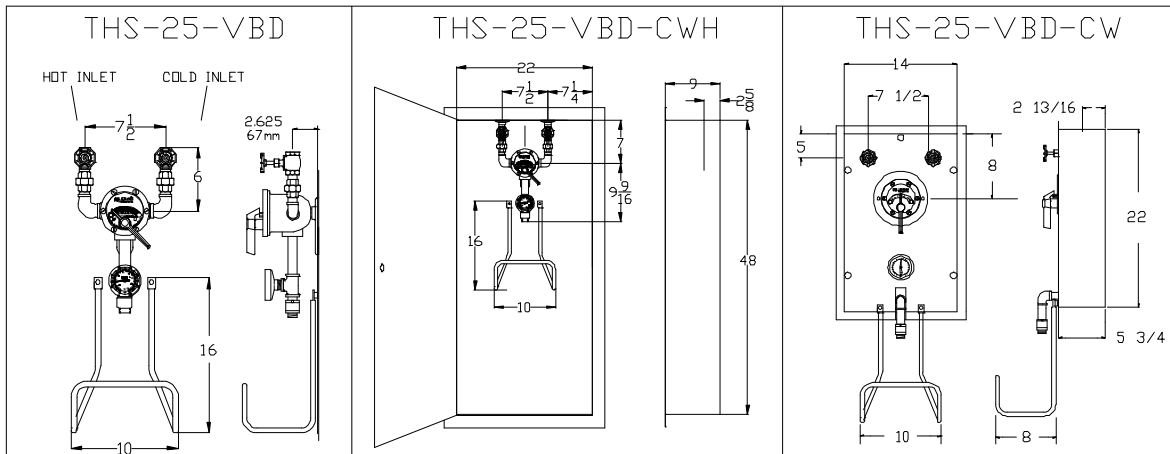


# INSTALLATION ADJUSTMENT SERVICE THERMOSTATIC STEAM AND WATER MIXING VALVE TYPE THS-25 (MIX STEAM /WATER OR HOT/COLD WATER)

**IMPORTANT!** Provide valve serial number (stamped on cover of valve) when ordering parts!!



## INSTALLATION/OPERATION

1. Valve should be installed at a location where it can easily be cleaned, adjusted or repaired.
2. Connect the Steam or Hot water into the inlet with RED handle, and cold water into the inlet with BLUE handle. (SEE DIAGRAM).
3. Use thread sealant sparingly. Supply pipes should be flushed before the valve is connected. Flush outlet pipe and valve as soon as it is connected.
4. To operate. First open the right hand COLD (BLUE) stop and check valve, then open the left hand HOT (RED) stop and check valve. Turn the pointer on the mixing valve to the desired temperature.

### FOR STEAM AND WATER MIXING VALVES

Maximum recommended operating pressure: 80 PSI (5.5 BAR) steam and water. Steam supply pressure should be equal to or slightly lower than the cold water supply pressure.

Install, pressure reducing valves where unequal pressure conditions exist.

Maximum recommended operating temperature of 200°F (93°C). Note This maximum temperature is for valve only, see hose specification for rating temperature.

When used for high temperature washdown (140°F to 180°C) operators should wear protective gloves, boots and clothing, and they should be given safety instructions in the proper use of high temperature hot water.

### FOR HOT AND COLD WATER MIXING VALVES:

Maximum operating pressure: 125 PSI (860 KPA) hot and cold water.

## 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 on page 6. 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).**

1360 Elmwood Avenue, Cranston, RI 02910 USA

Phone: 401.461.1200 Fax: 401.941.5310

Email: [info@leonardvalve.com](mailto:info@leonardvalve.com)

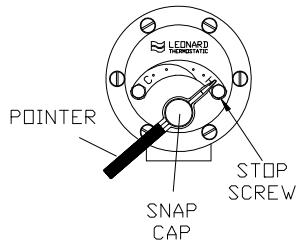
Web Site: <http://www.leonardvalve.com>

## ADJUSTMENT AND SERVICE

Leonard Type THS Thermostatic Steam and 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 Steam and 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).

