

# RESOLVER

**Application:**

The Resolver is a high performance adjustable thermostatic balancing valve. The valve is a self-acting adjustable thermostatic recirculation valve which automatically and continuously controls the flow on an individual loop.

**Features:**

- The Resolver has an integrated wax sensor that senses the temperature of the water passing through the valve. Depending on the setting it shuts off the flow (minimum flow position to allow small bypass flow) when set temperature is achieved.
- Adjustment is done with a 4 mm Allen key. Factory setting is position 2, 122 deg F

**Specifications:**

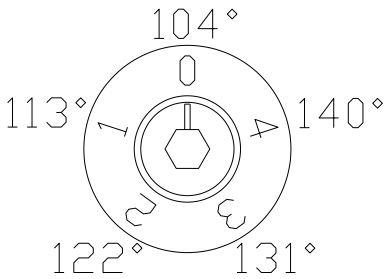
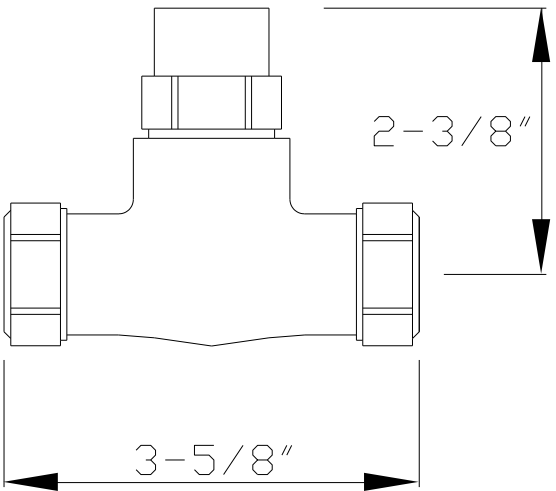
- Temperature adjustment range: 104-140°F (40-60°C)
- Maximum water temperature: 194°F
- Minimum flow: 0.03 GPM
- Maximum flow: 1.75 GPM
- Cv fully open: 1.40
- Cv at satisfied temperature: 0.02
- Maximum pressure: 232 PSI
- Maximum closing pressure: 29 PSI
- Weight: roughly .8 lbs

**Sizes:**

- \_\_\_\_\_ **RES-1/2**      1/2" NPT female
- \_\_\_\_\_ **RES-3/4**      3/4" NPT female

**Options: (shipped loose, lowers PSI rating to 125 PSI)**

- \_\_\_\_\_ Check valve
- \_\_\_\_\_ Ball valve
- \_\_\_\_\_ Ball valve with hose drain
- \_\_\_\_\_ Thermometer (tee with thermometer)
- \_\_\_\_\_ Unions, 2 total
- \_\_\_\_\_ Strainer



**WARNING:** This product can expose you to chemicals including lead, which is known to the State of California to cause cancer. For more information, go to [www.P65Warnings.Ca.gov](http://www.P65Warnings.Ca.gov)

This product meets Low Lead requirements of wetted surface area containing less than 0.25% lead by weight

<b>Engineer's Approval</b>	Job # _____
	Arch/Eng. _____
	Contractor _____



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The Resolver is an adjustable thermal balancing valve to be installed at the end of each branch of the domestic hot water recirculation system where it automatically maintains a desired set temperature. It controls the water flow rate according to the inlet temperature with the internal adjustable thermostatic cartridge. The thermostatic cartridge modulates the valve opening in response to changing water temperature, and when reaching the temperature setting, closes the valve to minimum flow position. A recirculation pump distributes flow to all the branches resulting in effective automatic thermal balancing. The automatic response allows each hot water branch to deliver hot water to each fixture. As a result, the Resolver works perfectly with variable speed recirculation pumps for optimal energy usage. The valve is at minimum flow ( $C_v = .02$ ) when the incoming water temperature is equal to the set-point position of the adjustment dial. The valve opens as incoming water temperature drops. For pressure loss calculations in the recirculation system, follow traditional pipe sizing and head loss practices. The  $C_v$  of the valve fully open is 1.4.

Close off setting		Actual System Temp (in bold), Cv value at actual system temp below					Cv Max
Pos 0	104°F	<b>104°F</b>	<b>100°F</b>	<b>95°F</b>	<b>90°F</b>	<b>86°F</b>	Fully open
		0.02	0.04	0.18	0.55	0.7	1.4
Pos 1	113°F	<b>113°F</b>	<b>109°F</b>	<b>104°F</b>	<b>99°F</b>	<b>95°F</b>	
		0.02	0.04	0.18	0.55	0.7	1.4
Pos 2	122°F	<b>122°F</b>	<b>118°F</b>	<b>113°F</b>	<b>108°F</b>	<b>104°F</b>	
		0.02	0.04	0.18	0.77	0.99	1.4
Pos 3	131°F	<b>131°F</b>	<b>127°F</b>	<b>122°F</b>	<b>117°F</b>	<b>113°F</b>	
		0.02	0.04	0.4	0.84	1.1	1.4
Pos 4	140°F	<b>140°F</b>	<b>136°F</b>	<b>131°F</b>	<b>126°F</b>	<b>122°F</b>	
		0.02	0.04	0.48	0.92	1.17	1.4

Note: Leonard Valve Company reserves the right of product, or design modifications without notice or obligation.

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