

SANPAW 300PW

Plasma Arc Welding

Processes
DC PAW (Plasma Arc Welding)

Product Number
ID-3000PW-U1E

Input Voltage
208-230/460 VAC 3 Phase

Rated Output
300A/32V/60% Duty Cycle

Output Range
5–300A Max

Input Frequency
50/60 Hz.

See back for complete specifications.

The 300PW Plasma Arc Welding System is self-contained in a small package with a 300 Amp power supply and control console with many advantages over traditional automated TIG welding. It's pilot arc circuit results in consistent arc starting every time, reduced scrap and improved process control for repeatable, high quality welds.

Features:

- **Simple to setup:** A self-contained unit, which requires attaching input power, Coolant recirculator and gases, then mounting the torch.
- **Cost Savings:** Price competitively with automated TIG systems.
- **Wide Current Range:** 5–300 Amps current range with quality performance over a wide range of applications.
- **Easy to use:** Simple interface for automated or manual control.
- **Repeatable Arc Starting:** Pilot arc allows for repeatable arc starts, reducing defects and re-work.
- **Ultra Smooth DC Arc:** For repetitive TIG quality welds.
- **Multiple input voltage:** 208-230/460 VAC Three Phase at 50 or 60 Hz.
- **Digital Meters:** Weld Current and adjustable controls.
- **Job Save Load:** Allow operator to store up to 30 exact optimized welding parameters then digitally recall them with perfect repeatability.

