

Indirect Electric Heat Exchanger Ideal for Dry Gas Seal Applications

HYDROSAFE™, Watlow's new indirect electric heat exchanger, is a ready-made solution for dry gas seal applications because it can be installed with a minimal amount of time and labor. This is accomplished by combining heating elements, vessel, insulation, terminal enclosure, mounting plate and inlet and outlet connections into a complete assembly.

The seal gas is heated inside a small diameter seamless tube or pipe to allow for high-system pressure capability requirements. When packaged with a Watlow® HYDROSAFE control panel, the system provides very flexible heating capabilities to compensate for changes in gas flow rates, or changes in gas composition.

Indirect technology means there is no concern about your seal gas stream ever coming into contact with the heating elements, especially when elements reach end-of-life conditions and are typically more susceptible to corrosion. The small diameter and low volume pressure boundary allow use in many countries without the need for further pressure vessel certifications.

The small package means you won't use up valuable real estate on offshore packages and the small mass means minimal effect on buoyancy requirements. The package is also well suited for all onshore applications due to its ability to meet a wide range of flow rates and temperatures within the same venerable package.

Watlow utilizes the latest thermal insulation technology assuring a "touch safe" exterior and to maximize energy savings for our customers.

Performance Capabilities

- Wattages from 8000 to 28000
- UL® and CSA component recognition up to 600VAC
- Pressure ratings up to 6800psi
- Process temperatures up to 450°F (232°C)



Features and Benefits

Fluid path constructed independent from heater sheath

- Allows sensitive materials to be heated safely and effectively
- Assures safety because heater failure will not cause leaks or significant damage
- Prevents fluid contamination

Seamless construction

- Offers economical package price
- Minimizes potential leakage
- Allows high-pressure operation

Standard 316L SS fluid path

- Provides compatibility with different materials
- Assures high-pressure application reliability



Specifications

- Six Watlow tubular heating elements
- 3/4 in. (19 mm) O.D., 316/316L SS seamless flow tube
- Flow tube and heating elements in aluminum casting
- Inlet/outlet connection choices
 - 3/4 in. (19 mm) CI 1500 RTJ
 - 1 in. (25 mm) CI 2500 RTJ
 - 3/4 in. (19 mm) CI 2500 RTJ
 - 3/4 in. (19 mm) Grayloc
- IEC Ex 'd' certified enclosure
- T3 temperature code typically available (analysis required)
- Terminal enclosure is painted carbon steel
- High-limit RTD for sensing casting temperature optional thermocouple
- RTD for cascade control from casting temperature optional thermocouple
- High-limit duplex RTD for sensing external surface temperature (one wired, one spare)
- Insulation with 316 SS shroud
- Designed for vertical mounting
- Designed in accordance with ASME Section VIII, Division 1
- NACE MR-0175 compliant with 316 SS flow tube and flanges
- 100% RT of butt welds at inlet/outlet flange connections to flow tube available as needed to meet design pressure requirements
- Multiple units may be piped in parallel or series with pressure drop; PSI amount will be calculated on a case-by-case basis