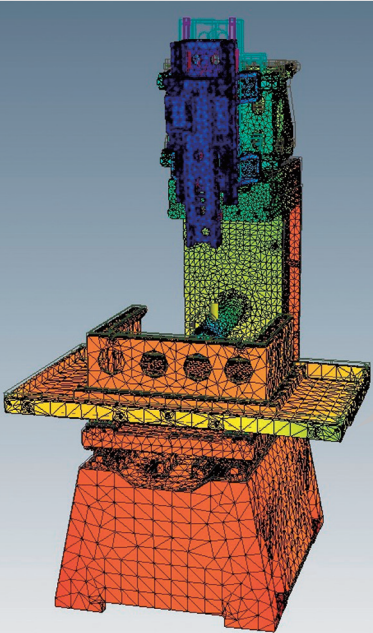
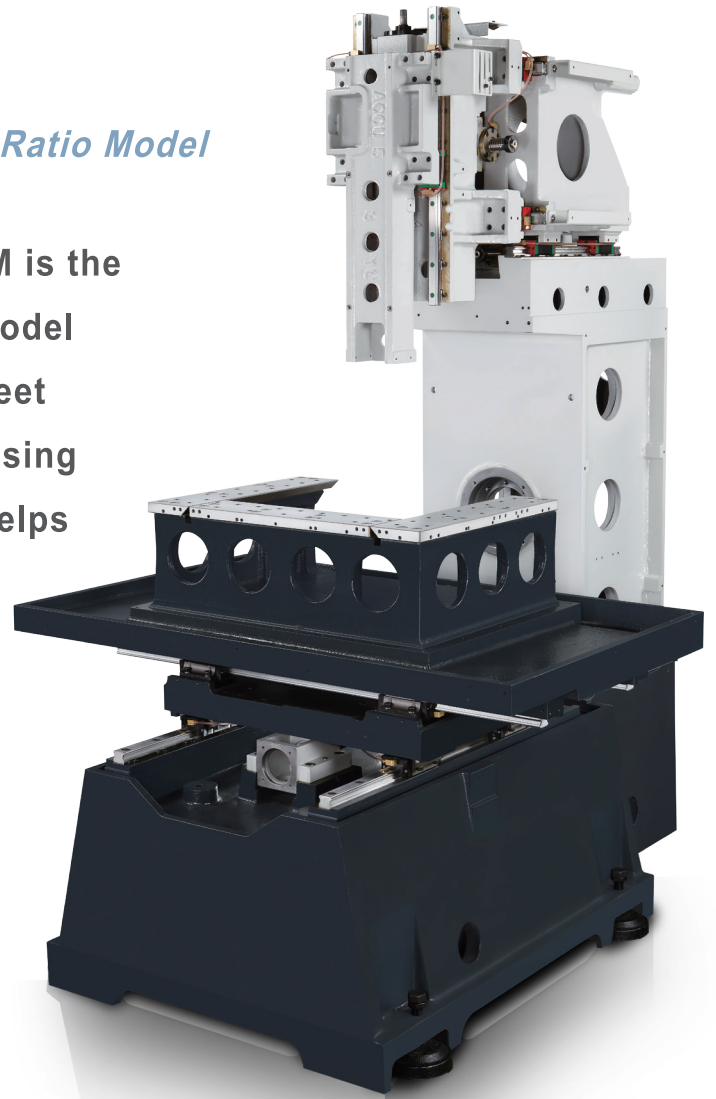
Certificate of Potential Taiwan Mittelstand Award

www.accutex.com.tw

GE SERIES

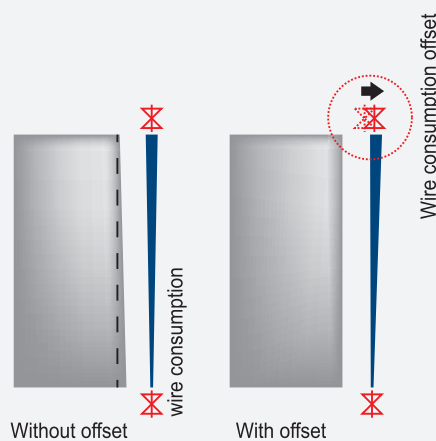
High Cost-Performance Ratio Model

Accutex GE series Wire Cut EDM is the most Cost-Performance Ratio model with excellent features which meet most of the cutting request by using friendly; further, its efficiency helps cost-benefit analysis.