**The Alternative
to
TIG and Laser**



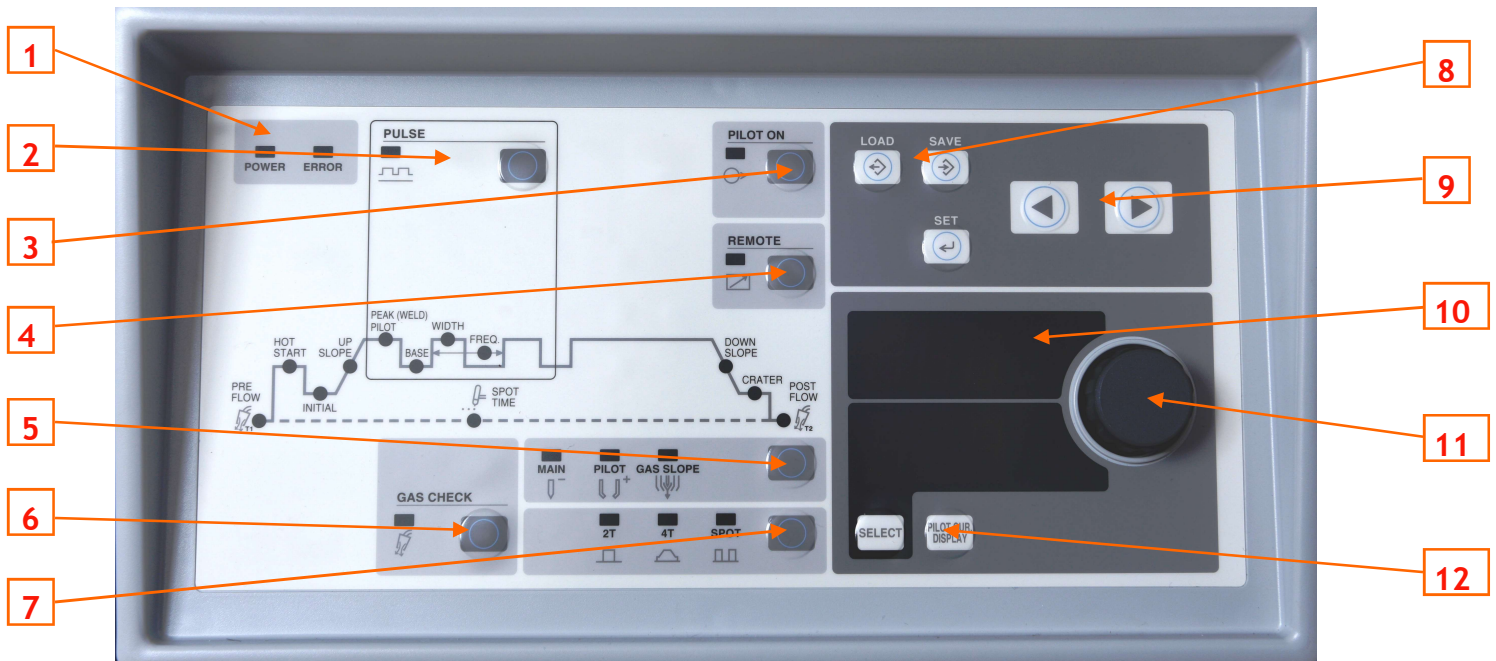
3 Year Warranty

SanRex

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

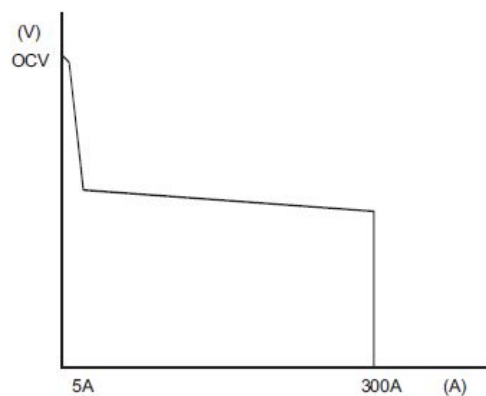
www.sanrex.com
SANPAW 300PW
Form No.:7918300PW

Control Panel



1. Power On/Off & Error indicator.
2. Current Pulser - Peak & Base Current, Pulse Width & Frequency
3. Pilot Arc - On/Off switch and Indicator.
4. Remote Current - On/OFF and Indicator.
5. Parameter Control - Select Main output, Pilot or Gas Slope.
6. Gas Check - Plasma and Shield Gas purge.
7. Remote control Selection - 2T, 4T or Spot weld control.
8. Save/Load Function - Store 30 Programs.
9. Scroll buttons - Scrolls through Slope, Pulse, Hot start, and gas functions.
10. Digital meters - Welding Amperage, Arc Voltage and parameter values displayed.
11. Control Knob - Set parameter value and output current.
12. Select Function - Internal program functions menu.

Output Characteristics



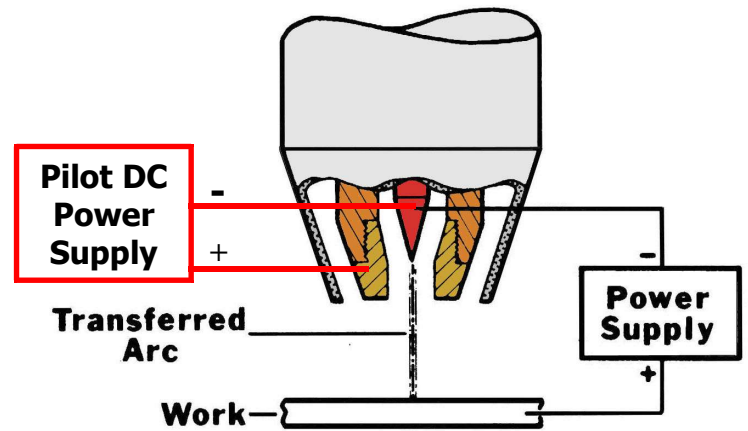
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Why Plasma Welding?

Plasma Arc Welding (PAW) is a welding process that heats an inert gas to an extremely high temperature so that the gas becomes ionized and electrically conductive. This plasma gas is constricted into a column by an orifice placed downstream of the electrode which is protected inside the nozzle of torch. The plasma is used to transfer an electric arc to the workpiece to obtain the melting and coalescence of most metals and to constrict the arc during the welding process.

