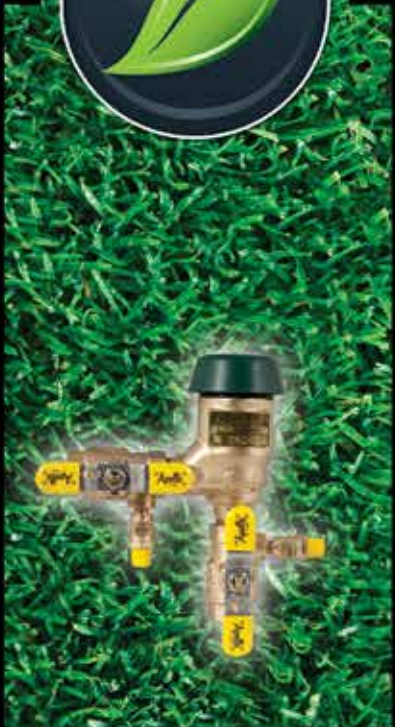


BACKFLOW PREVENTION CATALOG



FIRE PROTECTION

WATERWORKS

IRRIGATION

PLUMBING



2014-2015





A history of Quality, Service and Innovation

Now in its ninth decade, Conbraco Industries, Inc. is a leading manufacturer of flow control products for U.S. and international markets. The company's headquarters is based in Matthews, North Carolina with manufacturing plants and foundries located in Pageland and Conway, South Carolina.

Conbraco has a history of new product development and innovation that dates back to the company's inception in 1928. Today, the Conbraco line of products is marketed under the "Apollo Valves" brand and includes: ball valves, butterfly valves, backflow prevention devices, water pressure reducing valves, mixing valves, safety relief valves, water gauges, strainers, actuation and APOLLOXPRESS® products.

Conbraco's vertically integrated manufacturing ensures a consistency of production, testing, quality and availability. You can be assured that Conbraco flow control products will deliver long term reliability. All manufacturing facilities are ISO 9001:2008 certified.

The Conbraco line continues to expand with new products, designs and advanced materials to better serve the needs of our customers. Markets served include: chemical processing, pulp and paper, petroleum, residential and commercial plumbing and heating, OEM, irrigation, water works, and fire protection.



PAGELAND, SC
Bronze Foundry and Manufacturing Plant



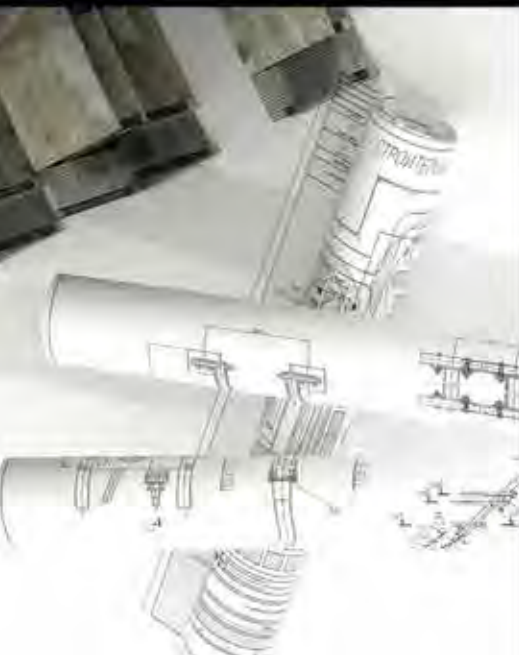
PAGELAND, SC
Final Assembly and Distribution Center



CONWAY, SC
Steel Foundry and Manufacturing Plant



MATTHEWS, NC
Corporate Headquarters



3D CAD DRAWINGS

available formats:
dwg, par, rfa, pdf & sat

Drawings also available for LEAD FREE models.

Throughout this catalog, products that have a Lead Free* option will be identified with this logo.



* LEAD FREE: The wetted surfaces of this product shall contain no more than 0.25% lead by weighted average. Complies with Federal Public Law 111-380. ANSI 3rd party approved and listed

** Any imported products are clearly identified as "Apollo International™".

Conbraco Industries offers a wide range of Apollo® products for potable and non-potable applications. When the use of lead free valves is required by code, specification or legislation, it is the sole responsibility of our customers to ensure that only lead free Apollo® products are installed in systems intended for potable water service. Further information related to our product offering and the federal Reduction of Lead In Drinking Water Act is available at www.apollovalves.com/lead_free, or by contacting Conbraco Customer Service.

BACKFLOW APPLICATIONS



WATERWORKS
RP 4AN Series



FIRE PROTECTION
DCDA 4A Series



PLUMBING
RP4A Series



IRRIGATION
PVB 4A Series

APOLLO PROVIDES YOUR BACKFLOW PREVENTION NEEDS

BACKFLOW PREVENTION CATALOG

Table of Contents

Selection Guide.....	5
How To Order.....	6-7
Backflow Cross Reference.....	8

Products

	MODEL	FACTORY CODE	SIZE	PAGE
Double Check Valve	DC 4A, DCLF 4A	4A-100, 4ALF-100	1/2"-2"	9
	DCLF 4A	4ALF-100	2-1/2"-12"	10-11
	DCLF 4An	4AnLF-100	2-1/2"-12"	12-13
	DC 4SG, DC 4S (10")	4SGLF-100, 4S-100	2-1/2"-10"	18-19
Double Check Valve Detector Assembly	DCDALF 4A	4ALF-600	2-1/2"-12"	14-15
	DCDALF 4An	4AnLF-600	2-1/2"-12"	16-17
	DCDA 4SG, DCDA 4S (10")	4SGLF-600, 4SG-600, 4S-600	2-1/2"10"	20-21
Reduced Pressure Principle	RP 4A, RPLF 4A	4A-200, 4ALF-200	1/2"-2"	22-23
	RP 4AFHB	4A-200FHB	1"	25
	RP 40S (Stainless Steel)	40-200S (Stainless Steel)	1/4" - 1"	24
	RPLF 4A	4ALF-200	2-1/2"-12"	26-27
Reduced Pressure Detector Assembly	RPLF 4An	4AnLF-200	2-1/2"-12"	28-29
	RPDALF 4A	4ALF-700	2-1/2"-12"	30-31
	RPDALF 4An	4AnLF-700	2-1/2"-12"	32-33
Atmospheric Type Vacuum Breaker	AVB1, AVBLF1, AVB2	38-100/38LF-100/200	1/4"-2"	34-35
Pressure Vacuum Breaker	PVB 4A, PVBLF 4A	4A-500, 4ALF-500	1/2"-2"	36
Spill Resistant Pressure Vacuum Breaker	SVB 4W, SVBLF 4W	4W-500, 4WLF-500	1/4"-1/2"	37
Dual Check w/Atmospheric Port	DCAP, DCAPLF	40-400, 40LF-400	1/2"-3/4"	38
Dual Check Valve	DUC 4N, 4NLF	4N-300, 4NLF-300	3/8"-1-1/4"	39
	DUC 4FP	DUC4FP	1"-1-1/4"	40
	DUC 40, 40LF	40-300, 40LF-300	1/2"-1"	41
Carbonated Beverage Backflow Preventer	CBBP	4C-100	1/4", 3/8"	42
Hose Connection Vacuum Breaker	HBV2	38-300	3/4"	43
Anti-Freeze Hose Connection Vacuum Breaker	HBVAF2	38-400	3/4"	43
Hose Connection Dual Check	HBDUC	38-300	3/4"	44
Lab Faucet Dual Check	LF Duc	38-500, 38LF-500	1/4"-3/8"	44
Freeze Protection Valve	FPV, FPVLF	40-000	1/4"	45
"Y" Strainers	YB, YBLF, YSCF	59/59LF & 125YF	1/4"-10"	46-47
Thermal Expansion Valve	EXV, EXVLF	78-RV, RVLF	3/4"-1"	48
Expansion Tanks for Potable Systems	EXP	40-XT		48
Hose Connection Pressure Gauge	HCPG	W-8078	3/4"	49
Test Kits	TK	40-200-TK	3 Valve / 5 Valve	49
Test Kit Accessories	TKF	40-000-TKF	1/4"-3/4"	49
Valve Setters	4An	4An-000	2-1/2"-12"	50
Backflow Shut-Off Valves				51
Air Gap Drain	AGD	AGD 4A	1/4"-12"	52

Available Shut-Off Valve Options.....	53-54
Pressure Drop vs. Flow Curves.....	55-71
Relief Valve Discharge Rates.....	72
Product Approvals.....	73
Warranty and Limitations of Liability.....	75



BACKFLOW PREVENTION CATALOG

Selection Guide

TYPE OF DEVICE	SERIES	**Apollo Recommended APPLICATION					PAGE NO.
		BACK SIPHONAGE	BACK PRESSURE	CONTINUOUS PRESSURE	AESTHETIC HAZARD	HEALTH HAZARD	
DOUBLE CHECK VALVE	DCLF 4A DCLF 4An DC 4SG	✓	✓	✓	✓		9-11 12-13 18-19 18-19
DOUBLE CHECK DETECTOR ASSEMBLY	DCDALF 4A DCDALF 4An DCDA 4SG	✓	✓	✓	✓		14-15 16-17 20-21 20-21
REDUCED PRESSURE PRINCIPLE	RPLF 4A	✓	✓	✓	✓	✓	22-23 25-27
REDUCED PRESSURE PRINCIPLE (n & V Flow)	RPLF 4An	✓	✓	✓	✓	✓	28-29
REDUCED PRESSURE PRINCIPLE (Stainless Steel)	RP 40-S	✓	✓	✓	✓	✓	24
REDUCED PRESSURE DETECTOR ASSEMBLY	RPDALF 4A RPDALF 4An	✓	✓	✓	✓	✓	30-31 32-33
ATMOSPHERIC VACUUM BREAKER	AVB1, AVB1LF AVB2	✓			✓	✓	34-35
PRESSURE VACUUM BREAKER	PVB 4A, PVBLF 4A	✓		✓	✓	✓	36
SPILL RESISTANT PRESSURE VACUUM BREAKER	SVB 4W, SVBLF 4W	✓		✓	✓	✓	37
DUAL CHECK	DUC 4N, DUC 4NLF DUC 4FP DUC40, DUCLF40	✓	✓	✓	✓		39 40 41
DUAL CHECK W/ ATMOS. PORT	DCAP, DCAPLF	✓	✓	✓	✓		38
CARBONATED BEVERAGE BACKFLOW PREVENTER	CBBP	✓	✓	✓	✓		42
HOSE CONNECTION VACUUM BREAKER	HBV2, HBV2LF	✓	✓ *		✓	✓	43
ANTI FREEZE HOSE CONN. VACUUM BREAKER	HBVAF2, HBVAF2LF	✓	✓ *		✓	✓	43
HOSE CONNECTION BACKFLOW PREVENTER	HBDUC, HBDUCLF	✓	✓ *		✓	✓	44
LAB FAUCET VACUUM BREAKER	LFDUCLF	✓	✓		✓		44

* Limited back pressure to 10' head

** Check with local authorities having jurisdiction

BACKFLOW PREVENTION CATALOG

How To Order

Apollo Valve Backflow Preventers **Model Codes**

Example: **DCDA2 LF 4A OFBG GPM 4**

Backflow Device Type Bypass Lead Free Series Shutoff Meter Type Size

- or -

Apollo Valve Backflow Preventers **Factory Codes**

Example: **4A LF 62A E4**

Backflow Device Lead Free Type Bypass Size Meter Shut-off Valve Configuration

	MODEL CODES	FACTORY CODES
Backflow Device	Series	
Double Check Valve Assemblies (DC)	DC 4A (LF)	4A 10X (4ALF)
	DCLF 4An	4AnLF 10X
	DC 4SG, 4SGLF	4SG 10X, 4SGLF 10X
Double Check Detector Assemblies (DCDA)	DCDA LF 4A	4ALF 62X
	DCDA 4AnLF	4AnLF 62X
	DCDA 4SG, 4SGLF	4SG 60X, 4SGLF 60X
Reduced Pressure Assemblies (RP)	RP 4A (LF)	4A 20X (4ALF)
	RP 4AnLF	4AnLF 20X
Reduced Pressure Detector Assemblies (RPDA)	RPDA 4ALF	4ALF 72X
	RPDA 4AnLF	4AnLF 72X
Options		
Std. "81" metal Bronze	No Code	No Code
Lead Free Bronze	LF	LF
No Strainer (Standard 1/2" - 12")	No Code	No Code
With Wye Strainer	YS	1
Type - Detector Bypass Configuration Orientation determined by facing downstream		
Type 2 - Standard & on Right Side (except 4SG on top)	2	2
Type 1 - On Right Side (Except 4SG - on top)	1	No Code
Type 3 (Same as Type 1, Only on Left Side)	3	3
Type 4 (Same as Type 2, Only on Left Side)	4	4
Size		
1/4"	14	1
3/8"	38	2
1/2"	12	3
3/4"	34	4
1"	1	5
1 1/4"	114	6
1 1/2"	112	7
2"	2	8
2 1/2"	212	9
3"	3	0
4"	4	A
6"	6	C
8"	8	E
10"	10	G
12"	12IN	H
Detector Assembly Meters		
Cubic feet Meter	CFM	C
Gallons Meter	GPM	E
Less Meter	LM	G

