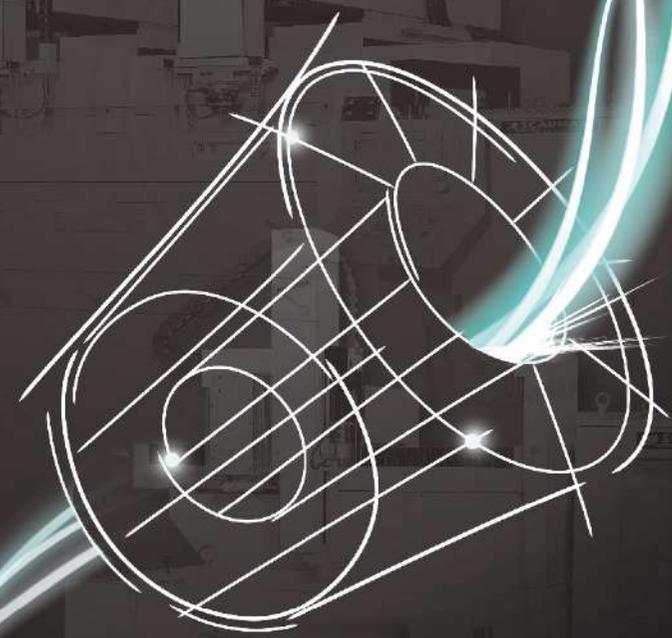


OSCARMAX

SINKER

ELECTRICAL

DISCHARGE MACHINE



OSCAR E.D.M. COMPANY LTD.

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The Leading EDM Machine in Taiwan. Persistent - Great Effort - High Quality MIT

史捷

OSCARMAX
ELECTRICAL DISCHARGE MACHINE

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

PERSISTENT
GREAT EFFORT
HIGH QUALITY MIT

04 WE ARE OSCARMAX
DM TOTAL SOLUTION, HISTORY, EXPORT
COUNTRIES

06 Description of Sinker EDM
TURBO ARC Detector system, Hardware
& Servo control system.

10 CMAX CNC NC ZNC Series
System Features CMAX 10-13, CNC 14-16,
NC CQC-280-17, ZNC 18, PNC 19,
2H Twin head Series 20-21.

**22 Standard Accessories,
Cutting Sample**
Standard Accessories, Options, Concrete
Instances, Machine layout

Profile

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 established in 1985, and has been specialized in EDM manufacturing, research and development in both machinery and technical sections since then. EDM has always been an important process for manufacturing industry, therefore OSCARMAX now offers over 80 models of EDM based on the sizes and generators for different markets and industries. Moreover, improving the efficiency, accuracy and the roughness of the work piece is what we have been continuously focusing on. With our latest design of circuit allow to switch its electrode between copper and graphite in the result of greater efficiency. By enhancing the communication with the customers and knowing the actual applications on the machines are what we are also focusing on as well. We have been training more engineers into EDM industry and improving the ability of operating the EDM machines. As the result, we also have been improving ourselves by enhancing our accuracy of machines to meet the quality of aerospace industry and be one of the suppliers. We believe that the future is only exist for those who never stop moving on!

History



Export

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.

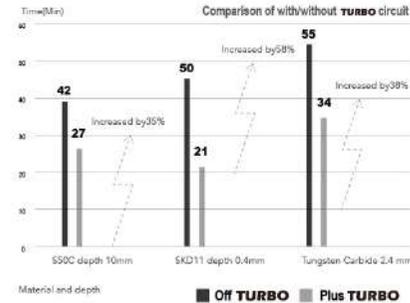




We are dedicated to develop the best EDM with Perfect Combination TON and TOFF - Just like how we should balance from the work and life to present the best of us.

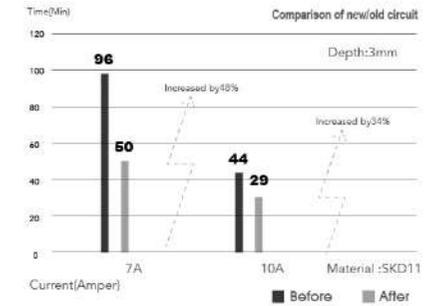
T-ON AND T-OFF With Perfect Combination.

TURBO / SPEEDY WORKING CIRCUIT



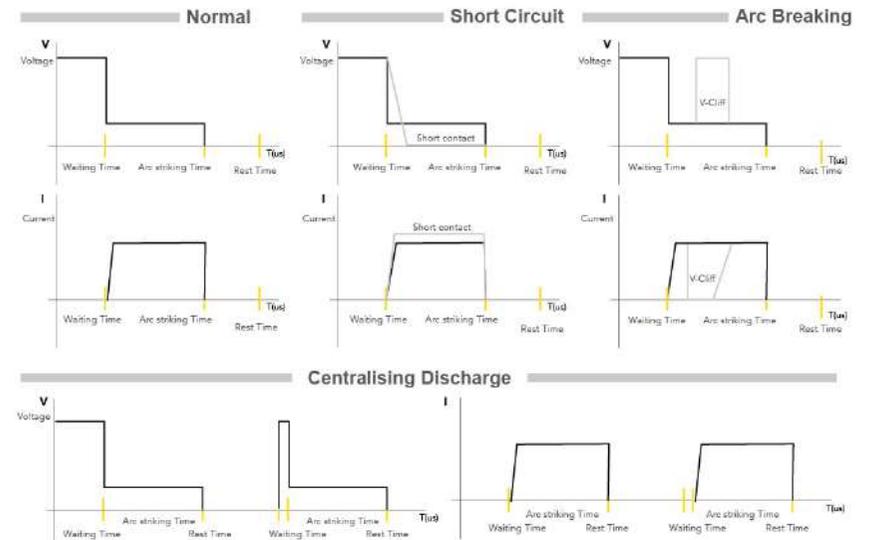
Advanced / ARCING DETECTION CIRCUIT

Able to prevent from short circuit and increase its stability of working and reduce the wear out of the electrodes.



Massive increasing on the working efficiency

FPGA chip instant reaction to increase the efficiency.



TECHNOLOGY

ELECTROMECHANICAL INTEGRATION SYSTEM

FC25 tough cast iron with quenched treatment and large contacting support to enhance the machine reliability, combine with Pre-Stretching process and equip the linear scales original imported from Europe accompanied with hf-response servo control system, plus regular routine machine maintenance to ensure the machine high accuracy and produce high quality for decades.



