



YH SHYANG 2012-10-1000 © Copy right reserved

■ STANDARD ACCESSORIES

• Paper filters	1 set
• Tool box	1 pc
• Flushing nozzle	1 set
• Drill chuck	1 pc
• Clamping kit	1 set
• Electrode holder	1 pc
• Halogen machine work lamp	1 pc
• Leveling pads	1 set
• Digital readout (Not For F Series)	1 set
• Up cutting (Not For F Series)	1 set

■ OPTIONAL ACCESSORIES

- Auto fire extinguisher
- CNC orbit-cut system (For AZDR / NZ series)
- Permanent magnetic table
- Dielectric cooler
- Auto Electrode Changer (For CNC EDM only)
 - 3 or 4 Tools for JMNC32A & JMNC43A
 - 5 Tools for JMNC50 & JMNC53 / JMNC53P
 - 6 Tools for JMNC60 ~ JMNC2210S
- C-axis (For CNC EDM only)
- Spare PCB set



JOEMARS MACHINERY & ELECTRIC INDUSTRIAL CO., LTD.

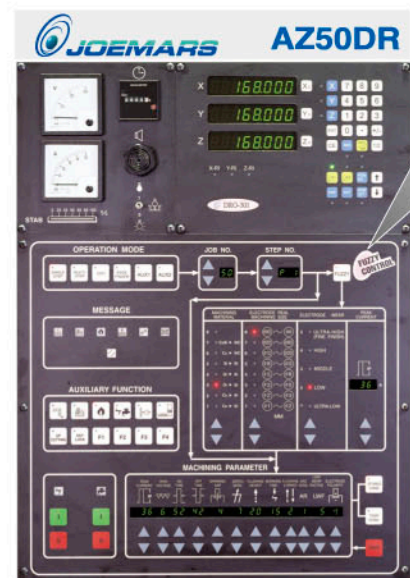
No.66, Lane 124, YouYuan Rd, Sec.1, Tatu District, Taichung 432, Taiwan.

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EDM

AZR/AZDR SERIES - STATE-of-the-ART ZNC FUZZY EDM.

