

TV/HAT

IN-LINE TEMPERATURE CONTROL VALVE

BENEFITS

- Eliminates live steam losses
- Downstream actuator for greater sensitivity
- Unaffected by pressure variations
- Wide choice of set points
- Operates in any position



DESIGN FEATURES

- Compact, low mass for fast response
- Corrosion resistant - Long service life
- Stainless steel body, fittings, spring and plug
- Ram-type plug for tight reliable shutoff
- Operates in narrow temperature band
- Easy to install

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. These versatile valves are compatible and are made to be used in combination with the TV series valves as well as standard tubing and tubing fittings.

TV/HAT valves are ideal for replacing conventional steam traps on winterization tracing, instrument tracing, condensate return system freeze protection, tracing for processes under 150°F (65°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.

OPERATION

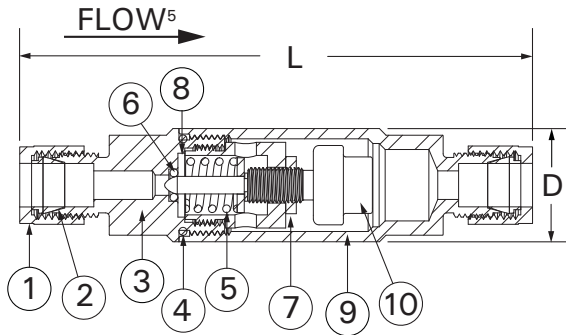
The **TV/HAT** valve responds only to temperature. After condensate forms and cools to near the setpoint, the **TV/HAT** valve modulates the flow to maintain a constant condensate discharge temperature. **TV/HAT** valves are wide open at start-up for rapid venting and initial heat-up. **TV/HAT** valves 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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PARTS & MATERIALS



ITEM	DESCRIPTION	MATERIAL
1	TUBING NUT	300 Series S/S
2	FERRULE	300 Series S/S
3	SEAT HOUSING	300 Series S/S
4	SEALING O-RING	EPDM or Viton ³
5	OPERATING SPRING	300 Series S/S
6	SEAT SEAL	PTFE
7	LOCKNUT	300 Series S/S
8	RETAINER	300 Series S/S
9	VALVE BODY	300 Series S/S
10	ACTUATOR	300 Series S/S

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	3.6	91	0.50	0.23	0.5	300 PSIG (20.7 BAR)	300°F (149°C)
3/8"	1.0	25	3.6	91	0.52	0.24			
1/2"	1.0	25	3.9	99	0.59	0.27			

ORDERING

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

NOTES

- Standard 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.
- 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
- All TV/HAT valves are factory tested and covered by a 36 month prorated warranty.
- A #20 mesh strainer is recommended for use with all port sizes



Therm-Omega-Tech, Inc.
353 Ivyland Road
Warminster, PA 18974

1-877-379-8258
www.ThermOmegaTech.com



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