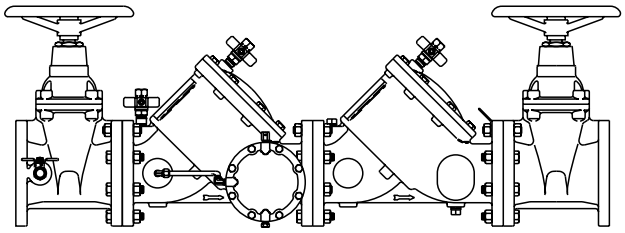
SPECIFICATION SHEET MODEL 825YD (2-1/2" -10")

FEBCO®
BACKFLOW PREVENTION

Reduced Pressure Assembly



FEBCO MODEL 825YD (2-1/2" - 10")

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, the Foundation for Cross Connection Control and Hydraulic Research at the University of Southern California, and UL classified for fire sprinkler 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.

Operation

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 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, boilerfeed, water lines and other installations requiring maximum protection.

Specification

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.

Valve bodies and cover shall be manufactured of ductile iron ASTM A536, Grade 65-45 12, Ductile iron bodies shall be flanged, ANSI B16.1, Class 125, epoxy coated.

The assembly 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°-14°F).

Relief valve assembly shall be of a modular design for ease of maintenance.

The assembly shall meet or exceed requirements of ASSE standard 1013, AWWA standard C511-89, and the USC Foundation for Cross Connection Control and Hydraulic Research at the University of Southern California.

Reduced pressure backflow preventer assemblies shall be FEBCO 825YD, or prior approved equal.

Agency Compliance

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

ASSE Listed (Std. 1013)

ANSI/AWWA Conformance (C511-89)

CAN/CSA Certified (B64.4)

ULC Listed (2-1/2", 3", 6"-10")

UL Listed•

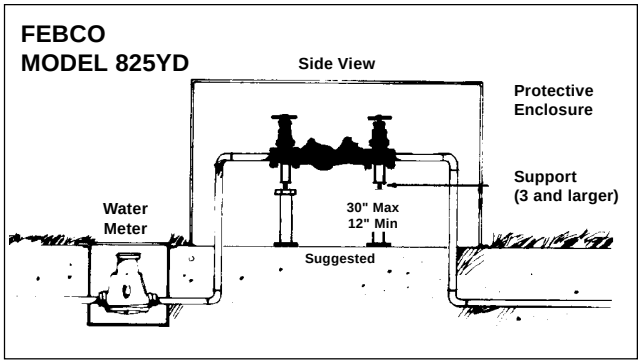
FM Approved•

* Valves must be supplied with resilient seated shut-off valves for USC approvals to be in effect. Standard Meter is GPM.

• UL and FM Listings only applicable with approved OS&Y gates.

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.

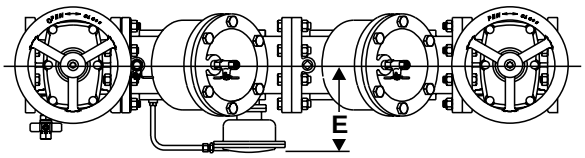


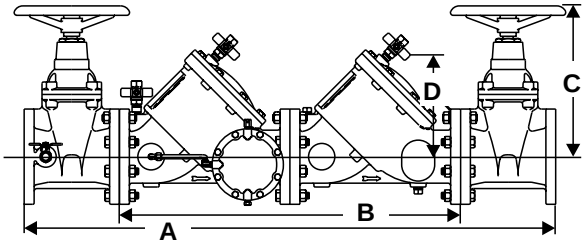
Dimensions and Weights** (U.S.-Inches)

(U.S. - Inches)						
SIZE	A	B	C*	D	E	NET WT. (Lbs.)**
2.5	37 3/16	22 1/16	12 5/8	7 1/2	11	178.0
3	41 11/16	25 9/16	12 7/8	8 1/16	12	213.0
4	50 7/16	32 5/16	14 3/8	11	13	360.0
6	59 11/16	38 9/16	18 7/8	14	15	601.0
8	69 3/16	46 1/16	23 1/2	18	16	892.0
10	84 3/16	58 1/16	27 1/2	22	17	1593.0

(Metric - MM)						
SIZE	A	B	C*	D	E	NET WT. (Kgs.)**
65	944.6	560.4	320.7	190.5	279.4	80.7
80	1058.9	649.3	327.0	204.8	304.8	96.6
100	1281.1	820.7	365.1	279.4	330.2	163.3
150	1516.1	979.5	479.4	355.6	381.0	272.6
200	1757.4	1170.0	596.9	457.2	406.4	404.6
250	2138.4	1474.8	698.5	558.8	431.8	722.6

* Applies to NRS gated units only.
** Subject to manufacturing tolerance.