Delta control Features

Implements High Precision Positioning Control

- ASDA-B2 Series servo drive supports 20-bit and 17-bit encoders. It satisfies the demand for high-precision positioning control and stable operation with lower speed.
- Applying the encoder with a higher resolution can reduce the cogging torque and improve the motor's precision.

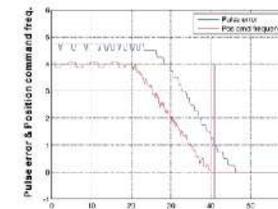
2500ppr of Torque Ripple



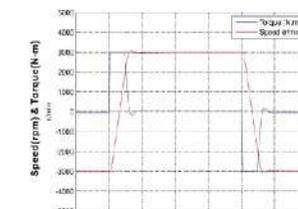
17-bit of Torque Ripple



- Outstanding performance with higher speed: Up to 550Hz frequency response and settling time is below 1ms.
- 10ms acceleration time from -3000r/min to 3000r/min when running without a load.



Example: Frame size 60mm and 400W servo motor

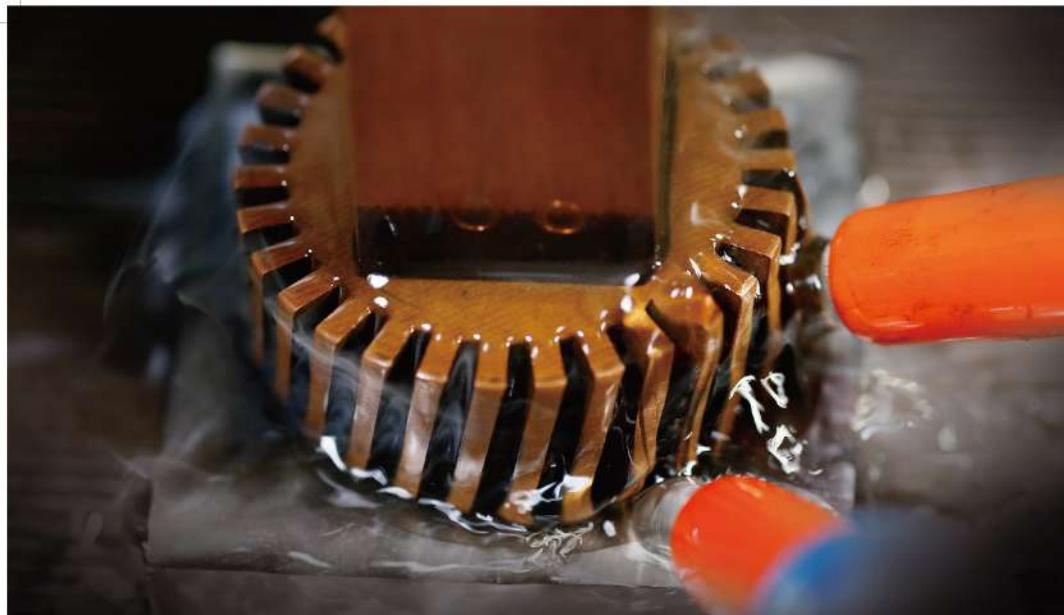


Satisfies a Variety of Industry Requirements

- Three control modes available: Built-in position, Speed, and Torque. (Speed and Torque mode can be controlled by internal parameters or analog voltage.)
- High-speed differential command (up to 4Mpps) for high precision positioning control.
- Three notch filters are provided to suppress the mechanical resonance efficiently and make the system operate more smoothly.
- Lead friction compensation parameter is specified for the application of circular interpolation, Z-axis motion and ball screw, and others to reduce the loading of the controller.
- For bar feeders and other equipment requiring high torque output, motor protection parameters are offered to protect the mechanical system



An encoder measures the actual machine position without the effect of any mechanical inaccuracies. Some of the potential sources of such errors in a machine tool such as lead screw pitch, certain amount of backlash and thermal behavior can be minimized using these encoders.



CMAX SERIES

CMAX SYSTEM FEATURES

- 3D Mode Motion Machining. Spark any different angle by vectors to do completed path cutting including angle orbit spark.
- Can equip C axis to do 4 axes simultaneously machining. Up to 7 axes control, six axes simultaneously machining.
- IPC Industrial CPU processor with 15" color LCD screen, Standard with resolution 0.001mm linear scale imported from Europe.
- Pre-Stretching process with C5 double nuts ball screw and P class roller type extra long blocks, combine with FC25 tough cast iron with quenched treatment and large contacting support to enhance the machine reliability, plus regular routine machine maintenance to ensure the machine high accuracy and produce high quality for decades.
- TURBO** high cutting speed circuit, combine with V8 ARC detector series equip FPGA high speedy precise integrated circuit to monitor the spark waves to ensure the spark efficiently precise output and abnormal arc wave during machining.
- Standard equip Copper and Graphite cutting circuits, especially the new advantaged on graphite rib type electrode cutting performance.
- Focus on multiple materials SKD11 · P20 · NAK80 · STAVAX · Stainless and special alloys Titanium alloy · Inconel · Beryllium copper · Graphite and also super harden alloy Tungsten carbide(Option EZ-spark) etc. cutting circuit.
- Feedback servo absorption system for reduced inertia and improved servo machining steadiness. Together with high rigidify bench this machine features more stable large mold surface machining servo and more uniform machining surface.
- E code functions include 2D and 3D vector, compensation, tool change, linear spiral, cylindrical track, circle track gradient spiral circle, bottom inclination machining, etc.
- Conversational window to fast programming, can be set up different spark gap (electrode undersize) for rough, middle, finish electrode, and select the required roughness and cutting depth, etc., automatically programming the cutting condition from rough to finish machining parameters, including orbit increment for each blocks in once, to upgrade the product line efficiency.
- Available to be online with robot and also link with ROBOT-180 system for automatic product line.
- Error message description and record to facilitate problem identification and fast maintenance.
- Available to equip with 3-dimension to perform pre-calibration outside of the machine.
- Standard with MPG remote control box to be operated easier.

