



Cooperheat Heat Treatment Module • 6 Output

50kVA Part Number 16050 • 70kVA Part Number 16051

Stork Thermal Equipment

Modern pressure part design places high importance on the integrity of welded joints. Where required, successful heat treatment is essential, especially with high performance steels. This requires equipment that can provide accurate control of the cycle parameters, along with uniformity of temperature throughout the geometry.

Cooperheat has a long history of innovation within the field of localised heat treatment equipment. As part of our commitment to continuing our innovative reputation, we take pleasure in introducing the Cooperheat 50kVA and 70kVA Heat Treatment Modules, which include our latest 'Advantage 3' series of temperature programmers and controllers.

Our new designs, based on over 50 years experience as a market leader in the field of heat treatment, have been developed to meet the real needs of the heat treatment engineering industry.

Our designs were driven by the need to meet five key criteria:

Value for Money

- When you compare the functionality and versatility of Cooperheat heat treatment modules with other, similar products in the market, you will find that they deliver a rapid return on investment.

Versatility

- Instant access to output channels that can be used to power either 30V or 60V heating elements without the

need to change any tapings on the transformer, or connect a wasted additional heating element in series;

- 'Advantage 3' digital temperature controllers/programmers operate in °C or °F;
- Temperature controllers display both set point temperature and actual work piece temperature;
- Transformer secondary tapings allow for supplying power to 30V or 60V heating elements;
- Programmer/controller linking features allow the operator to carry out up to 6 heat treatment cycles simultaneously.

Ease of operation and maintenance

- Clear, illuminated digital displays showing actual and set point temperatures;
- LED indicator light showing 'power on' for each output channel;
- Input/output sockets are located on back panel;
- Simple access to transformer tapping board, for maintenance to instruments by means of a swing hinged front panel;
- Connectors provided for simple connection of primary supply cable.

Fitness for purpose

- Constructed from high-grade stainless steel giving excellent protection against corrosion, including marine offshore applications;

- Large castor wheels to facilitate mobility in normal site conditions.

Safety

- CE marked in compliance with European Safety Directives;
- Safe voltages employed - voltage to earth from any single output socket is 32.5V a.c.;
- Automatic protection against transformer coil becoming over heated, by inclusion of thermostats in the core windings;
- Primary over-current protection provided by a three-phase circuit breaker;
- Low voltage systems and insulated cable connections, eliminate risk of electrical shock to welders working on electrically preheated weld joints.

Our new 'Advantage 3'

programmer/controller provides the user with greater versatility and flexibility. Each 'Advantage 3' output communicates with other 'Advantage 3' controllers, controlling zones on the same heat treatment, thereby controlling and limiting the differential between separate control zones within a single heat treatment.

This unique, linkable configuration enables temperature control which is superior to all other units in the market place - as unlike six channel (single program) programmers, or units with six channel, unlinkable programmers/controllers, the user has the benefit of linking a number of control configurations, enabling the operation of a six output heat treatment module to control up to six separate heat treatment specification cycles, at the same time.

This control of temperature differential is an important requirement of international heat treatment codes and standards, such as ASME, BS, EN, ANSI, DIN, etc.

Where a job requires multiple heat treatment programs, the available user benefits are achieved by:

- Reducing the number of standard (single program) six channel programmers normally required to heat treat work pieces needing different heat treatment cycles;
- Eliminating the need for multiple shift working to carry out several separate heat treatment processes for each heat treatment specification.

50kVA Module	70kVA Module
Transformer Core:	
Three phase, forced air cooled, class H, 50kVA Primary winding connected in delta Secondary winding connected in star Auxiliary winding: 110V a.c. 3.3 kVA single phase	Three phase, forced air cooled, class H, 70kVA Primary winding connected in delta Secondary winding connected in star Auxiliary winding: 110V a.c. 3.3 kVA single phase
Primary Supply:	
Primary Voltage: 380V, 415V, 440V Primary current: 76A, 70A, 66A Frequency 50/60 Hz	Primary Voltage: 380V, 415V, 440V Primary current: 106A, 97A, 92A Frequency 50/60 Hz
Protection:	
Three phase 80A circuit breaker with shunt trip Three primary core winding over temperature thermostats linked to circuit breaker shunt trip	Three phase 125A circuit breaker with shunt trip Three primary core winding over temperature thermostats linked to circuit breaker shunt trip
Secondary Outputs:	
Output: 32.5V – 0V – 32.5V (for 30V and 60V heating element operation) Auxiliary outputs: Two 110V, 10A, 50/60Hz output sockets Number of temperature controlled output channels: 6 channels Maximum load per output channel: 8.1kW (e.g. three 60V, 2.7kW heating elements) Maximum current per output channel: 135A	Output: 32.5V – 0V – 32.5V (for 30V and 60V heating element operation) Auxiliary outputs: Two 110V, 10A, 50/60Hz output sockets Number of temperature controlled output channels: 6 channels Maximum load per output channel: 10.8 kW (e.g. four 60V, 2.7kW heating elements) Maximum current per output channel: 180A
Construction (all dimensions are nominal):	
Case: 304 Stainless Steel case fitted with four 150mm nylon wheels Weight: 330 kg Height: 1110mm Width: 680mm Depth: 665mm	Case: 304 Stainless Steel case fitted with four 150mm nylon wheels Weight: 330 kg Height: 1110mm Width: 680mm Depth: 665mm
Temperature Control:	
Features: Temperature measurement, display and control: Degrees Fahrenheit or Degrees Centigrade Start temperature Temperature ramp up and down in degrees per hour Hold/soak temperature set point and hold/soak time period setting	
Switching:	
Six double pole, 180A, contactors with 110V a.c. coil	

Stork Thermal Equipment Ltd

Units 21 – 24

Slaidburn Crescent

Southport

Merseyside

PR9 9YF

United Kingdom

Telephone: +44 (0)1704 215 600

Fax: +44 (0)1704 232 561

Email: info.ste@stork.com

Website: www.stork.com/ste

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