Engineering Specification

Job Name _____ Contractor _____

Job Location _____ Approval _____

Engineer _____ Contractor's P.O. No. _____

Approval _____ Representative _____

Series 825Y

Reduced Pressure Zone Assemblies

¾" – 2"

⚠ WARNING

It is illegal to use this product in any plumbing system providing water for human consumption, such as drinking or dishwashing, in the United States. Before installing standard material product, consult your local water authority, building and plumbing codes.

825Y-FS

FEBCO Series 825Y Reduced Pressure Zone assemblies are used to protect against high hazard (toxic) fluids in water services to industrial plants, hospitals, morgues, mortuaries, and chemical plants. They are also used in irrigation systems, boiler feed, water lines and other installations requiring maximum protection.

The series includes a flood sensor to detect excessive water discharges from the relief valve. The sensor is installed on the assembly exterior and does not alter assembly functions or certifications. The sensor relays a signal that triggers notification to facility personnel for corrective action, thus limiting flooding and costly damage.

NOTICE

An add-on connection kit is required to activate the flood sensor. Without the connection kit, the sensor is a passive component that has no communication with any other device. (For more information download RP/IS-F-825Y.)

Features

- Ultimate mechanical protection of potable water, against hazards of cross-connection contamination
- Meets all specifications of AWWA, ASSE, and CSA
- Approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California
- Modular relief valve for ease of maintenance
- Simple service procedures
- All internal parts serviceable in line
- Low head loss
- Spring loaded "Y" type check valves
- Internal relief valve pressure sensing passages
- Replaceable seat rings on all sizes
- End connection – NPT ANSI / ASME B1.20.1
- Sensor on the relief valve for flood detection
- Flood alerts feature activated with add-on sensor connection kit, compatible with BMS and cellular communication

Operation

In a flow condition the check valves are open with the pressure between the checks, called the zone, being maintained at least 5 psi lower than the inlet pressure and the relief valve is maintained closed.

Should abnormal conditions arise under no flow or reversal of flow, the differential relief valve opens and discharges to maintain the zone at least 2 psi lower than the supply.

When normal flow resumes, the differential pressure in the zone resumes and the relief valve closes.

NOTICE

Use of the flood sensor does not replace the need to comply with all required instructions, codes, and regulations related to installation, operation, and maintenance of this product, including the need to provide proper drainage in the event of a discharge.

Watts® is not responsible for the failure of alerts due to connectivity or power issues.

NOTICE

The information contained herein is not intended to replace the full product installation and safety information available or the experience of a trained product installer. You are required to thoroughly read all installation instructions and product safety information before beginning the installation of this product.

Inquire with governing authorities for local installation requirements.

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Specification

The reduced pressure zone assembly shall consist of two independently operating, spring loaded, "Y" pattern check valves and one hydraulically dependent differential relief valve. The assembly shall automatically reduce the pressure in the "zone" between the check valves to at least 5 psi lower than inlet pressure. Should the differential between the upstream and the zone of the unit drop to 2 psi, the differential relief valve shall open and maintain the proper differential.

Mainline valve body and caps including relief valve body and cover shall be bronze. Check valve moving member shall be center stem guided. All hydraulic sensing passages shall be internally located within the mainline and relief valve bodies and relief valve cover. Diaphragm to seat area ratio shall be 10:1 minimum. Relief valve shall have a removable seat ring. Check valve and relief valve components shall be constructed so they may be serviced without removing the valve body from the line. All seat discs shall be reversible. Shutoff valves and test cocks shall be full ported ball valves.

The assembly shall be rated to 175 psi (12.1 bar) working pressure and water temperature range from 32°F to 140°F (0ºC to 60ºC).

The assembly shall meet the requirements of ASSE Standard 1013; AWWA Standard Code C511; CSA Standard B64.4; and approved by the Foundation for Cross-Connection Control and Hydraulic Hydraulic Research at the University of Southern California.

The assembly shall be FEBCO Series 825Y, and shall include a sensor on the relief valve for flood detection.

Dimensions – Weights

Call customer service if you need assistance with technical details.

SIZE	DIMENSIONS										WEIGHT	
	A		B*		C		D		E			
in.	*in.*	*mm*	*In.*	*mm*	*in.*	*mm*	*in.*	*mm*	*in.*	*mm*	*lb*	*kg*
¾	12	305	7¾	197	3¼	83	3¼	83	4⅛	105	11.5	5.2
1	12¾	324	7¾	197	3¼	83	3¼	83	4⅛	105	12.5	5.7
1½	17	432	10½	267	4⅞	124	5¼	134	5 7/16	138	26.7	12.1
2	17¾	451	10½	267	4⅞	124	5¼	134	5 7/16	138	29.2	13.2

* B dimensions are less shutoffs.

NOTICE

Weights shown are approximate. Dimensions shown are nominal, allowance must be made for normal manufacturing tolerances.

