Model 950XL3 LEAD-FREE*

Double Check Valve Assembly (3/4”, 1”, 1 1/4”, 1 1/2” & 2”)

*This product contains a weighted average lead content less than 0.25% for wetted surfaces.
*Meets the requirements of NSF/ANSI/CAN 61 and 372

❑ Installation ❑ Testing ❑ Maintenance Instructions

INSTALLATION INSTRUCTIONS

CAUTION: Installation of Backflow Preventers must be performed by qualified, licensed personnel. The installer should be sure the proper device has been selected for the particular installation. Faulty installation could result in an improperly functioning device.

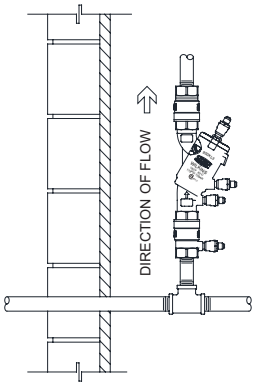
ZURN WILKINS Model 950XL3 Double Check Valve assemblies are for use on potable water lines where a health hazard does not exist in the event of a backflow situation.

Proper performance is dependent upon following these installation instructions and prevailing governmental and industry standards and codes. Failure to do so, according to ZURN WILKINS Limited Warranty "...releases ZURN WILKINS of any liability that it might otherwise have with respect to that device." Such failure could also result in an improperly functioning device.

Damage to the device could result wherever water hammer and/or water thermal expansion could create excessive line pressure. Where this could occur, shock arresters, check valves and/or pressure relief valves should be installed downstream of the device.

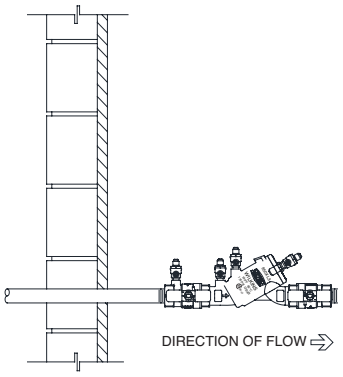
If installation is in a pit or vault, the Backflow Preventer must never be submerged in water because this could cause a cross-connection. Make sure that the pit or vault always remains dry by providing ample drainage.

1. Before installing a Model 950XL3 Backflow Preventer, flush the line thoroughly to remove all debris, chips and other foreign matter. If required, a lead-free strainer should be placed upstream of the Backflow Preventer. **CAUTION: Do not use a strainer in seldom used emergency waterlines such as fire lines.**
2. Provide adequate space around the installed unit so that the test cocks will be accessible for testing and servicing.
3. Install valve at least 12 inches above surrounding flood level.
4. Always consult local codes for installation methods, approvals and guidance.



VERTICAL INSTALLATION

Vertical installation is acceptable in applications where inlet and outlet piping are flowing vertically upwards. All the basic installation instructions apply to such installations.



INDOOR INSTALLATION

Indoor installation is preferred in areas that are subject to freezing conditions. All the basic installation instructions apply to such installations.

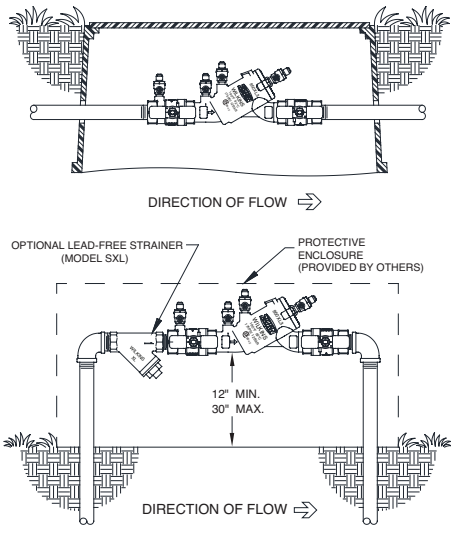
PARALLEL INSTALLATION

Where uninterrupted service from a single meter connection must be maintained, two or more Backflow Preventers may be connected in parallel. All the basic installation instructions apply to parallel installation. Be sure to allow adequate room between the units for testing and repair.

PLACING THE MODEL 950XL3 IN SERVICE

After the installation of a Model 950XL3 has been completed, place the unit in service as follows:

1. Start with both shut-off valves closed. Slowly open the inlet shut-off valve until the backflow preventer is completely pressurized.
2. When the unit has been pressurized, vent any trapped air by slightly opening each of the four test cocks.
3. Slowly open the downstream shut-off valve. The Model 950XL3 Double Check Valve assembly is now in service.
4. After the Model 950XL3 has been properly installed, test the device (see “Testing Procedures”). If the device fails the test, remove the check valve assembly and thoroughly flush the device. Clean rubber seals and seats of all debris and place unit back in service.



