



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
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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 for various applications, from residential homes and commercial buildings to industrial appliances or equipment to provide water pressure. For example, multi-story buildings can struggle with inadequate water flow reaching the higher floors. Therefore, a booster pump should be installed to supply water at an elevated pressure to distribute flow to those stories. However, suppose the water demand in the building is less than the maximum demand. In that case, the pump will continue to run on an inefficient portion of its performance curve, and this excess pump energy goes into heating the water inside the pump.

When high-temperature water inside the pump is released through faucets, showers, or any other water supply, users can be at risk of scalding. For this reason, the temperature in pumps needs to be monitored and controlled constantly to avoid high-temperature 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.



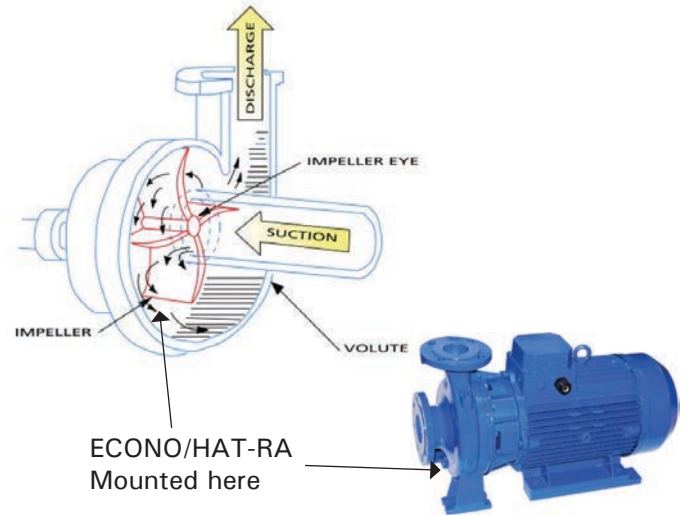
For product dimensions and specifications, visit www.ThermOmegaTech.com

ECONO/HAT-RA

Provides thermal relief for domestic water supply booster pumps to keep them cool during idling. If the water in the pump starts elevating to temperatures higher than the valve's set-point, it will automatically modulate open discharging the hot water. The valve will modulate closed again once the temperature cools below the set-point. The water discharged can be collected, reused, or repurposed to reduce waste.

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



Application

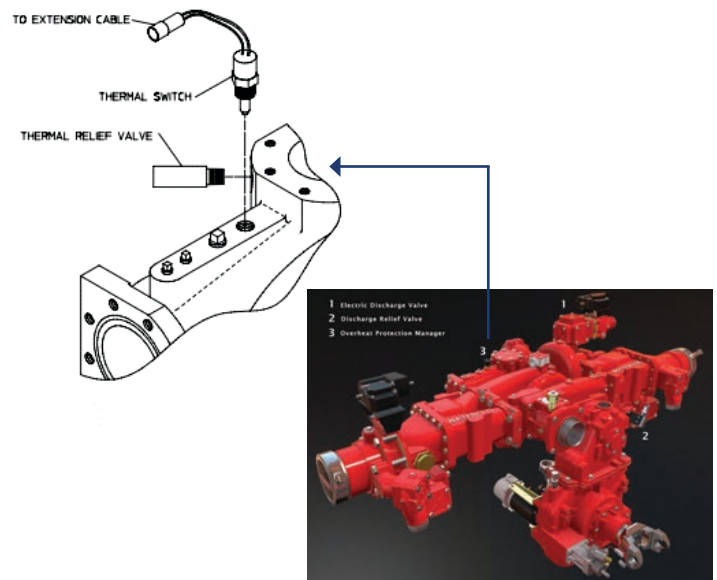
While the ECONO/HAT-RA is primarily used to keep booster pumps cool while idling, it can also control cooling water outlet temperature and flow.

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
- Discharges minimum amount of water to keep water temperature at safe limits



Application

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

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Mechanical Seal Water Support

Mechanical seal support systems are needed for industrial pumps and other equipment with mechanical seals that pump or mix hazardous substances. A double seal ensures maximum sealing safety by eliminating fluid or gas leakage in pumps. Double mechanical seals are typically recommended to prevent pollution, avoid process fluid leakage, control fluid type, provide alternatives for lubrication should fluid failure occur, establish a backup seal in case of seal failure or equipment repair, and avoid contamination in case of seal failure.

Double mechanical seals that use continuous water flow for cooling, lubrication, and cleaning without regularly monitoring the water, waste hundreds of thousands of gallons of water a year. For this reason, integrating a mechanical seal support system is crucial for plant savings.

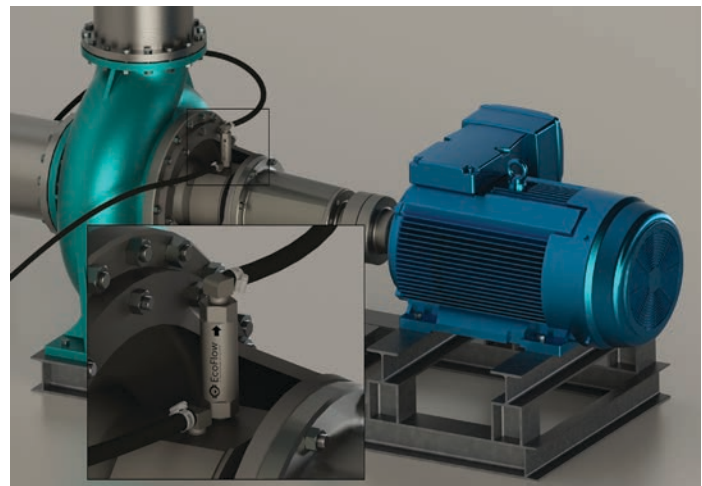
EcoFlow® Water Conserving Seal Support System

ThermOmegaTech's EcoFlow® valve is used on pumps with double mechanical seals to monitor and control the seal flush water. This valve provides an optimum seal environment for double mechanical seals 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 specified 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
- 100% mechanically operated - requires no outside source of electricity
- 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



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