S500 CMAX Column-Moving type

X:500
Y:400
Z:350



S860 CMAX Column-Moving type

X:800
Y:600
Z:500



Table-Moving type

X:400
Y:300
Z:300

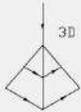
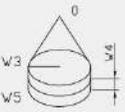
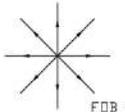
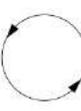
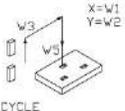


Table-Moving type

X:400
Y:300
Z:300

Specification of Table-Moving type / fit with CMAX CNC Series

| Structure | Table-Moving type | | | | | |
|-----------------------------------|--|--------------------|--------------------|--------------------|---------------------|-----------|
| | Model (by size) | S325 | S430S | S430 | S550 | |
| Table Travel | X | 300(12) | 400(16) | 400(16) | 500(20) | |
| | Y | 250(10) | 300(12) | 300(12) | 400(16) | |
| | Z | 300(12) | 300(12) | 300(12) | 350(14) | |
| Max. workpiece dimensions (W x D) | mm (inch) | 790×470 (31×18) | 920×505 (36×20) | 920×505 (36×20) | 1100×630 (44×25) | |
| | Max. filling height of dielectric tank | mm (inch) | 185(7.4) | 215(8.6) | 215(8.6) | 260(10.4) |
| Distance between chuck to table | mm (inch) | 150-450 (6-18) | 150-450 (6-18) | 150-450 (6-18) | 135-485 (5-19) | |
| | Max. workpiece weight | kg | 550 | 550 | 700 | 1350 |
| Max. electrode weight | kg | 120 | 120 | 120 | 220 | |
| Table Size (W x D) | mm (inch) | 650×350 (26×14) | 650×350 (26×14) | 650×350 (26×14) | 800×450 (32×18) | |
| | Machine weight | kg | 1150 | 1200 | 1350 | 1950 |
| Filter | Tank capacity | l | 350 | 380 | 360 | 520 |
| | Filter density | µm | 10 | 10 | 10 | 10 |
| | Filter elements | Pcs | 3 | 3 | 3 | 3 |
| Generator | Max. working current | A | 60 | 60 | 60 | 60 |
| | Overall power consumption | KVA | 6 | 6 | 6 | 6 |
| Weight | kg | 320 | 320 | 320 | 320 | |

| | | | |
|---|---|---|--|
|  Square Hole Enlargement 3D |  Circle Cycle |  Circle Cycle |  Square Cycle |
|  Edge Cycle |  Diagonal Cycle |  Square Line Cycle |  Circular Line Cycle |
|  4 Edge Work |  Spiral Cylinder |  Spiral circle 2 |  Cylinder 2 |
|  TC Hole Enlargement |  Outer Circle OUT_CIR |  Offset Movement |  Line Multi-HOLE HOLE (LINE) |
|  Grid Multi-hole 1 (MULT 1) |  Grid Multi-hole 2 (MULT 2) |  Grid Multi-hole 3 (MULT 3) |  Circle Multi-hole HOLE(CIR) |

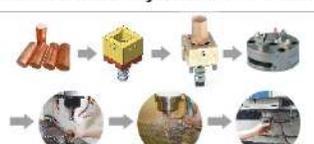
C axis functions

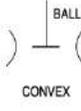
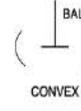
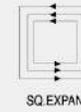
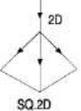
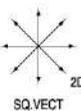
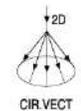
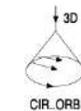
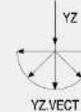
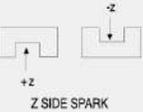
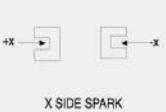
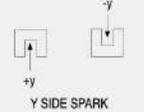

ROTATION


INDEXING


HELICAL

3R & EROWA ITS system brief introduction



| | | | |
|---|---|---|---|
|  CIR.TAPER |  SQ.TAPER |  CONVEX |  CONVEX |
|  SQ.PYR |  ANGLE |  CIR.EXPAN |  SQ.EXPAN |
|  SQ.2D |  SQ.VECT |  CIR.VECT |  CIR.ORB |
|  P_CIR VECT |  P_SQ VECT |  XZ.VECT |  YZ.VECT |
|  CIR.CLY |  SQ.CLY |  CIR.PLANE |  SQ.PLANE |
|  Z SIDE SPARK |  X SIDE SPARK |  Y SIDE SPARK |  CIR.2D |

CNC SYSTEM FEATURES

- 2.5D mode motion machining, Side spark, XY, YZ, XZ, planes Orbit expanding spark.
- IPC industrial CPU processor with 15" color LCD screen, Standard with resolution 0.001mm linear scale original imported from Europe.
- Pre-Stretching process with C5 double nuts ball screw and P class roller type extra long blocks, combine with FC25 tough cast iron with quenched treatment and large contacting support to enhance the machine reliability, plus regular routine machine maintenance to ensure the machine high accuracy and produce high quality for decades.
- TURBO** high cutting speed circuit, combine with V8 ARC detector series equip FPGA high speedy precise integrated circuit to monitor the spark waves to ensure the spark efficiently precise output and abnormal arc wave during machining.
- Standard equip Copper and Graphite cutting circuits, especially the new advantaged on graphite rib type electrode cutting performance.
- Focus on multiple materials SKD11 · P20 · NAK80 · STAVAX · Stainless and special alloys Titanium alloy · Inconel · Beryllium

- copper · Graphite and also super harden alloy Tungsten carbide(Option EZ-spark) etc. cutting circuit.
- Feedback servo absorption system for reduced inertia and improved servo machining steadiness. Together with high rigidify bench this machine features more stable large mold surface machining servo and more uniform machining surface. Auto edge finding, mold center and hole center finding, multiple positioning, side spark and different planes directions orbit spark.
- Fuzzy edit system to fast edit spark parameter, to set the spark gap(electrode undersize), required roughness, cutting depth, etc., automatically programming the cutting condition from rough to finish machining parameters, including orbit increment for each blocks to reduce the electrode quantity to upgrade the product line efficiency.
- Memory for multiple coordinates setup, job files, custom spark condition and call out anytime from hotkey on the control panel or set into the program.
- Standard with MPG remote control box to be operated easier.

