LEONARD
WATER TEMPERATURE CONTROLS

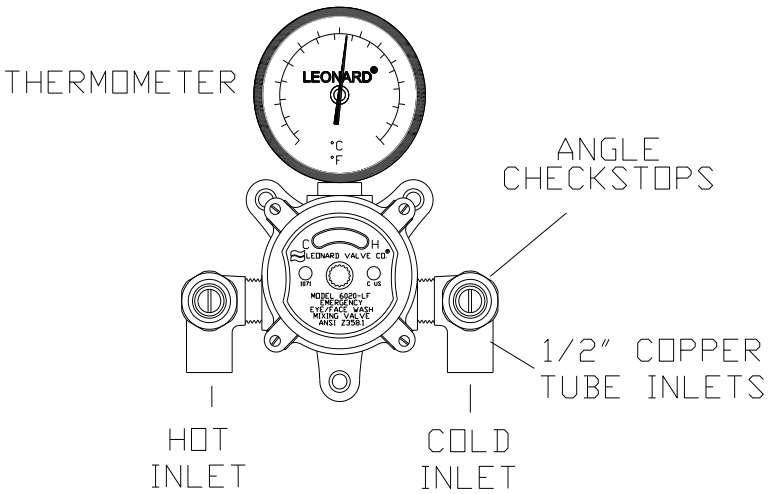
Bulletin G-6020
February, 2021

INSTALLATION SETUP AND OPERATING INSTRUCTIONS EMERGENCY MIXING VALVE SYSTEM

6020-LF

IMPORTANT! Provide valve serial number (located on valve body) when ordering parts!!
Compliance……ANSI Z 358-1

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



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 casting. Connect the hot water into the inlet marked "HOT" and cold water into the inlet marked "COLD."
3. The checkstops furnished must be installed on both supply lines as shown above.
4. Use solder or pipe cement sparingly. Supply pipes should be flushed before the valve is connected. Flush outlet pipe and valve as soon as it is connected.

   Maximum Operating Pressure 125PSI (860 KPA) for Hot and Cold Water.

NOTE: It may be necessary to recirculate the tempered water to the face/eyewash should the piping be exposed to excessive hot or cold conditions. See page 3 for proper piping.

CAUTION

IMPORTANT! These systems are designed to provide mixed water from 60 to 90°F (15 to 32°C) for eye/face wash applications only. Call Leonard for systems designed to operate at temperatures outside of this range.

REMEMBER! THIS IS A CONTROL SYSTEM WHICH MUST BE CLEANED AND MAINTAINED ON A REGULAR BASIS (SEE MAINTENANCE GUIDE AND RECORD MGR-1001).

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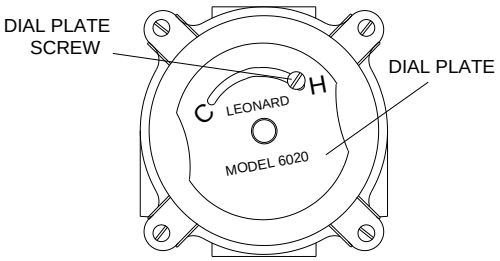
ADJUSTMENT AND SERVICE

Leonard 6020 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 and ANSI Z358.1).

TO RESET ADJUSTABLE HIGH TEMPERATURE LIMIT STOP:



1. While valve is running, remove dial plate screw and turn dial plate to maximum setting of 90°F (32°C) or lower.
2. Remove dial plate and reinstall so screw hole is located at the end of the slot, at "H" on the dial plate.
3. Turn plate to lower temperature to 85°F (29°C) or to desired temperature.
4. Re-install dial plate screw and tighten.

WARNING

WARNING! This Thermostatic Mixing Valve has an adjustable high temperature limit stop which must be checked. If temperature is too high, the installer **MUST RESET** this stop immediately. Always check the temperature of the mixed water when the lever handle is turned to full **HOT.** Excessively hot water is **DANGEROUS AND MAY CAUSE SCALDING!**

The high temperature limit stop is factory set at approximately 90°F (32°C) with an incoming hot water supply temperature of 135°F (57°C). If the incoming hot water on the job is higher than 135°F, the valve when turned to full hot will deliver water in excess of 90°F (32°C) and the high temperature limit stop **MUST BE RESET BY THE INSTALLER.**

