

PROFESSIONAL IN WELDING

STC-205AC/DC

4-IN-1 Multi-process: AC/DC TIG+Plasma Cutting



Multi-process for workshop

Great result for Pipe, Tube, Pressure Vessel, Stainless Steel Product and Aluminum Ship Repair etc.

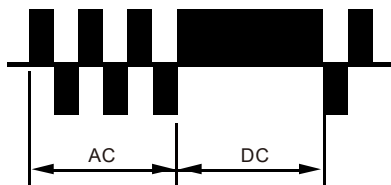
Cutting Capacity (Carbon Steel)

Capacity	Thickness	Cut Speed
	Cutting	
Recommended	8mm	500mm/min
	13mm	250mm/min
Severance(Hand Cutting)	16mm	125mm/min

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.



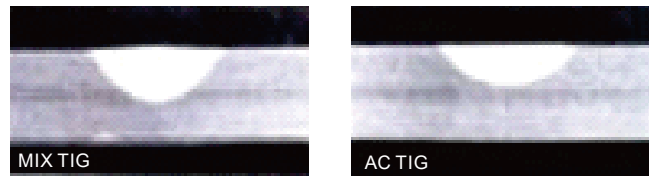
That keeps the advantages and reduces disadvantages from each other. Using the MIX TIG technology gets an excellent arc concentration and can be carried out the excellent welding performance, especially for thick plates.

MIX TIG Advantage

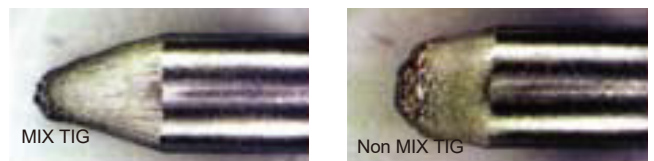
- Nice weld appearance, deep penetration.



- Excellent Arc Concentration.



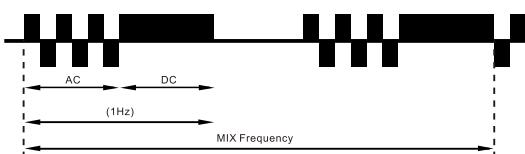
- Substantially reduce the electrode consumption.



MIX TIG Controls

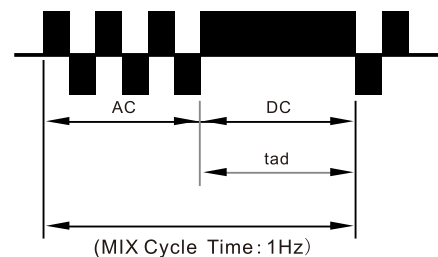
- MIX TIG Frequency (Hz):**

The cycle time of MIX TIG in 1 second. Adjustable range: 1-5Hz.

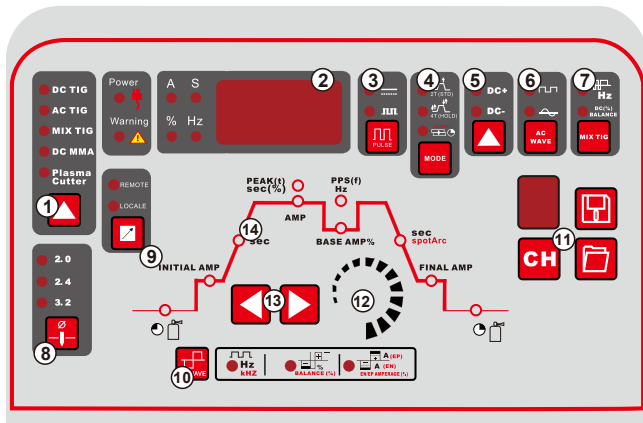


- MIX TIG Balance (DC) %:**

DC Balance (%) = $(t_{ad}/T_{mix}) \times 100$



General View of Control Panel



1. Welding Process

DC TIG/AC TIG/MIX TIG/DC MMA/Plasma Cutter

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: (%)20~80

8. Tungsten Electrode Dia.

From 2.0mm to >4.0mm

9. Remote: used for foot pedal or remote torch.

Local: adjusted Currents bu 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

