

FEBCO 825YD

SIZE

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

DESCRIPTION

This assembly is a reduced pressure principle assembly. Production began in 1989 and was discontinued in 2013. The check design utilizes the 805YD construction. The check bodies are made of ductile iron. From 1989-1990 the bodies were coated with a painted epoxy coating. In 1991 they switched to a fused epoxy coating. Internal check hardware is stainless steel. The 2 1/2"-3" have uncontained check springs. The 4"-10" sizes have contained check springs. Check seats on all sizes are bronze and replaceable. The relief valve design was changed from the 825/825D design. The relief valve mounts on the side of the check body and can be detached from the check body. The relief valve can be mounted on either side of the check body. The relief valve utilizes an external relief valve sensing line. The relief valve has a contained spring and a replaceable seat. The relief valve spring tension must be released for a proper repair.

BASIC REPAIR KIT

Repair kit contains all rubber discs, O-rings, rolling diaphragms, and washers.

<u>SIZE</u>	<u>KIT NO</u>	<u>AIR GAP DRAIN</u>
2 1/2"	82Y250 *	AGDL
3"	82Y300 *	AGDL
4"	82Y400 *	AGDL
6"	82Y600 *	AGDL
8"	82Y800 *	AGDL
10"	82Y001 *	AGDL

IMPORTANT FEATURES

~Ductile iron check body

~Stainless steel check hardware

~Replaceable seats

~2 1/2"-3" does not have contained springs

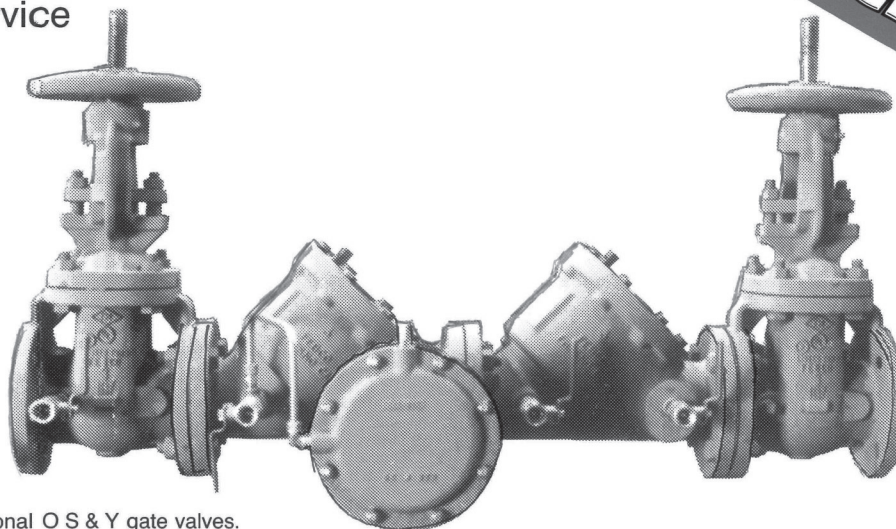
~Factory repair information enclosed





**Model 825YD (2½" through 10")
Reduced Pressure Backflow Preventer
For High Hazard Service**

**NOW WITH
DuraCheck®**
STAINLESS STEEL



* Shown with optional O S & Y gate valves.

Features

- The **DuraCheck** features all stainless steel check assemblies for corrosion resistance, reduced fouling and longer valve life.
- **DuraCast®** ductile iron body for superior strength, corrosion resistance and lighter weight.
- Ultimate mechanical protection of potable water against hazards of cross connection contamination.
- Meets all specifications of AWWA, ASSE, 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.
- All bronze modular relief valve for ease of maintenance.

Operations

In a flow condition the check valves are open with the pressure between the checks, called the zone, being maintained at least 5.0 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 will open and discharge to maintain the zone at least 2 PSI lower than the supply.

In resumption of normal flow, the zone's differential pressure will resume and the relief valve will close.

Typical Specifications

Reduced pressure backflow preventer assemblies shall consist of two independent "Y" configured check valves and one differential relief valve.

By design, the assembly shall automatically reduce the pressure in the zone between the check valves. Should the differential between the zone and upstream pressure drop to 2 PSI, the differential relief valve will open, maintaining proper zone differential.

All internal metal parts included in the check assemblies shall be of Series 300 stainless steel, and shall not contain any dissimilar metals. Elastimeric seat discs on the checks and relief valve must be reversible and seat rings shall be B-61 bronze, or Series 300 stainless steel. The check assembly shall be center stem guided at the seat ring and at the cover by replaceable non-corrosive bushings. Relief valve spring is to be Series 300 stainless steel.

