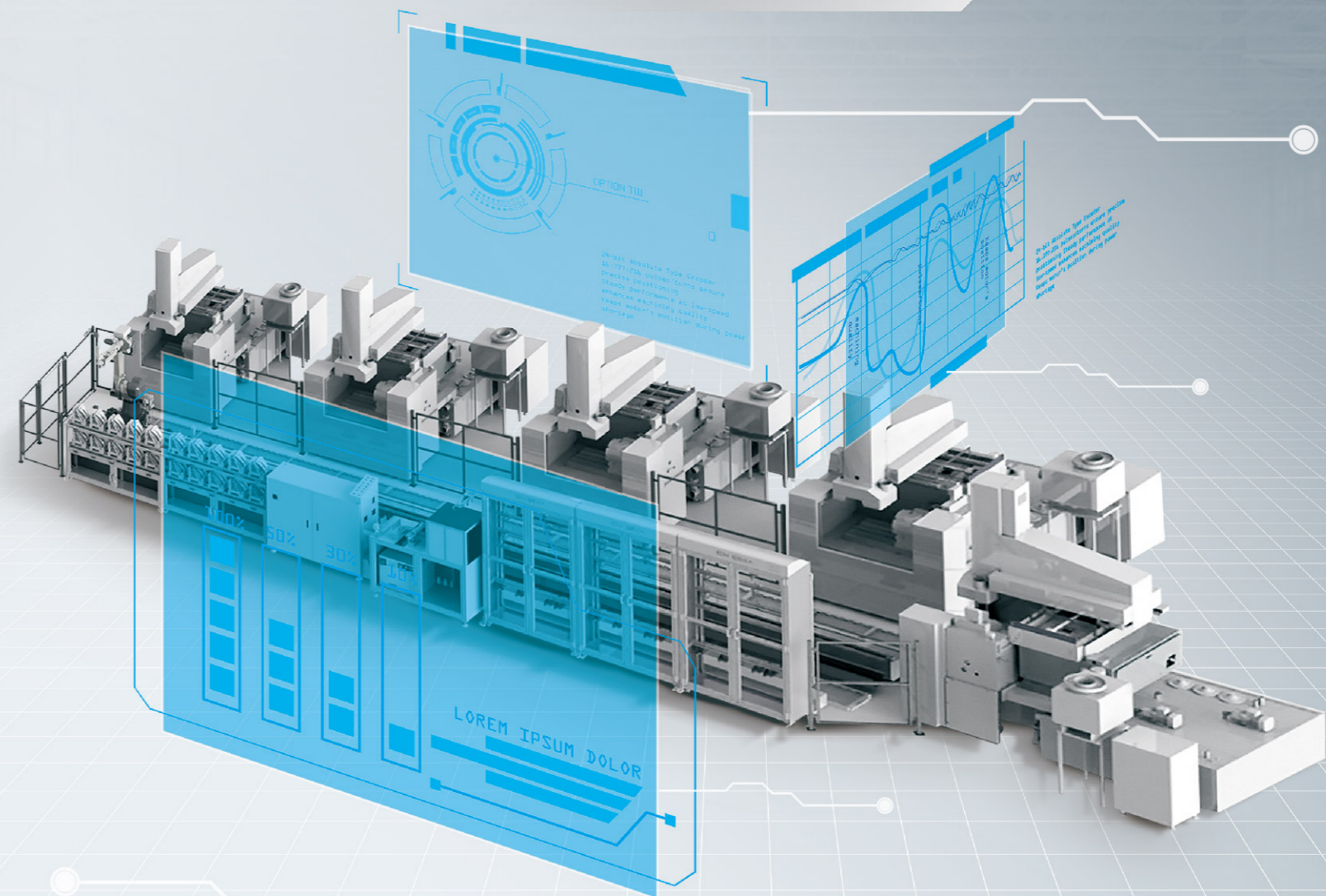


# EX

## Electrical Discharge Machine



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Persistent Quality and Performance  
Consistent Technology and Worth  
Service and Enthusiasm Oriented  
Keep Innovations and Breakthroughs



COUNTRY				
1 Canada	9 Norway	17 Lebanon	25 India	33 Philippines
2 U.S.A.	10 Germany	18 Algeria	26 Sri Lanka	34 Malaysia
3 Mexico	11 Poland	19 Tunisia	27 Korea	35 Indonesia
4 Colombia	12 Czech Republic	20 Egypt	28 China	36 Singapore
5 Peru	13 Slovenia	21 South Africa	29 Thailand	37 New Zealand
6 Brazil	14 Italy	22 Saudi Arabia	30 Vietnam	38 Australia
7 Argentina	15 Ukraine	23 Romania	31 Japan	
8 UK	16 Turkey	24 Russia	32 Taiwan	

# Profile

Excellent quality products with reasonable prices has been increasingly welcomed by worldwide buyer, OscarMax EDMs have been sold to over 40 countries in the world. With an aim to present excellence, we OscarMax has constantly conduct problem analysis in detail, conclusion and arrangement and execution adjustment.

Extreme  
Efficiency  
Outstanding  
Quality

Persistent Quality and Performance  
Consistent Technology and Worth  
Service and Enthusiasm Oriented  
Innovations and Breakthroughs Resulting from Endless Endeavors

OSCARMAX has had 35 years of history since being established in 1985. Over many years, OSCAMRAX has been totally dedicated to design and manufacturing of electrical discharge machines.

Electrical discharge machines play an important role in many manufacturing processes. By applying parametric 3D design software, we aim to shorten the time of design, research, and development. In the meantime, we can overview the final product blueprint and find the ideal design therefore increase our quality of product and competitiveness.

Until now, we have launched over 100 various models and combinations of machine bodies, generators, and operation system and continue enhancing our application capability. With the latest interface, by real-time monitoring of sparking conditions, we can adjust the most suitable parameters for our customers.

Furthermore, we have cooperated with aerospace industry to carry out the automatic production line and develop the API to connect EDM machines and automation with smart management system. In the result, we maintain the machine efficiency, increase process stability, and improve part quality. We believe that with continuous breakthrough, we are on the way to future.





