



Flood Control Integrated System (FCIS)

Stop the flooding before it starts. Protect your property from catastrophic flooding due to backflow discharge.



ZURN.COM US 1.855.ONE.ZURN CANADA 1.905.405.8272



Flood Control Integrated System

According to the Insurance Institute for Business and Home Safety, plumbing supply system failure is one of the five leading causes of water damage to businesses and homes. At any time, the checks of the Reduced Pressure Principle Backflow Prevention Assembly could become fouled, starting an undesirable water discharge. In the case of an unmonitored indoor system, this condition could result in catastrophic flood damage. Even in a monitored system, if there isn't a remote to shut off the water supply the building could be at risk.

The Zurn Flood Control Integrated System (FCIS) is a fully configured assembly for indoor flood control from a reduced pressure principle backflow assembly (RP).

The advanced system is comprised of a Zurn RP assembly augmented with a patented relief monitor switch, a solenoid actuated automatic control valve, and a connection-ready electronic control unit.

In the event of a water discharge, the FCIS relief valve monitor switch is triggered, shutting down water supply to the assembly. You can also customize the system to signal alarm panels or connect with other auxiliary devices.

Risks

8" RP discharges 550 gallons per minute at 100 psi, filling a 20' x 20' x 10' room with 33,000 gallons of water in one hour.

Prevention

Avoid building and equipment damage.

Minimize public health hazards, such as contamination of the water supply.

Avoid risks of remediation costs, including those attributed to mold proliferation and equipment replacement.

Evade costly insurance claims, which could result in increased premiums, operating expenses, and business downtime.

Application

The FCIS is ideally suited for mechanical rooms, enclosed basements, and installations including hospitals, retail, office buildings, educational, government facilities, and landmarks.

Value Proposition



CONTRACTOR

- Single shipment turnkey package simplifies installation
- Eliminates the need to coordinate electrical and plumbing contractors during installation
- Assembly mounted electric solenoid timer saves space and labor vs. wall-mount
- Simplified maintenance and repair



BUILDING OWNER

- Risk avoidance and protection of valuable and mechanical infrastructure during a backflow discharge
- Protects against property and building damage and business downtime
- Prevents mold proliferation
- Prevents unnecessary liability insurance claims and insurance premium inflation



ARCHITECT/ENGINEER

- One component to specify
- Reduce installation time and avoid costly rework with labor saving solutions
- Reduce liability



Features

	BUILDING OWNER	ENGINEER	CONTRACTOR
Available with corrosion resistant stainless steel body backflow preventer	✓	✓	
Lightweight and short lay length		✓	✓
Options include variable length replacement model (AR Series)	✓		✓
Solenoid valve with manual override comes standard	✓		✓
Tamper-resistant quick disconnect	✓		✓
Modular quick disconnect cabling to simplify installation, service, and maintenance – eliminating conduit and conduit fittings	✓	✓	✓
Low voltage of 24 volts ensures building and personnel safety	✓	✓	✓
Adjustable solenoid timer to prevent shutdown on nuisance discharge	✓		
Multiple shut-off valve options available, including NRS, OSY, and BFV in both flanged and grooved end connections		✓	✓

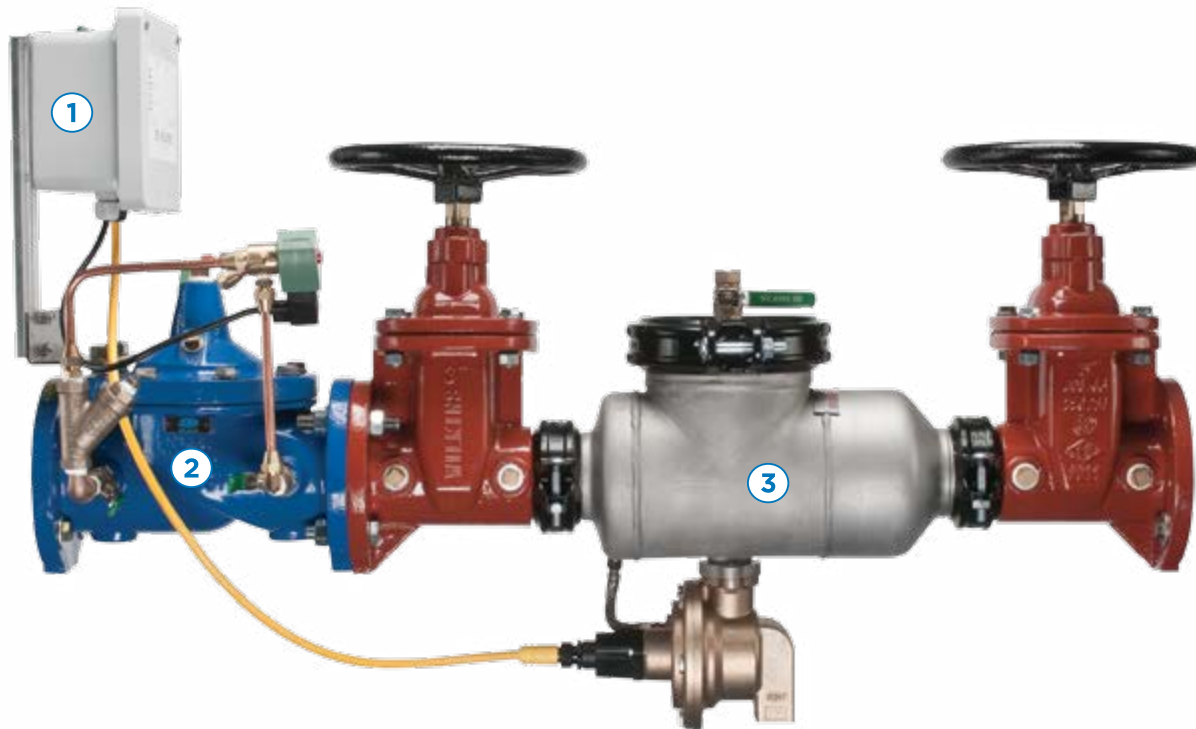
Flood Control Integrated System (FCIS)