BACKFLOW PREVENTION CATALOG



How To Order

	MODEL CODES	FACTORY CODES
Assembly Shutoff Valve Options		
1/2" - 2"		
Less Shutoffs	LS	T1
Ball Valves FNPT	Standard No Code	A2
Union Ball Valves	UBV	A4
Press Connection	PR	PR
Push Connection	P	P
2 1/2" - 12"		
Less Shutoffs	LS	1
NRS FXF	NF	2
NRS FXG	NFG	12
NRS GXG	NG	11
OSY FXF	OF	3
OSY FXG	OFG	7
OSY GXG	OG	8
F OSY X Butterfly G	OFBG	4
F OSY X Post Indicator F	OFPIF	6
F OSY X Post Indicator G	OFPIG	5
G Butterfly X Butterfly G	BG	9
G Butterfly X Post Indicator F	BGPIF	15
F Ball Valve X Ball Valve F	FBV	5
F Post Indicator X Butterfly G	PIFBG	13
F Post Indicator X Post Indicator F	PIFPIF	14
F Post Indicator X OSY G	PIFOG	17
G OS&Y x Post Indicator G	OGPIG	18
G Butterfly x Post Indicator G	BVGPIG	19
F Post Indicator x OS&Y F	PIFOF	20
Testcock Options		
1/8" SAE Flare (Standard 1/2" - 1" Assemblies)	F	F
1/4" FNPT (Standard 1 1/4" - 2" Assemblies)	No Code	No Code
1/2" FNPT (Standard 2 1/2" - 4" Assemblies)	No Code	No Code
3/4" FNPT (Standard 6" - 12" Assemblies)	No Code	No Code
Shutoff Valve Handle Options		
"T" Handles (Standard on 1/2" - 1" Assemblies)	No Code	No Code
Locking "T" Handles (3/4" - 1")	LT	LT
Level Handles (Standard on 1 1/4" - 2" Assemblies)	No Code	No Code
Locking Lever Handles (1-1/4" - 2")	LL	LL
Dual Check, DCAP Options – Inlet, Outlet Options		
FNPT	F	A
MNPT	M	B
Solder	S	H
F Meter Threads	FMR	C
M Meter Threads	MMR	E
F Swivel Meter Threads	FSMTR	S
F BSPP	FBSP	F
Chrome Plating Options (Selected Models)		
Rough Chrome	RC	03
Satin Chrome	SC	CS
Polished Chrome	PC	06

BACKFLOW PREVENTION CATALOG

Apollo Testable Backflow Preventors Cross Reference

Double Check Assemblies						
Size	Apollo Model#	Apollo Factory Code	Watts	Ames	Wilkins	Febco
1/2" - 2"	DC 4A, DC 4ALF	4A 10X, 4ALF 10X	007, 719, LF 007, LF 719	200B, 2000B	950XL, 950XL2, 950XLT, 950XLT2, 350, 350XL	850
2-1/2" - 12"	DC 4ALF 4SG (2 1/2"-8"), 4S (10")	4ALF 10X 4SG 10X, 4S 10E	007, 709, 774, 757, LF 007, LF 709	C200, M200, 2000SS, 2000CI	350, 350A, 350AST	850
	DC 4AnLF	4An 10X, 4AnLF 10X			450	876
Double Check Detector Assemblies						
Size	Apollo Model#	Apollo Factory Code	Watts	Ames	Wilkins	Febco
2-1/2" - 12"	DCDA 4SG, 4SGLF DCDA 4ALF, DCDA 4S (10")	4SG 60X, LF 4ALF 62X	007DCDA, 709DCDA, 774DCDA, 757DCDA	C300, M300, 3000CI, 3000SS	350DA, 350ADA, 350ASTDA	856
	DCDA 4AnLF	4AnLF 62X			450DA	876
Reduced Pressure Assembly						
Size	Apollo Model#	Apollo Factory Code	Watts	Ames	Wilkins	Febco
1/2" - 2"	RP 4A, RPLF 4A	4A 20X, 4ALF 20X	009, 909, 919, LF 009, LF 909, LF 919	400B, 4000B	975XL, 975XL2, 375, 375XL	825Y, 860
2-1/2" - 12"	RPLF 4A	4ALF 20X	009, 909, 957, 994, LF 009, LF 909	C400, M400, 4000CI, 4000SS	375, 375A, 375AST	860
	RPLF 4An	4An 20X, 4AnLF 20X			475	880
Reduced Pressure Detector Assembly						
Size	Apollo Model#	Apollo Factory Code	Watts	Ames	Wilkins	Febco
2-1/2" - 12"	RPDA 4ALF	4A 72X, 4ALF 72X, 40 70X	909RPDA, 957RPDA	C500, M500, 5000CI, 5000SS	375DA, 375ADA, 375ASTDA	826YD
	RPDA 4AnLF	4An 72X, 4AnLF 72X			475DA	
Pressure Vacuum Breaker						
Size	Apollo Model#	Apollo Factory Code	Watts	Ames	Wilkins	Febco
1/2" - 2"	PVB 4A	4A 50X	800M4QT		420, 720A	765, 765FR
3/4" - 1"	PVB 4ALF	4ALF 50X	LF008M4FR, LF008M4QT		420XL, 720AXL	765, 765FR
Spill Resistant Vacuum Breaker						
Size	Apollo Model#	Apollo Factory Code	Watts	Ames	Wilkins	Febco
1/2" - 3/4"	SVB 4W, SVBLF 4W (1/4"-1/2")	4W 50X, 4WLF 50X	008PCQT, LF008PCQT		460	



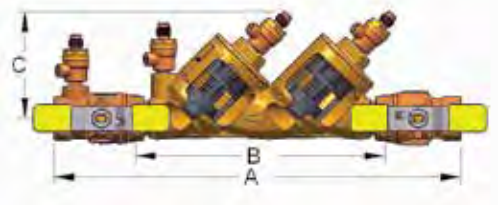
BACKFLOW PREVENTION CATALOG

Double Check Valve Backflow Preventers

DC 4A SERIES



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



TOP ENTRY DOUBLE CHECK VALVE ASSEMBLY

The Apollo® MODEL DC 4A Double Check Valves are designed to prevent contamination of the potable water supply due to back-siphonage or backpressure from substances that are objectionable, but non-health hazards. The modular check valve captured spring cartridges have replaceable seats and reversible silicone seat discs. Ball valve shut-offs with stainless steel handles and nuts are standard.

OPERATION

During normal flow conditions, the two check valves are held off their seats, supplying water downstream. Each check valve is designed to maintain a minimum of 1 psi across the valve during normal operation. Should the downstream pressure increase to within 1 psi of supply pressure, both check valves will close to prevent a backflow condition.

FEATURES

- Low pressure loss
- Captured spring cartridge check valves
- Compact yet easy to maintain
- Ball valve shut-offs w/ SS handles & nuts standard
- Top access for fast testing and maintenance
- Threaded testcock protectors
- Corrosion resistant
- No special tools required
- 5 year, domestic warranty
- **Lead-Free** option
- AWWA C510
- UL, ULC Classified (less shutoffs)
- Approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California
- ASSE 1015
- IAPMO
- CSA
- Chloramine-resistant elastomers
- Patent pending
- Horizontal and vertical up approvals
- Maximum working pressure 175 psi
- Temperature range 33°F - 180°F
- Designed, manufactured, assembled and tested in South Carolina, USA

MATERIALS

Part	Material
Body , Caps	Bronze C84400/LF C89836
BV Shut-offs, Testcocks	Bronze C84400 or LF C87800
Check Valves	Glass-Filled PPO
Springs	300 Series Stainless Steel
Seat Discs	Chloramine-Resistant Silicone
O-rings	Chloramine-Resistant EPDM
Ball Valve Handles	Stainless Steel

FACTORY CODE

4A [X]	1 X	X	A X	X
	Y-strainer	SIZE	SHUT-OFF VALVES	OPTIONS (CAN BE COMBINED)
4A = Standard 4ALF = Lead Free	0 = Standard 1 = w/Y-strainer (shipped loose)	3 = 1/2" 4 = 3/4" 5 = 1" 6 = 1-1/4" 7 = 1-1/2" 8 = 2"	2 = w/ball valves (Standard) 4 = w/union ball valves (3/4" - 2")	F = SAE threaded test cocks (standard 1/2" 3/4", 1") LL = locking lever handles PR = Press P = Push (3/4" - 1")

Example:
4A 104 A4LL = 3/4" double check valve assembly with union ball valves with locking lever handles

DIMENSIONS

See Page 55 For Flow Curves

Model No. Factory No. Size	4A 103 A2F DC 4A 12 1/2"	4A 103 A2F DC 4A 12 15 mm.	4A 104 A2F DC 4A 34 3/4"	4A 104 A2F DC 4A 34 20 mm.	4A 105 A2 F DC 4A 1 1"	4A 105 A2 F DC 4A 1 25mm.	4A 106 A2 DC 4A 114 1-1/4"	4A 106 A2 DC 4A 114 32 mm.	4A 107 A2 DC 4A 112 1-1/2"	4A 107 A2 DC 4A 112 40 mm.	4A 108 A2 DC 4A 2 2"	4A 108 A2 DC 4A 2 50 mm.
A*	10-7/8	276	12-5/8	321	14-5/8	371	17-1/2	445	18	457	20-1/8	511
B	7-3/8	187	8-1/2	215	9-1/2	241	11-3/4	298	11-5/8	295	12-3/4	324
C	3-1/4	83	3-1/2	89	4	100	4-1/2	114	4-1/2	114	5	127
D	2-1/2	64	3	76	3-1/4	83	4-3/4	121	4-3/4	121	5-3/8	136
WEIGHTS	lbs.	kg.	lbs.	kg.	lbs.	kg.	lbs.	kg.	lbs.	kg.	lbs.	kg.
Net Wt.	4.1	1.9	5.4	2.5	9.0	4.0	9.1	4.1	12.9	5.9	16.5	7.5

* For Union Ball Valve, Press, and Push connection dimensions, see submittal sheets.



BACKFLOW PREVENTION CATALOG

Double Check Valve Backflow Preventers

DCLF 4A SERIES



Sizes 2-1/2"-12"



TriForce™ Check

DOUBLE CHECK VALVE ASSEMBLY

The Apollo® MODEL DCLF 4A Double Check Valves are designed to prevent contamination of the potable water supply due to back-siphonage or backpressure from substances that are objectionable, but non-health hazards. The TriForce™ center stem guided check valves feature replaceable and reversible silicone seat discs. The body is domestic stainless steel from 2-1/2"-8" and FDA epoxy coated ductile iron in the 10" and 12". Available with a wide variety of shutoff valve options.

OPERATION

During normal flow conditions, the two check valves are held off their seats, supplying water downstream. Each check valve is designed to maintain a minimum of 1 psi across the valve during normal operation. Should the downstream pressure increase to within 1 psi of supply pressure, both check valves will close to prevent a backflow condition.

