

IC/FP

INTERCHANGEABLE CARTRIDGE FREEZE PROTECTION VALVE



BENEFITS

- Protects against freeze damage
- Primary protection or failsafe backup
- Long service life
- Self operating
- Fast response
- No outside power source required
- Discharges minimum amount of water required

DESIGN FEATURES

- Brass or stainless steel body, fittings, and plugs
- Corrosion resistant
- Exclusive **Thermoloid®** thermal actuator
- Narrow temperature band
- Compact and low mass
- Two wrench flats for easy installation
- Ram-type plug for reliable shutoff

APPLICATIONS

Relying on having to manually open valves for freeze protection allows for human error or plugging of partially cracked valves. This annually accounts for large amounts of freeze damage resulting in huge monetary losses associated with repairing damaged equipment and piping, as well as system downtime.

The self-actuating **IC/FP** valve eliminates the human errors associated with manual valves. The automatic **IC/FP** valve is ideal for the protection of piping, safety showers, solar collectors & piping, condensate systems, fire lines, spray nozzles, or as backup protection on traced systems. Its sensitivity to water temperature makes this valve ideal for applications where water conservation or wastewater disposal are a prime concern.



OPERATION

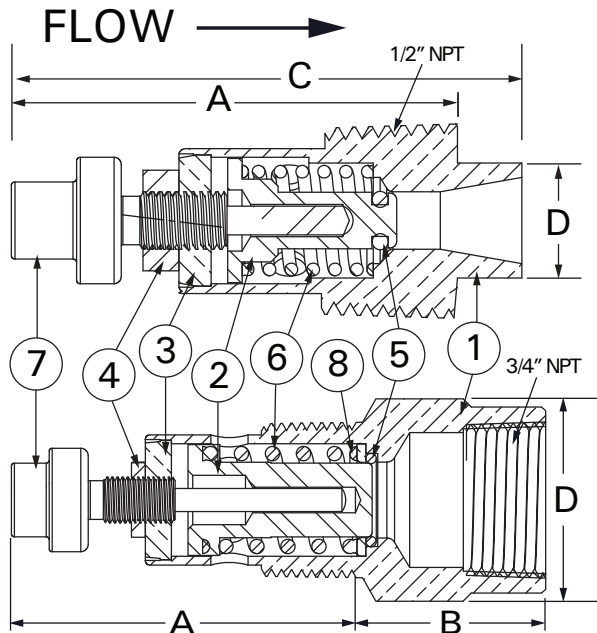
The **IC/FP** is installed into the NPT threaded opening with adequate internal clearance (see drawing at "Parts and Materials"). When the water temperature approaches freezing, and freeze damage is imminent, the thermal actuator modulates the valve open. When the makeup water temperature returns to the safe range, the valve then modulates closed, minimizing water loss. Due to the sensing element, the thermal actuator, always being wetted, this valve is unaffected by ambient air temperature, and opens only when the water is in danger of freezing. Typically, the valve opens below 35°F (1.7°C), and closes at 40°F (4.4°C).

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PARTS & MATERIALS



| ITEM | DESCRIPTION | MATERIAL |
|------|---------------------|----------------------------------------|
| 1 | CARTRIDGE BODY | Brass or 300 Series SS |
| 2 | RAM-TYPE PLUG | 300 Series SS |
| 3 | ACTUATOR BUSHING | Brass or 300 Series SS |
| 4 | CALIBRATION LOCKNUT | 300 Series SS |
| 5 | SEAT SEAL | EPDM ³ or PTFE ⁴ |
| 6 | OPERATING SPRING | 300 Series SS |
| 7 | THERMAL ACTUATOR | Brass or 300 Series SS |
| 8 | BODY SEAL RETAINER | Brass or 300 Series SS |

DIMENSIONS & CAPACITIES

| Size (NPT) | A | | B | | C | | D | | C _v | Weight | | Maximum Operating Pressure | Maximum Temperature |
|------------|-----|------|------|------|-----|------|--------|-------|----------------|--------|------|----------------------------|---------------------|
| | in | mm | in | mm | in | mm | in | mm | | Lb | Kg | | |
| 1/2" | 2.0 | 50.8 | | | 2.3 | 58.4 | .5 sq. | 322.6 | 0.6 | 0.1 | 0.05 | 150 PSIG (10.3 BAR) | 300°F (149°C) |
| 3/4" | 2.2 | 55.9 | 1.33 | 33.8 | | | 1.4 | 35.6 | 1.3 | 0.5 | 0.23 | 100 PSIG (6.9 BAR) | |

ORDERING

| Part Number | Description |
|--------------------|------------------------------------------------|
| 180 - 000000 - 035 | 1/2" IC/FP-35 Cartridge ^{1&3} |
| 180 - 000000 - 039 | 1/2" IC/FP-39 Cartridge ^{1&3} |
| 180 - 110000 - 035 | 1/2" IC/FP-35 SS Cartridge ^{1&3} |
| 180 - 110000 - 039 | 1/2" IC/FP-39 SS Cartridge ^{1&3} |
| 185 - 000000 - 035 | 3/4" IC/FP Cartridge ^{2&4} |
| 185 - 110000 - 035 | 3/4" IC/FP Cartridge 316 SS ^{2&4} |
| 185 - 220000 - 035 | 3/4" IC/FP Cartridge 303 SS ^{2&4} |

NOTES

- Full open/close temperatures: 35°F (1.7°C)/40°F (4.4°C); 39°F (3.9°C)/45°F (7.2°C) (others available, consult with our engineers).
- A #20 mesh strainer is recommended.
- Warranty information disclosed at www.thermomegatech.com/terms-conditions/