High-Rigidity Structure

- Y-axis is located on the base; X-axis is located on the top of Y-axis, which is suitable for precise mold cuttings with small/medium stroke.
- Machine structure was designed via Finite Element Analysis (FEA) with high rigidity.
- Direct motor drive in X/Y axes with high servo response.



Wire Consumption Offset

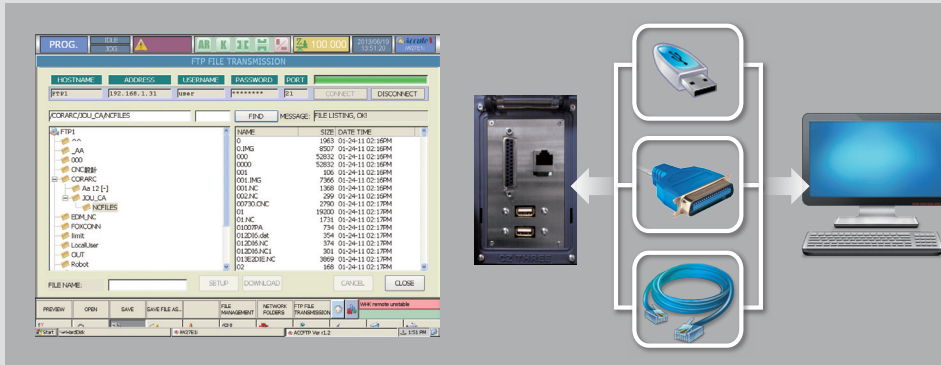
The wire becomes thinner while cutting thick workpiece. AccuteX Controller features wire consumption compensation function; the value is defined by NC code, depending on the workpiece thickness.

AccuteX Controller

AccuteX 100% in-house developed controller, the R&D team has fully mastered the controller's key technologies, which allows us to provide the best service and support to customers worldwide.

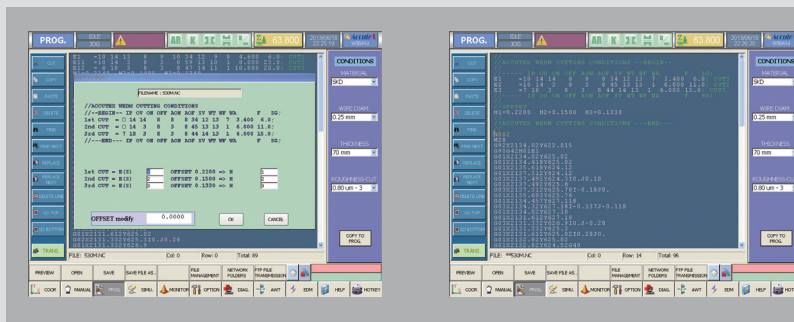
Friendly to Import / Export of Files

- System can transfer files via USB memory key, LAN network and RS232 connection.
- The controller can access remote computer's NC code with built-in FTP function and enhance the efficiency of files management.



Automatic Selection of Cutting Technologies

Only selecting cutting conditions; the controller then generates the appropriate setting from technology database. All these parameters are automatically integrated in the NC program. It makes the NC code easy-to-use and portable.



Linear Motor

New generation shaft-type linear motor is self-developed by AccuteX. It features with closed loop control by 0.2μm resolution linear scale and backlash free to keep accuracy. Rapid servo response can improve cutting efficiency up to 10%. AccuteX linear motor has excellent lower power consumption to keep constant working temperature.