S550 CNC Table-Moving type

X:500
Y:400
Z:350



S430S CNC Table-Moving type

X:400
Y:300
Z:300

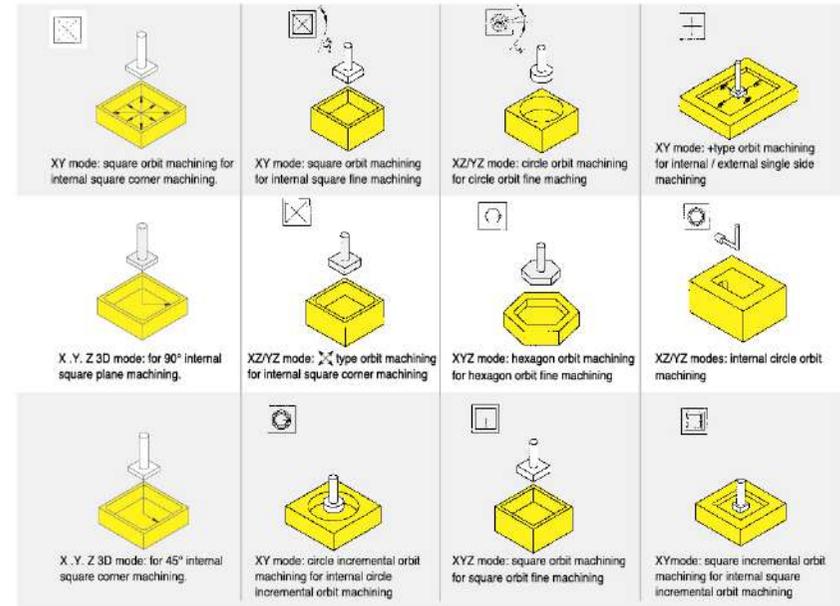


S1470 CNC Column-Moving type

X:1400
Y:700
Z:500



Description of CNC 2.5D mode Orbit expanding spark function.



Specification of Column-moving type / fit with CMAX CNC NC series

| Structure | | Column-Moving type | | | |
|-----------------|-----------------------------------|--|---------------------|---------------------|---------------------|
| Model (by size) | | S500 | S645 | S750 | |
| SPECIFICATION | Table Travel | X | 500(20) | 600(24) | 700(28) |
| | | Y | 400(16) | 450(18) | 500(20) |
| | | Z | 350(14) | 400(16) | 500(20) |
| | Max. workpiece dimensions (W x D) | mm (inch) | 1020×710 (40×28) | 1270×850 (50×34) | 1370×850 (54×34) |
| | | Max. filling height of dielectric tank | mm (inch) | 355(14) | 355(14) |
| | Distance between chuck to table | mm (inch) | 130-480 (5-19) | 125-525 (5-21) | 80-580 (3×23) |
| | | Max. workpiece weight | kg | 2300 | 3000 |
| | Max. electrode weight | kg | 200 | 250 | 250 |
| | Table Size (W x D) | mm (inch) | 850×450 (34×18) | 1000×600 (40×24) | 1000×600 (40×24) |
| | | Machine weight | kg | 3000 | 3900 |
| Filter | Tank capacity | l | 850 | 965 | 1090 |
| | Filter density | µm | 10 | 10 | 10 |
| | Filter elements | Pcs | 6 | 6 | 6 |
| Generator | Max. working current | A | 90 | 90 | 90 |
| | Overall power consumption | KVA | 10 | 10 | 10 |
| Weight | kg | 350 | 350 | 350 | |

NC SERIES

NC SYSTEM FEATURE



| Structure | | Column-Moving type | | | | | | |
|---------------------------|--|---------------------|---------------------|---------------------|----------------------|----------------------|----------------------|----------------------|
| Model (by size) | | S860 | S1060 | S1270 | S1470 | S1510 | S1675 | |
| SPECIFICATION | Table Travel | X | 800(31) | 1000(40) | 1200(47) | 1400(55) | 1500(59) | 1600(63) |
| | | Y | 600(24) | 600(24) | 700(28) | 700(28) | 1000(39) | 750(30) |
| | | Z | 500(20) | 500(20) | 500(20) | 500(20) | 600(24) | 550(22) |
| | Max. workpiece dimensions (W x D) | mm (inch) | 1670×990 (66×39) | 1670×990 (66×39) | 1860×1120 (73×44) | 2420×1220 (95×48) | 2070×1570 (81×61) | 2420×1220 (95×48) |
| | | mm (inch) | 460(18.4) | 460(18.4) | 460(18.4) | 505(19.8) | 585(23) | 505(19.8) |
| | Max. filling height of dielectric tank | mm (inch) | 265-765 | 260-760 | 395-895 | 355-855 | 580-1180 | 330-880 |
| | | mm (inch) | (10-30) | (10-30) | (15-35) | (14-33) | (22-46) | (13-34) |
| | Max. workpiece weight | kg | 4000 | 4500 | 5000 | 6000 | 11000 | 6500 |
| | | kg | 350 | 350 | 400 | 450 | 500 | 450 |
| | Max. electrode weight | kg | 350 | 350 | 400 | 450 | 500 | 450 |
| kg | | 350 | 350 | 400 | 450 | 500 | 450 | |
| Table Size (W x D) | mm (inch) | 1250×750 (50×30) | 1250×750 (50×30) | 1350×820 (52×32) | 1850×1000 (73×39) | 1580×1100 (62×43) | 1850×1000 (73×39) | |
| | mm (inch) | 1250×750 (50×30) | 1250×750 (50×30) | 1350×820 (52×32) | 1850×1000 (73×39) | 1580×1100 (62×43) | 1850×1000 (73×39) | |
| Filter | Machine weight | kg | 5000 | 5500 | 6500 | 8000 | 14700 | 8500 |
| | Tank capacity | l | 1430 | 1610 | 1875 | 2080 | 3410 | 2560 |
| | Filter density | µm | 10 | 10 | 10 | 10 | 10 | 10 |
| Generator | Filter elements | Pcs | 6 | 6 | 6 | 6 | 6 | 8 |
| | Max. working current | A | 90 | 120 | 120 | 120 | 120 | 120 |
| Overall power consumption | KVA | 10 | 12 | 12 | 12 | 12 | 12 | |
| | Weight | kg | 350 | 380 | 380 | 380 | 380 | 380 |