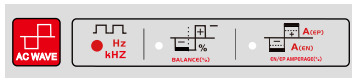
12. Encoder Control

13. Select welding parameters button

14. Function Sequence

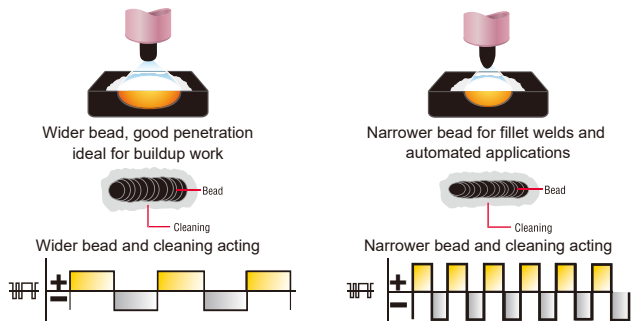
Complete AC Waveshape Controls

• AC Frequency control

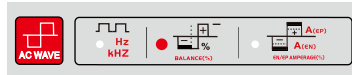


Controls the width of the arc cone. Increasing the AC Frequency provides a more focused arc with increased directional control.

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

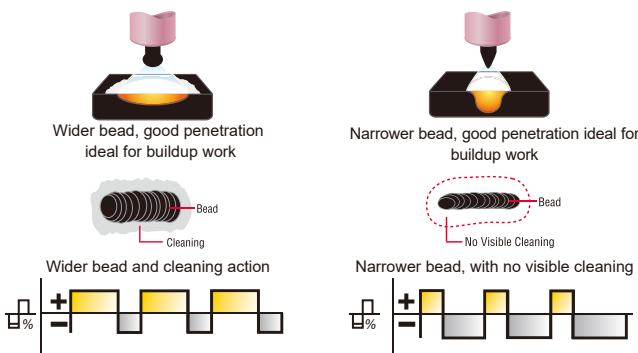


• AC Balance Control

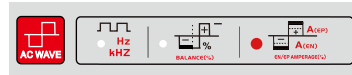


Controls arc cleaning action. Adjusting the % EN of the AC wave controls the width of the etching zone surrounding the weld.

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.

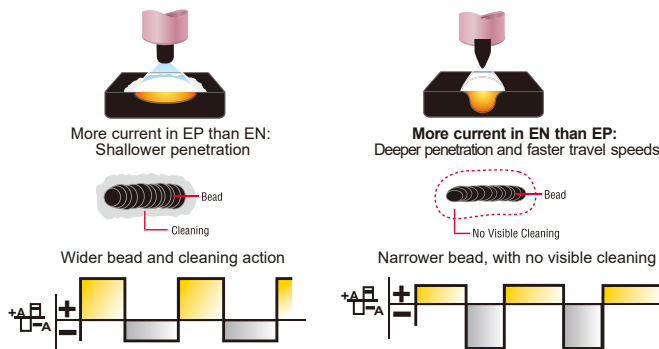


• Amplitude Control



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

Item No	STC-205AC/DC	
Rated Input Voltage	1PH ~ 230V ±15%	
Max. Load Power Capacity	TIG: 5.63KVA MMA: 6.60KVA PAC: 8.20KVA	
Rated Duty Cycle(40°C) 60%	TIG: 200A/18V MMA: 160A/26.4V PAC: 50A/105V	
100%	TIG: 160A/16.4V MMA: 130A/25.2V PAC: 40A/100V	
Welding Current/Voltage Range	TIG: 5A/10.2V~200A/18V MMA: 20A/20.8V~160A/26.4V PAC: 20A/90A~50A/105V	
Open Circuit Voltage	TIG/MMA: 70V~80V PAC: 260V~290V	
Power Factor	0.8	
Efficiency	80%	
TIG	Pulse	Peak Current Base Current Pulse Frequency Pulse Width (Ratio)
		5A~200A 5A~200A 0.2Hz~200Hz 1~100%
	AC TIG	AC Frequency Range AC Clean Width (AC Balance) AC Clean Ratio (AC Bias) %
		20Hz~250Hz +40~-40 +30~-50
	MIX TIG	MIX Frequency DC Balance (%)
		1Hz~5Hz 20~80
		Arc-starting Current Crater-filling Current Current Up-slope Time Current Down-slop Time Pre-Gas Time Flow-Gas Time Spot Arc Time
		5A~200A 5A~200A 0.1S~15S 0.1S~15S 0.1S~15S 0.1S~15S 0.1S~10S
MMA		Arc Force Hot Start Time Hot Start Current
		10A~160A 0.1~3S 10A~160A
PAC		Required Air Pressure Gas Pro-flow/Retard Time Quality Cutting Thickness (500mm/min) Severance Cutting Thickness (125mm/min)
		0.3~0.5MPa 0.1S~15S 10mm 18mm
Dimension (LxWxH)	550x230x440mm	
Weight (KG)	26kg	



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Web & Mail

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

Phone

(+86)571-88231791
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