FEATURES

- Domestic Stainless steel body: 2-1/2"-8"
- FDA epoxy coated ductile iron body: 10" & 12"
- Easy maintenance - no special tools required
- Snap-in check retainers: 2-1/2"-6"
- Bolted-in checks: 8"-12"
- Low pressure loss as documented by an independent laboratory
- Center stem guided TriForce™ check valves
- Approved for horizontal and vertical up flow
- Chloramine-resistant elastomers
- **Lead-Free** standard
- ASSE 1015
- CSA B64.5
- Approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California (2-1/2" - 8")
- AWWA C-510
- IAPMO
- UL, ULC Classified
- FM approved
- Maximum working pressure 175 psi
- Temperature range 33°F - 140°F, 180°F intermittent
- US Patent Nos. 6,443,184; 7,025,085; 7,533,699
- Made in the USA
- 5 year, domestic warranty

MATERIALS

Part	Material
Body (2-1/2"-8")	304 Stainless Steel
Body (10 & 12")	FDA Epoxy Coated Ductile Iron
Covers (2-1/2"-6")	Glass Filled PPO/SS
Covers (8")	304 Stainless Steel
Covers(10 & 12")	FDA Epoxy Coated Ductile Iron
Check Valves	Bronze/Glass-filled PPO/SS
Springs	Stainless Steel
Seat Discs	Chloramine-resistant Silicone

FACTORY CODE

4ALF	1 X	X	OX [X]
	Y-STRAINER	SIZE	SHUT-OFF VALVES
4ALF = Lead Free Standard	0 = Standard 1 = w/Y-strainer (shipped loose)	9 = 2-1/2" 0 = 3" A = 4" C = 6" E = 8" G = 10" H = 12"	1 = Less Shut-off Valves 2 = NRS Flg x NRS Flg 3 = OS&Y Flg x OS&Y Flg 4 = OS&Y Flg x Monitored (Mon.) Butterfly Vlv Grv† 6 = OS&Y Flg x Post indicator Flg** 7 = OS&Y Flg x OS&Y Grv 8 = OS&Y Grv x OS&Y Grv 9 = Mon. Butterfly Vlv Grv x Mon. Butterfly Vlv Grv† 10 = OS&Y Flg x Post Indicator Grv** 11 = NRS Grv x NRS Grv 12 = NRS Flg x NRS Grv 13 = Post Indicator Flg x Mon. Butterfly Vlv Grv† 14 = Post Indicator Flg x Post Indicator Flg 16 = Mon Butterfly Vlv Grv x Post Indicator Flg† 17 = Post Indicator Flg x OS&Y Grv 18 = OS&Y Grv x Post Indicator Grv 19 = Mon. Butterfly Vlv Grv x Post Indicator Grv 20 = Post Indicator Flg x OS&Y Flg ** Post indicator with plate & nut option not available in 2-1/2" size. † Butterfly valves not available in 12" size.

Example:

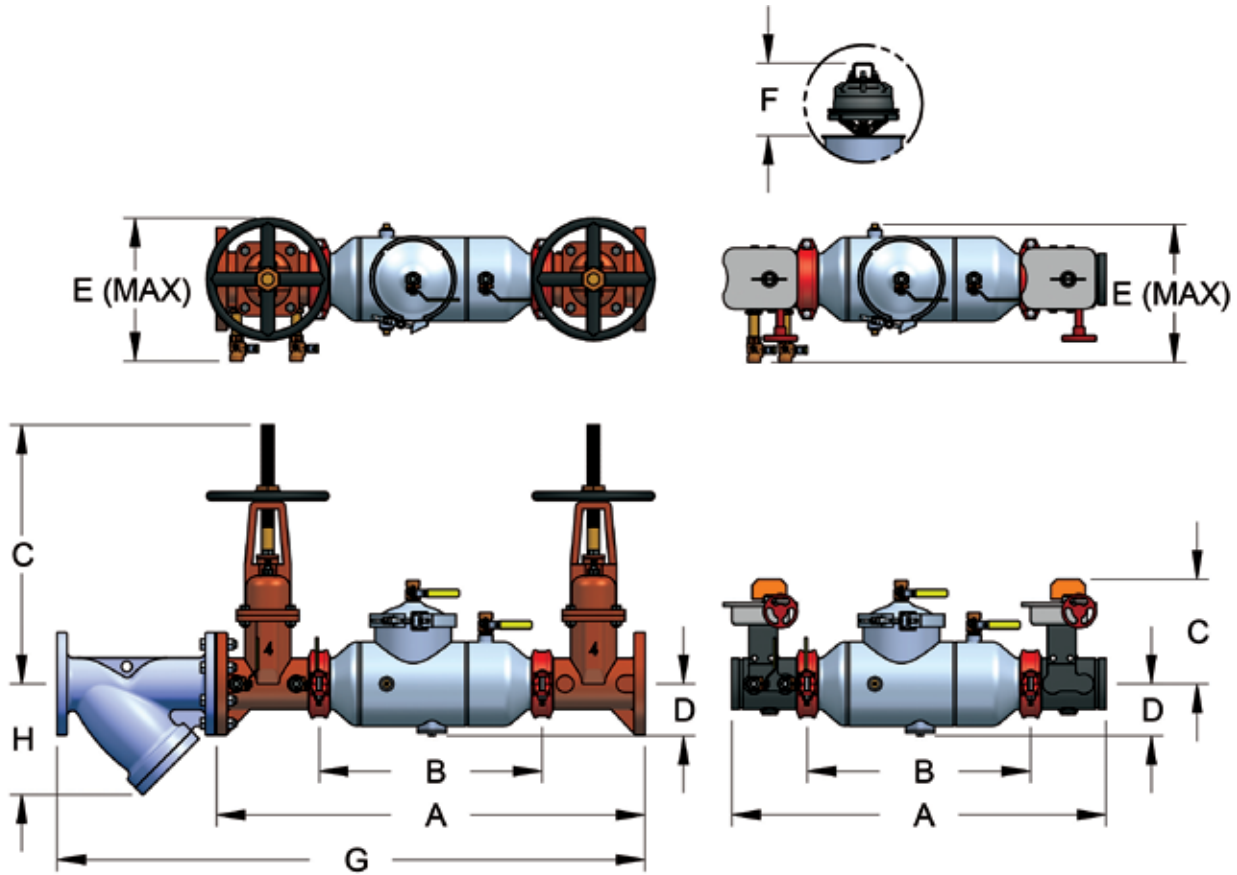
4ALF 10A 03 = 4" size Lead Free Double Check Valve Assembly with OS&Y flanged inlet x OS&Y flanged outlet shut-off valves (shown above)



BACKFLOW PREVENTION CATALOG

Double Check Valve Backflow Preventers

DCLF 4A SERIES



DIMENSIONS

Nominal dimensions are shown. Allowances must be made for manufacturers' tolerances ($\pm 1/8"$ (3 mm) per joint)
See Page 56 For Flow Curves

DIMENSIONS	2-1/2"	60mm	3"	75mm	4"	100mm	6"	150mm	8"	200mm	10"	250mm	12"	300mm
A (Butterfly Valves)	28 ±	711 ±	28-1/2 ±	724 ±	33-1/4 ±	845 ±	38-7/8 ±	987 ±	46-3/8 ±	1178 ±	52-1/4 ±	1327 ±	N/A	N/A
A (Gate Valves)	31 ±	787 ±	32 ±	813 ±	38 ±	965 ±	45-7/8 ±	1165 ±	53-3/8 ±	1356 ±	62-1/4 ±	1581 ±	65-1/2 ±	1664 ±
B (Less Shut-off Valves)	15-7/8 ±	403 ±	15-7/8 ±	403 ±	19-5/8 ±	498 ±	24-1/2 ±	622 ±	30 ±	762 ±	36 ±	914 ±	37 ±	940 ±
C (Butterfly Valves)	8	203	8-3/8	213	9-1/8	233	10-1/8	257	12	306	13-5/8	346	N/A	N/A
C (NRS/PI Gate Valves)	11-3/8	289	12-3/8	314	14-3/4	375	19	483	22-1/2	572	26-1/2	673	30	762
C (OS&Y Open)	16-3/8	416	18-7/8	467	22-3/4	578	30-1/8	765	37-3/4	959	45-3/4	1162	53-1/8	1349
D (Centerline to bottom)	3-7/8	98	3-7/8	98	4-5/8	117	6	152	8-1/8	206	11-3/4	298	12	305
E (Width Max)	10-1/2	267	11	279	12-1/2	318	14-3/8	365	17-5/8	448	21	533	22	559
F (Check Removal Clearance)	4-3/4	121	4-3/4	121	6-1/2	165	7-1/2	191	7-1/2	191	10	254	10	254
G (With Strainer)	41-7/8	1064	43-5/8	1109	52	1321	64-1/2	1638	74-7/8	1902	88-3/8	2245	95-5/8	2429
H (Strainer Clearance)	8	203	8-3/4	222	9-1/2	241	12-5/8	321	16-3/8	416	19	483	22	559
Test Cocks (NPT)	1/2"	13	1/2"	13	1/2"	13	3/4"	20	3/4"	20	3/4"	20	3/4"	20
WEIGHTS	lb.	kg	lb.	kg	lb.	kg	lb.	kg	lb.	kg	lb.	kg	lb.	kg
Net Wt. (Less Shut-offs)	22	10	23	10	39	18	75	34	208	94	702	318	805	365
Net Wt. (w/ Butterfly Valves)	49	22	53	24	83	38	143	65	339	154	920	417	N/A	N/A
Net Wt. (w/ NRS Gate Valves)	108	49	134	61	188	85	314	142	671	304	1548	702	1943	881
Net Wt. (w/ OS&Y Gate Valves)	118	54	144	65	194	88	324	147	685	311	1588	720	1997	906

Notes:

1. Nominal dimensions are shown. Allowances must be made for manufacturers' tolerances (1/8" per joint).
2. Internal body connections are grooved on 2 1/2" - 10" sizes.
3. Internal body connections are flanged on 12" size.
4. Strainer option only available for flanged-end shut-off options.



BACKFLOW PREVENTION CATALOG

Double Check Valve Backflow Preventers

DCLF 4An SERIES



n Flow



Sizes 2-1/2" - 12"



TriForce™ Check



Optional Valve Setter (see pg 50)

n STYLE DOUBLE CHECK VALVE ASSEMBLY

The Apollo® MODEL DCLF 4An Double Check Valves are designed to prevent contamination of the potable water supply due to back-siphonage or backpressure from substances that are objectionable, but non-health hazards. The TriForce™ center stem guided check valves feature replaceable and reversible silicone seat discs. The normally vertical up/vertical down oriented body incorporates an internal swivel connection providing the ability to pivot the second check. The n style flow body is domestic stainless steel from 2-1/2"-8" and FDA epoxy coated ductile iron in the 10" and 12". Available in a wide variety of shut-off valves.

OPERATION

During normal flow conditions, the two check valves are held off their seats, supplying water downstream. Each check valve is designed to maintain a minimum of 1 psi across the valve during normal operation. Should the downstream pressure increase to within 1 psi of supply pressure, both check valves will close to prevent a backflow condition.

FEATURES

- Domestic Stainless steel body: 2-1/2"-8"
- FDA epoxy coated ductile iron body: 10" & 12"
- Easy maintenance - no special tools required
- Drop-in check retainers: 2-1/2"-6"
- Bolted-in checks: 8"-12"
- Low pressure loss as documented by an independent laboratory
- Center stem guided TriForce™ check valves
- 5 year, domestic warranty
- **Lead-Free** standard
- Small installation space required - small footprint
- Chloramine-resistant elastomers
- Approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California (2-1/2" - 8")
- ASSE 1015
- UL, ULC Classified
- FM approved
- Maximum working pressure 175 psi
- Temperature range 33°F - 140°F, 180°F intermittent
- Optional valve setters eliminate need for thrust blocks
- US Patent Nos. 6,443,184; 7,025,085; 7,533,699
- Made in the USA

MATERIALS

Part	Material
Body (2-1/2"-8")	304 Stainless Steel
Body (10 & 12")	FDA Epoxy Coated Ductile Iron
Covers (2-1/2"-6")	Glass Filled PPO/SS
Covers (8")	304 Stainless Steel
Covers(10 & 12")	FDA Epoxy Coated Ductile Iron
Check Valves	Bronze/Glass-filled PPO/SS
Springs	Stainless Steel
Seat Discs	Chloramine-resistant Silicone

FACTORY CODE

4AnLF	1 X	X	OX
	Y-STRAINER	SIZE	SHUT-OFF VALVES
4AnLF = Lead Free Standard	0 = Standard 1 = w/Y-strainer (shipped loose)	9 = 2-1/2" 0 = 3" A = 4" C = 6" E = 8" G = 10" H = 12"	1 = Less Shut-off Valves 2 = NRS Flg x NRS Flg 3 = OS&Y Flg x OS&Y Flg 4 = OS&Y Flg x Monitored (Mon.) Butterfly Vlv Grv [†] 6 = OS&Y Flg x Post indicator Flg** 7 = OS&Y Flg x OS&Y Grv 8 = OS&Y Grv x OS&Y Grv 9 = Mon. Butterfly Vlv Grv x Mon. Butterfly Vlv Grv [†] 10 = OS&Y Flg x Post Indicator Grv** 11 = NRS Grv x NRS Grv 12 = NRS Flg x NRS Grv 13 = Post Indicator Flg x Mon. Butterfly Vlv Grv [†] 14 = Post Indicator Flg x Post Indicator Flg 16 = Mon Butterfly Vlv Grv x Post Indicator Flg [†] 17 = Post Indicator Flg x OS&Y Grv 18 = OS&Y Grv x Post Indicator Grv 19 = Mon. Butterfly Vlv Grv x Post Indicator Grv 20 = Post Indicator Flg x OS&Y Flg ** Post indicator with plate & nut option not available in 2-1/2" size. [†] Butterfly valves not available in 12" size.