| Structure | | Column-Moving type | | | | | |
|---------------------------|--|----------------------|----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Model (by size) | | S1880 | S2010 | S2210 | S2610 | S3010 | |
| SPECIFICATION | Table Travel | X | 1800(71) | 2000(79) | 2200(87) | 2600(102) | 3000(118) |
| | | Y | 800(31) | 1000(39) | 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) | 2420×1220 (95×48) | 2710×1580 (106×62) | 2710×1580 (106×62) | 3290×1690 (129×66) | 3915×1580 (154×62) |
| | | mm (inch) | 505(19.8) | 605(23.8) | 605(23.8) | 585(23) | 605(23.8) |
| | Max. filling height of dielectric tank | mm (inch) | 305-905 | 585-1185 | 575-1175 | 560-1160 | 560-1160 |
| | | mm (inch) | (12-35) | (23-46) | (22-46) | (22-45) | (22-45) |
| | Max. workpiece weight | kg | 7000 | 9500 | 9500 | 10000 | 16000 |
| | | kg | 500 | 500 | 500 | 500 | 500 |
| | Max. electrode weight | kg | 500 | 500 | 500 | 500 | 500 |
| kg | | 500 | 500 | 500 | 500 | 500 | |
| Table Size (W x D) | mm (inch) | 1850×1000 (73×39) | 2250×1100 (89×43) | 2250×1100 (89×43) | 2700×1100 (106×43) | 3100×1100 (122×43) | |
| | mm (inch) | 1850×1000 (73×39) | 2250×1100 (89×43) | 2250×1100 (89×43) | 2700×1100 (106×43) | 3100×1100 (122×43) | |
| Filter | Machine weight | kg | 9000 | 12500 | 13500 | 16500 | 19500 |
| | Tank capacity | l | 2715 | 3915 | 4035 | 5400 | 5580 |
| | Filter density | µm | 10 | 10 | 10 | 10 | 10 |
| Generator | Filter elements | Pcs | 8 | 8 | 8 | 8 | 8 |
| | Max. working current | A | 120 | 120 | 120 | 120 | 120 |
| Overall power consumption | KVA | 12 | 12 | 12 | 12 | 12 | |
| | Weight | kg | 380 | 380 | 380 | 380 | 380 |

- Automatic positioning, side spark machining for X+, X-, Y+, Y-, Z+, Z- different direction from rough to finish surface.
- IPC industrial CPU processor with 15" color LCD screen, Standard with resolution 0.005mm linear scale imported from Europe.
- Pre-stretching process with C5 double nuts ball screw and P class roller type extra long blocks, combine with FC25 tough cast iron with quenched treatment and large contacting support to enhance the machine reliability, plus regular routine machine maintenance to ensure the machine high accuracy and produce high quality for decades. [For NC moving column type specification]
- V8 ARC detector series equip FPGA high speedy precise integrated circuit to monitor the spark waves to ensure the spark efficiently precise output and abnormal arc wave during machining. [Option: **TURBO** high cutting speed circuit]
- Standard equip Copper and Graphite cutting circuits, especially the new advantaged on graphite rib type electrode cutting performance.
- Focus on multiple materials SKD11 · P20 · NAK80 · STAVAX · Stainless and special alloys Titanium alloy · Inconel · Beryllium

- copper · Graphite and also super harden alloy Tungsten carbide (Option EZ-spark) etc. cutting circuit.
- Feedback servo absorption system for reduced inertia and improved servo machining steadiness. Together with high rigidity bench this machine features more stable large mold surface machining servo and more uniform machining surface.
- Auto edge finding, mold center and hole center finding, multiple positioning, side spark.
- Fuzzy edit system to fast edit spark parameter, to set the spark gap (electrode undersize), required roughness, cutting depth, etc., automatically programming the cutting condition from rough to finish machining parameters, including orbit increment for each blocks to reduce the electrode quantity to upgrade the product line efficiency. [Orbit function required COC-280 system]
- Memory for multiple coordinates setup, job files, custom spark condition and call out anytime from hotkey on the control panel or set into the program.
- Standard with MPG remote control box to be operated easier.

S550 NC

Table-Moving type

X:500
Y:400
Z:200+300



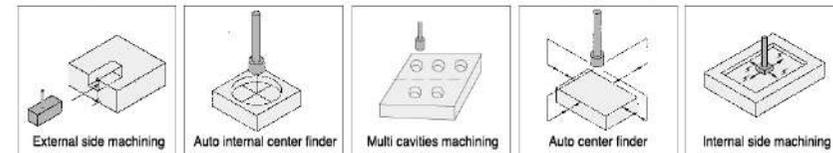
S645 NC

Column-Moving type

X:600
Y:450
Z:400



Description of NC series auto edge finding, Positioning, side spark functions.

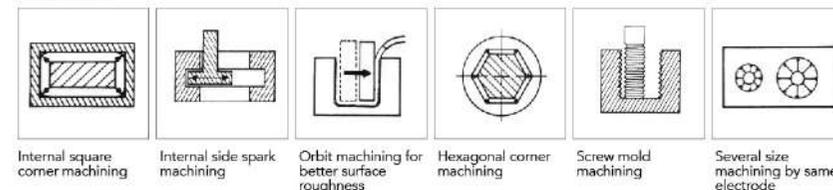


Option: COC-280 Orbit cut – fit with NC, ZNC, PNC (COC-200)



| Features | | | |
|---|---------------|-------------------|------------|
| 1. This device is used to connect with OSCARMAX EDM ZNC & NC series to carry out the features of ORBIT cutting. | | | |
| 2. It can be combined with EROWA or 3R quick chuck system. | | | |
| Max. load | 15kg | Vertical accuracy | ±0.005mm |
| Dimension | 200×200×220mm | Horizon accuracy | ±0.005mm |
| Weight | 13kg | Repeat accuracy | 0.01mm |
| XY travel | ∅10mm | Suitable model | NC,ZNC,PNC |

Function



ZNC SERIES

ZNC SYSTEM FEATURES

1. Immediate battle type with X, Y axes manual wheels machine with linear scales for high accuracy positioning, available for Z-direction spark from rough to finish surface.
2. IPC Industrial CPU processor with 15" color LCD screen, Standard with resolution 0.005mm linear scale original imported from Europe.
3. Grinding C7 grade or higher ball screw and scrapping of Art of precise machine, combine with FC25 tough cast iron with quenched treatment and large contacting support to enhance the machine reliability, plus regular routine machine maintenance to ensure the machine high accuracy and produce high quality for decades. [also for NC series – moving table type specification]
4. V8 ARC detector series equip FPGA high speedy precise integrated circuit to monitor the spark waves to ensure the spark efficiently precise output and abnormal arc wave during machining. [Option: **TURBO** high cutting speed circuit]
5. Standard equip Copper and Graphite cutting circuits, especially the new advantaged on graphite rib type electrode cutting performance.
6. Focus on multiple materials SKD11、P20、NAK80、STA/VAX、Stainless and special alloys Titanium alloy、Inconel、Beryllium copper、Graphite and also super harden alloy Tungsten carbide(Option: EZ-spark) etc. cutting circuit.
7. Feedback servo absorption system for reduced inertia and improved servo machining steadiness. Together with high rigidly bench this machine features more stable large mold surface machining servo and more uniform machining surface.
8. Fuzzy edit system to fast edit spark parameter, to set the spark gap (electrode undersize), required roughness, cutting depth, etc., automatically programming the cutting condition from rough to finish machining parameters, including orbit increment for each blocks to reduce the electrode quantity to upgrade the product line efficiency. [Orbit function required COG-280 system]
10. Memory for multiple coordinates setup, job files, custom spark condition and call out anytime from hotkey on the control panel or set into the program.