Head losses through the assembly shall not exceed 12.5 PSI at velocities from zero up to and including 7.5 FPS. Flow curves shall be documented by independent laboratory testing.

Valve bodies and cover shall be manufactured of ductile iron ASTM A536, Grade 65-45-12 and shall be designed to withstand a 10-1 safety factor over rated cold water working pressure. Ductile iron bodies shall be flanged, ANSI B16.1, Class 125, epoxy coated internally 10-20 mils.

All orifices of the pressure sensing passages must be located out of the normal debris flow path or settling areas. External sensing tubing shall be copper, ASTM B280.

Reduced pressure backflow preventer assemblies shall include flanged, full port resilient wedge shut-off valves and four vandal resistant ball valve testcocks, considered integral to the assembly. Assemblies must be factory assembled and backflow tested.

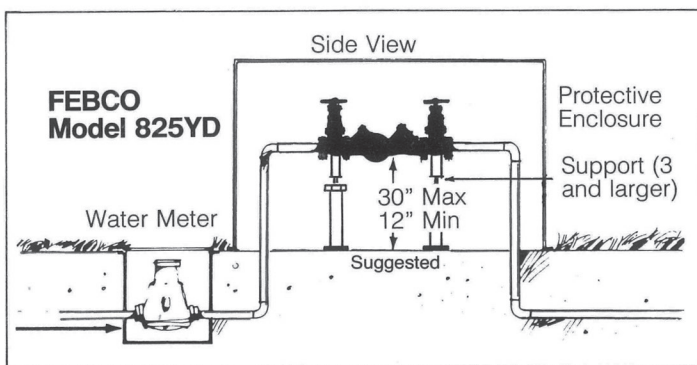
The assemblies shall be constructed so all internal parts, including seat rings, can be serviced from the top or side or removed while assembly is in line. The assembly shall be rated 175 MWWP (32°- 140°F).

Characteristics and Materials

Maximum working pressure	175 PSI
Hydrostatic test pressure	350 PSI
Temperature range	32°F to 140°F (0°C to 60°C)
Fluid	Water
End detail	2½"-10" Flanged ANSI B16.1
Main valve body	Ductile iron ASTM A-536 grade 65-45-12 epoxy coated internal 10-20 mils
Main valve trim	Bronze ASTM B-61
Internal check assembly	Stainless steel, 300 series
Relief valve body and trim	Bronze ASTM B-61
Elastomers	Nitrile ASTM D-2000 Diaphragms: Nitrile, fabric reinforced
Springs	Stainless steel, 300 series
Internal check assembly	Stainless steel, 300 series
Shut-offs	Non-rising stem, metal seated gates, standard. Others available.
Type	Type D on name plate indicates dual diaphragm relief valve Type YD—Cartridge RV.

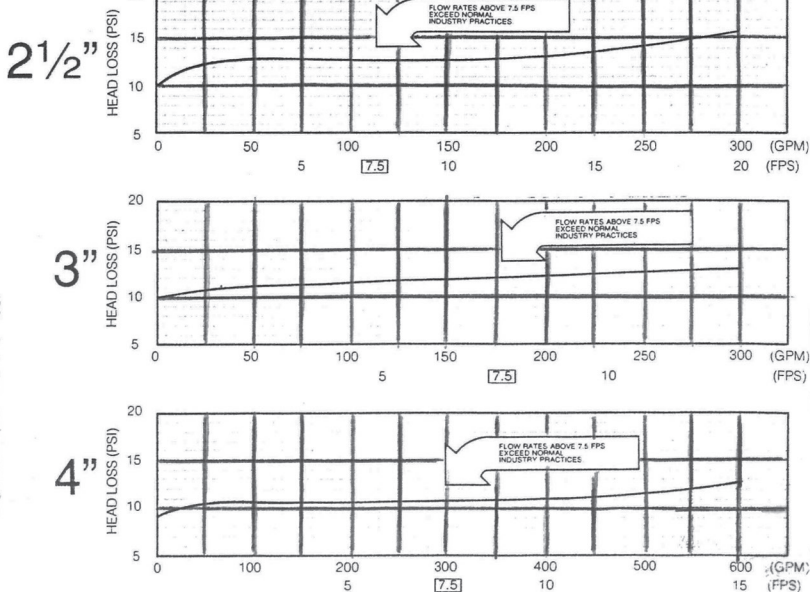
Installation

Reduced Pressure Backflow Preventers should be installed with a suggested 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 assembly.