Available as a completely assembled turnkey package

Multiple shut-off valve options available, including NRS, OSY, and BFV in both flanged and grooved end connections

Available in all backflow model configurations, including ductile iron, stainless steel, in-line, and n-pattern

Industrial cable extensions available for remote mounting options



1

EST Electric Solenoid Timer

Time delay function to eliminate nuisance faults

Modular quick disconnect cabling to simplify installation, service, and maintenance - eliminating conduit and conduit fittings

EST mounted directly to ACV simplifying installation

Low voltage of 24 volts ensures building and personnel safety

Optional 120 volt AC to trigger external pump relays and/or alarm panels

2

ZW206 Solenoid Actuated Automatic Control Valve

Pilot isolation valves and wye strainer come standard

Manual override comes standard allowing system control in the event of power failure or during maintenance.

Tamper-resistant quick disconnect

3

375ASTMS Stainless Steel Reduced Pressure Principle Backflow Preventer with Monitor Switch

Corrosion resistant stainless steel body

Patented center-guided compound check design

Lightweight and short lay length

Options include variable length replacement model

Available in grooved and flanged end connections

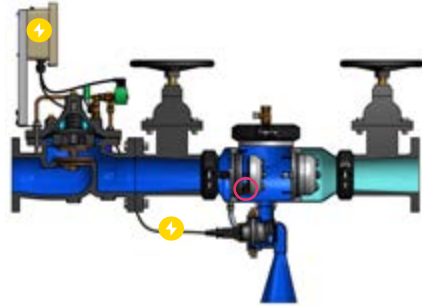
Patented relief valve monitor switch

Principles of Operation



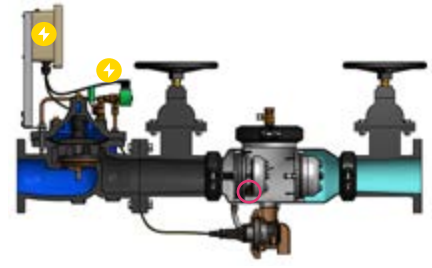
Normal Conditions

Water is flowing
 Checks are open with relief valve closed
 ACV is open
 No electrical signal



Static Conditions (fouled #1 check)

Valve is in static position with no water flowing
 ○ First check is fouled
 Second check is closed
 Water is dumping
 ⚡ Electrical signal at monitor switch and EST



Water Off

⚡ Electrical signal between EST and solenoid on ACV
 ACV is now closed
 No water is dumping
 ⚡ EST, if wired to alarm panel will cause notification of water supply disruption

Technical Information

Application

The Flood Control Integrated System (FCIS) prevents flooding of a building, caused by the discharge from a fouled Reduced Pressure Principle backflow preventer. The pre-wired FCIS package includes:

- Reduced Pressure Principle Backflow Preventer and monitor switch (i.e. Model 375MS)
- Electric solenoid timer (Model EST) signal relay attached to a solenoid control valve (Model ZW206) to shut off the water supply

Component Compliance¹

Approvals apply to individual valves that comprise the FCIS, and not to the FCIS assembly.

- 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
- Certified to NSF/ANSI 372 by IAPMO R&T
- Approved by the Foundation for Cross Connection Control and Hydraulic Research at the University of Southern California.

Features

- Reduced Pressure Backflow Preventer with monitor switch
- ZW206² solenoid control valve with 24 VAC operation
- Solenoid manual override switch for operation during power failure
- Quick disconnect connectors
- Alarm output contacts

Sizes	1-1/4", 1-1/2", 2", 2-1/2", 3", 4", 6", 8", 10"
Max working water pressure	175 PSI
Max working water temperature	140°F
Hydrostatic test pressure	350 PSI
END CONNECTIONS	
Grooved for steel pipe (2-1/2" – 10")	AWWA C606
Flanged (2-1/2" – 10")	ANSI B16.1 Class 150
Threaded NPT (1-1/4" – 2")	ANSI B1.20.1

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 shut-off 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.

