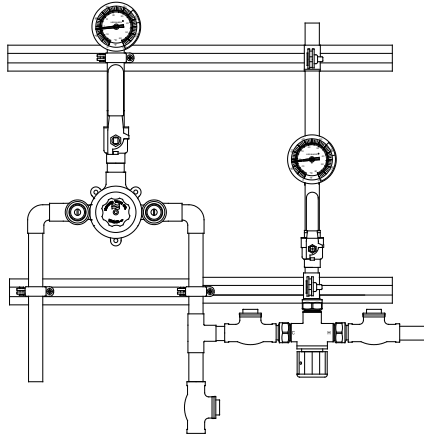


INSTALLATION ADJUSTMENT SERVICE HIGHLOW THERMOSTATIC WATER MIXING VALVE

SERIES XL-32A-LF-DT-RF-R34

IMPORTANT! Provide valve serial number, (located on valve cover) when ordering parts!!



INSTALLATION

1. Valve should be installed at a location where it can easily be cleaned, adjusted or repaired.
2. The inlets are clearly marked on the valve body. Union angle strainer checkstops furnished must be installed on both supply lines as shown above.
3. A shutoff valve must be installed on the outlet pipe. Type XL valves do not have a built-in shutoff.
4. Use solder, or thread sealant sparingly. Supply pipes should be flushed before the valve is connected. Flush outlet pipe and valve as soon as it is connected.

125 PSI (8.6 BAR) MAXIMUM OPERATING PRESSURE

CAUTION

All thermostatic water-mixing valves have limitations. They will not provide the desired accuracy outside of their flow capacity range. Consult the flow capacity chart on page 5.

Minimum flow must be no less than as shown.

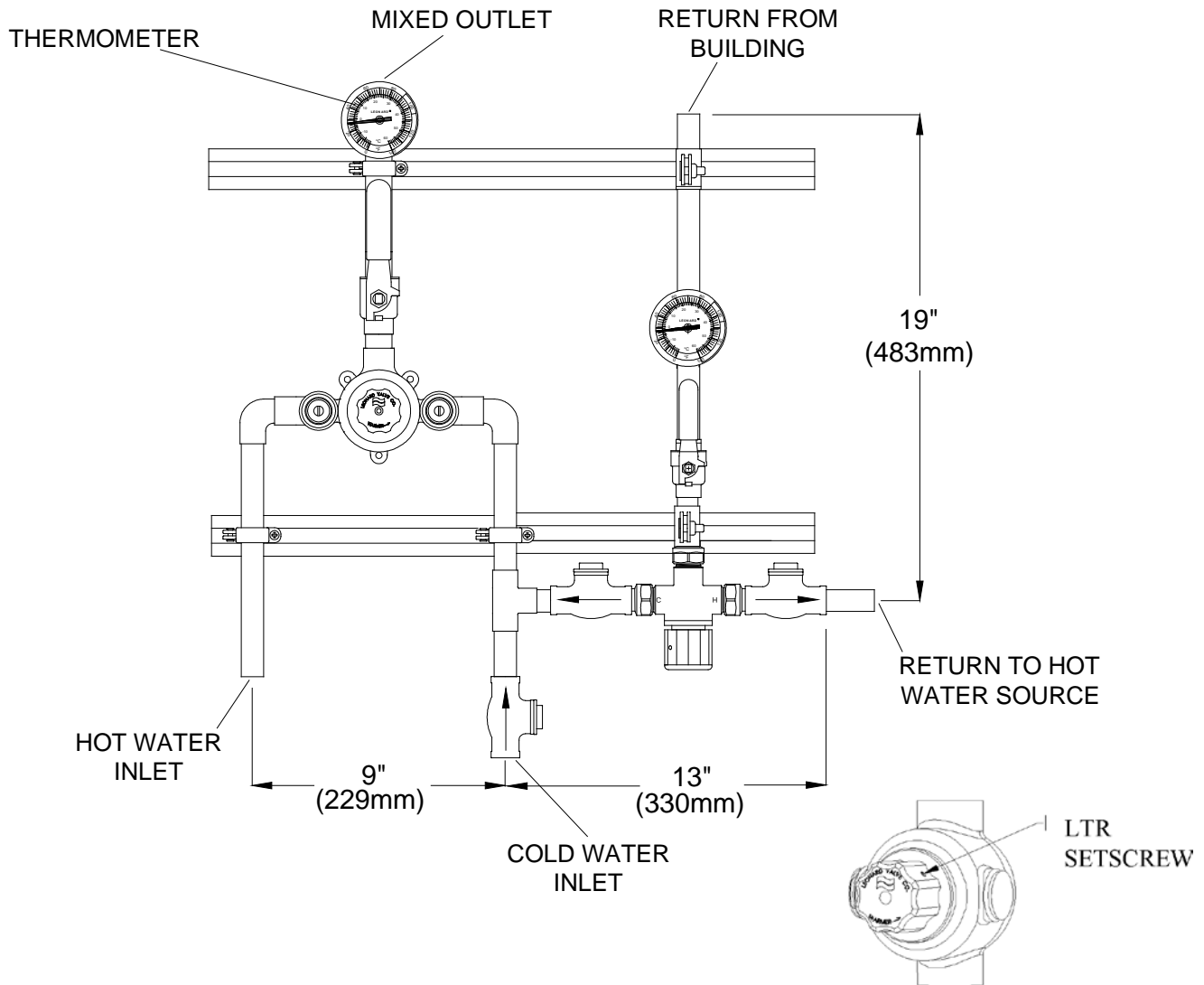
REMEMBER! THIS IS A CONTROL SYSTEM WHICH MUST BE CLEANED AND MAINTAINED ON A REGULAR BASIS (SEE MAINTENANCE GUIDE AND RECORD MGR-1000).