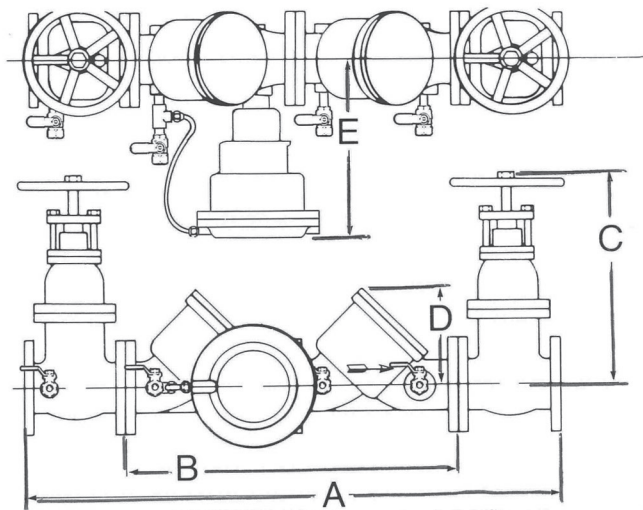
Model 825YD (2½", 3", and 4") FLOW CURVES

Flow Curves as Established by the USC Foundation for Cross Connection Control and Hydraulic Research



Typical Applications

RP assemblies 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.



Dimensions and Weights** (U.S.-Inches)

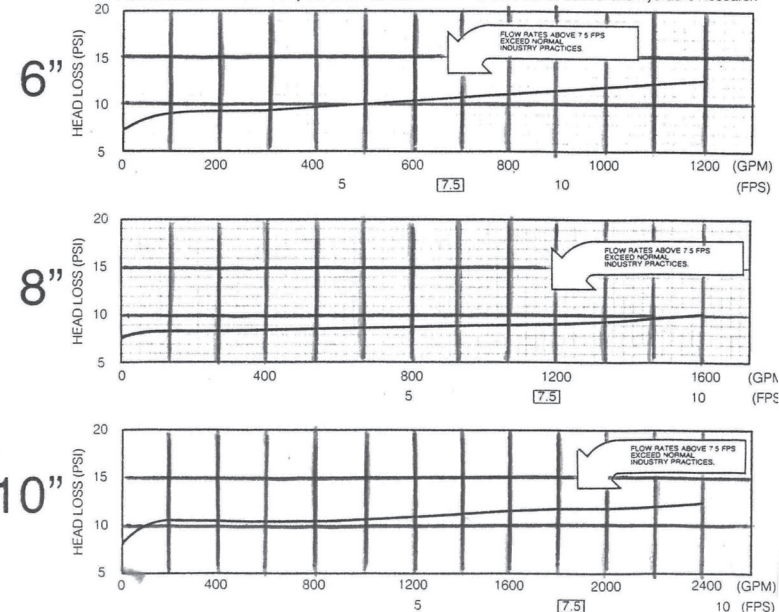
SIZE	A	B	C*	D	E	NET WT.(Lbs.)
2½	37 3/16	22 1/16	12 1/2	7 1/2	11	178
3	41 11/16	25 9/16	14	8 1/16	12	213
4	50 7/16	32 5/16	17 3/8	11	13	360
6	59 11/16	38 9/16	21 1/4	14	15	601
8	69 3/16	46 1/16	26	18	16	892
10	84 3/16	58 1/16	30	22	17	1593

* Applies to NRS gated units only.

** Subject to manufacturing tolerances.

Model 825YD (6", 8", and 10") FLOW CURVES

Flow Curves as Established by the USC Foundation for Cross Connection Control and Hydraulic Research



FLOW RATE (In GPM and FPS)

NOTE: 1. Velocities are calculated for flows in schedule 40 steel pipe.
2. Typical water system flow velocities of 0 to 7.5 FPS should be used for head loss efficiency comparisons.

825YD

CHECK ASSEMBLY 4" - 10"

- 1 Body
- 2 Ck Seat
- 2A Lower Bushing
- 2C Washer
- 2D Bolt
- 3 Spring Retainer
- 4 Ck Cover
- 4A Upper Bushing
- 5 Ck Disc Holder
- 6 Ck Disc Retainer
- 7 Ck Stem
- 7A Bolt
- 7B Washer
- 9 Ck Spring
- 10 Ck Spring

COVER AND CHECK ASSEMBLY

2 1/2" - 3"