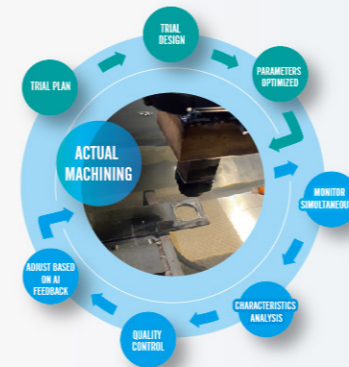
# T-ON AND T-OFF With Perfect Combination.

We are dedicated to develop the best EDM with Perfect Combination T-ON and T-OFF Just like how we should balance between work and life.

## EX System Features

### Automatic lubrication

Central #00 grease distribution.



### ATC (option)

4/6/16/20 electrodes.



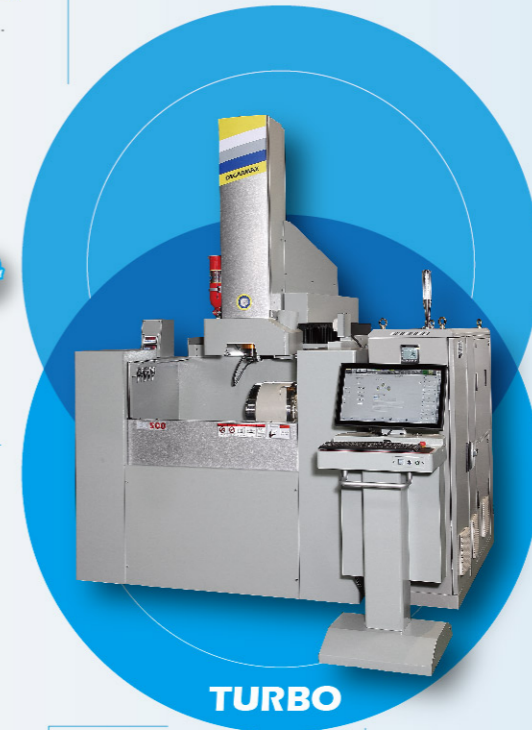
### UV Fire Detection System

UV fire sensor, automatic fire extinguisher, oil level float switches.



### DELTA AC

Delta A3 drive inside.



### Automatic door

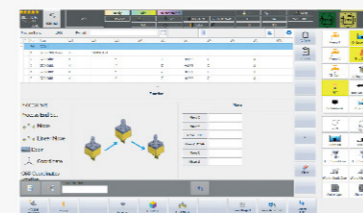
Programmable oil level. Available for s500-s1060  
Compatible with robot automation connection to load/unload workpiece.

### Movable Controller with ECO stand-by mode for power saving.

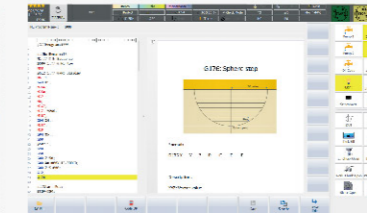
Ease of operation, touch screen on remote control box



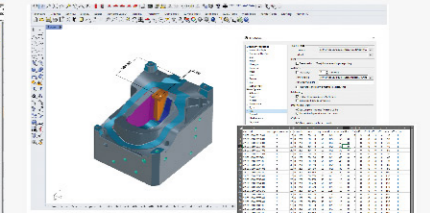
## Application Features



- Conversational interface – quick edit & images with description.
- Easy insert parameters, generate complex program for edit.
- Easy and clear icons designed.



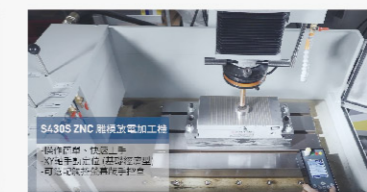
- Built-in search function – GM code generated by simply enter command.



- Able to process CAM software output through API.



- FUZZY mode allows to simply choose materials and suggest the suitable program.
- Operators are allowed to edit the FUZZY parameters to optimize.



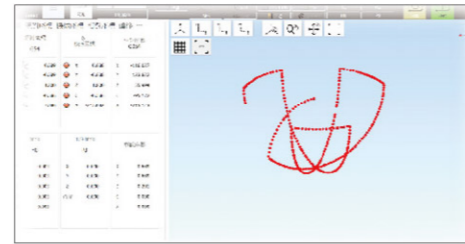
- Remote control with touch screen where easy to operate and visual check by the machine.



- OSCARMAX technicians able to do online training, problems diagnosis and system update remotely.

## System Feature

- Windows 10 Operating system with industrial CPU i3( or above)64-bit.
- 21.5" multi-touch screen with movable controller.
- Equipped with digital voltmeter, current meter, and temperature sensor etc., to monitor the machine status easily.
- Up to 6 axes control – XYZWZUV, with rotary table to satisfy complex job.
- Colored screen on remote control, unique design improves user convenience.
- ECO stand-by mode: Equipped by a motion sensor for power saving.
- UV light anti-fire monitor.
- Auto Door [Suitable for EX500-EX1060].
- Able to process CAM software output through API.
- Allow online training, problems diagnosis and system update remotely.

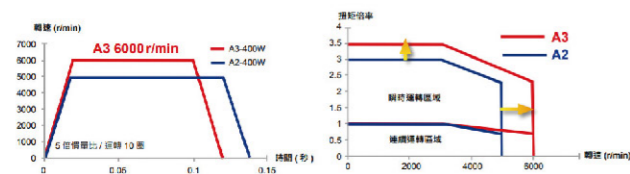


## EtherCAT Feature

- EtherCAT, AC servo system and I/O control platform equipped.
- Delta ASDA-A3 Servo Drive: Higher responsiveness and shorter settling time.
- EtherCAT I/O card with great stability and easy for integration with other applications.
- Multi-touch screen with keyboard, easy for operation.