TROUBLESHOOTING INSTRUCTIONS

PACKINGS& GASKETS	1. Leak at pointer rod. 2. Leak between valve cover and base.	PARTS REQUIRED: **MU-5A (2 ea.)** O-rings **6806** Cover Gasket
PORT SLEEVE ASSEMBLY	3. Valve delivers either all hot or all cold water, or will not mix consistently.	**TAG-1M** Port Sleeve Assembly or **KIT R/6020** Rebuilding Kit
THERMOSTAT GROUP	4. After cleaning or replacing port sleeve assembly, valve will not hold temperature.	**6920** Thermostat Group or **KIT R/6020** Rebuilding Kit
CHECKSTOPS	5. Hot water bypass into cold line. 6. Supplies cannot be shut off completely. 7. Leak at checkstop bonnet.	**KIT 4/LVC** (F checkstops)

SEE PAGE 5 FOR COMPLETE PARTS BREAKDOWN AND PARTS KITS

If installed on a circulated hot water system, make certain the valve is piped according to Leonard Required Methods of Piping (see page 3).

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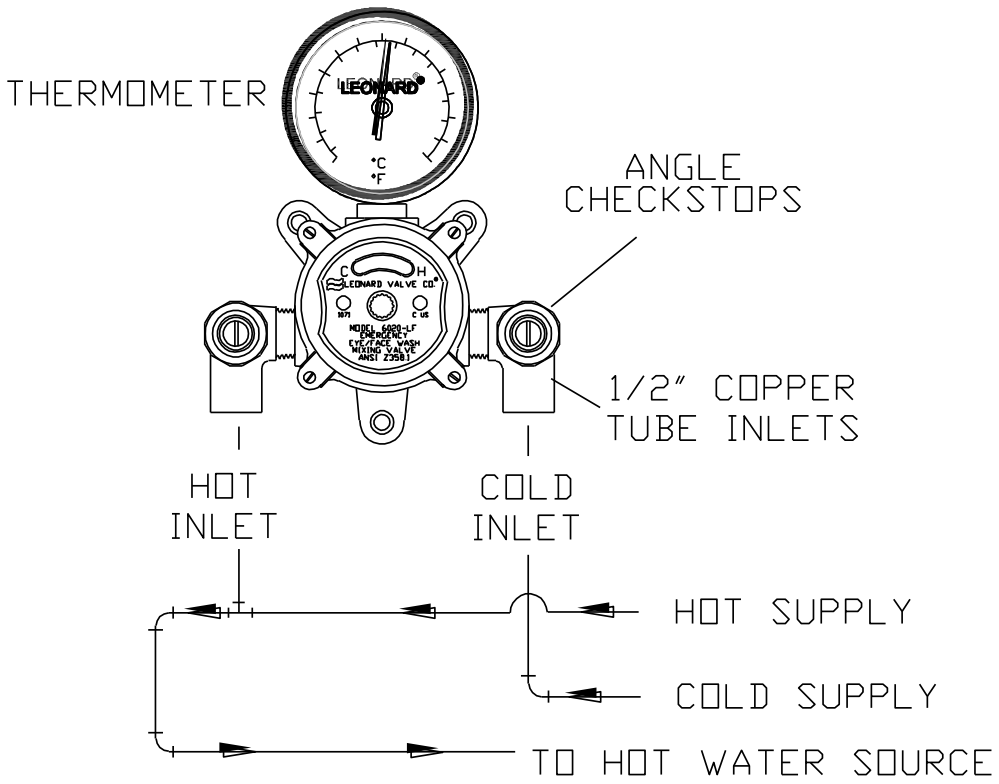
REQUIRED METHOD OF PIPING 6020 VALVE

METHOD #1

Required when hot water is to be circulated to a thermostatic mixing valve which is a substantial distance from the hot water source.



This unit must be cycled each time the emergency equipment is checked. See ANSI Z358.1, Maintenance and Training section.

After installation, adjustment, and cleaning, always check the temperature of the valve when turned to full **HOT** per the warning on the front page, using a thermometer. Also check and if necessary adjust the temperature of the hot water source. **EXCESSIVELY HOT WATER (OVER 90ºF) IS DANGEROUS AND MAY CAUSE SCALDING!!**

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INSTRUCTIONS FOR DISMANTLING VALVE

1. Turn off hot and cold supplies to this valve.

2. Remove four cover screws MU-2C, lift off cover and thermostat group 6920 (DWG 1).

3. Remove base stud TA-5 (DWG 2).

4. Back off port sleeve nut 3402 as far as it will go into base. Slide TAG-1M port sleeve assembly toward port sleeve nut and lift out of valve base.