Linear Motor

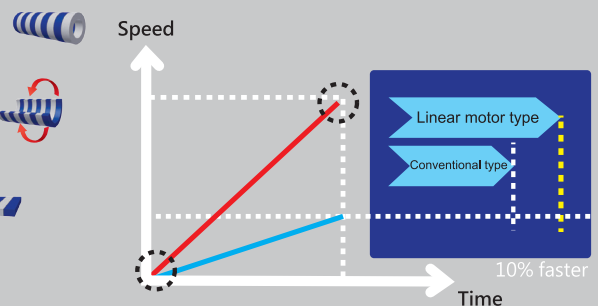


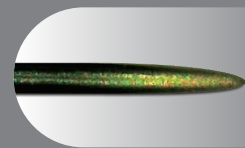
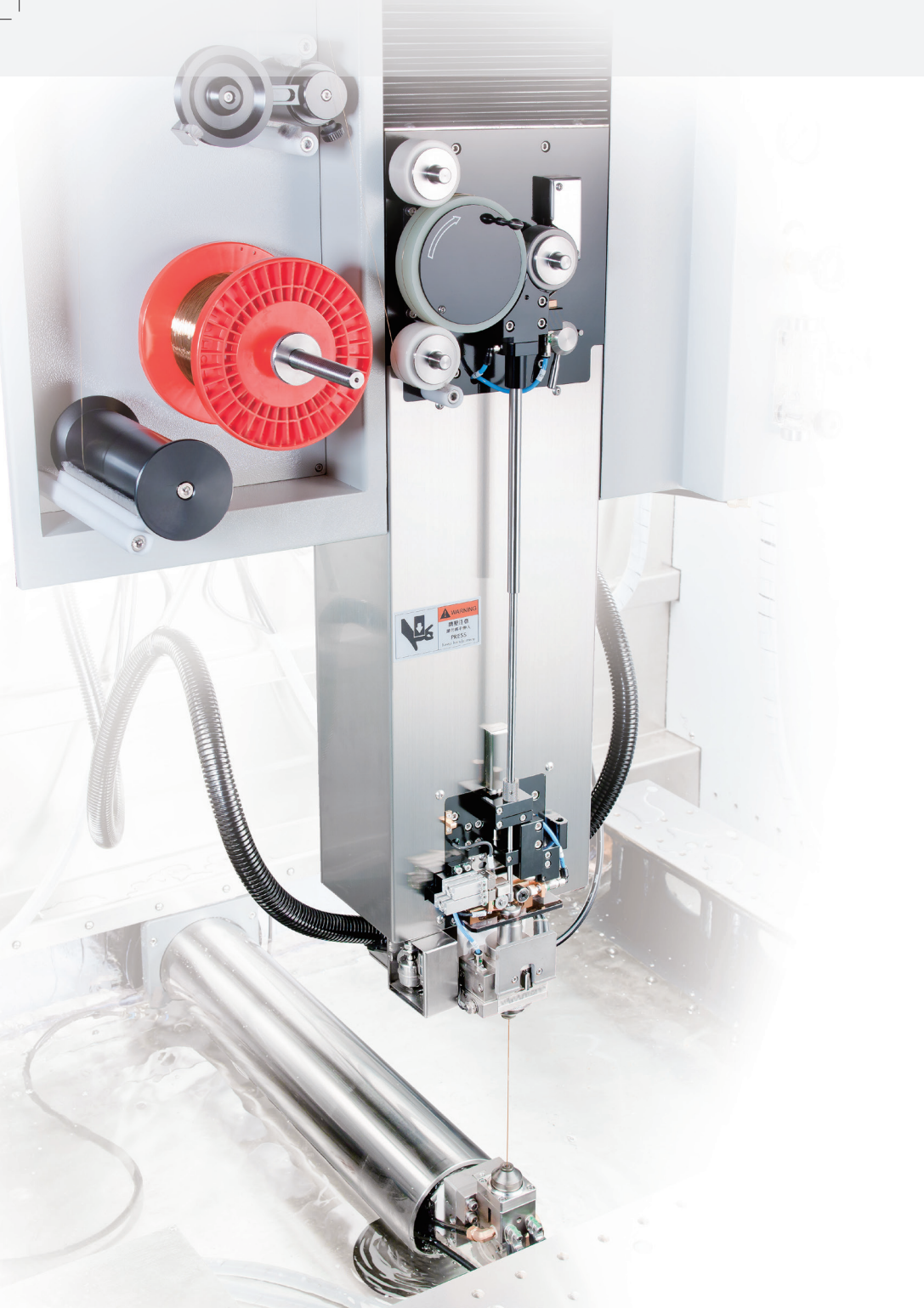
Improving Cutting Performance
Rapid servo response prevents wire breaking and increases cutting speed.

New Generation shaft Linear Motor
Lower maintenance cost. Excellent low power consumption characteristics.