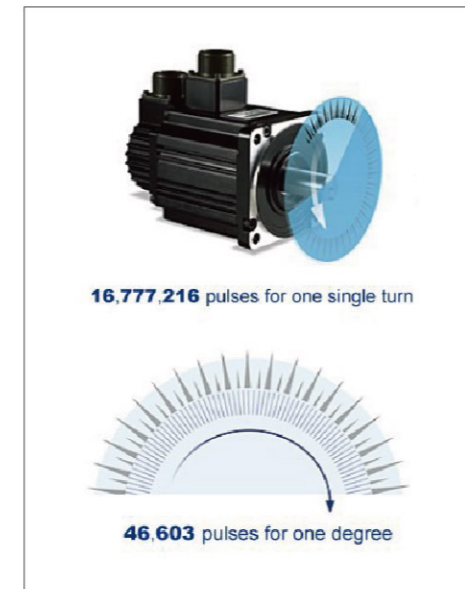
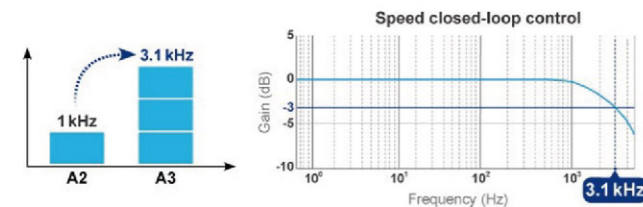


- **High speed motor with 6000 r/min and 350% peak torque**
- Increase 1000 r/min compared to A2.
- Stable current output to achieve better accuracy and roughness.



### 3.1 kHz Bandwidth

- Prompt respond between driver and servo motor to achieve precise positioning.
- Higher responsiveness and shorter settling time increase productivity.



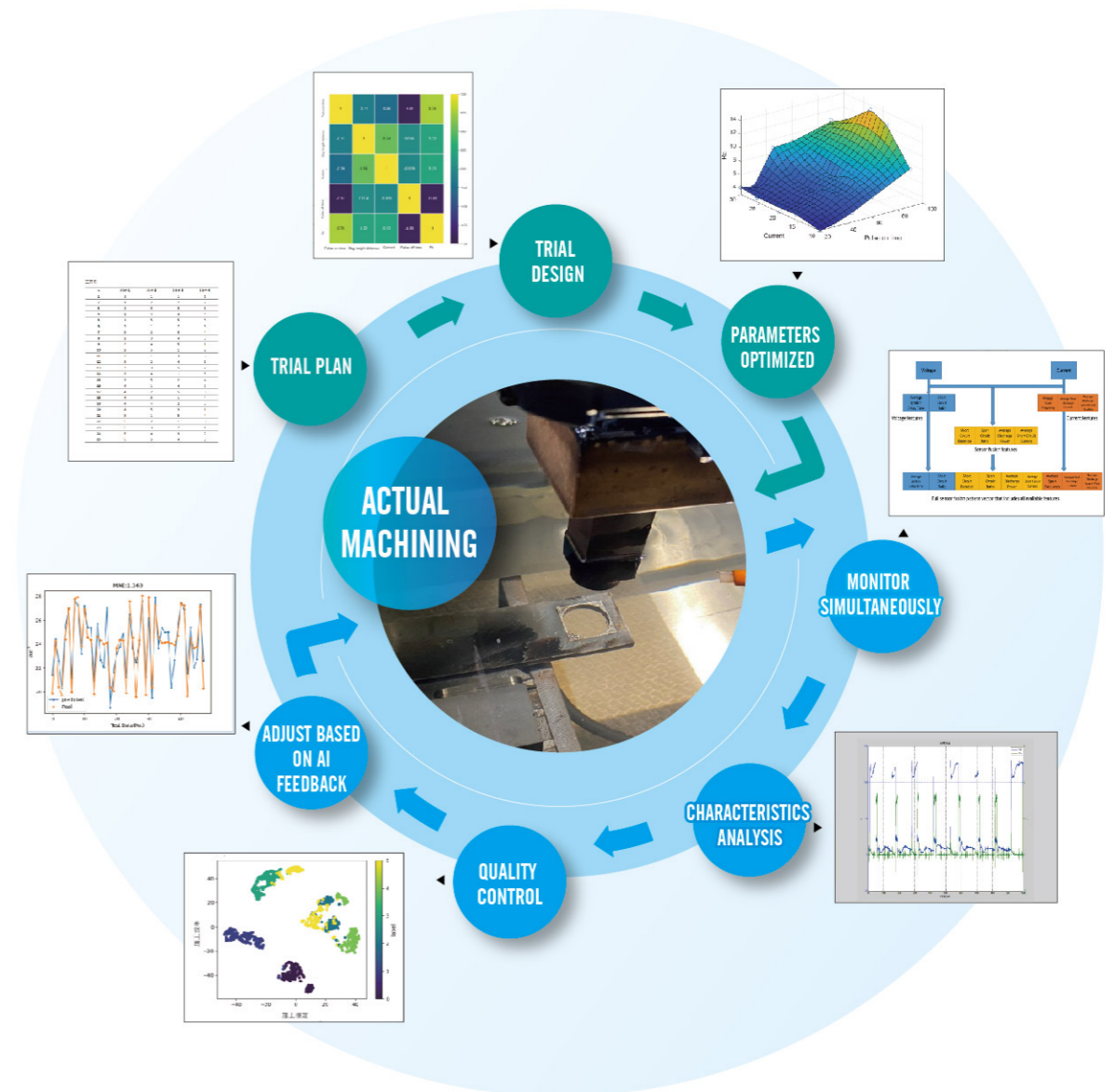
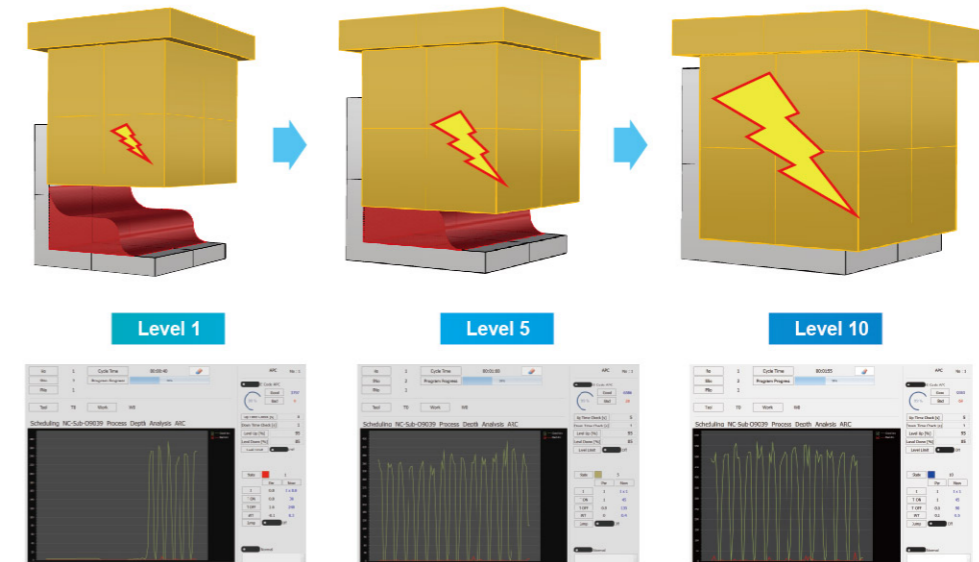
### 24-bit Absolute Type Encoder