5. Clean part TAG-1M with a soft cloth; **DO NOT** use abrasives such as emery cloth or sandpaper. After cleaning, wash parts in clean water and reassemble in valve base. Larger longer slots on port sleeve must go on the Jam Nut side (cold water side). Do not cramp or distort port sleeve by exerting excessive pressure when tightening jam nut.

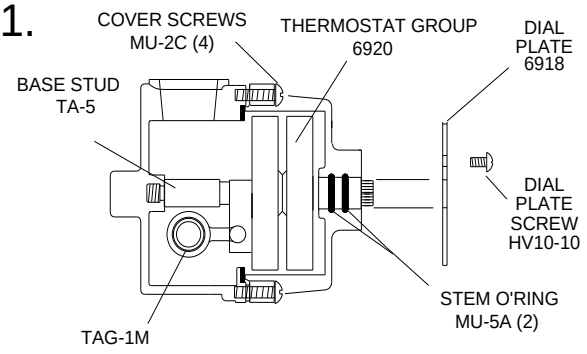
6. To clean thermostat group 6920 (DWG 1.), remove dial plate 6918 by loosening dial plate screw and pull off. Remove thermostat group by pushing rod through cover. **BE CAREFUL NOT TO PULL COILS OUT OF SHAPE**. If deposits have collected on thermostat coil, clean it off with a brush in cleaning solution and wash well before reassembly. Cleaning solution should be non-corrosive and grit free.

7. To reassemble: be sure port sleeve assembly is in place and is working freely from side to side. Reinstall base stud TA-5, then place thermostat group 6920 on base stud and **BE SURE DRIVING BALL ON PORT SLEEVE ASSEMBLY TAG-1M IS INSERTED IN HOLE ON LOWER COIL BRACKET** (DWG 3.)

8. Move thermostat back and forth to be sure all parts are free. Replace cover and cover gasket on valve base, install the four cover screws, and turn on hot and cold water supplies. See instructions "To Reset High Temperature Limit Stop" to properly reset limit stop.

After installing new parts, it will be necessary to reset Dial Plate to obtain correct temperature range from Cold to Hot. See page 2 instructions "TO RESET ADJUSTABLE HIGH TEMPERATURE LIMIT STOP."

1.



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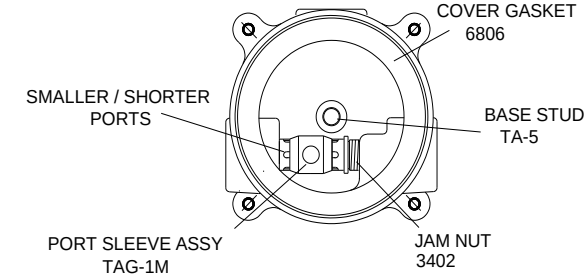
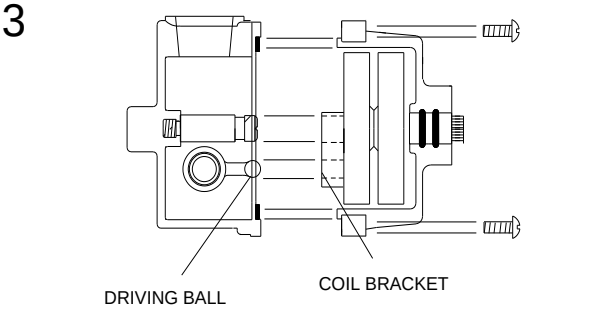


LARGER / LONGER HOLES MUST FACE JAM NUT (COLD SIDE)

3



After installation, adjustment, cleaning, always check the temperature of the valve when turned to full **HOT** per the warning on the front page, using a thermometer. Also check and if necessary adjust the temperature of the hot water source. **EXCESSIVELY HOT WATER (OVER 90ºF) IS DANGEROUS AND MAY CAUSE SCALDING!!**

