



PROFESSIONAL IN WELDING

MASTER TIG

Reliability, Powerful and Precise TIG welding

AC/DC TIG & MIX TIG

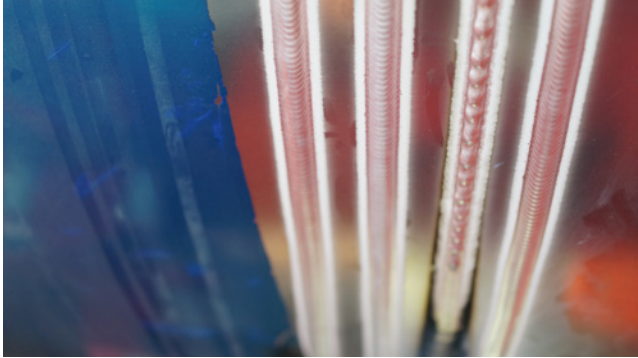
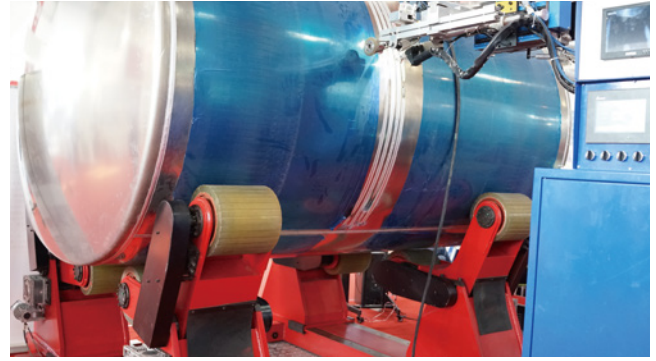


Good choice for industries

Such as Petroleum & Petrochemical, Pressure Vessel, Electric Power Construction and Stainless Steel Product etc.

Powerful and reliable

This unit is a 3-phase TIG welder equipped with latest IGBT modules. It is also equipped with an integral cooling unit, providing efficient cooling for liquid-cooled torches in high duty production welding environments. With the shape of the arc, weld penetration, cleaning effect, as well as the other features are under precise control, and ensuring that the quality of the welds remains high at every level.

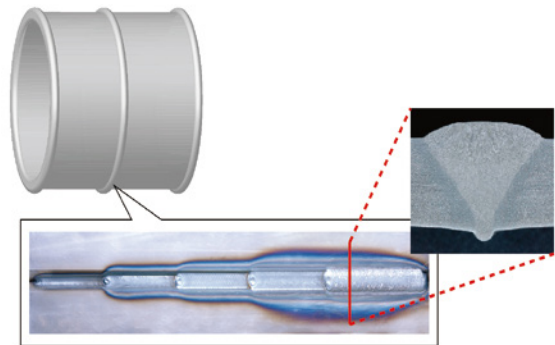


High efficiency TIG welding

The maximum output is up to 500A. It's capable to welding thin metal fast and thick metal continuously.

Mild steel 12mm V groove, 5 layers

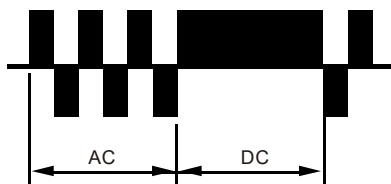
Layer 1: 300A, Layer 2: 300A, Layer 3: 280A,
Layer 4: 280A, Layer 5: 260A



Unique MIX TIG

Everybody knows the AC current has a good clearance and DC current gets a good penetration. What if mix the AC and DC?

MIX TIG is TOPWELL's unique technology, it contains AC current and DC current in one duty cycle.



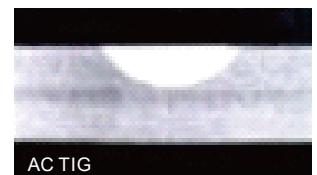
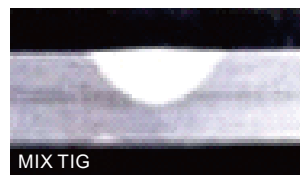
That keeps the advantages and reduces disadvantages from each other. Using the MIX TIG technology gets an excellent arc concentration and can be carried out the excellent welding performance, especially for thick plates.