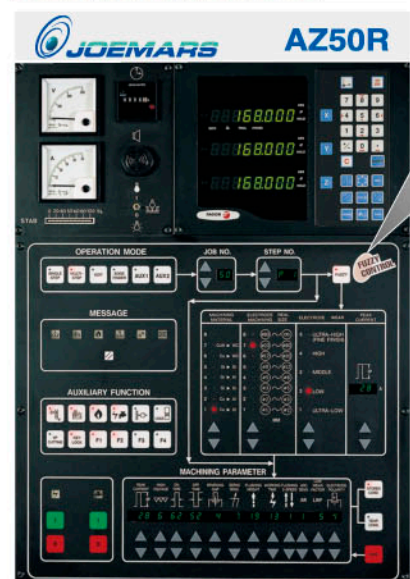


FUZZY CONTROL



SYMBOL OF EXCELLENCE
WINNER

AZR:WITH FAGOR DRO



FUZZY CONTROL



◀ JM650+AZ100R

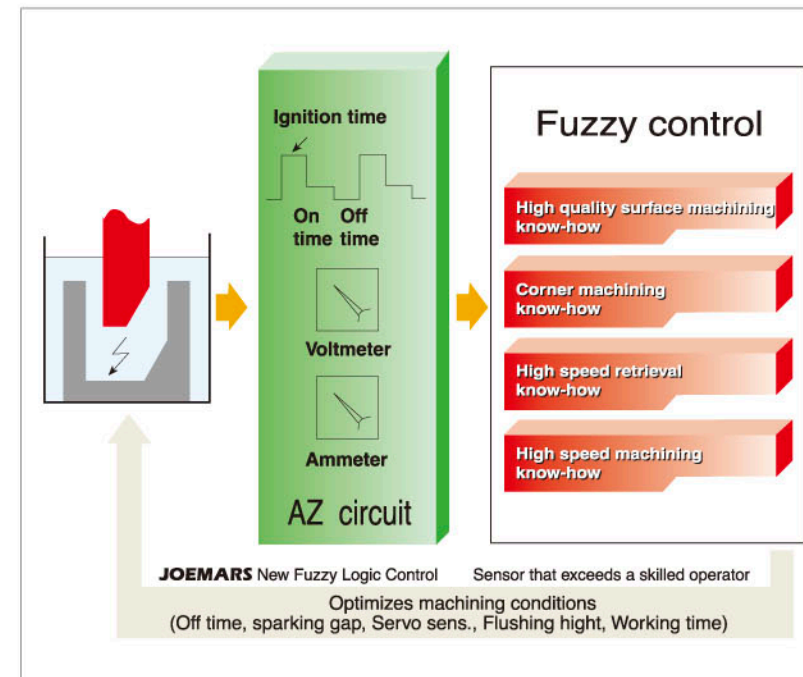


◀ JM1050+AZ100R

AZR/AZDR SERIES - STATE-of-the-ART ZNC FUZZY EDM.

The Main Features Of JOEMARS Fuzzy Logic Control System

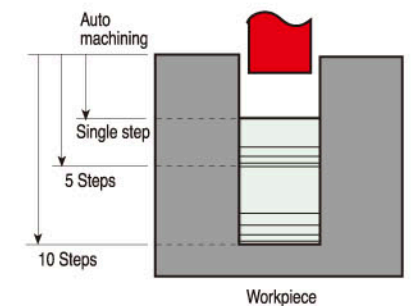
The JOEMARS New Fuzzy Logic Control System concept:



NEW Z NC PROGRAMMABLE FOR AUTO MACHINING FROM ROUGH TO FINE FINISHING.

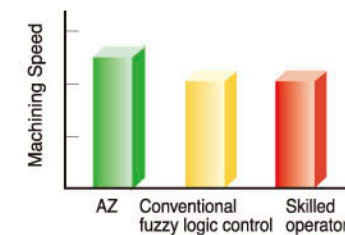
Total of 50 programs, each program can do a single step, 5 steps or a maximum of 10 steps machining (option) and each step includes 12 kinds of machining parameters.

By using the **JOEMARS** Fuzzy Logic Control System, the operator can get a total of 9600 sets of machining parameters which can also be modified at any time during sparking without affecting the stored parameters.

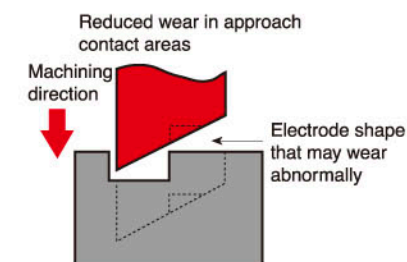


MACHINING SPEED:

10% - 45% faster than conventional model.

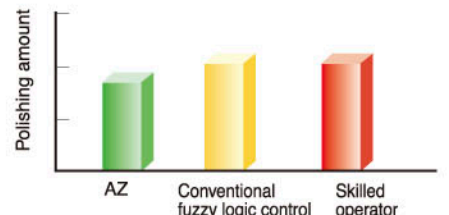


3. LOWEST ELECTRODE WEAR.



SURFACE FINISHING:

A much higher quality machining surface that requires a minimum amount of polishing reduced by 25%.



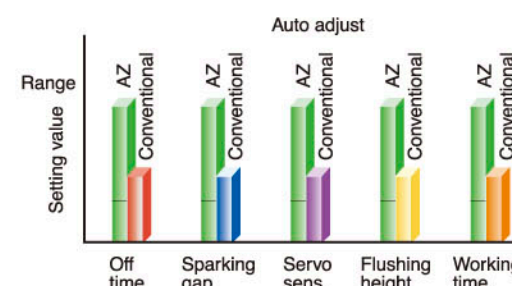
SHORTEST MACHINING PARAMETERS SETTING TIME

Only input: (1) Machining materials, (2) Electrode size, (3) Electrode wear & (4) Peak current. Then the best machining parameters will be auto set to start machining from rough to final surface finishing automatically.

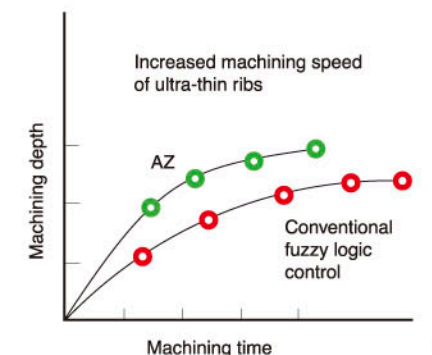


NEW "4A" EQUIPMENT: (Anti-Arcing Auto Adjustment)

The **JOEMARS** Fuzzy Logic Control System will auto monitor & adjust the machining parameters in the event of a poor machining condition. Once the condition has been cleared it will auto return to the pre-set machining parameters to achieve the best performance.