- 16,777,216 pulses/turns ensure precise positioning.
- Steady performance at low-speed enhances machining quality.
- Keeps motor's position during power shortage.

## APC Description.

### APC – Adaptable parameters control

Massive efficiency improvement based on the real time condition monitoring



# EX Machine Features



**EX430**

EX430  
X:400  
Y:300  
Z:300



**EX500**

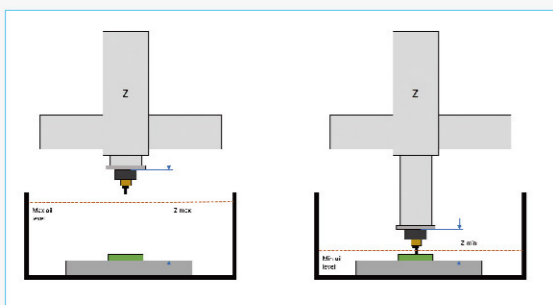
EX500  
X: 500  
Y: 400  
Z: 450



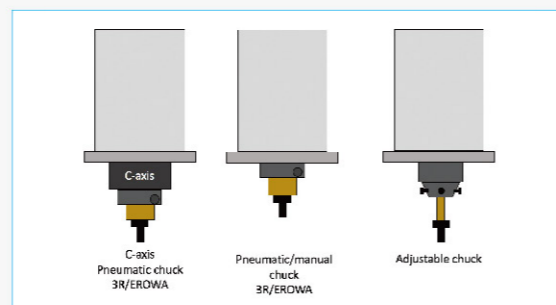
**EX750**

EX750  
X: 700  
Y: 500  
Z: 500

**Z axis travel**



**Distance between chuck and table is based on Adjustable chuck**



Structure			Table-Moving type		Column-Moving type				
Model (by size)			EX430	EX550	EX500	EX750	EX1060	EX1270	
Table Travel	X		400(16)	500	500(20)	700(28)	1000(40)	1200(47)	
	Y	mm (inch)	300(12)	400	450(19)	500(20)	600(24)	700(28)	
	Z		300(12)	350	350(14)	500(20)	500(20)	500(20)	
Max. workpiece dimensions (W x D)		mm (inch)	920x505 (36x20)	1100x630 44x25	1020x710 (40x28)	1370x850 (54x34)	1670x990 (66x39)	1860x1120 (73x44)	
Max. filling height of dielectric tank		mm (inch)	215(8.6)	260(10.4)	355(14)	355(14)	460(18.4)	460(18.4)	
Distance between chuck to table	mm (inch)		150-450 (6-18)	135-485 (5-19)	130-480 (5-19)	80-580 (3-23)	260-760 (10-30)	395-895 (15-35)	
	mm (inch)		650x350 (26x14)	800x450 (32x18)	850x450 (34x18)	1000x600 (40x24)	1250x750 (66x39)	1350x820 (73x44)	
Max. workpiece weight		kg	550	1350	2300	3000	4500	5000	
Max. electrode weight		kg	120	220	200	250	350	400	
Table Size (W x D)		mm (inch)	650x350 (26x14)	800x450 (32x18)	850x450 (34x18)	1000x600 (40x24)	1250x750 (66x39)	1350x820 (73x44)	
Machine weight		kg	1200	1950	3000	4500	5500	6500	
Tank capacity		l	380	520	850	1090	1610	1875	
Filter	Filter density		µm	20	20	20	20	20	
	Filter elements		Pcs	3	3	6	6	6	6
Max. working current		A	60	60	90	90	120	120	
Generator	Overall power consumption		KVA	6	6	10	10	12	12
	Weight		kg	320	320	350	350	380	380

Structure			Column-Moving type					
Model (by size)			EX1510	EX1880	EX2210	EX2610	EX3010	
Table Travel	X		1500(59)	1800(71)	2200(87)	2600(102)	3000(118)	
	Y	mm (inch)	1000(39)	800(31)	1000(39)	1000(39)	1000(39)	
	Z		600(24)	600(24)	600(24)	600(24)	600(24)	
Max. workpiece dimensions (W x D)		mm (inch)	2070x1570 (81x61)	2420x1220 (95x48)	2710x1580 (106x62)	3290x1690 (129x66)	3915x1580 (154x62)	
Max. filling height of dielectric tank		mm (inch)	585(23)	505(19.8)	605(23.8)	585(23)	605(23.8)	
Distance between chuck to table	mm (inch)		580-1180 (22-46)	305-905 (12-35)	575-1175 (22-46)	560-1160 (22-45)	560-1160 (22-45)	
	mm (inch)		1580x1100 (62x43)	1850x1000 (73x39)	2250x1100 (89x43)	2700x1100 (106x43)	3100x1100 (122x43)	
Machine weight		kg	12150	9000	13500	16500	19500	
Tank capacity		l	3410	2715	4035	5400	5580	
Filter	Filter density		µm	20	20	20	20	
	Filter elements		Pcs	6	8	8	8	8
Max. working current		A	120	120	120	120	120	
Generator	Overall power consumption		KVA	12	12	12	12	12
	Weight		kg	380	380	380	380	380