S325 ZNC

X:300
Y:250
Z:150+200

S550 ZNC

X:500
Y:400
Z:200+300



S755 ZNC

X:700
Y:550
Z:250+300



PNC SERIES

PNC SYSTEM FEATURES

1. Conventional economic type with X, Y axes manual wheels machine with linear scales for high accuracy positioning, available for Z-direction spark from rough to finish surface.
2. Industrial grade micro-processor, common card design and well planned code version, standard with resolution 0.005mm linear scale original imported from Europe.
3. Grinding C7 grade or higher ball screw and scrapping of Art of precise machine, combine with FC25 tough cast iron with quenched treatment and large contacting support to enhance the machine reliability, plus regular routine machine maintenance to ensure the machine high accuracy and produce high quality for decades.
4. V8 ARC detector series equip FPGA high speedy precise integrated circuit to monitor the spark waves to ensure the spark efficiently precise output and abnormal arc wave during machining. [Option: **TURBO** high cutting speed circuit]
5. Standard equip Copper and Graphite cutting circuits, especially the new advantaged on graphite rib type electrode cutting performance.
6. Feedback servo absorption system for reduced inertia and improved servo machining steadiness. Together with high rigidly bench this machine features more stable large mold surface machining servo and more uniform machining surface.
7. Built-in C code for different spark ampere to be call out, different ampere will make different cutting speed and surface roughness. Comprehensive safety protection including fire proof, auto fire.
8. Extinguisher, liquid level and arc detector, and equip work lamp.

S430S PNC

X:400
Y:300
Z:180+250



Specification of Box Way Table-moving type --fit with NC,ZNC,PNC series

| SPECIFICATION | Structure | | Table-Moving type | | | | |
|-----------------------------------|--|-----------|--------------------|--------------------|--------------------|---------------------|---------------------|
| | Model (by size) | | S325 | S430S | S430 | S550 | S755 |
| Table Travel | X | mm (inch) | 300(12) | 400(16) | 400(16) | 500(20) | 700(28) |
| | Y | mm (inch) | 250(10) | 300(12) | 300(12) | 400(16) | 550(22) |
| | Z | mm (inch) | 150(6) | 180(7) | 180(7) | 200(8) | 250(10) |
| Second spindle travel | | mm (inch) | 200(8) | 250(10) | 250(10) | 300(12) | 300(12) |
| Max. workpiece dimensions (W x D) | | mm (inch) | 740×485 (29×19) | 945×510 (37×20) | 945×510 (37×20) | 1100×630 (44×25) | 1630×950 (40×28) |
| | Max. filling height of dielectric tank | mm (inch) | 185(7.4) | 215(8.6) | 215(8.6) | 260(10.4) | 385(14) |
| Distance between chuck to table | | mm (inch) | 20-370 (0.8-14) | 20-450 (0.8-17) | 20-450 (0.8-17) | 100-600 (4-23) | 190-740 (5-19) |
| | Max. workpiece weight | kg | 550 | 550 | 700 | 1350 | 2000 |
| Max. electrode weight | kg | 120 | 120 | 120 | 220 | 250 | |
| Table Size (W x D) | | mm (inch) | 650×350 (26×14) | 650×350 (26×14) | 650×350 (26×14) | 800×450 (32×18) | 1100×600 (34×18) |
| | Machine weight | kg | 1150 | 1200 | 1350 | 1950 | 3100 |
| Filter | Tank capacity | l | 350 | 380 | 360 | 520 | 1120 |
| | Filter density | μm | 10 | 10 | 10 | 10 | 10 |
| | Filter elements | Pcs | 3 | 3 | 3 | 3 | 4 |
| Generator | Max. working current | A | 60 | 60 | 60 | 60 | 90 |
| | Overall power consumption | KVA | 6 | 6 | 6 | 6 | 10 |
| | Weight | kg | 320 | 320 | 320 | 320 | 350 |

S2010/S2210-2H

S2010-2H
X DM/SM:675/1350
Y:1000
Z:600

S2210-2H
X DM/SM:775/1550
Y:1000
Z:600



Structure



S1510-2H

X DM/SM:430/860
Y:1000
Z:600



S3010-2H

X DM/SM:1275/2550
Y:1000
Z:600



Structure

TWIN HEAD Column-Moving type

| Model (by size) | | | S1510-2H | S2010-2H | S2210-2H | S2610-2H | S3010-2H | |
|-----------------|--|-----------|----------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| SPECIFICATION | X DM/SM | | 430/860(17/34) | 675/1350(27/55) | 775/1550(31/61) | 1075/2150(42/85) | 1275/2550(50/100) | |
| | Table Travel | Y | mm (inch) | 1000(39) | 1000(39) | 1000(39) | 1000(39) | 1000(39) |
| | | Z | mm (inch) | 600(24) | 600(24) | 600(24) | 600(24) | 600(24) |
| | Max. workpiece dimensions (W x D) | mm (inch) | | 2070x1570 | 2890x1590 | 2890x1590 | 3290x1690 | 3830x1590 |
| | | | | (81x61) | (113x62) | (113x62) | (129x66) | (150x62) |
| | Max. filling height of dielectric tank | mm (inch) | | 585(23) | 585(23) | 585(23) | 585(23) | 585(23) |
| | Distance between chuck to table | mm (inch) | | 560-1160 (22-45) | 575-1175 (22-46) | 575-1175 (22-46) | 560-1160 (22-45) | 560-1160 (22-45) |
| | Max. workpiece weight | kg | | 11000 | 10000 | 10000 | 10000 | 19000 |
| | Max. electrode weight | kg | | 500 | 500 | 500 | 500 | 500 |
| | Table Size (W x D) | mm (inch) | | 1580x1100 | 2250x1100 | 2250x1100 | 2700x1100 | 3100x1100 |
| | | | (62x43) | (89x43) | (89x43) | (106x43) | (122x43) | |
| Machine weight | kg | | 16200 | 14000 | 15000 | 18000 | 21000 | |
| Tank capacity | l | | 3410 | 4655 | 4655 | 5400 | 5910 | |
| Filter | Filter density | µm | 10 | 20 | 10 | 10 | 10 | |
| | Filter elements | pcs | 12 | 12 | 12 | 12 | 12 | |
| | 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 | |

SYSTEM / FEATURES



1. Independent ball screw for each X axis, pre-stretching precise nuts for both side to upgrade the machine reliability.
2. Simultaneously spark large mold on two different area to shorter the product
3. Two molds spark on same machine.
4. Infrared fire induction system(Japan Made) to ensure the safety production.

