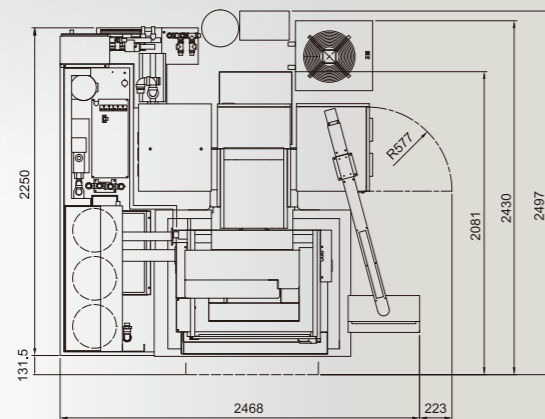


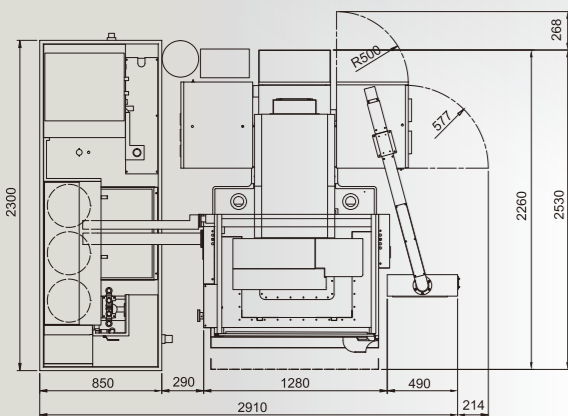
SP-300i



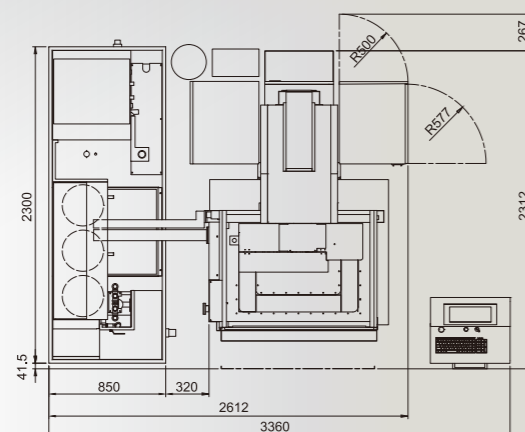
Floor Plan Layout



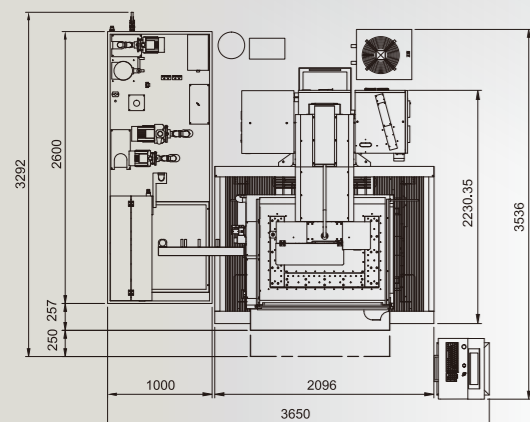
SP-500i



SP-600i (Z400mm)



SP-750i



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e-mail: sales@accutex.com.tw



# SP series

The First Name in CNC Wire Cut EDM



# 5 Reasons that Make AccuteX the Best Wire EDM on the MARKET

## 1. Superb Design & Construction

Rigid, heavily ribbed high-grade Meehanite castings. Reinforced water-cooled lower arm is made of high-strength alloy for maximum stiffness.

## 2. Leading Edge Electronics

Electrolysis-free machining. SD master-1 rough cut technology. Superb accuracies and finishes up to RA 0.18µm.

## 3. "Intelligent" Servo Controlled Wire Threading Technology

Saves time, easy to use threads at wire break point. No need to return to start point. Under 10 second spark-to-spark time with total reliability!

## 4. Premium Grade Components

Ultra-precise direct-couple drive system-no belts. Fine pitch, ultra fine-finish ball screws and high resolution servo motors with 4 millionths resolution. Glass scales.

## 5. Windows CE® Based Control

Feature-packed control is easy-to-use, versatile and has a large 15" easy-to-read, full color touch screen display.

# AccuteX Remote Master

Monitor AccuteX Machines from the comfort of your HOME.



SP-300i



SP-500i



SP-600i



SP-750i

# SP series

## T-Base Design

### Complex High-Rigidity Structure

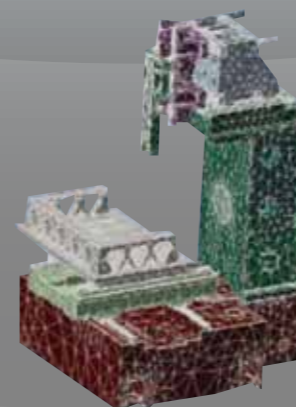
C-Frame construction was designed via Finite Element Analysis (FEA) along with multi-ribbed structure features high rigidity, large table load, and low mechanical deformation.

