

**Double Check Detector
Backflow Preventers**

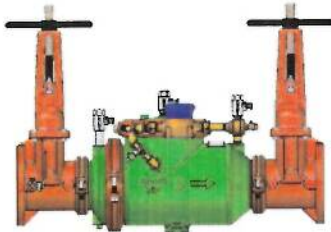
4D-600 Series DEFENDER®

4D SERIES DOUBLE CHECK DETECTOR ASSEMBLY

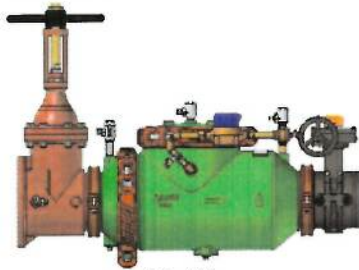
The Apollo model 4D-600 Series is designed to provide double check protection against cross-connection of non-potable (non-hazardous) water into the safe drinking water system; and at the same time offers precise monitoring capability to detect leakage or unauthorized use of water from the fire or automatic sprinkler system. The 4D-600 Series is available in sizes 2-1/2" - 10". The unit consists of a mainline 4D Series double check assembly with two independently acting poppet type check valves and a bronze by-pass line. The by-pass line consists of a meter, a single check, shut-off isolation valves, and test cocks. This device is designed to meet the very latest product standards, which allow a by-pass of the 2nd check, protected by a single check, a more innovative and less complicated solution to low volume flow detection.



2-1/2" - 4"
Shown w/ Optional Butterfly Shutoffs



6"
Shown w/ Optional OS&Y Gate Valve Shutoffs



8" - 10"
Shown w/ Optional OS&Y Inlet and Butterfly Outlet Shutoffs

OPERATION

During normal conditions, the mainline device provides normal double check backflow protection against back-siphonage or backpressure. If a backflow condition should occur the two mainline poppet style checks along with the by-pass single check will close tight. If there is a low flow demand (up to a minimum of 2 gpm) of water downstream, which may be caused by a system leak or unauthorized use, the flow is routed through the water meter to monitor such consumption. Higher flows will open the mainline checks as required.

FEATURES

- Low pressure loss Characteristics (without high curve spikes)
- 4D Series Mainline Valve Provides Superior Durability
- Low Maintenance By-Pass Line
- Reversible/Replaceable Silicone Rubber Seat Discs
- Designed for Easy Maintenance
- Dependable Neoperi™ Check Module Utilized in Single Check Bypass
- Available with Monitored Butterfly Valves or a Variety of Gate Valve Options.
- Short Lay Length
- Approved for Horizontal or Vertical Installations
- Light Weight
- Maximum working pressure 175 PSI
- Operating temperature range 33°F-140°F
- US Patent #6,443,184 B1 (other patents pending)
- Designed, manufactured, assembled and tested in South Carolina, USA

MATERIALS

Body and cover	Fusion Bonded Epoxy Coated Ductile Iron (mainline) Bronze (by-pass)
Test Cocks	Stainless Steel (mainline) Bronze (by-pass)
Check Components	Stainless Steel (mainline) Acetal (by-pass)
Springs	Stainless Steel
Seat Discs	Silicone Rubber
Fasteners	Stainless Steel
Elbows	Fusion Bonded Epoxy Coated Ductile Iron

Contact local water authorities for installation/service requirements.

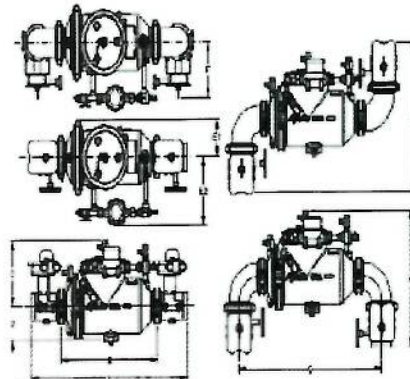


4D SERIES PATENTED SUPER FLOWING STAINLESS STEEL CHECK MODULE

4D - 60 X - XXX

SIZE	METER	GATE VALVES	FLOW
9-2-1/2"	C - With Meter in Cubic Feet	1* - Less Shut-off Valves	U - with two elbows (can be field adjusted up or down)
0-3"	E - With Meter in Gallons	3 - With Flanged OS&Y Gate Valves	
A-4"		6 - w/OS&Y gate valve on inlet, NRS gate valve w/ post plate and nut on outlet	
C-6"		7 - With Flanged Inlet x Grooved Outlet (both OS&Y)	
E-8"		8 - With Grooved x Grooved OS&Y gate valves	
G-10"		9 - With Grooved x Grooved Butterfly valves (Supervisory switch)	

*4D Defender valve body has grooved x grooved connections



'Apollo' Valves

4D-600 Series DEFENDER®

Size	Dimensions (in) - Weights (lbs.)					
	2 1/2"	3"	4"	6"	8"	10"
A (Butterfly Valves)	33 3/8	33 7/8	35	38 1/2	48	52 1/4
A (Gate Valves)	35 1/2	37 1/2	39 7/8	45 5/8	55	59
B	21 3/8	21 3/8	21 3/8	24 1/2	32	32
C (With Butterfly Valves)	10 5/8	10 5/8	10 5/8	13	15	15
C (OS&Y Valves Open)	17	19	22 3/4	30 1/8	38	46
D	6 1/2	6 1/2	6 1/2	7 1/2	10	10
E1 (center to coupling edge)	6 1/2	6 1/2	6 1/2	7 3/4	10	10
E2 (center to by-pass edge)	11	11	11	11	14 1/2	14 1/2
F (w/Elbows & Butterfly Valves)	8	8 1/2	9 1/4	10 1/4	12 3/4	14 1/2
F (w/Elbows & OS&Y Vlvs OPEN)	27 1/4	28 1/4	29 3/4	34 1/4	38	46
G	27 3/8	28 1/8	29 3/4	35 1/2	46	50 1/4
H "U" Flow (with Butterfly Valves)	20 3/8	21 1/8	22 3/8	26 1/2	29 3/4	34
H "U" Flow (with OS&Y Valves)	21 7/8	22 7/8	24 5/8	30	33 1/2	37 1/4
I "Z" Flow (with Butterfly Valves)	19 1/2	21	23 1/4	27	30	38
I "Z" Flow (with OS&Y Valves)	22 1/2	24 1/2	28	34	37	44 1/4
Test Cocks	1/2 NPT	1/2 NPT	1/2 NPT	3/4 NPT	3/4 NPT	3/4 NPT
Net Wt. (Less Gate Valves)	108	109	114	197	405	410
Net Wt. (w/Butterfly Valves)	131	133	163	260	527	592
Net Wt. (w/OS&Y Valves)	218	248	329	520	761	1174
Net Wt. (w/Elbows & Butterfly Vlvs)	140	145	183	297	569	700
Net Wt. (w/Elbows & OS&Y Valves)	227	261	349	558	803	1282
Shpg. Wt. (Less Gate Valves)	172	173	188	275	444	449
Shpg. Wt. (w/Butterfly Valves)	198	200	230	368	603	668
Shpg. Wt. (w/OS&Y Valves)	285	315	396	628	884	1297
Shpg. Wt. (w/Elbows & Butter Vlvs)	207	212	250	405	669	800
Shpg. Wt. (w/Elbows & OS&Y Vlvs)	294	358	416	666	903	1382

MODEL 4D 600 SERIES
Flow Curves with Butterfly Valves

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