Temperature – Pressure

Maximum working pressure	175 psi (12.1 bar)
Hydrostatic test pressure	350 psi (24.1 bar)
Temperature range	32ºF to 140ºF (0ºC to 60ºC)

Materials

Main valve body	Bronze
Relief valve body	Bronze
Elastomers	Nitrile seat discs
Diaphragms	Nitrile, fabric reinforced
Springs	Stainless steel

Model/Option

FS	Flood detection sensor

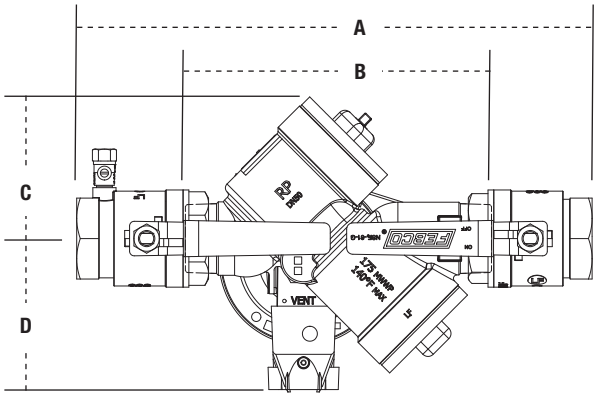
Approvals – Standards

Approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California

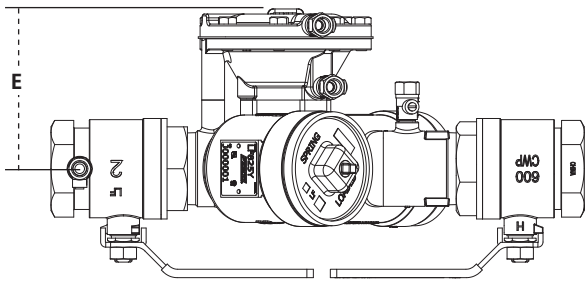
AWWA C511 Conformance

1013 B64.4

Side View



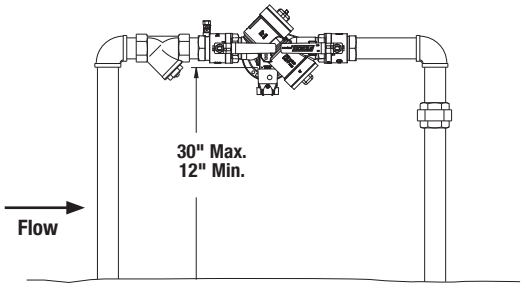
Top View



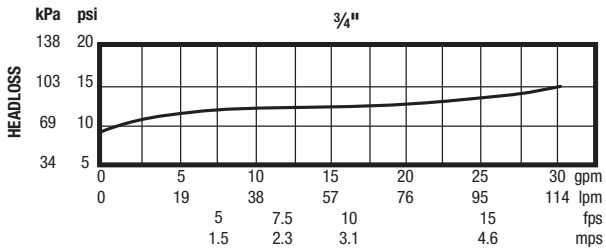
Typical Installation

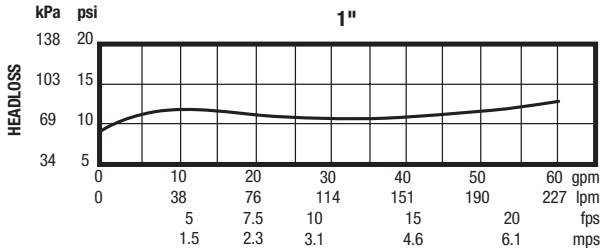
Reduced pressure zone assemblies should be installed with minimum clearance of 12" between relief valve discharge port and floor or grade. They must be installed where discharge is not objectionable and can be positively drained away. They should be installed where easily accessible for testing and maintenance and must be protected from freezing. Thermal water expansion and/or water hammer downstream of the backflow preventer can cause excessive pressure. Excessive pressure situations should be eliminated to avoid possible damage to the system and assembly.

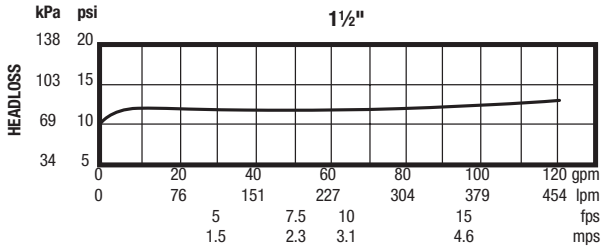
Refer to local codes for specific installation requirements. Some codes may prohibit vertical installation.

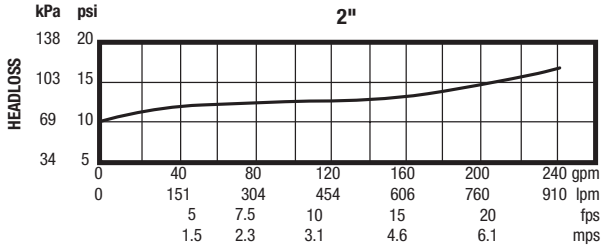


Capacity









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