Daman®

Another Successful Partnership

INTEGRATE THERMOSTATIC VALVES INTO DAMAN CUSTOM MANIFOLDS

Daman Products has worked with ThermOmegaTech® to integrate their thermostatic cartridge-style valves into Daman's custom manifold solutions. You can work directly with Daman or ThermOmegaTech to customize a solution that fits your application.

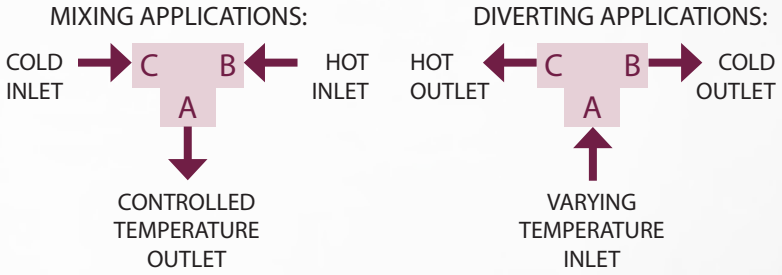
ThermOmegaTech specializes in temperature-based solutions. Their self-actuating temperature control valves are designed around their exclusive Thermoloid® sensor/controller that automatically and accurately proportions the flow in response to fluid temperature.

Designed with the most advanced and reliable thermal actuator technology available today, ThermOmegaTech's thermostatic valves are compact, low mass, reliable and fast acting. Their cartridges are easily integrated into your custom manifold design.

TYPICAL APPLICATIONS

- Hydraulic fluid cooling systems
- Lube oil cooling control
- Loop-type circulation systems
- Electronics system cooling
- Air conditioning
- Water conservation

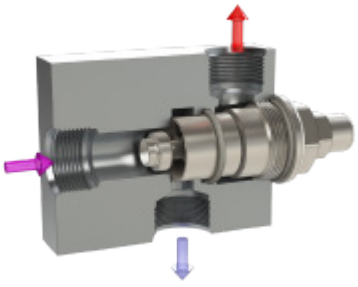
PLUMBING DIAGRAMS



VALVE OPERATION

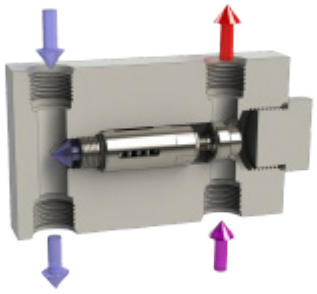
In mixing applications, the thermal mixing cartridge will proportion the flow from two inlet ports to produce the desired outlet port temperature. In diverting applications, the thermal diverting cartridge will divert or switch the inlet flow to either of two outlet ports depending on the fluid temperature.

MIXING AND DIVERTING CARTRIDGES



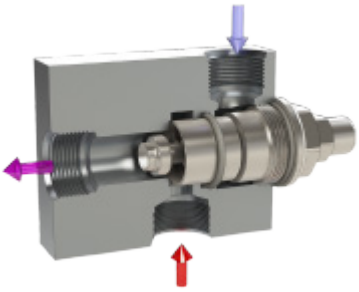
THERMAL DIVERTER CARTRIDGE

The cartridge will divert the inlet flow to one of two outlet ports based on a specified temperature.



THERMAL BYPASS CARTRIDGE

The thermal actuator will monitor the inlet flow and divert the fluid based on temperature. Cooler fluid will go through the bypass of the cartridge. Hot fluid will activate the thermal actuator, causing the internal valve to close and forcing the fluid through the system cooler.



THERMAL MIXING CARTRIDGE

The cartridge will modulate between the hot and cold "inlet feeds" to mix your fluid to the desired specified temperature.

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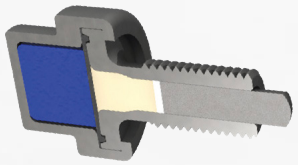
THERMAL ACTUATOR TECHNOLOGY

HOW IT WORKS

ThermOmegaTech's "phase change" thermal actuators are made with highly refined paraffin wax that changes in volume based on temperature. The piston movement results from a solid-to-liquid phase change of the paraffin wax, changing the length in a very precise, repeatable manner. No external power or signal is required. Their Thermoloid® material operates at temperatures ranging from -150°F to 300°F (-101°C to 149°C).

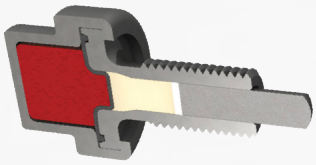
"Cold Position" - Solid State



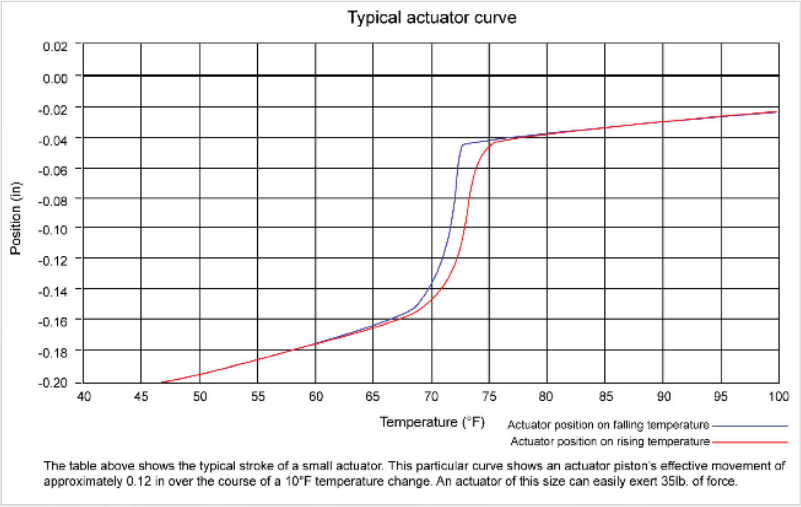
Piston Retracted

Typical Stroke Range 0.1" to 0.5" *Custom strokes available

"Hot Position" - Liquid State



Piston Extended



The table above shows the typical stroke of a small actuator. This particular curve shows an actuator piston's effective movement of approximately 0.12 in over the course of a 10°F temperature change. An actuator of this size can easily exert 35lb. of force.

CUSTOMIZATION

The ability to customize solutions to suit customer needs is a shared strength of both Daman Products and ThermOmegaTech. If one of our standard valve or manifold offerings does not meet your exact requirements, the in-house engineering staff at both Daman Products and ThermOmegaTech will work with you to design a solution for your problem. Together, we can customize opening/closing temperatures, flow rates, threads, materials, as well as the number of ports, including their size and configuration.

- Does your application require a small amount of leakage?
- A manual override to allow for a bypass mode?
- Lock wires to secure connections against vibration or tampering?
- A diffuser to oscillate/mix the fluid, or a valve integrated into a manifold?

If you are unsure of what you need, the experienced engineers at both companies are more than happy to provide you with ongoing and responsive customer service at all stages of the product's life cycle.

Contact Daman Products or ThermOmegaTech to help you design your custom manifold solution and to provide you with a prototype that be can evaluated prior to moving forward with your project.

BENEFITS

- Self-actuating: no external power required
- Few moving parts
- Long service life
- Maintenance free: no periodic calibration
- High power to size and weight ratio making for smaller, lightweight packages
- Highly repeatable position vs. temperature
- Excellent for applications in many hazardous and extreme environments
- Partnership between Daman and ThermOmegaTech to provide quality custom manifolds with self-actuating fluid temperature control

ThermOmegaTech®

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