ThermOmegaTech®



Temperature Control Valves
For Pumps and Pump Seals

ThermOmegaTech® offers self-operating thermal relief valves to protect a variety of pumps and mechanical seals from over-temperature damage and to prevent scalding.

ThermOmegaTech's QMS is certified to the AS9100D Standard

www.ThermOmegaTech.com
877-379-8258

Thermal Relief For Pumps

Thermal relief is needed to regulate the flow of glycol, water, or any other media that flows through high-pressure pumps to remove heat from equipment or a process, essentially protecting the pump and pump seals from over-temperature damage and scalding incidents.

The Need

Pumps are used across residential, commercial, and industrial sectors to provide water pressure for various applications. In commercial settings, getting water flow to upper floors in multi-story buildings is challenging. Therefore, booster pumps are used to supply water at an elevated pressure to distribute adequate flow. However, when a building's water demand falls below peak levels, booster pumps may operate inefficiently, leading to unnecessary energy consumption and consequent heating of the water within the pump.

When high-temperature water is released through faucets, showers, or any other water supply, users can be at risk of scalding. Therefore, continuous monitoring and control of pump temperatures are imperative to prevent overheating and potential damage.

The Solution

ThermOmegaTech® offers 100% mechanically operated thermal relief valves for booster pumps, fire pumps, and other high-pressure pumps to keep them cool during idling.

Thermal relief valves continuously monitor and control water temperature flowing through pumps while discharging over-temperature water that can be collected, re-used, or re-purposed to eliminate waste.

All of ThermOmegaTech®'s valves are completely mechanical and require no electricity to operate. Our valves rely on automatic temperature monitoring to solve temperature problems, ultimately saving time, water, and energy.

Pump Thermal Relief Valves

ThermOmegaTech®'s thermally-actuated *ECONO/HAT-RA* and *HAT/RA-HP* thermal relief valves protect booster pumps, fire pumps, high-pressure water pumps and pump seals used in both industrial and residential applications, from over-temperature damage while reducing water waste and increasing overall system efficiency.



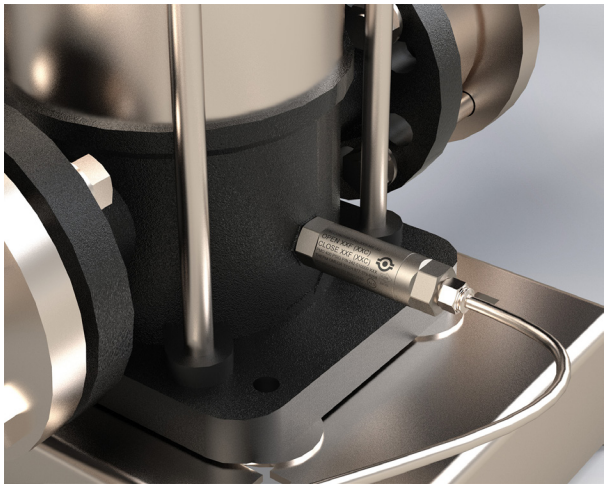
For product dimensions and specifications, visit www.ThermOmegaTech.com

ThermOmegaTech®

PUMP THERMAL RELIEF VALVES

ECONO/HAT-RA

Provides thermal relief for domestic water supply booster pumps, preventing them from deadheading. When the water in the pump exceeds the valve's thermal actuator set-point, the valve will automatically modulate open to discharge the hot water. Once the temperature drops below the set-point, the valve closes again.



Benefits

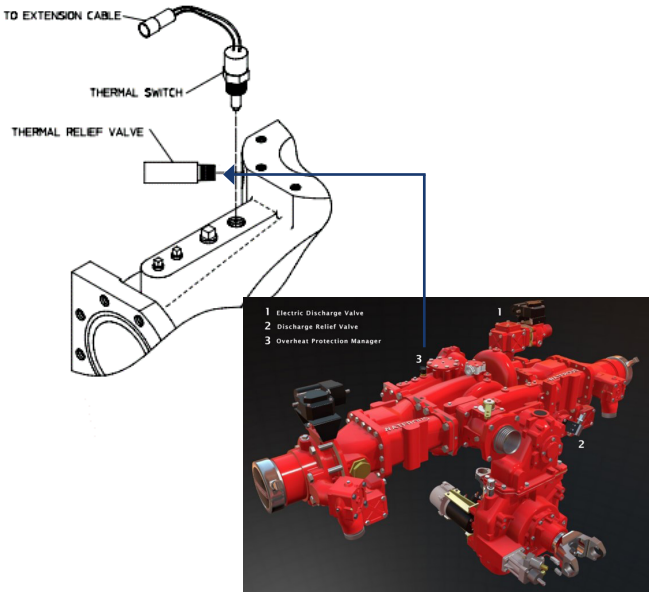
- Protects pumps and pump seals from over-temperature damage
- Prevents scalding water from being distributed to users
- 100% mechanical thermal relief for booster pumps and cooling jackets
- Self-operating - no power or signal required
- Unaffected by pressure variations
- Stainless steel valves are NSF/ANSI/CAN 61 & 372 Certified

