

Application

The Flood Control Integrated System (FCIS) prevents flooding of a building, caused by the discharge from a catastrophically fouled Reduced Pressure Principle backflow preventer.

The pre-wired FCIS package includes:

- Reduced Pressure Principle backflow Preventer and Monitor Switch (Model 375MS or Model 975XL2MS)
- Electronic Solenoid Time (Model EST) Signal Relay attached to a Solenoid Control Valve (Model ZW206) to shut-off the water supply

Standards Compliance

- ASSE® Listed 1013
 - IAPMO® Listed
 - CSA® Certified (2 1/2" thru 8")
 - AWWA Compliant C511, C530, and C550
 - FM® Approved
 - UL® Classified
 - C-UL® Classified
 - Approved by the Foundation for Cross Connection Control and Hydraulic Research at the University of Southern California.
 - Certified to NSF/ANSI 372* by IAPMO R&T
- *(0.25% MAX. WEIGHTED AVERAGE LEAD CONTENT)

For additional compliance approvals reference spec sheets

Sizes (1 1/4" - 2") 975XL2MS

Sizes (2 1/2" - 10") 375ASTMS, 375AMS, 375MS

at www.zurn.com

Features

- Model 375MS or Model 975XL2MS Reduced Pressure Backflow Preventer with Monitor Switch
- ZW206 Solenoid Control Valve, 24 VAC operation, Normally Open (water is on during power failure) A manual operator on the solenoid is provided to operate the valve during power failure

Sizes: 1 1/4", 1 1/2", 2", 2 1/2", 3", 4", 6", 8", 10"

Maximum working water pressure 175 PSI

Maximum working water temperature 140°F

Hydrostatic test pressure 350 PSI

End connections

(2 1/2" - 10") (Grooved for steel pipe) AWWA C606
(Flanged) ANSI B16.1
Class 150

(1 1/4" - 2") (Threaded NPT) ANSI B1.20.1

Quick disconnect connectors

Alarm Output contacts

For additional component features reference spec sheet ZW206

CAUTION: To prevent water damage, an adequately sized drain MUST still be installed to handle water discharge from the backflow relief valve. The monitor switch will start to signal when the relief valve opens 1/16" to 1/8". For example, an 8" valve at 100 psi can discharge 75 gpm from the relief valve before initiating the shutdown process. Also, as the shutoff cycle can take up to 2 minutes, under a severe fouling condition in the #1 check valve, the relief valve may discharge 500-1000 gallons before shutdown is complete.



Options

(Suffixes can be combined)

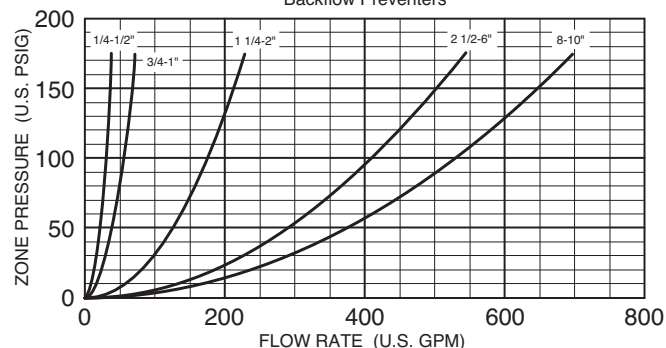
- ☐ AST - with Stainless Steel Backflow Body, Grooved Ends
- ☐ A - with Ductile Iron Backflow Body, Grooved Ends
- ☐ - with Ductile Iron Backflow Body, Flanged Ends
- ☐ - with NRS Gate Valves
- ☐ OSY - with OS&Y gate valves
- ☐ B - with Butterfly Valves
- ☐ - User Connections
 - ☐ Flange x Flange User Connections
 - ☐ FG Flange x Groove User Connections
 - ☐ G Groove x Groove User Connections
 - ☐ GF Groove x Flange User Connections
- ☐ S - Threaded Strainer Lead - Free
- ☐ FSC - "Wye" Type Strainer on Inlet (not available on Grooved)
- ☐ -AG - Air Gap Fitting
 - Solenoid Operation
 - ☐ Normally Open (Opens on power failure)
 - ☐ NC Normally Closed (Closes on power failure)
- ☐ RV - ACV Pilot Installed on Reverse Side

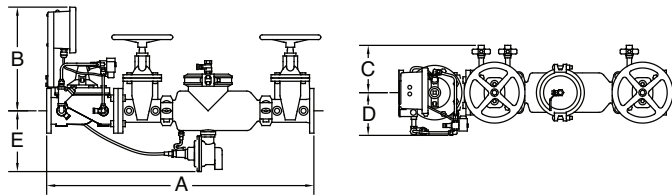
Relief Valve Discharge Rates

(Worst case condition- If 1st check or relief valve is lodged wide open)

Model 375, 475 & 975 RP & RPDA

Backflow Preventers





Dimensions & Weights (do not include pkg.)

