ThermOmegaTech®

Instrument Temperature Control

SOCLEMA
Advanced Industrial Sampling

www.soclema.com

The Most Advanced, Reliable and Compact Self Contained Valves Available for Temperature Control, Freeze Protection, Steam Tracing and Conservation of Energy

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ISO9001 CERTIFIED

Therm-Omega-Tech recommends these valves for your instrument temperature controlling applications

TV/HAT *(Tube Valve/Heat Actuated Trap)* valves are ideal for use in conjunction with tubing and tracing systems using pre-traced tubing bundles. These versatile valves are ideal for replacing conventional steam traps on winterization tracing, instrument tracing, condensate return system freeze protection, process tracing and other applications requiring in-line flow control based on temperature. Reverse-acting valves (open on temperature rise) are also available. **TV/HAT-RA** valves are available with 1/4", 3/8" or 1/2" tube compression fittings and setpoints from 55°F to 240°F (13°C to 116°C).

Dimensions: **TV/HAT**: 3-1/2" x 1". These valves save space, eliminate the use of extra, expensive, and time consuming piping. They install in seconds. The unique ram-type plug & seat provide reliable, tight shut off longer than any other design available. Since **TV/HAT** valves discharge condensate well below steam temperature, live steam losses are eliminated. For heating of temperature sensitive instruments or process fluids,the reduced temperature available for tracing simplifies operations and eliminates overheating problems.

US/S-X & US/S-XR: *(Surface or Fluid-Sensing Control)* valves can affect very close temperature control of any number of control loops using steam, liquid phase heat transfer media such as Dowtherm®, hot water, hot oil, etc. The reverse acting model (US/S-XR) can be used to control cooling media to economically remove heat from equipment or a process. The sensor/controller element may be placed against the process line or pipe with the optional weld-o-let or band-o-let or in the line with the integral 3/4" NPT bushing offering unlimited piping variations. This allows the temperature element to be in contact with the process, regulating the in flow of heating media (or cooling media with the US/S-XR).

Input temperatures or steam supply can vary widely, and yet the control temperature is maintained within desired limits. Available standard set points from 30°F to 240°F (-1°C to 116°C).

HST *(High Sample Temperature safety shutoff)* The HST valve is used to sense the sample temperature after the sample cooler. The sample passes through this normally open valve whenever the sample temperature is below the valve setpoint. If the sample temperature exceeds the valve setpoint, the **HST** valve closes to protect expensive and delicate analyzers and other instruments from overtemperature damage. When the **HST** cools about 10°F below the setpoint, it will reset open again. Low flow or total loss of sample cooling water or unusually high inlet sample temperatures into the sample cooler are typical reasons why this self-operating protective device should be considered.

The standard **HST** valve body has 1/2" NPT female threaded ends and is rated for 3000 psig @ 600°F. The **HST's** internal valve mechanism (valve engine) is rated up to 3000 psig and 150°F above the specified shutoff temperature. Therm-Omega-Tech offers many setpoints for the **HST**.

TV/SC-A: *(Tube Valve/Steam Control-Ambient Sensing)*

There are literally hundreds of applications for these compact, self-contained, automatic control valves.

Tubing connections allow quick installation at low cost. Ambient sensing valves can be used to turn on steam, air, gas or liquids compatible with Teflon® and stainless steel in response to ambient temperature change. Applications include automation of steam trace lines, operation of pneumatically operated pumps for injection of anti-freeze liquids, etc. Available with 3/8" or 1/2" tube compression fittings.

At the designated set point, a thermostatic element located at one end of the valve (and thermally isolated from the body of the valve), will open or close within a 10°F (5.6°C) differential (e.g. 35-45°F, etc.) and control the flow of steam, gas, or fluid through the valve based on ambient temperature. The **TV/SC-A** opens on falling temperature; the **TV/SC-AR** opens on rising temperature. An optional solar shield (when used) allows the device to be installed where solar heating may affect the set point of the device. **TV/SC-A** may also be used to control instrument enclosure temperatures (see **TV/SC-I** and **ITCH** product fact sheets).

TV/SC-I: *(Instrument Enclosure or Analyzer Housing Temperature Controller)*

The **TV/SC-I** assures extremely accurate temperature control in an instrument or analyzer enclosure. This self-contained unit provides a reliable, economical alternative to costly hazardous electric heating. The compact thermostatic control valve senses enclosure temperature and automatically regulates the flow of steam to maintain the desired temperature.

At the designated control point, a thermostatic element located at one end of the **TV/SC-I** (inside the enclosure) regulates the steam supply to the heater to accurately maintain the desired temperature, operating like the thermostat in an oven. Heat radiating from the steam coil heater reaches the actuator causing it to quickly shut off the steam supply when the desired temperature is reached, regardless of outside ambient. In cooling applications, the **TV/SC-IR** opens on rising temperature to regulate the flow of cooling media to the enclosure.

The **TV/SC-I** comes complete with a weather-tight bulkhead fitting for the valve body; optional bulkhead fittings for 3/8 tubing connections are available. Also available is a short configuration for installations with the valve and all connections completely within the enclosure (see **TV/SC-IA** and **ITCH** product fact sheets). These economical valves are available with set points from 40°F to 210°F (4.4°C to 98.9°C) and available with 3/8" and 1/2" tube compression fittings, single or double outlets.

ITCH Assembly: *(Instrument Temperature Control Heater)* assures accurate

temperature control in an instrument enclosure. The assembly comes complete with steam coil, mounting bracket and **TV/SC-A** valve assembly, two **TV/HAT** valves and two weather-tight bulkhead fittings for 3/8" or 1/2" tubing connection. The compact thermostatic control valve senses enclosure temperature and automatically regulates the flow of steam to the coil to maintain the desired temperature. In applications where the enclosure needs to be cooled, a reverse-acting **ITCH/RA** can be used to regulate the flow of glycol, water or other cooling media.

ITCH Assemblies will maintain enclosure temperature accurately over a wide range of ambient temperatures with steam supply pressures from 15 psig to 200 psig (1.0 to 13.8 BAR) without danger of overheating delicate instruments. No special NEMA-7 or -9 housings are required even in potentially explosive environments. Enclosure temperatures can be maintained within 2°F (1.1°C) for pennies a day.

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