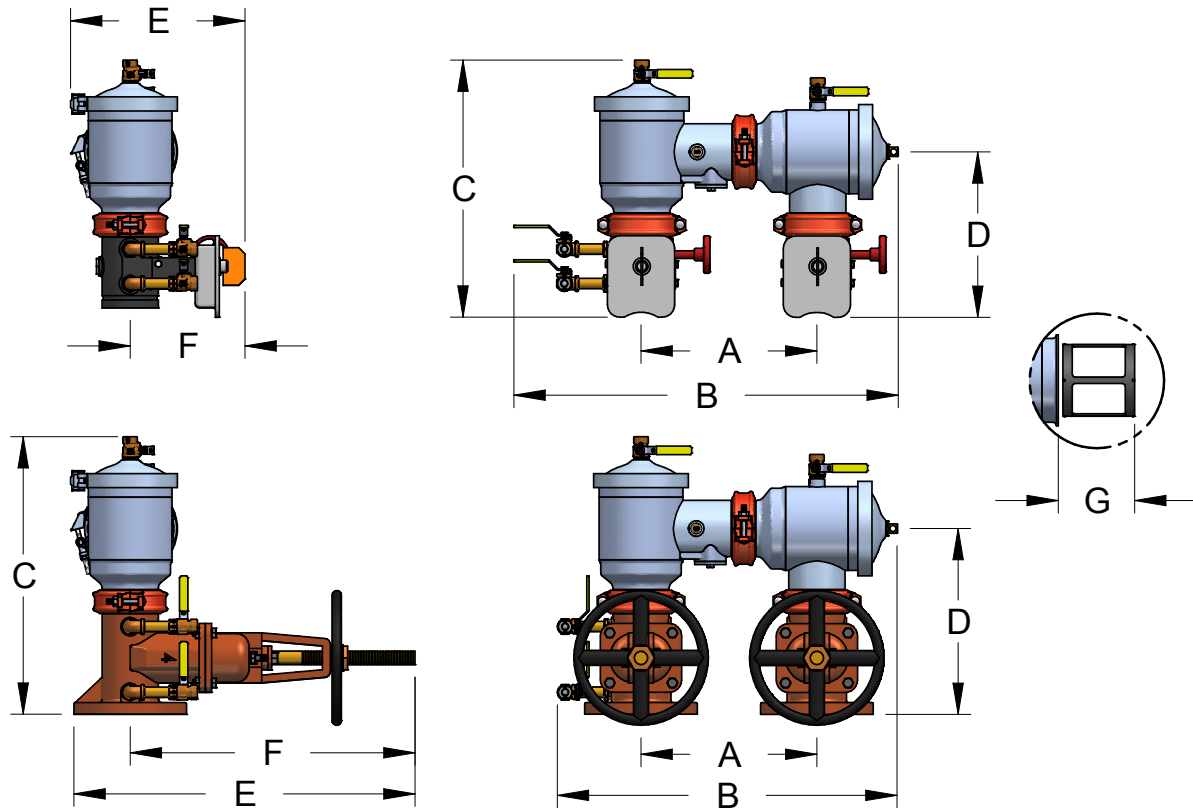
Example:
4AnLF 10A 03 = 4" size Lead Free Double Check Valve Assembly with OS&Y flanged inlet x OS&Y flanged outlet shut-off valves (shown above)



BACKFLOW PREVENTION CATALOG

Double Check Valve Backflow Preventers

DCLF 4An SERIES



DIMENSIONS

Nominal dimensions are shown. Allowances must be made for manufacturers' tolerances ($\pm 1/8"$ (3 mm) per joint)

See Page 57 For Flow Curves

DIMENSIONS	2-1/2"	60mm	3"	75mm	4"	100mm	6"	150mm	8"	200mm	10"	250mm	12"	300mm
A (Centerline to Centerline)	12-1/2 ±	318 ±	12-1/2 ±	318 ±	14 ±	356 ±	16 ±	406 ±	18-1/2 ±	470 ±	21 ±	533 ±	26-3/4 ±	679 ±
B Lay Length Space (Butterfly Valves)	27-1/2 ±	699 ±	27-1/2 ±	699 ±	30-3/4 ±	781 ±	36 ±	914 ±	37-3/8 ±	949 ±	43 ±	1092 ±	N/A	N/A
B Lay Length Space (Gate Valves)	24-1/2 ±	662 ±	24-1/2 ±	662 ±	27 ±	686 ±	32 ±	813 ±	40-3/4 ±	1035 ±	49 ±	1245 ±	55-3/4 ±	1416 ±
C (Butterfly Valves)	18-1/4	464	18-1/2	470	20	508	24-3/4	629	28-1/2	724	35	889	N/A	N/A
C (Gate Valves)	19-5/8	498	20	608	22-1/2	572	27-3/4	705	32-1/8	816	40	1016	44	1118
D (Centerline to bottom Butterfly Vlv)	11-1/2	292	11-3/4	298	13-1/4	337	15-3/8	391	17-7/8	453	19-3/4	502	N/A	N/A
D (Centerline to bottom Gate Valve)	13	330	13-1/2	343	14-7/8	378	18	457	21-3/8	543	24-3/4	629	28-3/4	730
E (Butterfly Valves)	11-1/2	292	12-1/8	308	12-7/8	327	15-7/8	403	22-1/4	556	23-1/8	587	N/A	N/A
E (NRS/PI Valves)	14-7/8	378	16-1/8	410	19-1/4	489	24-1/2	622	29-1/4	743	36-3/8	924	40	1016
E (OS&Y Open Valves)	19-7/8	505	24-1/4	616	27-1/4	692	32-3/4	832	44-1/2	1130	54	1372	62-3/4	1594
F (Butterfly Valves)	8	703	8-3/8	213	9	229	10-7/8	276	12-7/8	327	13-1/2	343	N/A	N/A
F (NRS/PI Valves)	11-3/8	289	12-3/8	314	14-3/4	375	19	483	22-1/2	572	26-1/2	673	30	762
F (OS&Y Open Valves)	16-3/8	416	20-1/2	521	22-3/4	578	28	711	37-3/4	959	46	1168	53-1/8	1349
G (Check Removal Clearance)	6	152	6	152	6	152	8	203	8-1/2	216	12	305	12	305
Test Cocks (NPT)	1/2"	13	1/2"	13	1/2"	13	3/4"	20	3/4"	20	3/4"	20	3/4"	20
WEIGHTS	lb.	kg	lb.	kg	lb.	kg	lb.	kg	lb.	kg	lb.	kg	lb.	kg
Net Wt. (Less Shut-offs)	30	14	30	14	39	18	74	34	305	138	785	356	910	413
Net Wt. (w/ Butterfly Valves)	57	26	60	27	84	38	142	64	436	198	963	437	N/A	N/A
Net Wt. (w/NRS Gate Valves)	116	53	141	64	188	85	313	142	768	348	1431	649	2047	929
Net Wt. (w/ OS&Y Gate Valves)	126	57	151	69	194	88	323	147	782	355	1453	659	2101	953

Notes:

1. Internal body connections are grooved on 2-1/2" to 10" sizes.
2. Internal body connections are flanged on 12" size.



BACKFLOW PREVENTION CATALOG

Double Check Detector Backflow Preventers

DCDALF 4A SERIES



Type 1 Bypass



Sizes 2-1/2"-12"



TriForce™ Check

DCDALF 4A DOUBLE CHECK DETECTOR ASSEMBLY

The Apollo® MODEL DCDALF 4A Double Check Detector Assembly is designed to prevent contamination of the potable water supply due to back-siphonage or backpressure from substances that are objectionable, but non-health hazards. The TriForce™ center stem guided check valves feature replaceable and reversible silicone seat discs. The by-pass assembly serves to measure accurate water use of up to 2 GPM. Available in a wide variety of shut-off options.

The Type 2 bypass uses the first check of the mainline assembly as the first check of the bypass. The second check of the bypass is a single check valve with a model number and serial number for test recording. This arrangement complies with the National Backflow Standards. The arrangement provides the same level of protection as the standard Type 1 bypass and the testing procedure is the same.

FEATURES

- Domestic Stainless steel body: 2-1/2"-8"
- FDA epoxy coated ductile iron body: 10" & 12"
- Easy maintenance - no special tools required
- Drop-in check retainers: 2-1/2"-6"
- Bolted-in checks: 8"-12"
- Low pressure loss as documented by an independent laboratory
- Center stem guided TriForce™ check valves
- Approved for horizontal and vertical up flow*
- Chloramine-resistant elastomers
- **Lead-Free** standard
- ASSE 1048 (with meter)
- UL, ULC Classified
- FM approved
- CSA B64.5
- Approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California (DCDALF 4A 2-1/2" - 8")
- Maximum working pressure 175 psi
- Temperature range 33°F - 140°F, 180°F intermittent
- US Patent Nos. 6,443,184; 7,025,085; 7,533,699
- Made in the USA
- 5 year, domestic warranty
- Optional mounting of bypass on either side for ease of installation

MATERIALS

Part	Material
Body (2-1/2"-8")	304 Stainless Steel
Body (10 & 12")	FDA Epoxy Coated Ductile Iron
Covers (2-1/2"-6")	Glass Filled PPO/SS
Covers (8")	304 Stainless Steel
Covers(10 & 12")	FDA Epoxy Coated Ductile Iron
Check Valves	Bronze/Glass-filled PPO/SS
Springs	Stainless Steel
Seat Discs	Chloramine-resistant Silicone

FACTORY CODE

4ALF	6 X	X	X	[X]
	BY-PASS SUB-ASSEMBLY OPTIONS	SIZE	METER OPTION	SHUT-OFF VALVES (Inlet X Outlet)
4ALF = Lead Free	0 = Type 1 w/ 1/2" Double Check 2 = Type 2 w/1/2" Single Check 3 = Type 1 w/ bypass on left* 4 = Type 2 w/ bypass on left*	9 = 2-1/2" 0 = 3" A = 4" C = 6" E = 8" G = 10" H = 12"	C = Cubic feet/min E = Gallons/min G = Less meter	1 = Less Shut-off Valves 3 = OS&Y Flg x OS&Y Flg 4 = OS&Y Flg x Monitored (Mon.) Butterfly Vlv Grv† 6 = OS&Y Flg x Post indicator Flg** 7 = OS&Y Flg x OS&Y Grv 8 = OS&Y Grv x OS&Y Grv 9 = Mon. Butterfly Vlv Grv x Mon. Butterfly Vlv Grv† 10 = OS&Y Flg x Post Indicator Grv** 13 = Post Indicator Flg x Mon. Butterfly Vlv Grv† 14 = Post Indicator Flg x Post Indicator Flg 16 = Mon Butterfly Vlv Grv x Post Indicator Flg† 17 = Post Indicator Flg x OS&Y Grv 18 = OS&Y Grv x Post Indicator Grv 19 = Mon. Butterfly Vlv Grv x Post Indicator Grv 20 = Post Indicator Flg x OS&Y Flg

Example:
4ALF 60A E3 = 4" size Lead Free Double Check Detector Assembly with OS&Y flanged inlet x OS&Y flanged outlet shut-off valves w/ meter in gallons.

