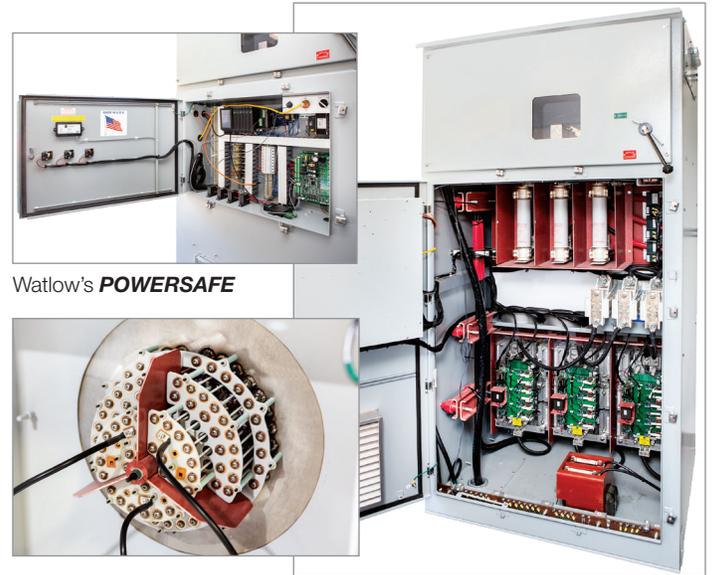


# POWERSAFE, Watlow's Medium Voltage Integrated Heater and Control System, Offers a Clean and Safe Thermal Solution

**POWERSAFE™** is a fully integrated medium voltage control and heating solution that offers longer heater life, allowing you to confidently replace fossil fuel solutions with a clean electric solution. It also meets the necessary agency requirements to help make your process safe and reliable.

Wattage size requirements for electric thermal equipment have been on the rise. This makes medium voltage solutions attractive because they reduce overall installation costs compared to traditional electric heat exchangers. Watlow's **POWERSAFE** medium voltage solution eliminates the need for addition cabling and step down transformers typically required with lower voltage systems. This translates to significant reduction in installation costs.

If you are looking for a solution to decarbonize your existing systems, Watlow's **POWERSAFE** medium voltage solution provides a clean, reliable and fully integrated system with optimal fluid dynamics that even requires less space to operate.



Watlow's **POWERSAFE**

## Features and Benefits

### Operates safely and reliably up to 4160V

- Eliminates the need for costly step-down transformers typically required with lower voltage systems.
- Operates at low current allowing for up to 90% reduction in cable costs

### Fully integrated thermal control system

- Delivers reliable and safe operation
- Integrates a full thermal system including a electric heat exchanger, process controller and power system
- Includes isolated low voltage enclosure including an HMI and PLC.

### Flexible combination of SCR/contactor circuits up to 20MW

- Delivers high-efficiency power > 99%
- Reduces overall size and weight of power controller solution

### Available power feeder with high speed protective relay and breaker

- Offers rapid shut down protecting personnel and equipment

### Includes safety interlocks in controller and heater

- Provides safety while in service and security during operation

### Zero-cross SCR control

- Offers low electromagnetic interference

## Features and Benefits (cont)

### Heater sizes from 12NPS to 60NPS

- Supports heating systems up to 100MW+

### Heater lengths up to 30 feet for design optimization

- Consolidates heat exchangers and reduces number of vessels
- Allows for smaller and lighter heat exchangers

### Enhanced fluid dynamics and optimized film temperature proprietary technologies

- Provides advanced flow throughout the system improving heat transfer
- Allows vessel to perform consistently at shorter lengths

### Patent-pending medium voltage heater busing system

- Provides ease of connection and service
- Eliminates lead wires and secures both through air and tracking space between live components
- Eliminates partial discharge to ensure high reliability
- Accommodates heater spares

### Patent-pending replacement of 180° hairpin bend

- Eliminates single-ended element with power and return pins in close proximity
- Isolates power and return pins at sealed termination

## Thermal System Specifications

### SCR Power Controller

- 4160VAC 300A 3-phase, 3 controlled legs
- SCCR rating: 50KA
- 50/60Hz
- Integrated fuses
- Zero-cross firing
- N+1 redundant SCR cooling fans

### Load Monitoring

- Phase current measurement
- Ground fault
- Current imbalance

### Incoming Power Feed

- Manual disconnect with Lockout/Tagout
- Mechanical and electrical safety interlocks
- Line voltage measurement

### Connectivity

- Ethernet with Modbus® TCP

### Power Controller Agency Approval and Regulatory

- UL® 347 and 347C
- UL® 508A

### Flange Heater Agency Approval and Regulatory

- Ordinary and Class 1, Div. 2 Groups B, C, and D
- Designed and stamped to ASME Code

### Flange Heater Agency Approval and Regulatory

- Input, power and controller output terminals are touch safe removable 12 to 22 AWG

### Flange Heater

- ANSI compatible
- 4160VAC 3-phase
- Multiple unit configurations: Parallel, in series or a combination of these

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ModBus® is a registered trademark of Schneider Automation, Inc.  
UL® is a registered trademark of Underwriter's Laboratories, Inc.

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