OUTDOOR INSTALLATION

The Model 950XL3 Backflow Preventer may be installed outdoors only if the device is protected against freezing conditions. Exposure to freezing conditions will result in improper function or damage to the device. The installation location must be kept above 32°F. All the basic installation instructions apply.

! **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

Testing Procedures

MODEL 950XL3 DOUBLE CHECK VALVE ASSEMBLY

Equipment Required: Differential pressure gauge test kit.

TEST NO. 1 - TIGHTNESS OF #1 CHECK VALVE

REQUIREMENT:

The static pressure drop across check valve #1 shall be at least 1.0 psid.

PROCEDURE:

1. Slowly open all 4 test cocks to remove any foreign material and attach fittings.
2. Attach hose from the high side of the test kit to the #2 test cock.
3. Open test cock #2 and bleed all air from the hose and gauge by opening the high side bleed needle valve. Close high side bleed needle valve. Close #2 shut-off valve then close the #1 shut-off valve.
4. Hold gauge at same level as test cock #3. Slowly open test cock #3. Record the static pressure drop across check valve #1 after gauge reading stabilizes and water stops running out of test cock #3.
5. Close all test cocks, open shut-off valve #1 and remove test equipment.

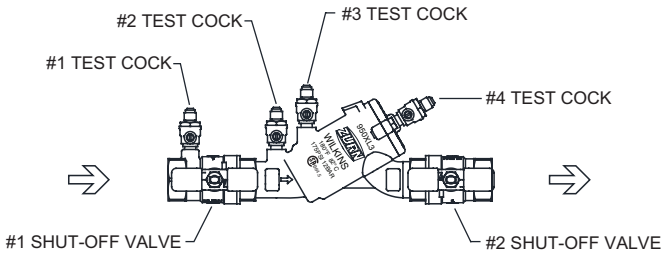
TEST NO. 2 - TIGHTNESS OF #2 CHECK VALVE

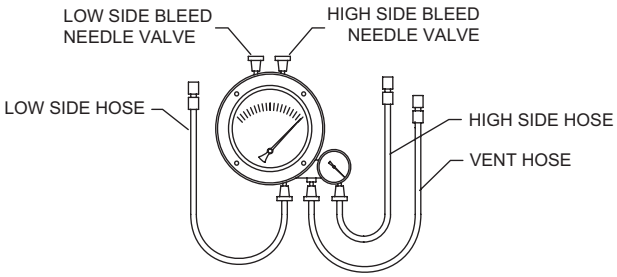
REQUIREMENT:

The static pressure drop across check valve #2 shall be at least 1.0 psid.

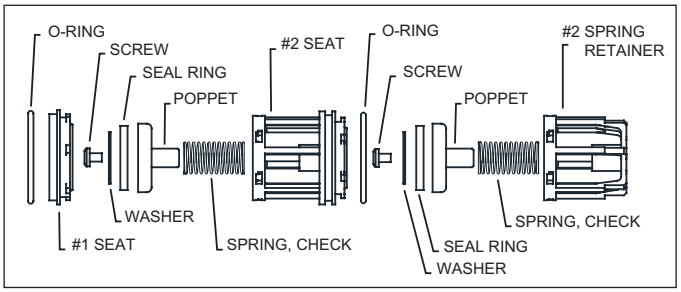
PROCEDURE:

1. Attach hose from the high side of the test kit to the #3 test cock.
2. Open test cock #3 and bleed all air from the hose and gauge by opening the high side bleed needle valve. Close high side bleed needle valve. Close #1 shut-off valve.
3. Hold gauge at same level as test cock #4. Slowly open test cock #4. Record the static pressure drop across check valve #2 after gauge reading stabilizes and water stops running out of test cock #4.
4. Close all test cocks, slowly open shut-off valve #1 & #2 and remove test equipment.





Maintenance Instructions



CHECK CARTRIDGE ASSEMBLY

All Model 950XL3 Double Check Valve Backflow Preventers must be inspected and maintained by licensed personnel at least once a year or more frequently as specified by local codes. Replacement of worn or damaged parts must only be made with genuine “ZURN WILKINS” parts. The ZURN WILKINS Certificate of Limited Warranty provides that failure to do so "...releases ZURN WILKINS of any liability that it might otherwise have with respect to that device." Such failure could also result in an improperly functioning device.

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GENERAL MAINTENANCE

1. Clean all parts thoroughly with water after disassembly.
2. Carefully inspect rubber seal rings and o-rings for damage.
3. Test unit after reassembly for proper operation (see “Testing Procedures”).