* Orientation of bypass looking downstream. Standard is right hand side. Left hand is on opposite side

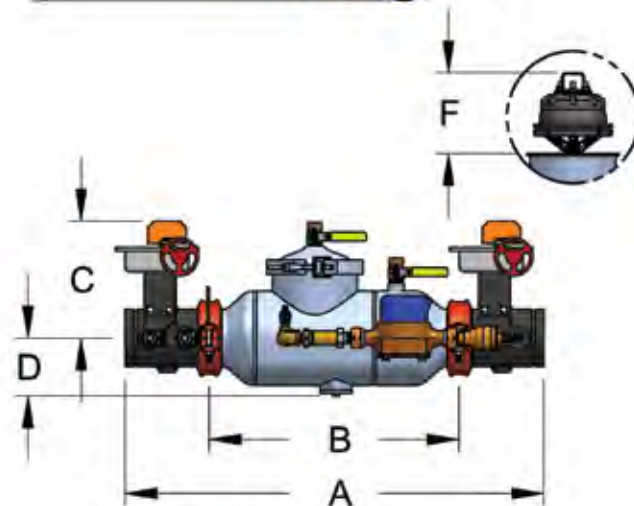
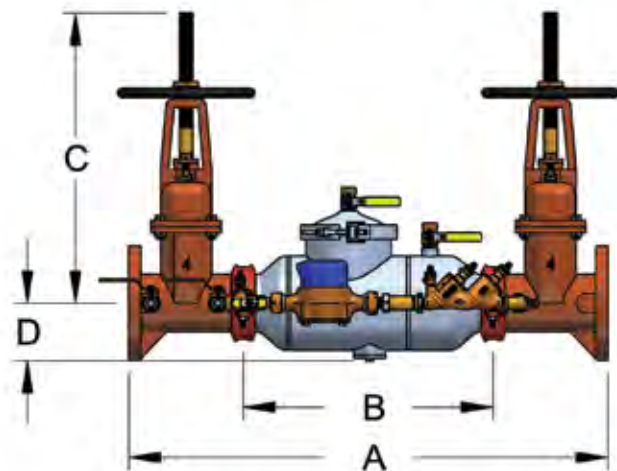
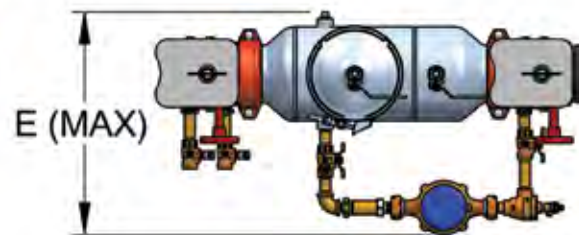
** Post indicator with plate & nut option not available in 2-1/2" size.

† Butterfly valves not available in 12" size.

BACKFLOW PREVENTION CATALOG

Double Check Detector Backflow Preventers

DCDALF 4A SERIES



TYPE 1 BYPASS

TYPE 2 BYPASS

DIMENSIONS

Nominal dimensions are shown. Allowances must be made for manufacturers' tolerances ($\pm 1/8"$ (3 mm) per joint)

See Page 59 For Flow Curves

DIMENSIONS	2-1/2"	60mm	3"	75mm	4"	100mm	6"	150mm	8"	200mm	10"	250mm	12"	300mm
A (Butterfly Valves)	28 ±	711 ±	28-1/2 ±	724 ±	33-1/4 ±	845 ±	38-7/8 ±	987 ±	46-3/8 ±	1178 ±	52-1/4 ±	1378 ±	N/A	N/A
A (Gate Valves)	31 ±	787 ±	32 ±	813 ±	38 ±	965 ±	45-7/8 ±	1165 ±	53-3/8 ±	1356 ±	62-1/4 ±	1581 ±	65-1/2 ±	1664 ±
B (Less Shut-off Valves)	15-7/8 ±	403 ±	15-7/8 ±	403 ±	19-5/8 ±	498 ±	24-1/2 ±	622 ±	30 ±	762 ±	36 ±	914 ±	37 ±	940 ±
C (Butterfly Valves)	8	203	8-3/8	213	9-1/8	233	10-1/8	257	12	306	13-3/8	340	N/A	N/A
C (NRS/PI Gate Valves)	11-3/8	289	12-3/8	314	14-3/4	375	19	483	22-1/2	572	26-1/2	673	30	762
C (OS&Y Open)	16-3/8	416	18-7/8	479	22-3/4	578	30-1/8	765	37-3/4	959	45-3/4	1162	53-1/8	1348
D (Centerline to bottom)	3-7/8	98	3-7/8	98	4-5/8	117	6	152	8-1/8	206	11-3/4	298	12	305
E (Width Max)	17	432	17	432	17	432	20	508	21-1/2	546	26-1/2	673	26-1/2	673
F (Check Removal Clearance)	4-3/4	121	4-3/4	121	6-1/2	165	7-1/2	191	7-1/2	191	10	254	10	254
Test Cocks (NPT)	1/2"	13	1/2"	13	1/2"	20	3/4"	20	3/4"	20	3/4"	20	3/4"	20
WEIGHTS	lb.	kg	lb.	kg	lb.	kg	lb.	kg	lb.	kg	lb.	kg	lb.	kg
Net Wt. (Less Shut-offs)	37	17	38	17	54	25	90	41	223	101	722	327	825	374
Net Wt. (w/ Butterfly Valves)	64	29	68	31	98	45	158	72	354	161	940	426	N/A	N/A
Net Wt. (w/ OS&Y Gate Valves)	133	60	159	72	209	95	339	154	700	318	1608	729	2017	915

Notes:

1. Internal body connections are grooved on 2-1/2" to 10" sizes.
2. Internal body connections are flanged on 12" size.

BACKFLOW PREVENTION CATALOG

Double Check Detector Backflow Preventers

DCDALF 4An SERIES



Sizes 2-1/2"-12"



Optional Valve Setter (see pg 50)

n STYLE DOUBLE CHECK DETECTOR ASSEMBLY

The Apollo® MODEL DCLF 4An Double Check Valves are designed to prevent contamination of the potable water supply due to back-siphonage or backpressure from substances that are objectionable, but non-health hazards. The TriForce™ center stem guided check valves feature replaceable and reversible silicone seat discs. The by-pass assembly serves to measure water use of up to 2 GPM. The normally vertical up/vertical down oriented body incorporates an internal swivel connection providing the ability to pivot the second check. The grooved connections on the bodies from 2-1/2" to 10" allow for easy connection to butterfly or gate shut-off valves. The 12" DCDA 4An has flanged connections for gate shut-off valves.

The Type 2 bypass uses the first check of the mainline assembly as the first check of the bypass. The second check of the bypass is a single check valve with a model number and serial number for test recording. This arrangement complies with the National Backflow Standards. The arrangement provides the same level of protection as the standard Type 1 bypass and the testing procedure is the same.

FEATURES

- Domestic Stainless steel body: 2-1/2"-8"
- FDA epoxy coated ductile iron body: 10" & 12"
- Easy maintenance - no special tools required
- Drop-in check retainers: 2-1/2"-6"
- Bolted-in checks: 8"-12"
- Low pressure loss as documented by an independent laboratory
- Center stem guided TriForce™ check valves
- 5 year, domestic warranty
- Small installation space required - small footprint
- Chloramine-resistant elastomers
- **Lead-Free** standard
- ASSE 1048 (with meter)
- UL, ULC Classified
- CSA B64.5
- Approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California (DCDALF 4AN 2-1/2" - 8")
- FM approved
- Maximum working pressure 175 psi
- Temperature range 33°F - 140°F, 180°F intermittent
- Optional valve setters eliminate need for thrust blocks below grade
- US Patent Nos. 6,443,184; 7,025,085; 7,533,699
- Made in the USA
- Optional mounting of bypass on either side for ease of installation

MATERIALS

Part	Material
Body (2-1/2"-8")	304 Stainless Steel
Body (10 & 12")	FDA Epoxy Coated Ductile Iron
Covers (2-1/2"-6")	Glass Filled PPO/SS
Covers (8")	304 Stainless Steel
Covers(10 & 12")	FDA Epoxy Coated Ductile Iron
Relief Valve	Bronze C84400/LF C89836
Check Valves	Bronze/Glass-filled PPO/SS
Springs	Stainless Steel
Seat Discs	Chloramine-resistant Silicone

FACTORY CODE

4AnLF	6 X	X	X [X]	
	BY-PASS SUB-ASSEMBLY OPTIONS	SIZE	METER OPTION	SHUT-OFF VALVES (Inlet X Outlet)
4AnLF = Lead Free	0= Type 1 w/ 1/2" Double Check 2= Type 2 w/1/2" Single Check 3= Type 1 w/ bypass on left* 4= Type 2 w/ bypass on left*	9= 2-1/2" 0= 3" A= 4" C= 6" E= 8" G= 10" H= 12"	C= Cubic feet/min E= Gallons/min G= Less meter	1 = Less Shut-off Valves 3 = OS&Y Flg x OS&Y Flg 4 = OS&Y Flg x Monitored (Mon.) Butterfly Vlv Grv [†] 6 = OS&Y Flg x Post indicator Flg** 7 = OS&Y Flg x OS&Y Grv 8 = OS&Y Grv x OS&Y Grv 9 = Mon. Butterfly Vlv Grv x Mon. Butterfly Vlv Grv [†] 10 = OS&Y Flg x Post Indicator Grv** 13 = Post Indicator Flg x Mon. Butterfly Vlv Grv [†] 14 = Post Indicator Flg x Post Indicator Flg 16 = Mon Butterfly Vlv Grv x Post Indicator Flg [†] 17 = Post Indicator Flg x OS&Y Grv 18 = OS&Y Grv x Post Indicator Grv 19 = Mon. Butterfly Vlv Grv x Post Indicator Grv 20 = Post Indicator Flg x OS&Y Flg

Example:

4AnLF 62A E7 = 4" size Lead Free Double Check Detector Assembly with OS&Y flanged inlet x OS&Y grooved outlet shut-off valves with Type 2 bypass w/ meter in GPM

* Orientation of bypass looking downstream. Standard is right hand side. Left hand is on opposite side

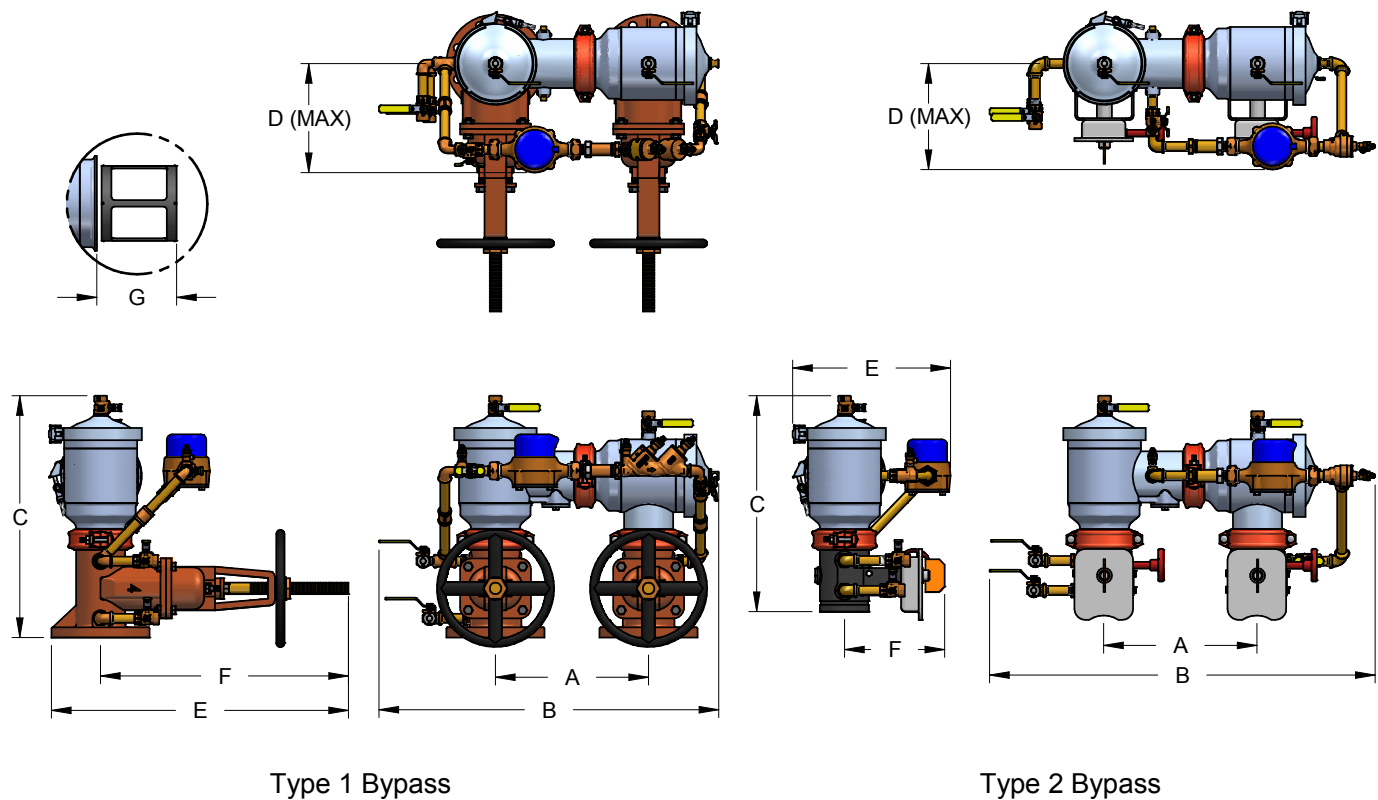
** Post indicator with plate & nut option not available in 2-1/2" size.

† Butterfly valves not available in 12" size.

