

LV Series Thermostatic Water Mixing Valves



Leonard LV Series Thermostatic Water Mixing Valves



Control water temperature for domestic hot water systems, multiple shower, and other commercial, institutional and industrial applications



LV-982-LF



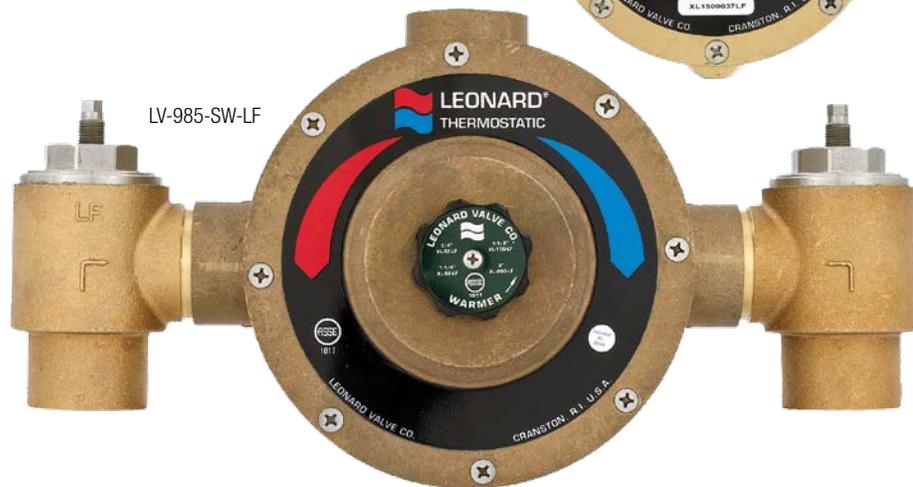
LV-983-LF



LV-984-LF



LV-985-SW-LF



LV Series Thermostatic Water Mixing Valves

Leonard LV Series Thermostatic Water Mixing Valves

- Copper encapsulated thermostatic control (Ten-Year Limited Thermostat Warranty)
- Mixed water capacities up to 216 GPM (818 l/min)
- Bronze, brass, and stainless steel construction
- Integral combination checkstops on inlets
- Locking temperature regulator
- Integral wall support
- Factory-preassembled and tested
- CASPAK® Sizing Program
- Toll-free technical support

ASSE Standard 1017 Listed and 3rd Party certified as Lead Free

Technically Sound

Leonard Valve Company maintains its leadership position in the commercial, institutional and industrial marketplaces by being our customers' number one quality supplier of mixing valves and temperature controls. Leonard continues to stay ahead of the technological curve. Our focus is on designing mixed water capacity solutions that improve water system performance and productivity.

Leonard offers much more than just mixing valves. The Leonard network offers exceptional quality along with highly trained technical support to back you up in your needs — we deliver robust solutions created and supported by uncompromising engineering experts.

Leonard has forged a reputation for product innovation and proven quality with its extensive line of products for both residential and commercial applications. We aggressively invest in new processes, using world-class equipment and proactive management techniques.

Leonard sustains its competitive differentiation and continued development with the introduction of the new LV-980 Series Thermostatic Water Mixing Valves. Featuring a highly responsive copper encapsulated thermostat, the LV-980 Series is engineered for any application that needs to blend hot and cold water to deliver tempered water.

How the Valve Works

Typical Operation

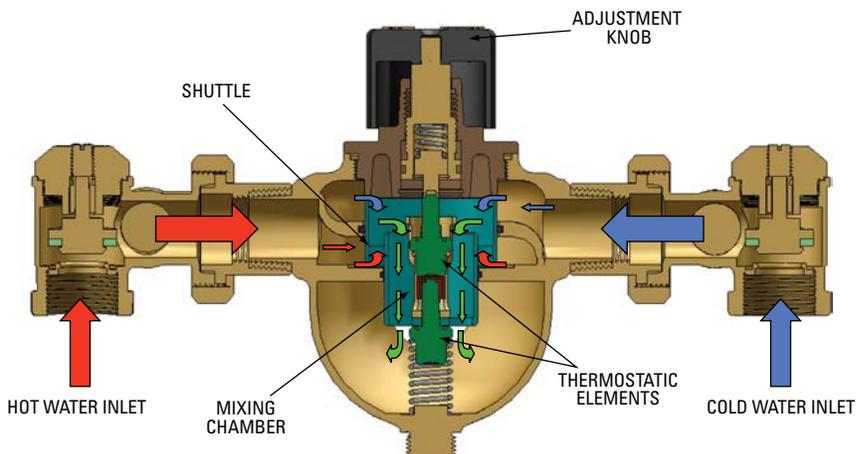
Hot and cold water supplies enter the LV Series Valve through the indicated hot and cold water inlets (see figure below), and then under times of system demand will flow past their respective check stop seats. The hot and cold water supplies are then directed to the valve's mixing chamber; where the thermostatic element is located.

