Model ZW3870XLTF LEAD-FREE*

WILKINS®

Aqua-Gard® Thermostatic Mixing Valve with Thermal Flush Mode

*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/ASME A112.1070/CSA B125.70 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). This device also features a special thermal flush mode to allow maintenance personnel to flush the downstream system with high-temperature water for disinfection purposes.

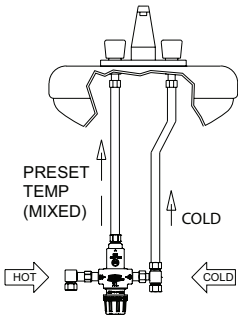
1. Flush the Hot and Cold delivery lines completely before installing the device.
2. The device can be installed in any position. Note: the inlet hot supply is to be connected to the “H” side of the valve and the cold supply side to the “C” side.
3. The valve is to be fitted to deliver mixed water to a single outlet.
4. To set the temperature on the valve remove the protective 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 (See Figure 1). Using an adjustable wrench or combination wrench, unscrew the locknut a couple of turns, then rotate the flats of the stem clockwise to lower the temperature or counterclockwise to increase the set temperature (See Figure 4). Read temperature with a thermometer.
5. Verify the set temperature by running a plumbing fixture. Tighten the locknut to lock the temperature setting 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

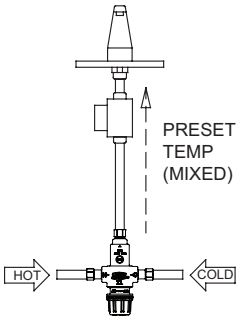
Outlet Temp. Range	95-115°F(35-46°C)
Temperature Hot Supply	120-195°F max. (49-90.5°C)
Temperature Cold Supply	40-75°F (4.4-23.8°C)
Set Temperature Accuracy	+/- 3°F(1.78°C)
Max. Working Pressure (inlet)	145 psi
Temperature must be field set	
Max. Working Pressure (Dynamic)	1.5-70 psi
Flow rate @ 45 psi 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. Connections are 3/8" compression fittings.

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.

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.

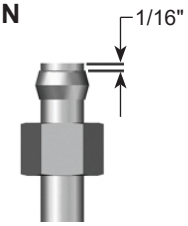


Figure 1

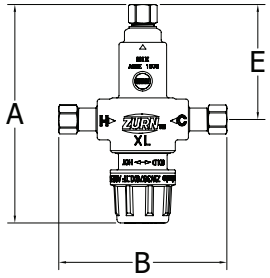
WARRANTY: WILKINS Valves are guaranteed against defects of material or workmanship when used for the services recommended. If in any recommended service, a defect develops due to material or workmanship, and the device is returned, freight prepaid, to WILKINS within 12 months from date of purchase, it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

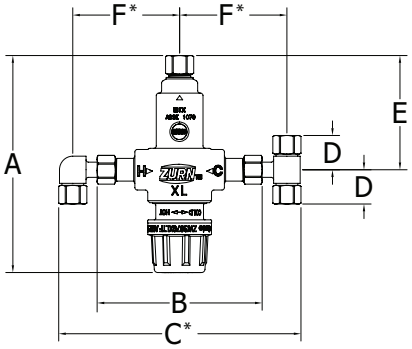
WILKINS®
www.zurn.com
Patent zurn.com/patents

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



ZW3870XLTF



ZW3870XLTF-4P

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 poppet and seat washer are facing you.

OPERATION

The valve internal 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 +/-3°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.

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

DIMENSIONS

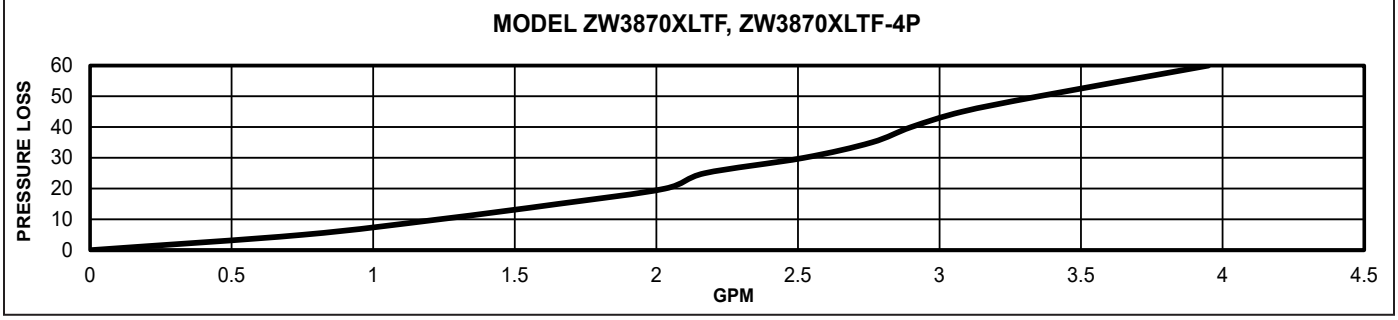
SIZE		MODEL	DIMENSIONS (approximate)												WEIGHT	
			A		B		C		D		E		F			
in.	mm		in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	lbs.	kg.
3/8	9.5	ZW3870XLTF	5 1/2	140	4 17/32	115	6	152	1	25.4	3	76.2	2 5/8	66.7	1.5	.68