1 | 2 | 3 | 4

5. Conversational operating interface.
6. Electromechanical department SOP procedure.
7. Available for CMAX CNC NC control system.
8. Laser compensation level up the accuracy
9. Column-moving product line



5 | 6
7 | 8 | 9



10. Operators praise
11. Twin-head machine product line.
12. Work tank assembling.
13. Supply manufacturing service storage system.



FC25 tough cast iron with quenched treatment MEEHANITE certificated casting to ensure the high rigidity and greater accuracy, heat treated work bench surface above HRC65.

10 | 11
12 | 13



Standard ACCESSORIES

Tool Box & Basic Tools



GROUNDFOSS PUMP



FAGOR Linear scale



Drill Chuck



Filter



Grease Gun



P class linear guideways (C MAX & CNC standard)



C5 class Double Nuts Ballscrews (C MAX & CNC standard)



Auto Fire Extinguisher



Anti-fire sensor



Stainless oil level sensor



Adjustable Electrode Holder



/ Optional

EROWA C Axis with



3R C axis



Automatic Chuck



Manual Chuck



Permanent Magnetic Table



Oil Mist Collector



CNC Rotary Table



Automatic Oil Feeder



ROBOT-180 Tool Changer



3R/EROWA-wheel type ATC 16/20



3R/EROWA-linear type ATC 4/5/6



Measuring Probe



Infrared anti-fire sensor



Electrode Holder 75 & 100 type



STANDARD ACCESSORIES



| Item | C MAX | CNC | NC | ZNC | PNC |
|---------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| X · Y · Z axis Double Nuts Ballscrews | √ | √ | Column-Moving | — | — |
| X · Y axis Ballscrews | — | — | — | √ | √ |
| X · Y · Z Linear Guides | √ | √ | Column-Moving | — | — |
| X · Y · Z axis Linear Scale 1μm | √ | √ | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| X · Y · Z axis Linear Scale 5μm | <input type="checkbox"/> | <input type="checkbox"/> | √ | √ | √ |
| X · Y · Z axis servo motor | √ | √ | √ | Z axis | Z axis |
| 15 LCD Monitor | √ | √ | √ | √ | √ |
| Auto Fire Extinguisher | √ | √ | √ | √ | √ |
| Anti-fire sensor | √ | √ | √ | √ | √ |
| Stainless oil level sensor | √ | √ | √ | √ | √ |
| Halogen Work Lamp | √ | √ | √ | √ | √ |
| Clamping Plate | √ | √ | √ | √ | √ |
| Leveling Pad | √ | √ | √ | √ | √ |
| Flushing Nozzle | √ | √ | √ | √ | √ |
| Adjustable Electrode Holder | √ | √ | √ | √ | √ |
| Filter | √ | √ | √ | √ | √ |
| Drill Chuck | √ | √ | √ | √ | √ |
| Tool Box & Basic Tools | √ | √ | √ | √ | √ |
| Remote Controller | √ | √ | √ | √ | √ |
| M.P.G | √ | √ | √ | — | — |
| Signal tower light | √ | √ | √ | √ | √ |
| GROUNDFOSS PUMP | √ | √ | √ | √ | √ |

OPTIONAL ACCESSORIES

| Item | C MAX | CNC | NC | ZNC | PNC |
|--|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 3R/EROWA-wheel type ATC 16/20 | <input type="checkbox"/> | — | — | — | — |
| 3R/EROWA-linear type ATC 4/5/6 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | — | — |
| 3R/EROWA-C axis | <input type="checkbox"/> | — | — | — | — |
| 3R/EROWA- Manual Chuck | <input type="checkbox"/> |
| 3R/EROWA- Automatic Chuck | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | — | — |
| COC-200 Orbit-Cut system(Non-connection) | — | — | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| COC-280 Orbit-Cut system (Connection) | — | — | <input type="checkbox"/> | <input type="checkbox"/> | — |
| Oil Mist Collector | <input type="checkbox"/> |
| CNC Rotary Table | <input type="checkbox"/> | — | — | — | — |
| Automatic Oil Feeder | <input type="checkbox"/> |
| ROBOT-180 Tool Changer | <input type="checkbox"/> | — | — | — | — |
| Dielectric Cooler | <input type="checkbox"/> |
| Permanent Magnetic Table | <input type="checkbox"/> |
| Measuring Probe | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | — | — |
| Infrared anti-fire sensor | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | — |
| Electrode Holder 75 & 100 type | <input type="checkbox"/> |
| EZ spark for Harden Workpiece | <input type="checkbox"/> |
| Turbo High-speed circuit | <input type="checkbox"/> |

√:Standard : available —:unavailable

Concrete Instances

/ Custom design, Automatic product line

Well integrated combining of the laser interferometer and the electromechanical in the result of greater machine accuracy.

HP Keysight is the leading dual frequency laser interferometer company, equip with Doppler effect and Zeeman effect theory, not only the system performance accuracy or equipment life span are all much better than monochromaticity of laser, for example the monochromaticity type laser is just like radio AM channel use different amplitude to receive the audio, the noise is more and the signal can't discriminate correctly. However, the dual frequency laser just like FM channel, use tuning frequency to discriminate the audio precisely and good signal strength.

| | 5530 Detector accuracy | other system Detector accuracy | 5530 System accuracy | other system System accuracy |
|-------------------------------|------------------------|--------------------------------|--------------------------|------------------------------|
| Material Temperature (0~40°C) | ±0.1°C | ±0.1°C | Air temperature (0~40°C) | ±0.1ppm ±0.1ppm |
| Air temperature (0~40°C) | ±0.1°C | ±0.2°C | Air pressure | ±0.165ppm ±0.299ppm |
| Air pressure | ±0.008 psi | ±0.0145 psi | Air humidity | ±0.0625ppm ±0.075ppm |
| Air humidity | 5% | 6% | Laser Accuracy | ±0.02ppm ±0.05ppm |
| | | | Total performance | ±0.3475ppm ±0.524ppm |

Keysight 5530 Laser Interferometer



Equip 5290K/K Rotating measurement to reach the fastest measure > most easily setup and safety rotating measurement.



