

A NEW LEVEL IN AC/DC TIG WELDING

SANARG 300AP / SANARG 500AP



SanRex Corporation

MODELS

300 Amp AC/DC TIG Welding Machine for Industrial Applications

**SANARG 300AP**

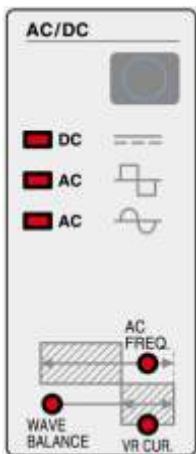
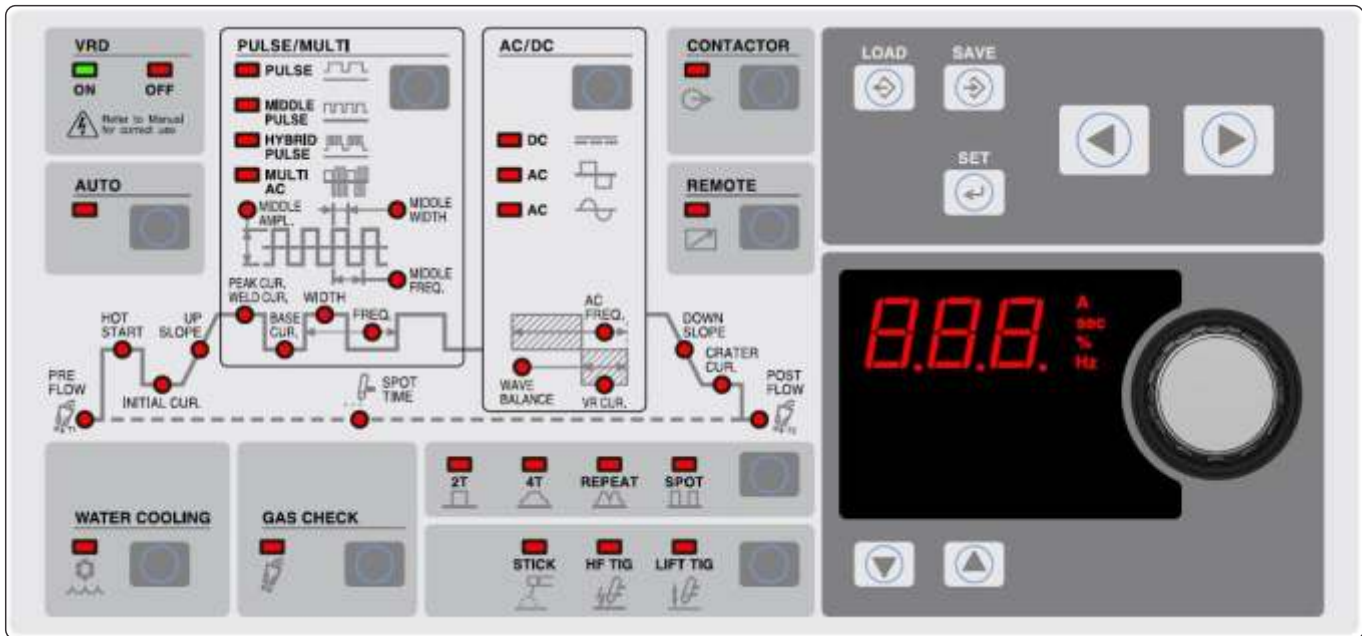
500 Amp AC/DC TIG Welding Machine for Industrial Applications

