ThermOmegaTech®
Aerospace & Defense Division

# Freeze Protection Valves




Freeze protection of exposed water lines and water-bearing equipment is often neglected until freezing conditions are imminent, or in many cases only when it's too late and freeze damage has already occurred. ThermOmegaTech®'s **HAT/FP** freeze protection valves protect water-bearing systems from freezing to prevent serious damage and downtime. ThermOmegaTech®'s valves operate by a thermal actuator opening and closing the valve based on temperature, requiring no outside power source.

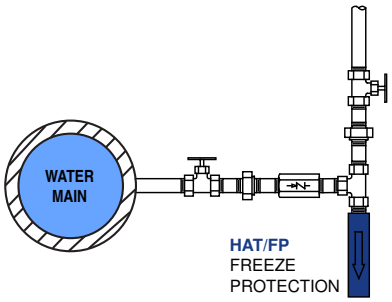
Our **HAT/FP** monitors the ambient or water temperature in the system, automatically bleeding off the cold water and allowing warmer water to backfill when the temperature drops below 35°F (1.7°C). This prevents costly damage and pipe breakage. When the water temperature rises to 40°F (4.4°C), the valve modulates to its full closed position, for maximum water conservation. These freeze protection valves are installed at termination points in water systems as primary protection or fail-safe backup. The **HAT/FP** is corrosion resistant, fast responding and has a long service life. These valves have been tested and proven in operations for decades.

## TYPICAL APPLICATIONS

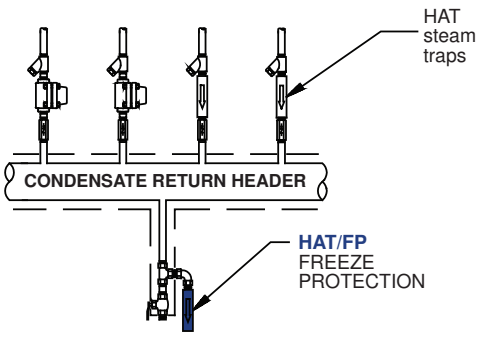
- Safety Showers/ Eyewash Stations
- Condensate Systems
- Float traps
- Fire lines
- Spray nozzles
- Pipes, valves, and fittings
- Pumps
- Potable or process water lines
- Airplane lavatories
- Outdoor Cold Water Supply Lines on Military Bases
- All other freeze sensitive equipment

## SAMPLE APPLICATIONS

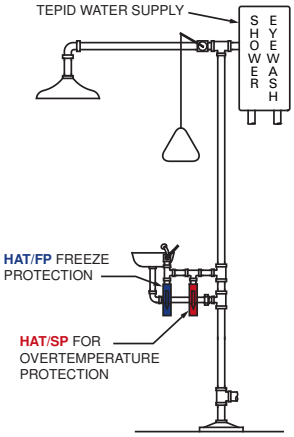
### WATER MAINS AND PIPE RUNS




### FLOAT TRAPS AND CONDENSATE SYSTEMS




### SAFETY SHOWERS AND EYEWASH STATIONS




## Don't see exactly what you need?

ThermOmegaTech®'s ability to customize valves to suit our customers' needs is one of our greatest strengths, and we'll be here to provide you with ongoing and responsive customer service at all stages of the product's life cycle.

If one of our standard valve offerings does not meet your exact requirements, our in-house engineering staff will work with you to design a solution that solves your problem.

# FREEZE PROTECTION WATER SAVING EXAMPLES ON NAVAL BASES

"In 2009, **Puget Sound Naval Shipyard**, finished second (platinum level) in the "industrial" category for the Energy and Water Management Navy Awards. The shipyard invested $25,000 installing 100 freeze-protection devices that it says will save it $290,000 a year. It saved so much water that the city of Bremerton water department called to ask what happened."

- Kitsap Sun Staff

"**Navy Region Northwest** has reduced water use by 49% when factoring in the growth of region facilities from 2003-2017. It has implemented $10 million in water savings projects, including freeze protection upgrades."

- Homeport Northwest

"**Naval Base Kitsap** commands installed low-cost, easy-to-install automatic freeze protection valves to protect water distribution to piers and dry docks, and are saving more than 230 million gallons of water each year."

- U.S. Navy

## BENEFITS

- Self-Actuating-no external power required
- Discharges the minimum amount of water required
- Primary protection or fail safe backup
- Fast response
- Long service life

## DESIGN FEATURES

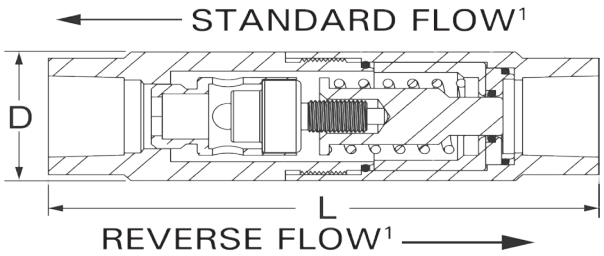
- Exclusive Thermoloid® thermal actuator
- Stainless Steel - Corrosion resistant
- Narrow temperature band
- Compact and low mass
- Two wrench flats for easy installation
- Ram-type plug for reliable shutoff

## HAT/FP DIMENSIONS & CAPACITIES

| SIZE (NPT) | D | | L | | Weight | | Port Size | $C_v$ | Maximum Operating Pressure[1&2] | Maximum Temperature |
|---|---|---|---|---|---|---|---|---|---|---|
| | in | mm | in | mm | Lb | Kg | | | | |
| 1/2" | 1.3 | 33 | 4.5 | 114 | 0.9 | 0.4 | B | 0.8 | 300 PSIG (20.7 BAR) | 150°F (66°C) over set-point limit 300°F (149°C) |
| 1/2" | 1.3 | 33 | 4.5 | 114 | 0.9 | 0.4 | C | 1.3 | | |
| 3/4" | 1.5 | 38 | 5.5 | 140 | 1.4 | 0.6 | D | 2 | | |

## HAT/FP ORDERING

| Part Number | Description |
|---|---|
| 114 - 212100 - 035 | ½" HAT/FP-35-B-SS-E |
| 114 - 812100 - 035 | ½" HAT/FP-35-B-SS-RF-E[1] |
| 114 - 302100 - 035 | ½" HAT/FP-35-C-E |
| 114 - 702100 - 035 | ½" HAT/FP-35-C-RF-E[2] |
| 114 - 312100 - 035 | ½" HAT/FP-35-C-SS-E |
| 114 - 712100 - 035 | ½" HAT/FP-35-C-SS-RF-E[2] |
| 115 - 502100 - 035 | ¾" HAT/FP-35-D-E |
| 115 - 512100 - 035 | ¾" HAT/FP-35-D-SS-E |
| 115 - 712100 - 035 | ¾" HAT/FP-35-D-SS-RF-E[2] |




**NOTES**

1. Reverse flow option for B port is rated for 200 PSIG (13.8 BAR).
2. Reverse flow option for C & D ports are rated for 150 PSIG (10.3 BAR).
3. 316 SS and other materials are available. Consult our engineers for more information.
4. Full open/close temperatures: 35°F (1.7°C)/ 40°F (4.4°C).
5. A #20 mesh strainer is recommended.