

## SPECIFICATIONS

The Reduced Pressure Principle 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 and health hazards.

It shall consist of two (2) mechanically independent, spring loaded, poppet type check valves and a hydraulically dependent, differential relief valve 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 seat and spring assemblies shall be modular to the check assembly and shall be removed from the body as a unit.

The relief valve shall be repairable and shall be removable from the backflow assembly. The relief valve body and cover shall be 300 series stainless steel.

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 1013, CSA B64.4, UL and FM.**

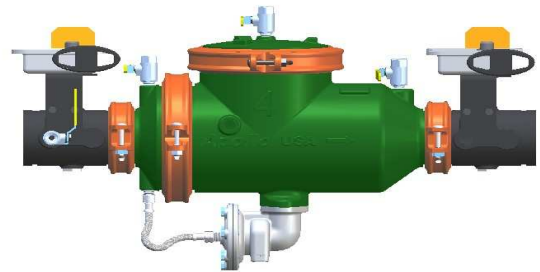
The manufacturing facility shall be **ISO 9001 REGISTERED.**

The backflow preventer shall be an **Apollo 4D-200 series** manufactured by **CONBRACO INDUSTRIES, INC**

**Consult local water authorities for installation/service requirements**

## **REDUCED PRESSURE PRINCIPLE ASSEMBLY**

**Sizes 2½" - 3" - 4" - 6"**



## FEATURES

- **Lead Free**
- **Stainless Steel Checks And Relief Valve 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)**



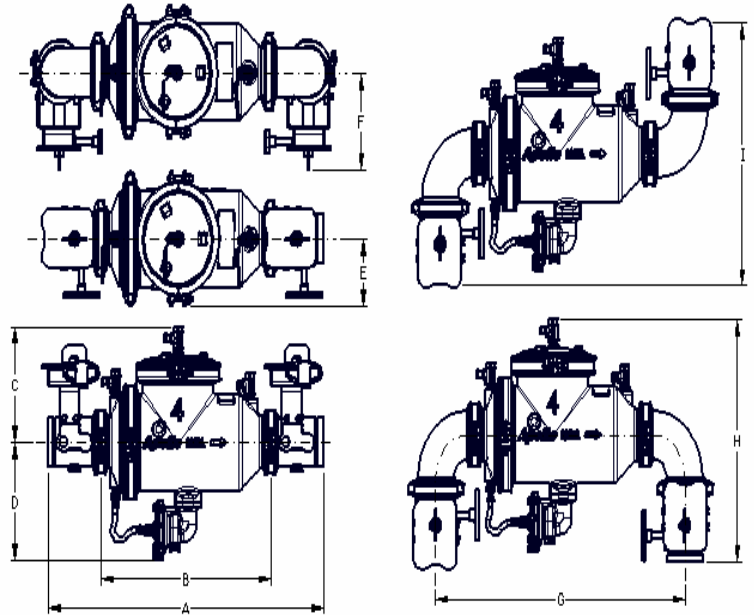
## APPROVALS

Approved under ASSE 1013, CSA B64.4, UL, and FM



## 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 1/2
D	10 3/4	10 3/4	10 3/4	11 3/4
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)	109	110	115	198
Net Wt. (w/Butterfly Valves)	132	134	154	261
Net Wt. (w/OS&Y Valves)	219	249	320	521
Net Wt. (w/Elbows & Butterfly Vlvs)	141	146	174	298
Net Wt. (w/Elbows & OS&Y Valves)	228	262	340	559
Shpg. Wt. (Less Gate Valves)	173	174	179	296
Shpg. Wt. (w/Butterfly Valves)	199	201	221	369
Shpg. Wt. (w/OS&Y Valves)	286	316	387	629
Shpg. Wt. (w/ Elbows & Butter.Vlvs)	208	213	241	406
Shpg. Wt. (w/ Elbows & OS&Y Vlvs)	295	359	407	667



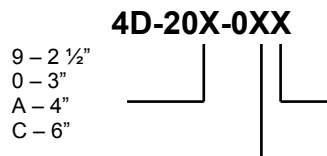
U – with two elbows

- 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)

## MATERIALS

Body & Cover	Fusion Bonded Epoxy Coated Ductile Iron
Relief Valve Body & Cover	Stainless Steel
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
Relief Valve Seat & Stem	Noryl®

