

TV/SC-I & TV/SC-IR

INSTRUMENT ENCLOSURE TEMPERATURE CONTROL



BENEFITS

- Eliminates danger of overheating
- Maintains enclosure temperature within specified range
- Self-operating, eliminates explosion hazard
- Long service life
- Quick and easy installation

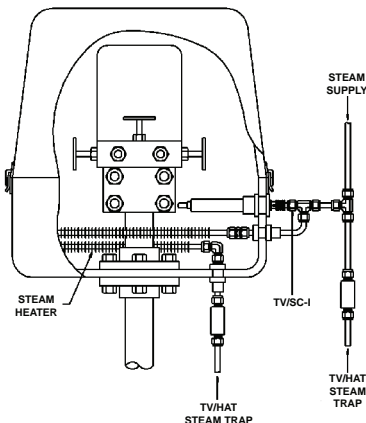
DESIGN FEATURES

- Direct acting (No pilot valve)
- Exclusive *Thermoloid*® sensor/controller
- All Stainless Steel body, fittings, spring & plug
- Ram-type plug for reliable tight shut-off
- Unaffected by pressure
- Compatible with standard tubing and connections

APPLICATIONS

The Therm-Omega-Tech® *TV/SC-I* assures accurate temperature control in an instrument or analyzer enclosure. It's a reliable, economical alternative to costly, hazardous electric heating. This self-contained compact thermostatic control valve senses enclosure temperature and automatically regulates the flow of steam to maintain the temperature. In cooling applications the reverse-acting *TV/SC-IR* can be used to regulate the flow of glycol, water, air or other cooling media.

SAMPLE APPLICATION



OPERATION

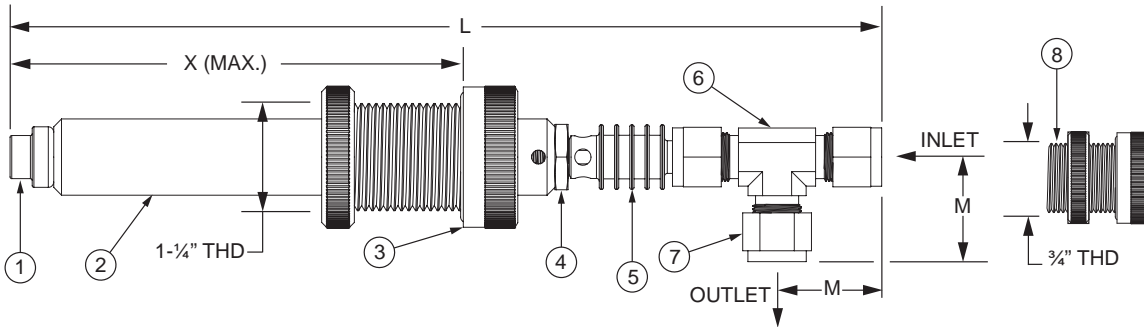
A thermostatic element located at one end of the *TV/SC-I* (inside the enclosure) regulates the steam supply to the heater to accurately maintain the desired temperature, operating like the thermostat in an oven. Heat radiating from the steam coil heater reaches the actuator causing it to quickly shut 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-A* 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).

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PARTS & MATERIALS



| ITEM | DESCRIPTION | MATERIAL |
|------|--|------------------|
| 1 | THERMAL ACTUATOR | 300 Series SS |
| 2 | ISOLATION EXTENSION | 300 Series SS |
| 3 | VALVE MOUNTING BULKHEAD FITTING | Acetal Copolymer |
| 4 | CALIBRATION LOCKNUT | 300 Series SS |
| 5 | YOKE | 300 Series SS |
| 6 | BODY | 300 Series SS |
| 7 | TUBING COMPRESSION NUT | 300 Series SS |
| 8 | 3/8 TUBING BULKHEAD FITTING (OPTIONAL) | Acetal Copolymer |

DIMENSIONS & CAPACITIES

| Tube O.D. SIZE | L | | M | | X | | Weight | | C _v | Maximum Operating Pressure | Maximum Temperature | |
|-------------------|------|-----|-----|----|-----|-----|--------|-----|----------------|-------------------------------|---------------------|---------------------------------|
| | in | mm | in | mm | in | mm | Lb | Kg | | | Valve End | Sensing End |
| 3/8" | 10 | 254 | 1.2 | 30 | 5.2 | 132 | 0.7 | 0.3 | 0.5 | 200 PSIG (13.8 BAR) | 390°F (199°C) | 150°F (65.6°C) over setpoint |
| 1/2" | 10.5 | 267 | 1.4 | 36 | | | 1.2 | 0.6 | | | | |

ORDERING

| Part Number ¹ | Description |
|--------------------------|--------------------|
| 733 - 001000 - XXX | 3/8" TV/SC-I-S-SS |
| 734 - 001000 - XXX | 1/2" TV/SC-I-S-SS |
| 743 - 001000 - XXX | 3/8" TV/SC-IR-S-SS |
| 744 - 001000 - XXX | 1/2" TV/SC-IR-S-SS |

NOTES

- Full open temperatures "XXX" available:
 - I Series:** 035°F, 040°F, 050°F, 055°F, 060°F, 065°F, 075°F, 085°F, 090°F, 095°F, 100°F, 105°F, 110°F, 120°F, 125°F, 130°F, 140°F, 150°F, 155°F, 160°F, 170°F, 180°F, 190°F and 200°F.
 - IR Series:** 040°F, 045°F, 050°F, 060°F, 070°F, 075°F, 085°F, 095°F, 100°F, 105°F, 110°F, 115°F, 120°F, 125°F, 130°F, 140°F, 150°F, 160°F, 170°F, 175°F, 180°F, 190°F, 200°F and 210°F.
 - Note:** Closing temperature is typically 10°F above opening temperature for Direct Acting valves and 10°F below opening temperature for Reverse Acting valves.
- Parker fittings are standard. Swagelok fittings are available
- A #20 mesh strainer is recommended.
- Warranty information disclosed at www.thermomegatech.com/terms-conditions/



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TVSCI
Rev: 7/10/18