**SANARG 500AP**

The SANARG AP NEW TIG series offer you

- New High-Frequency Inverter Technology
- Excellent Welding Performance in AC and DC TIG welding
- Best Optimum AC Waveforms with extremely clean and stable arcs
- Excellent Arc starting, also in Lift TIG
- Low weight to power ratio
- Small dimensions to power ratio
- High Duty Cycle on all models
- Reliable Power Electronics
- Precise Pulse adjustment parameters for high quality aerospace applications
- AC Frequency range from 15 up to 400 Hz for Arc stability in low current range
- AC cleaning control in 2 balance ranges in width and reverse current level
- Excellent AC/DC TIG Welding and DC Manual Metal Arc Welding
- Different Remote controls available
- Current control on torch by digital levels
- Multi AC TIG Arc for instant heat and fast travel speeds on aluminium thick material welding
- Soft and Hard (square) AC wave form and hybrid operation
- 30 Memory levels (jobs) to store
- Interface for automatic application option available
- Separated internal ventilation channels to improve reliability in heavy industry applications
- Hot start function on AC TIG welding for faster welding speeds on thicker aluminium sections
- New patented arcs produce improved X-ray quality welds for aerospace standard work on AC and DC
- Auto (Synergic) fast set up utilising preset optimum machine parameters to improve weld quality
- Variable Current Control by Remote Foot Pedal or remote control on torch handle operation

EASY TO UNDERSTAND CONTROL PANEL



DC TIG: For standard DC TIG welding with precise adjustable digital controls for Pre-Gas, Start current, slope-up time, Welding Current, Down slope current time and Post flow time-out of welding gas. For Pulse Welding there are controls for Adjustable Frequency, Peak and Base Current and Pulse width, also with down slope current and Post flow time-out of the welding gas.

AC TIG (Hard Arc): For AC welding with the same controls as DC. AC TIG offers a hard squarewave AC arc for welding aluminium with very high arc stability on all thickness materials. The unique patented arc offers excellent control of the weld pool with fast and easy wire insertion, and a maintained sharp point on the Tungsten to focus the arc. Excellent for high speed welding in automatic applications.

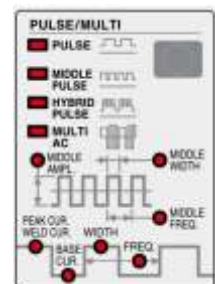
AC (Soft Arc): For AC welding also with high arc stability, and less arc noise. Same fully adjustable digital controls as in AC hard and DC operations.

AC Frequency Control: A separate frequency control for the AC arc, adjustable from 15 to 400Hz. For thin plate applications choose a higher frequency, for thick plate or cast aluminium parts select a low frequency. Perfect welds with adjustable bead width is available with beautiful weld seam and smooth wire insertion.

Wave Balance with VR Current control: is used for precise adjustment of the cleaning action of the oxide layer of aluminium. Also for adjusting the width and penetration of the weld for optimum results depending upon the application.

Pulse Tig functions available in DC and AC applications. Current levels are separately adjustable as well as Pulse Frequency 0.5-500Hz, and Pulse Width (5-90Hz). This makes welding of thin plate easier allowing for welding with less heat input without losing penetration.

Multi AC welding is developed for productive welding of thicker materials of aluminium. The DC component of the output waveform achieves high heat input for faster and easier welding. Also excellent for welding and repairing cast aluminium parts.