### T-Base Design

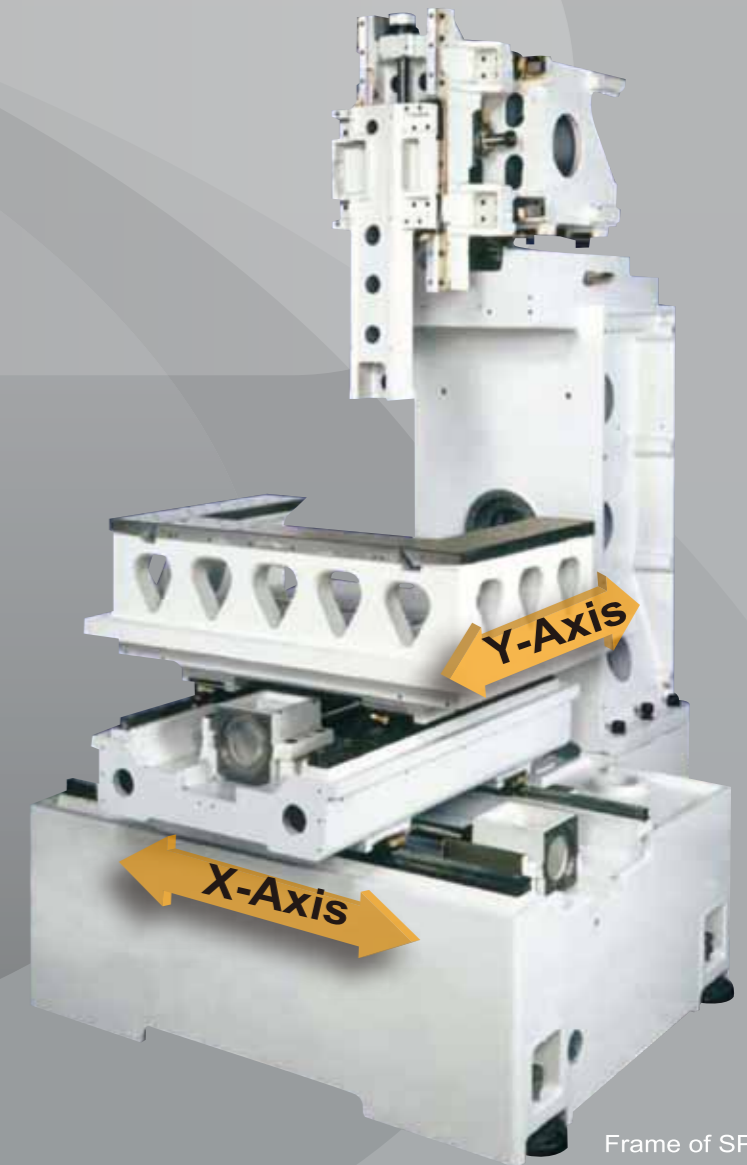
All AccuteX SP Series models are designed with T-Base construction. The longer X-Axis is located on the base, the shorter Y-Axis is located on top of X-Axis. Wherever the work table moves, it is fully supported by the construction without overhang phenomenon.



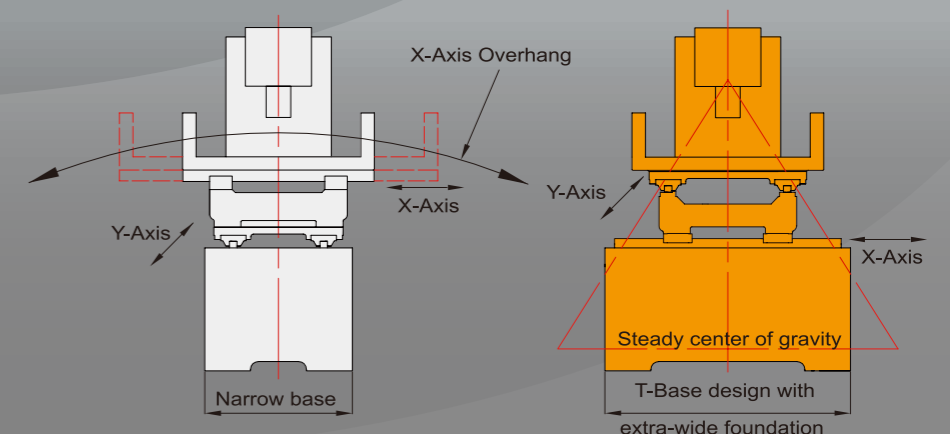
Direct transmission features high servo response



