

## DTV

### DRAIN TEMPERING VALVE

### ***BENEFITS***

- Assures compliance with drain temperature limitations of plumbing code
- Designed to prevent damage to PVC piping due to overtemperature conditions.
- Minimizes water waste
- Easy to install

### ***DESIGN FEATURES***

- Rugged, clog resistant valve design
- Easily installed using standard pipe fittings and tools
- Operates in any orientation
- Minimizes water waste
- Modulates over operating temperature range to conserve cooling water
- Effluent tempering capacity limited only by cold water flow rate through DTV

### ***TYPICAL USES***

- Humidifier discharge to sewer/drain
- Commercial dishwashers/ware washers
- Boiler blowdown drain lines
- Autoclave discharge
- Any excessively hot effluent flow to sewer/drain

### ***OPERATION***

The **DTV** valve can be used in applications where a discharge flow to a drain or sewer must be tempered with cold water to reduce temperature. The hot effluent to be tempered is connected to the drain/sewer line using a suitably sized tee fitting and piping sized to handle the effluent flow rates. The hot effluent passes over the thermal actuator of the **DTV** valve and this actuator controls the cold water inlet port. If the hot effluent is above the specified setpoint, the **DTV** opens the cold water inlet port to allow injection of cold water. As the hot effluent cools, the **DTV** valve automatically modulates to reduce the cold water inlet flow. At about 10°F below the full open temperature, the cold water inlet is fully closed to conserve water.

The **DTV** provides a convenient, economical, and easy to use method of tempering hot effluent flows. Since the **DTV** is open only when the effluent exceeds the specified setpoint temperature, it also conserves water by automatically turning off cold water when not needed.