### TO RESET ADJUSTABLE HIGH TEMPERATURE LIMIT STOP:



### !!! 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 140°F (60°C) with incoming steam and cold water supply pressures of 50PSI (3.4BAR). If the incoming steam or water supplies are different from those noted above, the valve when turned to full hot may deliver water in excess of 140°F and the high temperature limit stop **MUST BE RESET BY THE INSTALLER.**

1. Remove SNAP CAP, SCREW & WASHER. Remove POINTER.
2. Temporarily place POINTER on the spline rod. Turn **RIGHT** for warmer temperature, turn **LEFT** for cooler temperature. When valve is delivering warmest temperature desired, remove the pointer.
3. Replace POINTER on the spline rod so that its **RIGHT** edge is resting against the STOP SCREW located on the **RIGHT SIDE OF THE COVER**.
4. The new maximum temperature has now been set. Test this temperature by holding a thermometer under the flow of water to be certain it is as desired.

### TROUBLESHOOTING INSTRUCTIONS

|                      |   |  |
|----------------------|---|--|
| PACKINGS & GASKETS   | <ol style="list-style-type: none"> <li>1. Leak at pointer rod.</li> <li>2. Leak between valve cover and base.</li> </ol>                | <b>PARTS REQUIRED:</b><br><br>MU-5A, 538             |
| PORT SLEEVE ASSEMBLY | <ol style="list-style-type: none"> <li>3. Valve delivers either all hot or all cold water, or will not mix consistently.</li> </ol>     | TG-1/30/ST<br>OR KIT #R/THS/N<br>REBUILDING KIT      |
| THERMOSTAT GROUP     | <ol style="list-style-type: none"> <li>4. After cleaning or replacing port sleeve assembly, valve will not hold temperature.</li> </ol> | TGM-2/50<br>OR<br>KIT # R/THS/N<br>REBUILDING KIT    |
| CHECKSTOPS           | <ol style="list-style-type: none"> <li>5. Steam bypass into cold supply</li> <li>6. Cold water bypass into steam supply.</li> </ol>     | M-20-6E (4 each)<br>011 (2 each)<br>30-65-N (2 each) |

**SEE PAGE 4 FOR COMPLETE PARTS BREAKDOWN, PARTS KITS**

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

## INSTRUCTIONS FOR DISMANTLING VALVE

1. Shut off hot and cold supplies to valve.
2. Remove SNAP CAP, SCREW and WASHER, POINTER and FRICTION SPRING. (FIGURE #1).
3. Remove the 6 COVER SCREWS, then take off cover to which the Thermostat and Gears are attached.

**WHEN RE-ASSEMBLING VALVE**, insert new Flange Packing in base; replace COVER, tightening COVER SCREWS in rotation; put FRICTION SPRING in place; then replace POINTER and POINTER ROD SCREW, WASHER and CAP.

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

## TO CLEAN PORT SLEEVE ASSEMBLY

Failure to properly blend the water may be caused by a sticking condition in the PORT SLEEVE ASSEMBLY. The THIMBLE should slide freely on the PORT SLEEVE.