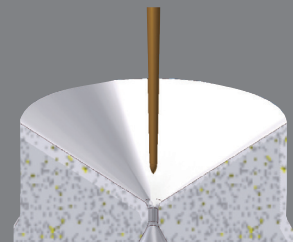
Flat Type Linear Motor

Rotary Motor





Accutex Wire End
Needle-shaping



(*) Option

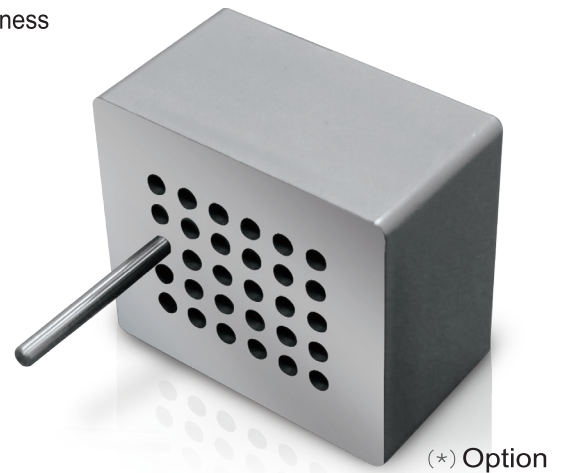
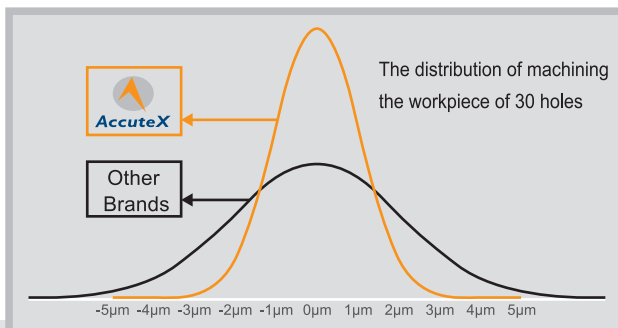
AWT, Highest Threading Reliability(*)

AC servo tension wheel

- “AC servo tension wheel”, tension control during cutting, featuring reverse tension while wire breaks.
- “Wire End Needle-Shaping”, while the wire is cut off by electricity, the reverse tension and annealing heart treatment are applied to strengthening the wire at the same time.
- “Waste Wire Auto Removing Device”, by air blow system to remove waste wire to the collection cabinet, quick and easily.

SD Master, Stable Discharge Board(*)

- High repeatability in accuracy by applying the same cutting data on different machines, the consistence enhances the workpiece quality and simplify management procedure.
- High speed cutting by SD-Master in stable discharge power which stabilize the cutting process, especially under high-speed mode.
- Sample cutting by thirty 3mm holes continuously, 95.45% of all workpieces accuracy are within $3\mu\text{m}$. Cutting conditions was made by SKD-11 with 30mm thickness by 0.2mm brass wire with 4 cuts under good temperature and environment control.

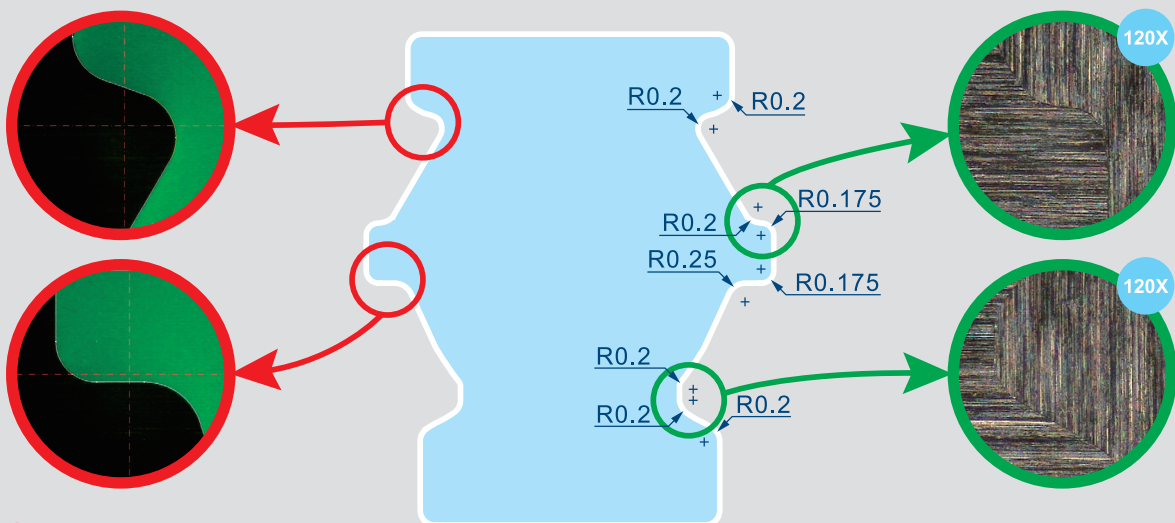


(*) Option

Corner Control



According to different cutting data, wire diameter, angle and workpiece thickness, the AccuteX controller automatically optimize parameters to maintain the best corner cutting performance with high accuracy, as well as cutting speed. Even on the small and continuous corners, accutex still can meet the best corner accuracy.