## ORDERING NUMBERS



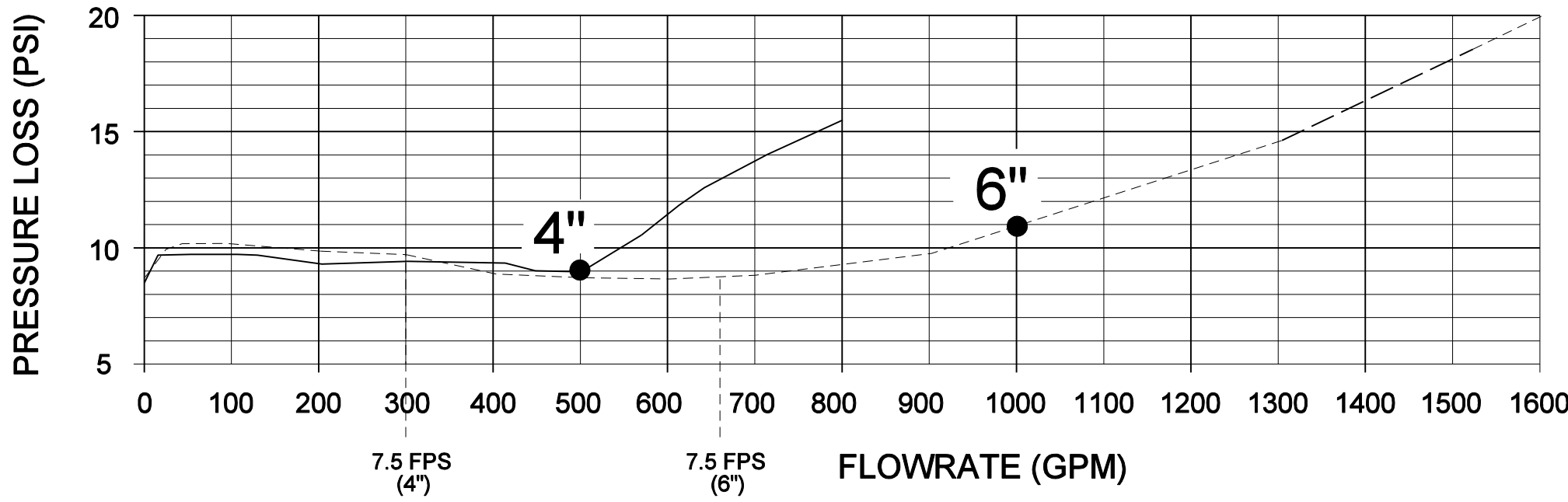
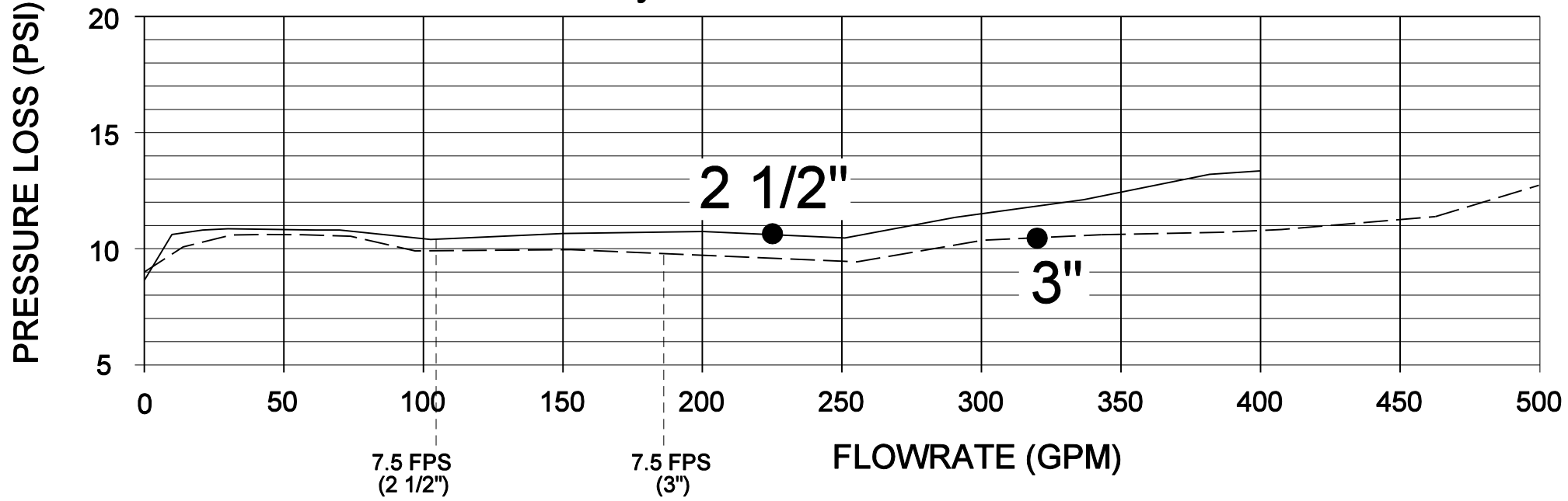
U –U Flow

