EXCETEK

ED

SERIES

High Precision Die Sinker
EDM Series

Gantry Type Movement

Die Sinking Electric Discharge Machine

ED400C ED600C

Sharp performance with a wide range of machine models

ED SERIES

CNC EDM for Quality. Reliability

ED2200C-2H
ED3000C-2H

ED800C/ED1000C/ED1400C

Mechanical frame and features

Multifunction

- 18 kinds of OB modes
- ATC system
- A variety of measurement functions

High Precision

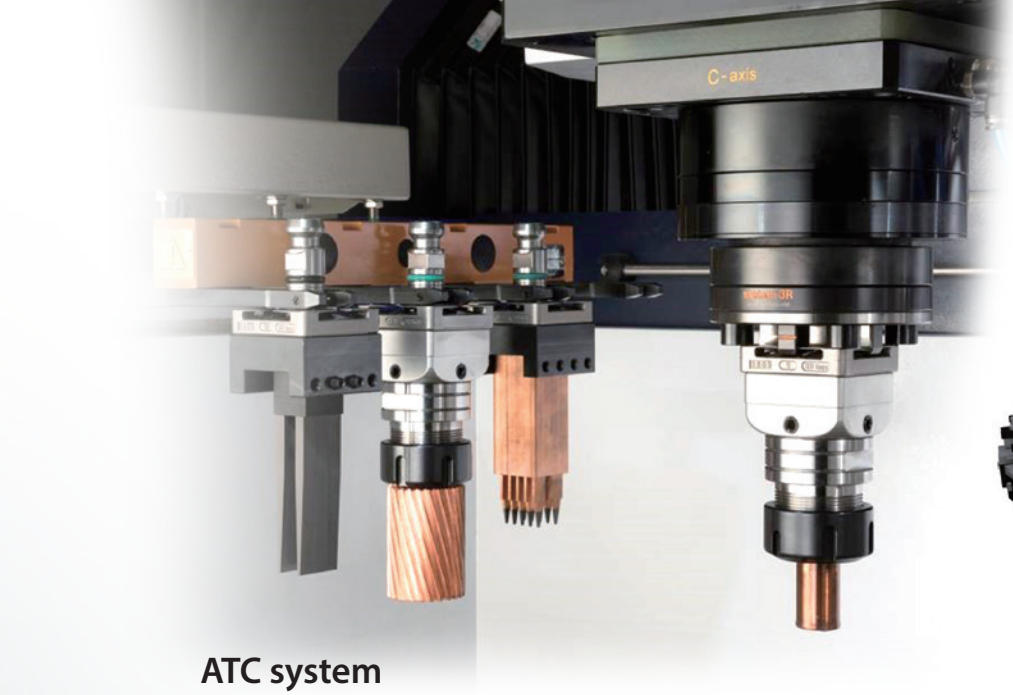
- Column structure design
- Floor-mounting design
- Z axis counterweight patented Structure

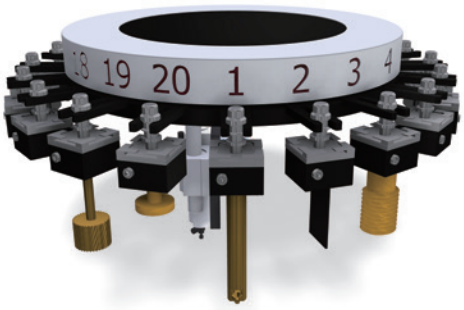
Automation

- 4 & 6 optional ATC / 16 & 20 Robomatic ATC (Optional)
- Vertical Front-door design
- G-CODE auto-programming

High Performance

- Tungsten Carbide Sparking circuit (Optional)
- MOSFET Discharge circuit
- ARC protection
- APC protection