INSTALLATION

REQUIRED METHODS OF PIPING XL SERIES

METHOD W

Required when **TEMPERED WATER IS CIRCULATED.**

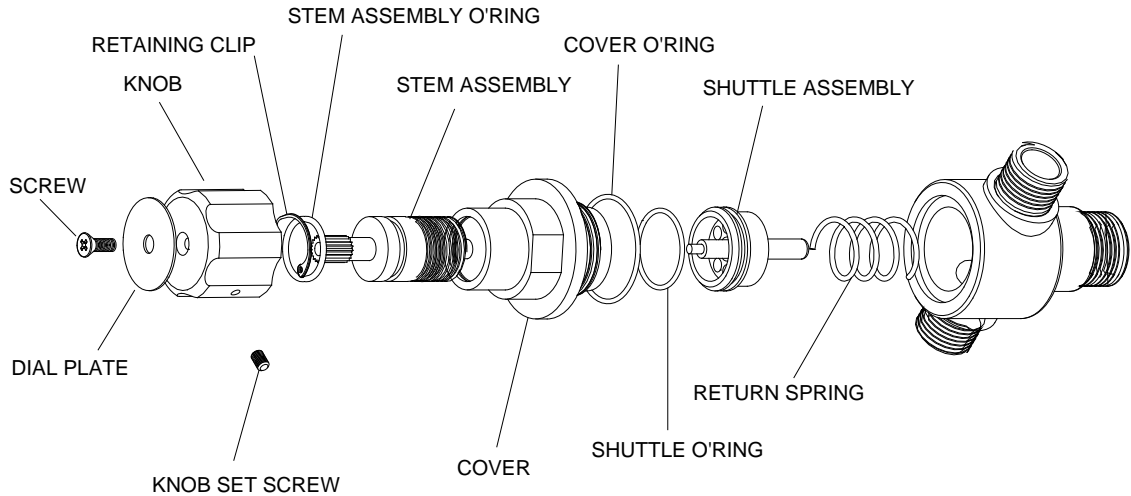


OPERATION

1. Verify that the temperature of the hot water source is properly set and maintained. Shutoff and isolate the circulator pump.
2. Loosen LTR set screw located on temperature adjustment knob with allen wrench.
3. Turn on enough fixtures to flow approximately 5 GPM, turn knob clockwise until it stops (full cold) then counterclockwise until it stops (full hot), three times to exercise the thermostatic element.
4. Set mixing valve to the desired temperature, (See warning tag for temperature set point). Tighten LTR set screw.
5. Shut off all fixtures. Setup is complete.
6. Turn on circulator. With all fixtures still off, (no water flowing) observe the circulation temperature until it stabilizes.
7. Adjust 370 ARV counter clockwise slightly if warmer temperature is desired or clockwise if cooler water is desired. Allow to stabilize. Repeat until the desired recirculated temperature is set.

MODEL 370ARV

Check dial plate on knob for model #



DISMANTLING & CLEANING

1. Shut off hot and cold water to the valve as well as the valve outlet port.
2. Loosen lock screw on side of knob with 5/64" allen wrench.
3. Remove the knob screw on top of knob.
4. Remove temperature adjustment knob.
5. Remove valve cover, which includes the stem assembly.
6. The shuttle assembly can now be removed, cleaned and inspected. Be sure to check the condition of the shuttle o-ring and replace if necessary.
7. Lubricate the shuttle o-ring before installing the shuttle assembly.
8. Install the cover assembly including o-ring back onto valve and tighten.
9. Replace knob and knob screw.
10. **Valve temperature must be reset after any repairs or cleaning!!**

TROUBLESHOOTING

1. Leaking water under knob, order gasket kit, replace stem assembly o-ring. Remove knob screw and knob, remove retaining clip, thread out the stem assembly and replace o-ring. Lubricate o-ring, thread stem into cover, replace retaining ring, knob and screw. **Valve temperature must be reset after any repairs or cleaning!!**