FASTER MACHINING SPEED OF ULTRA-THIN RIBS.



HD SERIES-3AXES FULL CNC EDM.

HD50/HD75/HD100 CNC POWER SUPPLY UNIT FEATURES

1. Adopt Heidenhain TNC416 CNC EDM CONTROLLER.
2. Most advanced "L.W.F." circuits to decrease the electrode wear, especially at the sharp corners.
3. Special "TRACKING MODE" off time control circuits to prevent arcing.
4. X,Y,Z 3 axes moves simultaneously to machining high precise, sophisticated molds.
5. Dialogue programming and easy to operate.
6. Using "MOSFET" sparking circuit to enhance performance and get the big areas of mirror finish easily.
7. The whole CNC power supply unit is designed with module boxes to keep simple maintenance & service.
8. Dual voltage (high / low voltage) currents being synchronously discharged allows faster metal removal rate and uniform surface finish.
9. Memory for total 100 programs and maximum 10000 blocks.
10. RS-232-C interface for file transfer.
11. MM / INCH selection.
12. 10.4" TFT color LCD display and soft key operation.
13. Program input resolution : 0.001 mm.
14. Operating modes:
 - (1) Manual
 - (2) Jog positioning
 - (3) Positioning with MDI
 - (4) Program run, single block
 - (5) Program run, full sequence
 - (6) Programming and editing
 - (7) Test run
15. Parameter programming available, including Mathematical function, variable parameter comparison and indexed data assignment.
16. Programmable functions:
 - (1) Nominal position (absolute or incremental) in Cartesian or polar coordinates
 - (2) Linear path in 3 out of 4 axes
 - (3) Circular path in 2 out of 4 axes
 - (4) Helical path with simultaneous C-axis motion (C-axis is optional)
 - (5) Tangential contour approach and departure
 - (6) Tool number and length, radius compensation, tool undersize
 - (7) Spindle speed for C-axis (With C-axis only)
 - (8) Rapid traverse
 - (9) Feed rate
 - (10) Insertion of programs into other programs
 - (11) Subprograms and program section repeats
 - (12) Fixed cycle: disk pocket, EDM polishing, tool definition, generator definition
 - (13) Datum shift, coordinate system rotation, mirror image, scaling
 - (14) Dwell time, miscellaneous functions M, program stop



JMNC32A+HD50



JMNC43A+HD50



JMNC2010+HD50

HD/P SERIES-3AXES FULL CNC EDM.



HD SERIES GENERATOR CONTROL PANEL

HIGH QUALITY

- Productivity begins with the highest quality machine tools.
- **JOEMARS** high performance CNC EDM are designed & manufactured for versatility, high reliability and long service life.

COMPUTER AIDED DESIGN FOR THE HIGHEST RIGIDITY CONSTRUCTION

- JMNC 32 A & JMNC 43 A series-sturdy C-frame design, fine-grained cast iron.
- JMNC 60 series-designed with a fixed worktable and spindle moves in X,Y & Z direction.
- High resolution DC SERVO system on 3 axes for fast accurate position & control.
- Precision ground ballscrews & ballways for 3 axes for easy & accurate positioning.
- Precision anti-friction bearings for 3 axes.

EFFICIENT FLUSHING & FILTRATION

- A most excellent flushing & filtration system are designed to ensure optimal erosion condition.
- Low maintenance & easy replacement for the paper filter cartridge.
- Efficient heat changer system to maintain thermal stability even at high current machining.

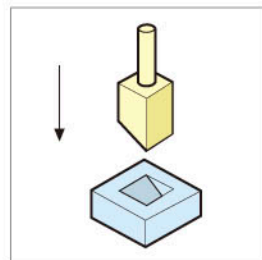
THE MAIN FEATURES OF THE CNC POWER SUPPLY

- Most Advanced "L.W.F." circuits to decrease the electrode wear, especially at the sharp corners.
- Special "TRACKING MODE" Off time control circuits to prevent arcing.
- X Y Z 3 axes moves simultaneously to machining high precise, sophisticated moulds.
- Dialogue programming and easy to operate.
- Using "MOSFET" sparking circuits to enhance performance and get the big areas of mirror finish easily.
- All machining parameters can be modified at any time during sparking and without affecting the stored memory.
- Complete and powerful CNC functions: Z axis vertical machining, multi holes machining, side machining, orbiting machining, 3 axes contour machining, auto edge finding, auto circle center finding.
- Auto electrode changers, C axis are available to enhance the fully automated machining, non-stop, top-performance production.

