Q Installation  Q Maintenance Instructions

**INSTALLATION INSTRUCTIONS**

It is suggested that the device be installed with a shut-off valve and a thermometer on the tempered water line to provide accurate and safe water mixing temperatures. This device should never be used to deliver water to the point of use end user. This ASSE 1017 approved device is to be used with an ASSE 1070 approved device. A tempering valve is designed to mix cold water and hot water from a hot water heater to a safer temperature of 122°F (50°C) or less.

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 tempered water outlet.
4. To set the temperature on the valve remove the protective green cap. The cap can be removed by inserting a small blade screwdriver into the slot at the base of the green 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 122°F (50°C).

**PERFORMANCE**

Outlet Temp. Range: 95-131°F (35-55°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: +/- 4°F (2°C)  
Max. Working Pressure (Dynamic): 145 psi  
Max. Working Pressure (Inlet): 1.5-70 psi  
Flow rate @ 45 psi pressure loss: 18 gpm  
Min. Flow Rate: 0.5 gpm

**DOMESTIC WATER HEATER APPLICATION**

PIPING INSTRUCTIONS

The device is designed to be installed at or near a hot water heater. When installing at or near a hot water tank be sure to have the valve mounted below the hot water high temperature line. This will keep the Tempering valve from by-passing and going to high temperature, in the event that debris has clogged the control cartridge or screens.

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 correctly 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 Temperature in Excess of 122°F (50°C) Is Dangerous and Will Cause Scalding, Severe Injury or Death! To deliver a safe mixed water temperature at the outlet, the installer must use a thermometer at the outlet to verify the temperature. **WARNING!** This valve is not to be used for point of usage. This valve is not to be used as a Anti-scald device. This valve must be used in conjunction with a ASSE 1070 approved device.

**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.

**Cancer and Reproductive Harm - www.P65Warnings.ca.gov**

**AVERTISSEMENT:** Cancer et néfastes sur la reproduction - www.P65Warnings.ca.gov

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**Model ZW1017XL**

*Aqua-Gard® Tempering Mixing Valve*  
*This product contains a weighted average lead content less than 0.25% for wetted surfaces.*

**LEAD-FREE**

**ZURN WILKINS**

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Phone: 855-663-9876  
Fax: 805-238-5766  
www.zurn.com

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MAINTENANCE
SERVICING THE STRAINERS
The strainers on the inlet supplies can be serviced by loosening the union nuts, removing the valve from service and clean the screens thoroughly with water after disassembly. Where water quality is a concern it may be necessary to install additional line strainers.
SERVICING THE CHECK VALVES
The check valves can be serviced by removing them from the body. Flush 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 to the body, spring first. Make sure that the poppet and seat washer is facing you.

OPERATION
The valve internals themself 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 +/- 4°F of the initial set temperature, the valve is functioning correctly. If the temperature has changed by more than +/- 4°F it is likely due to a build up of debris in the strainers or a change in the supply condition.

MATERIALS
- Body: Low Lead Bronze
- Internal brass: Low Lead Brass
- Piston: Polysulfone
- Guide Tube: Noryl GFN2
- Spring & Screen: 300 Series Stainless Steel
- Seals: Nitrile Elastomer
- Checks: Noryl GFN2

FLOW RATES (GPM)
PRESSURE LOSS (PSIG)

FLOW RATES (l/s)
PRESSURE LOSS (kpa)

FLOW CHARACTERISTIC
MODEL ZW1017XL (STANDARD & METRIC)

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TROUBLESHOOTING

<table>
<thead>
<tr>
<th>PROBLEM</th>
<th>CAUSE</th>
<th>SOLUTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>The desired mixed water temp. cannot be obtained or valve is difficult to set</td>
<td>Hot and cold supplies are reversed, valve is full of debris or strainers are fouled</td>
<td>Refit valve so H &amp; C are correct, flush valve with water and clean strainers</td>
</tr>
<tr>
<td>Mix. Temperature is unstable</td>
<td>Strainers are fouled or fluctuating supply pressure</td>
<td>Clean strainers and Install PRV’s on H &amp; C inlet supplies</td>
</tr>
<tr>
<td>Mix Temperature changing over time</td>
<td>Fluctuating supply pressures or strainers are full</td>
<td>Install PRV’s and clean strainers</td>
</tr>
<tr>
<td>Either full Hot or Cold water flowing</td>
<td>Valve is set incorrectly</td>
<td>Adjust mix. Temperature to 95-115°F</td>
</tr>
<tr>
<td>No flow from the valve outlet</td>
<td>Hot or Cold water supply failure or strainers are fouled</td>
<td>Restore inlet supply &amp; check mix. Temperature and clean strainers</td>
</tr>
<tr>
<td>Flow rate reduced or fluctuating</td>
<td>Valve or inlet fitting fouled by debris</td>
<td>Check valve and inlet fittings for blockage</td>
</tr>
<tr>
<td>Mixed water temp. too Hot or Cold</td>
<td>Valve has been tampered with, valve incorrectly set, or inlet temperatures are not within specified limits</td>
<td>Re-adjust to required set temp. to ensure inlet temperatures are within specified limits</td>
</tr>
<tr>
<td>Mixed water temp. does not change when the temp. adjuster is moved</td>
<td>Hot and Cold supplies are reversed</td>
<td>Refit the valve to correct Hot and Cold</td>
</tr>
<tr>
<td>Hot water flows into the cold water system or vise versa</td>
<td>Valve is fouled</td>
<td>Clean strainers and remove debris</td>
</tr>
<tr>
<td>Valve is noisy</td>
<td>Water velocity is too high</td>
<td>Reduce water velocity</td>
</tr>
</tbody>
</table>