BACKFLOW PREVENTION CATALOG

Double Check Detector Backflow Preventers

DCDALF 4An SERIES



Type 1 Bypass

Type 2 Bypass

DIMENSIONS

Nominal dimensions are shown. Allowances must be made for manufacturers' tolerances ($\pm 1/8"$ (3 mm) per joint)

See Page 60 For Flow Curves

DIMENSIONS	2-1/2"	60mm	3"	75mm	4"	100mm	6"	150mm	8"	200mm	10"	250mm	12"	300mm
A (Centerline to Centerline)	12-1/2 \pm	318 \pm	12.5 \pm	318 \pm	14 \pm	356 \pm	16 \pm	406 \pm	18-1/2 \pm	470 \pm	21 \pm	533 \pm	26-3/4 \pm	679 \pm
B (Butterfly Valves)	32-3/4 \pm	832 \pm	32-3/4 \pm	832 \pm	35-1/4 \pm	895 \pm	40 \pm	1016 \pm	44 \pm	1118 \pm	54 \pm	1372 \pm	N/A	N/A
B (Gate Valves)	31 \pm	787 \pm	31 \pm	787 \pm	31-3/4 \pm	806 \pm	36-1/4 \pm	921 \pm	41-1/2 \pm	1054 \pm	49 \pm	1245 \pm	55-3/4 \pm	1416 \pm
C (Butterfly Valves)	18-1/4	464	18-1/2	470	20	508	24-3/4	629	28-1/2	724	35	889	N/A	N/A
C (Gate Valves)	19-5/8	498	20	508	22-1/2	572	27-3/4	705	32-1/8	816	40	1016	44	1118
D (Centerline to max bypass)	10	254	10	254	10-1/8	257	11-1/4	286	12-1/2	318	14-3/8	365	15-1/4	387
E (Butterfly Valves)	11-1/2	292	12-1/8	308	12-7/8	327	15-7/8	403	22-1/4	565	23-1/8	591	N/A	N/A
E (OS&Y Open)	19-7/8	505	24-1/4	616	27-1/4	692	32-3/4	832	44-1/2	1130	54	1372	62-3/4	1594
E (NRS/PI)	14-7/8	378	16-1/8	410	19-1/4	489	24-1/2	622	29-1/4	743	36-3/8	924	40	1016
F (Check Removal Clearance)	6	152	6	152	6	152	8	203	8-1/2	206	12	305	12	305
Test Cocks (NPT)	1/2"	13	1/2"	13	1/2"	13	3/4"	20	3/4"	20	3/4"	20	3/4"	20
WEIGHTS	lb.	kg	lb.	kg	lb.	kg	lb.	kg	lb.	kg	lb.	kg	lb.	kg
Net Wt. (Less Shut-offs)	45	20	45	20	54	25	89	40	320	145	805	365	930	422
Net Wt. (w/ Butterfly Valves)	72	33	75	34	99	45	157	71	451	205	983	446	N/A	N/A
Net Wt. (w/ OS&Y Gate Valves)	141	64	166	75	209	95	338	153	797	362	1473	668	2121	962

Notes:

- Internal body connections are grooved on 2-1/2" to 10" sizes.
- Internal body connections are flanged on 12" size.

BACKFLOW PREVENTION CATALOG

Double Check Valve Backflow Preventers

DC 4SG SERIES



DC 4SG SERIES DOUBLE CHECK VALVE ASSEMBLY

The Apollo® DC 4SG Series Double Check Valve is designed to prevent contamination of the potable water supply due to back-siphonage or backpressure from substances that are non-health hazards. The modular check valves have replaceable seats and reversible EPDM seat discs. Grooved connections on an epoxy-coated ductile iron body allow for easy connection to butterfly valves or gate valves.

FEATURES

- Lightweight
- Short lay length
- Low pressure loss
- Modular check valves
- Individual access to check valves
- Reversible/replaceable seat discs
- Approved for vertical (up) and horizontal installations
- Gate valves epoxy coated (FDA)
- **Lead-Free** option (2-1/2" - 6" only)
- Corrosion resistant epoxy-coated ductile iron body
- ASSE 1015
- CSA
- Approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California (2-1/2" - 10" Non-Lead Free Only)
- AWWA C-510
- UL Classified
- FM approved
- US Patents #5,711,341 and #6,343,618

MATERIALS

Part	Material
Body	Epoxy-coated (FDA) Ductile Iron
Covers (2-1/2" - 6")	Epoxy-coated (FDA) Steel
Covers (8", 10")	Epoxy-coated (FDA) Ductile Iron
Check Valves (2-1/2" - 6")	Glass-Filled PPO
Check Valves (8"-10")	Bronze C84400
Springs	Stainless Steel
Seat Discs	Chloramine-resistant EPDM
Test Cock Handles	Stainless Steel

FACTORY CODE

4SG [X]	1 X X	SIZE	0 X	X
	Y-STRAINER		SHUT-OFF VALVES (Inlet x Outlet)	FLOW (OPTIONAL)
4SG = Standard	0= None (Standard)	9= 2-1/2"	1 = Less Shut-off Valves (grooved-end body)	N= n Flow
4SG LF = Lead Free (2-1/2"-6" only)	1= With Y-Strainer (Flanged only, shipped loose)	0= 3"	2 = NRS Flg x NRS Flg	
4S = 10"		A= 4"	3 = OS&Y Flg x OS&Y Flg	
		C= 6"	4 = OS&Y Flg x Monitored Butterfly Valve Grv	
		E= 8"	6 = OS&Y Flg x Flg Post Indicator**	
		G= 10"#	7 = OS&Y Flg x OS&Y Grv	
			8 = OS&Y Grv x OS&Y Grv	
			9 = Mon. Butterfly Vlv Grv x Mon. Butterfly Vlv Grv	
			10 = OS&Y Flg x Grv Post Indicator**	

10" body is flanged internal connections only (Model 4S)

**Post indicator option not available in 2-1/2" size

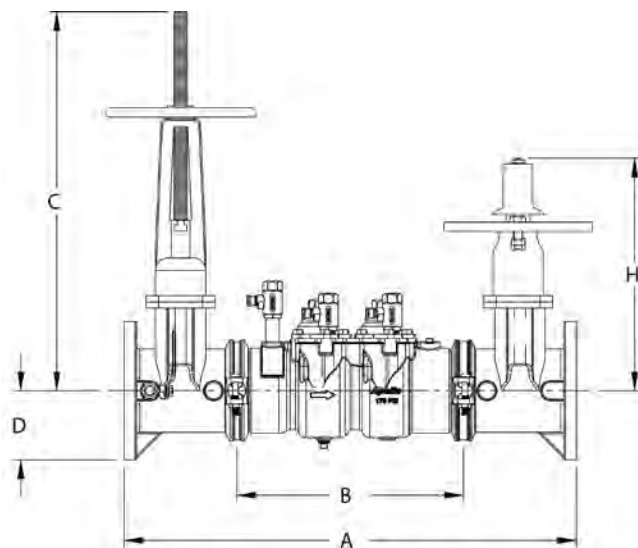
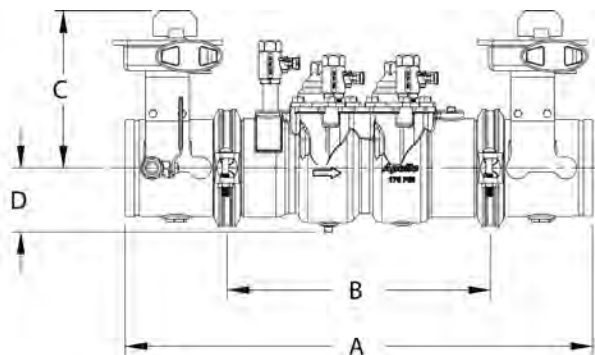
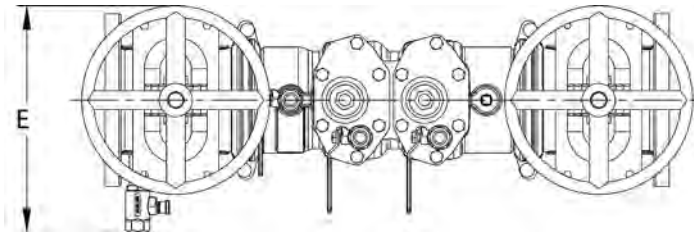
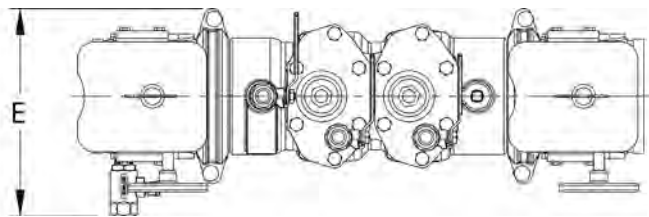
Example:

4SG 10A 07 = 4" size Double Check Valve Assembly with OS&Y flanged inlet x OS&Y grooved outlet shut-off valves

BACKFLOW PREVENTION CATALOG

Double Check Valve Backflow Preventers

DC 4S SERIES



DIMENSIONS

See Page 58 For Flow Curves

Model No. Factory No. Size	DC4SG212 4SG-109 2 1/2"	DC4SG212 4SG-109 65 mm.	DC4SG3 4SG-100 3"	DC4SG3 4SG-100 80 mm.	DC4SG4 4SG-10A 4"	DC4SG4 4SG-10A 100 mm.	DC4SG6 4SG-10C 6"	DC4SG6 4SG-10C 150 mm.	DC4SG8 4SG-10E 8"	DC4SG8 4SG-10E 200	DC4S10 4S-10G 10"	DC4S10 4S-10G 250
A (Butterfly Valves)*	29	737	29-1/2	749	29-3/4	756	32-1/2	815	43	1092	N/A	N/A
A (Gate Valves)*	32	813	33	838	34-1/2	876	39	991	50-1/4	1276	55-3/4	1416
B (Grooved End Body)	17	432	17	432	16-1/2	419	18	457	27	686	29-1/2	750
C (Butterfly Valves)	8	200	8-1/2	216	9-1/4	235	10-1/4	260	12	300	N/A	N/A
C (OS&Y Open)	16-3/8	416	18-7/8	479	22-3/4	578	30-1/8	765	37-3/4	959	46	1168
D (Butterfly Valves)	4-1/2	114	4-1/2	114	4-1/2	114	4-1/2	114	6-1/2	165	N/A	N/A
D (Gate Valves)	3-1/2	89	3-3/4	95	4-1/2	114	5-1/2	140	6-3/4	171	8.0	203
E (Butterfly Valves)	9	229	9	229	9-1/2	241	12	300	15	381	N/A	N/A
E (Gate Valves)	9-5/8	244	10-3/8	264	11-7/8	302	14-5/8	371	16-3/4	425	18.0	457
H (Post Indicator Valve)	14.75	375	14.80	376	14.80	376	18.75	476	23.42	595	26.5	673
Test Cocks (NPT)	1/2	1/2	1/2	1/2	1/2	1/2	3/4	3/4	3/4	3/4	3/4	3/4
WEIGHTS	lbs.	kg.	lbs.	kg.	lbs.	kg.	lbs.	kg.	lbs.	kg.	lbs.	kg.
Net Wt. (Less Valves)	53	24	53	24	53	24	60	27	375	170	470	213
Net Wt. (w/Butterfly Valves)	80	36	83	38	97	44	128	58	506	230	N/A	N/A
Net Wt. (w/OS&Y Valves)	149	68	174	79	208	94	309	140	852	386	1320	599

*Nominal dimensions are shown. Allowances must be made for manufacturers' tolerances.

BACKFLOW PREVENTION CATALOG

Double Check Detector Backflow Preventers

DCDA 4SG SERIES



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

DCDA 4SG SERIES DOUBLE CHECK DETECTOR ASSEMBLY

The Apollo® DCDA 4SG Series Double Check Detector Assembly is designed to prevent contamination of the potable water supply due to back-siphonage or backpressure from substances that are non-health hazards. The device consists of a mainline double check valve with resilient seated shut-off valves. The by-pass serves to measure water use of up to 3 gpm. Grooved connections on an epoxy-coated ductile iron body allow for easy connection to butterfly valves or gate valves.