- 1 - Less gate valves
- 3 - With OS&Y gate valves
- 6 – With Post Indicator
- 7 – With OS&Y Flanged

# MODEL 4D-200 SERIES

## Flow Curves with Butterfly Valves

(●) Rated flow as determined by ASSE design performance standards.



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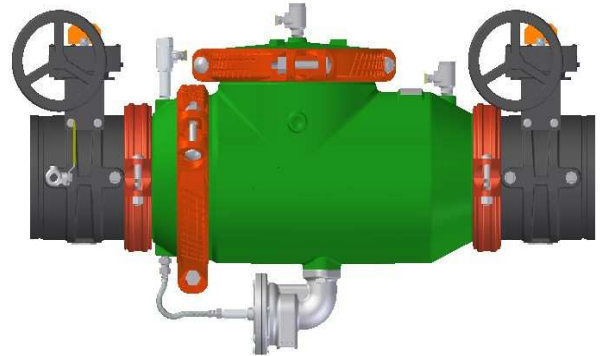
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**Consult local water authorities for installation/service requirements**

## **REDUCED PRESSURE PRINCIPLE ASSEMBLY**

**Sizes 8"-10"**



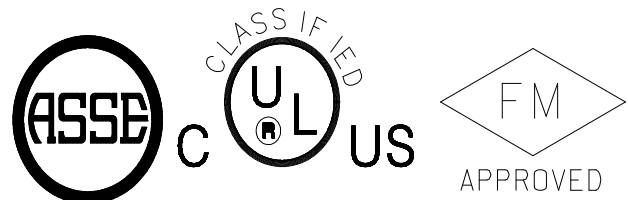
## FEATURES

- **Lead Free**
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- **Corrosion Resistant**
- **Replaceable Silicone Rubber Seat Discs**
- **Low Head Loss**
- **Economical**
- **Short Lay Length**
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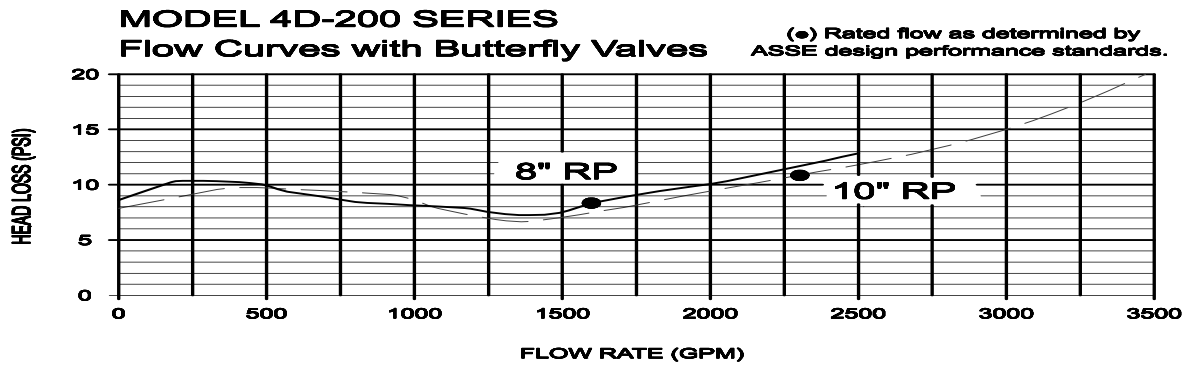