¹ For additional compliance approvals, reference spec sheets at www.zurn.com (components comply with one or more standards)

² For additional component features, reference specification sheet ZW206

Product Identification for Specifications

212-FCIS AST B G-AG NC RV

PLUMBING PIPE SIZE	
Code	Size
114	1-1/4"
112	1-1/2"
2	2"
212	2-1/2"
3	3"
4	4"
6	6"
8	8"
10	10"

BASE PART NUMBER	
BACKFLOW BODY	
Code	Description
AST	Stainless Steel Backflow Body, Grooved Ends
A	Ductile Iron Backflow Body, Grooved Ends
	Ductile Iron Backflow Body, Flanged Ends (2-1/2"-10"), Bronze Body, Threaded Ends (1-1/4"-2")

SHUT-OFF VALVES	
	NRS Gate Valves (Standard)
OSY	OS&Y Gate Valves
B	Butterfly Valves

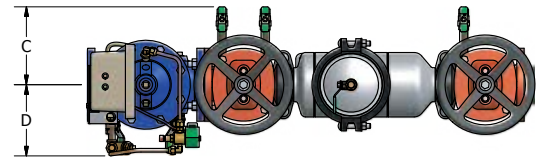
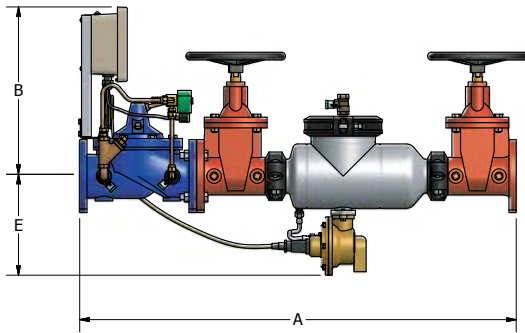
SHUT-OFF END CONNECTIONS	
	Flange x Flange User Connections (Standard)
FG	Flange x Groove User Connections
G	Groove x Groove User Connections
GF	Groove x Flange User Connections

BACKFLOW OPTIONS	
FSC	Wye Strainer on Inlet (only on Flanged Shut-Off Inlet choices)
-AG	Drain Air Gap Fitting Supplied

SOLENOID PREWIRED CONFIGURATIONS	
	Normally Open (opens on power failure) (Standard)
NC	Normally Closed (closes on power failure)

ACV OPTIONS	
Z	ACV Visual Position Indicator
ST	Stainless Steel Tubing
RV	Pilot Installed on Reverse Side of ACV

Installation

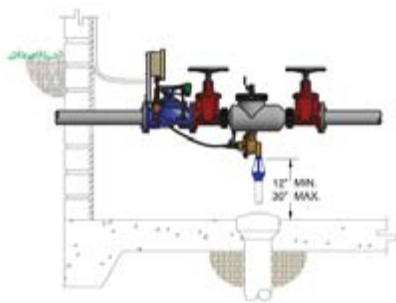


Model 375ASTMS Backflow shown

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	lb	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

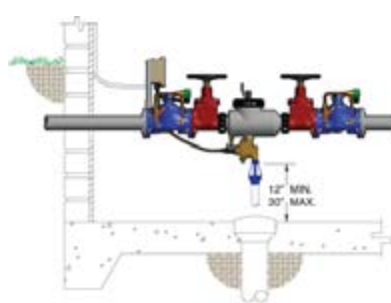
Dimensions and weights do not include packaging and will vary based on backflow model and shut-off valve options.

*Comes with Position Indicator option



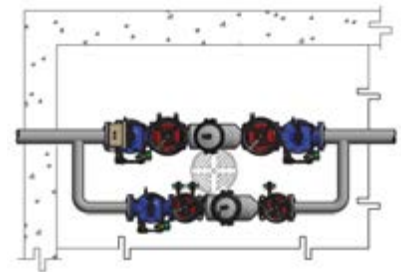
Single Water Shutdown

A single ZW206 Solenoid Control Valve to shut down 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 are 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

Includes 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.

Zurn Engineered Water Solutions® is a recognized leader in commercial, municipal, and industrial markets, delivering sustainable building solutions for new construction and retrofit applications. At Zurn, we are committed to providing smart solutions that save both time and money. Our goal is serving the customer through innovation, continuous improvement, and assurance behind every installation. Choose Zurn as a reliable, recognized manufacturer to supply your entire installation, from behind the wall rough-in, to finish trim product and fixture systems.



Zurn Wilkins
1747 Commerce Way
Paso Robles, CA 93446, 855-663-9876

In Canada
Zurn Industries Limited
7900 Goreway Drive, Unit 10
Brampton, Ontario L6T 5W6, 905-405-8272

US 1.855.ONE.ZURN CANADA 1.905.405.8272 ZURN.COM

Form No. 480-028, 10/17