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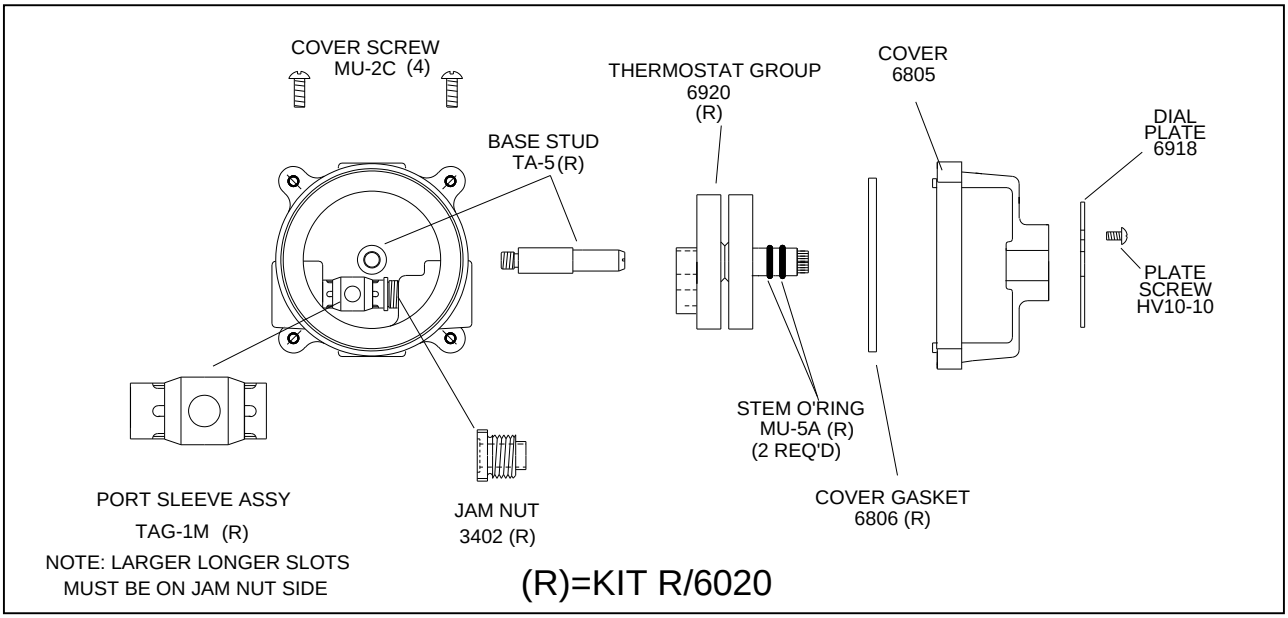
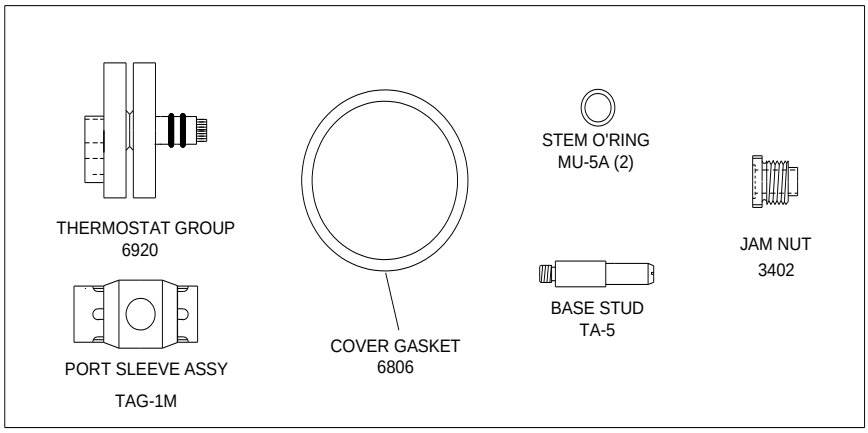
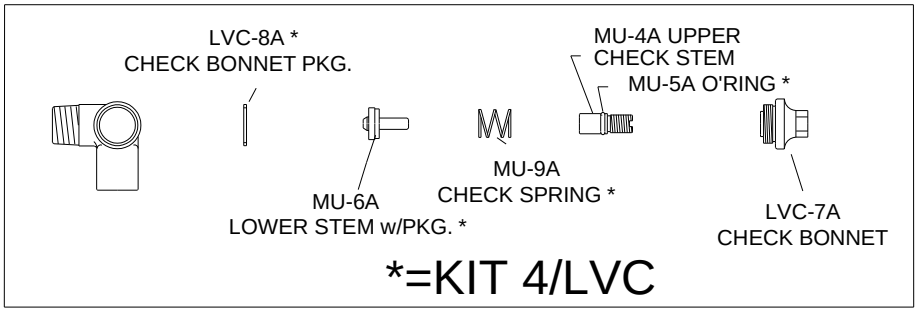
6020 VALVE PARTS



