

Model 825 Reduced Pressure Backflow Preventer For High Hazard Service



Features

- Ultimate mechanical protection of potable water against hazards of cross connection contamination.
- Exceeds all specifications of AWWA, ASSE, CSA and USC Foundation for Cross Connection Control and Hydraulic Research and UL classified for fire line service.
- Documented flow curves established by University of Southern California Foundation for Cross Connection Control and Hydraulic Research.
- Simple service procedures. All internal parts serviceable in line.
- Double diaphragm differential relief valve.
- Independent spring loaded "Y" type check valves.
- Replaceable seats on both check valves and differential relief valve.
- Corrosion resistant internal. Epoxy coating is standard.

Description

The Febco 825 RP Device consists of two independent "Y" pattern spring loaded check valves, a differential pressure relief valve mounted between the two checks, and four testcocks. An inlet shutoff valve and an outlet shutoff valve are added to make a complete and serviceable assembly. In normal operation, 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 backflow, the differential relief valve will open and discharge to maintain the zone at least 2 PSI lower than the inlet pressure; thus preventing the contamination of the supply.

Materials

Bronze bodies with bronze trim are used on 825 units 2" and smaller. 825 2-1/2" through 10" are cast iron bodies with bronze trim and have internal epoxy coating standard.

Nitrile seat discs and fabric reinforced nitrile diaphragms. Springs are stainless steel. Gate valves supplied are non rising stem. OS&Y gate valves and resilient wedge gates valves optional.

Specifications

The reduced pressure backflow preventer shall consist of two separate spring loaded "Y" type check valves and one differential relief valve having two diaphragms separated by a spacer. The relief valve port shall be located below the lowest portion of the first check seat. This device shall automatically reduce the pressure in the "zone" between the check valves. 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.

Both check valves and the differential relief valve shall be constructed so they may be serviced without removing the device from the line.

Backflow preventers 2" and smaller shall have bronze bodies with bronze trim. 2-1/2" and larger shall have cast iron bodies with internal epoxy coating and bronze trim. All springs shall be stainless steel. Rated to 150 PSI working pressure and water temperatures from 32°F to 140°F.

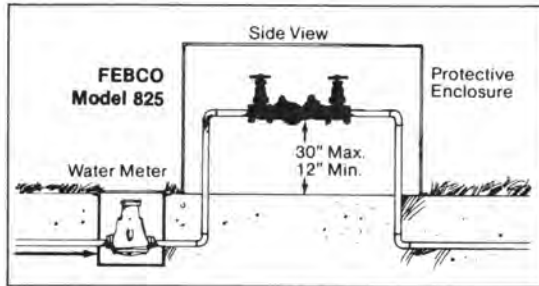
The device shall meet the requirements of ASSE Standard 1013, AWWA Standard C506-78, and USC Foundation for Cross Connection Control and Hydraulic Research, Fifth Edition.

Typical Applications

RP devices 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.

Installation

Reduced Pressure Backflow Preventers should be installed with minimum clearance of 12" between port and floor or grade. They must be installed where any discharge will not be objectionable and can be positively drained away. They should be installed where easily accessible for testing and maintenance and must be protected from freezing. Larger sizes should have support blocks to prevent flange damage. Thermal water expansion and/or water hammer down stream of the Backflow Preventer can cause excessive pressure. Excessive pressure situations should be eliminated to avoid possible damage to the system and device.



Approvals Model 825 1-1/2" — 10"

ASSE USC IAMPO SBCC CSA UL*

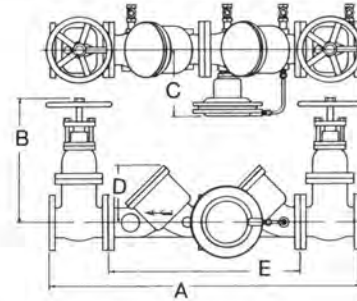
*2-1/2" through 10"