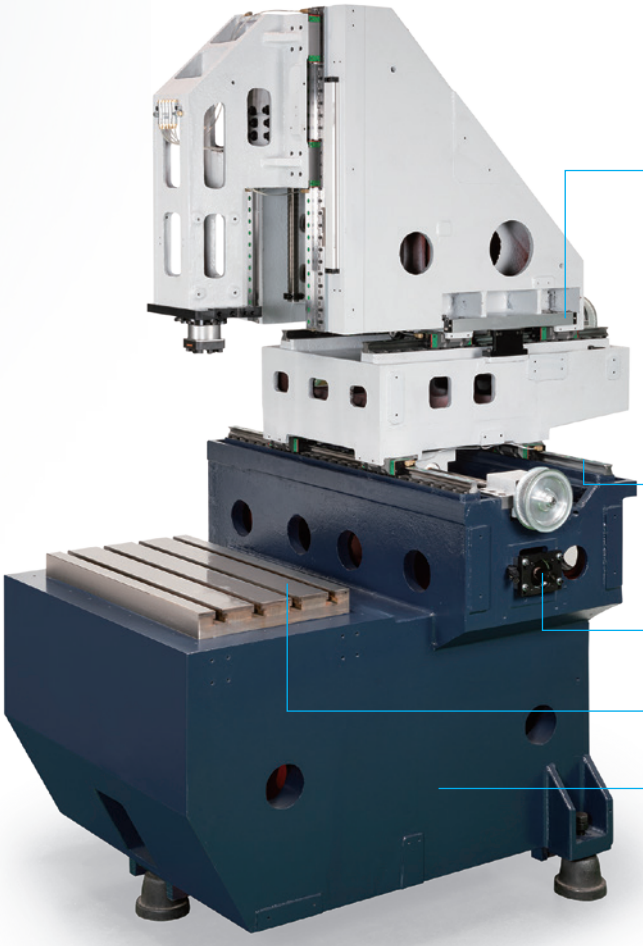
Robomatic Electrode Change System

ATC system

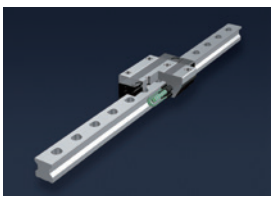
- 4 & 6 optional ATC / 16 & 20 Robomatic ATC (Optional)
- Auto electrode offset compensation function

Absolute Coordinate Feedback System:

The entire series of machines adopts an absolute coordinate system and is equipped with a high-precision absolute optical scale, which can effectively improve the accuracy and reliability of the machine tool. At the same time, it has the advantage of position memory, which helps to improve the convenience of operation, processing stability and overall production quality.



- Linear scale with high- positioning accuracy



- Linear guide way with roller type The rigidity for roller type is 1.7 times higher than the ball type
- High-resolution, AC servo motor
- Work table with Hardness HRC50
- High rigidity mechanical frame design optimized under FEM analysis

FEM MEEHANITE

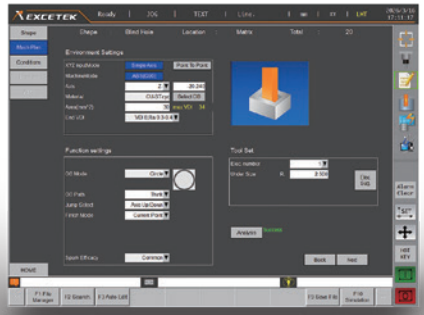
Specialized Controller features

Automatic programming

Enhance operational versatility, enabling more agile responses to customer machining requirements by providing appropriate machining programs. Provide different machining strategies for non-machining types.

The dialog interface helps operators quickly define machining requirements and automatically generates the corresponding machining conditions.

