

ORBIMAT CA

Orbital welding power supplies

Compact power supplies for mechanized TIG orbital welding with a currently unique operating concept and a whole series of other special technical features.

In connection with an ORBITALUM orbital weld head, the user is being offered an extremely innovative and economical welding system.



In addition to the reliable automatic programming which generates welding parameters by entering the tube diameter, wall thickness, material and welding gas all ORBIMAT CA models also include a FLOW FORCE function to reduce the pre-flow gas time when the weld heads are closed in the standard model.

The operating concept for the power supply is quite different from the standard operating variants available on the market: The operator guidance with a display and single-knob operation originates from the automotive manufacturing sector and has become tried and tested worldwide in the "information entertainment systems" in modern luxury vehicles. The main advantage of this is that the gaze of the operator remains focused on the screen.

Other technical refinements of the ORBIMAT CA include softkeys for essential, high-level and quick-action commands such as "Start/Stop". Compared to WINDOWS systems, the operating system in use - RTOS (Real Time Operating System) - has the advantage that not even a direct, abrupt shutdown of the system will lead to any problems. This is particularly important for the operation of susceptible power supplies, such as on building sites. Compare to Windows - where the graphic presentation of the current screen window is important - RTOS always focuses on the steering and control of the welding process, which is ultimately crucial for the quality of the welding result.

Moreover, the Flow Force function, which decisively shortens the work process through the use of closed weld heads, is also unique on the

market. Before the start of the welding process, inert gas is fed from the pressure reducer through a second duct for inert gas into the chamber of the weld head - and the undesired oxygen is rinsed out abruptly; the ORBIMAT power supply automatically detects and takes into account for the course of the process any connected system components, from the sealed or open weld head with automatic control of the arc clearance* (AVC = Arc Voltage Control) and/or the integrated oscillation of the torch* (OSC = Oscillation) through to the oxygen analysis unit. In contrast to conventional orbital welding power controllers, the setting and controlling of the torch clearance with regard to the weld seam is carried out directly via the arc clearance.

* ORBIMAT 300 AVC/OSC only



FEATURES ORBITAL ORBITAL WELDING POWER SUPPLIES:		300 CA	300 CA AC/DC	300 CA AVC/OSC
Simple and convenient operation thanks to multifunctional rotary actuator		●	●	●
DC welding possible		●	●	●
AC power source for welding of aluminum materials		○	●	○
"Flow Force" function to reduce the gas pre-flow and post-flow time		●	●	●
"Permanent gas" function		●	●	●
Coolant liquid and welding gas are monitored		●	●	●
Control option for cold wire feed		●	●	●
Possibility of connecting an external remote control		●	●	●
Constant or pulsed wire feed motion and rotation		●	●	●
Optimal visibility and operating conditions thanks to clearly laid-out 10.5" swivel monitor		●	●	●
Graphically-supported operating interface and multilingual menu navigation via color display		●	●	●
Metric and imperial units		●	●	●
Process-oriented, stable and real-time operating system without power-down sequence		●	●	●
Automatic weld head recognition and resulting parameter adaptation		●	●	●
Capacity to store over 5.000 welding programs, providing systematic and clear program management thanks to the creation of folder structures		●	●	●
Welding data logging and printout of actual values		●	●*	●
Integrated system printer		●	●	●
Possibility of connecting a monitor or printer (through VGA/LPT)		●	●	●
Built-in multi-in-one card reader to transfer log files and welding programs via CompactFlash Card (CF), SD, MMC, SM, Sony Memory Stick		●	●	●
Optional PC software (OrbiProg CA) for welding program management and logging		●	●	●
Integrated, folding carrying grips		●	●	●
PSS (Pro Service System) for external function check of the device as well as for easy maintenance and quick exchange of the components by systematic modular design		●	●	●
Option to program up to 99 sectors		●	●	●
Power and motor slope adjustment between the individual sectors		●	●	●
Can only be used in combination with separately available liquid cooling system		●	●	●
AC option to set a positive and negative half-cycle in the ratio 20 - 80%		○	●	○
AC frequency setting 50 - 200 Hz		○	●	○
AVC arc voltage control: Calculates and programs the length of the arc automatically in "mm" or in "V"; With the OSC (oscillation) function, the center of the seam can be accessed manually and be determined using an automatic scanner. The electrode accesses each of side of the seam and then calculates the center of the path automatically.		○	○	●
SCOPE OF DELIVERY		300 CA	300 CA AC/DC	300 CA AVC/OSC
Orbital welding power supply of the ORBITAL CA series	Pc.	1	1	1
Hose connection set ORBITAL (Code 875 030 018)	Pc.	1	1	1
Dummy plug for remote control socket (Code 875 050 006)	Pc.	1	1	1
Power connector adapter	Pc.	1	1	1
External keyboard (Code 875 012 057)	Pc.	1	1	1
External remote control (Code 875 050 001)	Pc.	-	-	1
Key for the key switch (for reordering 1 key: Code 875 012 058)	Pc.	2	2	2
Operating instructions with calibration certificate	Set	1	1	1
QuickStart guide	Pc.	1	1	1

● = feature included

○ = feature not included

◐ = feature limited included

* = DC welding only

SUITABLE ACCESSORIES (available option):	TECHNICAL DATA	300 CA	300 CA AC/DC	300 CA AVC/OSC
<ul style="list-style-type: none"> • ORBICAR W trolley with integrated liquid cooling • ORBICOOL Active compressor cooling device • ORBICAR S trolley • Storage and shipping case • ORBITWIN SW switching device • Remote control with cable • Soft-/Hardware package "CA" • ORBmax residual oxygen meter • Pressure regulator • TIG manual welding torch for ORBITAL 	Code	872 000 010	877 000 001	872 000 020
	Connection voltage	400 - 480 V +/- 10%, 50/60 Hz, 3 phase	400 V +/- 15%, 50/60 Hz, 3 phase	400 - 480 V +/- 10%, 50/60 Hz, 3 phase
	Control range (Connection voltage > 160 V)	5 - 300 A	5 - 300 A	5 - 300 A
	Power-on time	40% at 300 A 60% at 260 A 100% at 220 A	40% at 300 A 60% at 260 A 100% at 220 A	40% at 300 A 60% at 260 A 100% at 220 A
	Dimensions	540 x 420 x 440 mm 21.3" x 16.5" x 17.3"	540 x 420 x 440 mm 21.3" x 16.5" x 17.3"	540 x 420 x 440 mm 21.3" x 16.5" x 17.3"
				

The technical data are not binding. They are not warranted characteristics and are subject to change.