Finite Element Analysis



Frame of SP series



Others: Common Design with Overhang

T-Base Rigid Design

Comparison of Table Support

# Cutting Efficiency Comparison

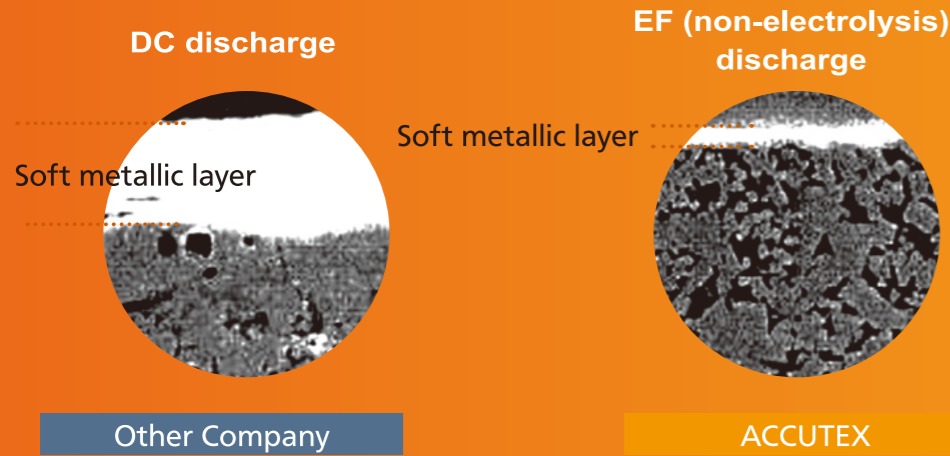
## EXTRAORDINARY FIRST CUT EFFICIENCY

- AccuteX Wire EDM Generator is famous for its high cutting efficiency, especially for tall thickness workpieces. The performance is far superior to machines made in Japan or Europe.
- Take a thickness of 200 mm SKD-11 workpiece as an example; AccuteX machine's cutting speed is 105 mm<sup>2</sup> / min, such a performance is second to none in the world.



# PCD Cutting & Graphite Machining Power Supply

- The exclusive ignition circuit and stabilized discharging power supply which are the most suitable design for PCD and graphite cutting, also with quality assurance even for a long time machining.
- The collapse of workpiece edge by wire cut can be controlled within minimum range along with high speed machining.
- Accutex wire cut EDM can do 5 axes simultaneous interpolation, also the W axis (6<sup>th</sup> Axis rotary table) can be installed while doing complex PCD cutting tools.
- By applying 6<sup>th</sup> Axis rotary table, any rotating workpiece can be cut.



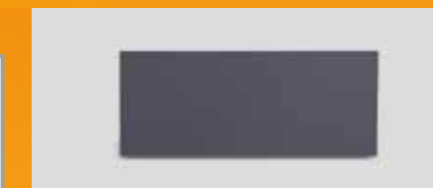
## EF (Electrolysis Free) Discharging Circuit

High-speed Electrolysis Free discharge method minimizes the possibility of workpiece cracking (micro-cracks) and electrolyze problems. It also prolongs die life and saves brass wire consumption.

## PCD Applications



## Finished Graphite Cutting with 1.5mm Slice



## PCD Material

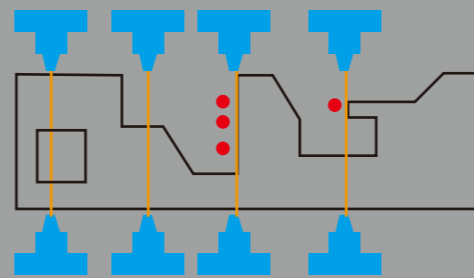
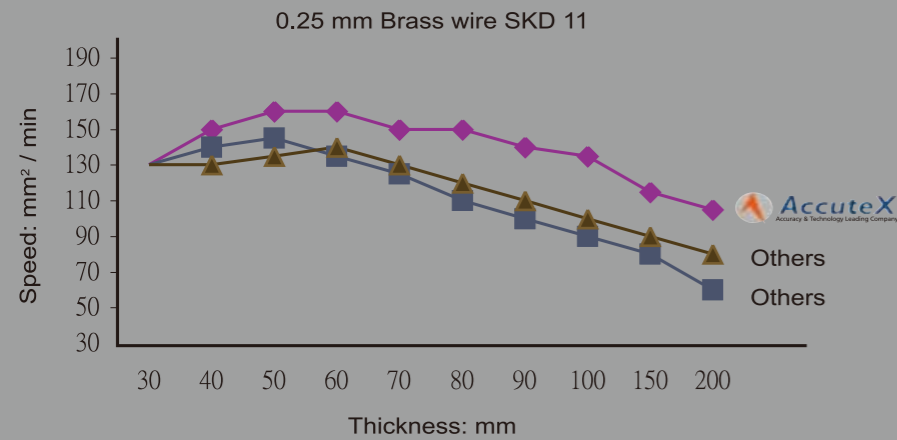


