

MINPULS

Linear Motor Driven High-Speed CNC Wire EDM



CNC NEW DEVELOPMENT CONTROL SYSTEM

MINIPULS

A Linear Motor Drive

Driven by linear motors paired with linear glass scales, delivering superior dynamic response and positioning accuracy compared to conventional ball-screw drives. The gearless direct-drive architecture eliminates mechanical deflection and wear, ensuring long-term machine accuracy while completely eliminating backlash errors associated with ball screws.



B Versatile Functionality

The M Series comes standard with a full suite of advanced features, including corner/arc control, a next-generation work tank fluid level control system, an inverter-controlled fluid temperature system, optimized lower arm & splash-guard sealing/lubrication, and an upgraded wire take-up system—substantially enhancing overall processing stability and machining precision.



C High-Speed Auto Wire Threader

Equipped with the FJ-AWT system, this machine dramatically increases automatic wire-threading success rates. Features built-in wire tension servo control and an AWT wire annealing function, ensuring optimal wire straightness, streamlining setup workflows, and enabling extended unattended, lights-out operation.



Next-Generation Operating System

Setup Prep | File Management | EDM
Machining | Machine Config



Modern CNC Interface

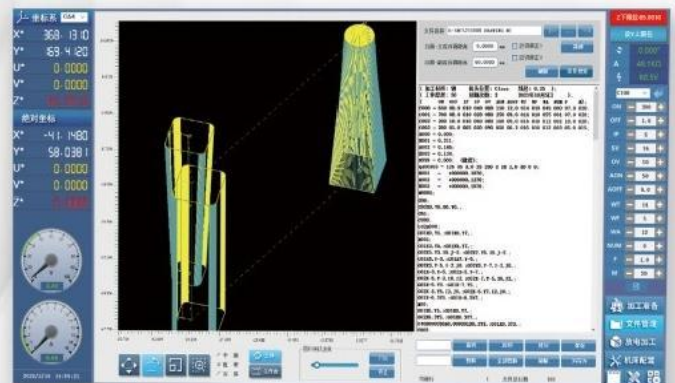
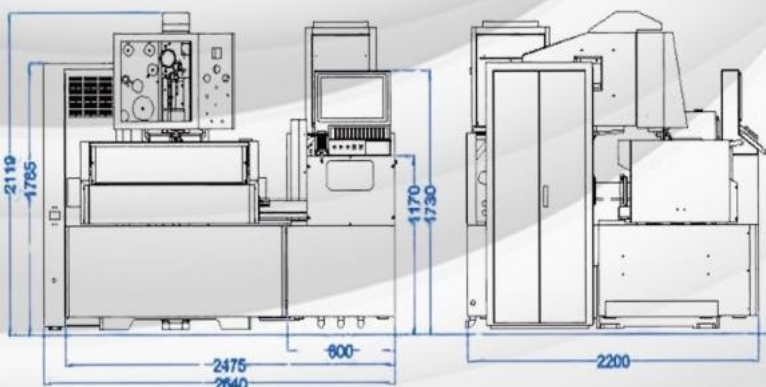
Designed from the ground up for operators of all skill levels, our newly developed interface delivers an exceptional user experience. Featuring clean layout geometry and a soft, high-contrast color scheme, the ergonomic interface minimizes training curves.

Key design features include intuitive navigation, seamless menu consistency, and multi-coordinate system support—allowing operators to toggle between coordinate systems with a single tap to significantly streamline setup workflows.

Ultra-Reliable CNC Architecture

Engineered with real-time trajectory monitoring and built-in corner control algorithms, the system automatically adapts speed and power along complex vector paths to deliver unmatched cut precision and edge crispness. It also incorporates an extensive built-in cutting technology database (technology tables), enabling operators to recall optimal parameters via simple keyword search—maximizing daily throughput.