Plasma arc welding offers many advantages over TIG Welding (GTAW - Gas Tungsten Arc Welding):

- Reliable Arc Starting
- Protected Electrode
- Less Sensitive to Stand-Off Changes
- Improved Arc Stability at Low Current
- Lower Current Levels Required
- Reduced Heat Input or Distortion
- Arc is More Directional (Less Arc Wander)
- Improved Weld Geometry and Penetration Control
- Less Filler Material Required
- Reduced Current Levels
- Single-Pass Welds
- Minimized Weld Preparation
- Narrower Weld Beads
- Visual Proof of 100% Weld Penetration
- Improved Weld Geometry

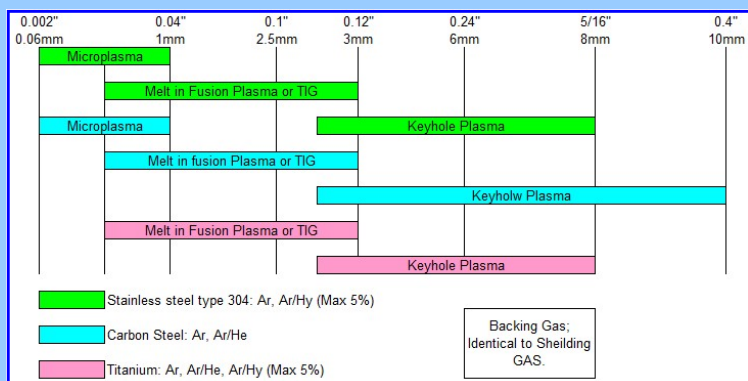


Plasma arc welding is measurably the lower cost process with savings gained through increased productivity, reduced scrap, reduced downtime and fewer electrode changes.

Thickness limitation - Maximum thickness which can be welded, flat with butt joint surfaces, in one pass with 100% penetration. Maximum thickness that can be welded is reduced for:

- Vertical up and horizontal welding positions.
- Small diameter and very thick tubes.

Depending on the thickness of the material, using keyhole plasma, Melt in Fusion, TIG or microplasma welding.



Thickness	Electrode (SMAW)	Manual TIG (GTAW)	Plasma (PAW)
3 mm (0.12")	1 mm (0.04")	1 mm (0.04")	
8 mm (5/16")	2 mm (5/64")	1.5 mm (0.06")	1.5 mm (0.06")
> 8 mm (> 5/16")	2 mm (5/64")	1.5 mm (0.06")	5 mm (0.2")

Welding in one pass without preparation: Carbon Steel and Stainless steel, austenitic up to 5/16" (8mm), titanium up to 0.4" (10mm).

Example of productivity gain with carbon steel 0.2" (5mm)

- Electrode: preparation + 2 passes at 6 to 8 in/min (15 to 20 cm/min) grinding.
- Manual TIG: preparation + 2 passes at 4 in/min (10 cm/min).
- Keyhole Plasma: 1 pass at 15 in/min (40cm/min).

Specifications

Input Voltage 208-230/460V, 3 Phase
Rated Output @ Duty Cycle 300A/32V@60% (208-230/460V, 3 Ph)
Input Frequency 50/60 Hz
Output Range 5–300A
Material Thickness Max 5/16" Ferrous Metals
Approvals CSA (Pending); IP23S, IEC 60974-1 (CE)
Weight 131 lb (59.4 kg)
Dimensions (HxWxD) 25.59" x 15.75" x 23.62" (650 x 400 x 600 mm)



Input Voltage (VAC)										
	Duty Cycle	Output Amps	OCV	Output Voltage	No. Phase	208 Input Amps	230 Input Amps	460 Input Amps	kVA	kw
Output	60	300	65	32	3	44	40	20	16	12
Output	100	233	65	28	3	26	23	11.5	9.2	6.9
No Load	-	-	-	-	-	1.4	1.1	.7	.5	.13

Ordering Information

Product	Part Number	Description
SANPAW 300PW	ID-3000PW-U1E	Power Supply includes Dinse Plug, 10ft. Water and gas hoses.
PAW Torch	See Torch Brochure or use equivalent.	

Accessories

Hand Pendant	HP1425	Contacting On/Off and Current control with 25ft. Cable and 14 pin male plug.
Coolant Recirculator	TK-1016	*Dynaflux® R2000 115vac Cooling System or use equivalent.
Coolant	TK-1017	Torch Coolant/Gal.

*Note: When using equivalent cooling system refer to the Torch manufacturers cooling requirements.