MIX TIG advantage

- Nice weld appearance, deep penetration.



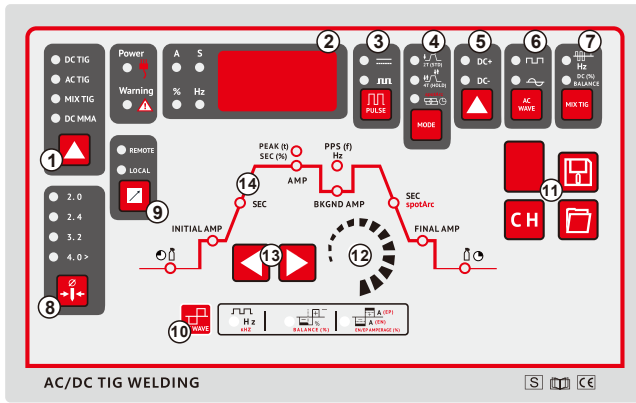
- Excellent Arc Concentration.



- Substantially reduce the electrode consumption.



General View of Control Panel

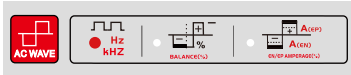


- 1. Welding Process**
DC TIG/AC TIG/MIX TIG/DC MMA
- 2. Ammeter/Voltmeter Display**
- 3. Pulsar Control**
Pulse ON/OFF selection.
- 4. Mode**
2T(STD)/4T(HOLD)/Spot Arc

- 5. Arc Ignition Polarity**
- 6. AC Waveshape types**
Advanced Squarewave
Triangular Wave
- 7. MIX TIG**
MIX Frequency: 0.1Hz~5Hz
DC Balance: (%)10~90
- 8. Tungsten Electrode Dia.**
From 2.0mm to >4.0mm
- 9. Remote:** used for foot pedal or remote torch.
Local: adjusted Currents by face panel
- 10. AC Waveshape**
AC Frequency Range 20Hz~200Hz
AC Clean Width (AC Balance) +40~-40
AC Clean Ratio (ACBias) % +30~-50
- 11. Memory**
- 12. Encoder Control**
- 13. Select welding parameters button**
- 14. Function Sequence(see next chapter)**

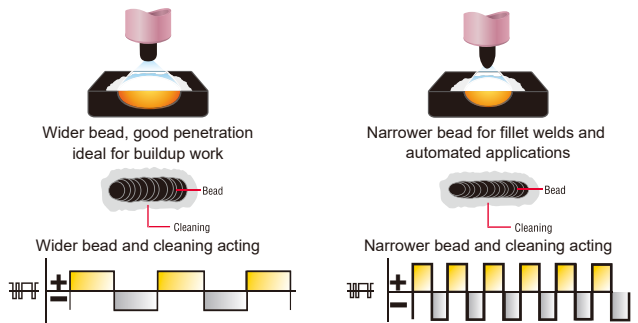
Complete AC Waveshape Controls

• AC Frequency control

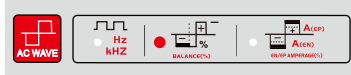


Controls the width of the arc cone. Increasing the AC Frequency provides a more focused arc with increased directional control.

Note: Decreasing the AC Frequency softens the arc and broadens the weld puddle for a wider weld bead.