REPAIR KIT, KIT R/6020



CHECKSTOPS PARTS



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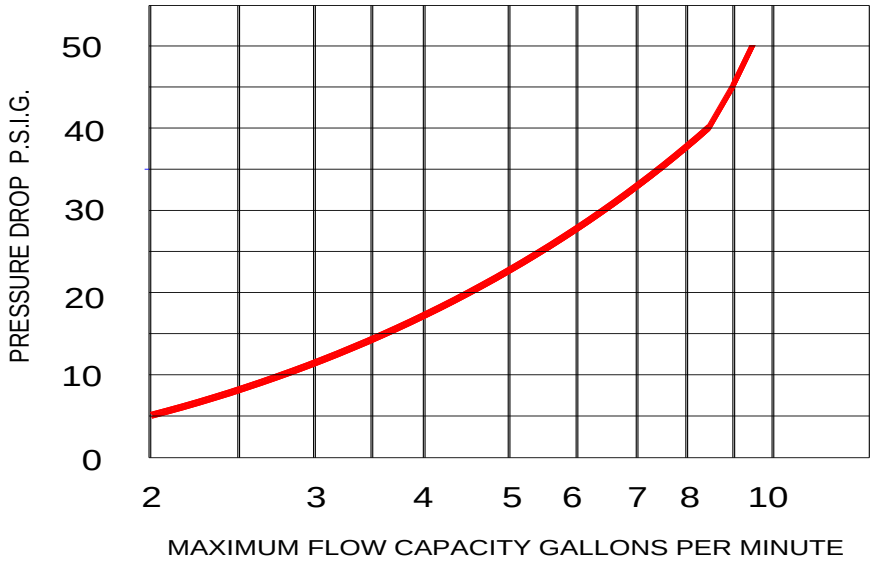
NOTE: AFTER INSTALLING NEW PARTS IT WILL BE NECESSARY TO RESET THE ADJUSTABLE HIGH TEMPERATURE LIMIT STOP (SEE PAGE 2).

FLOW CAPACITIES



MODEL	IN	OUT	MINIMUM FLOW (GPM) / L\MIN	INTERNAL COLD WATER BY-PASS AT 30 PSI	PRESSURE DROP 5	10	15	20	25	30	35	40	45	PSI / BAR
					0.3	0.7	1.0	1.4	1.7	2.1	2.4	2.8	3.1	BAR
6020	1/2"	1/2"	2.0	4	2.0	2.7	3.5	4.5	5.5	6.5	7.5	8.5	9.0	GPM
			7.6	15	7.6	10	13	17	21	25	28	32	34	L\MIN
MAXIMUM FLOW CAPACITY														
Maximum Flow Rate with Cold Water Shutoff: 0.5 GPM														

CAUTION! All thermostatic water mixing valves have limitations. They will not provide the desired accuracy outside of their flow capacity range. Consult the capacity chart and **DO NOT OVERSIZE.** Installers must verify that no single emergency fixture supplied by the devices listed in this document have a minimum flow rate less than 1.5 GPM. Installation and field adjustment for the selected device is the responsibility of the installer and must be carried out with the manufacturer's (Leonard Valve) instructions. If shut-off valves are installed for maintenance purposes, the installer must indicate provisions will be made to prevent unauthorized shut-off.

IMPORTANT! These systems are designed to provide mixed water from 60 to 90°F (15 to 32°C) for face/eyewash applications only. Call Leonard for systems designed to operate at temperatures outside of this range.

LIMITED WARRANTY

Leonard Valve Company (hereinafter, "Leonard") warrants the original purchaser that products manufactured by Leonard will be free from defects in material or workmanship under normal conditions of use, when properly installed and maintained in accordance with Leonard's instructions, for a period of one year from the date of shipment. During this period, Leonard 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. Leonard provides no warranty, express or implied, which extends beyond the description contained herein. LEONARD SPECIFICALLY DISCLAIMS ANY AND ALL IMPLIED WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE. Nonetheless, some jurisdictions may not allow the disclaimer of certain implied warranties, in which case Leonard hereby limits such implied warranties to the duration of the limited warranty period contained herein. Some jurisdictions may not allow limitations on how long an implied warranty lasts, so the foregoing durational limitation may not apply to you. In no event will Leonard be liable for labor or incidental or consequential damages. Any alteration or improper installation or use of this product will void this limited warranty. If any provision of this limited warranty is prohibited by law in the applicable jurisdiction, such provision shall be null and void, but the remainder of this limited warranty shall continue in full force and effect.

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