## APPROVALS

Approved under ASSE 1013, CSA B64.4, UL, and FM



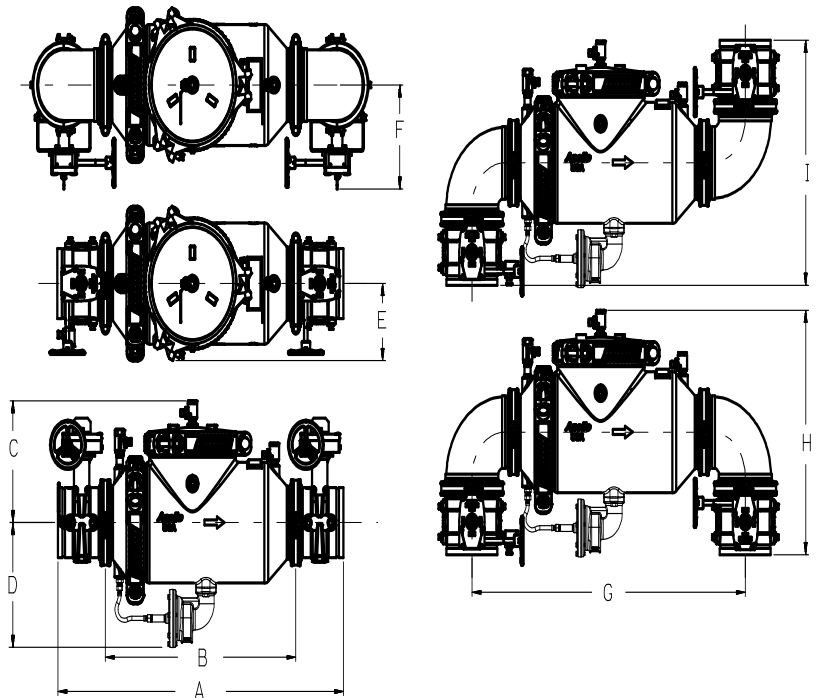
# FLOW CURVES



Curves as recorded and certified by ASSE approved laboratory

## DIMENSIONS (in.) - WEIGHTS (lbs.)

Size	8"	10"
A (Butterfly Valves)	48	52 1/4
A (Gate Valves)	55	59
B	32	32
C (With Butterfly Valves)	15	15
C (OS&Y Valves OPEN)	17	19
D	10	10
E (center to edge w/out elbows)	10	10
F (w/Elbows & Butterfly Valves)	12 3/4	14 1/2
F (w/Elbows & OS&Y Valves OPEN)	38	46
G	46	50 1/4
H "U" Flow (with Butterfly Valves)	29 3/4	34
H "U" Flow (with OS&Y Valves)	33 1/2	37 1/4
I "Z" Flow (with Butterfly Valves)	30	38
I "Z" Flow (with OS&Y Valves)	37	44 1/4
Test Cocks	3/4 NPT	3/4 NPT
Net. Wt. (Less Gate Valves)	417	422
Net Wt. (w/Butterfly Valves)	539	604
Net Wt. (w/OS&Y Valves- Flanged)	773	1186
Net Wt. (w/Elbows & Butterfly Valves)	581	712
Net Wt. (w/Elbows & OS&Y Valves- Flanged)	815	1294
Shpg. Wt. (Less Gate Valves)	493	498
Shpg. Wt. (w/Butterfly Valves)	615	680
Shpg. Wt. (w/OS&Y Valves-Flanged)	896	1309
Shpg. Wt. (w/ Elbows & Butterfly Valves)	681	812
Shpg. Wt. (w/ Elbows & OS&Y Valves)	915	1394



## MATERIALS

Body & Cover	Fusion Bonded Epoxy Coated Ductile Iron
Relief Valve Body & Cover	Stainless Steel
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
Relief Valve Seat	Stainless Steel

## ORDERING NUMBERS

**4D-20X-0XX**

E - 8"	U - with two elbows
G - 10"	

- 1 - Less Shut-off Valves (groove x groove)
- 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)