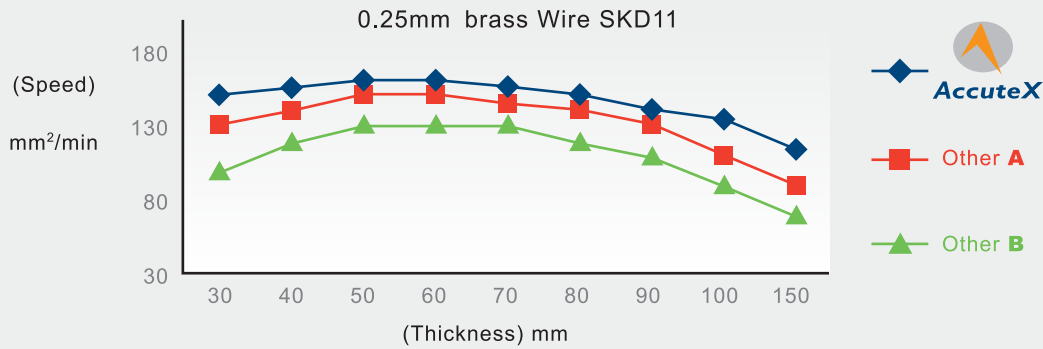


Contour is match closely
Between die and correct path.

Punch and die can slide
fit with small tolerance.

Cutting Efficiency Comparison

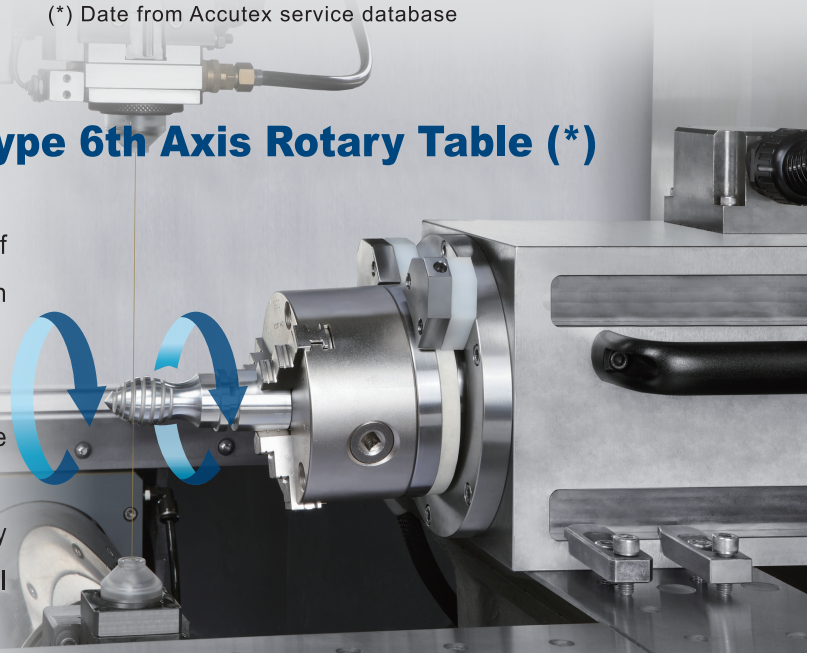
- AccuteX R&D team simplifies the generator and electric circuit to eliminate unnecessary power loss, and enhance the cutting efficiency.
- The cutting efficiency compared with other brands under different workpieces thickness is as below.



(*) Date from Accutex service database

AccuteX Submerged Type 6th Axis Rotary Table (*)

- Accutex 6th Axis Rotary Table is leading ahead of other WEDM manufacturers by years in R&D which can be applied to submerged operation.
- The Built-in Type Motorized Spindle features ultra-high resolution 720,000 pulses each revolution, free of backlash problems.
- The water isolation class is IP68, the Accutex Rotary Table may totally submerged in the water and will still maintain high performance and high accuracy.