2. Leaking water between cover and body, order gasket kit, replace cover o-ring. Remove knob screw and knob and remove valve cover and replace o-ring. Replace valve cover, knob and knob screw. **Valve temperature must be reset after any repairs or cleaning!!**
3. Valve not controlling temperature even after cleaning, order complete rebuild kit. Remove knob screw and knob and remove valve cover. Replace shuttle assembly and return spring being sure to lubricate shuttle o-ring. Replace valve cover, knob and knob screw. **Valve temperature must be reset after any repairs or cleaning!!**

REPAIR KITS

<p>Leaking water under knob. Leaking water between valve cover and body.</p> <p>Valve will not control temperature after cleaning.</p>	<p>MODEL 370 ARV</p> <p>1/ WX Gasket Kit Shuttle O-ring Stem Assembly O-ring Cover O-ring</p> <p>R/ 270/370 Complete Rebuild Kit Return Spring Shuttle Assembly Shuttle O-ring Stem Assembly O-ring Cover O-ring</p>
--	---

INSTALLATION CONTINUED

WARNING	
<p>WARNING! This Thermostatic Mixing Valve has an Locking Temperature Regulator (LTR) which must be checked. If the temperature is too high, the installer MUST RESET this adjustment immediately. Always check the temperature of the mixed water after installation. Excessively hot water is DANGEROUS AND MAY CAUSE SCALDING!</p>	<p>The LTR is factory set at approximately 120°F (49°C) with an incoming hot water supply temperature of 150°F (65°C) If the incoming hot water supply for your installation is higher than 150°F (65°C), the valve may deliver water in excess of 120°F (49)° and the LTR MUST BE RESET BY THE INSALLER.</p>

SERVICE

Leonard Type XL Thermostatic Water Mixing Valves are simple in design and may be easily cleaned, adjusted and repaired. If the installation is accessible, servicing may be completed without disconnecting the valve.

NOTE: Thermostatic Water Mixing Valves are **REGULATING** mechanisms, which must be regularly maintained to provide best performance. Frequency of cleaning depends on quality of local water conditions and usage. (See Maintenance Guide and Record MGR-1000).