## Finished PCD Cutting

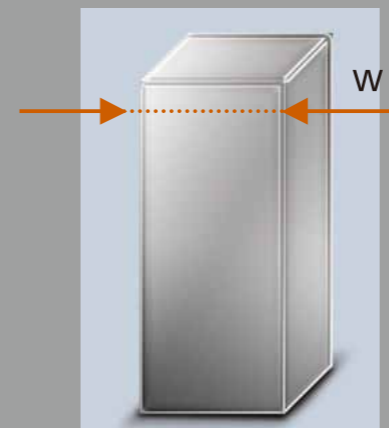


## Irregular Thickness Cutting

The AccuteX intelligent discharge unit is capable of dealing with the changing conditions in workpiece thickness and water flushing situations, featuring high cutting speed, and free from wire breaking problems.



# SD MASTER STABLE DISCHARGE BOARD



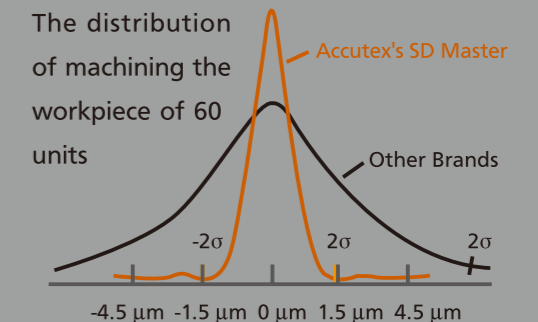
Dimensions of square Punch :  
8 x 8 x 50 mm.

## JUST ONE CUT ONLY

### AVERAGE MEASUREMENT FOR 60 WORK PIECES

WITHOUT SD MASTER		WITH SD MASTER	
Work Piece No.	Value "W"	Work Piece No.	Value "W"
1	7.995	1	7.999
2	7.998	2	7.999
3	8.002	3	8.001
4	8.004	4	8.002
⋮	⋮	⋮	⋮
57	8.007	57	8.001
58	8.005	58	8.000
59	8.002	59	8.000
60	7.998	60	8.001
2σ Max. Variation	0.010	2σ Max. Variation	0.003

- The SD Master powers the servo control system. We have designed it smarter and with more stability to achieve our low wire breaking rate.
- Stable discharge performance enhances the accuracy of workpieces and raises machining repeatability.
- One cut accuracy for ±2σ, which is within ±1.5μm. (95.45% of all 60 workpieces' accuracy are within 3μm variation, all 60 workpieces were cut in different time periods over two months.)



## Modular Design

All PC Boards are of modular design. Each module incorporates self-diagnostics complete with LED indicators. This simplifies troubleshooting and provides for operator convenient maintenance.



# AccuteX Controller

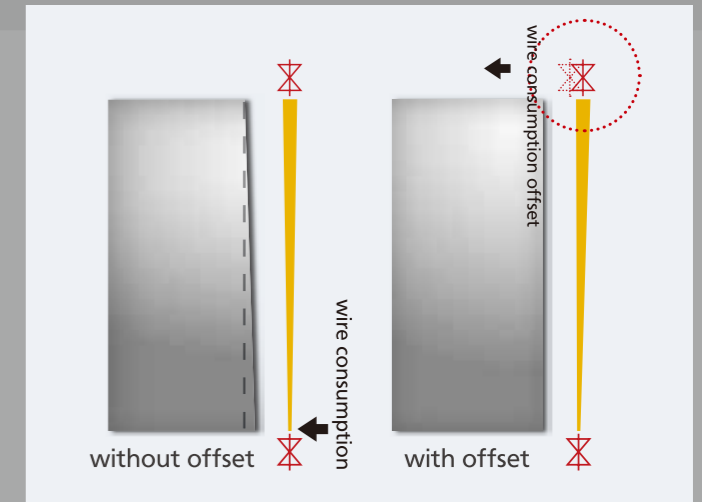
100% In-House Developed  
AccuteX Controller

AccuteX's core competitive power is the in-house developed AccuteX controller; This controller sets us apart from the rest of the machine tool industry that rely on using controllers from Europe and Japan. The AccuteX R&D Team has fully mastered the controller's key technologies, which allows us to provide the best service and support to customers world wide.



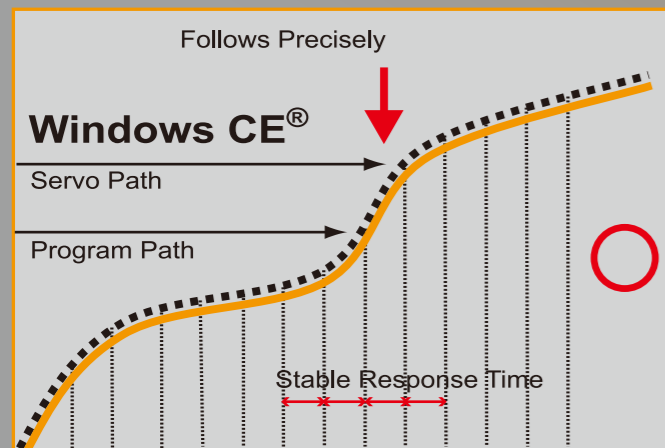
## Simplified NC Code

Using just the G5-G8 commands, which are plenty enough to describe the taper and arc shape cutting, reducing the application of G01 commands; you can achieve an excellent cutting surface on arc or curve interpolation.