Characteristics and Materials

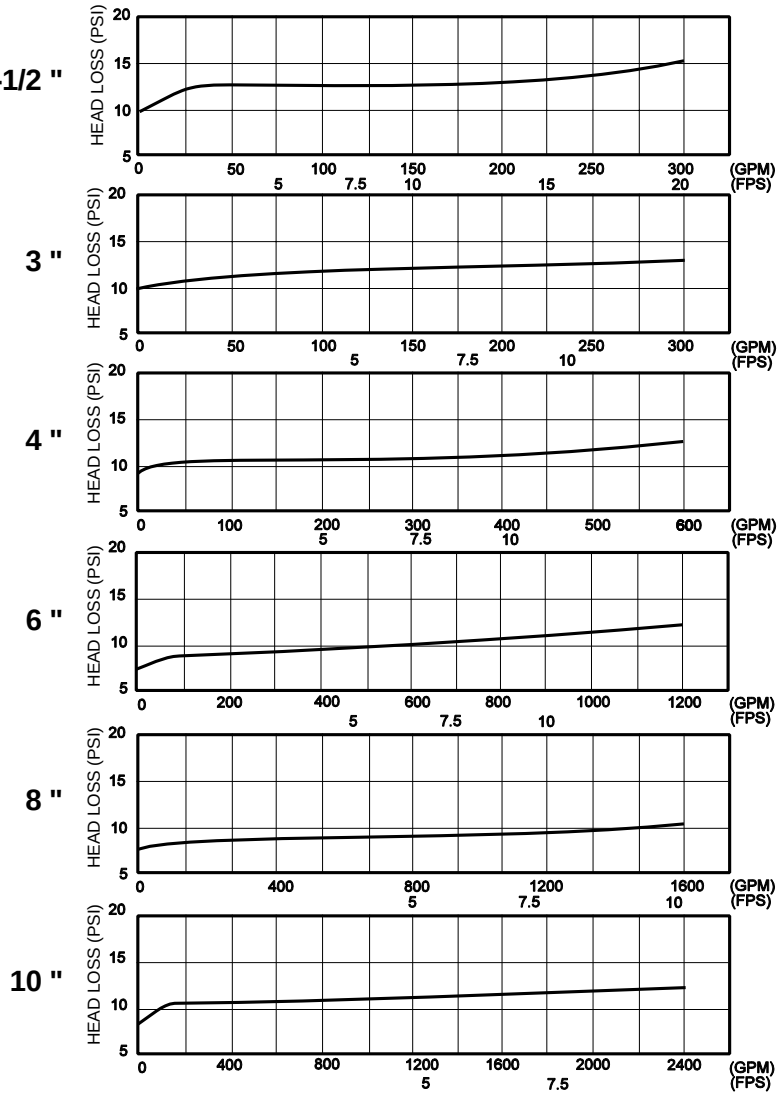
Maximum working pressure	175 PSI (1200 KPa)
Hydrostatic test pressure	350 PSI (2400 KPa)
Temperature range	32°F to 140°F (0°C to 60°C)
Fluid	Water
End detail	2-1/2" - 10" Flanged ANSI B16.1
Main valve body	Ductile iron grade 65-45-12 fusion epoxy coated internal and external
Main valve trim	Bronze
Internal check assembly	Stainless steel
Relief valve body and trim	Bronze
Elastomers	Nitrile Diaphragms: Nitrile, fabric reinforced
Springs	Stainless steel
Internal check assembly	Stainless steel
Shut-offs	Non-rising stem, resilient seated gates

Options

- ☐ Air Gap Drain
- ☐ OS & Y Gate Valves
- ☐ Left Handed Relief Valve

Model 825YD Flow Curves

Documented flow curve established by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California.



FLOW RATE (GPM)
VELOCITY (FPS)

Distributed by:
Daniel L. Jerman Co.
275 Railroad Place
Hackensack, NJ 07601

Phone 800.654.3733
Fax 201.487.3953
International Phone 201.487.7444

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