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 blockage
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 vise 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

Zurn Water, LLC - Wilkins
1747 Commerce Way, Paso Robles, CA 93446 Phone:855-663-9876 Fax:805-238-5766

FLOW CHARACTERISTIC



THERMAL DISINFECTION MODE

Model ZW3870XLTF includes a special thermal flush mode that allows maintenance personnel to flush the downstream fixtures and piping with high-temperature water for disinfection purposes.

CAUTION: Note that putting the ZW3870XLTF mixing valve in Thermal Flush Mode disables anti-scald protection as required by ASSE 1070/ASME A112.1070/CSA B125.70. Thermal Flush Mode is for use by authorized maintenance personnel only. Improper use of this mode may result in scalding or other serious injury. Under no circumstances should the mixing valve be left in Thermal Flush Mode after system flushing is complete. Thermal Flush Mode is activated by a removable lever handle that should only be kept by maintenance personnel. The lever handle is painted orange as an indicator that Thermal Flush Mode is on. When flushing is complete, maintenance personnel must disengage and remove the lever handle, and replace the green safety cap to prevent tampering by end users. Thermal disinfection mode cannot be activated without the lever handle. If the lever handle is lost, the mixing valve will continue to operate as a standard ASSE 1070/ASME A112.1070/CSA B125.70 device.

Thermal Flush Mode Procedure:

1. Turn off the cold water supply at the supply stop.
2. Remove the green plastic cap with a flat head screw driver (figure 1).
3. Check that the locknut on the stem is tight to prevent unwanted adjustment during flushing.
4. Slide the orange lever handle notch over the exposed cross-pin (figure 2).
5. Rotate the lever handle to lift the cross-pin and retainer (Figure 3). The valve is now in Thermal Flush Mode.
6. Perform system flush as needed.
7. RETURN HANDLE TO SAFE TEMPERATURE SETTING: Rotate the lever handle to lower the cross-pin and exit Thermal Flush Mode.
8. Replace the Green plastic cap
9. Turn on the cold water supply.

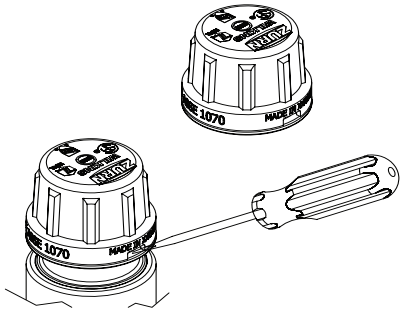


FIGURE 1

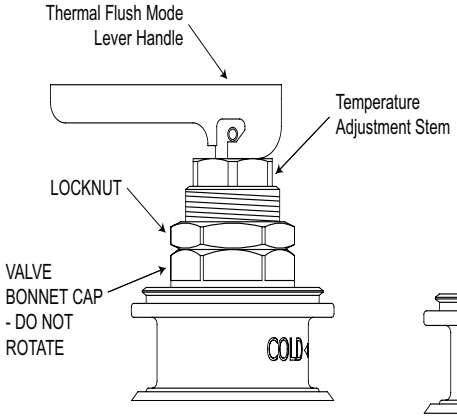


FIGURE 2

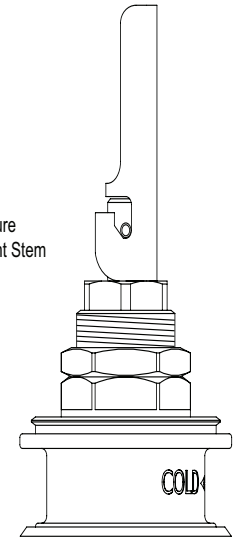
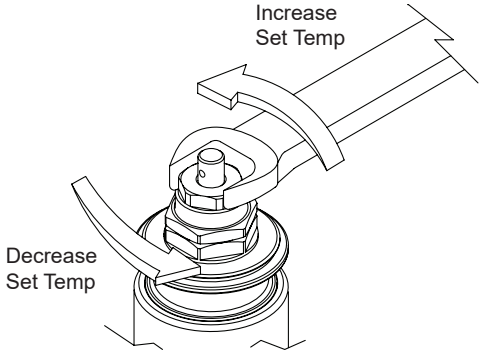


FIGURE 3
(Thermal Flush Mode Activated)



TEMPERATURE ADJUSTMENT
(95°F-115°F)
FIGURE 4

Zurn Water, LLC - Wilkins
1747 Commerce Way, Paso Robles, CA 93446 Phone:855-663-9876 Fax:805-238-5766