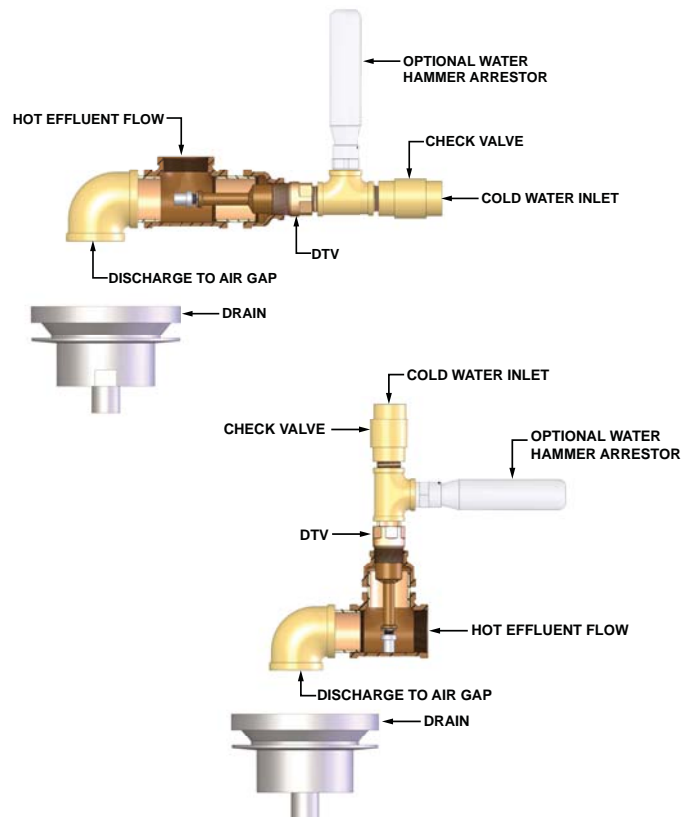


1" DTV

3/4" DTV

1/2" DTV

### ***TYPICAL INSTALLATIONS***

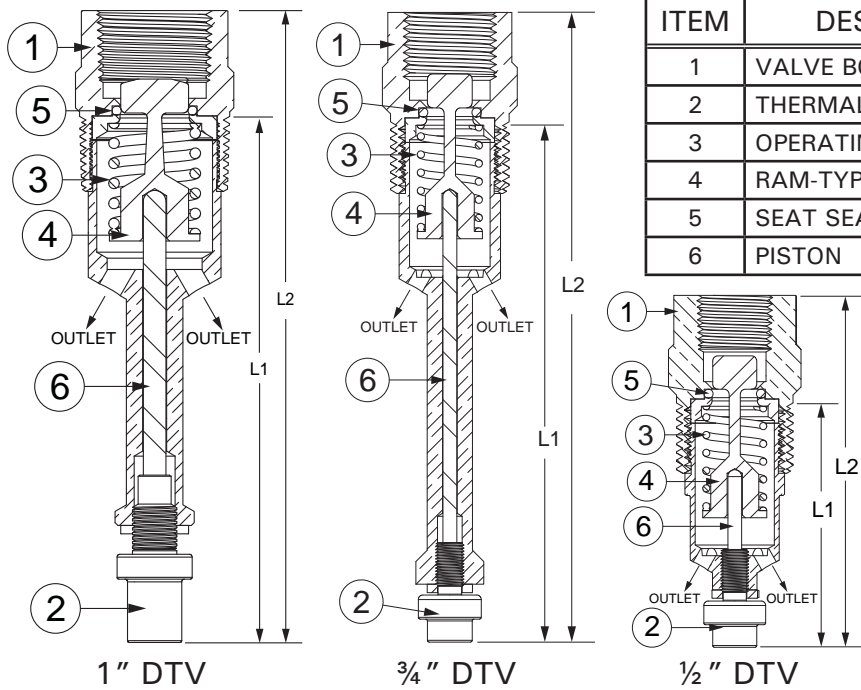


# DTV

## DRAIN TEMPERING VALVE



### PARTS & MATERIALS



ITEM	DESCRIPTION	MATERIAL
1	VALVE BODY	Brass or 300 Series S/S
2	THERMAL ACTUATOR	300 Series S/S
3	OPERATING SPRING	300 Series S/S
4	RAM-TYPE PLUG	300 Series S/S
5	SEAT SEAL	PTFE
6	PISTON	300 Series S/S

### DIMENSIONS & CAPACITIES

SIZE (NPT)		L1		L2		Weight		C <sub>v</sub>	Maximum Inlet Water Pressure	Maximum Temperature
Water Inlet	Drain Connection	in	mm	in	mm	Lb	Kg			
1/2"	1"	3.09	79	4.28	190	0.9	0.41	2.0	125 PSIG (8.6 BAR)	250°F (121°C)
3/4"	1"	5.75	146	7.0	178	1.0	0.45	2.0		
1"	1-1/4"	5.87	149	7.0	178	1.4	0.63	4.0		

### ORDERING

Part Number <sup>1</sup>	Description <sup>2</sup>
325-000000-XXX	1/2" DTV Valve
325-100000-XXX	1/2" DTV Valve (Stainless Steel)
326-000000-XXX	3/4" DTV Valve
326-100000-XXX	3/4" DTV Valve (Stainless Steel)
327-000000-XXX	1" DTV Valve
327-100000-XXX	1" DTV Valve (Stainless Steel)

### SAMPLE CALCULATION

**How much effluent can be tempered with a 1" DTV valve?**

1) Flow capacity through cold water port of 1" DTV with C<sub>v</sub> = 4.0:

$$CW \text{ gpm} = C_v \times \sqrt{\text{pressure drop}}$$

Assume 50 psig cold water pressure, drain pressure = 0 psig

$$CW \text{ gpm} = 4 \times \sqrt{50} = 28.3 \text{ gpm}$$

Assume for this example:

cold water temp = 60°F (CT)

hot effluent temp = 212°F (HT)

max. allowable drain temp = 140°F (MT)

2) Maximum effluent flow (gpm) that can be tempered:

$$CW \times \frac{(MT-CT)}{(HT-MT)}$$

$$MT-CT = 80$$

$$HT-MT = 72$$

$$\text{Maximum effluent flow rate} = 28.3 \times \frac{80}{72} = 31.4 \text{ gpm}$$

### NOTES

- Standard opening temperatures "XXX" available: 120°, 125°, 130°, 140°.
  - Closing temperature is typically 10°F below opening temperature
  - Other temperatures are available, consult our engineers for more information.
- A #20 mesh strainer is recommended for use with all port sizes
- Cold water inlet typically requires a back-flow preventer.
- All DTV valves are factory tested and covered by a 36 month prorated warranty for stainless steel, 18 months for brass



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