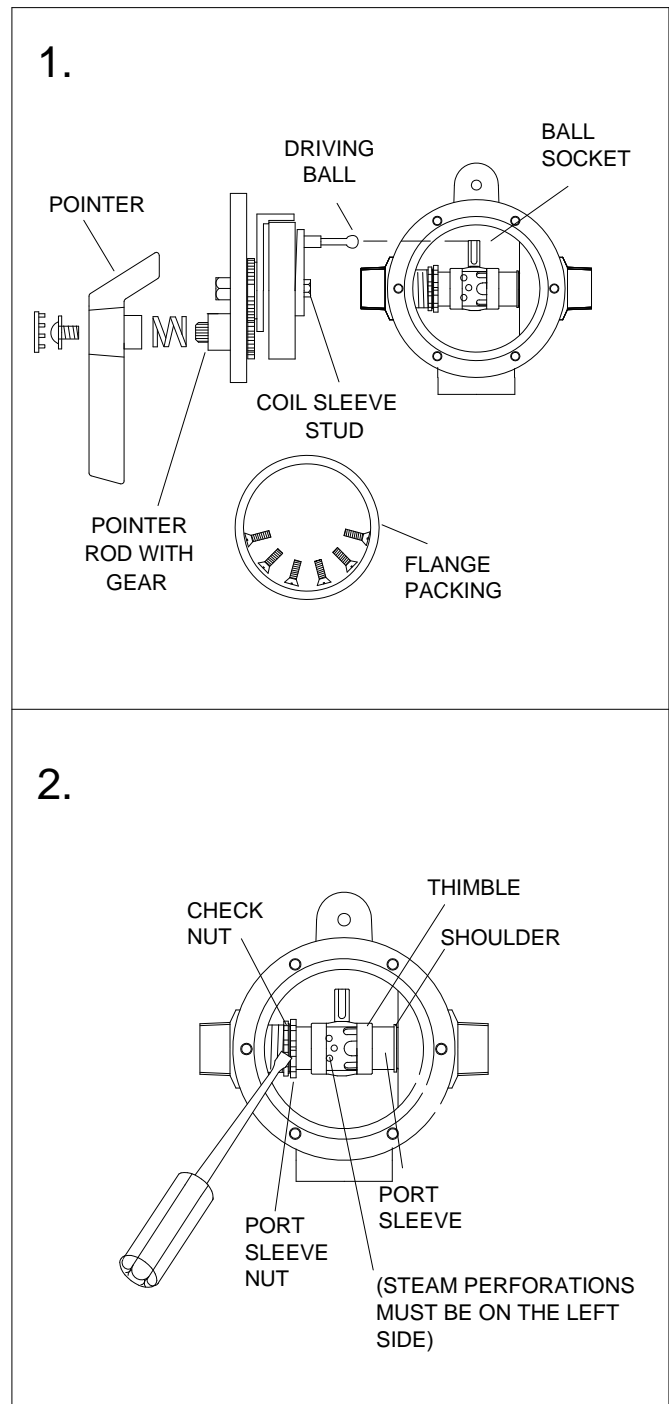
1. If a deposit of lime or sediment prevents free movement, use a nail set or other tapered tool to unscrew the CHECK NUT as far as it will go, then screw the PORT SLEEVE NUT into the base. This will release the PORT SLEEVE and THIMBLE so they can be lifted out, (Figure #2).
2. Clean with a NON-CORROSIVE CLEANING AGENT AND SOFT CLOTH - DO NOT USE ABRASIVES - then wash parts thoroughly, wipe with a dry cloth and re-assemble. The PORT SLEEVE should be assembled with the SHOULDER to the RIGHT. Tighten PORT SLEEVE NUT against end of PORT SLEEVE but be careful not to cramp sleeve in place. Tighten CHECK NUT.
3. When replacing front be sure DRIVING BALL is inserted in Ball Socket as shown in Figure #1.

## TO REPLACE POINTER ROD WITH GEAR

1. Remove POINTER ROD SNAP CAP, SCREW, WASHER, POINTER, and FRICTION SPRING. (FIGURE #1)
2. Remove COVER with parts attached, from the front of valve.
3. Remove COIL SLEEVE STUD and take off THERMOSTAT GROUP.
4. Replace POINTER ROD with GEAR and re-assemble.

