

'Apollo'® Valves

THE DEFENDER 4D-100 SERIES

SPECIFICATIONS

The Double Check Valve Assembly shall protect against backflow by either back-pressure or back-siphonage from a cross-connection between potable water system and substances that are non-health hazards.

It shall consist of two (2) mechanically independent, spring loaded, poppet type check valves set in an epoxy coated (FDA approved) ductile iron single body.

The assembly shall include four (4) resilient seated test cocks.

The assembly shall include inlet and outlet resilient seated butterfly valves. The butterfly valves shall be fitted for supervisory switch monitoring.

Alternate: The assembly shall include inlet and outlet resilient seated gate valves.

All components (except seals) of each check valve shall be 300 series stainless steel. The check valves shall be accessible for easy repair and maintenance without removing the assembly from the line. In addition, either check shall be removable for maintenance without disturbing the other. The checks shall be accessible through a common access port. The seat and spring assemblies shall be modular to the check assembly and shall be removed from the body as a unit.

The backflow preventer shall be suitable for **supply pressure up to 175 psi and water temperatures from 33° - 140°F.**

The assembly shall be designed to meet the requirements of the following standards: **ASSE 1015, CSA B64.5, UL and FM.**

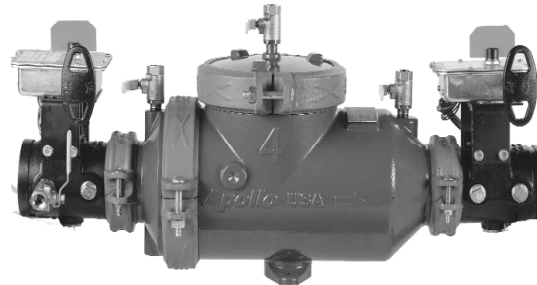
The manufacturing facility shall be **ISO 9001:2000 Certified.**

The backflow preventer shall be an **Apollo 4D-100** series manufactured by **Conbraco Industries, Inc.**

Consult local water authorities for installation/service requirements

DOUBLE CHECK VALVE ASSEMBLY

Sizes 2 1/2" - 3" - 4" - 6"



FEATURES

- Lead Free
- Stainless Steel checks for Superior Durability
- Corrosion Resistant
- Replaceable Silicone Rubber Seat Discs
- Low Head Loss
- Economical
- Short Lay Length
- Light Weight
- Designed For Easy Maintenance
- Maximum Working Pressure 175 PSI
- Operating Temperature Range 33°-140°F
- U.S. Patent #6,443,184 B1 (other patents pending)



APPROVALS

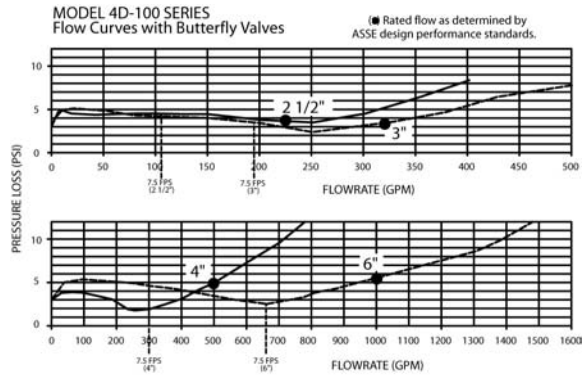
Approved under ASSE 1015, CSA B64.5, UL, and FM.



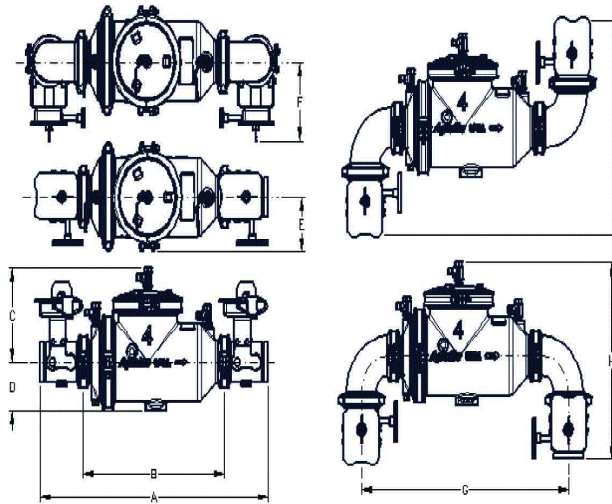
FLOW CURVES

DIMENSIONS (in.) - WEIGHTS (lbs.)

Size	2 1/2"	3"	4"	6"
A (Butterfly Valves)	33 3/8	33 7/8	35	38 1/2
A (Gate Valves)	35 1/2	37 1/2	39 7/8	45 5/8
B	21 3/8	21 3/8	21 3/8	24 1/2
C (With Butterfly Valves)	10 5/8	10 5/8	10 5/8	13
C (OS&Y Valves Open)	17	19	22 3/4	30 1/8
D	6 1/2	6 1/2	6 1/2	7 1/2
E (center to edge w/out elbows)	6 1/2	6 1/2	6 1/2	7 3/4
F (w/Elbows & Butterfly Valves)	9 3/4	10 1/2	11 7/8	13 3/4
F (w/Elbows & OS&Y Vlvs OPEN)	27 1/4	28 1/4	29 3/4	34 1/4
G	27 3/8	28 1/8	29 3/4	35 1/2
H "U" Flow (with Butterfly Valves)	20 3/8	21 1/8	22 3/8	26 1/2
H "U" Flow (with OS&Y Valves)	21 7/8	22 7/8	24 5/8	30
I "Z" Flow (with Butterfly Valves)	19 1/2	21	23 1/4	27
I "Z" Flow (with OS&Y Valves)	22 1/2	24 1/2	28	34
Test Cocks	1/2 NPT	1/2 NPT	1/2 NPT	3/4 NPT
Net Wt. (Less Gate Valves)	99	100	105	188
Net Wt. (w/Butterfly Valves)	122	124	154	251
Net Wt. (w/OS&Y Valves)	209	239	320	511
Net Wt. (w/Elbows & Butterfly Vlvs)	131	136	174	288
Net Wt. (w/Elbows & OS&Y Valves)	218	252	340	549
Shpg. Wt. (Less Gate Valves)	163	164	179	286
Shpg. Wt. (w/Butterfly Valves)	189	191	221	359
Shpg. Wt. (w/OS&Y Valves)	276	306	387	619
Shpg. Wt. (w/Elbows & Butter Vlvs)	198	203	241	396
Shpg. Wt. (w/Elbows & OS&Y Vlvs)	285	349	407	657



Curves as recorded and certified by ASSE approved laboratory



MATERIALS

Body & Cover	Fusion Bonded Epoxy Coated Ductile Iron
Test Cocks	Stainless Steel
Check Components	Stainless Steel
Springs	Stainless Steel
Seat Discs	Silicone Rubber
Fasteners	Stainless Steel
Elbows	Fusion Bonded Epoxy Coated Ductile Iron

ORDERING NUMBERS

4D-10X-0XX

9 - 2 1/2"
0 - 3"
A - 4"
C - 6"

U - with two elbows

- 1 - Less Shut-off Valves
- 2 - With Flanged NRS Gate Valves
- 3 - With Flanged OS&Y Gate Valves
- 7 - With Flanged Inlet x Grooved Outlet (both OS&Y)
- 8 - With Grooved x Grooved OS&Y gate valves
- 9 - With Grooved x Grooved Butterfly valves (supervisory switch)

PLUMBING & HEATING PRODUCTS DIVISION

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