

DTV

DRAIN TEMPERING VALVE

BENEFITS

- Compliant with drain temperature limitations of plumbing codes
- Prevents damage to PVC piping due to over-temperature conditions
- Self-operating, no power or signal required
- Minimizes water waste
- Easy to install
- Adaptable to almost any drain size

DESIGN FEATURES

- Exclusive **Thermoloid®** thermal actuator
- Rugged, clog resistant valve design
- Install using standard pipe fittings and tools
- Operates in any orientation
- Modulates to conserve cooling water
- Effluent tempering capacity limited only by cold water flow rate through DTV

APPLICATIONS

The DTV can be used in applications where a high temperature discharge flow to a drain/sewer must be tempered with cold water.

Examples:

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

OPERATION

The **DTV** is installed into the drain line such that the hot effluent passes over the thermal actuator of the **DTV** and this thermal actuator controls the cold water inlet port. If the hot effluent is above the specified set-point, the **DTV** opens to allow injection of cold water. As the hot effluent cools, the **DTV** automatically modulates to reduce the cold water inlet flow. At 10°F below the full open temperature, the cold water inlet is fully closed to conserve water.

Since the **DTV** is open only when the effluent exceeds the specified set-point temperature, it conserves water by automatically turning off cold water when not needed.

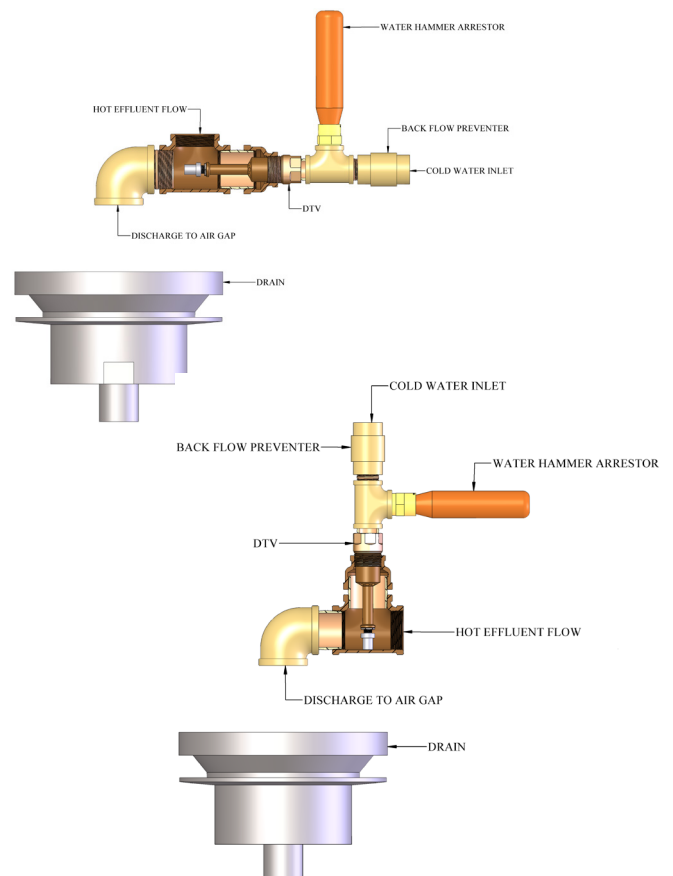


1" DTV

3/4" DTV

1/2" DTV

TYPICAL INSTALLATIONS

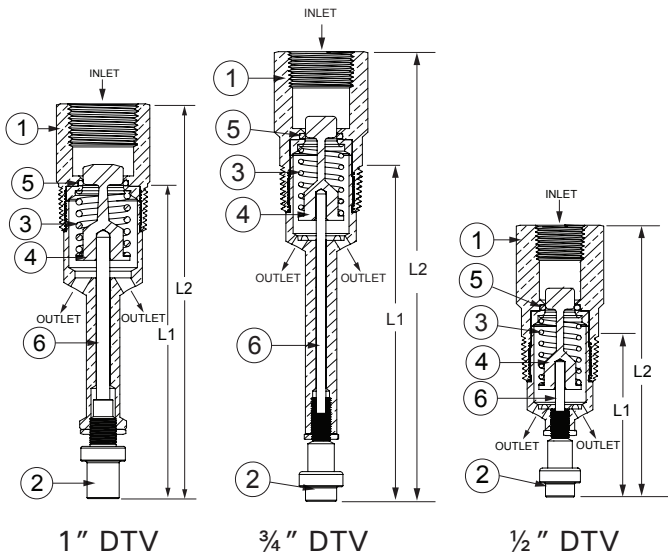


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PARTS & MATERIALS

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



SAMPLE CALCULATION

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

1) Flow capacity through cold water port of 1" DTV with $C_v = 4.0$:

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

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:

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

$$MT-CT = 80$$

$$HT-MT = 72$$

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

DIMENSIONS & CAPACITIES

SIZE (NPT)		L1		L2		Weight		C_v	Maximum Inlet Water Pressure	Maximum Temperature
Cold Water Inlet	Drain Connection	in	mm	in	mm	Lb	Kg			
1/2"	1"	2.9	73	4.9	124	1.1	0.5	2.0	125 PSIG (8.6 BAR)	250°F (121°C)
3/4"	1"	5.9	149	7.9	200	1.2	0.5	2.0		
1"	1-1/4"	5.8	148	7.4	187	1.5	0.7	4.0		

ORDERING

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

NOTES

- Full open temperatures "XXX" available: 120°F, 125°F, 130°F, and 140°F (48.9°C, 51.7°C, 54.4°C, and 60°C).
 - Other temperatures are available, consult our engineers for more information.
 - Closing temperature is typically 10°F below opening temperature.
- A water hammer arrestor must be installed directly behind the valve water supply inlet as shown in the sample installations when any type of check valve or back flow preventer is used per code. Failure to do so may cause permanent damage to the valve and void the warranty.
- Warranty information disclosed at www.thermomegatech.com/terms-conditions/



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