

## IC/FP

### INTERCHANGEABLE CARTRIDGE FREEZE PROTECTION VALVE

## BENEFITS

- Protects against freeze damage
- Primary protection or fail-safe backup
- Self operating, no power or signal required
- Long service life
- Fast response
- Discharges minimum amount of water required

## DESIGN FEATURES

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

## 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.

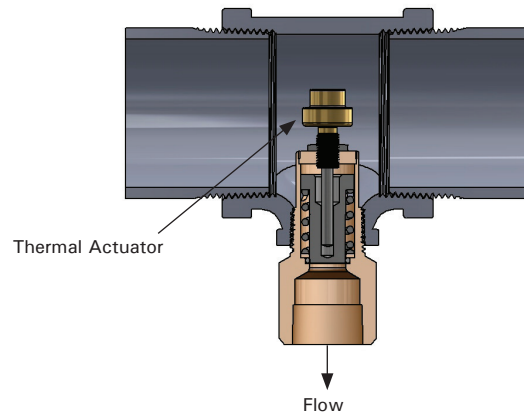
The self-actuating **IC/FP** valve eliminates the human errors associated with manual valves. The automatic **IC/FP** valve is ideal for the protection of piping, safety showers, solar collectors & piping, condensate systems, fire lines, spray nozzles, or as backup protection on traced systems.

Its sensitivity to water temperature makes this valve ideal for applications where water conservation or wastewater disposal are a prime concern.

When using FP valves in a Solar Application a minimum 12" long dead leg must be added prior to the valve to help reduce residual high temperatures that approach or go over 300°F.



## TYPICAL INSTALLATION



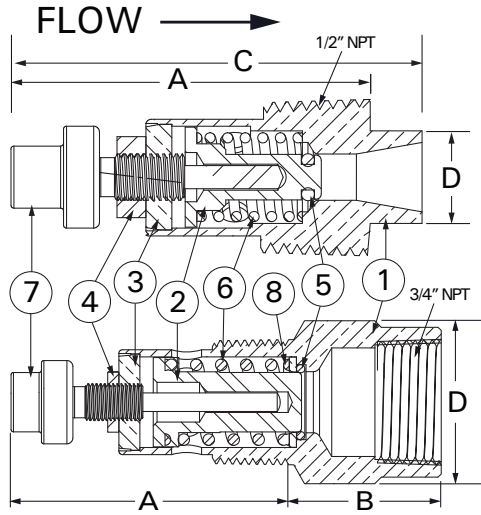
## OPERATION

The **IC/FP** is installed into a minimum 1" Tee with a 1" x 3/4" NPT reducer bushing or a 1-1/4" x 3/4" x 1-1/4" NPT reducer Tee (no bushing) with adequate internal clearance. When the water temperature approaches freezing, 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).

# IC/FP

## INTERCHANGEABLE CARTRIDGE FREEZE PROTECTION VALVE

### 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 (1/2")/ PTFE (3/4")
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 <sub>v</sub>	Weight		Maximum Operating Pressure	Maximum Temperature
	in	mm	in	mm	in	mm	in	mm		Lb	Kg		
1/2"	2.0	50.8	N/A	N/A	2.3	58.4	.5 sq.	322.6	0.6	0.1	0.05	150 PSIG (10.3 BAR)	200°F (93.3°C)
3/4"	2.2	55.9	1.33	33.8	N/A	N/A	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 <sup>1</sup>
180 - 000000 - 039	1/2" IC/FP-39 Cartridge <sup>1</sup>
180 - 110000 - 035	1/2" IC/FP-35 SS Cartridge <sup>1</sup>
180 - 110000 - 039	1/2" IC/FP-39 SS Cartridge <sup>1</sup>
185 - 000000 - 035	3/4" IC/FP Cartridge <sup>1</sup>
185 - 110000 - 035	3/4" IC/FP Cartridge 316 SS <sup>1</sup>
185 - 220000 - 035	3/4" IC/FP Cartridge 303 SS <sup>1</sup>

#### NOTES

1. Full open/close temperatures: 35°F (1.7°C)/40°F (4.4°C); 39°F (3.9°C)/48°F (8.9°C) (others temperatures available - consult with our engineers).
2. A #20 mesh strainer is recommended.
3. Warranty information disclosed at [www.thermomegatech.com/terms-conditions/](http://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*