## Fixture Feature

Quick positioning fixtures allow fast connection between machines therefore reduce the time and accuracy changes during replacing the fixtures



## Common Accessories:

**system 3R**

ATC

**EROWA**  
system solutions

C axis

**HIRSCHMANN**

Adapter

+

or

Pneumatic Chuck

Quick Chuck

Practical example:

Drawbar

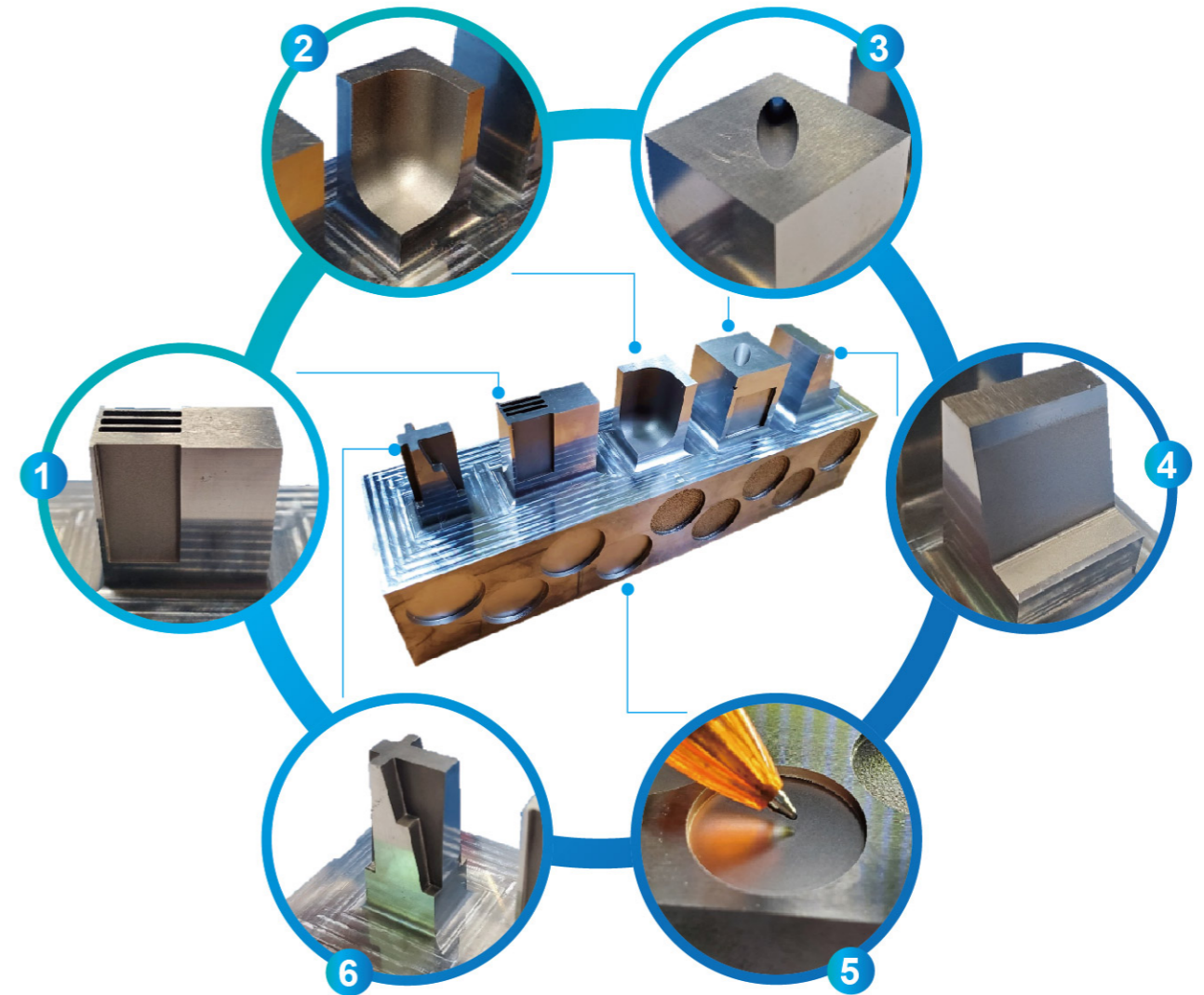
Centering Plate

Milling

Measure

## Quality Control

- All products are well tested, measured by tools to ensure quality of machines.
- Mechanical geometric measurement.
- QC procedures including accuracy test by laser. Fatigue test including operation and idle mode.



### 1 Rib1x10mm

Depth: 20mm  
Electrode: Gr ISO-63  
Number of El.: 2 (2 x 0.15)  
Roughness: VDI18/Ra0.8  
Time: 1h 10min

### 2 Corner radius12x12mm

Depth: 20mm  
Electrode: Gr ISO-63  
Number of El.: 2 (0.3 + 0.1)  
Roughness: VDI16/Ra0.6  
Time: 1h 10min

### 3 Tunnel gate

Depth: 15mm  
Electrode: Cu  
Number of El.: 1 (0.05)  
Roughness: VDI18/Ra0.8  
Time: 45min

### 4 Angled surface connection

Depth: 20mm  
Electrode: Gr  
Number of El.: 1 (0.1)  
Roughness: VDI16/Ra0.6  
Time: 40min

### 5 Surface polishing

Depth: 1.5mm  
Electrode: Cu  
Number of El.: 2 (0.1)  
Roughness: VDI6/Ra0.2  
Time: 2h 45min

### 6 Connector

Depth: 20mm  
Electrode: Gr ISO-63  
Number of El.: 2 (2 x 0.1)  
Roughness: VDI16/Ra0.6  
Time: 45min



Oil Cooling Unit with circulating System help to stabilize the temperature of processing and increase the stability of the job.