Automatic multi-electrode condition allocation

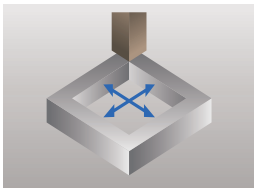


Input the depth reduction amount and oscillation mode

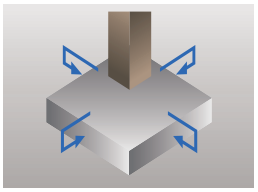
Machining conditions selection

User Friendly Interface

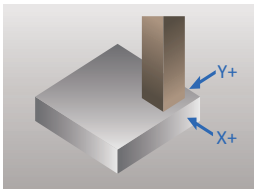
Edge Finding Function



Inner Center Measure



Outer Center Measure

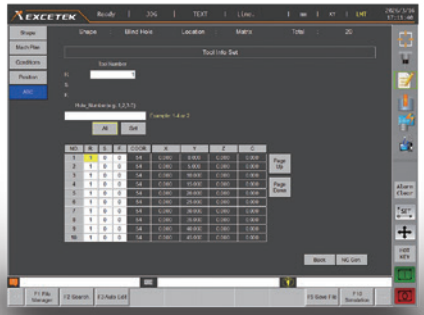


Corner Center Measure

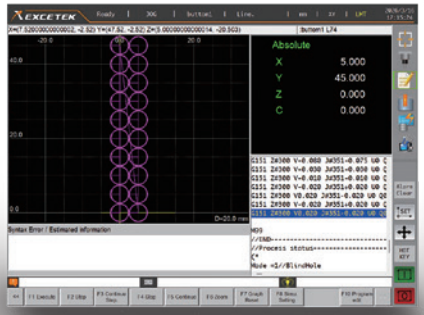
Excetek's Specialized exclusive controller system, brings enormous features and functions in sparking performance and automated technology.

- In order to simplify, we provide a feasible function by increasing Mold lead time and sparking energy automatically based on the set condition which gives high precision of molding.
- In addition, by using provided machining database conditions helps to establish a quick process of working along with the user set conditions.
- Used standard ISO G code format for easier understanding and working.

Fast generation of various matrices



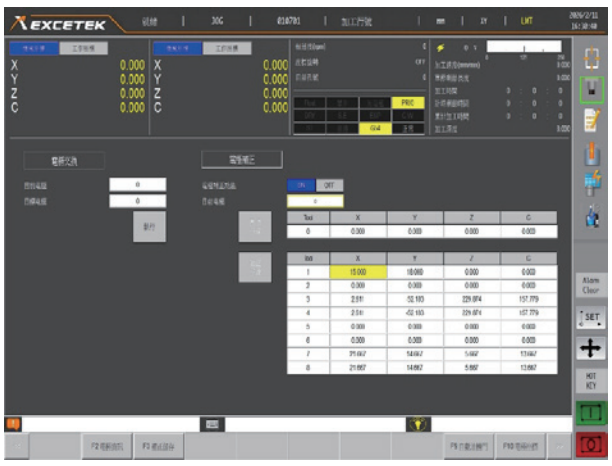
Generate Machining Program from Actual Tool Number

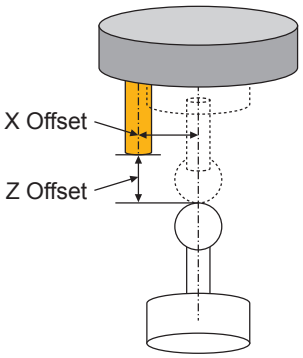


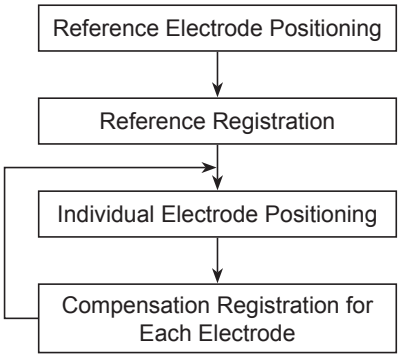
Simulation interface

Automatic Electrode Changing

The ATC (Automatic Electrode Changing) function features an automatic electrode changing system with various optional automatic electrode changing tool magazine configurations to meet different machining scenarios and production capacity requirements. It has electrode center compensation and C-axis rotation compensation functions, effectively ensuring positioning accuracy after electrode changing, enabling automated continuous machining with multiple electrodes, and significantly improving machining efficiency, automation flexibility, and equipment uptime.

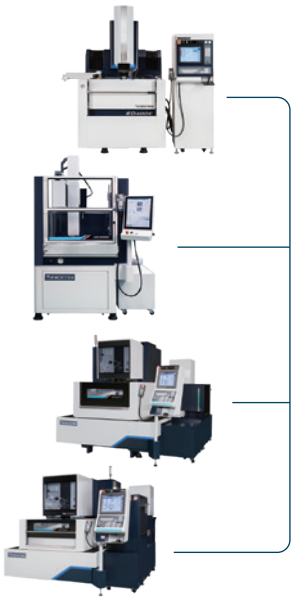






Automation

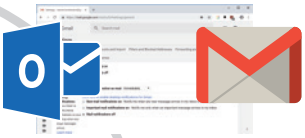
E-Link Server (Optional)