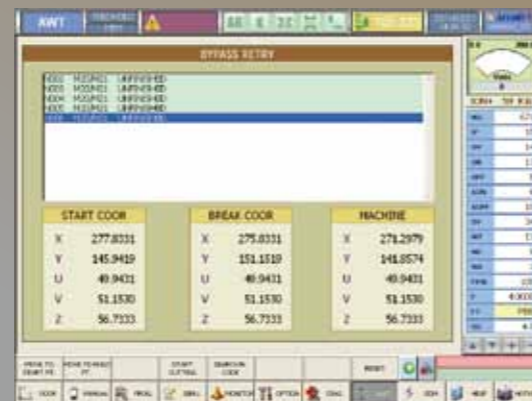
## Wire Consumption Offset

The wire becomes thinner by long discharge distance while cutting thick workpieces. AccuteX Controller features a wire consumption offset function; the offset value is automatically defined by the controller, depending on the workpiece thickness.



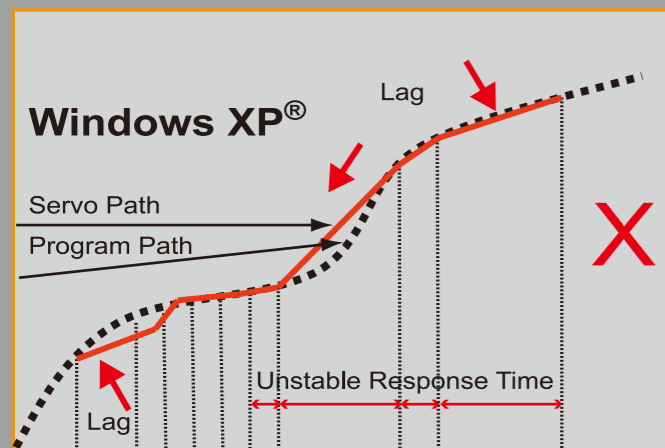
## AccuteX High Response

Windows CE® for DIRECT Precise Motion Control  
The Servo response path follows the program precisely.



## BYPASS Function

While executing multi-hole cutting, in the case of threading failure or any unknown reason that the mold holes cannot be cut during the operation, the controller automatically memorizes the uncut mold holes and will skip to the next one.



## Others : Low Response

Windows XP® plus external software for Motion Control.  
Servo speed is even slower than the controller. The Servo Path failed to follow the program.