MODEL FCIS SIZE		DIMENSION (approximate)												WEIGHT	
		A		B		B**		C		D		E			
in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	lbs.	kg
1 1/4	32	24 9/16	624	16 1/2	419	20	508	3 1/2	89	7	178	6 3/4	171	47	21.3
1 1/2	40	25 1/16	637	16 1/2	419	20	508	3 1/2	89	7	178	6 3/4	171	47	21.3
2	50	28 9/16	725	16 13/16	427	20 1/3	516	3 1/2	89	7	178	6 3/4	171	60	27.2
2 1/2	65	43*	1092*	17 1/2	445	21	533	7 1/4	184	7	178	9 3/4	248	153*	69.4*
3	80	45*	1143*	17 15/16	456	21 4/9	545	7 1/4	184	7 1/2	191	9 3/4	248	185*	84*
4	100	50*	1270*	21	533	24 1/2	622	8	203	11	279	9 3/4	248	301*	137*
6	150	63 5/8*	1616*	22	559	27	686	10	254	12	305	10 3/4	273	518*	235*
8	200	78 1/4*	1988*	25 5/16	643	25 5/16	643	11	279	14 1/4	362	15 5/8	397	999*	453.1*
10	250	85 5/8*	2175*	27 1/8	689	27 1/8	689	12	305	15 1/4	387	16 5/8	423	1484*	673.1*

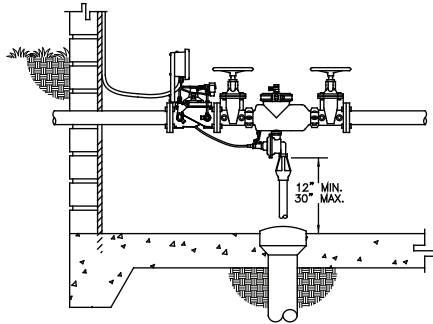
* Dimension A and weight shown are for backflow Model 975XL2MS (1 1/4" - 2") and Model 375AST (2 1/2" - 10") see individual backflow specification sheets for other models and options.

** This dimension is with position indicator on a ZW206.

Installation

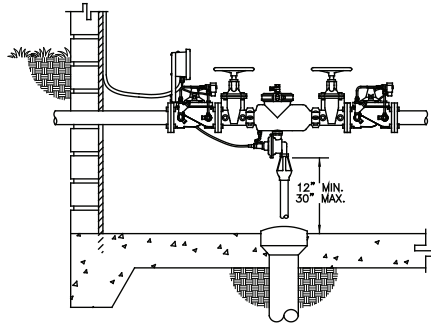
Modular system simplifies installation. Install ZW206 Solenoid Valve / EST on the water inlet flange. Install Model 375MS backflow preventer to outlet of solenoid valve. From the EST, route the yellow cable to plug on the relief valve cover. Plug connector into monitor switch, screw lock ring into place and secure the cable to the assembly. Provide 120 VAC power to EST and test operation per provided instructions. Local codes shall govern installation requirements. Unless otherwise specified, the assembly shall be mounted at a minimum of 12" (305mm) and a maximum of 30" (762mm) above adequate drains with sufficient side clearance for testing and maintenance. The installation shall be made so that no part of the unit can be submerged.

Typical Installation



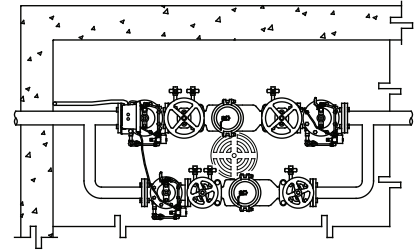
Single Water Shutdown

A single ZW206 Solenoid Control Valve to shutdown the water supply to the backflow preventer and system is our standard installation. This will prevent the discharge of water through a fouled first check in the static condition.



Double Water Shutdown

Two ZW206 Solenoid Control Valves to isolate the Reduced Pressure Backflow Assembly on both the inlet and outlet. A second ZW206 installed downstream will prevent water discharge due to a fouled second check.



Critical Water Supply Condition

Three ZW206 Solenoid Control Valves. A third ACV will open to divert the water supply to a bypass containing a backup backflow preventer, providing continuous water supply to the building.

Specifications

The Flood Control Integrated System (FCIS) shall consist of a Reduced Pressure Principle Assembly (RP) (Model 375MS, 375AMS, 375ASTMS, or 975XL2MS), a Solenoid Control Valve (SCV) (Model ZW206), and an Electric Solenoid Timer (Model EST) and shall be constructed and tested at the factory as a complete assembly. The RP shall be certified to NSF/ANSI 372, and shall be ASSE 1013 Listed. The RP shall be furnished with full port, resilient seated shut-off valves, and shall be equipped with an integral Relief Valve Monitor Switch that monitors the Relief Valve in a closed position. The seat ring and the check valves shall be Noryl, the stems and springs shall be Stainless Steel, and the elastomers shall be EPDM. The SCV shall be a single seated, line-pressure-operated, diaphragm-actuated, pilot-controlled valve. The SCV shall seal by means of a corrosion resistant seat and a resilient, rectangular seat disc. The stem of the SCV shall be guided top and bottom by integral bushings, and shall contain no packing glands or stuffing boxes. The SCV shall be protected with internal and external FDA approved epoxy coating, and the diaphragm shall not be used as a seating surface. The EST shall have an input voltage of 120 VAC, and shall be provided with outputs of 24 VAC and 120 VAC controlled by a user adjusted time delay relay. The EST shall be housed in a water-tight fiberglass NEMA enclosure, and shall have both normally open and normally closed outputs. The three components, the RP, SVC, and EST, when combined together, automatically shut off the water supply in the event of catastrophic relief valve discharge. The Reduced Pressure Principle Assembly, Solenoid Control Valve, and Electronic Solenoid Timer assembled as a complete unit shall be the Zurn Wilkins FCIS.

Job Name _____

Contractor _____

Job Location _____

Engineer _____

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