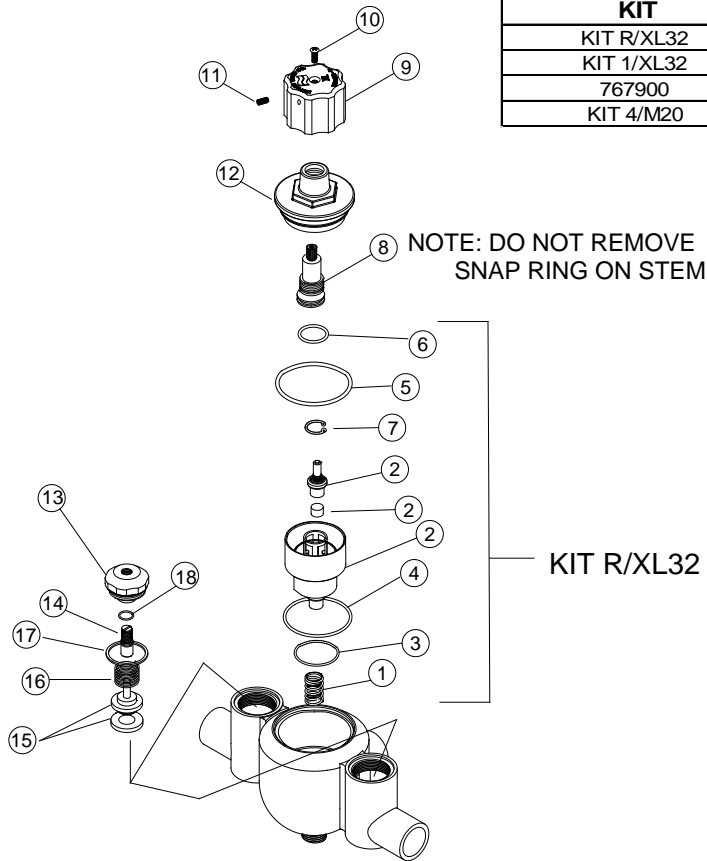
TROUBLESHOOTING INSTRUCTIONS

ITEM:	PROBLEM:	RECOMMENDED REPAIR KITS
PACKINGS & GASKETS	<ol style="list-style-type: none"> 1. Leak at stem. 2. Leak between valve cover and base. 	KIT 1/XL32
SHUTTLE ASSEMBLY	<ol style="list-style-type: none"> 3. Valve delivers either all hot or all cold water, or will not mix consistently. 	KIT R/XL32
CHECKSTOPS	<ol style="list-style-type: none"> 4. Hot water bypass into cold line. 5. Supplies cannot be shut off completely. 6. Leak at checkstop bonnet. 	KIT 4/M20

REMEMBER! THIS IS A CONTROL DEVICE WHICH MUST BE CLEANED AND MAINTAINED ON A REGULAR BASIS. (SEE MAINTENANCE GUIDE AND RECORD, MGR-1000).