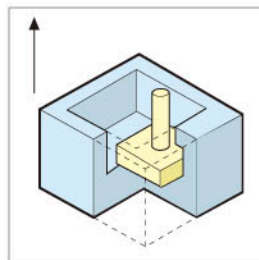


HD/P SERIES-3 AXES FULL CNC EDM.

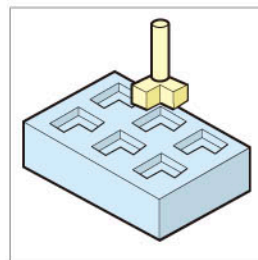
COVERING THE ENTIRE SPECTRUM OF CNC EDM TECHNOLOGY



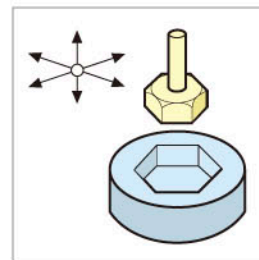
Z-axis Vertical machining (Z-)



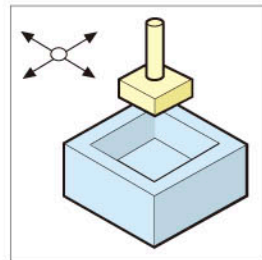
Z-axis Vertical machining (Z+)



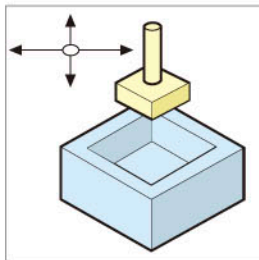
Repetitive machining



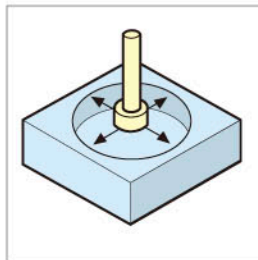
Orbiting machining



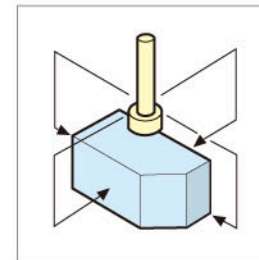
Orbiting machining



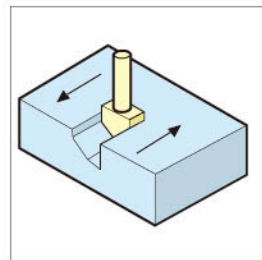
Orbiting machining



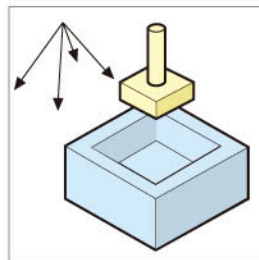
Finding center (inside)



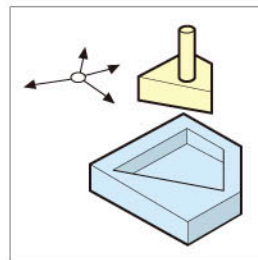
Finding center (outside)



