ThermOmegaTech®

# TV/US-X & TV/US-XR

## TEMPERATURE CONTROL VALVE

## BENEFITS

- Prevents process overheating
- Self-operating, no power or signal required
- Discharges minimum amount of media for temperature control
- Maintains optimal process temperature
- Quick and easy installation
- Long service life



## DESIGN FEATURES

- All stainless steel construction
- Exclusive **Thermoloid**® thermal actuator
- Narrow temperature band
- Compact low mass - fast response
- Ram-type plug for reliable shut off
- Unaffected by pressure variations

## APPLICATIONS

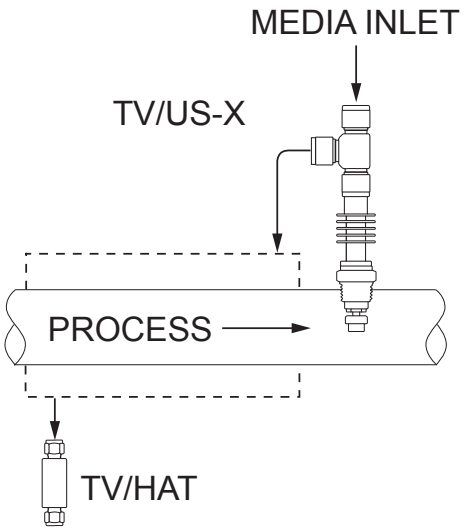
These compact self contained control valves can maintain very tight temperature control of any number of control loops using steam, liquid phase heat transfer media such as Dowtherm®, hot water, hot oil, glycol, compressed air, etc. In general they can be used whenever accurate but low cost control is required.

The reverse acting model, **TV/US-XR** can be used to control cooling media to economically remove heat from equipment or a process. Controlling air flow to a vortex cooling device is a common application. Another common application is use of the **TV/US-XR** to control cooling media flow to a sample cooler in response to sample temperature. Sample heating applications are commonly controlled by the **TV/US-X**.

## OPERATION

The **TV/US-X** and **TV/US-XR** valves' **Thermoloid**® thermal actuator element may be placed in contact with the process line or pipe with the optional band-o-let fitting, or in the line with the integral 3/4 NPT bushing. This allows the temperature element to be in contact with the process to control the valve and regulate the inflow of heating media (or cooling media with the **TV/US-XR**). Input temperatures or steam supply can vary widely, but the control temperature is maintained within desired limits.

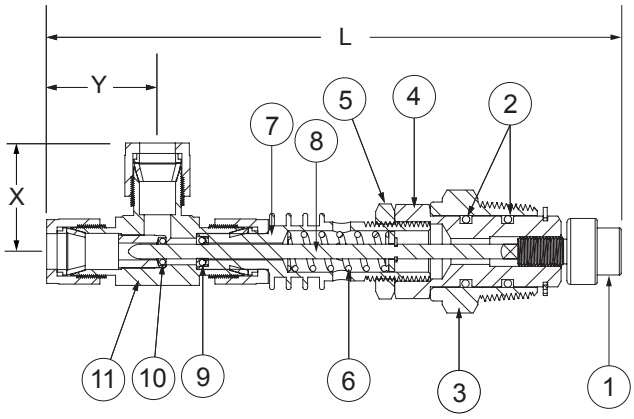
## SAMPLE APPLICATIONS



# TV/US-X & TV/US-XR

## TEMPERATURE CONTROL VALVE

## PARTS & MATERIALS




| ITEM | DESCRIPTION | MATERIAL |
|---|---|---|
| 1 | THERMAL ACTUATOR | 300 Series SS |
| 2 | BUSHING SEALS | See Note 3 |
| 3 | BUSHING - 3/4" NPT | 300 Series SS |
| 4 | ADAPTER | 300 Series SS |
| 5 | LOCKNUT | 300 Series SS |
| 6 | OPERATING SPRING | 300 Series SS |
| 7 | YOKE | 300 Series SS |
| 8 | PLUG/STEM ASSEMBLY | 300 Series SS |
| 9 | STEM SEAL | PTFE |
| 10 | SEAT SEAL | PTFE |
| 11 | VALVE BODY | 300 Series SS |

## DIMENSIONS & CAPACITIES

| TUB O.D. Size | L | | X & Y | | Weight | | $C_V$ | Maximum Operating Pressure | Maximum Temperature | |
|---|---|---|---|---|---|---|---|---|---|---|
| | in | mm | in | mm | Lb | Kg | | | Valve End | Sensing End |
| 3/8" | 6.2 | 158 | 1.20 | 30 | 0.6 | 0.27 | 0.5 | 200 PSIG (13.8 BAR) | 388°F (198°C) | Range 150°F (83.3°C) over set-point with a limit of 300°F (149°C) |
| 1/2" | | | 1.42 | 36 | | | 0.9 | | | |

## ORDERING

| Part Number[1,3,4] | Description |
|---|---|
| 783 - 0X0000 - XXX | 3/8" TV/US-X |
| 784 - 0X0000 - XXX | 1/2" TV/US-X |
| 793 - 0X0000 - XXX | 3/8" TV/US-XR |
| 794 - 0X0000 - XXX | 1/2" TV/US-XR |

### NOTES

1. Full open temperatures "XXX" available:
   a. **X 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.
   b. **XR 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.
   c. **Note: Closing temperature is typically 10°F above opening temperature for Direct Acting valves and 10°F below opening temperature for Reverse Acting valves. Consult factory for special higher or lower settings**
2. Optional Band-O-Let type attachment fitting must be specified when ordering.
3. Viton is standard , others are available.
4. 0 = Parker fittings are standard. 1 = Swagelok fittings are available.
5. A #20 mesh strainer is recommended.
6. Warranty information disclosed at www.thermomegatech.com/terms-conditions/

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*Because of continuous improvements, ThermOmegaTech®, Inc. reserves the right to change the design and specifications without notice*