E-LINK

E-Link Server

• Get information on your phone

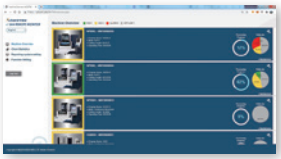


• Send alarm message by e-mail

• Machine information & Utilization rate

• Send alarm message by Line app

Machine view



NC file

Machine Status

Consumable Part Monitor

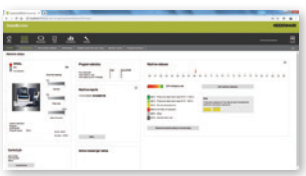
Machining Monitor

Utilization Rate Summary Graph

OPC UA

Through OPCUA international standard protocol interface link to another CNC system

Example: Heidenhain, Delta DIA View, DZ Connect system....

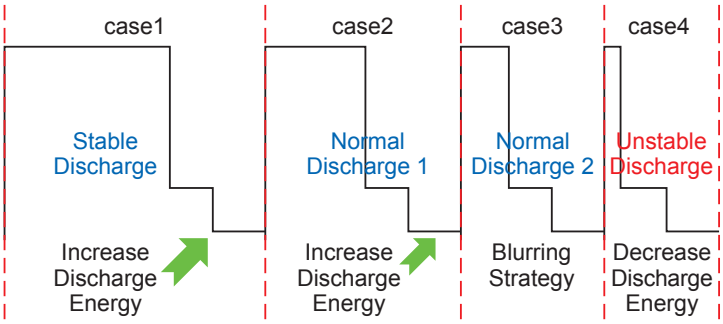


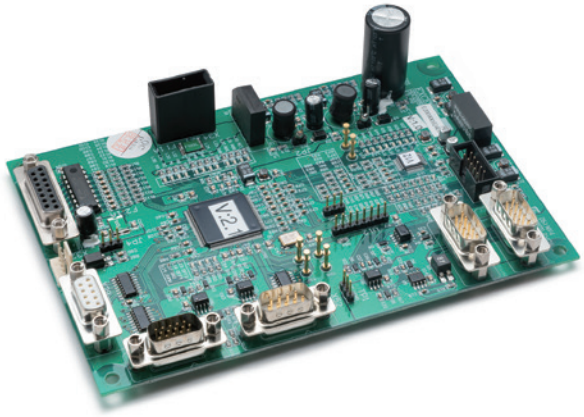
- **Generous function of erosion data base:** Automatic generator function which is featured to the provided erosion condition, where it works automatically according to the electrode material, size and erosion depth.
- **User-Friendly operation:** It is a user-friendly operation which is easier to operate and understand.
- **Auto- parameter function:** the auto-parameter function automatically adopts for quick erosion process and fine finish erosion process where the controller automatically calculates and provides best erosion condition to use which brings efficiency, accuracy and saves the working time.
- **Equal pulse generator:** For big electrode size or depth erosion, controller will calculate the servo speed and generates equal pulse for erosion which brings high accuracy after machining and helps in solving the sparking detect.
- **Special function:** for copper, graphite and tungsten carbide circuit helps to improve the erosion speed and less electrode wear.
- **ARC & Short circuit Protection:** Auto-monitor of erosion status where the ARC or Short Circuit, the generator helps to detect GAP feedback signal and auto rejects the flushing status and adjust erosion frequency.
- **Safety Protection:** Auto Fire detection system, ARC Protection, Oil Level Detection provide, safety security system and X/Y/Z axis use high resolution display system.

Fuzzy Intelligent Control

Fuzzy Intelligent Control:

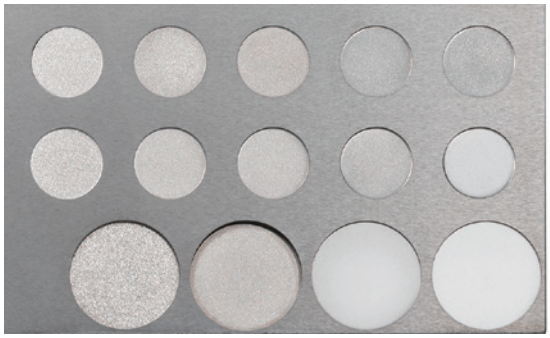
For the needs of rib, deep groove and precision detail machining, the system uses fuzzy algorithms to judge the discharge state in real time and automatically optimize the current output, effectively avoiding carbon deposits and electrode wear caused by abnormal discharge, and further improving machining efficiency, stability and electrode life.





