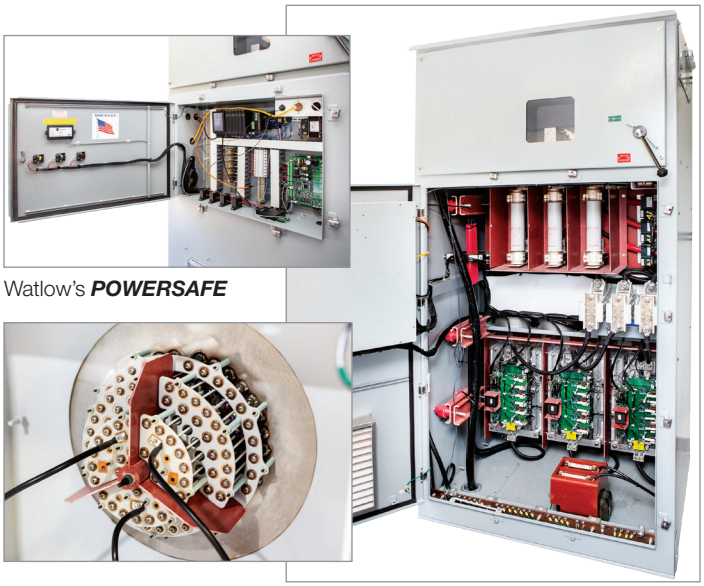
POWERSAFE, Watlow's Medium Voltage Integrated Heater and Control System, Offers a Clean and Safe Thermal Solution



Watlow's ***POWERSAFE***

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 additional 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 requires even less space to operate.

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 an 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
- Provides the required creepage and clearance distances
- 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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