

APPLICATION NOTES - WELDING EQUIPMENT

Both three-phase and two-phase 415-volt welding sets can be operated from a single-phase supply in conjunction with a TRANSWAVE rotary converter. As welding load is resistive, not inductive, it is necessary to use a rotary converter to develop the voltage in the “artificial” third phase, independently of the welder. The converter should be of sufficient capacity to maintain the voltage on the artificial phase when the welder is operated at its maximum current rating.

Some converter sizes need to be modified for welding purposes. When necessary, the modification incorporates a hand/auto switch, which bypasses the automatic boost circuit. Two-phase welding sets can also be operated from dedicated transformers. A guide to the recommended sizes of rotary converter and transformer is given in the table below. Note that any rotary converter used for welding purposes can still be used for standard motor applications.

WELDING CURRENT	3-PHASE INPUT CURRENT (APPROX.)	CONVERTER REFERENCE
160A	8A per phase	RT-4.0KW (standard)
200A	10A per phase	RT-7.5KW (standard)
250A	12A per phase	RT-7.5KW (standard)
300A	15A per phase	RT-7.5KW (standard)
350A	17A per phase	RT-15KW (standard)
400A	20A per phase	RT-15KW (standard)
WELDING CURRENT	2-PHASE INPUT CURRENT (approx.)	CONVERTER REFERENCE
160A	12A per phase	RT-7.5KW (standard)
200A	15A per phase	RT-7.5KW (standard)
250A	18A per phase	RT-15KW (standard)
300A	24A per phase	RT-15KW (standard)
350A	27A per phase	RT-15KW (standard)
WELDING CURRENT	2-PHASE INPUT CURRENT (approx.)	TRANSFORMER REFERENCE
160A	15A per phase	8550/240V - S5
200A	18A per phase	8550/240V - S5
250A	23A per phase	8550/240V - S5
300A	27A per phase	13979/240V - S6
350A	30A per phase	13979/240V - S6
400A	36A per phase	13979/240V - S6

USE OF HAND/AUTO SWITCH MODIFICATION

For motor applications - Switch should be in “Auto” position. Converter operates as per standard operating and installation instructions.

For welding applications - With hand/auto switch in “Auto” position, start converter as normal. Once motor on converter has started, switch hand/auto switch to “Hand”. The Welder can now be operated.