Floor Plan



Model	M400QSL	M500QSL	M600QSL
Work Tank Internal Dimensions	960*580mm	990*600mm	1020*630mm
X-Axis Travel	450mm	500mm	600mm
Y-Axis Travel	300mm	350mm	400mm
U/V-Axis Travel	80*80mm	100*100mm	100*100mm
Z-Axis Travel	195mm	195mm	195mm
Max. Taper Angle	± 18 ° (Thickness:80mm)	± 21. 5 ° (Thickness:100mm)	± 21. 5 ° (Thickness:100mm)
Max. Workpiece Dimensions	800*500*165mm (Submerged)	900*580*165mm (Submerged)	900*580*165mm (Submerged)
	800*500*195mm (Flushing)	900*580*195mm (Flushing)	900*580*195mm (Flushing)
Max. Workpiece Load	400KG (Flushing)	400KG (Flushing)	400KG (Flushing)
	300KG (Submerged)	350KG (Submerged)	350KG (Submerged)
Wire Diameter	0. 15–0. 3mm	0. 15–0. 3mm	0. 15–0. 3mm
Wire Tension	3–22N	3–22N	3–22N
Wire Feed Rate	Max. 420mm/sec	Max. 420mm/sec	Max. 420mm/sec
Table Height from Floor	1050mm	1050mm	1050mm
Machine Dimensions (W*D*H)	1675*1920*2050	1675*1920*2050	1775*1950*2050
Installation Footprint(W*D)	2800*2600mm	2800*2600mm	2900*2700mm
Machine Net Weight)	3200KG	3350KG	3500KG
Total Power Consumption	380V 50/60 HZ 13KVA	380V 50/60 HZ 13KVA	380V 50/60 HZ 13KVA

CNC Generator Unit	
Max. Machining Current	25A
Power Supply Input	380V 50/60HZ
Operating System	WINDOWS
Controller Hardware	工业级电脑
Display Unit	21. 5寸高响应十点触摸屏
Input Interfaces	工业键盘、鼠标、USB、网络
Max. Controlled Axes	5轴
Simultaneous Axes	4轴
Min. Input Increment	0. 001mm
E-Conditions	999 condition sets
Drive System	X/Y Linear Motors; U/V/Z Servo Drives
Position Feedback	Full Closed-Loop (0. 5 μm Resolution Linear Scales)
Error Compensation	Pitch Error Compensation / Backlash Compensation
Graphic Display	2D / 3D Machining Simulation
Command Syntax	Standard G/M Codes
Command Syntax	900L
Filter Element	TW-30*3
Deionization Control	Automatic Conductivity Control
Chiller Unit	Water Chiller

AWT Automatic Wire Threading System	
Control Mode	Manual/ M-Code Controlled
Threading Method	Jet Air/Jet Water Assistance
Threading Location	Start Point/Wire Break Point
Wire Cutting Mechanism	Thermal Annealing Cut
Wire Disposal	Roller Feed & Air Blow System

Standard Accessories

- Ion Exchange Resin (10L)*1
- Paper Filters*3
- LED Work Light*1
- Vertical Alignment Gauge*1
- Workpiece Clamps*4
- Power Feed Contacts / Carbide Blocks*2
- Water Chiller*1
- Upper/Lower Flush Cups*1
- Voltage Stabilizer*1
- Upper/Lower Insulating Plates*1
- Diamond Wire Guides*2
- Signal Tower Light*1

Optional Accessories:

- Sub-Bridge Bar
- Manual Threading Water Hose Line
- 0.1 μm High-Resolution Linear Scale

Site & Operating Requirements

- Power Supply:** 3-Phase AC 380V±10%, 50/60 Hz
- Air Supply:** ≥0. 5MPa
- Foundation:**Rigid floor isolated from external vibration and impact shocks (vibration amplitude < 10 μm recommended)
- Environment:** Clean room free of airborne dust and oil mist.
- Operating Temperature:** 10℃-35℃
- Precision Temperature (Recommended):** 22℃ ±1℃
- Sunlight & Thermal Exposure:** Protect machine from direct sunlight, localized HVAC airflow, or direct heat sources.
- Humidity Range:** 30%-75%(non-condensing)