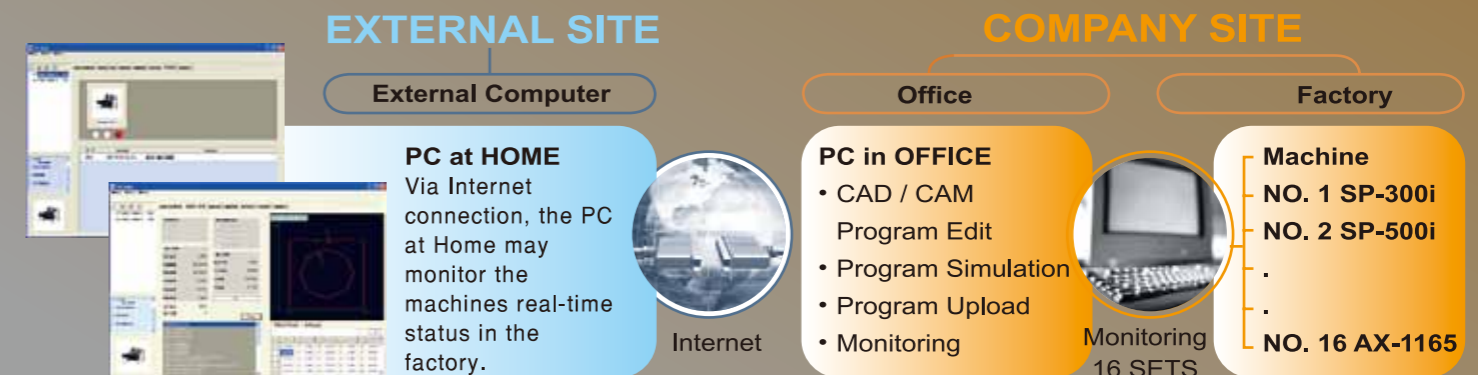


## High Accuracy with Easy Functions Automation

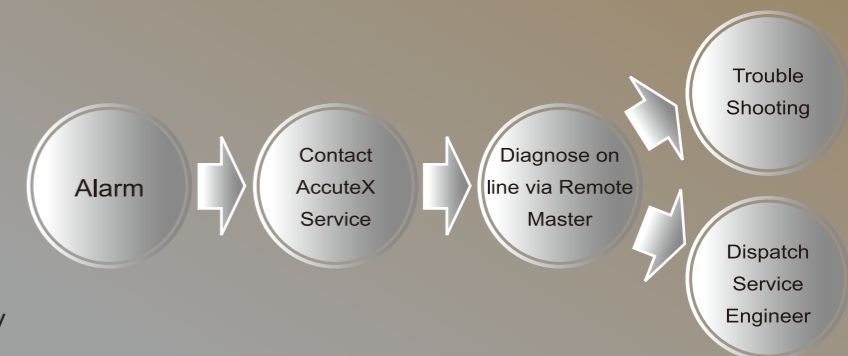
- Corner control Function
- Automatic Power Recovery Function
- Approach Cutting Function
- Multi-Blocks Skip Function

# Remote Master

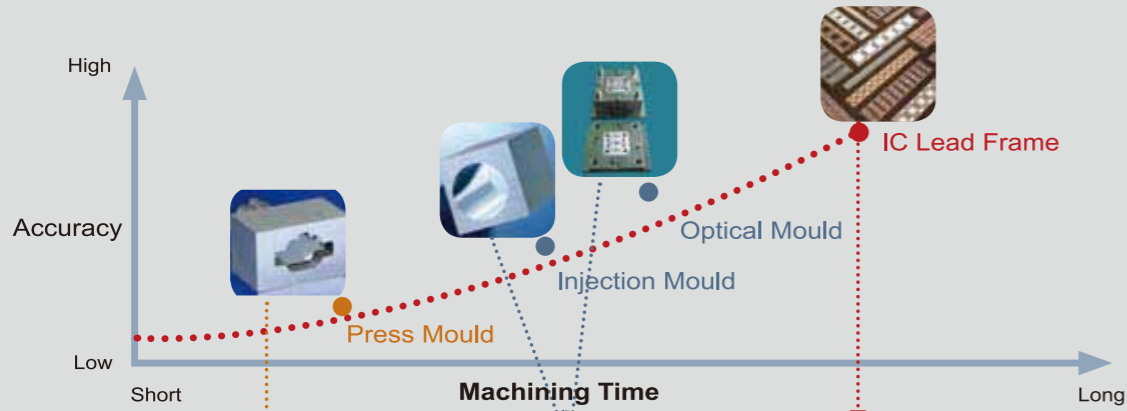
Your best tool for machining arrangement, monitoring and factory automation.



- Simultaneous and real-time monitoring increases machine's availability and management efficiency.
- When integrated with your CAD / CAM system, there's no need to worry about compatibility between CAD / CAM system and machine.
- Without staying with the machine, you can remotely receive alarm messages at the first instance they occur.
- From the monitor in your office or home, you can:
  1. See all AccuteX machine cutting time, efficiency and status.
  2. Assign machining jobs from a distance and start cutting immediately.



# Corner PRO



Speed Mode

Normal Mode

Sharp Mode

Mode Selection



- Normal Mode / Speed Mode / Sharp Mode

Wire Selection



- Different corner parameters for different corner cutting applications

CORNER PRO



- The selected Mode can be defined in the NC Program. Sharp Mode, Normal Mode and Speed Mode.
- 3 different set patterns for easy operation.

MODE TIME	Speed Mode	Normal Mode	Sharp Mode
	Approx. 15Min	Approx. 17Min	Approx. 19Min
OVERRIDE	0%	-20%	-40%
<b>200X</b> →			

## Corner Control

Depending on different cutting data, wire diameter, angle and workpiece thickness, the AccuteX Controller automatically sets the best parameters to maintain the best corner cutting performance with high accuracy, as well as cutting speed.



90-Degree interior / exterior angle's corner control

Interior and exterior round corner control

200X CCD image of tiny pinion teeth

## SIMPLEST MECHANISM, HIGHEST THREADING RELIABILITY!

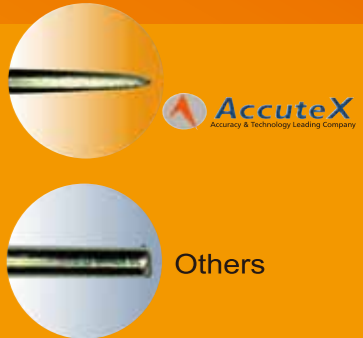


### AC Servo Tension Wheel

Tension control during cutting. Featuring REVERSE TENSION when wire breaks. "AC servo Tension Wheel", Taiwan Patent No. I257887.