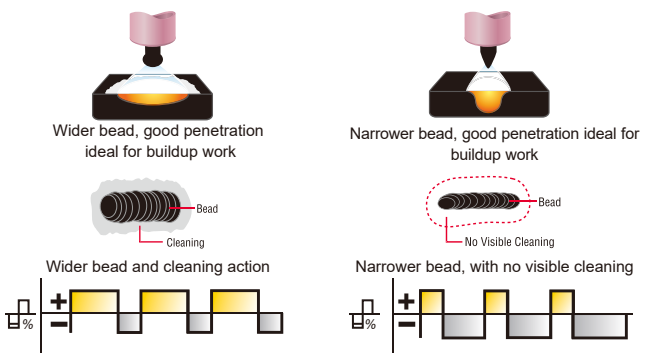


• AC Balance Control



Controls arc cleaning action. Adjusting the % EN of the AC wave controls the width of the etching zone surrounding the weld.

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.

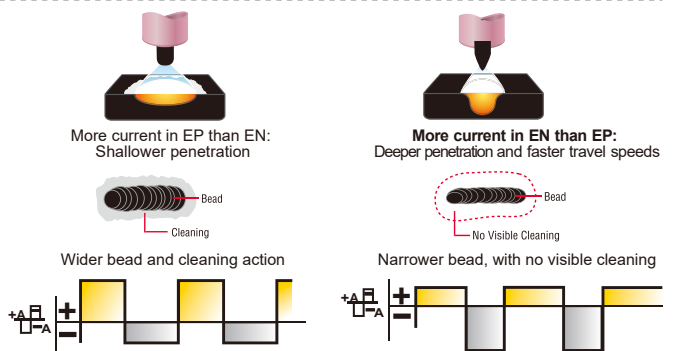


• Amplitude Control



Adjusts the ratio of EN to EP amperage to precisely control heat input to the work and the electrode.

Note: EN amperage controls the level of penetration, while EP amperage dramatically effects the arc cleaning action along with the AC Balance control.



Specifications

	Master tig-320HD	Master tig-400HD	
Rated Input Voltage	33PH ~ 400V ±15%	3PH ~ 400V ±15%	
Max. Load Power Capacity	TIG: 9.12KVA	TIG: 14.39KVA	
	MMA: 10.38KVA	MMA: 14.21KVA	
Rated Duty Cycle(40 C) 60%	TIG: 320A/22.8V	TIG: 400A/26V	
	MMA: 250A/30V	MMA: 315A/32.6V	
100%	TIG: 250A/20V	TIG: 315A/22.6V	
	MMA: 200A/28V	MMA: 250A/30V	
Welding Current/Voltage Range	TIG: 5A/10.2V~320A/22.8V	TIG: 5A/10.2V~400A/26V	
	MMA: 20A/20.8V~250A/30V	MMA: 20A/20.8V~315A/32.6V	
Open Circuit Voltage	70V~80V	70V~80V	
Power Factor	0.8	0.85	
Efficiency	80%	85%	
TIG Pulse Peak Current	5A~320A	5A~400A	
	Pulse Frequency	0.2Hz~200Hz	
	Pulse Width (Ratio)	1~100%	
AC TIG AC Frequency Range	20Hz~250Hz	20Hz~250Hz	
	Balance) AC Clean Width (AC	+40~40	+40~40
		+30~50	+30~50
AC Clean Ratio (AC Bias) %	1Hz~5Hz	1Hz~5Hz	
MIX TIG MIX Frequency	20~80	20~80	
DC Balance (%)	5A~320A	5A~400A	
Arc-starting Current	5A~320A	5A~400A	
Crater-filling Current	0.1S~15S	0.1S~15S	
Current Up-slope Time	0.1S~15S	0.1S~15S	
Current Down-slop Time	0.1S~15S	0.1S~15S	
Pre-Gas Time	0.1S~15S	0.1S~15S	
Flow-Gas Time	0.1S~10S	0.1S~10S	
Spot Arc Time	10A~250A	10A~315A	
MMA Arc Force	0.1~3S	0.1~3S	
Hot Start Time	10A~250A	10A~315A	
Hot Start Current	960x420x900mm	960x420x900mm	
Dimension (LxWxH)	75KG	80KG	
Weight (KG)			



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Web & Mail

www.cn-topwell.com
sales@topwellwelders.com

Phone

(+86)571-88231791
(+86)571-88231792