(*) Option

Controller Functions

- Backlash compensation
- Pitch compensation
- Parallel compensation
- Retrace to start point
- Trace to break point
- Block stop
- Cutting log
- Maintenance memo
- Multi-blocks skip
- Single block
- Linear/Circular interpolation
- Constant/Servo feed
- Auto power recovery
- Reference point setting
- Reference point return
- Cutting path display
- Mirror
- Axis exchange
- Rotation
- Taper cutting
- Background edit
- Program edit/copy/delete
- Sub program
- Start point return
- Break point return
- Auto coner
- Different shape interpolation
- Dry run
- Optional stop
- Wire consumption offset
- Soft limit
- 2nd Soft limit
- Auto position (edge, center)
- Corner control function
- Diagnosis
- Z axis anti-collision
- Manual data input
- Pick-up function
- Short back
- N code jump

Machine Specifications

ITEM / MODEL	Flushing Type		Submerged Type		
	GE-43F	GE-53F	GE-32S	GE-43S	GE-53S
Max. Workpiece Size L x W x H (mm)	830x630x215	830x630x215	700x550x215	750x600x215	830x600x215
Max. Workpiece Weight (Kg)	500	600	350	400	450
X/Y Stroke (mm)	400x300	500x300	320x220	400x300	500x300
U/V Stroke (mm)	60		60		
Z Stroke (mm)	220		220		
Max. Submerged Water Level (mm)	-		195		
Wire Spool Weight (Kg)	10		10		
Footprint W x D x H (mm)	2200x2200x1990	2260x2200x1990	2200x2450x1990	2200x2450x1990	2200x2450x1990
Water System Capacity (L)	412		725	725	
Machine Weight (Kg)	2550	2650	2650	2650	2850

Standard Accessories

- Upper / Lower Flushing Nozzle
- Brass Wire
- Ion Resin Tank
- Ion Exchange Resin
- Waste Wire Bin
- Diamond Guide
- Conductor Plate
- Filter
- Vertical Alignment Jig
- Water Chiller

Controller Specifications

Controller System	Windows CE
Control Device	64-bit Industrial PC
Memory Device	1GB CF Card
Screen Display Device	15" Color TFT
Data Input	Keyboard, Mouse Pointer, RS-232, USB, Ethernet
No. of Control Axes	5 Axes / 6 Axes (Option on W Axis)
Simultaneous Axes	4 Axes / 5 Axes (Option on W Axis)
Min. Command Unit	0.0001 mm
Max. Command Range	99999.9999 mm
Command Type	mm / inch
Cutting Data Memory	99999 Sets
Ignition Power Supply	32 Steps, 53V~138V
On Time	24 Steps
Off Time	43 Steps
Discharge Mode	Rough Cut / Skim Cut / Fine Cut

Optional Accessories

- SD Master
- Pilot Lamp
- XY Linear Scale
- Alarm Messenger
- Remote Master
- 6th Axis Package
- Auto Wire Threading Unit (AWT)
- Touch Screen
- Z Axis Anti-Collision
- Auto Voltage Stabilizer (AVS)
- High Pressure Water Jet Threading (Max. Taper Angle is $\pm 9^\circ$ /100mm)
- Transformer
- CE Mark
- PCD /Graphite Cutting
- S Skin Power

Standard Specifications

Wire Dia. Applied	0.15~0.33mm
Transmission	5 axes AC servo transmission
Max. Cutting Taper	$\pm 15^\circ$ (H=80mm)
Water Resistance	AUTO 5~200 K Ω -cm
Water Temperature	AUTO Control $\pm 1^\circ$ C

Environmental Requirements

Power source AC220V/AC380V±5% : 3Phase 50 / 60Hz±1Hz

Temperature /Humidity 25±1°C : less than 75%RH

Environment

- The machine should be not placed near punching machine, drilling machine or any interfering sources.
- The machine should be not placed near heat treatment or electroplate systems.
- The machine should be placed in an airtight room to keep dust out.
- Before machine positioning, pay attention to machine movement during operation and the space needed for maintenance.
- Solid foundation of horizontal error should be less than 20µm.

Earth construction Earth resistance below 10Ω : separate the earth terminal with other machines

Pneumatic pressure ≥ 6kg / cm² (Applicable for machine with AWT system)

■ Due to continual research and development, specifications are subject to change without notice.



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