### Wire End Needle-shaping

While the wire is cut off by electricity, the reverse tension and annealing heat treatment are applied to strengthening the wire at the same time.



Others

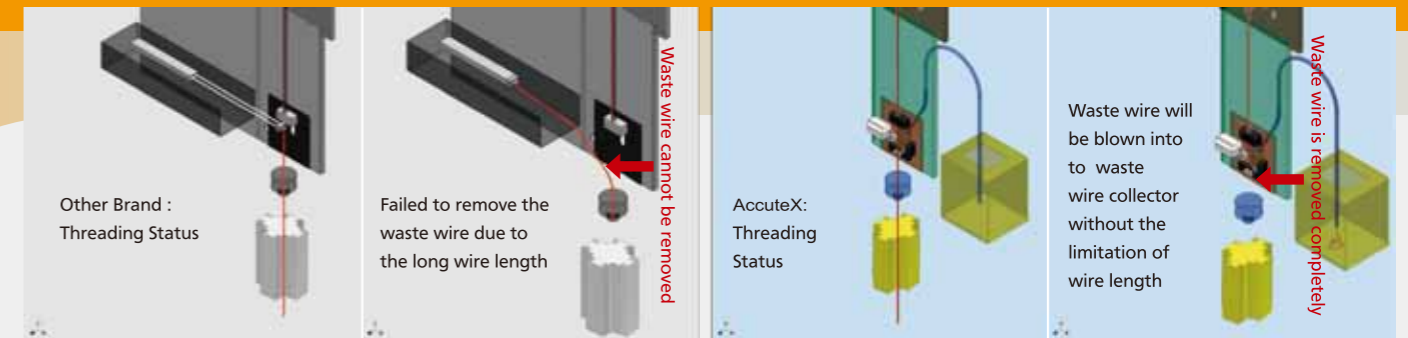
### Waste Wire Removal

Air blow system to remove waste wire to the collection cabinet; quick and easy. "Waste Wire Auto Removing Device", Taiwan Patent No. 210295, China Patent No.03261258.3



## The Unique Waste Wire Removing Device

No matter how long the waste wire is, it can be completely removed by AccuteX AWT system(\*). Compared to other brands using mechanical cylinder arm, which limits the waste wire length and detection sensitivity, causing a failure to remove waste wire automatically, AccuteX's unique AWT device can remove broken wire without length limitations.



### Other Brand

By using a mechanical cylinder arm, the waste wire cannot be removed if the wasted wire length is longer than the cylinder arm's travel.

### AccuteX

AccuteX Waste Wire Removal Device can remove waste wire with its air blowing design, no matter the length of waste wire, or the position of wire breaking. It can be rapidly removed to the waste wire collector.

\*Optional

### PCD Tool Cutting



Material	PCD, WC	Thickness	5mm
Passes	3 Passes	Roughness	Ra 0.65 μm
Wire Diameter	Ø0.25 mm	Cutting Time	4 hrs 25min.
Cutting Length	3284.4884 mm		
Features	Special Material Cutting by 6-Axis		

### Matrix type Electrodes



Material	SKD-11	Thickness	50 mm
Passes	4 Passes	Finish	Ra 0.7 μm
Wire Diameter	Ø0.2 mm	Cutting Time	13 hrs 7 min.
Cutting Length	4372.496 mm		
Features	6-Axis Cutting		

### Milling Cutting Head



Material	Tungsten Steel	Thickness	10 mm
Passes	4 Passes	Roughness	Ra 0.3 μm
Wire Diameter	Ø0.2 mm	Cutting Time	3 hrs 26min.
Cutting Length	379.21 mm		
Features	Position Accuracy (6-Axis)		

### Multi-Degree Machining



Material	SKD-11	Thickness	25 mm
Passes	4 Passes	Finish	Ra 0.68 μm
Wire Diameter	Ø0.2 mm	Cutting Time	8 hrs 55 min.
Cutting Length	1966.136 mm		
Features	Position Accuracy (6-Axis)		