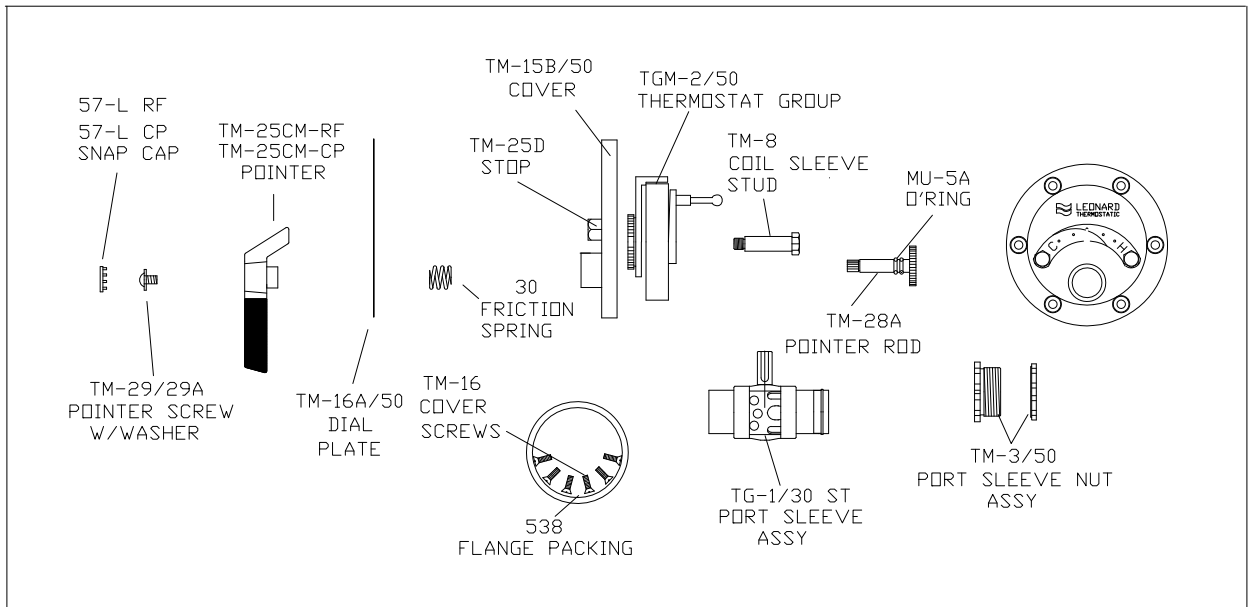
## TO REPLACE (OR CLEAN) THERMOSTAT GROUP

Follow instruction for replacing POINTER ROD with GEAR above. If a deposit has collected on the Thermostatic Coil, clean it off with a brush in a non-corrosive grit-free cleaning solution.

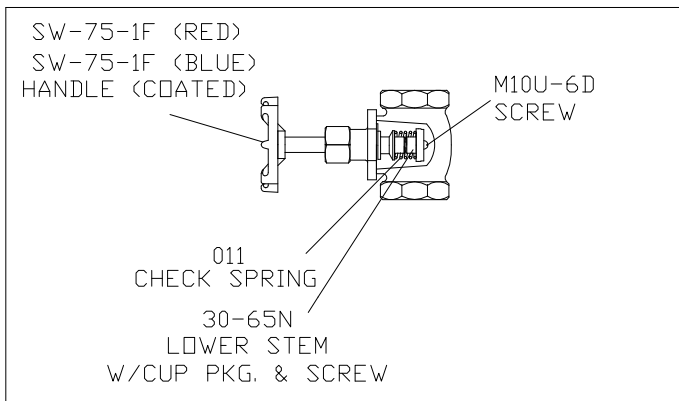


**REMEMBER! THIS IS A CONTROL DEVICE WHICH MUST BE CLEANED AND MAINTAINED ON A REGULAR BASIS. (SEE MAINTENANCE GUIDE AND RECORD, MGR-1000).**

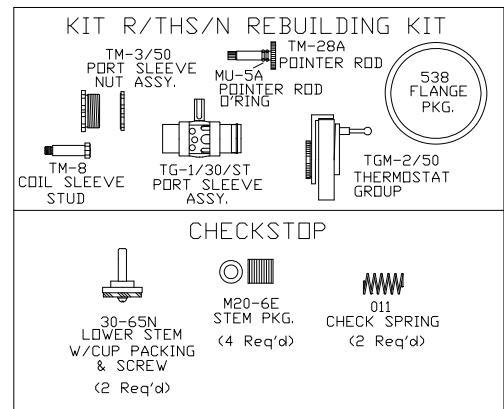
# THS VALVE PARTS



## CHECKSTOP PARTS



## REPAIR KITS



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

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

### 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.

**1360 Elmwood Avenue, Cranston, RI 02910 USA**

**Phone: 401.461.1200 Fax: 401.941.5310**

**Email: [info@leonardvalve.com](mailto:info@leonardvalve.com)**

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