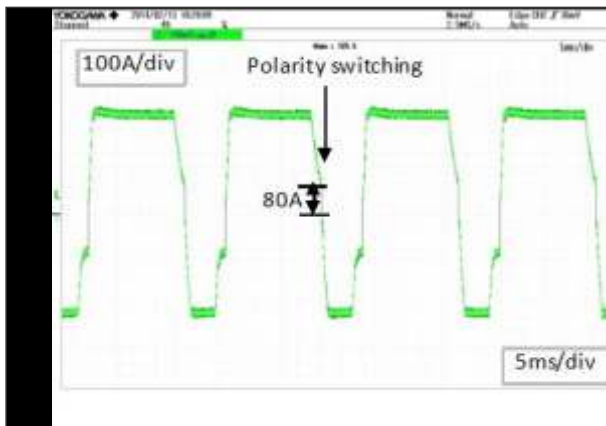


THIS HIGH LEVEL TECHNOLOGY WILL BRING YOU PROFIT

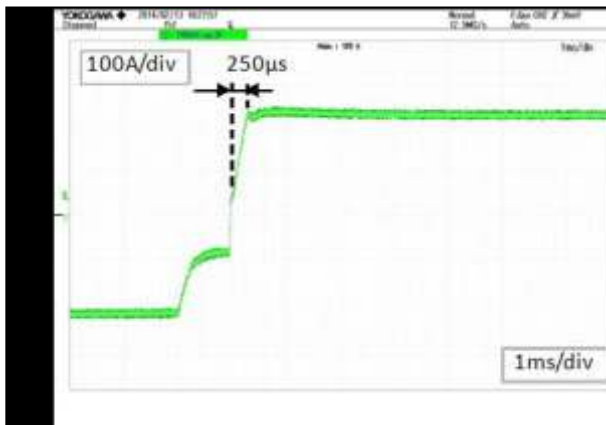
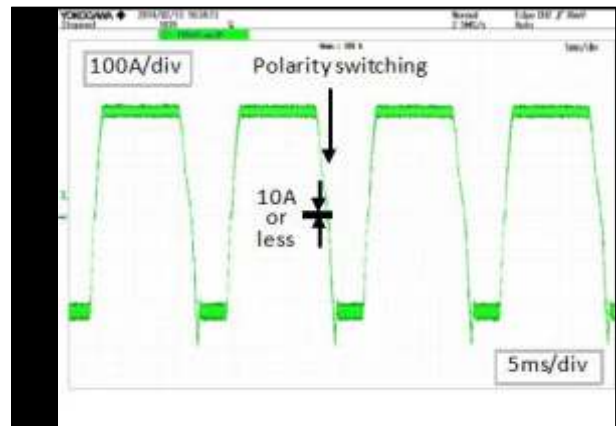
Faster Arc Starting and stability due to state of the art Inverter Technology in DC and AC TIG welding

(1) The current at point of polarity change of Sanrex AC TIG is higher than others and faster rise time right after polarity change compared to others, it will produce higher arc concentration.

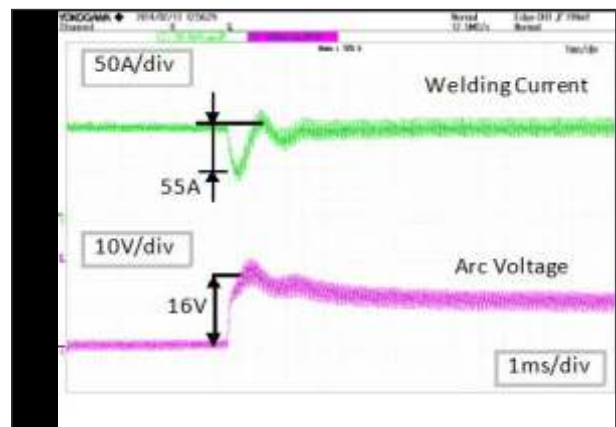
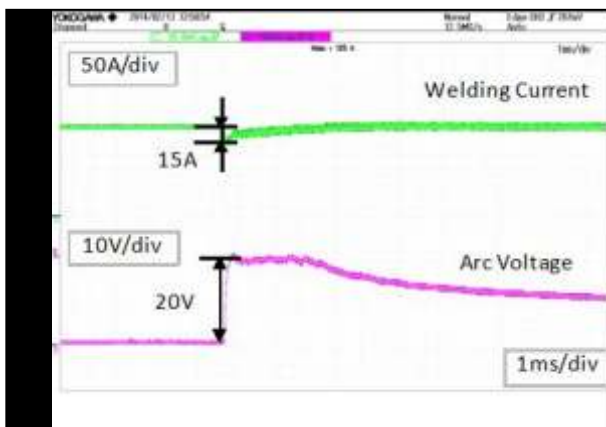
SanRex AC(HARD) 200A 80Hz



Others AC(HARD) 200A 80Hz



(2) The current fluctuation is smaller when arc voltage had rapid change as control response time of welding current is faster than Others



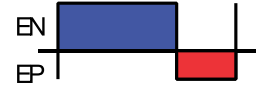
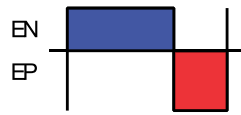
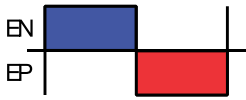
at DC100A output Shorted to Arc