# Six-Axis Operation

## Medical – Class Performance

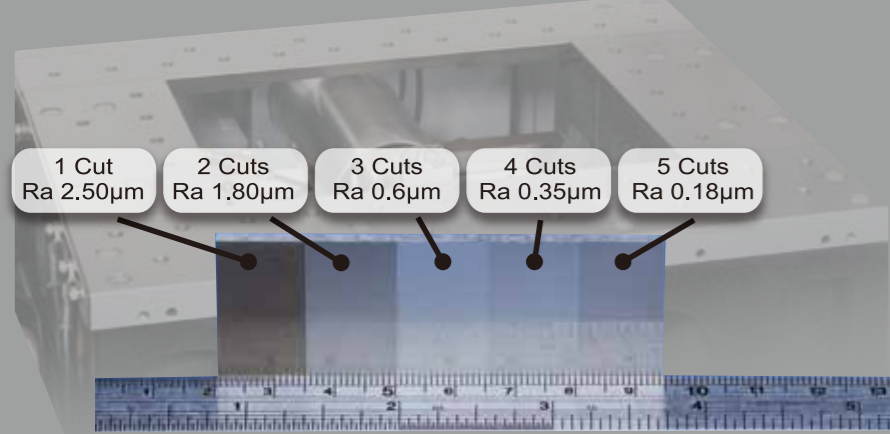
**Turn & Burn**

- 6 Axes (X/Y/U/V/Z/W) control.
- 5 Axes simultaneous interpolation.
- Applicable with flushing or submerged operation subject to the suitable rotary table applied.
- Suitable for production of Medical Equipment and Aerospace Components.
- Rotary table features Japan-made built-in motor, 2.6 million pulses resolution, top class IP68 isolation level.

\*Optional Function

## MST

Only a Granite Base does not represent machine's high performance. All Fine Finish Cutting relies on fundamental technology of Sparking Know-How as well as optimum mechanical design. Accutex's leading Technical Team is proud to introduce Patented MST circuit with high accuracy Granite Base.



Best surface finish can be reached:  
 Ra 0.18μm / thickness 50 mm.  
 Ra 0.15μm / thickness 20 mm.  
 Wire: 0.2 mm brass wire  
 Material: SKD 11

## Air Seal

The "Air Seal" Design (Patent Apply No. M324555 / Taiwan, ID\_PAT673869/USA). 100% prevents sub-merged water from invading into the MST Board Box, in the same time the unique designs shortened the sparking cable length. The surface finish result done by Accutex machine is second to none.



## Jumbo Wire Feeder

Accutex Jumbo Wire Feeder offers maximum working capacity for the consuming wire. The Servo driven Jumbo Wire Feeder accommodates maximum up to 45 kg wire spool, which allows your continuous job finished within shortest period.

## Specifications

WEDM MACHINE	UNIT	SP-300i	SP-500i	SP-600i	SP-750i
Table Travel (X / Y Axis)	mm	350 x 250	500 x 300	600 x 400	750 x 500
Z Axis Travel	mm	220	300 (400 Option)	300 (400 Option)	400
U & V Axis Travel	mm	80 x 80	100 x 100	100 x 100	100 x 100
Table Feed Rate	mm/min.	0~1000			
Max. Taper Angle	Deg.	±21° / 80mm		±21° / 100mm	
Max. Workpiece Size (X, Y, Z)	mm	765 x 535 x 215	960 x 560 x 265 (400)	960 x 620 x 265 (400)	1190 x 720 x 400
Footprint (W x D x H)	mm	2468 x 2497 x 2120	2910 x 2300 x 2209 (2520)	2612 x 2312 x 2209 (2520)	3650 x 3536 x 2522
Max. Workpiece Weight	kg	300	600	600	800
Wire Diameter	mm	0.15~0.33			
Wire Feed Rate	m/min.	1~20			
Wire Tension	g	300~2200			
Max. Wire Spool Weight	kg	16			
Machine Weight	kg	3300	4000	4400	5200
Tank Capacity	L	650	1100	1100	1240
Power Source		AC220V±5% ; 3 Phase 50 / 60Hz±1Hz			
Temperature / Humidity		25±1°C ; less than 75% RH			

### STANDARD FUNCTIONS

Auto Wire Threading (AWT)	SD Master	Remote Master
Z Axis Anti-Collision	Corner Pro	LCD Remote Handbox
45 kg Wire Jumbo Feeder	Safety Door Interlock	X / Y Linear Scale
Pilot Lamp	Auto Voltage Stabilizer (AVS)	Transformer
CE Conformity	330mm <sup>2</sup> /min Generator Package	0.1mm Wire Application
Double Doors (SP-300i / 500i only)	Micro Sparking Technology (MST) (SP-300i/500i only)	6th Axis Package (W Axis)
PCD / Graphite Cutting	High Pressure Water Jet (with 20mm less in Z axis than standard, max. taper angle is ±10° / 80mm; not available with anti-collision on Z axis)	

### CONTROLLER

Controller System		Windows CE
Control Device		64-bit Industrial PC
Memory Device		128 MB CF Card
Screen Display Device		15" Color TFT Touch Screen
Data Input		Keyboard, RS-232, USB, Ethernet, FTP
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	mm	0.0001
Max. Command Range	mm	+ 9999.9999 / - 9999.9999
Command Type		mm / inch
Cutting Data Memory	sets	99999
Ignition Power Supply		32 steps, 53V~138V
Max. Cutting Speed	mm <sup>2</sup> /min.	250 (Option: 330)
On Time	steps	24
Off Time	steps	43
Discharge Mode		Rough Cut / Skim Cut / Fine Cut

\*All the specifications are subject to change without prior notice.