



## Brass Thermo Valve-II

### Models

7115  
7116  
7117

### FEATURES

- Protects pump from premature failure of seals and cups by eliminating heat build-up in closed loop by-pass systems.
- Ultra-compact design with choice of three port sizes to allow convenient and easy installation into the by-pass loop.
- Automatically seats during unloader/regulator pressure spikes to prevent liquid bleed.
- Temperature protection without interruption in flow.

**SELECTION:** This valve is designed to bleed off excess high temperature liquid at 145°F. If the system is above 145°F, the valve will continually bleed liquid. Do not use with unloader valves that have by-pass pressures that exceed the limits of this valve.

**INSTALLATION:** This valve should be installed in the by-pass line. Use with 7090, 7091, 7092 or 7093 by-pass hose assemblies.

### SPECIFICATIONS

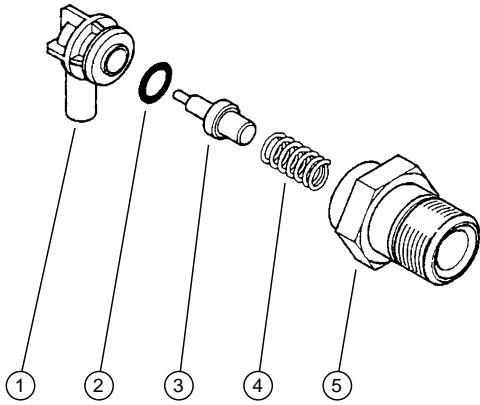
	U.S. Measure	Metric Measure
Maximum Inlet Pressure .....	145 PSI	(10 BAR)
Maximum Temperature .....	145°F	(60°C)
Inlet Fitting (7115) .....	1/4" BSPM	(1/4" BSPM)
(7116) .....	3/8" BSPM	(3/8" BSPM)
(7117) .....	1/2" BSPM	(1/2" BSPM)
Barb Fitting .....	1/4"	(1/4")
Weight (7115) .....	1.22 oz.	(.03 kg)
(7116) .....	1.81 oz.	(.05 kg)
(7117) .....	1.87 oz.	(.05 kg)
Dimensions .....	1.42x0.94x1.31"	(38x19x48 mm)

**OPERATION:** As the system liquid is recirculated during the by-pass cycle, the temperature will increase. Frequent or prolonged by-pass can result in extremely high temperature build up. These high temperatures cause premature failure of seals and packings. Installing the Thermo Valve protects the pump against these excessive temperatures.

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*“Customer confidence is our greatest asset”*

## EXPLODED VIEW



## PARTS LIST

ITEM	P/N	MATL	DESCRIPTION	QTY.
1	—	NY	Bleed Port	1
2	—	NBR	O-Ring	1
3	—	CU	Power Pill	1
4	—	S	Spring	1
5	—	BB	Fitting, Hex	1

MATERIAL CODES (Not Part of Part Number):

BB=Brass CU=Copper NBR=Medium Nitrile (Buna-N) NY=Nylon S=304SS

The power pill in the Thermo Valve detects the temperature rise in the liquid and compresses the spring, opening the bleed port and dumping a portion of the over-heated liquid.

The Thermo Valve is most effective when operating with ambient temperature liquids and moderate GPM. As the incoming liquid temperature increases, the quicker the by-pass liquid will reach its temperature release point, forcing the Thermo Valve to bleed-off.

The higher the system GPM, the more heat generating energy is produced, also forcing the Thermo Valve to bleed-off. For example, a 25 GPM system @ 130°F will activate the Thermo Valve much quicker than a 5 GPM system @ 90°F.

In high flow systems, it may be necessary to install multiple Thermo Valves to best prevent overheating the system.

Because of the unique design of the Thermo Valve, it will not bleed liquid during a pressure spike from the regulator or unloader as it completely seats and shuts off the flow.

**THE THERMO VALVE MUST BE INSTALLED WITH A PRESSURIZED PUMP INLET.**

## TROUBLESHOOTING

Problem	Probable Cause	Solution
Leaking at low temperature or non by-pass operation through bleed port	<ul style="list-style-type: none"> <li>Foreign material trapped</li> <li>Damaged o-ring</li> <li>Damaged Power Pill</li> </ul>	<ul style="list-style-type: none"> <li>Check internal o-ring on bleed port barb.</li> <li>Check internal o-ring on bleed port barb for cuts and fit and replace if worn or damaged.</li> <li>Check for deep cuts or imperfections on lip of bleed port barb where o-ring seats.</li> <li>Check for deep cuts or imperfections on top lip of power pill which seats up to inner bleed port barb o-ring and replace if damaged.</li> <li>Check for malfunctioning power pill stem. Failure of stem to expand and retract will prevent opening and closing of valve. Replace if worn.</li> </ul>
Leaks between hex fitting and bleed port barb	<ul style="list-style-type: none"> <li>Damaged o-ring</li> </ul>	<ul style="list-style-type: none"> <li>Check o-ring on bleed port barb and replace if worn or cut.</li> </ul>

## WARRANTY

### 90 Day Warranty

Refer to complete CAT PUMPS Warranty for further information.

Products described hereon are covered by one or more of the following U.S. patents 3558244, 3652188, 3809508, 3920356, 3930756 and 5035580

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