Application

While the ECONO/HAT-RA is primarily used to keep booster pumps frrom overheating, it can also control cooling water outlet temperature and flow.

HAT/RA-HP

The HAT/RA-HP thermal relief valve is used for higher rated pressure systems to continuously sense fluid temperature and modulate open to discharge fluid above the valve's set-point. Once outlet temperature cools below the set-point, the valve modulates toward its closed position to reduce flow.



Benefits

- Rated for higher pressure systems - up to 1000 PSIG
- Protects pump and pump seals from over-temperature damage
- Monitors maximum discharge temperature
- Self-operating, no power or signal required
- Improves system efficiency
- Unaffected by pressure variations
- NSF/ANSI/CAN 61 & 372 Certified

Application

The HAT/RA-HP regulates the maximum temperature on fire pumps and other high-pressure water pumps.

For product dimensions and specifications, visit www.ThermOmegaTech.com

Mechanical Seal Water Support

Mechanical seals are essential in many industrial processes, ensuring efficiency by preventing leaks and reducing friction between moving parts. They are used in various types of pumps, like centrifugal and positive displacement pumps, to prevent leakage around the shaft exiting the pump casing, especially in applications where traditional packing seals or gaskets fall short in sealing performance.

Efficient operation of mechanical seals relies on proper lubrication, cooling, and support. This is critical to minimize wear, reduce downtime, and optimize the performance of the seals on pumps, compressors, and other rotating equipment.

Continuous water flow is commonly used for cooling, lubricating, and cleaning. However, without regular monitoring, significant amounts of water can be wasted annually. Therefore, integrating a mechanical seal support system is crucial for achieving cost savings and environmental sustainability within industrial plants.

EcoFlow® Water Conserving Seal Support System

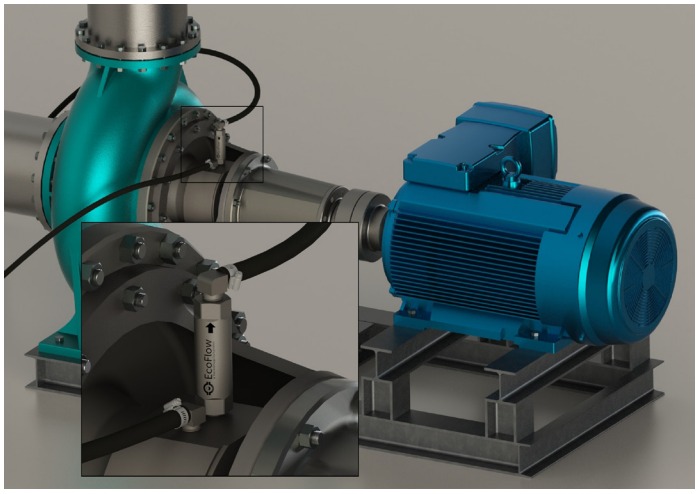
ThermOmegaTech's EcoFlow® valve is used on pumps with mechanical seals to monitor and control the seal flush water. This valve provides an optimum seal environment while drastically reducing water consumption and significantly increasing cost savings.

Easily installed on the seal water outlet, the EcoFlow® continuously monitors and controls seal water temperature. If water exceeds the valve's set-point, it will modulate open, discharging the hot water and replacing it with cool water. This cooler water will cause the EcoFlow® to modulate closed and repeat the cycle as long as excessive heat is transferred to the seal water.

Compared to traditional, manual control of seal water, EcoFlow® can typically save over 90% of water consumption.

Benefits

- Decreases seal water consumption
- Increases water treatment efficiency
- Expands mechanical seal use to more applications
- 100% mechanically operated - requires no outside power source
- Eliminates dry runs due to operator error & increases seal life
- Decreases operating cost
- Temperature response is unaffected by pressure variations
- Optional side port feature allows flushing debris from inside



For product dimensions and specifications, visit www.ThermOmegaTech.com