Custom made tool system with 3R manual chuck & 3R-Delphin tool system, diameter 400mm that centering position and straightness control in 0.015mm accuracy.



Petrochemical Industrial EDM application



Custom made 360 degree work tank, equip with 4 gates spark system-per unit time occur 4 sparks.



Robot ATC tools system ROBOT-180 equip 84 tools.



Aerospace EDM processing with 5 axes simultaneously automatic product line.



7 axes Sinker EDM for Aerospace & special curve leaf shapes machining application



Z axis upgrade to 1200mm servo travel.



Extra tank for large long pies.



Robot system ROBOT-180 link with 2 sets of 5860CMAX for automatic product line

Machining SAMPLES

● Super hard alloy mold application



● Punched Matrix application



● Aerospace components application



● Molding Match application



● Automobile mold application



● Petrochemical industrial application



● Elaborate components & Molds application



● Ribs machining application



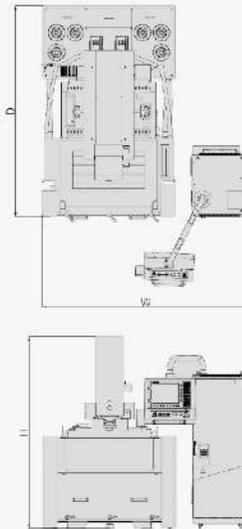
● C axis machining application



Column-Moving type

/ fit with CMAX、CNC、NC Sries

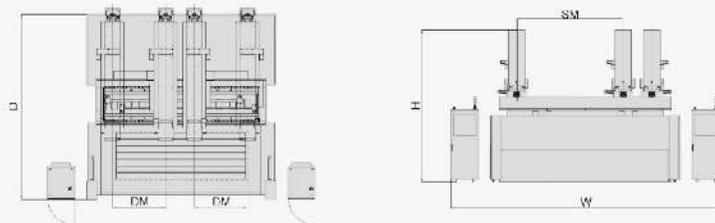
| Type | W(mm/inch) | D(mm/ inch) | H(mm inch) |
|-------|-------------|-------------|-------------|
| S500 | 2424(95.5) | 2357(92.8) | 2519(99.2) |
| S645 | 2750(108.3) | 2836(111.7) | 2588(101.9) |
| S750 | 2750(108.3) | 2842(111.9) | 2668(105) |
| S860 | 3149(124) | 3233(127.3) | 3072(121) |
| S1060 | 3149(124) | 3233(127.3) | 3072(121) |
| S1270 | 3351(132) | 3576(140.8) | 3152(124.1) |
| S1470 | 3950(155.5) | 3944(155.3) | 3324(130.9) |
| S1510 | 3720(146.5) | 4454(175.4) | 3700(145.7) |
| S1675 | 3950(155.5) | 3944(155.3) | 3324(130.9) |
| S1880 | 3950(155.5) | 3944(155.3) | 3324(130.9) |
| S2010 | 4420(174) | 4512(177.6) | 3709(146) |
| S2210 | 4420(174) | 4512(177.6) | 3709(146) |
| S2610 | 4940(194.5) | 4652(183.1) | 3689(145.2) |
| S3010 | 5493(216.3) | 4652(183.1) | 3689(145.2) |



TWIN HEAD Column-Moving type

/ fit with CMAX CNC NC Series.

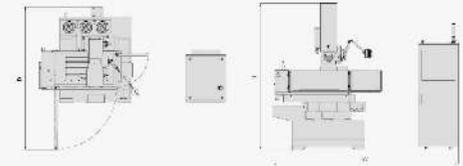
| Type | W(mm/inch) | D(mm/ inch) | H(mm inch) | SM(mm inch) | DM(mm inch) |
|----------|-------------|-------------|-------------|-------------|-------------|
| S1510-2H | 3720(146.5) | 3720(146.5) | 3720(146.5) | 860(34) | 430(17) |
| S2010-2H | 5490(216.1) | 5490(216.1) | 5490(216.1) | 1350(55) | 675(27) |
| S2210-2H | 5490(216.1) | 5490(216.1) | 5490(216.1) | 1550(61) | 775(31) |
| S2610-2H | 5890(231.9) | 5890(231.9) | 5890(231.9) | 2150(84) | 1075(42) |
| S3010-2H | 6430(253.1) | 6430(253.1) | 6430(253.1) | 2550(100) | 1275(50) |



Box Way/Linear guide ways Table-moving type

/ fit with all series

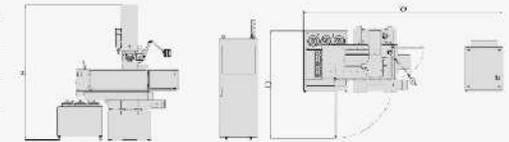
| Type | W(mm/inch) | D(mm/ inch) | H(mm inch) |
|-------|------------|-------------|------------|
| S325 | 3024(119) | 2306(90.8) | 2428(95.6) |
| S4305 | 3124(123) | 2306(90.8) | 2428(95.6) |



Box Way/Linear guide ways Table-moving type

/ fit with all series

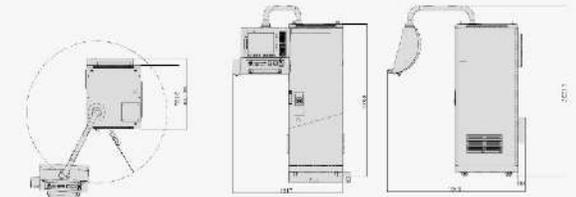
| Type | W(mm/inch) | D(mm/ inch) | H(mm inch) |
|------|-------------|-------------|-------------|
| S430 | 3412(134.3) | 1803(70.98) | 2345(92.3) |
| S550 | 3805(149.8) | 2003(78.86) | 2578(101.5) |
| S755 | 4110(162) | 3866(152) | 2355(93) |



Generator

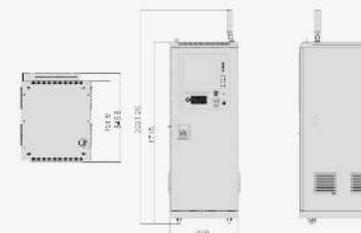
/ Cantilever type

fit with column moving type



Generator

/ Standard type



Robot Hand / ROBOT-180 Tool Changer

