

Model ZW3870XLT

LEAD-FREE*



Aqua-Gard® Thermostatic Mixing Valve

*This product contains a weighted average lead content less than 0.25% for wetted surfaces.

□ Installation □ Maintenance Instructions

INSTALLATION INSTRUCTIONS

It is suggested that the device be installed to deliver water to the end user. It is to be used for the final control of water temperature at plumbing fixtures and appliances. This ASSE 1070 approved device is to be used for point of use. It is designed to mix cold water and hot water from the water heater to a safer temperature range of 95-115°F (35-46°C).

1. Flush the Hot and Cold delivery lines completely before installing the device.
2. The device can be installed in any position. Note: the inlet hot supply is to be connected to the "H" side of the valve and the cold supply side to the "C" side.
3. The valve is to be fitted to deliver mixed water to a single outlet.
4. To set the temperature on the valve remove the protective blue cap. The cap can be removed by inserting a small blade screwdriver into the slot at the base of the blue cap and lightly push up. Using an adjustable wrench or combination wrench, rotate the flats clockwise to lower the temperature or counter-clockwise to increase the set temperature. Read temperature with a thermometer.
5. Verify the set temperature by running a plumbing fixture and reinstall the protective plastic cap to the device. For bathroom operation set the maximum temperature not to exceed 95-115°F (35-46°C)

PERFORMANCE

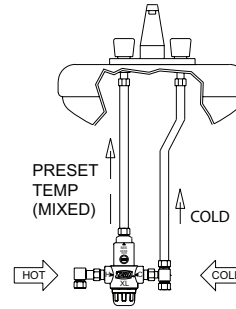
| | |
|-------------------------------|-------------------------------|
| Outlet Temp. Range | 95-115°F(35-46°C) |
| Temperature Hot Supply | 120-195°F max. (49-90.5°C) |
| Temperature Cold Supply | 40-75°F (4.4-23.8°C) |
| Set Temperature Accuracy | +/- 3°F(1.78°C) |
| Max. Working Pressure (inlet) | 145 psi |

Temperature must be field set

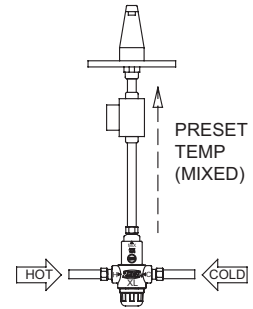
| | |
|----------------------------------|------------|
| Max. Working Pressure (Dynamic) | 1.5-70 psi |
| Flow rate @ 45 psi pressure loss | 3.10 gpm |
| Min. Flow Rate* | 0.06 gpm |

Max. Pressure Differential is 15 psi between Hot & Cold inlets

*With a minimum flow rating of 0.06 GPM the valve will provide proper scald protection when used in conjunction with ultra low flow faucet aerators.



INDIVIDUAL USE



SINGLE USE

PIPING INSTRUCTIONS

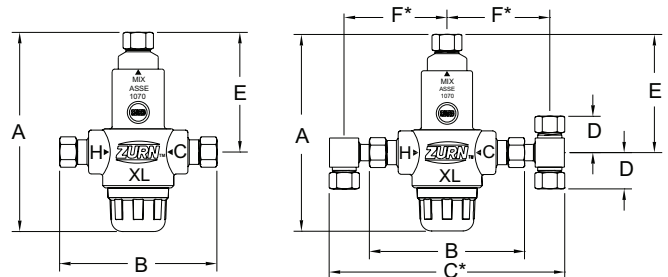
The device is designed to be installed at a single outlet. It may be used to supply individual outlets when there is sufficient supply pressure. It is suggested to use ball valves on the Hot and Cold inlet supplies.

CAUTION: Installation of water temperature control products must be performed by qualified, licensed personnel. The qualified installer should be sure that the proper device has been selected for the proper installation. A faulty installation can cause scalding, severe injury or death.

NOTICE: Annual inspection and maintenance is required of all plumbing system components. To ensure proper performance and maximum life, this product must be subject to regular inspection, testing and cleaning.

WARNING! Water Temperatures in Excess of 122°F(50°C) Are Dangerous and Will Cause Scalding, Severe Injury or Death!

This valve is **Not** Factory preset. To deliver a safe mixed water temperature at the outlet, the installer must use a thermometer at the outlet to verify the temperature. Set the outlet temperature between 95°F and 115°F



ZW3870XLT

ZW3870XLT-4P

DIMENSIONS

| SIZE | | MODEL | DIMENSIONS (approximate) | | | | | | | | | | WEIGHT | | | |
|------|-----|-----------|--------------------------|-------|---------|-----|-----|-----|-----|------|-----|------|--------|------|------|-----|
| | | | A | | B | | C | | D | | E | | | | F | |
| in. | mm | | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | lbs. | kg. |
| 3/8 | 9.5 | ZW3870XLT | 4 13/16 | 122.2 | 4 17/32 | 115 | 6 | 152 | 1 | 25.4 | 3 | 76.2 | 2 5/8 | 66.7 | 1.5 | .68 |

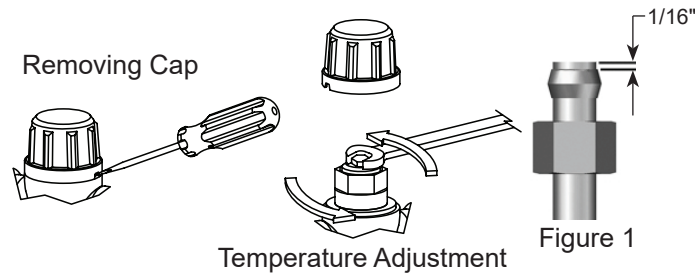
*With supplied check valves. Note: check valves must be used for proper operation.

