

# ORBIMAT CA AVC/OSC

## Orbital welding power supply

Compact power source for mechanized TIG orbital welding with unique operating concept (human machine interface HMI) and a series of further technical features such as electronic arc gap control (AVC) and oscillation (OSC). In connection with an orbital weld head from ORBITALUM TOOLS the user receives an especially innovative as well economical welding system.



In addition to tried-and-tested Orbitalum auto-programming via entry of the pipe diameter, wall thickness, material and welding gas using a programming aid, it disposes of a "Flow Force" function for reducing the gas pre-purge time with closed weld heads.

The operating concept of the power sources differs significantly from common operation variants: The operator guidance with display and single-knob operation (rotary knob) stems from car manufacturing and has proven itself worldwide in infotainment systems of modern luxury vehicles. The main advantage is that the operator's view remains focused on the screen.

Further technical refinements of the ORBIMAT CA AVC/OSC are soft keys for significant, quick-to-activate superordinate commands, for example "Start/Stop". The operating system RTOS (Real Time Operating System) used has the advantage in contrast to Windows-based

systems that a direct, abrupt switch-off of the systems does not lead to any problems. This is particularly important for the operation at vulnerable power supplies, such as on construction sites. In contrast to Windows, RTOS always focuses on the control and regulation of the welding process, which is ultimately decisive for the quality of the welding result.

Also unique on the market is the Flow Force function which significantly reduces the processing procedure when using closed weld heads. Through a second channel for protective gas, the protective gas flows directly from the pressure reducer to the chamber of the welding head before the start of the weld process - the unwanted residual oxygen is flushed out abruptly in the process. The ORBIMAT power source automatically detects and includes the system components connected for the course of the process, from closed or opened weld head with automatic control of the arc gap\* (AVC = Arc

Voltage Control) and/or integrated oscillation of the torch\* (OSC = Oscillation) up to the oxygen analysis device. In contrast to conventional orbital welding control systems the setting and controlling of the torch distances to the weld seam takes place directly via the arc gap.

\* Only for ORBIMAT 300 AVC/OSC

PROPERTIES ORBIMAT ORBITAL WELDING POWER SUPPLIES		300 CA AVC/OSC
Easy and convenient operation using a multi-functional rotary knob		●
DC current welding source		●
AC power source for aluminum materials		○
"Flow Force" function to reduce the gas pre-flow and post-flow time		●
"Permanent gas" function		●
Monitoring of cooling water and weld gas		●
Control option for cold wire feed		●
Possibility of connecting an external remote control		●
Constant or pulsed wire feed motion and rotation		●
Optimal visual 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 measuring units		●
Process-oriented, stable and real-time operating system without power-down sequence		●
Automatic weld head recognition and resulting parameter modification		●
Capacity to store over 5,000 welding procedures, providing systematic and clear procedure 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 (via VGA/LPT)		●
Integrated multi card reader for transfer of log files and welding programs via CompactFlash Card (CF), SD, MMC, SM, Sony Memory Stick		●
Optional PC software (OrbiProg CA) for welding procedure management and logging		●
Integrated, folding carrying grips		●
PSS (Pro Service System) for external functional checking of the system as well as easy maintenance and fast replacement of parts thanks to system component design		●
Option to program up to 99 sectors		●
Power and motor slope adjustment between the individual sectors		●
Can only be used in combination with a separately available liquid cooling system		●
AC setting option of positive and negative half-cycle with a 20 - 80% ratio		○
AC frequency setting 50 - 200 Hz		○
AVC electronic arc gap control: Arc gap programmable in "mm" or via the arc voltage in "V", OSC oscillation with sampling function for automated determination of the tube joint between the sides of the pipe		●
SCOPE OF DELIVERY		300 CA AVC/OSC
Orbital welding power source of the ORBIMAT CA series	PCS.	1
Hose connection set ORBIMAT (Code 875 030 018)	PCS.	1
Dummy plug for remote control socket (Code 875 050 006)	PCS.	1
Welding current connection adapter	PCS.	1
External operating keyboard (Code 875 012 057)	PCS.	1
External remote control (Code 875 050 001)	PCS.	1
Key for key switch (for re-ordering of 1 key: Code 875 012 058)	PCS.	2
Operating instructions with calibration certificate	Set	1
QuickStart guide	PCS.	1


● = Function included

○ = Function not included

◐ = Function only conditionally included

\* = Only DC welding

SUITABLE ACCESSORIES (optionally available):
<ul style="list-style-type: none"> <li>• ORBICAR W trolley with integrated liquidcooling</li> <li>• ORBICOOL Active compressor cooling unit</li> <li>• ORBICAR S carriage</li> <li>• Rugged transport case</li> <li>• ORBITWIN SW Switching Unit</li> <li>• Remote control with cable</li> <li>• Software/Hardware Package "CA"</li> <li>• ORBmax residual oxygen meter</li> <li>• Double pressure reducer</li> <li>• TIG manual welding torch for ORBIMAT</li> </ul>

TECHNICAL SPECIFICATIONS	300 CA AVC/OSC
Code	872 000 020
Supply voltage	400 - 480 V +/- 10%, 50/60 Hz, 3-phase
Control range (Supply voltage > 160 V)	5 - 300 A
Duty cycle	40% at 300 A 60% at 260 A 100% at 220 A
Dimensions (LxDxH)	540 x 420 x 440 mm 21.3" x 16.5" x 17.3"
	

Technical specifications are non-binding. They do not constitute any assurance of properties. We reserve the right to make changes.