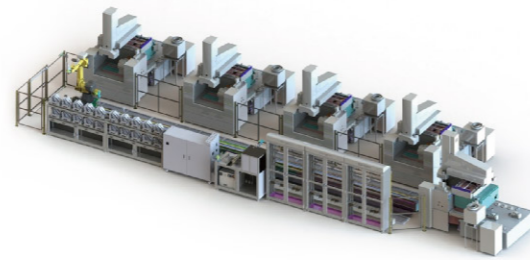


3 phase electricity input design in order to suit every country's power supply. Stabilizer to ensure works' quality and better protection for the generator.

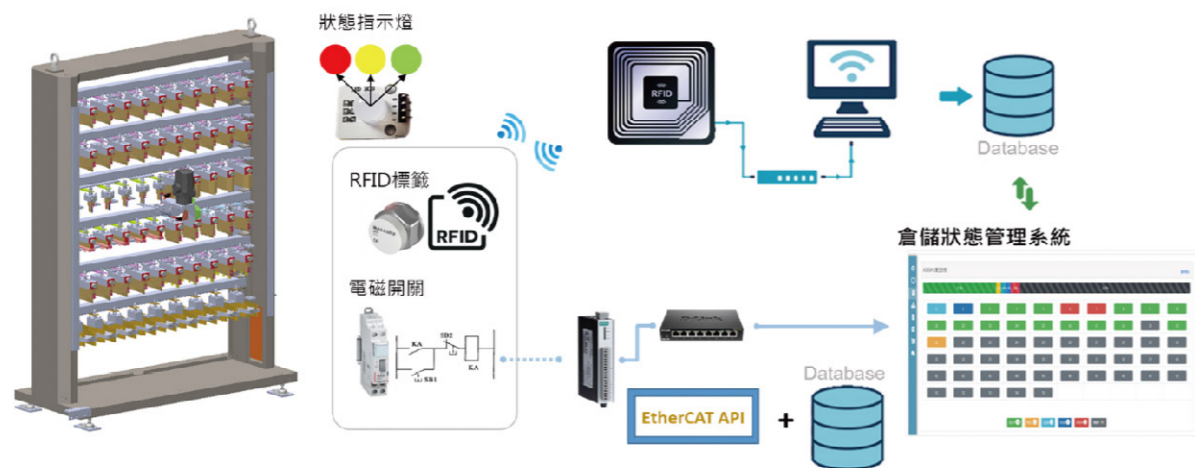
## EX Feature



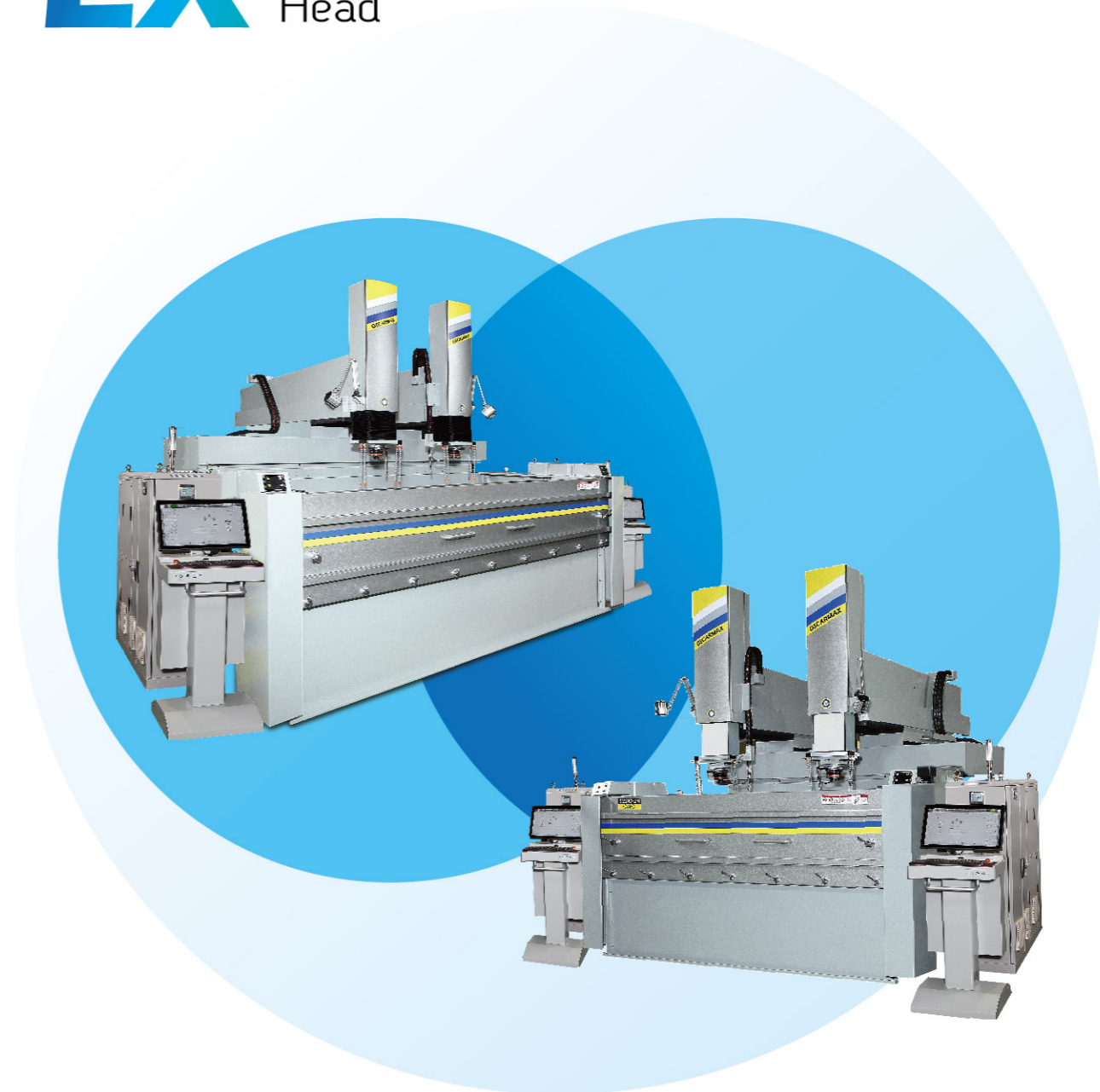
- MES can be displayed via API where available to collect the information of all production lines, utilization rate, status, and processes.
- Available to support on customized tools design projects.
- Integration with online measurement, warehouse management. With RFID tag, all information can be updated on time.
- By equipping RFID, able to manage the tools and display work details, easy to manage and track.



