



Pulsed TIG Welder MAWA series



MAWA-050A MH-TL01A

Best choice for precise welding of copper, high melting point material, dissimilar metal Selectable start method (High voltage start and touch start) will improve weld reliability

What is MAWA-050A PULSETIG® Welding Power Supply?

This DC type TIG welder generates arcs between an object to be welded and the tungsten electrode and carries out welding using the generated heat.

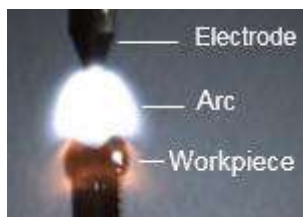
Effective for welding of precision devices and minute parts.

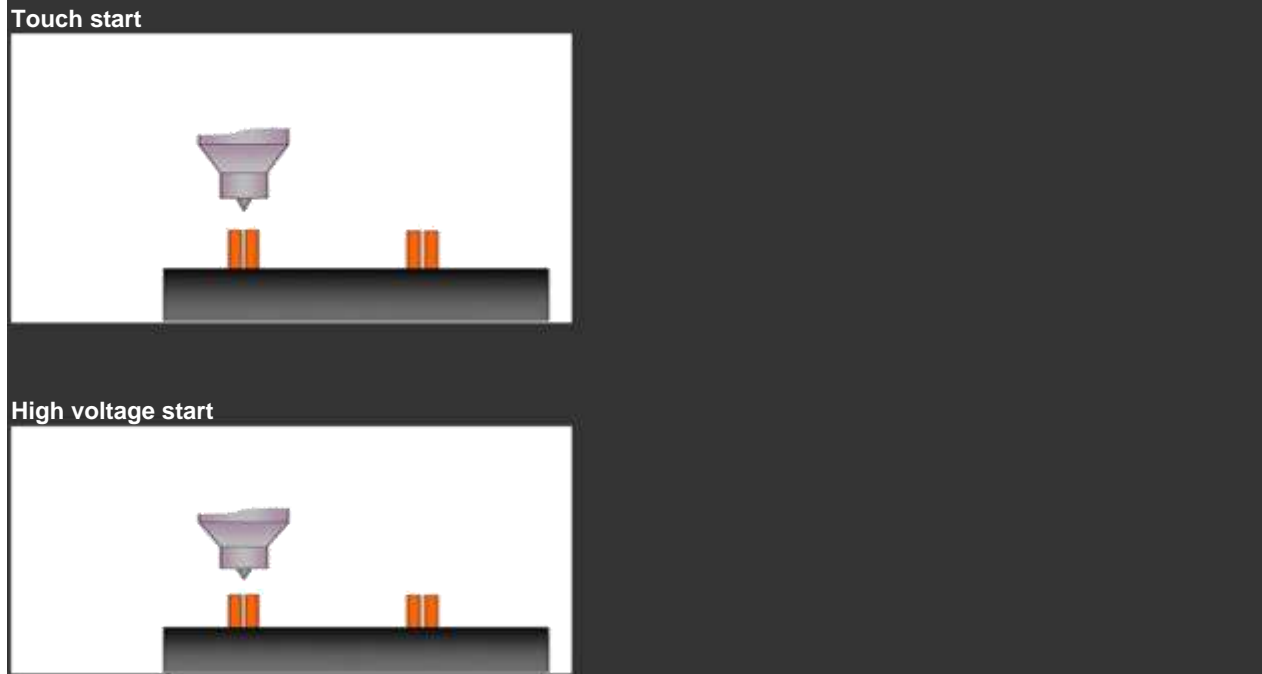
Individual lineup of high voltage start special purpose machines and touch start special purpose machines.

Selecting the start method appropriate for the work piece improves the welding reliability.

Arc welding image

Precision control by constant current and short time welding





Features

- Feature of each start
 - Touch start
 - Suppress influence of noise
Suppress causing malfunction of electrical device and breaking electrical parts with weak electrical strength near the welding point.
 - Secure weld on chosen point
Arc will cause from electrode touching point to electrode. This will secure place to weld.
 - Reduction of the running cost
Electrode life is prolonged , compared with the high voltage start, running cost can be reduced.
 - High voltage start
Cause arc by adding DC high voltage between electrode and work piece
Position of electrode will be fixed on same place for all the time
 - Non-contact
Effective in welding small parts as the arc is shot without contact.

□ Non-pressurized

Since electrode does not touch work piece, able to reduce distortion of work piece.

□ Short takt time

This method is more effective than the touch start method in reducing the takt time because it is not necessary to vertically move the torch.

Controller can be separate from unit by using option cable



Pulse modulation feature

Inner blow halls generated at welding are reduced due to this feature which inputs heat intermittently.

