



JOEMARS

TECHNOLOGY . CREATIVITY . QUALITY . SERVICE



W Series

HIGH PERFORMANCE WIRE CUT EDM



JOEMARS

"PAST" IS WHAT YOU HAVE

W45SA

HIGH PERFORMANCE WIRE CUT EDM

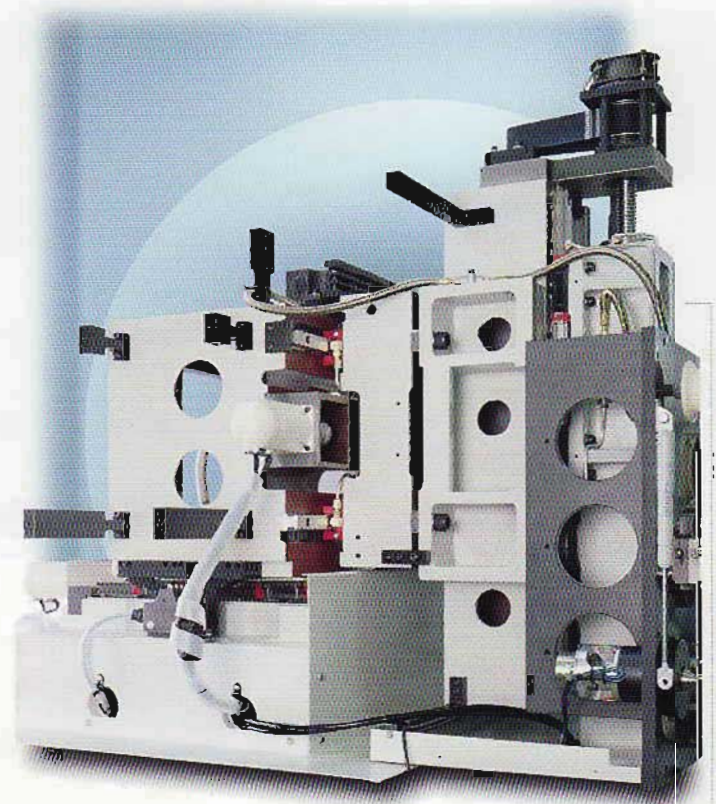


Mechanical features:

1. Each axis uses precise ballscrew and linear motion guide.
2. AC servo motor directly go through coupling to drive the ballscrews.
3. The work table is manufactured from stainless design and hardened to ensure best maintenance.
4. The U, V axes located upper from the column to offer accurate stability, it can reach precise taper machining when facing high wire tension and high water pressure.
5. High rigidity design, and well thermal balance are used for precision machining.
6. Simple wire-feeding and wire-collecting design is developed for higher reliability.

Submerged work tank features:

1. Submerged work tank you don't find more spread water, offers a complicated machining shape request and stable cutting status.
2. To put the work piece into submerged water, keeps same temperature and reach the work piece stability and non-transformed shape.
3. Maintain each part of the mechanical table a heat balance, the water temperature control and cover the worktable with stable heat, the material of work piece may not be changed or transformed easily.
4. A de-rust stainless lower guide arm to isolate the high temperature water flow by air gap, can totally separate the heat transmission.



MAIN MACHINE BODY

Generator - power supply



Pulse Control of Discharging Circuit

Employs a self-developed high speed discharging control chipset, featuring high calculation processing capability up to 100 mega-times per second. The control circuit provides instantly correct judgement and calculation processing for various discharging conditions. Also, it automatically adjusts and controls discharging energy output for abnormal discharging waves. Machining efficiency can reach up to 230mm² per minute.

Controller Powerful 64 Bit CPU

The controller is a high speed, stable, industrial grade computer, featuring powerful NC calculation function for high accuracy machining. Comprehensive on-line HELP information and user-friendly operational interface presents an extra powerful calculation feature on these new generations of functions based on a new generation pc-based control. No matter how complicated the machining job may be, the operator can easily work out the desired product.

- Industrial Grade PC
- 64-bit high speed CPU bit high speed CPU
- 800 x 600 TFT monitor
- Fully closed-loop servo control
- 6-axis control card
- 16 MB high cacapity FOC , DOC

EF non-electrolytic of discharging circuit

High speed EF (non-electrolytic) discharge machining method. It minimizes the possibility of work piece surface cracking or electrolyzed problems, which greatly upgrades the mold discharging effects and saves copper wire consumption.