## EX Series Auto-production Line with RFID technology



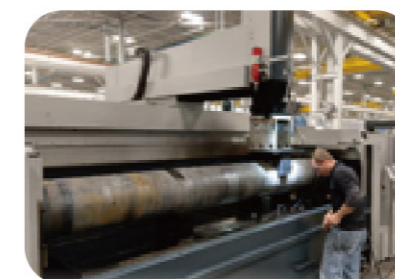
## EX Double Head



### • Examples of Application



- Same workpiece can be sparking with two spindles simultaneously.



- Two spindles can work on different jobs simultaneously therefore save work space and with better value.



- Allow large scale mold to load and spark.



## Key Features

- X, Y, Z assembled with AC servo motor where all the travel positioning speed able to reach 5M/min, increase the utilization rate.
- Remote control with touch screen where easy to operate and visual check by the machine.
- Level FC25 and above casting carries strong structure for the machine where result HRC65 and above.
- Axes are all independent ballscrew, with C5 and above screw nut and P-class extended linear guide, able to increase its precision.
- Quick submerge oil system designed with automated sensor and pneumatic door where shorten the idle time.
- Special design for manual sliding door, easy open and close without fail.



Structure			Specification of Twin-Head Column-Moving type. Available for CMAX, CNC, and NC series.				
Model (by size)			S1510-2H	S2210-2H	S2610-2H	S3010-2H	
Specification	Table Travel	X DM/SM	430/860(17/34)	775/1550(31/61)	1075/2150(42/85)	1275/2550(50/100)	
		Y	mm (inch)	1000(39)	1000(39)	1000(39)	1000(39)
		Z	mm (inch)	600(24)	600(24)	600(24)	600(24)
	Max. workpiece dimensions (W x D)	mm (inch)	2070×1570 (81×61)	2890×1590 (113×62)	3290×1690 (129×66)	3830×1590 (150×62)	
	Max. filling height of dielectric tank	mm (inch)	585(23)	585(23)	585(23)	585(23)	
	Distance between chuck to table	mm (inch)	560-1160 (22-45)	575-1175 (22-46)	560-1160 (22-45)	560-1160 (22-45)	
	Max. workpiece weight	kg	11000	10000	10000	19000	
	Max. electrode weight	kg	500	500	500	500	
	Table Size (W x D)	mm (inch)	1580×1100 (62×43)	2250×1100 (89×43)	2700×1100 (106×43)	3100×1100 (122×43)	
	Machine weight	kg	16200	15000	18000	21000	
Filter	Tank capacity	l	3410	4655	5400	5910	
	Filter density	μm	20	20	20	20	
	Filter elements	Pcs	12	12	12	12	
Generator	Max. working current	A	120	120	120	120	
	Overall power consumption	KVA	12	12	12	12	
	Weight	kg	380	380	380	380	

## Standard Accessories

Item	EX430	Moving Column
X、Y、Z axis Double Nuts Ballscrews	√	√
X、Y axis Ballscrews	—	—
X、Y、Z Linear Guides	√	√
X、Y、Z axis Linear Scale 1μm	√	√
X、Y、Z axis Servo Motor	√	√
21.5" touch screen	√	√
Auto Fire Extinguisher	√	√
Fire Sensor	Ultraviolet	
Stainless Oil Level Sensor	√	√
LED Work Lamp	√	√
Clamping Plate	√	√
Leveling Pad	√	√
Flushing Nozzle	√	√
Adjustable Electrode Holder	√	√
Filter	√	√
Drill Chuck	√	√
Tool Box & Basic Tools	√	√
Remote Controller	√	√
Signal Tower Light	√	√
Groundfos Pump	√	√
Automat door	—	EX500-EX1060
Automatic greaseric	√	√
<b>EZ spark</b> for harden workpiece circuit	√	√
<b>TURBO</b> high speed circuit	√	√

√:Standard □: available —:unavailable

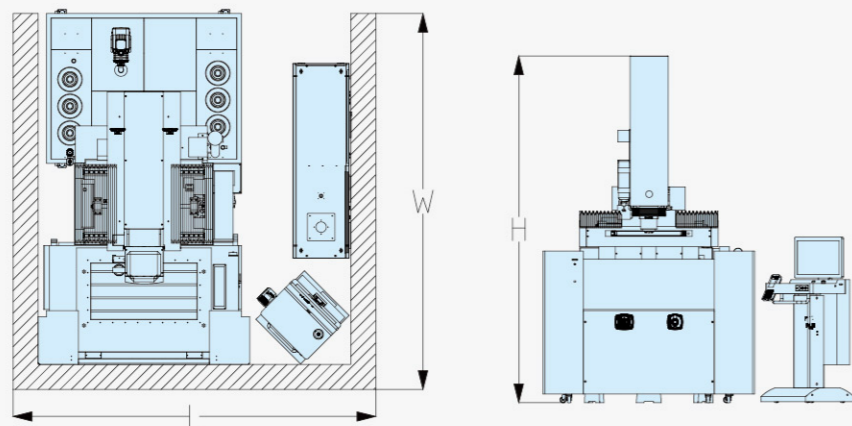
## Optional Accessories

Item	EX430	Moving Column
3R/EROWA - wheel type ATC 16/20	—	□
3R/EROWA - linear type ATC 4/5/6	ATC 4 / ATC 8	□
3R/EROWA - C axis	□	—
3R/EROWA - Manual Chuck	□	□
3R/EROWA - Automatic Chuck	□	□
Oil Mist Collector	□	□
CNC Rotary Table	□	□
ROBOT - 180 Tool Changer	—	□
Dielectric Cooler	□	□
Permanent Magnetic Table	□	□
Measuring Probe	□	□
Electrode Holder 75 & 100 type	□	□
Transformer 3Ø	380V、400V、415V	
Uninterruptible Power Supply	□	□

