

Linear Motor Driven Precision Wire-Cut EDM
Water or Oil Technology

AP450L

Linear Motor CNC Wire EDM - High Precision -
High Accuracy

Linear Motor Drive System Coupled with a Bridge Design

The combination of the linear motor drive system and bridge design has vast improvements in positioning and machining accuracy. It takes advantage of backlash-free precise axis movement, while minimizing the deformation of the machine structure. High levels of initial machining accuracy can be maintained for a long period of time. Sodick offers a 10-year positioning guarantee to ensure that customers can make use of Sodick EDMs with a sense of security.

Newly Developed Power Supply Unit - LN2W

The newly developed LN2W power supply unit is featured on the AP450L and utilizes "Perfect Active Control" technology. It also uses 1 Gbit/sec serial communication technology featuring high-speed processing of the discharge control and motion control in a simultaneous process.

New Eco-Cut O Technology

Eco-Cut O is a newly developed technology by Sodick. This technology enables the EDM to machine at incredible speeds using oil technology. Eco-Cut O allows the user to get the optimal surface finish of oil dielectric with the speeds of water dielectric - and faster. Eco-Cut O can increase machining speeds up to 12% over water dielectric and up to 25% over conventional oil dielectric. Eco-Cut O speeds up the cutting process due to the accuracy and surface finish being obtained at a faster pace requiring less cuts to be made to the part.



AP450L

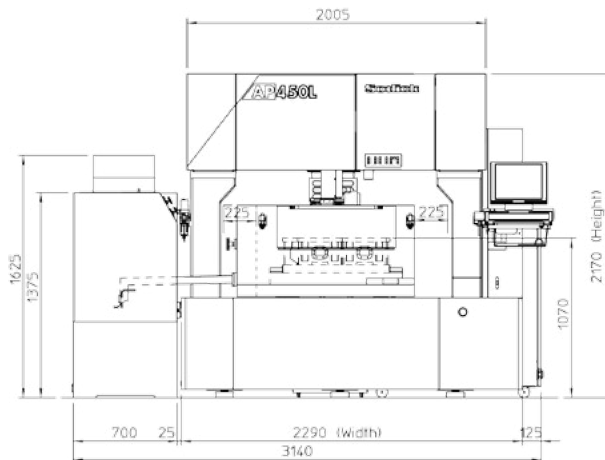
Specifications

Machine	Specifications
X-Axis Travel	17.72" (450 mm)
Y-Axis Travel	11.81" (300 mm)
Z-Axis Travel	5.91" (150 mm)
U x V Axis	1.38" x 1.38" (35 x 35 mm)
Maximum Taper Angle	±7° (thickness: 3.94" (100 mm))
Maximum Workpiece Weight	220 lbs (100 kg)
Wire Diameter	φ.002"-.012" (φ.05-.3 mm)*
Wire Tension	3 ~ 25 N
Wire Feed Rate	Max. 9.8"/sec (250 mm/sec)
Distance From Floor to Table Top	43.31" (1,100 mm)
Machine External Dimensions	90.18" x 70.08" x 85.43" (2,290 x 1,780 x 2,170 mm)
Machine Installation Space	157.48" x 141.73" (4,000 x 3,600 mm)
Machine Unit Weight w/Power Unit and Dielectric Tank	14,110 lbs (6,400 kg)
Power Supply Requirement	3-Phase, 200/460V, 50/60 Hz
Total Power Consumption	15 kVa
Maximum Peak Amps	40 AMP
Air Pressure	72 psi
Air Flow	.5 MPa, 30 NL/min

*Certain Conditions apply, call for details

Control: LN2W	
CNC Unit	Multi-Tasking OS, Sodick Motion Controller
Display	15.1" TFT-LCD (SVGA)
Number of Coordinate Systems	60
Maximum Input Command	±999999.999 / ±99999.9999 / ±9999.99999 (switchable)
Program Sequence Number Assignment	N000000000 to N999999999
Simultaneous Control Axes	Max. 4 Axes (Max. 8 Axes optional)
Drive Mechanism	Linear Motor
Subprogram Nesting Levels	50 Levels
Q Command Nesting Levels	7 Levels
Discharge Condition Codes	1,000 (C000 ~ C999)
Offset Settings Storage Capacity	1,000 (H000 ~ H999)
User's Memory Capacity	Editing: 100,000 blocks / Saving: 30MB
Memory Device	4 GB CF Card, 1 GB External Memory
Input Format	External Memory, Touch Panel, Keyboard, Mouse
Character Set	Alphanumeric and Symbols
Keyboard	Standard 101-Key, Function Key
Positioning Command	Incremental and Absolute
Drive Mechanism	Full Closed Loop (Linear Scales)
Editing	Editing During Machining, Multi-Editing of Two Files on One Screen
Graphics	XY, YZ, ZX, Plane, 3D, Graphics Drawing During Machining, Background Graphics Drawing, etc...

Layout (Oil Model)



Dielectric Tank	
Capacity	Water Section 200 gallons (760 liters), Oil Section 155 gallons (590 liters)
Tank External Dimensions (W x D x H)	53.15" x 97.64" x 64.37" (1,350 x 2,480 x 1,635 mm)
Filter Type	Replaceable Paper Filter Cartridge
Dielectric Fluid Type	Ion Exchange Water or Oil*

*Water or Oil Model Available

Standard Features	
Linear Motor (X, Y, U and V Axes)	Dielectric Cooling Unit
High Speed Electrolysis Free Circuit* ¹	AWT (Automatic Wire Threader)* ²
Taper Cut Unit	Super PIKA O/W
Corner Control	Tension Servo
Energy Saving Circuit	FT II (Fine Pick-Up Function)
Voltage Stabilizer	Wire Tip Disposal Unit

*1: Water, water/oil model only

*2: Air pressure .05 MPa is required

Please consult sales representative for more details.

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Due to ongoing research, specifications are subject to change without prior notice.

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Sodick

1605 N. Penny Lane.
Schaumburg, IL 60173
phone: 847-310-9000
toll free: 888-639-2325
www.sodick.com