Size and shape of arc ball is controllable. Envelope feature

The upper and lower limit of criterial current waveform are set to judge welding quality. Touch start feature

Specifications

Model name	MAWA-050A-00-00	MAWA-050A-00-01	MAWA-050A-00-02	MAWA-050A-00-03
Start method	Touch start		High voltage start	
Power supply voltage	Single-phase 200 V AC to 230 V AC ±10% (50/60 Hz)	Single-phase 200 V AC to 240 V AC ±10% (50/60 Hz)	Single-phase 200 V AC to 230 V AC ±10% (50/60 Hz)	Single-phase 200 V AC to 240 V AC ±10% (50/60 Hz)
Power consumption	1.3kVA		1.7kVA	
Maximum output current	50A			
Control method	Secondary constant current control Inverter type (Control frequency: approx. 45 kHz)			
Maximum no-load voltage	52V		110V	
Rated load voltage	12 V (50-A power ON status)			
Duty cycle (*1)	The maximum duty cycle for weld time 1 sec. is 50% (12 A or less), 5.5% (50 A), 10% (38 A), 20% (28 A), 30% (21 A), 40% (16 A), 50% (12 A)			
Number of conditions (SCHEDULE)	127 conditions			
Time setting range	Pre-flow		0~9999 ms (in unit of 1 ms)	
	Initial current		0~999 ms (in unit of 1 ms)	
	WELD1 (*2)	Up slope	0~99.9 ms (in units of 0.1 ms) 100~999 ms (in unit of 1 ms)	
		Main welding		
		Down slope		
	Cooling (*2)		0~1000 ms (in unit of 1ms)	
	WELD2 (*2)	Up slope	0~99.9 ms (in units of 0.1 ms) 100~999 ms (in unit of 1 ms)	
		Main welding		
Down slope				

	After flow	0~9999 ms (in unit of 1 ms)			
Current setting range	Initial current	Settable in the range of 5.00 to 9.99 A (in units of 0.01 A)			
	WELD1 WELD2	Settable in the range of 10.0 to 50.0 A (in units of 0.1 A) (Welding current, peak current, base current)			
Installing conditions	Ambient temperature	+5~+40°C			
	Maximum altitude	85% or less (without condensation)			
External dimensions		169 (W) mm × 440 (D) × mm × 294 (H) mm (excluding projections)			
		169 (W) mm × 542 (D) mm × 294 (H) mm (including the cable gland of the terminal cover)			
Mass		Approx. 13 kg	Approx. 14 kg		
CE		Correspond			
EMC class		CISPR11, ClassA			
CCC		Correspond	Not correspond	Correspond	Not correspond

- *1: The duty cycle (load time for a period of 10 minutes) of “JIS C9300-1 3.37” is not adopted.
- *2: WELD1 + Cooling +WELD 2 ≤ 4000 ms

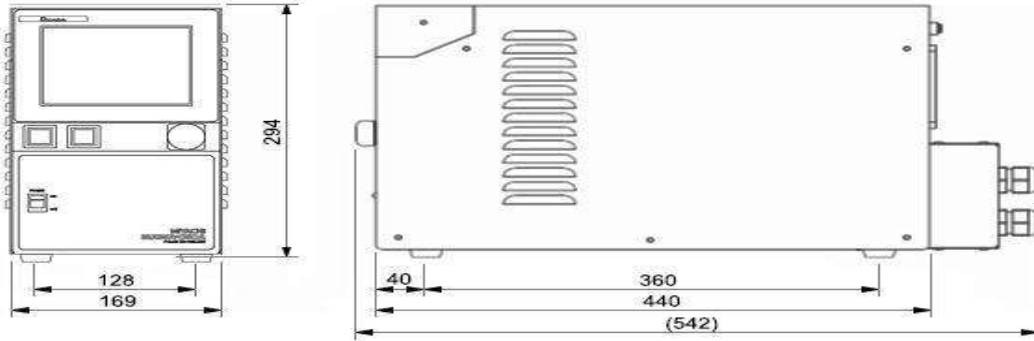
Model name		MH-TL01A-00-01		
Follow-Up Mechanism Type		For PULSETIG welding touch start		
Power Supply Voltage		100–240 V AC ±10%, 50/60 Hz, 70 VA		
Stroke		50 mm max.		
Electrode-Lifting-Up Amount		0.1 to 9.9 mm (in units of 0.1 mm)		
Electrode Force		0.6 N (60 g) min *1		
I/O		SUMICON (34pins)		
Number of Welding Schedules		15 Schedules (selectable externally)		
Operating Conditions		Temperature: 5 – 40°C		
		Humidity: 85% or less (No condensation)		
External	Body	120(W)mm × 414(D)mm × 460(H)mm		

dimensions	Controller	70(W)mm × 250(D)mm × 185(H)mm
Mass	Body	Approx. 8 kg
	Controller	Approx. 3 kg

- ***1:** The electrode-lifting-up amount increases or decreases according to the head descending speed when the electrode makes contact with the workpiece.

External view

MAWA-050A



MH-TL01A

