**SECTION 221119 – DOMESTIC WATER PIPING SPECIALTIES**

**ZURN GUIDE SPECIFICATION**

The following specification text has been prepared by Zurn to assist design professionals in the preparation of a specification for reduced pressure type backflow preventers and relief valves.

Utilize these paragraphs to insert text into Specification **Section 22 11 19 – Domestic Water Piping Specialties** or similarly titled section governing this work.

The following should be noted in using this document:

Optional text requiring a selection by the user is enclosed within brackets and as [Red.] text.

Items requiring user input are enclosed within brackets and as red text, e.g.: "[2] [\_\_] years."

For assistance on the use of the products in this section, contact Zurn by calling 1-855-663-9876 or visit their website [www.zurn.com](http://www.zurn.com/)

Section 22 11 19, Domestic Water Piping Specialties

Part 1 – GENERAL

1.1 Submittals

* + 1. Action Submittals:
			1. Submit product data sheets for all products specified in Part 2 of this Section.
		2. Informational Submittals:

Use only for test results and inspection/test log cards for backflow preventers.

* + - 1. Submit signed test results and inspection and test log cards for each backflow preventer as specified in Part 3 of this Section.

part 2 – products

2.1 MANUFACTURERS

 Contract Documents are based on Zurn. [www.zurn.com](http://zurn.com/)

 Substitutions: [Refer to Division 01.] [Not permitted.]

2.2 **REDUCED PRESSURE PRINCIPAL Backflow Preventers**

Use the following for a Model FCIS “plumb**SMART”** backflow preventer with integral relief valve monitor and automatic ACV shutoff:

* + 1. Zurn Industries Model FCIS “plumb**SMART**” prewired package assembly consisting of a Model [375ASTW1] [375AW1] [375W1] backflow preventor sized as shown that detects and measures relief valve discharge in real-time and is attached to a solenoid control valve to shut-off the water supply when excessive discharge occurs by means of an integral relief valve position monitor.
		2. The assembly is to be NSF/ANSI/CAN 61 and 372 lead free certified, 175 psi and 140° F maximum pressure and temperature rated, and complete with:
			1. a [stainless steel] [ductile iron] backflow body
			2. inlet and outlet [NR] [OS&Y] [butterfly] shut-off valves
			3. a Model ZW206 24 VAC normally open solenoid valve
			4. a “plumb**SMART**” portal that monitors discharge volume and pressure anywhere in the building and receives real-time alerts
			5. an air gap fitting
			6. [an optional wye strainer]
			7. [an optional [ZGW-LORA-W1-LTE] [[ZGW-LORA-W1-ETH] gateway for LTE or Ethernet communication

Use the following for a Model 975XL3backflow preventer.

* + 1. Zurn Industries Model 976XL3 reduced pressure zone backflow preventer, inline serviceable, sized as shown, NSF/ANSI/CAN 61 and 372 lead free certified, ASSE listed, UL classified, 175 psi and 180° F maximum pressure and temperature rated, and complete with:
			1. an ASTM B584 cast bronze body body and access cover
			2. stainless steel fasteners
			3. FDA approved Polymers
			4. 300 Series stainless steel springs
			5. inlet and outlet shut-off valves (full port ball or OS&Y type)
			6. 2 positive seating check valve modules with captured springs and replaceable seats and silicone seat discs
			7. an internal pressure differential relief valve located between the check valve modules
			8. 4 resilient seat ball type test cocks
			9. an air gap fitting

2.3 LAVATORY SUPPLY FITTING TEMPERING VALVES

* + 1. Zurn Model [ZW3870XLT 3 port] [ZW3870XLT-4P 4 port] “Aqua-Gard”, NSF/ANSI/CAN 61 lead free certified CSA B125 certified, ASSE 1070 listed, chrome plated, cast bronze, ⅜” thermostatic mixing valve, adjustable for water supply between 95° F and 115° F (± 3° F), and complete with:
			1. a Polysufone piston
			2. a Noryl GFN2 guide tube
			3. a 300 Series stainless steel spring
			4. Viton seats
			5. Integral check valves and strainer screens in both hot and cold water supplies
			6. a stainless steel flush or surface (as shown) wall mounting cabinet with vandal-proof hinged door

2.4  Pressure Reducing Valves

* + 1. Zurn Model 500XL3, NSF/ANSI/CAN 61and 372 lead free certified, balanced piston design, 400 psi and140°F maximum pressure and temperature rated, each factory set to the required pressure, field adjustable and complete with:
			1. an ASTM B806 cast bronze valve body and bell housing
			2. 300 Series stainless steel fasteners, plunger, stem and springs
			3. a “Noryl” removable cartridge
			4. screwed copper double union or flanged connections as required
		2. [Optional items as follows:
			1. [“HR” high range outlet adjustable from 60 psi to125 psi]
			2. [“Y” bronze 300 psi rated inlet Y strainer]
			3. [“FY” 200 psi rated fused epoxy coated inside and outside ductile iron inlet strainer]
			4. [“G” tapped and plugged with pressure gauge]

part 3 - EXECUTION

3.1 Installation Of Backflow Preventers

* + 1. Provide backflow preventers where shown, including in each direct domestic cold water connection to equipment other than plumbing fixtures and fittings, and specialties equipped with vacuum breakers.
		2. Locate each backflow preventer on a wall between 30" and 60" above the floor such that it is easily accessible for maintenance and testing. Equip each backflow preventer with an air gap fitting and pipe the reduced pressure zone water outlet to drain.

Use the following for a backflow preventer with discharge and pressure monitor. Note that a 120/1/60 dedicated circuit with 24VAC secondary transformer should be provided adjacent to the backflow preventor as part of the Division 26 electrical work.

* + 1. Connect the monitor with 24 VAC wiring in accordance with the manufacturer’s instructions and Division 26 wiring requirements.

Use the following if a communications gateway is provided and indicate location on the drawings.

* + 1. Locate the communications gateway where shown and do al required connection work in accordance with the manufacturer’s instructions and Division 26 wiring requirements.
		2. Test operation of each backflow preventer in accordance with requirements by personnel certified for such testing by governing authorities and submit signed test results and a properly and clearly identified and marked inspection and test record card for each backflow preventer.

3.2 Installation Of LAVATORY SUPPLY FITTING TEMPERING Valves

* + 1. Provide domestic hot water thermostatic mixing valves in wall cabinets where shown. Confirm exact location prior to installation.
		2. Adjust each valve to design requirements and check and test operation.
		3. Identify each valve and its water temperature delivery setting with an engraved nameplate.

3.3 Installation Of Pressure Reducing Valves

* + 1. Provide domestic water pressure reducing valves in piping where shown and/or specified. Install so that each valve is readily accessible.
		2. Whenever possible, provide pressure reducing valves factory pre-set to required pressures.
		3. Check and test operation and adjust as required.

END OF SECTION