Water Temperature Control

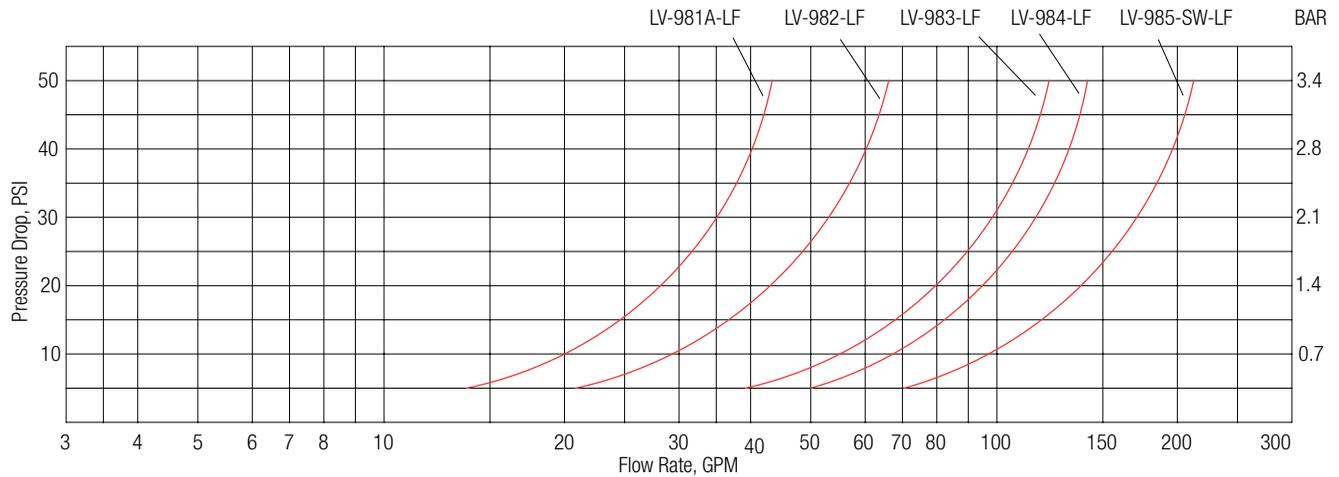
When an inlet temperature or pressure fluctuation causes a rise in outlet temperature, the highly responsive paraffin elements expand and move a piston. This allows for a restriction in the hot supply and a proportional increase in cold supply, thus maintaining the desired output temperature. The reverse occurs during times of water temperature decrease.

A Responsive Valve for Today's Demanding Systems

The LV Series valves utilize advanced paraffin-based thermostatic control technology that offers efficient response time to temperature and pressure fluctuations, ensuring optimal temperature control and performance for domestic hot water systems. The LV Series valves are all listed to and have passed the stringent performance requirements of ASSE Standard 1017 and 3rd Party certified as Lead Free.



Flow Capacities



Models	In	Out	Minimum Flow GPM	PRESSURE DROP											PSI	BAR
				5	10	15	20	25	30	35	40	45	50			
				L/MIN	0.3	0.7	1.0	1.4	1.7	2.1	2.4	2.8	3.1	3.4		
LV-981A-LF*	3/4"	3/4"	2.5	14	20	24	28	32	35	38	41	43	44	GPM		
	(19.1mm)	(19.1mm)	9.5	53	76	91	106	121	132	144	155	163	167	L/MIN		
LV-982-LF*	1"	1 1/4"	3.0	21	31	37	43	48	53	56	60	63	66	GPM		
	(25.4mm)	(31.6mm)	11.4	79	117	170	163	182	201	211	227	238	250	L/MIN		
LV-983-LF*	1 1/4"	1 1/4"	5.0	39	79	55	68	91	99	109	117	122	126	GPM		
	(31.6mm)	(31.6mm)	18.9	148	299	208	257	344	375	413	443	462	477	L/MIN		
LV-984-LF*	1 1/4"	1 1/2"	6.0	50	69	83	97	108	117	126	134	141	148	GPM		
	(31.6mm)	(38.1mm)	22.7	189	261	314	367	409	443	477	507	534	560	L/MIN		
LV-985-SW-LF*	2"	2"	10.0	71	99	120	139	154	168	181	193	205	216	GPM		
	(50.8mm)	(50.8mm)	37.9	269	375	454	526	583	636	685	731	776	818	L/MIN		
* ASSE Standard 1017 listed and 3rd party certified as lead free				MAXIMUM FLOW CAPACITY												