SERVICING CHECK VALVES

1. Close inlet and outlet shut-off valves.
2. Open No. 2, No. 3 and No. 4 test cocks to release pressure from valve.
3. Unscrew check valve cover screws using appropriately sized wrench or screwdriver.
4. Remove check cover and check cartridge assembly. Ensure that the #1 seat o-ring is removed from body.
5. Inspect rubber o-rings for cuts or embedded debris.
6. Press and rotate #2 spring retainer to remove #2 poppet. Press and rotate #2 seat to remove #1 poppet. **CAUTION: Checks are spring loaded. Take extra care with 2" valves, as these springs are longer and stiffer than other sizes.**
7. Inspect rubber seal ring for cuts or embedded debris.
8. To remove seal ring, remove screw and washer.
9. If the reverse side of the seal ring is unused, it is possible to invert the seal ring. This would be considered a temporary solution to fixing a fouled check and should be replaced with a new seal ring as soon as possible.
10. Inspect both seats for wear on the seating surface. If damaged, replaced seat.
11. Inspect valve cavity and remove any debris.
12. Reverse the above procedure to reinstall check valve assembly and check cover, making sure the 3 test cocks remain open.

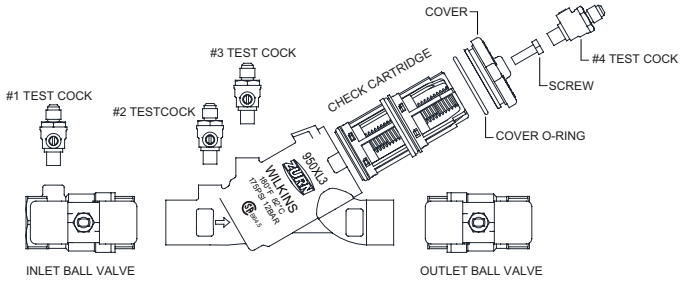


FIGURE 1

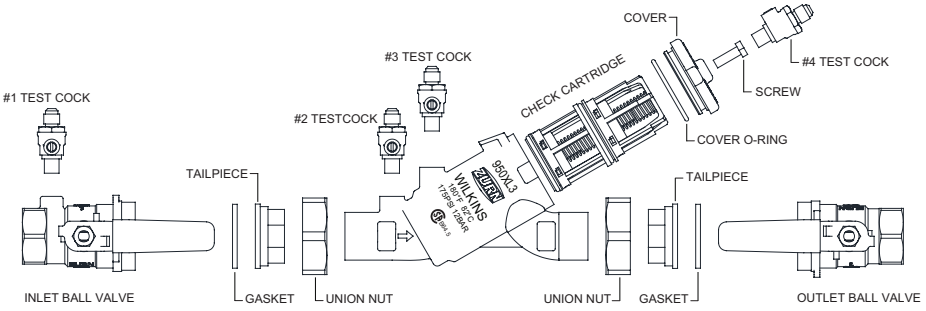


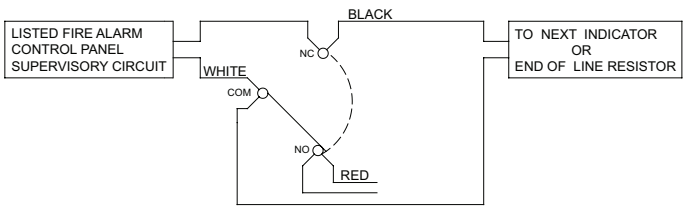
FIGURE 2
(Shown with optional union ball valves)

Wiring Diagram for 950XL3BFSS

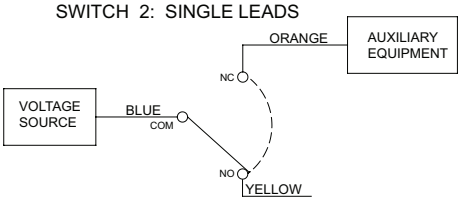
NOTE: Model 950XL3BFSS features Zurn Wilkins model 49BRXLSST butterfly valves with supervisory switch. The gearbox ships from the factory with a cable gland to protect the internals from dust and moisture during shipping, storage, and installation. For outdoor installations the electrical contractor shall remove the cable gland prior to installing the appropriate conduit and junction box for making the supervisory switch connections outlined below. Steps shall be taken to ensure that the connection to the gearbox forms a watertight seal. Failure to do so may result in water intrusion that may cause the switch to malfunction. Contact the factory for a replacement switch if needed.

