

SANARG 500AP

AC/DC TIG Welding

Power, Performance, Features... Reliability.

Quick Specifications

Processes

- AC/DC TIG (GTAW)
- Pulsed TIG (GTAW-P)
- STICK (SMAW)
- Air Carbon Arc (CAC-A)

Input Voltage / Frequency

- 208-240V, 1 Ph.
- 208-240/480V, 3Ph
- 50/60 Hz

Industrial Applications

- Precision fabrication
- Heavy fabrication
- Pipe and tube fabrication
- Aerospace
- Aluminum ship repair
- Anodized aluminum fabrication.

Certifications

- CSA
- IP23

Maximum Rated Output.

- 500A @ 45%, 3Ph.
 - 350A @ 35%, 1ph.
- TIG
- 500A @ 60%, 3Ph.
 - 350A @ 70%, 1 Ph.

Power Supply Dimensions

- 25.2" x 12.2" x 20.86"
- (640mm x 310mm x 530mm)

Output Range TIG

- 5-500A, DC
- 10-500A, AC Square
- 10-390A, AC Trapezoid
- 10-285A, AC Sine
- 10-240A, AC Triangle

Single Phase 350A Max.

Weight

- 121.25 lb (55 kg)

Inverter Technology: Compact, Portable, precise control of arc characteristics and welding parameter.

Water Cooler Packages: Use a single stock number to order a complete preconfigured system.

Job Save/Load: Allows operator to store exact optimized welding parameters then digitally recall them with perfect repeatability.

Digital Meters: Easy to read display gives you the flexibility to set the machine precisely and accurately in Manual and Synergic modes.

Thermal Overload Protection: Indicator alerts the operator if duty cycle is exceeded or airflow is blocked.

Wave Balance: Allows you to fine tune the AC welding cycle.

Lift Start TIG: Provides TIG arc starting without use of high frequency.

Easy to use: Simple, user friendly set-up and operation.

Quick Switch: Simple primary voltage selection with no manual linking.

Advanced TIG pulse: Better control over heat input and improved weld pool control.

Simple Automation: Includes Remote Weld ON/OFF, Amperage control, Weld output ON (OK-to-Move).

AC TIG Waveforms: Choose from Square, Sine, Triangle or Trapezoid for optimal control of arc characteristics.

Remote 14pin Receptacle Fitted: Makes compatibility of SanRex, competitive remote devices simple.

AC Frequency: Give the operator control over weld bead shape.

HF Start TIG: Provides non-contact arc starting that eliminates tungsten or material contamination.

Warranty: 3 Years.



SanRex

Customer Care
Tel: 516-625-1313
Fax: 516-625-8845

SANREX CORPORATION
PORT WASHINGTON, NY, USA

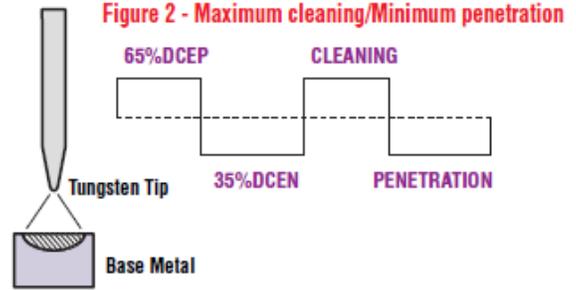
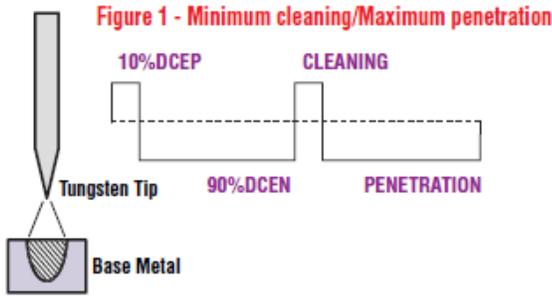
www.sanrexwelding.com
SANTIG 500AP
Form No.:010126500AP

Features

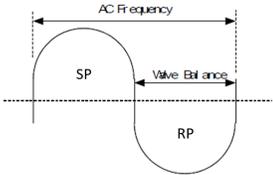
Effects of Wave Balance Adjustment on AC/GTAW - Complete Welding Control

The 500AP AC output uses advanced embedded micro processor technology. This control of the wave form changes the amount of time spent on DCEP (cleaning) and DCEN (penetration) parts of each cycle, increasing arc stability. The DCEP cycle insures that the aluminum oxide is thoroughly removed, allowing the DCEN cycle a thorough penetration of the base metal. Both cycles enhance weld quality and significantly improve performance.