CAUTION: All thermostatic water mixing valves have limitations. They will not provide the desired accuracy outside of their flow capacity range. Consult the above chart and graph and make certain minimum flow is greater than as shown above.

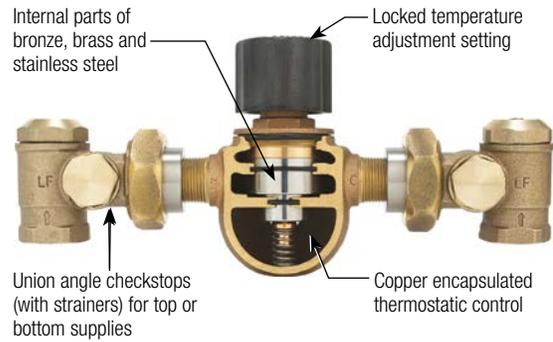
All LV Series Valves are furnished factory-assembled and tested with:

Highly responsive copper encapsulated thermostat assembly to control the intake of hot and cold water and regulate mixed water temperature

Integral check valves on hot and cold inlets, wall supports, and locking temperature regulators

Maximum hot water supply temperature: 200°F (93°C)

Maximum supply pressure: 125 PSI



Selection/Specification Guide

LV Series – (Models) – (Finishes) – (Options)

Models

LV-981A-LF	3/4" inlets/outlet 2.5 – 44 GPM (9 – 157 l/min)
LV-981-LF	3/4" inlets/outlet 2.5 – 44 GPM (9 – 157 l/min)
LV-982-LF	1" inlets, 1-1/4" outlet 3.0 – 66 GPM (11 – 250 l/min)
LV-983-LF	1-1/4" inlets/outlet 5.0 – 126 GPM (19 – 477 l/min)
LV-984-LF	1-1/4" inlets, 1-1/2" outlet 6.0 – 148 GPM (22.7 – 560 l/min)
LV-985-SW-LF	2" inlets/outlet 10 – 216 GPM (37.9 – 818 l/min)

All models are ASSE Standard 1017 Listed and 3rd Party certified as Lead Free

Finishes

RF	Rough Bronze
CP	Chrome Plated (not available on LV-981A-LF or LV-985-SW-LF)

Options

LWS	Less Wall Support
BDT	Ball Valve with Dial Thermometer on outlet

Sample Specification

Leonard Model LV- _____-LF- _____ (specify finish)
 _____" inlets, _____" outlet
 _____ GPM minimum flow capacity (see chart, page 5)
 _____ GPM maximum flow capacity @ _____ PSI system pressure drop

LV Series thermostatic water mixing valve, copper encapsulated paraffin-based thermostat, locking temperature regulator handle, integral hot and cold supply checkstops, integral wall support, internal parts of brass, bronze, stainless steel construction.

LV Series valve shall be installed and piped according to Leonard's Required Piping Method W.

LV Series valves are not dependent upon a circulating pump to achieve minimum flow performance.