Green Lead provided is ground for switch housing
Switch Rating: 10AMP/ 115 VAC
.5AMP/28 VDC
Cap unused leads with wire nuts and tuck inside junction box (not provided)
NOTE: Supervisory tamper switches are for **indoor and outdoor use.**

(SWITCH POSITION VALVE FULL OPEN)
SWITCH 1: DUAL LEADS



SWITCH 2: SINGLE LEADS

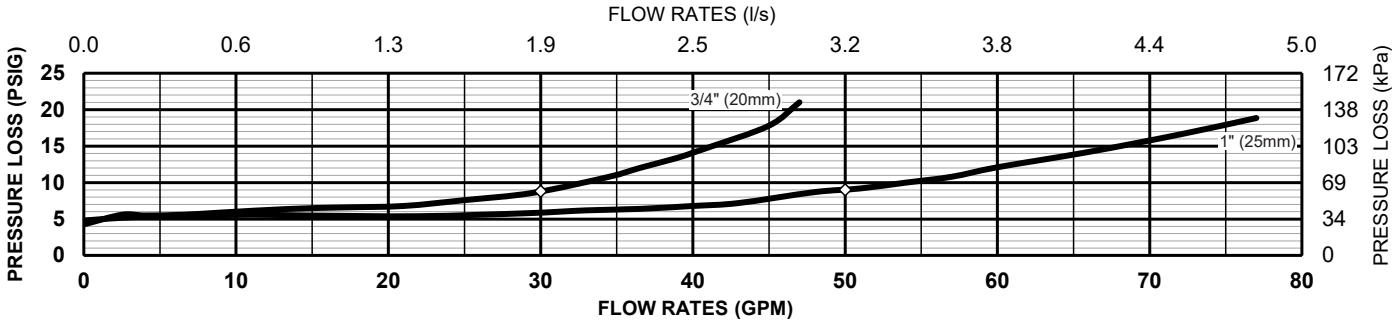


Troubleshooting

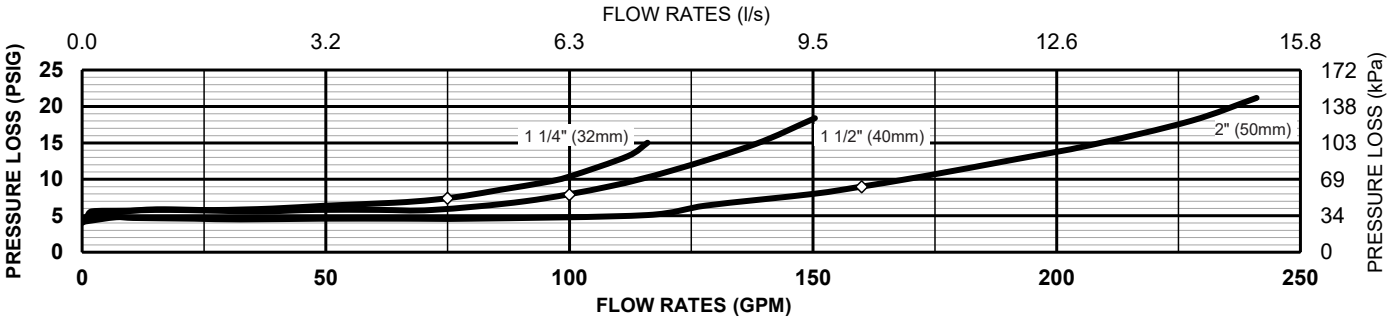
PROBLEM	POSSIBLE CAUSES	CORRECTIVE ACTION
1. LEAKING CHECK VALVES	1. Debris on seat or seal ring 2. Damaged seat 3. Damaged seat o-ring	1. Clean seat and seal ring area 2. Replaced seat 3. Replaced seat o-ring
2. LOW OR NO FLOW	1. Device installed backwards 2. Shut-off valves or valve upstream may not be fully open 3. Low supply pressure	1. Verify flow directions arrow 2. Turn handles counterclockwise 3. Attach pressure gauge to test cock #1 and verify pressure

Performance Characteristics

MODEL 950XL3 3/4" & 1" (STANDARD & METRIC)



MODEL 950XL3 1 1/4", 1 1/2" & 2" (STANDARD & METRIC)



◇ Rated Flow (established by approval agencies)

Capacity thru Schedule 40 Pipe (GPM)				
Pipe size	5 ft/sec	7.5 ft/sec	10 ft/sec	15 ft/sec
3/4"	8	12	17	25
1"	13	20	27	40
1 1/4"	23	35	47	70
1 1/2"	32	48	63	95
2"	52	78	105	167

SPECIFICATIONS

Minimum working water pressure	20 PSI
Maximum working water pressure	175 PSI
Minimum working water temperature	33°F
Maximum working water temperature	180°F
Hydrostatic test pressure	350 PSI
Threaded end connections	ANSI B1.20.1

Proper performance is dependent upon licensed, qualified personnel performing regular, periodic testing according to ZURN WILKINS' specifications and prevailing governmental & industry standards and codes and upon following these installation instructions. Failure to do so releases ZURN WILKINS of any liability that it might otherwise have with respect to that device. Such failure could also result in an improperly functioning device.