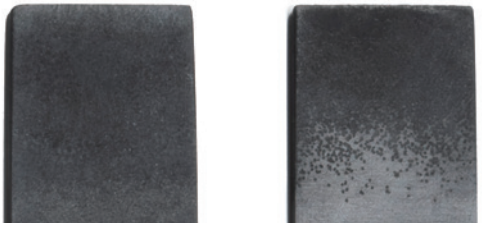
ES Power Circuit Mirror Finishing Power Supply

Utilizing next-generation ES (Extreme Surface) discharge circuit technology, it significantly improves discharge efficiency, processing efficiency, and surface quality by optimizing discharge energy output and suppressing stray capacitance effects. Under the same electrode conditions, it achieves an optimal surface roughness of Ra 0.1 μm for NAK80 material with a Ø50 mm workpiece, demonstrating excellent mirror finish performance.



Multiple surface roughness options are available to meet different processing requirements.

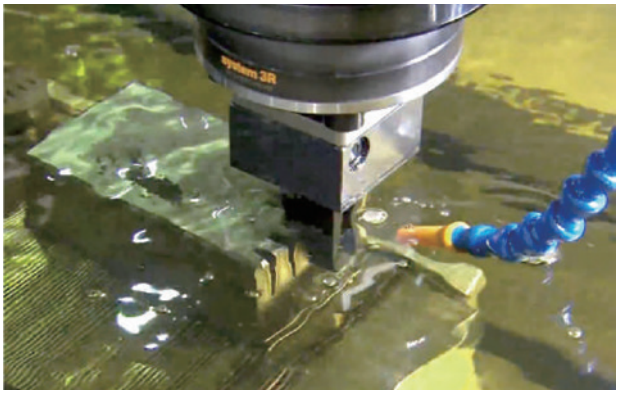
Equipped with a dedicated discharge-control chip, fast current detection, and abnormal waveform protection, along with high-speed jump motion and rapid response, to enhance machining efficiency.



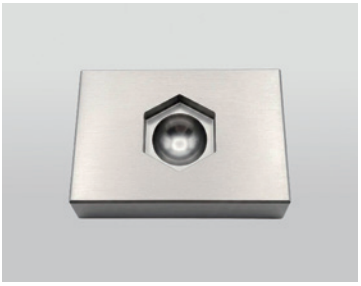
Reduction of Electrode Corner Wear

Specifications

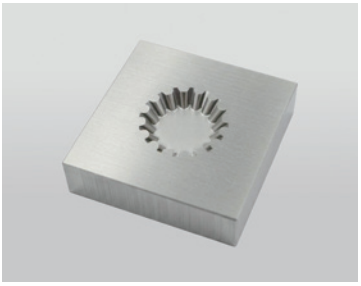
Application



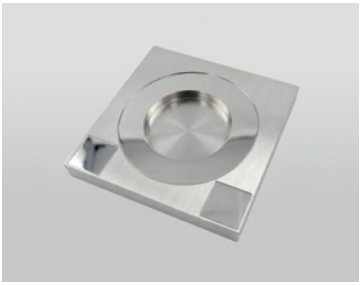
Sample



Sample: Spherical Orbiting EDM
Material: SKD-61
Electrode material: Copper
Electrode quantity: 2
Roughness: Ra 0.75 µm



Sample: Helical Gear Form EDM
Material: SKD-61
Electrode material: Copper
Electrode quantity: 2
Precision : 0.005 mm



Sample: Large-Area Mirror-Finish Form EDM
Material: S136
Electrode material: Copper
Electrode quantity: 2
Roughness: Ra 0.15 µm

Standard Equipment

- Alcohol Extinguisher
- Working Lamp
- Leveling Pad
- Flushing unit
- Paper Filter
- 1/2 Drill chuck
- Tools Box
- Clamp Jig

Optional Equipment

- C-Axis
- Auto Tool Changer
- X/Y/Z Linear Scale
- Edge Finder Ball
- Oil Chiller
- Auto Voltage Regulator
- Permanent Magnetic Pedestal
- Tungsten Carbide Sparking Circuit