Most effective cleaning control for AC TIG Welding

Cleaning effect by Wave Balance control and VR current control

Change of Wave Balance (VR current is fix at 0A)

Change of VR current (Wave Balance is fixed by 25%)

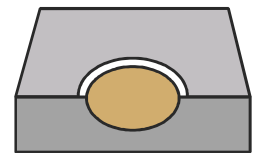
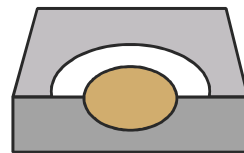
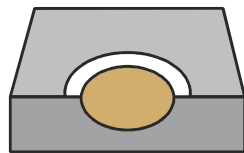
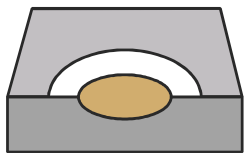


Wave Balance : 50%

Wave Balance : 25%

Change VR current to Positive side

Change VR current to Reverse side



Shallow and wider melting

Deeper melting

Wider cleaning width

Narrower Cleaning width

By adjusting the Wave Balance setting, melting depth can be controlled.

Adjustment of the VR current control will further improve the welding condition on aluminium.

Arc	(wave) vorm	Cleaning	Apearance
Soft		Smooth weld pool with a very quiet arc and excellent cosmetic appearance.	
Standard Hard		Hard and very stable arc, easier filler wire insertion. Excellent welding speeds.	
Hard With VR Correction		Increased frequency provides a narrower arc. Outstanding for thin materials, and with adjusted VR Current control less distortion of the oxide layer with reduction of the white line visible along the sides of the weld. Sharpened Tungsten electrodes will also last longer and narrow the arc cone.	
Multi (AC)		Multi AC arc is for welding thicker aluminium materials easier and faster, with quicker melting of the weld pool and easier insertion of the wire. Also excellent to use for welding outside corners in thin plate applications.	

SPECIFICATION

MODEL	SANARG 300AP	SANARG 500AP
Part number	IA-3000TP-E1E-CE	IA-5000TP-E1E-CE
Rated input	3phase AC400 V ± 10%	
DC TIG welding	11.0kVA – 8.3kW	25.0kVA – 18.8kW
AC TIG welding	11.0kVA – 8.3kW	25.0kVA – 18.8kW
DC MMA welding	12.5kVA – 9.4kW	24.0kVA – 18.0kW
Power Fuses(Slow Blow)	30A	50A
Rated welding Current	300 A	500 A
Rated duty cycle	GTAW 300A 60 % 233A 100% MMA 250A 60% 194A 100%	GTAW 500A 60% 387A 100% MMA 400A 60% 310A 100%
Rated Load Voltage		
DC TIG welding	22 V at 300A	30 V at 500A
AC TIG welding	22 V at 300A	30 V at 500A
DC MMA welding	30V at 250A	36 V at 400A
Max. No Load Voltage	62V	77V
Welding Current adjustment range		
DC TIG welding	4– 300 A	5 – 500 A
AC TIG welding	10 – 300 A	10 – 500 A
DC MMA welding	5 – 250A	5 – 400 A
PROCESS	DC MMA	AC/DC GTAW (LIFT & HF Start)
Up-slope time	0 – 25 sec	
Down-slope time	0 – 25 sec	
Pre Flow Time	0 – 25 sec	
Post Flow Time	0 – 60 sec	
Pulse Frequency	0.5 – 500 Hz	
Middle Pulse Frequency	20 – 500 Hz	
Multi Pulse Frequency	0.5 – 20 Hz	
Pulse Width Adjustment Range	5 – 95 %	
High Frequency start system	Yes	
Cleaning control by balance	10 – 65 %	
Cleaning control by VR	-99A ~ +100A	
AC Frequency control range	15 – 400 Hz	
Water flow control	Yes	
Torch Switch line Voltage	24 V	
Remote control on Torch	Available	
Memory levels	30	
Dimensions (W x H x D)	340 x 665 x 550 mm	340 x 865 x 550 mm
Weight	58 kg	85 kg

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