Intelligent OV Circuit

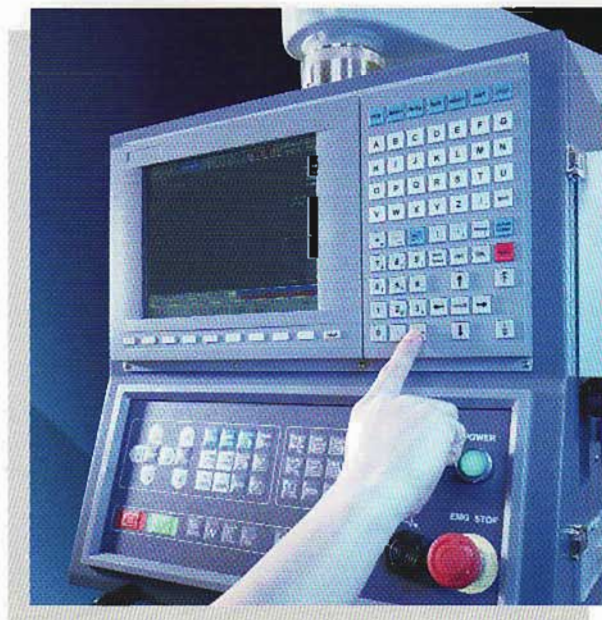
Specially designed intelligent ignition control circuit permits ignition voltage, voltage adjustments and control by computer, and is excellent for machining various work piece materials, with both thick and thin sheet plates. Also a voltage stabilizing circuit maintains discharge machining at constantly high speeds and stable conditions. Working efficiency increases by 20%, especially when working on particularly thick or think work piece.

Modular Design

The circuit board is a modular design. Each module interface features self-diagnostic output combined with signal indications. This simplifies trouble-shooting and provides convenience in maintenance.

Super Fine Loop

The super fine loop employs a high frequency, non-electrolytic machining method. The process combines high stability wire feeding tension control. All of which fabricates an extremely fine work piece surface.



CHOOSE!



Detailed Operation Instructions, Machining Information and Warning Messages for Readily Controlling Machining Conditions

The operational screen provides large quantities of graphic descriptions, on-line HELP, warning descriptions, detailed operation instructions and messages. This enable the operator to understand the current machine condition, so that the machining result can be easily controlled.

** Simply input the wire diameter, work piece material / thickness, and surface roughness required, then the corresponding machining conditions are automatically called out from the machining databank.

- Adjustment of automatic cutting conditions.
- Notices of consumable parts life and daily maintenance information.
- Real-time on-line warning HELP function.
- Machining status list.
- 3-D graphics preview.
- Offset function for rough machining wire consumption. Straightness display for high speed machining.
- Corner control function eliminates corner breaking problems.
- Automatic power recovery.

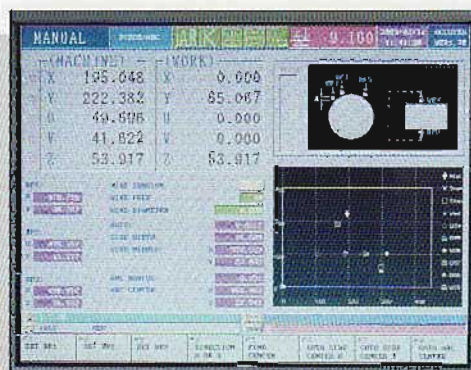
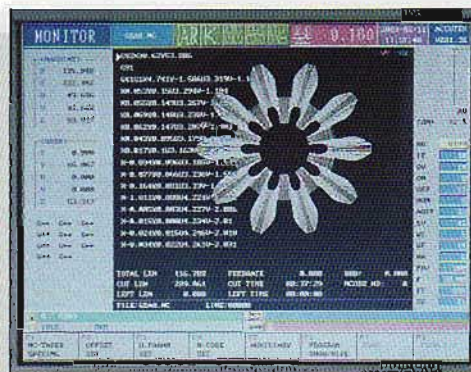
High Compatibility NC Program Design

Permits reading and machining, even on other brands of computer programs, without the need of additional special conversion. Greatly simplifies complex and bothersome procedures when programming. Increases intercommunication and management convenience for NC programs.

- Taper: G52, G51 < -- > A+, A-
- Offset: G41D1, G42H1, G41D0.210, G42H0.210
- Sub-program: M98, M99 < -- > G22, G23
- EDM code: S, E..... ..
- H code: H code special calculation function

Corner / Arc Machining control

Using advanced preview control, wire tension and wire speed will be automatically adjusted when approaching to corner / arc cutting position. It can ensure corner / arc cutting accuracy by not changing wire cutting path.



NC FUNCTION:

OPERATING FUNCTION:

- 1 Software limit protection
- 2 Single block / stop
- 3 Machine lock
- 4 Optional block skip
- 5 Operational stop
- 6 Machine, increment, absolute positioning
- 7 Manual data input (MDI)
- 8 EDM search / Load to On-line mode
- 9 Automatic power recovery
- 10 Start point return
- 11 Hold point return
- 12 Reference point set / return
- 13 Trace function
- 14 Retrace function
- 15 Approach function
- 16 Short-circuit interruption
- 17 Z axis down-limit protection
- 18 Automatic power-off function
- 19 G54 ~ G59 Multi coordinate

AUXILIARY FUNCTION:

- 1 Maintenance function
- 2 Machining history
- 3 Users parameter set
- 4 On line help / alarm notice
- 5 Key trace

NC / TAPER FUNCTION:

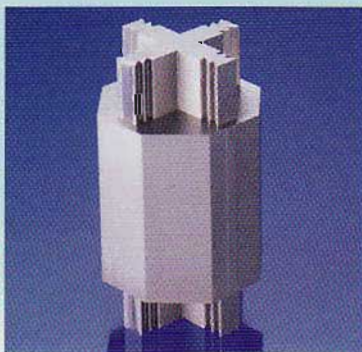
- 1 Mirror image
- 2 Axis exchange
- 3 Taper cutting
- 4 Offset / H parameter set
- 5 Corner control
- 6 Scale / rotation function
- 7 Path color set
- 8 Top and bottom different machining

MANUAL FUNCTION:

- 1 Edge finding
- 2 SCIT finding
- 3 Hole center finding
- 4 Side center finding
- 5 Arc center finding
- 6 Reference point search
- 7 Auto vertical alignment function
- 8 Parallel compensation

PROGRAM EDITING FUNCTION:

- 1 Cutting path display
- 2 2D / 3D preview
- 3 String search / replace
- 4 Block function / copy
- 5 Copy function / software copy protection
- 6 Program editing, copy, delete
- 7 RS232 interface / transfer
- 8 N code set



Machine Unit

Item		W45FA	W45SA	W65FA
Max.work piece dimension(WXDXH)	kgs	900 × 650 × 255	750 × 650 × 255	1100 × 800 × 355
Max.work piece weight	mm	550	450	850
X Travel	mm	450	450	650
Y Travel	mm	300	300	400
Z Travel	mm	250	250	350
U Travel	mm	100	100	100
V Travel	mm	100	100	100
Drive system		AC servo motor	AC servo motor	AC servo motor
Wire diameter	mm	ø0.1 ~ ø0.3 (Standard ø0.25)	ø0.1 ~ ø0.3 (Standard ø0.25)	ø0.1 ~ ø0.3 (Standard ø0.25)
Max.taper angle		± 20° / 80mm	± 24° / 80mm	± 20° / 80mm
Outside dimension (WXDXH)	mm	1370 × 2100 × 2070	1370 × 2100 × 2070	1800 × 2240 × 2400
Net weight	kgs	2100	2200	2700

CNC Unit

Controller device	640Bit IPC
Memory device	16MB DOC'FOC
Screen display device	10.4"800*600 Color TFT LCD
Input means	Keyboard、RS232、3.5" Floppy Disk
Service control means	Fully-closed circuit service control system
No.of control means	5 axes
Instruction value	0.001mm
Max.instruction value	9999.999mm
Interpolation functions	Linear / Circular
Positioning command format	Incremental / Absolute
Wire diameter compensation	± 99.999mm
Pattern rotation	0~360°
Processing condition	9999 sets

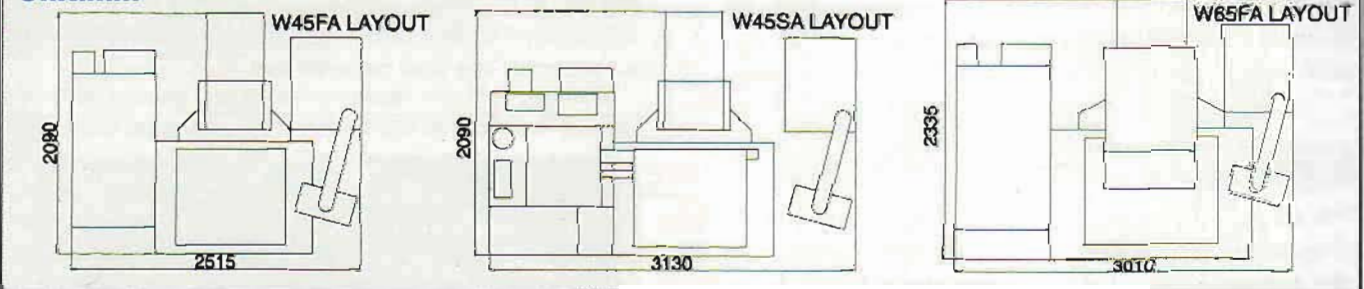
Processing Power Supply

Discharge power supply	AC/DC MOSFET
Surface roughness	Ra 0.3 ~ 0.4 μm
Intelligent ignition power supply	Ultra - thin, thick plate
Max.cutting speed	230mm ² / ø 0.3mm straight line cutting
Electricity required	3Phase,220V / 380V, ±10%25A,18KVA

Filtration system

Filter system capacity	350 L	700 L	450 L
Filter element	Paper filter	Paper filter	Paper filter
Ion exchange resin capacity	6.8L	14L	6.8L
Water quality control	AUTO		
Water temperature control	AUTO		

Unit:mm



STANDARD ACCESSORIES:

1. Automatic vertical alignment jig----- 1 set
2. Paper filter----- 2 pcs
3. Tool kit----- 1 set
4. Wire guide ø0.25mm----- 1 set
5. Brass wire ø0.25 mm----- 1 set
6. Ion exchange resin----- 1 set

OPTIONAL ACCESSORIES:

1. Tension meter
2. Optional tool kit
3. Diamond wire guide (ø0.10mm, 0.15mm, 0.20mm, 0.30 mm)
4. Dielectric cooling unit
5. Others upon request



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