Specifications

MACHINE MODEL		ED30C
X/Y Travel	mm	300x250
Z Travel	mm	300
Work Table	mm	650x350
Max. Work Piece Size	mm	720x450
Max. Work Tank Size	mm	770x500x300
Max. Work Piece Weight	kg	550
Max. Electrode Weight	kg	50
Machine Weight	kg	1450
Outside Dimensions (Machine body+Travel+Tank+Generator)	mm	2340x1690x2250
Electrode Head to Work	Table Distance	280~580
OIL FILTER TANK		
Tank Capacity	L	350
Tank Weight	kgs	-
Paper Filter		2
Outside Dimensions	mm	Built-in

*The content of this catalogue is subject to be change by the factory

Column Movement Specifications

ED400C	ED600C	ED800C	ED1000C
400x300	650x450	800x600	1000x600
350	400	500	500
700x400	1000x600	1200x700	1250x750
850x580	1290x700	1600x1000x500	1800x1000x500
950x700x450	1390x700x500	1650x1050x550	1850x1050x550
1000	3000	4000	4500
50	50	350	350
2800	3900	5000	5500
2344x2110x2410	2791x2669x2666	3260x3320x3200	3450x3320x3200
300~650	300~700	420~920	420~920
450	1200	1500	1700
115	350	450	500
3	4	4	4
1320x550x680	2020x530x1060	2200x1400x580	2300x1400x580

Column Movement Specifications

MACHINE MODEL		ED1400C	ED1600C	ED1800C	ED2200C	ED2200C-2H	ED3000C-2H
X/Y Travel	mm	1400x700	1600x750	1800x800	2200x1000	1550 (775)x1000	2550 (1275)x1000
Z Travel	mm	500	550	600	600	600	600
Work Table	mm	1700x950	1850x1000	1850x1000	2250x1100	2250x1100	3100x1100
Max. Work Piece size	mm	2100x1200x500	2100x1200x500	2500x1200x600	2700x1600x700	2700x1600x700	3700x1600x700
Work Tank Capacitor	mm	2150x1250x550	2150x1250x550	2550x1250x650	2750x1650x750	2750x1650x750	3750x1650x750
Max. Work Piece Weight	kg	6000	6000	7000	9500	10000	16000
Max. Electrode Weight	kg	450	450	500	500	500	500
Machine Weight	kg	8000	8500	9000	13500	15000	21000
Outside Dimensions (Machine body+Travel+Tank+Generator)	mm	3700x3930x3260	3740x3930x3260	3750x3930x3260	4000x4600x3960	5350x4610x3960	6500x4610x3700
Electrode Head to Work	Table Distance	550~1050	550~1050	450~1050	660~1260	760~1360	760~1360
OIL FILTER TANK							
Tank Capacity	L	2200	2600	3000	4000	5000	6500
Tank Weight	kgs	600	700	750	950	1050	1150
Paper Filter		8	8	8	8	8	8
Outside Dimensions	mm	2600x1600x580	3000x1580x640	3050x1650x640	3300x1800x780	3700x1850x780	4700x1850x780

*The content of this catalogue is subject to be change by the factory

Generator Specifications

MACHINE MODEL		50N	75N	100N	150N	200N	300N
Max. Erosion Current.		50A	75A	100A	150A	200A	300A
Max. Stock Remove Rate.	mm^3/min	400	600	800	1100	1400	1700
Max. Power Input.	KVA	4.5	6	8	12	14	20
Max. Electrode wear.		0.2 %	0.3 %	0.4 %	0.4 %	0.5 %	0.5 %
Best of surface Roughness		0.20	0.30	0.50	0.70	0.70	0.70
Generator Weight	kg	200	300	330	330+300	330+300	330+300+300
Generator Dimension (LxWxH)	mm	610x610x1885	610x610x1885	610x610x1885	(610x610x1885)x2	(610x610x1885)x2	(610x610x1885)x3

ED

SERIES

High Precision Die Sinker EDM Series

EXCETEK TECHNOLOGIES CO., LTD.
No. 42, Tinan Rd., Shengang Dist., Taichung City, Taiwan

TEL: +886 4 2520 0688
FAX: +886 4 2520 0111
www.excetek.com
sales.dp@excetek.com.tw

No.S10430