OUR STORY, OUR TECHNOLOGY

ThermOmegaTech® was established in 1983 when founder Fred Pirkle developed a highly reliable and cost effective self-actuating freeze protection valve for the railroad industry. This valve, the GURU®, is now the industry standard in freeze protection of locomotives on North America Railroads.

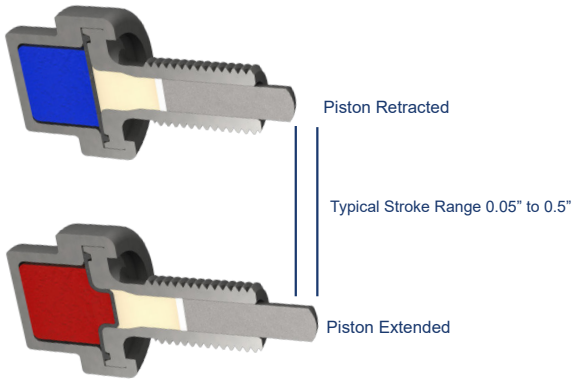
Over the past 35 years, ThermOmegaTech® has taken the same technology that is utilized in our railroad freeze protection valves and applied this technology to valves in the Commercial Plumbing, Industrial and Aerospace & Defense markets. These include valves for balancing, drain tempering, freeze & scald protection, steam traps, thermal bypass, steam tracing, thermal relief, tepid water delivery, washdown as well as many other applications where temperature control is critical.

HOW IT WORKS

The technology utilized in our products is referred to as phase change technology. It dates back to the 1930's when a particular paraffin wax that changed phases from a solid to a liquid at a very specific temperature was discovered. The temperature at which this wax changed phases was so repeatable and reliable that to this day the ASTM utilizes this wax to calibrate temperature instrumentation.

ThermOmegaTech® incorporates this wax into our Thermoloid® material which operate all our thermostatic valves. At the heart of each of our products is a phase-changing wax that expands and contracts at an accurate and repeatable rate. This material is sealed in our actuators by a diaphragm and as the temperature increases above the melting point of the Thermoloid® material, it begins to expand and push on the diaphragm, which in turn pushes on the piston. This piston acts as a valve stem, opening or closing the valve. As the Thermoloid® material cools below its melting point it compresses and a spring returns the piston and diaphragm to its "cold position".

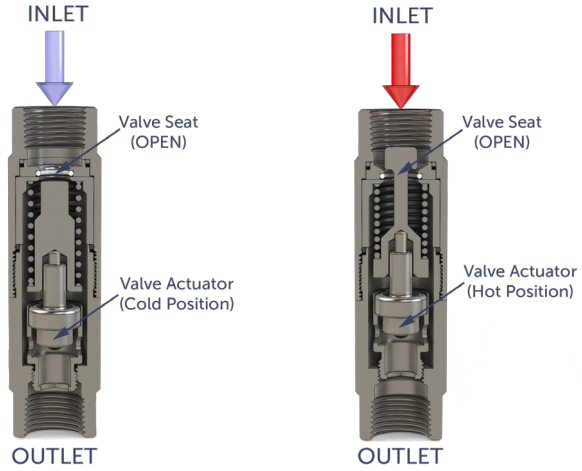
"Cold Position" - Wax in Solid State



"Hot Position" - Wax in Liquid State

Our Thermoloid® material operates at temperatures ranging from 15°F to 300°F (-9.44°C to 149°C). Because of the gradual transition from solid to liquid of this Thermoloid® material, these valves act more like modulating valves rather than quick opening/closing valves. Our Direct Acting Valves are designed to be open when the actuator is in the "cold position" while Reverse Acting Valves are open in the "hot position".

DIRECT ACTING ***REVERSE ACTING***



CUSTOMIZATION

Our self-actuating thermostatic technology is an elegant solution, proven highly reliable in various applications, whether in one of our current products or a design customized by our in-house engineering team to meet a customer's unique needs. We can customize opening/closing temperatures, flow rates, threads , materials, and more. Contact us for more information.

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Because of continuous improvements, Therm-Omega-Tech®, Inc. reserves the right to change the design and specifications without notice