FEATURES

- Lightweight
- Short lay length
- Low pressure loss
- Modular check valves
- Individual access to check valves
- Reversible/replaceable seat discs
- Approved for vertical and horizontal installations
- **Lead-Free** option (2-1/2" - 6" only)
- Gate valves epoxy coated (FDA)
- Corrosion resistant FDA epoxy-coated ductile iron body
- UL Classified
- FM approved
- Approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California (2-1/2" - 10" Non Lead Free Only)
- ASSE 1048 (with meter)
- CSA
- US Patents #5,711,341 and #6,343,618

MATERIALS

Part	Material
Body (mainline)	Epoxy-coated (FDA) Ductile Iron
Bypass DC	Bronze (C84400, LF C89836)
Covers (2-1/2" - 6")	Epoxy-coated (FDA) Steel
Covers (8")	Epoxy-coated (FDA) Ductile Iron
Check Valves (2-1/2" - 6")	Glass-Filled PPO
Check Valves (8")	Bronze (C84400, LF C89836)
Springs	Stainless Steel
Seat Discs	Chloramine-Resistant EPDM
Test Cock Handles	Stainless Steel

FACTORY CODE

4SG [X]	60 X	X	[X]	X
	SIZE	METER OPTION	SHUT-OFF VALVES (Inlet x Outlet)	FLOW (OPTIONAL)
4SG = Standard	9 = 2-1/2"	C = Cubic feet/min	1 = Less Shut-off Valves (grooved-end body)	N = n Flow
4SGLF = Lead Free (2-1/2"-6" only)	0 = 3"	E = Gallons/min	3 = OS&Y Flg x OS&Y Flg	
4S = 10"	A = 4"	G = Less meter	4 = OS&Y Flg x Monitored Butterfly Valve Grv	
	C = 6"		6 = OS&Y Flg x Flg Post Indicator**	
	E = 8"		7 = OS&Y Flg x OS&Y Grv	
	G = 10"#		8 = OS&Y Grv x OS&Y Grv	
			9 = Mon. Butterfly Vlv Grv x Mon. Butterfly Vlv Grv	
			10 = OS&Y Flg x Grv Post Indicator**	

**Post indicator option not available in 2-1/2" size
10" body is flanged internal connections only (Model 4S)

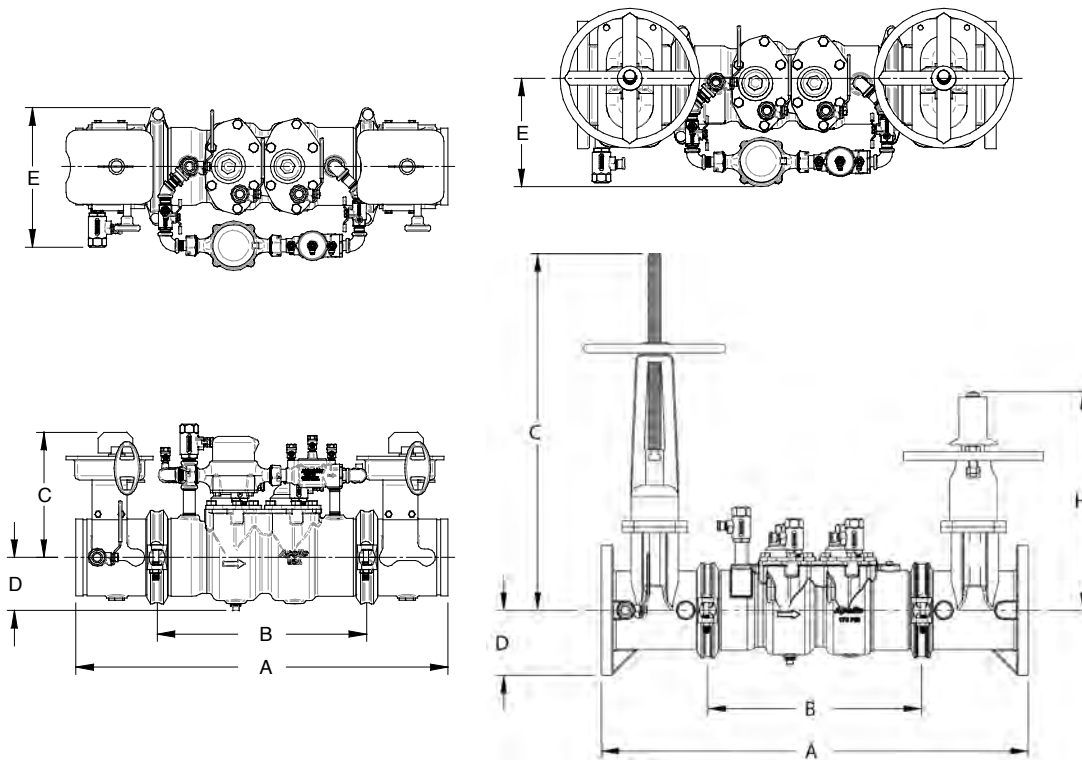
Example:

4SG 60A E7 = 4" size Double Check Detector Assembly with meter in gpm and OS&Y flanged inlet x OS&Y grooved outlet shut-off valves

BACKFLOW PREVENTION CATALOG

Double Check Detector Backflow Preventers

DCDA 4SG SERIES



DIMENSIONS

See Page 58 For Flow Curves

Model No. Factory No. Size	DC4SG212 4SG-109 2 1/2"	DC4SG212 4SG-109 65 mm.	DC4SG3 4SG-100 3"	DC4SG3 4SG-100 80 mm.	DC4SG4 4SG-10A 4"	DC4SG4 4SG-10A 100 mm.	DC4SG6 4SG-10C 6"	DC4SG6 4SG-10C 150 mm.	DC4SG8 4SG-10E 8"	DC4SG8 4SG-10E 200 mm.	DC4S10 4S-10G 10"	DC4S10 4S-10G 250 mm.
A (Butterfly Valves)*	29	737	29-1/2	749	29-3/4	756	32-1/2	815	43	1092	N/A	N/A
A (Gate Valves)*	32	813	33	838	34-1/2	876	39	991	50-1/4	1276	55-3/4	1416
B (Grooved End Body)	17	432	17	432	16-1/2	419	18	457	27	686	29-1/2	750
C (Butterfly Valves)	8	200	8-1/2	216	9-1/4	235	10-1/4	260	12	300	N/A	N/A
C (OS&Y Open)	16-3/8	416	18-7/8	479	22-3/4	578	30-1/8	765	37-3/4	959	46	1168
D (Butterfly Valves)	4-1/2	114	4-1/2	114	4-1/2	114	4-1/2	114	6-1/2	165	N/A	N/A
D (Gate Valves)	3-1/2	89	3-3/4	95	4-1/2	114	5-1/2	140	6-3/4	171	8.0	203
E	9	229	9	229	9	229	9	229	10-3/4	273	13.0	330
H (Post Indicator Valve)	14.75	375	14.80	376	14.80	376	18.75	476	24.42	595	11-1/2	292
Test Cocks (NPT)	1/2	1/2	1/2	1/2	1/2	1/2	3/4	3/4	3/4	3/4	3/4	3/4
WEIGHTS	lbs.	kg.	lbs.	kg.	lbs.	kg.	lbs.	kg.	lbs.	kg.	lbs.	kg.
Net Wt. (Less Valves)	65	29	65	29	65	29	72	33	395	179	490	222
Net Wt. (w./Butterfly Valves)	92	42	95	42	109	49	140	64	526	239	N/A	N/A
Net Wt. (w./OS&Y Valves)	161	73	186	84	220	100	321	146	872	397	1340	607

*Nominal dimensions are shown. Allowances must be made for manufacturers' tolerances.

BACKFLOW PREVENTION CATALOG

Reduced Pressure Backflow Preventers

RP 4A



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

REDUCED PRESSURE PRINCIPLE

The Apollo® Series RP 4A Reduced Pressure Principle Backflow Preventer is designed to give maximum protection against backflow caused by either back-pressure or back-siphonage from substances that are hazardous. The durable but economical device is easily maintained in the line with modular check cartridge assemblies that require no special tools. It consists of two independently acting spring-loaded check valves with an automatic differential relief valve located between the check valves. All testcocks are mounted at the top of the unit to assure easy access during repair and maintenance when unit is installed in tight places.

FEATURES

- Maximum protection against back-pressure/back-siphonage
- Modular check valve cartridges w/easily replaced parts
- Reversible/removable chloramine-resistant silicone seat discs
- Low head pressure loss
- Top mounted test cocks
- Threaded testcock protectors
- Internal sensing passage
- ASSE 1013
- CSA B64.4
- **Lead-Free** option
 - NSF 61/8/G/372
 - Federal Public Law 111-380
- AWWA C511
- UL Classified (less shut-offs)
- Approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California
- Standard with full port ball valves with stainless steel handles
- Corrosion resistant
- Maximum working pressure 175 psig
- Operating temperature range 33°F-180°F
- Horizontal installation approvals on 1/2" through 2"
- Designed, cast, manufactured, assembled and tested in South Carolina, USA
- 5 year, domestic warranty

MATERIALS

Part	Material
Body and Caps	Bronze (C84400, LF C89836)
BV Shut-offs, Testcocks	Bronze C84400 or C87800 Lead Free
Springs	300 Series SS
Seat Discs	Chloramine-resistant Silicone
Diaphragm	Nitrile and Nylon
Check Modules	Glass-Filled PPO
O-rings	Chloramine-resistant EPDM
Ball Valve Handles	Stainless Steel

Contact local water authorities for installation/service requirements.

FACTORY CODE

4A [X]	2 X	X	A X	X
	Y-STRAINER	SIZE	SHUT-OFF VALVES	OPTIONS (CAN BE COMBINED)
4A = Non-Lead Free 4ALF = Lead Free	0 = Standard 1 = With Y-Strainer (Shipped loose)	3 = 1/2" 4 = 3/4" 5 = 1" 6 = 1-1/4" 7 = 1-1/2" 8 = 2"	2 = w/ball valves (Standard) 4 = w/union ball valves (3/4" - 2")	F = SAE threaded test cocks (standard 1/2, 3/4", 1") L = Lever handle (3/4" & 1" only) LL = Locking lever handles PR = Press Connection P = Push Connection

Example:

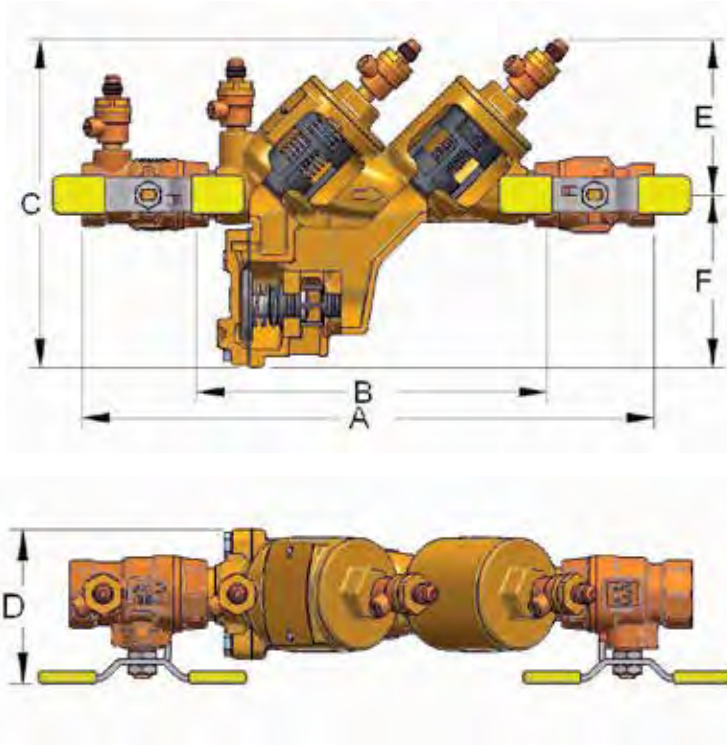
4A 215 A4LL = 1" Reduced Pressure Backflow Preventer with strainer, union ball valves and locking lever handles

BACKFLOW PREVENTION CATALOG



Reduced Pressure Backflow Preventers

RP 4A



DIMENSIONS

See Page 61 For Flow Curves

Model No. Factory No. Size	RP4A12 4A 203 A2F 1/2"	RP4A12 4A 203 A2F 15 mm.	RP4A34 4A 204 A2F 3/4"	RP4A34 4A 204 A2F 20 mm.	RP4A1 4A 205 A2F 1"	RP4A1 4A 205 A2F 25mm.	RP4A114 4A 206 A2 1-1/4"	RP4A114 4A 206 A2 32 mm.	RP4A112 4A 207 A2 1-1/2"	RP4A112 4A 207 A2 40 mm.	RP4A2 4A 208 A2 2"	RP4A2 4A 208 A2 50 mm.
A*	10-7/8	276	12-5/8	321	14-5/8	371	17-1/2	445	18	457	20-1/8	511
B	7-3/8	187	8-1/2	216	9-1/2	241	11-3/4	298	11-5/8	295	12-3/4	324
C	7-1/8	181	7-3/8	187	8	203	9-7/8	251	9-7/8	251	11	279
D	2-7/8	73	3-1/8	79	3-1/4	83	5-1/8	130	5-1/8	130	5-7/8	149
E	3-1/4	83	3-1/2	89	4	100	4-1/2	114	4-1/2	114	5	127
F	3-7/8	98	3-7/8	98	4	100	5-3/8	137	5-3/8	137	6	150
WEIGHTS	lbs.	kg.	lbs.	kg.	lbs.	kg.	lbs.	kg.	lbs.	kg.	lbs.	kg.
Net Wt.	6.9	3.1	8.2	3.7	11.7	5.3	13.6	6.2	17.4	7.9	24.5	11.1

*For Union Ball Valve, Press, and Push connection dimensions, see submittal sheets.

