

# MasterTIG-200AC/250AC

The Expert of multipurpose TIG welding



## Features

- Process: AC TIG, DC TIG, MIX TIG, MMA
- Soft-switching IGBT inverter system
- Full digitalized control system, friendly operation interface
- Precise arc start control as lower as to 3 Amps
- Fast Sport Arc system
- Multiple AC waveform adjusting
- MIX TIG control system
- 2T/4T control mode
- 10 channels memory capacity

## Application

- Metal fabrication workshops
- Shipyards and offshore industry
- Chemical and process industry
- Mechanized welding

## Aluminum welding expert, precise and efficient

MASTERTIG-200AC/250AC offers TIG welding professionals the necessary control to meet their exacting needs. Whatever the application, enjoy the performance.

MASTERTIG-200AC/250AC is a precise aluminum welding specialist that suits all welded materials. Modular design allows you to build the package that best suits your needs.

Easy operation and full functions: from the control panel allowing fast adjustment of all necessary controls for DC, AC and MIX TIG welding with either HF or contact ignition. It's also very convenient to store or call out the welding parameters from the memory channels.

## Technical specifications

Item No	MasterTIG-200AC	MasterTIG-250AC	
Rated Input Voltage	1PH - 230V ±15%	1PH - 230V ±15%	
Max. Load Power Capacity	TIG: 4.5kVA MMA: 5.6kVA	TIG: 6.3kVA MMA: 7.1kVA	
Rated Duty Cycle (40°C/60%)	TIG: 200A/18V	TIG: 250A/20V	
	MMA: 160A/26.4V	MMA: 200A/28V	
	TIG: 160A/26.4V	TIG: 200A/18V	
100%	MMA: 130A/25.2V	MMA: 160A/26.4V	
	TIG: 5A/10.2V~200A/18V	TIG: 5A/10.2V~250A/20V	
Welding Current/Voltage Range	MMA:10A/20.4V~160A/26.4V	MMA:10A/20.4V~200A/28V	
Open Circuit Voltage	10V	10V	
Power Factor	0.73	0.73	
Efficiency	80%	80%	
	Peak Current	5A-200A	5A-250A
Pulse	Base Current	5A-200A	5A-250A
	Pulse Frequency	0.2Hz-50Hz	0.2Hz-50Hz
	Pulse Width (Ratio)	1-100%	1-100%
AC Frequency Range	20Hz-200Hz	20Hz-200Hz	
TIG AC Clean Width (AC Bias)	+40~-40	+40~-40	
TIG AC Clean Ratio (AC Bias) %	+30~-50	+30~-50	
TIG MIX MIX TIG MIX Frequency	0.1Hz-5Hz	0.1Hz-5Hz	
TIG DC Balance (%)	10-90	10-90	
Arc-starting Current	10A-160A	10A-160A	
Crater-filling Current	5A-200A	5A-250A	
Current Up-slope Time	0.1S-10S	0.1S-10S	
Current Down-slope Time	0.1S-15S	0.1S-15S	
Pre-Gas Time	0.1S-5S	0.1S-5S	
Flow-Gas Time	0.1S-15S	0.1S-15S	
Spot Arc Time	0.1S-10S	0.1S-10S	
Arc Force	10A-100A	10A-160A	
MMA Hot Start Time	2S	2S	
Hot Start Current	5A-100A	5A-160A	
Dimension (LxWxH)	490X230X385mm	490X230X385mm	
Weight (KG)	23KG	23KG	

## Water-cooling Unit: WC-100 (optional)

Operating Voltage	230V 50/60Hz
Rated Power	260W
Cooling Power	1.5KW/1L/MIN
Maximum Pressure	0.3MPA/60HZ
Recommended Cooling Liquid	20%~40% ethanol/water
Tank Volume	6.5L



## Pulse control



DC+DC-: the arc-starting output polarity converter at AC TIG & MIX TIG process

AC waveform: FLN AC welding with rectangular current output wave form

Maximum power loading and safe welding. AC welding with sinusoidal current output wave form. Low noise levels.



## Memory channels add usability

It's includes 10 memory channels to store welding values for later use. This makes it quick and easy to start welding without needing to adjust the settings once more.



Optional with a water-cooling unit.

## SPECIAL FEATURES

### AC Wave Controls:

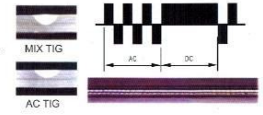
Feature	Waveform	Effect on Bead	Effect on Appearance
<b>AC Balance Control</b> Controls arc cleaning action. Adjusting the % EN of the AC wave controls the width of the etching zone surrounding the weld. <i>Note: Set the AC Balance control for adequate arc cleaning action at the sides and in front of the weld puddle. AC Balance should be fine tuned according to how heavy or thick the oxides are.</i>	51 79% EN Graph showing AC waveform with 51% EN and 79% EP.	Reduces balling action and helps maintain point. Deep, narrow penetration.	Narrow bead, with no visible cleaning. No Visible Cleaning.
<b>AC Frequency Control</b> Controls the width of the arc cone. Increasing the AC Frequency provides a more focused arc with increased directional control. <i>Note: Decreasing the AC Frequency softens the arc and broadens the weld puddle for a wider weld bead.</i>	30 76% EN Graph showing AC waveform with 30% EN and 76% EP.	Increases balling action of the electrode. Shallow penetration.	Wider bead and cleaning action. Cleaning.
<b>Independent AC Amperage Control</b> Allows the EN and EP amperage values to be set independently. Adjusts the ratio of EN to EP amperage to precisely control heat input to the work and the electrode. EN amperage controls the level of penetration, while EP amperage dramatically affects the arc cleaning action along with the AC Balance control.	60 Cycles per Second Graph showing AC waveform with 60 cycles per second.	Wider bead, good penetration (ideal for buildup work).	Wider bead and cleaning action. Cleaning.
	120 Cycles per Second Graph showing AC waveform with 120 cycles per second.	Narrower bead for field repairs and automated applications.	Narrower bead and cleaning action. Cleaning.
	Graph showing independent EN and EP amperage control.	More current in EN than EP: Deeper penetration and faster travel speeds.	Narrow bead, with no visible cleaning. No Visible Cleaning.
	Graph showing independent EN and EP amperage control.	More current in EP than EN: Shallower penetration.	Wider bead and cleaning action. Cleaning.

### MIX TIG Control:

#### Features of MIX TIG:

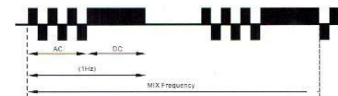
The AC current can get a very good clearance, and DC current can get a deeper penetration. Use the MIX TIG we can get an excellent Arc Concentration, can be carried out the excellent welding performance from thin to thick plate.

- 1) Nice weld appearance, deep penetration.
- 2) Excellent Arc Concentration.
- 3) Substantially reduce the electrode consumption.



#### MIX TIG Frequency (Hz):

the cycle time of MIX TIG in 1 second. Adjustable range: 0.1-10Hz.



#### MIX TIG Balance (DC) %:

DC Balance (%) = (tad/Tmix) x 100

