

# EKOHEAT<sup>®</sup>

With VPA Technology™

**Power to 500 kW: Operation from 15 kHz to 40 kHz**

## World-class Induction Heating Systems

EKOHEAT VPA induction heating systems for the 15-40 kHz range provide reliable and repeatable solutions for heating with large coils or for heating larger parts. Among the many typical applications are heating of hard-to-couple parts, deeper heat penetration, heat treating steel, preheating for forging of steel, aluminum, copper or brass, and melting in crucibles.

With the versatile EKOHEAT power control system you get rapid tuning, efficient and precise heating of your parts, power control within 0.2% resolution and an easy-to-use, easy-to-read front panel. Remote control is accomplished with 0-10V, 4-20mA inputs, RS485 serial port, 24V controls and remote E-Stop input so integration with your automated production lines is easy.

EKOHEAT technology improves return on investment by reducing your energy usage compared to gas-fired and resistive heating techniques. With very efficient power conversion and a power factor greater than 0.9, utility demand charges are reduced, lowering monthly energy bills. EKOHEAT VPA systems are designed on a host/client principle so you can add additional power should your process require it in the future.

A separate cabinet houses the resonating capacitor bank, available in several different sizes to meet customer-specific applications. The workhead may be placed up to 30 meters from the power supply.



Alternatively, the resonating capacitor may be mounted in an extra bay to locate it with the power supply.

This is a water-cooled system, requiring connection to a heat exchanger or other means of dissipating heat.

## EKOHEAT AT-A-GLANCE

### Versatile

- Efficient heating of many part geometries, sizes and compositions
  - Multiple capacitor configurations
  - Multiple tap transformer configurations
  - Voltage or Power control
- Repeatable, reliable heating, agile frequency tuning
- Through-Curie heating
- Movable workhead; up to 30m (100')
- Sub-second to continuous cycle times
- Remote operation or logging with RS485 port
- Accepts international AC line voltages

### Easy to Use

- User-friendly operator front panel controls
- System configuration from front panel
- Cycle timer, peak and short-cycle data capture
- 10 ten-step heating profiles
- Overload-tolerant output management
- 7-language display suite (EN, ES, FR, DE, IT, PT, PL)
- System diagnostics displayed on front panel

| SPECIFICATION                               | 300/25  | 375/25                 | 500/25     | UNITS                     |
|---|---|------------------------|------------|---------------------------|
| RF Terminal Power (continuous)              | 300   | 375                    | 500        | kW                        |
| AC Line Power                               | 348   | 435                    | 580        | kVA                       |
| Power Factor                                | 0.92  |                        |            |                           |
| Output Frequency                            | 15 – 40                                       |                        |            | kHz                       |
| AC Line Voltage                             | 360 - 520                                     |                        |            | Vac, 3Ø                   |
| AC Line Protection <sup>1</sup>             | 300 for 1 bay, 600 for 1 bay                  | 600 for each of 2 bays |            | A                         |
| Display                                     | LCD Monochrome, 240w x 128h Pixels            |                        |            |                           |
| Serial Communication                        | RS485 standard (RS485/232 converter optional) |                        |            |                           |
| Process Timer                               | 0.01 - 10000                                  |                        |            | sec                       |
| Max Ambient Temp                            | 45 (115)                                      |                        |            | ° C (° F)                 |
| Compliance <sup>2</sup>                     | CE, UKCA, EN61010, EN55011                    |                        |            |                           |
| Ingress Protection                          | IP54, NEMA 12                                 |                        |            |                           |
| Power Unit Dimensions                       | 1718 x 848 x 1956 (67 x 33 x 77)              |                        |            | WxDxH mm (in)             |
| Weight                                      | 667 (1470)                                    | 708 (1560)             |            | kg (lb)                   |
| <b>WATER COOLING</b>                        |   |                        |            |                           |
| Flow <sup>3</sup>                           | 36.3 (9.6)                                    |                        | 47 (12.4)  | l/m (g/m)                 |
| Flow including Workhead & Coil <sup>4</sup> | 94.9 (25.1)                                   | 104 (27.5)             | 130 (34.2) | l/m (g/m)                 |
| Pressure Differential (Range)               | 2.8 - 5.6 (40 - 80)                           |                        |            | Bar (lb/in <sup>2</sup> ) |
| Maximum Input Pressure                      | 5.6 (80)                                      |                        |            | Bar (lb/in <sup>2</sup> ) |
| Max Water Temp                              | 35 (95)                                       |                        |            | ° C (° F)                 |

- 1) Fast-acting fuses
- 2) Suitable for incorporation into equipment for compliance with Machinery Directive
- 3) Power supply; required workhead coil flow requirements vary by application
- 4) Assumes 70% coil losses

## OPTIONS AND ACCESSORIES



**EKOHEAT** features a front panel programmable controller for monitoring, timer and power-level control, diagnostics and system configuration. Up to 10 ten-step heating profiles can be configured to control power levels over your specified timing requirements.

- Start-up assistance
- Cooling systems
- Pendant station
- Redundant safety relays
- Multi-workhead controller
- eVIEW serial data reporting
- Complete spare parts kits
- Footswitch
- Extended workhead cable lengths
- Optical pyrometer (closed-loop temperature control)
- External controller (PLC)
- Front E-stop with retransmission



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