

TV/HAT

IN-LINE TEMPERATURE CONTROL VALVE

BENEFITS

- Eliminates live steam losses
- Self-operating, no power or signal required
- Downstream thermal actuator for greater sensitivity
- Unaffected by pressure variations
- Operates in any position
- Easy to install
- Wide choice of set-points

DESIGN FEATURES

- Exclusive **Thermoloid**® thermal actuator
- Stainless steel body, fittings, spring and plug
- Compact, low mass - fast response
- Corrosion resistant - long service life
- Ram-type plug for tight reliable shutoff
- Operates in narrow temperature band

APPLICATIONS

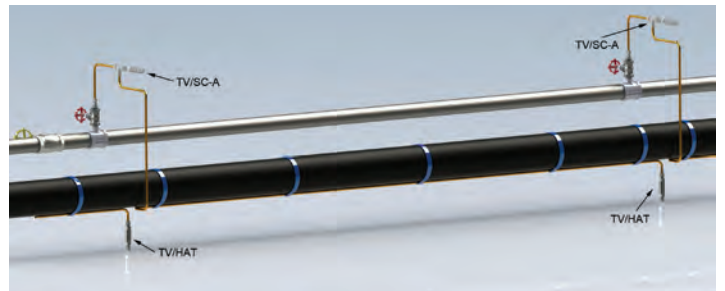
TV/HAT (Tube Valve/Heat Actuated Trap) valves are ideal for use in conjunction with tracer tubing and tracing systems using pre-traced tubing bundles.

TV/HAT valves replace conventional steam traps on winterization tracing, instrument tracing, condensate return system freeze protection, tracing for processes under 150°F (66°C), and other applications requiring in-line flow control based on temperature.

Excessively hot samples can cause damage to expensive and sensitive hardware and electronics. For process analyzers and similar instrumentation, it is important to assure that the process samples fluids are always below the maximum allowable temperature for such instruments. Sample coolers are commonly used to reduce sample temperatures to the acceptable limits. In the event of a loss of cooling fluid to the sample cooler, or if the desired sample temperature is exceeded for any reason, the **TV/HAT** valve will close to prevent equipment damage.



SAMPLE APPLICATION



OPERATION

The **TV/HAT** valve responds only to temperature. After condensate forms and cools to near the set-point, the **TV/HAT** valve modulates the flow to maintain a constant condensate discharge temperature. **TV/HAT** valves are wide open at start-up for rapid venting and initial heat-up. **TV/HAT** valves are self-draining after shutdown, to eliminate freeze damage.

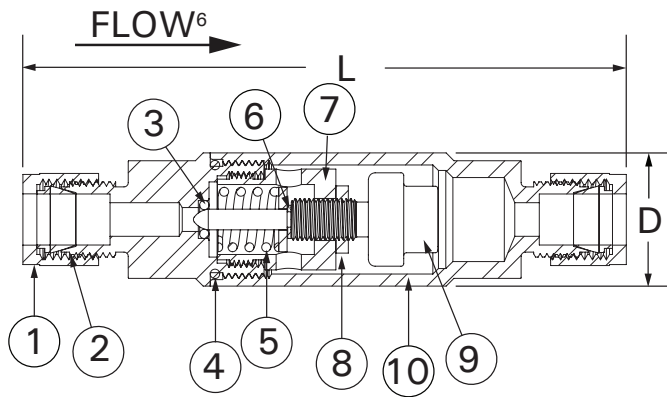
For heating of temperature sensitive instruments or process fluids, the reduced temperature available for tracing simplifies operations and eliminates overheating problems.

For other heat transfer fluids, **TV/HAT** valves maintain a constant discharge temperature, thus providing benefits of accurate process temperature control and improved efficiency.

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IN-LINE TEMPERATURE CONTROL VALVE

PARTS & MATERIALS



| ITEM | DESCRIPTION | MATERIAL |
|------|-----------------------------|----------------------------|
| 1 | TUBING NUT ² | 300 Series SS |
| 2 | DOUBLE FERRULE ² | 300 Series SS |
| 3 | SEAT SEAL | PTFE |
| 4 | SEALING O-RING | EPDM or Viton ⁵ |
| 5 | OPERATING SPRING | 300 Series SS |
| 6 | E-CLIP | PH15-7 MO |
| 7 | RETAINER | 300 Series SS |
| 8 | LOCKNUT | 300 Series SS |
| 9 | THERMAL ACTUATOR | 300 Series SS |
| 10 | VALVE BODY | 300 Series SS |

DIMENSIONS & CAPACITIES

| TUBE O.D SIZE | D | | L | | Weight | | C _v | Maximum Operating Pressure | Maximum Temperature |
|------------------|-----|----|-----|-----|--------|-----|----------------|-------------------------------|---|
| | in | mm | in | mm | Lb | Kg | | | |
| 1/4" | 1.0 | 25 | 4.4 | 112 | 0.5 | 0.2 | 0.5 | 300 PSIG (20.7 BAR) | 150°F(66°C) over set-point limit 300°F(149°C) |
| 3/8" | 1.0 | 25 | 4.5 | 114 | 0.5 | 0.2 | | | |
| 1/2" | 1.0 | 25 | 4.9 | 125 | 0.6 | 0.3 | | | |

ORDERING

| Part Number ^{1,4} | Description |
|----------------------------|--------------------------------|
| 212 - 100X00 - XXX | 1/4" TV/HAT-SS ² |
| 212 - 110X00 - XXX | 1/4" TV/HAT-SS-SW ³ |
| 213 - 100X00 - XXX | 3/8" TV/HAT-SS ² |
| 213 - 110X00 - XXX | 3/8" TV/HAT-SS-SW ³ |
| 214 - 100X00 - XXX | 1/2" TV/HAT-SS ² |
| 214 - 110X00 - XXX | 1/2" TV/HAT-SS-SW ³ |

NOTES

- Full open temperatures "XXX" available: 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.
 - Note: Closing temperature is typically 10°F above opening temperature.
- Standard fittings are Parker A-LOK.
- Swagelok fittings replace standard Parker fittings.
- Replace singular "X" with 0 for EPDM body seals; 1 for Viton body seals. Other seals available, consult our engineers.
- Seal material compatibility:
 - EPDM - air, water, steam, ketones, and synthetic hydraulic oils.
 - Viton - air, fuel, oil, gas, petroleum-based hydraulic oils.
- Flow direction is reversed on valves that close over 210°F (98.9°C)
- A #20 mesh strainer is recommended.
- Warranty information disclosed at www.thermomegatech.com/terms-conditions/



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