Characteristics

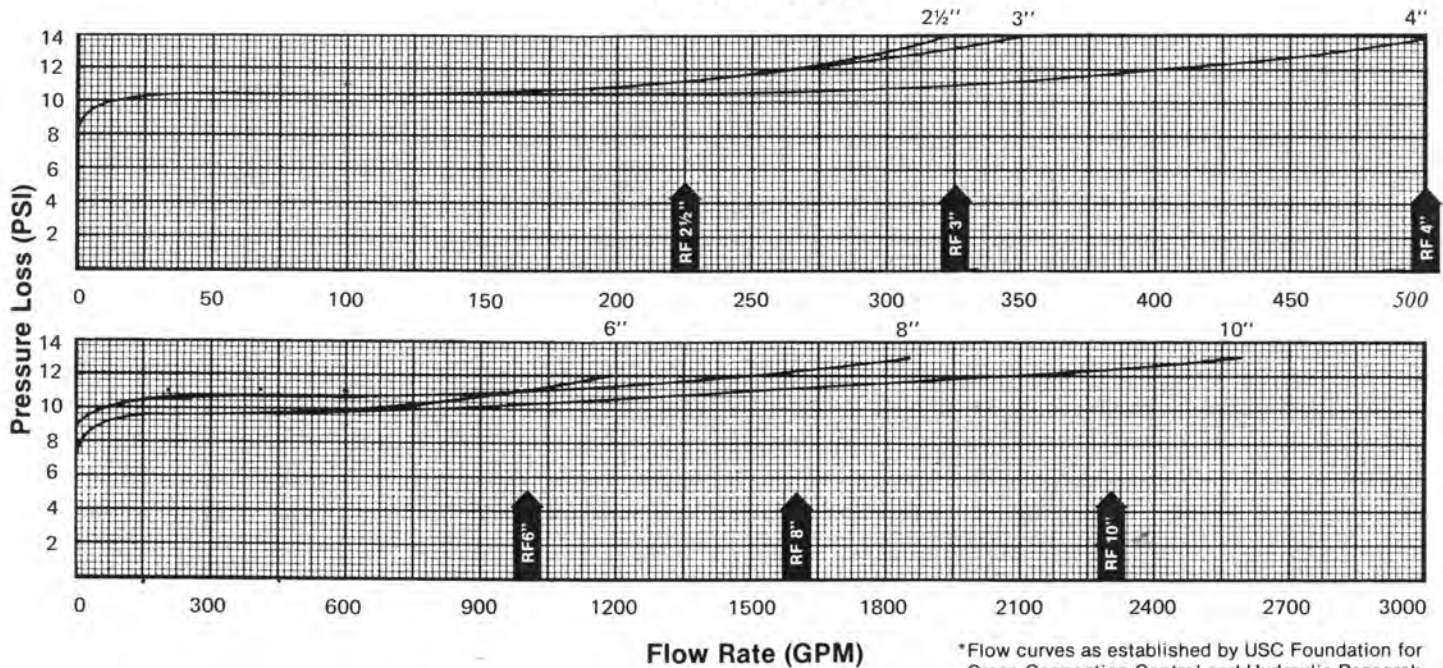
Maximum working pressure	150 PSI
Hydrostatic test pressure	300 PSI
Temperature range	32°F to 140°F
Fluid	Water
End detail	1-1/2" and 2": Threaded ANSI B2.1 2-1/2"-10": Flanged ANSI B16.1
Main valve body	Bronze ASTM B-62 (1-1/2" and 2") Gray iron ASTM A-126 (2-1/2"-10") epoxy coated internal
Main valve trim	Bronze ASTM B-61
Relief valve body and trim	Bronze ASTM B-61
Elastomers	Nitrile ASTM D-2000 Diaphragms: Nitrile, fabric reinforced

Dimensions and Weights

Size	A	B	C	D	E	Wt./lbs.
1-1/2"	27-1/16"	7"	9"	5-3/4"	16-13/16"	90
2"	34-7/16"	12"	10"	6-1/4"	18-1/16"	136
2-1/2"	37-3/16"	12-1/2"	10-1/2"	7-1/2"	22-1/16"	280
3"	41-11/16"	14"	11-1/2"	8-1/16"	29-9/16"	285
4"	50-7/16"	17-3/8"	12-1/2"	11"	32-5/16"	460
6"	59-11/16"	21-1/4"	14"	14"	38-9/16"	775
8"	69-3/16"	26"	15"	18"	46-1/16"	1270
10"	84-3/16"	30"	16"	22"	58-1/16"	1720



Flow Curves*



*Flow curves as established by USC Foundation for Cross Connection Control and Hydraulic Research. RF = Rated Flow per established standards.



P.O. Box 8070, Fresno, California 93747, (209) 252-0791
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