When a conventional system changes its wave balance, there can be as much as a 50% increase in amperage draw. Sanrex® 500AP amperage draw is unaffected by any adjustments. The 500AP increases efficiency and eliminates tungsten spitting and enables the use of a smaller diameter tungsten electrodes to operate at a higher current levels. Figures 1 & 2 show the difference in TIG torch electrode and heat and cleaning variations.

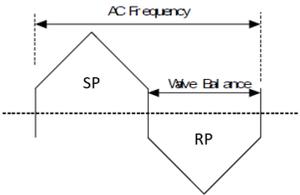


AC Soft



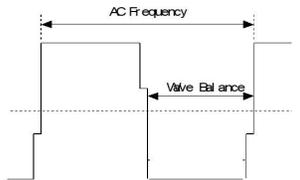
AC Soft includes all the benefits of AC square wave with the addition of maximum puddle control and good wetting action of the weld puddle which helps to overcome surface tension.

Triangle Wave



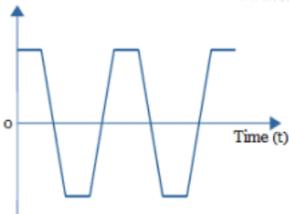
Triangle Wave provides the punch of the peak amperage, while reducing overall heat input. Fast puddle formation increases travel speed, limiting heat input and reducing weld distortion, especially on thin materials.

Square Wave



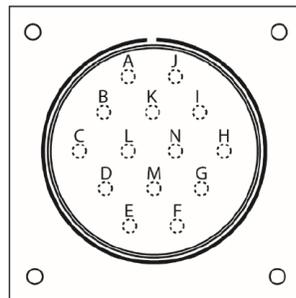
AC Square Wave fast transitions for a responsive, focused arc, for better directional control.

Trapezoidal

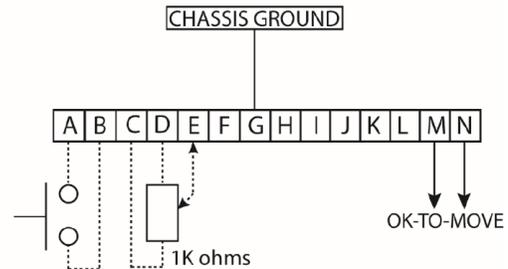


Trapezoidal (Modified Square Wave) - Trapezoidal wave helps distribute heat evenly, reducing the risk of overheating and distortion in the welded materials, enhances the fusion of the weld metal and is ideal for welding large or thick metals where heat control is crucial.

Simple Automation Interface for Fixed, hard and Robotic automation applications includes Remote Weld ON/OFF, Remote Amperage Control, OK-to-Move Weld Arc ON signals.



Front view of 14-Pin Socket Receptacle



SANARG 500AP

AC/DC TIG Welding

Features

Cooling Mode

TIG Torch Air-Cooling or Water-Cooling selection.

Trigger 2t/4t

In 2T mode, hold the trigger to weld, while in 4T mode, you press the trigger to start and release it to continue welding without holding, making it easier for longer welds.

Functions

Gas Purge, TIG Start Option, TIG Pulse



Job Save & Load

The unit is able to save an ample number of programs easily

TIG Functions

TIG-DC, AC Square, Sine, Triangle, Trapezoid.

STICK Functions

Arc Force, Hot Start, Arc Length.

Recessed Control Panel

Simple to use operator interface.

Easy Process Change

This unit makes changing from TIG to Stick and back again an easy task with Dinse Twist Lock Output Terminals.

14 Pin Remote Receptacle

Easy to connect. Makes compatibility of SanRex, competitive remote devices simple.

Water Cooler Included

The heavy duty water cooler capable of cooling anything the welder can throw at it.



Smart Primary

Multi voltage 208-230/460 1 or 3 phase providing maximum flexibility.

Heavy Duty Case

Metal Case.

Trolley

The cart is included as a standard feature. Includes a running gear and Cylinder Rack.