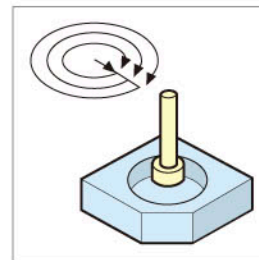
Lateral machining



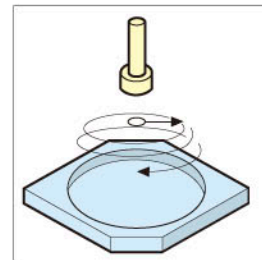
Corner machining



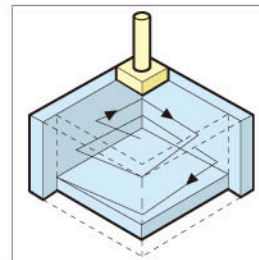
2 axes lateral machining



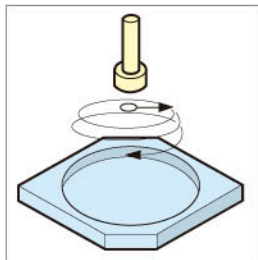
Orbiting machining



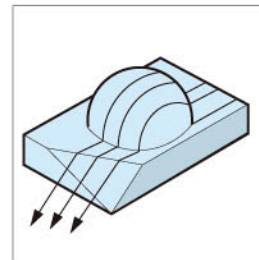
Orbiting machining



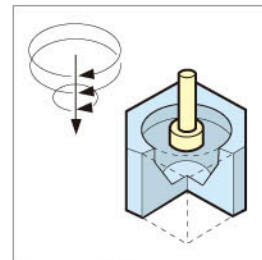
Orbiting machining



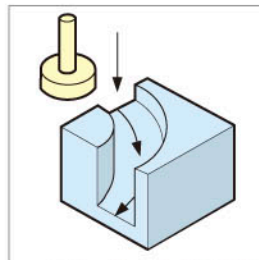
Orbiting machining



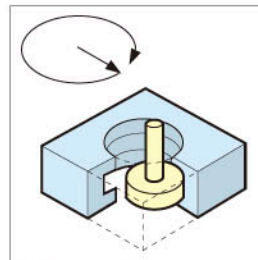
Contour machining



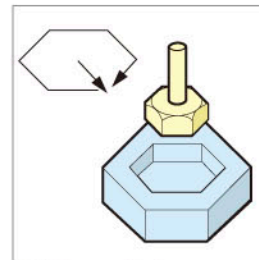
Taper machining



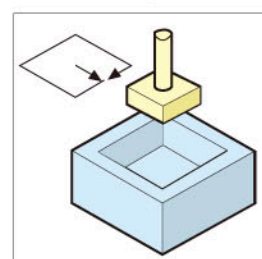
Helical machining(Only for HD & NP series)



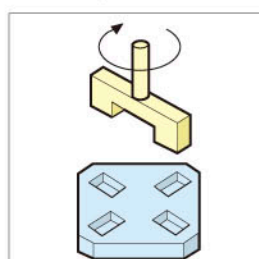
Orbiting machining



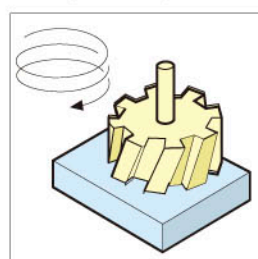
Orbiting machining



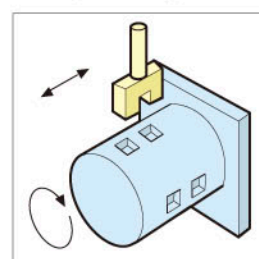
Orbiting machining



C-axis index machining (option)



C-axis Helical-gear machining (option)



A-axis index machining (option)

P SERIES-3 AXES PC FULL CNC EDM.

For fully automated machining,
Non-stop,
top-performance
production in a wide
range of applications.



JMNC32A+P50

JMNC43A+P75

JMNC60+P100

P SERIES-3 AXES PC FULL CNC EDM.

PC CNC EDM OPERATION PANEL



- Advanced & simplified operation modes
- Clear & concise & well organized display



- 3D graphic display



- Built-in running & orbiting modes for quick & easy programs editing.



- Built-in 256 sets of machining data for different materials machining from rough to fine surface finishing.

**ADVANCED, RELIABLE
& POWERFUL!**
**JOEMARS PC CNC EDM,
YOUR BEST PARTNER!!**

THE MAIN FEATURES OF THE CNC POWER SUPPLY

- 486 PC Based industrial grade computer to enhance processing time & highest reliability.
- Built-in 8 sets of most optimized machining datas (Cu-St, Cu-Al, Gr-St, Gr-Al, St-St, Cu-WC, CuW-Wc & others) for machining different materials from rough to fine surface finishing which each set included 32 steps machining choices.
- Most advanced "L.W.F." sparking circuits to decrease the electrode wear, especially at the sharp corners.
- Special "TRACKING MODE" Off Time Control circuits to prevent arcing.
- X Y Z 3 axes moves simultaneously to machining high precise, sophisticated moulds.
- Dialogue programming and easy to operate.
- Using 'MOSFET' sparking circuits to enhance performance and get the big areas of mirror finish easily.
- The whole CNC power supply unit is designed with module boxes to keep simple maintenance & service.
- Dual voltage (high / low voltage) currents being synchronously discharged allows faster metal removal rate and uniform surface finish.