Unit shall be ASSE 1017 Listed and 3rd Party certified as Lead Free



LV-981A-LF



LV-982-LF



LV-983-LF



LV-984-LF

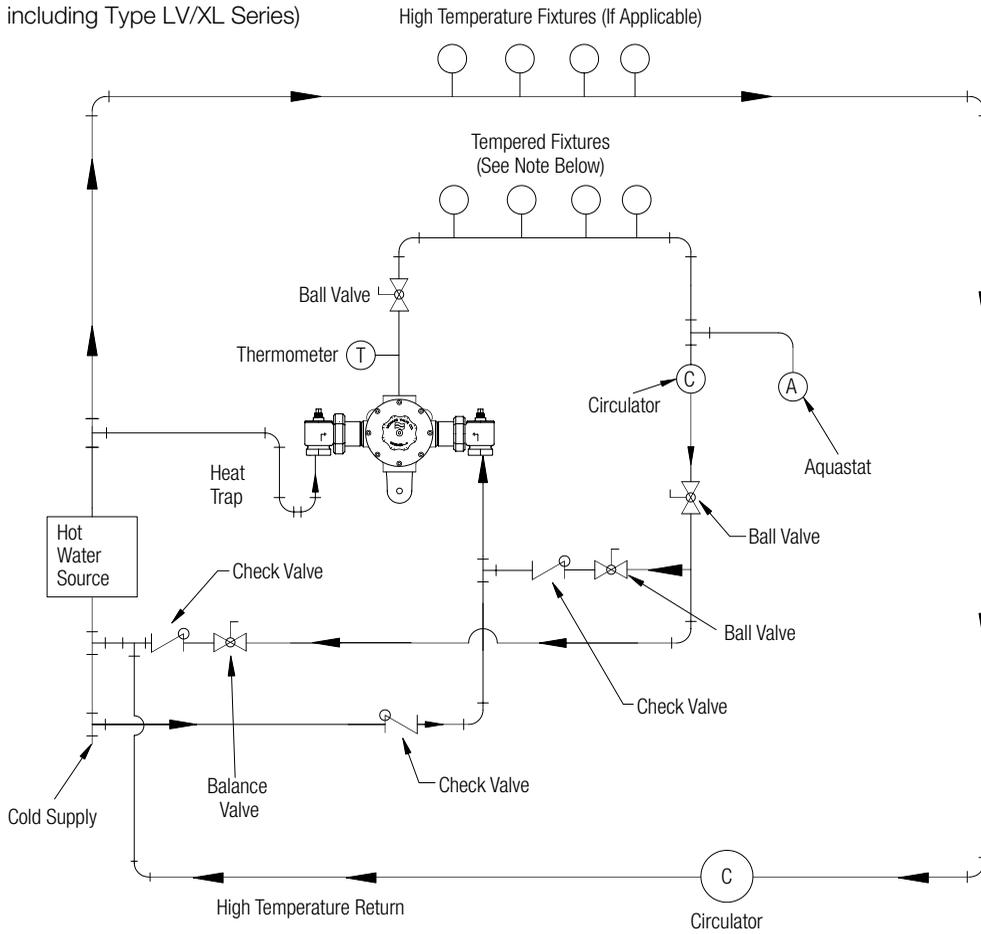


LV-985-SW-LF

Required Piping Method

Required Piping Method W

(For wax valves only,
including Type LV/XL Series)



NOTE: For multiple tempered loops a balancing valve and check valve must be installed on each loop after tempered fixtures

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Construction, Options

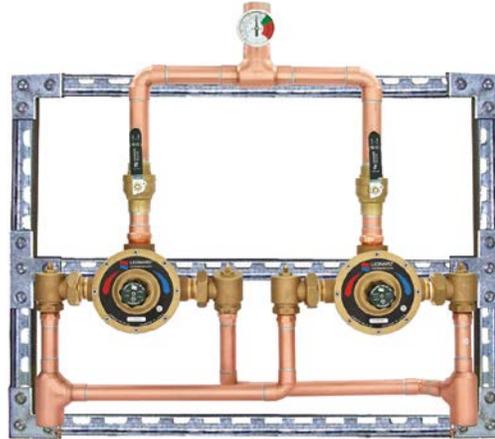
Wide Flow Capacity Range

For applications such as healthcare, school, or assisted living, which require control over a wide range of flows, and lower minimum flows, specify Leonard Next Generation High Low Systems (Bulletin LV-110B).



High Capacity Solutions

For large commercial or institutional applications, which are subject to extremely high flow requirements as well as lower minimum flows (such as prisons, large hotels, hospitals, apartments and dormitories), select Leonard's High Capacity Systems (Bulletin LV-110C).



BMSI (Building Management System Interface)

For those applications where it is desired to monitor temperature in the domestic hot water system, specify Leonard Building Management System Interface. This BMSI is mounted in a cabinet, including an enclosure, temperature indication, a Type J thermocouple, a 9' power cord (plug in 120V) and an Ethernet category 5 connection for BMS communication.



Audio-Visual High Temperature Alarms

To ensure additional protection, specify Leonard AU-2000 Audio Visual High Temperature Alarm Systems (Bulletin LV-109).



Note: All specifications are subject to change without notice!



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