WARRANTY: ZURN WILKINS Valves are guaranteed against defects of material or workmanship when used for the services recommended. If in any recommended service, a defect develops due to material or workmanship, and the device is returned, freight prepaid, to ZURN WILKINS within 12 months from date of purchase, it will be repaired or replaced free of charge. ZURN WILKINS' liability shall be limited to our agreement to repair or replace the valve only.

⚠ **WARNING:** Cancer and Reproductive Harm - www.P65Warnings.ca.gov
 ⚠ **ADVERTENCIA:** Cáncer y daño reproductivo - www.P65Warnings.ca.gov
 ⚠ **AVERTISSEMENT:** Cancer et néfastes sur la reproduction - www.P65Warnings.ca.gov

MATERIALS

| | |
|----------------|--------------------------------|
| Body | Low Lead Bronze, nickel plated |
| Internal brass | Low Lead Brass |
| Piston | Polysufone |
| Guide Tube | Noryl GFN2 |
| Spring | 300 Series Stainless Steel |
| Seals | Nitrile Elastomer |
| Checks | Delrin |



COMPRESSION FITTING INSTALLATION

It is recommended that the end of the inlet supply tube, tee fitting or 90 degree elbow extend 1/16" beyond the ferrule for adequate compression as illustrated above in Figure 1.

MAINTENANCE

SERVICING THE CHECK VALVES

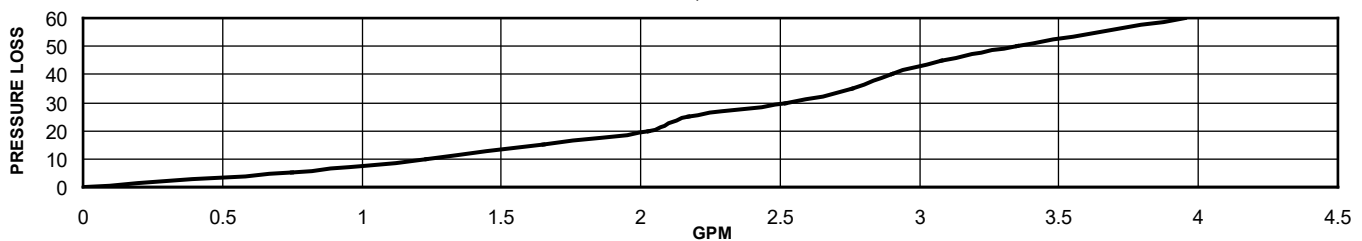
The check valves can be serviced by removing them from the body, flushing the check valves thoroughly with water removing debris from the seat and seat washers. Reinstall the check valve by pushing them into the body flush with the body, spring first. Make sure that the pop-pet and seat washer are facing you.

OPERATION

The valve internals themselves cannot be serviced. If the valve fails it must be replaced. The function of the valve can be checked by measuring the temperature of the water at the outlet nearest to the valve. If the temperature is within $\pm 3^{\circ}\text{F}$ of the initial set temperature, the valve is functioning correctly. If the temperature has changed by more than $\pm 4^{\circ}\text{F}$ it is likely due to a build up of debris in the strainers or a change in the supply condition.

FLOW CHARACTERISTIC

MODEL ZW3870XLT, ZW3870XLT-4P



TROUBLESHOOTING

| Problem | Cause | Solution |
|---|--|--|
| The desired mixed water temp. cannot be obtained or valve is difficult to set | Hot and Cold supplies are reversed, valve is full of debris. | Refit valve so H & C are correct, flush valve with water |
| Mix Temperature is unstable | Fluctuating supply pressure | Install PRV's on H & C inlet supplies |
| Mix Temperature changing over time | Fluctuating supply pressures | Install PRV's |
| Either full Hot or Cold water flowing | Valve is set incorrectly | Adjust mix. Temperature to 95-115°F |
| No flow from the valve outlet | Hot or Cold water supply failure | Restore inlet supply & check mix. Temperature |
| Flow rate reduced or fluctuating | Valve or inlet fitting fouled by debris | Check valve and inlet fittings for block-age |
| Mixed water temp. too Hot or Cold | Valve has been tampered with, valve incorrectly set, or inlet temperatures are not within specified limits | Re-adjust to required set temp. to ensure inlet temperatures are within specified limits |
| Mixed water temp. does not change when the temp. adjuster is moved | Hot and Cold supplies are reversed | Refit the valve to correct Hot and Cold |
| Hot water flows into the cold water system or vice versa | Check valve is fouled | Remove debris |
| Valve is noisy | Water velocity is too high | Reduce water velocity |
| Little or no flow from valve outlet | Inlet supply tube extending more than 1/16" beyond ferrule | Shorten tube then remove and replace inlet check valves |
| Little or no flow from valve outlet | Inlet screens plugged with debris | Clean inlet screens |