- MM / INCH selectable.
- All machining parameters can be modified at any time during sparking and without affecting the stored memory.
- Complete and powerful CNC functions: Z axis vertical machining, multi holes machining, side machining, orbiting machining, 3 axes contour machining, auto edge finding, auto circle center finding.
- Auto electrode changers, C axis & A axis are available to enhance the fully automated machining, non-stop, top-performance production.

EXCEPTIONAL PERFORMANCE

JOEMARS EDM utilizes state-of-the-art circuits for the power supply. All electronics are transistorized, using MOSFET for enhanced performance. Dual voltage current being synchronously discharged allows fast metal removal rate and uniform surface finish. "No wear" operations with both copper and graphite are strong features of **JOEMARS EDM**. A special micro finish circuit for very fine surface finish capabilities is another standard feature.

EASY MAINTENANCE

All PC boards are sectioned in modular box design. Terminal blocks are employed for wire connections between modules. LED lights are used to indicate the status of the fuses and modules. Maintenance cost on the power supply is thus reduced to a minimum.

GREAT RELIABILITY

Low temperature electronics are separated from high heat components for better heat ventilation.

An independent heat elimination system is also provided to ensure reliable performance from the power supply.

CUSTOMER SERVICE

JOEMARS EDM is committed to providing customer service, including operator training, maintenance service and application evaluation. Our engineering staff are available to design fixtures for your special EDM applications.

F SERIES - HIGH PERFORMANCE MANUAL EDM.

**Cost effective, Excellent quality & reliability,
High performance & efficiency,
— Your best choice!!!**



JM430+F75

HIGH ACCURACY

Precision ground Vee and flat table ways are lined with Turcite-B to withstand long wear under heavy load. The Z axis runs on Swiss Schneeberger linear bearing ways, a sensitive DC servo motor and a precision leadscrew and ballscrew provide both manual and automatic control of the precision ram movement.

EXCEPTIONAL PERFORMANCE

JOEMARS EDM utilizes state-of-the-art circuits for the power supply. All electronics are transistorized, using MOSFET for enhanced performance. Dual voltage current being synchronously discharged allows fast metal removal rate and uniform surface finish. "No wear" operations with both copper and graphite are strong features of **JOEMARS EDM**. A special micro finish circuit for very fine surface finish capabilities is another standard feature.

RIGID CONSTRUCTION

Fine grain cast iron construction on the bed and column, both with extra wide frame, provides great strength for temperature and vibration stability.

EASY MAINTENANCE

All PC boards are sectioned in modular box design. Terminal blocks are employed for wire connections between modules. LED lights are used to indicate the status of the fuses and modules. Maintenance cost on the power supply is thus reduced to a minimum.

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Low temperature electronics are separated from high heat components for better heat ventilation. An independent heat elimination system is also provided to ensure reliable performance from the power supply.

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JOEMARS EDM is committed to providing customer service, including operator training, maintenance service and application evaluation. Our engineering staff are available to design fixtures for your special EDM applications.

SPECIFICATIONS:

MACHINE UNIT & DIELECTRIC TANK UNIT (JM SERIES)

ITEM	UNIT	JM32Z/JM32NZ	JM322	JM430	JM500	JM650
Work table size	mm	600 x 300	600 x 300	650 x 400	750 x 520	920 x 600
X travel	mm	300	300	400	500	600
Y travel	mm	200	200	300	400	500
Z travel	mm	200	200	200	300	280
W travel	mm	200	200	200	200	300
Ram platen to work table	mm	190 ~ 590	190 ~ 590	230 ~ 630	150 ~ 650	240 ~ 820
Max.electrode weight	kgs	60	60	75	150	300
Max.workpiece weight	kgs	550	550	900	1200	2200
Work tank (WxDxH)	mm	830 x 500 x 300	830 x 500 x 300	1060 x 600 x 340	1250 x 660 x 420	1400 x 830x 540
Weight of machine unit	kgs	1230	1050	1400	1800	2500
Machine Outside dimensions (WxDxH)	mm	1670 x 1750 x 2175	1530 x 1590 x 2175	1455 x 1680 x 2155	1645 x 1900 x 2455	1825 x 2320 x 2625