√:Standard □: available —:unavailable

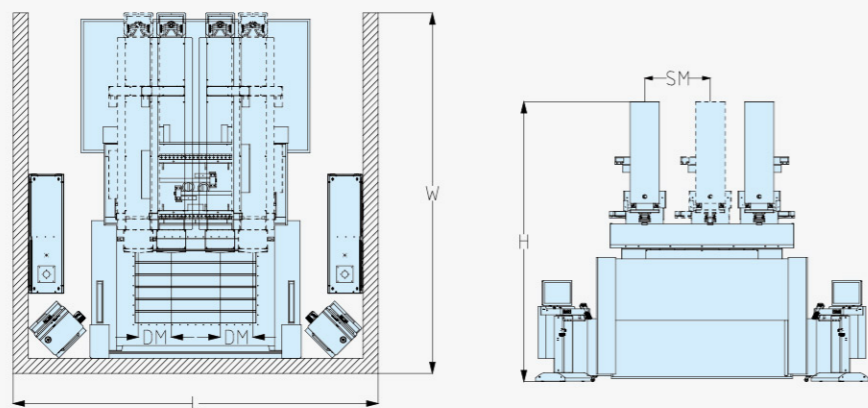
## Column-Moving type / fit for EX series

Type	W(mm / inch)	D(mm / inch)	H(mm / inch)
EX500	2493(98.5)	2810.5(110.65)	2778(109.37)
EX750	2831(114.5)	3081.5(121.3)	2990(117.7)
EX1060	2997(118)	3234.5(127.3)	3172.5(125)
EX1270	3214(126.5)	3636(143.15)	3273(128.86)
EX1510	3747(147.5)	3944(155.3)	3374(132.8)
EX1880	3567(140.4)	4454(175.4)	3670(149.8)
EX2210	4037(159)	4542(178.8)	3680(144.9)
EX2610	4787(188.5)	4652(183.1)	3680(144.9)
EX3010	5327(209.7)	4554(179.3)	3680(144.9)



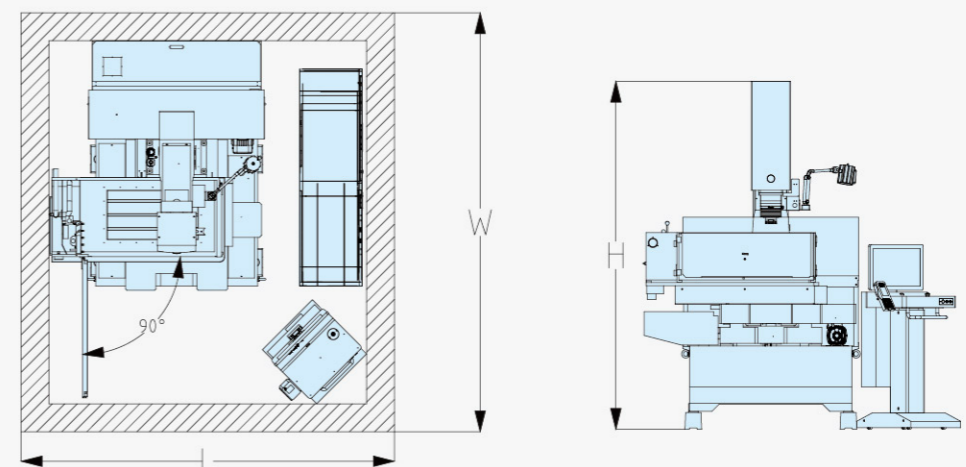
## Twin Head Column-Moving type / fit for EX series

Type	W(mm / inch)	D(mm / inch)	H(mm / inch)	SM(mm / inch)	DM(mm / inch)
EX2210-2H	5184(204.1)	4554(179.3)	3680(144.9)	1550(61)	775(30.5)
EX2610-2H	5584(219.8)	4652(183.1)	3680(144.9)	2150(84.6)	1075(42.3)
EX3010-2H	6124(241.1)	4554(179.3)	3680(144.9)	2550(100.4)	1275(50.2)

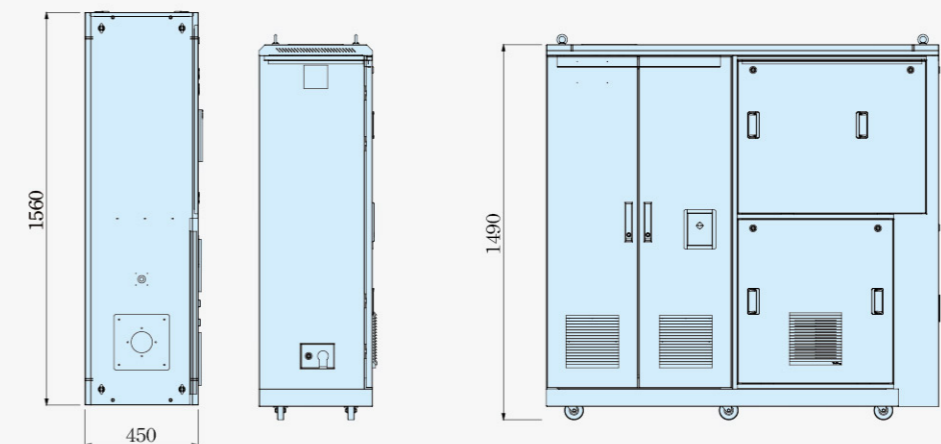


## Box Way / Linear guide ways Table-Moving type [oil tank separate] / fit for all series

Type	W(mm / inch)	D(mm / inch)	H(mm / inch)
EX430	2242(88.27)	2407(94.76)	2368(93.23)



### Generator/EX system



### Movable Controller