XL-32A PARTS & KITS

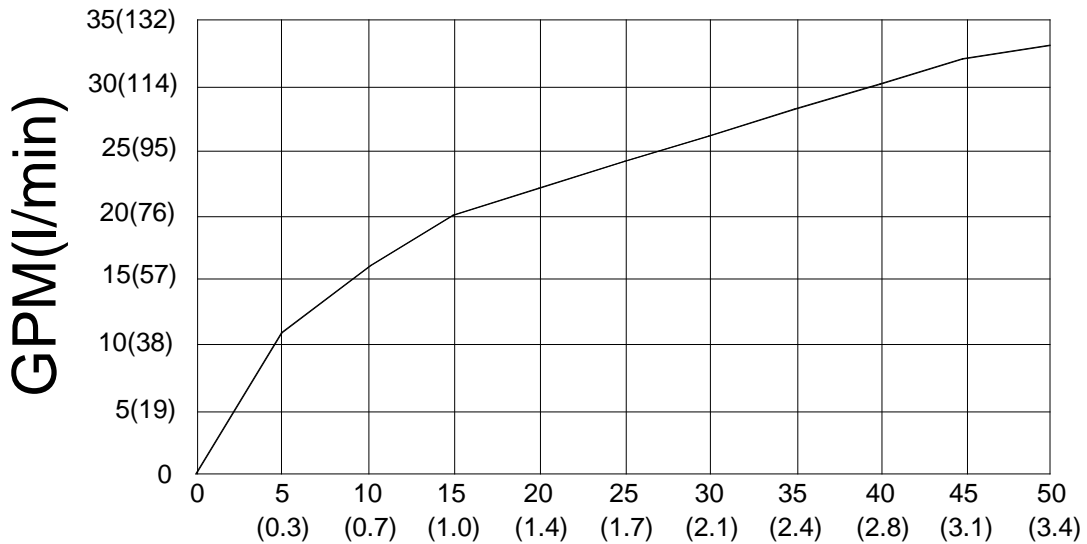
KIT	TYPE KIT	INCLUDES
KIT R/XL32	COMPLETE REPAIR	1 - 7
KIT 1/XL32	O-RING KIT	3 - 6
767900	KNOB	9 - 11
KIT 4/M20	CHECK KIT	15 - 18



ITEM #	DESCRIPTION	QTY.	PART # / KIT #
1	SPRING, RETURN	1	KIT R/XL32
2	SHUTTLE ASSEMBLY	1	KIT R/XL32
3	O'RING, LOWER SHUTTLE	1	KIT 1/XL32, KIT R/XL32
4	O'RING, UPPER SHUTTLE	1	KIT 1/XL32, KIT R/XL32
5	O'RING, COVER	1	KIT 1/XL32, KIT R/XL32
6	O'RING, STEM	1	KIT 1/XL32, KIT R/XL32
7	RETAINING RING, COVER	1	7411, KIT R/XL32
8	STEM ASSEMBLY (DO NOT REMOVE SNAP RING)	1	741900
9	KNOB	1	767900
10	SCREW, KNOB	1	767900
11	LTR SET SCREW	1	767900
12	COVER	1	7405
13	BONNET	2	M20-2A
14	STEM, UPPER CHECK	2	MU-4A
15	LOWER STEM & PACKING	2	M20-6A, KIT 4/M20
16	SPRING,CHECK	2	M20-9A, KIT 4/M20
17	PACKING, BONNET	2	M20-3A, KIT 4/M20
18	O'RING, UPPER STEM	2	MU-5A, KIT 4/M20

FLOW CAPACITIES

SYSTEM PRESSURE DROP											
Min.Flow	5	10	15	20	25	30	35	40	45	50	PSI
	0.3	0.7	1	1.4	1.7	2.1	2.4	2.8	3.1	3.4	BAR
1	11	16	20	22	24	26	28	30	32	33	GPM
3.8	42	61	76	83	91	98	106	114	121	125	l/min



PRESSURE DROP PSI(BAR)

LIMITED WARRANTY

Leonard Valve Company warrants the original purchaser that products manufactured by them (not by others) will be free from defects in materials and workmanship under normal conditions of use, when properly installed and maintained in accordance with Leonard Valve Company's instructions, for a period of one year from date of shipment. During this period the Leonard Valve Company will at its option repair or replace any product, or part thereof, which shall be returned, freight prepaid, to the Leonard factory and determined by Leonard to be defective in materials or workmanship. There are no warranties, express or implied, which extend beyond the description contained herein. There are no implied warranties of merchantability or of fitness for a particular purpose. In no event will Leonard be liable for labor or incidental or consequential damages. Any alteration or improper installation or use of the product will void this limited warranty.

1360 Elmwood Avenue, Cranston, RI 02910 USA

Phone: 401.461.1200 Fax: 401.941.5310

Email: info@leonardvalve.com

Web Site: <http://www.leonardvalve.com>