DIELECTRIC TANK MODEL		BUILT - IN	D320	D430	D500	D650
Dielectric tank capacity	L	240	240	340	570	1040
Dielectric tank pump	HP	0.5HP x 1	0.5HP x 1	0.5HP x 1	0.85HP x 1	0.85HP x 2
Dielectric tank net weight	kgs	built-in	built-in	100	150	280
Dielectric tank filter method		Paper filter	Paper filter	Paper filter	Paper filter	Paper filter
Dielectric tank outside dimensions (WxDxH)	mm	built-in	built-in	850 x 1000 x 1100	950 x 1400 x 1100	1300 x 2000 x 1100

MACHINE UNIT & DIELECTRIC TANK UNIT (JMNC SERIES)

ITEM	UNIT	JMNC32A	JMNC43A	JMNC50	JMNC53	JMNC53P	JMNC60	JMNC62	JMNC860S	JMNC1060S	JMNC1270S	JMNC1470S	JMNC1675S	JMNC1880S	JMNC2010S	JMNC2210S
Work table size	mm	600 x 300	650 x 400	750 x 520	800 x 550	800 x 550	900 x 650	900 x 650	1200 x 700	1250 x 750	1350 x 820	1700 x 950	1850 x 1000	1850 x 1000	2150 x 1100	2250 x 1100
X travel	mm	300	400	500	500	500	600	600	800	1000	1200	1400	1600	1800	2000	2200
Y travel	mm	200	300	400	350	350	400	400	600	600	700	700	750	800	1000	1000
Z travel	mm	300	350	350	350	350	350	350	500	500	500	500	550	600	600	600
Ram platen to work table	mm	167 ~ 467	290 ~ 640	270 ~ 620	310 ~ 660	310 ~ 660	255 ~ 605	446 ~ 796	420 ~ 920	420 ~ 920	510 ~ 1010	550 ~ 1050	500 ~ 1050	450 ~ 1050	660 ~ 1260	660 ~ 1260
Max.electrode weight	kgs	60	75	150	150	150	150	150	350	350	400	450	450	450	500	500
Max.workpiece weight	kgs	500	800	1200	1600	1600	2000	2000	2400	2750	3000	3800	4200	4800	5500	6000
Work tank (WxDxH)	mm	845 x 510 x 300	1080 x 560 x 340	1290 x 715 x 420	1160 x 670 x 340	1160 x 670 x 340	1300 x 900 x 430	1300 x 900 x 430	1500 x 1100 x 615	1700 x 1100 x 615	1800 x 1200 x 615	2000 x 1350 x 615	2200 x 1350 x 650	2400 x 1350 x 700	2610 x 1550 x 700	2810 x 1600 x 750
Weight of machine unit	kgs	1150	1400	1800	2800	2800	3000	3000	5000	5500	6000	8000	8300	8500	12000	13000
Machine Outside dimensions (WxDxH)	mm	1675 x 1200 x 2075	1480 x 1900 x 2340	1875 x 1730 x 2375	1430 x 2175 x 2330	1430 x 2175 x 2330	1870 x 2495 x 2320	1870 x 2495 x 2320	2000 x 3300 x 3200	2200 x 3400 x 3200	2300 x 3600 x 3260	2500 x 4000 x 3250	2700 x 4000 x 3250	2900 x 4100 x 3250	3100 x 4450 x 3570	3200 x 4500 x 3570

DIELECTRIC TANK MODEL		D32	D43	D50	D53	D53P	D60	D62	D860S	D1060S	D1270S	D1470S	D1675S	D1880S	D2010S	D2210S
Dielectric tank capacity	L	280	320	570	600	600	800	800	1259	1445	1458	1836	2436	2784	3320	3963
Dielectric tank pump	HP	0.5HP x1	0.5HP x1	0.85HP x1	0.85HP x1	0.85HP x1 / 0.5HP x1	0.85HP x2	0.85HP x2	1.5HP x2	1.5HP x2	1.5HP x2	1.5HP x2	1.5HP x2	1.5HP x2	1.5HP x2	1.5HP x2
Dielectric tank net weight	kgs	built-in	100	150	180	280	200	200	450	500	550	600	700	750	850	950
Dielectric tank filter method		Paper filter	Paper filter	Paper filter	Paper filter	Paper filter	Paper filter	Paper filter	Paper filter	Paper filter	Paper filter	Paper filter	Paper filter	Paper filter	Paper filter	Paper filter
Dielectric tank outside dimensions (WxDxH)	mm	built-in	850 x 1150 x 1000	950 x 1400 x 1100	2060 x 800 x 1160	2060 x 1000 x 1160	1200 x 2000 x 1100	1200 x 2000 x 1100	1900 x 1300 x 580	2100 x 1350 x 580	2200 x 1350 x 580	2400 x 1500 x 580	2800 x 1450 x 600	2900 x 1600 x 600	3100 x 1700 x 630	3400 x 1850 x 630