Specifications

Welding Mode		Input	Duty Cycle @ Max	60% Duty Cycle	100% Duty Cycle
Output Current/Voltage	TIG	1-208V	70% 350A	/	100% 280A
		1-240V	75% 350A	/	100% 250A
		3-208V	60% 500A	/	100% 390A
		3-240V	65% 500A	/	100% 400A
		3-480V	DC 65% 500A	/	DC 100% 400A
			AC 70% 500A	/	AC 100% 410A
	STICK	1-208V	45% 350A	/	100% 230A
		1-240V	50% 350A	/	100% 240A
		3-208V	DC 35% 500A	DC 60% 370A	DC 100% 280A
			AC 30% 500A	AC 60% 340A	AC 100% 260A
		3-240V	DC 40% 500A	DC 60% 390A	DC 100% 300A
			AC 35% 500A	AC 60% 370A	AC 100% 280A
		3-480V	DC 60% 500A	/	DC 100% 390A
			AC 65% 500A	/	AC 100% 400A
Open Circuit Voltage		Approximately 71V at 1~208/240V; 3~208V/240V/480V AC input			
Output current range	TIG	5-350A/500A (DC Mode) 10-350A/500A(AC Mode,60Hz,30% cleaning)			
	STICK	5-350A/500A(DC Mode) 10-350A/500A(AC Mode,60Hz,30% cleaning)			
Input /Out at Rated Load	Three-phase/ single--Phase				
	Voltage	current			
Rated Input Voltage/ Current	1-208V	TIG	AC 53.32	AC 71.63	
		DC 53.56	DC 71.87		
	1-240V	TIG	AC 46.21	AC 62.08	
		DC 46.42	DC 62.29		
	3-208V	TIG	AC 56.95	AC 73.76	
		DC 56.36	DC 72.84		
	3-240V	TIG	AC 49.36	AC 63.92	
		DC 48.85	DC 63.13		
	3-480V	TIG	AC 23.66	AC 30.46	
		DC 23.49	DC 29.87		
Output Amperes	500 (350)				
Output Volts	TIG 30V(24V)	MMA 40V(34V)	Input at No load		
KVA	20.52	26.57	0.445		
KW	19.41	25.03	0.233		
Input Voltage	208-240/480VAC 3-Phase ; 208-240V AC single--Phase				
Line Frequency	50/60Hz				
Line Volts Compensation	+/- 10%				

Welding Thickness Limits 3 Phase

Welding Type	Single Pass Limit	Multi-Pass Limit	Current Range
DC TIG	5/8"+ (400A) / 3/4"+ (500A)	1"+	400-500A
AC TIG Square Wave	5/8"+ / 3/4"+ (500A)	1"+	Up to 500A

Minimum Thickness (All Voltages) DC TIG: .008", AC TIG: .015"

STICK Welding Maximum Electrode Diameter 1/4". Note: Depends on manufacturer and electrode type/class.

General Notes – Thickness limits are described in **single pass** and **multi-pass** terms. **Multi-pass welds** (on thicknesses $\geq 1/4"$) are considered **best practice** for strength and durability. **Single pass welds** provide a comparative measure of machine capability but may not yield the strongest weld.

Ordering Information

Product	Part Number	Description
	500ACDC-U1E	500AP Power supply only. Includes 1 Dinse plug and water adaptors.
	500AP-HDWTK	Includes 500AP, 500 Amp 25ft. TIG Torch, TIG accy Kit, regulator/flowmeter with 12.5' gas hose, 15' work cable, Water Cooler w/hose & 4 Gal. Coolant, 25' Foot control & running gear/Cylinder Rack.
	500AP-WTKA	Includes 500AP, regulator/flowmeter with 12.5' gas hose, 15' work cable, Water Cooler w/hose & 4 Gal. Coolant, 25' Foot control & running gear/Cylinder Rack. TIG Torch NOT Included.
	Accessories	
	MS1109	Trolley includes Running Gear and Cylinder Rack. Included in .500AP-HDWTK, 500AP-WTKA
	TK1044	Water Cooler 115vac. Included in 500AP-HDWTK, 500AP-WTKA.
	TK-1014B	Coolant (4 Gal Box), 500AP-HDWTK, Included in 500AP-WTKA.
	WCE0009	15ft. Work Lead. Included in 500AP-HDWTK, 500AP-WTKA.
	MS-1000	12.5ft Gas hose. Included in 500AP-HDWTK, 500AP-WTKA.
MS-1001	Regulator/Flowmeter. Included in 500AP-HDWTK, 500AP-WTKA.	
	FC1000	15ft. Foot Control.
	FC1001	25ft. Foot Control. Included in 500AP-HDWTK, 500AP-WTKA.
	TK-1035	500 Amp Water Cooled TIG Torch, 12.5ft.
	TK-1036	500 Amp Water Cooled TIG Torch, 25ft. Included in 500AP-HDWTK.
	TK-1037	Accy. Kit includes 1 set of 1/8", 5/32", 3/16" Consumables & 2% Tungsten. Included in 500AP-HDWTK.
	TK-1010-13	Style 18 Water Cooled 300 AMP TIG Torch, Accy Kit 13ft.
	TK-1010-25	Style 18 Water Cooled 300 Amp TIG Torch, Accy Kit, 25ft. Accy kit. includes 1 set of 1/8" Consumables & 2% Tungsten.

Ordering Information

Product	Part Number	Description
	HP-1425	Hand Pendant 14 pin , 25ft., On/OFF & Voltage/Current Control.
	RC1000 RC1001	TIG Torch Velcro mounted ON/OFF & Current Remote Control, 12.5ft. TIG Torch Velcro mounted ON/OFF & Current Remote Control, 25ft.