

Orbital Welding Power Supply ORBIMAT 300 AC/DC

The Orbimat 300 AC has all the features of the Orbimat C range, but in addition can offer an AC welding facility. This allows the Orbimatic range of weld heads to be used on materials which require an alternating current to be welded successfully.

With adjustable AC Balance and Frequency to AC arc can be controlled to achieve the optimum weld profile for the application in hand. All functions are controllable on easy to understand weld level screens.

AC Arc Characteristics

When welding some materials it is advantageous to use an AC arc to aid the welding process. The most common material for use with an AC arc is Aluminium and its alloys. Aluminium Alloys form an oxide layer which has a very high melting temperature (above that of the aluminium). This means that when using a DC arc the oxide layer must be removed mechanically prior to welding. The cleaning process has to be very effective and very thorough and any trace of the

oxide will cause weld defects. When an AC arc this oxide is broken down by the alternation of the polarity. Therefore the material will not need the substantial cleaning required with DC. The profile of the arc can be altered by the AC frequency, this allows the operator to select a wide or narrow arc depending on the application. The profile of the weld bead can also be controlled using the AC balance facility. This function adjusts the shape of the wave form between negative and positive,

and therefore results in more or less penetration. By using a suitable combination of AC Balance and AC Frequency an optimum weld profile can be developed. This can be further enhanced by the range of different gas mixes available to suit particular applications and you should contact your gas supplier to discuss this with them.

Technical Specification:

Storage Capacity – 300 Procedures

Extended Storage – Unlimited with Smart Media

Welding Process – TIG with or without filler

Welding Current – Maximum 300Amps

Input Power Supply – 415v 3 Phase

AC Frequency Range – 50 to 200 Hz

AC Balance Range – 20 to 80%

Duty Cycle:

100% @ 190 Amps

60% @ 250 Amps

40% @ 300 Amps

Dimensions (WDH)– 500 mm x 420 mm x 460 mm

Weight – 47 kg (including cooling unit)

Optional Extras

*Orbicool 3003 - High Efficiency Liquid Cooling Unit

*Remote Control Unit - Basic Operation of System

with 7.5m cable

Data Logging Package – Complete Off-Line

programming and Data Logging Package.

Orbitwin 300 AC – Twin Head Auto Switching Unit

for increased production rates.