

ORBIMAT SW

Orbital welding power sources

Intelligent
welding power source

More quality, safety and flexibility through Industry 4.0 technology during orbital welding: This intelligent power source connects the orbital welding process with state-of-the-art information and communication technology, and makes for the best welding results, high efficiency and sustainable quality management.

The ORBIMAT 180 SW (here with weld head ORBIWELD 76S) – an innovative welding power supply, which sets new standards in the matter of welding result, handling and communication



Future-oriented connectivity through IoT-/Industry 4.0 technology (Connectivity IoT/4.0 Package 1 required)



Longer-term welding data documentation thanks to centralized data storage



100% data storage - available at any time and at any place



Cost-saving through digital and precise "PERMANENT-GAS" welding gas control



More safety and higher product life thanks to the rotor stop function



Intuitive and easy operation via 12,4" color touch display or rotary knob



Auto programming via entry of tube diameter, wall thickness, material and weld gas



Integrated liquid cooling for constantly low weld head temperatures



The new generation of orbital welding power supplies combines the known and successful characteristics of the predecessor models with the newest technical innovations:

Centralized access to projects and parameters

With the integrated LAN interface the ORBIMAT SW power sources can be integrated into the network: All welding data and programs for each individual welding process can be called up and documented in full, analyzed and used and optimized for future welding processes. This way, production sequences can be planned better and are also safer and less time-consuming.

Intuitive operation and a multilingual menu interface

The ORBIMAT SW power sources are operated using the 12.4" color touch display screen, or alternatively with the multifunctional rotary knob, as is familiar from premium automobiles and the ORBIMAT CA

series. The multilingual menu interface with graphic support makes operation and parametrization of the welding power supply simple and intuitive. Soft keys provide direct access to important commands.

More quality and safety

The ORBIMAT SW power sources achieve more quality thanks to the digital and precise welding gas control, the "PERMANENT-GAS" function. It makes it possible to perform welding processes with the highest level of purity and a low gas requirement, reducing the costs for each welding process. The gas quantity values saved with the welding program thus make for easily reproducible welding results.

Shorter welding cycles and more productivity

In order to minimize the gas pre-flow and post-flow times, ORBITALUM has incorporated the unique Flow-Force function. It shortens the welding process considerably when using closed weld heads: The digital gas control supplies protective gas at a very

high volumetric flow rate directly from the pressure reducer to the weld head – the unwanted residual oxygen is flushed out abruptly in the process. The resultant reduced pre-flow and post-flow times make for much shorter processing times and thus a higher level of productivity and an increased duty cycle.

The high volumetric flow rate in the post-flow time and the optionally activatable cooling circuit delay reduce the temperature of the weld head – ideal for a high duty cycle. The benefits include a longer service life for the welding electrode. The optionally activatable permanent gas function prevents the penetration of oxygen in the weld head, even during secondary processing times. As a result, the ORBIMAT system achieves almost completely oxidation-free seams with simultaneously short processing times.

Elegant housing for good handling

The ORBIMAT SW power supplies feature an elegant as well as practical housing with carrier handles integrated at the side. The ports on the front of the device are set back for protection from mechanical



damage. The hinged lid with display screen, when closed, protects the operating controls, the system printer and the control dial if the device is offline or is being transported.

The ORBIMAT 180 SW operates with a wide input voltage range of 110 V to 230 V AC 50/60 Hz, and offsets mains fluctuations of 90 V to 260 V AC. At 180 A, the output welding current is suitable for most applications.

The ORBIMAT power supply automatically detects and includes the connected system components. The integrated liquid cooling system keeps connected welding heads constantly at the right temperature.

Upgradeable with "LAN/IoT/VNC connectivity UPGRADE"

The optionally available "Connectivity Package 1" allows saving and calling up of welding programs via a central network storage location. To increase the process security of the documentation the log files can be stored centrally.

Detailed information on "Connectivity package 1" starting on page 15.

TECHNICAL SPECIFICATIONS	ORBIMAT 180 SW
ORBIMAT 180 SW	Code 850 000 001
LAN/IoT/VNC connectivity UPGRADE	Code 850 080 001
Supply voltage	1~ 110 - 230 V, 50/60 Hz
Control range (Supply voltage > 160 V)	5 - 180 A
Duty cycle	60 % at 180 A 100 % at 160 A
Dimensions	600 x 400 x 310 mm 23.6 x 15.7 x 12.2 in
Weight	26.0 kg 57.32 lbs
SCOPE OF DELIVERY	ORBIMAT 180 SW
Orbital welding power supply ORBIMAT 180 SW	1 PIECE
Hose connection set ORBIMAT (Code 875 030 018)	1 PIECE
USB stick (Code 850 030 001)	1 PIECE
External keyboard (Code 875 012 057)	1 PIECE
Dummy plug for remote control socket (Code 850 050 004)	1 PIECE
3.5 liter OCL-30 cooling liquid (Code 850 030 010)	1 canister
Operating instructions with calibration certificate	1 set
Quick Start guide	1 PIECE

TECHNICAL SPECIFICATIONS	ORBIMAT 300 SW
ORBIMAT 300 SW	Code 852 000 001
Connectivity UPGRADE LAN/IOT/VNC	Code 850 080 001
Supply voltage	3~ 400 - 480 V, 50/60 Hz
Control range (Supply voltage > 160 V)	5 - 300 A
Duty cycle	40 % at 300 A 60 % at 260 A 100 % at 220 A
Dimensions	600 x 400 x 480 mm 23.6 x 15.7 x 18.9 in
Weight	35.40 kg 78.04 lbs
SCOPE OF DELIVERY	ORBIMAT 300 SW
Orbital welding power supply ORBIMAT300 SW	1 PIECE
Hose connection set ORBIMAT (Code 875 030 018)	1 PIECE
USB stick (Code 850 030 001)	1 PIECE
External keyboard (Code 875 012 057)	1 PIECE
Dummy plug for remote control socket (Code 850 050 004)	1 PIECE
Operating instructions with calibration certificate	1 set

Technical specifications are non-binding.
They do not constitute any assurance of properties.



ORBIMAT 180 SW



ORBIMAT 300 SW

Orbital welding power supply

ORBIMAT 180 SW (SmartWelder)

Properties, application area, technical specifications and delivery scope, see from page 8.

ITEM	VERSION	CODE	MACHINE WEIGHT KG
ORBIMAT 180 SW	1 ~ 110 - 230 V 50/60 Hz	850 000 001	26.00
LAN/IoT/VNC connectivity UPGRADE		850 080 001	

ORBIMAT 300 SW (SmartWelder)

Properties, application area, technical specifications and delivery scope, see from page 8.

ITEM	VERSION	CODE	MACHINE WEIGHT KG
ORBIMAT 300 SW	3 ~ 400 - 480 V, 50/60 Hz	852 000 001	35.400
LAN/IoT/VNC connectivity UPGRADE		850 080 001	

Suitable accessories (optionally available):

- ORBICAR W cart with integrated liquid cooling, see page 19
- ORBICOOL Active compressor cooling unit, see page 19
- ORBITWIN SW switching unit, see page 20
- Remote control with cable, see page 21
- Bar code/QR code scanner, see page 21
- ORBmax residual oxygen meter, see page 90
- SW manual torch, see page 96
- Double pressure reducer, see page 94