HD SERIES GENERATOR (CNC)

ITEM	UNIT	HD50	HD75	HD100
Max. Machining Current	A	50	75	100
Total Power Input	KVA	4.5	7	9
Max. Metal Removal Rate	mm³/ min	390	610	770
Electrode Wear Ratio	%	0.20	0.20	0.20
Best Surface Roughness	µm Ra	0.20	0.20	0.20
Net Weight	kgs	250	300	330
Outside Dimensions (WxDxH)	mm	680 x 1060 x 1830	680 x 1060 x 1830	680 x 1250 x 1830

★ HD / P / NP series generator if more than 125 AMP , will be seperated into 2 cabinets.

P SERIES GENERATOR (CNC)

ITEM	UNIT	P50	P75	P100
Max. Machining Current	A	50	75	100
Total Power Input	KVA	4.5	7	9
Max. Metal Removal Rate	mm³/ min	390	610	770
Electrode Wear Ratio	%	0.20	0.20	0.20
Best Surface Roughness	µm Ra	0.20	0.20	0.20
Net Weight	kgs	250	300	330
Outside Dimensions (WxDxH)	mm	680 x 1070 x 1820	680 x 1070 x 1820	680 x 1260 x 1820

★ ALL specifications and design subject to change without notices.

AZ / AZR / NZ SERIES GENERATOR (ZNC)

ITEM	UNIT	AZ50R / AZ50DR	AZ75R / AZ75DR	AZ100R / AZ100DR	AZ125R / AZ125DR	AZ150R / AZ150DR	NZ50	NZ75
Max. Machining Current	A	50	75	100	125	150	50	75
Total Power Input	KVA	4.5	7	9	11	13	4.5	7
Max. Metal Removal Rate	mm³/ min	390	610	770	990	1160	390	610
Electrode Wear Ratio	%	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Best Surface Roughness	µm Ra	0.20	0.20	0.20	0.20	0.20	0.20	0.20
Net Weight	kgs	180	220	360	400	440	180	220
Outside Dimensions (WxDxH)	mm	580 x 725 x 1730	580 x 725 x 1730	580 x 835 x 1730	(580 x 725 x 1730)x 2	(580 x 725 x 1730)x 2	586 x 790 x 1735	586 x 790 x 1735

F SERIES GENERATOR (MANUAL)

ITEM	UNIT	F36	F50	F75	F100	F125	F150
Max. Machining Current	A	36	50	75	100	125	150
Total Power Input	KVA	3.5	4.5	7	9	11	13
Max. Metal Removal Rate	mm³/ min	250	350	550	700	900	1050
Electrode Wear Ratio	%	0.25	0.25	0.25	0.25	0.25	0.25
Best Surface Roughness	µm Ra	0.20	0.20	0.20	0.20	0.20	0.20
Net Weight	kgs	160	180	220	360	400	440
Outside Dimensions (WxDxH)	mm	580 x 560 x 1730	580 x 560 x 1730	580 x 560 x 1730	580 x 660 x 1730	(580 x 560 x 1730)x 2	(580 x 560 x 1730)x 2

NP SERIES GENERATOR (CNC)

ITEM	UNIT	NP50	NP75
Max. Machining Current	A	50	75
Total Power Input	KVA	4.5 / 6.5 (with JMNC53P)	7 / 9 (with JMNC53P)
Max. Metal Removal Rate	mm³/ min	390	610
Electrode Wear Ratio	%	0.20	0.20
Best Surface Roughness	µm Ra	0.20(without powder)< 0.20(without powder)	0.20(without powder)< 0.20(without powder)
Net Weight	kgs	320	330
Outside Dimensions (WxDxH)	mm	680 x 1070 x 1820	680 x 1070 x 1820

★ CE models are available upon request.