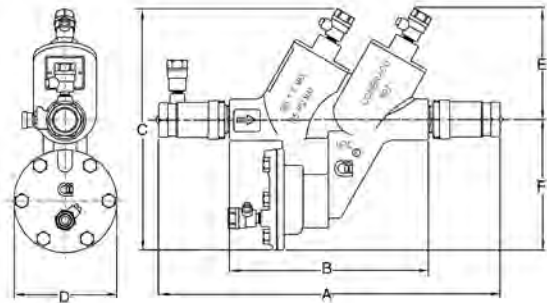
BACKFLOW PREVENTION CATALOG

Reduced Pressure Backflow Preventers

RP 40S SERIES



Sizes 1/4", 3/8", 1/2", 3/4", 1"



See page 52 for air gap drain information.

STAINLESS STEEL REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTER

The Apollo Series RP 40S Stainless Steel Reduced Pressure Principle Backflow Preventer is designed to give maximum protection against backflow caused by either backpressure or back-siphonage from a cross-connection wherein a contaminant hazard exists (i.e. a health hazard), or a pollutant hazard exists (i.e. a non-hazard). The assembly is composed of two spring-loaded poppet type check valves and a mechanically independent, hydraulically dependent pressure differential relief valve set in an integral stainless steel body. Three of the testcocks are mounted at the top to assure easy access during repair and maintenance when unit is installed in tight places.

OPERATION

During normal flow conditions, the two check valves are held off their seats, supplying water downstream. The relief valve is held shut by supply pressure acting through the internal sensing passage, on the relief valve diaphragm. In the area between the check valves, called the zone, the pressure is maintained at approximately 7 psi lower than supply pressure. Should a back-pressure or back-siphonage condition occur, the second check valve will seal, prohibiting the backflow of water. Should the second check valve become fouled, the pressure in the zone will increase causing the differential relief valve to open to atmosphere. This will maintain the pressure in the zone at least 2 psi lower than supply pressure.

FEATURES

- Stainless steel body and covers
- Easy to install and repair
- Internal sensing passage
- Low head loss
- Reversible/Removable seat discs
- Replaceable seats
- Comes standard with Apollo® stainless steel full port ball valves with stainless steel handles
- **Lead-Free** standard
- Maximum working pressure 175 psig
- Temperature range 33°F-180°F
- Approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California
- ASSE 1013
- CSA
- Designed, cast, manufactured, assembled and tested in South Carolina, USA
- 5 year, domestic warranty

MATERIALS

Part	Material
Body and Covers	316 Stainless Steel (CF8M)
Springs	Stainless Steel
Fasteners	Stainless Steel
Poppets	Glass-Filled Celcon®
Seat Discs	Silicone Rubber
Diaphragm and O-Rings	FDA Fluorocarbon
Replaceable Seats	Glass-Filled PPO
Test Cocks & Handles	Stainless Steel

Contact local water authorities for installation/service requirements.

FACTORY CODE

40 2 X	X	T X	S X
Y-STRAINER	SIZE	SHUT-OFF VALVES	OPTIONS (CAN BE COMBINED)
0 = Standard 1 = w/SS Y-strainer (shipped loose)	1 = 1/4" 2 = 3/8" 3 = 1/2" 4 = 3/4" 5 = 1"	1 = Less ball valves (UL classified-3/4",1") 2 = w/SS ball valves, w/SS Tee Handles (Standard)	LL = Locking lever handles

DIMENSIONS

Model No. Factory No. Size	(x = Shut-off valve configuration) See Page 62 For Flow Curves									
	RP40S14 40 201 TxS 1/4"	RP40S14 40 201 TxS 6 mm.	RP40S38 40 202 TxS 3/8"	RP40S38 40 202 TxS 10 mm.	RP40S12 40 203 TxS 1/2"	RP40S12 40 203 TxS 12 mm.	RP40S34 40 204 TxS 3/4"	RP40S34 40 204 TxS 20 mm.	RP40S1 40 205 TxS 1"	RP40S1 40 205 TxS 25 mm.
A	10-1/2	267	10-1/2	267	10-1/2	267	13-1/2	343	15-1/4	387
B	5-3/4	146	5-3/4	146	5-3/4	146	7-15/16	202	7-15/16	202
C	6-7/8	175	6-7/8	175	6-7/8	175	9	229	9	229
D	2-5/8	68	2-5/8	68	2-5/8	68	4-1/16	103	4-1/16	103
E	3-3/16	81	3-3/16	81	3-3/16	81	4-3/8	111	4-3/8	111
F	3-3/4	95	3-3/4	95	3-3/4	95	5-1/8	130	5-1/8	130
Test Cocks	1/8 x 1/4 NPT	1/8 x 1/4 NPT	1/8 x 1/4 NPT	1/8 x 1/4 NPT	1/8 x 1/4 NPT	1/8 x 1/4 NPT	1/8 x 1/4 NPT	1/8 x 1/4 NPT	1/8 x 1/4 NPT	1/8 x 1/4 NPT
WEIGHTS	lbs.	kg.	lbs.	kg.	lbs.	kg.	lbs.	kg.	lbs.	kg.
Net Wt. (w/o Ball Valves)	4.3	2.0	4.3	2.0	4.1	1.9	8.1	3.8	8.1	3.7
Net Wt. (with Ball Valves)	5.5	2.5	5.5	2.5	5.4	2.4	10.8	4.9	11	5.0
Shpg. Wt. (w/o Ball Valves)	5.2	2.4	5.1	2.3	5	2.3	9.8	4.4	9.6	4.3
Shpg. Wt. (with Ball Valves)	6.4	2.9	6.4	2.9	6.3	2.8	12.3	5.6	12.8	5.8

BACKFLOW PREVENTION CATALOG



Reduced Pressure Backflow Preventers

RPFHB 4A SERIES

FIRE HYDRANT BACKFLOW METER

The Apollo Series RP 4A Fire Hydrant Backflow Meter shall measure potable water flow from a fire hydrant or other non-permanent installation. At the same time it 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. The unit shall consist of a 3/4" Short Water Meter, 1" 4A-205 RP device, 1" resilient-seated full port ball valve with locking device, 2 1/2"-7 1/2" NST threaded hose couplings, strainer on inlet of meter and adjustable support rod assembly.

OPERATION

The Fire Hydrant Backflow Meter is connected directly to a fire hydrant with a 2 1/2"-7 1/2" NST fire hose female swivel coupling. The device operates like a standard Reduced Pressure device except the flow through the device is measured by a Water Meter connected to the inlet of the backflow preventer. Support rod assembly is adjustable to accommodate fire hydrants at different heights from the ground.

FEATURES

- Normal operating flow range 2-30 gpm
- Accuracy 100% \pm 1.5% of actual thruput
- Low flow registration 95% at 1/2 gpm
- Maximum pressure loss 11.0 psi at 30 gpm
- Maximum operating pressure 150 psi
- Measuring element oscillating piston
- Register is straight reading, hermetically sealed magnetic drive
- Meter maincase is bronze, measuring chamber is Rocksyn, a corrosion resistant thermoplastic material, maincase bottom plate is bronze, gears are self-lubricating, molded plastic for long life and minimum friction, magnets are Alnico, trim and casing bolts are stainless steel and strainer is thermoplastic.
- Tamperproof locking system inside the meter
- 2 1/2"-7 1/2" NST fire hose swivel couplings, female inlet, male outlet
- Maximum rate listed is for intermittent flow only. Maximum continuous flow rate as specified by AWWA is 15 gpm.
- Designed, manufactured, assembled and tested in South Carolina, USA
- 5 year, domestic warranty



Size 1"

Contact local water authorities for installation/service requirements.

WEIGHTS (lbs.)	
NET WEIGHT	24.1
SHIPPING WEIGHT	27.6
MODEL NUMBER	
4A-205-FHB	(meter in cu. ft.)
4A-205-FHBG	(meter in gallons)

BACKFLOW PREVENTION CATALOG

Reduced Pressure Backflow Preventers

RPLF 4A SERIES



Sizes 2-1/2"-12"



TriForce™ Check

REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTER

The Apollo® MODEL RPLF 4A Reduced Pressure Principle Backflow Preventers consist of two independently acting, TriForce™ center stem guided check valves with a differential pressure relief valve located between the check valves. The unit is designed to give maximum protection against backflow of health or non-health hazard fluids by either back-pressure or back-siphonage. The durable domestic stainless steel units (2-1/2"-8") and the FDA epoxy coated ductile iron units (10" and 12") are easily maintained in the line without any special tools. The TriForce™ check valves operate with a spring assist in the flowing condition to provide excellent flow rates which are documented by an independent laboratory.

OPERATION

During normal flow conditions, the two check valves are held off their seats, supplying water downstream. The relief valve is held shut by supply pressure acting through the sensing tube on the relief valve diaphragm. In the area between the check valves, called the zone, the pressure is maintained approximately 7 psi lower than supply pressure. Should a back-pressure or back-siphonage condition occur, the second check valve will seal, prohibiting the backflow of water. Should the second check become fouled, the pressure in the zone will increase causing the differential relief valve to open to atmosphere. This will maintain the pressure in the zone at least 2 psi lower than supply pressure.

FEATURES

- Domestic Stainless steel body: 2-1/2"-8"
- FDA epoxy coated ductile iron body: 10" & 12"
- Easy maintenance - no special tools required
- Snap-in check retainers: 2-1/2"-6"
- Bolted-in checks: 8"-12"
- Low pressure loss as documented by an independent laboratory
- Center stem guided TriForce™ check valves
- Approved for horizontal flow*
- Chloramine-resistant elastomers
- Made in the USA
- **Lead-Free** standard
- ASSE 1013
- CSA B64.4
- AWWA C-511
- Approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California (2-1/2" - 6")
- UL, ULC Classified
- FM approved
- Maximum working pressure 175 psi
- Temperature range 33°F - 140°F, 180°F intermittent
- US Patent Nos. 6,443,184; 7,025,085; 7,533,699
- Optional Air Gap Drains (see page 52 for details and discharge rates)
- 5 year, domestic warranty

MATERIALS

Part	Material
Body (2-1/2"-8")	304 Stainless Steel
Body (10 & 12")	FDA Epoxy Coated Ductile Iron
Covers (2-1/2"-6")	Glass Filled PPO/SS
Covers (8")	304 Stainless Steel
Covers (10 & 12")	FDA Epoxy Coated Ductile Iron
Relief Valve	Bronze C84400/ LF C89836
Check Valves	Bronze/Glass-filled PPO/SS
Springs	Stainless Steel
Seat Discs	Chloramine-resistant Silicone

FACTORY CODE

4ALF	2 X	X	O X
	Y-STRAINER	SIZE	SHUT-OFF VALVES
4ALF = Lead Free Standard	0 = Standard 1 = w/Y-strainer (shipped loose)	9 = 2-1/2" 0 = 3" A = 4" C = 6" E = 8" G = 10" H = 12"	1 = Less Shut-off Valves 2 = NRS Flg x NRS Flg 3 = OS&Y Flg x OS&Y Flg 4 = OS&Y Flg x Monitored (Mon.) Butterfly Vlv Grv† 6 = OS&Y Flg x Post indicator Flg** 7 = OS&Y Flg x OS&Y Grv 8 = OS&Y Grv x OS&Y Grv 9 = Mon. Butterfly Vlv Grv x Mon. Butterfly Vlv Grv† 10 = OS&Y Flg x Post Indicator Grv** 11 = NRS Grv x NRS Grv 12 = NRS Flg x NRS Grv 13 = Post Indicator Flg x Mon. Butterfly Vlv Grv† 14 = Post Indicator Flg x Post Indicator Flg 16 = Mon Butterfly Vlv Grv x Post Indicator Flg† 17 = Post Indicator Flg x OS&Y Grv 18 = OS&Y Grv x Post Indicator Grv 19 = Mon. Butterfly Vlv Grv x Post Indicator Grv 20 = Post Indicator Flg x OS&Y Flg

** Post indicator with plate & nut option not available in 2-1/2" size.

† Butterfly valves not available in 12" size.

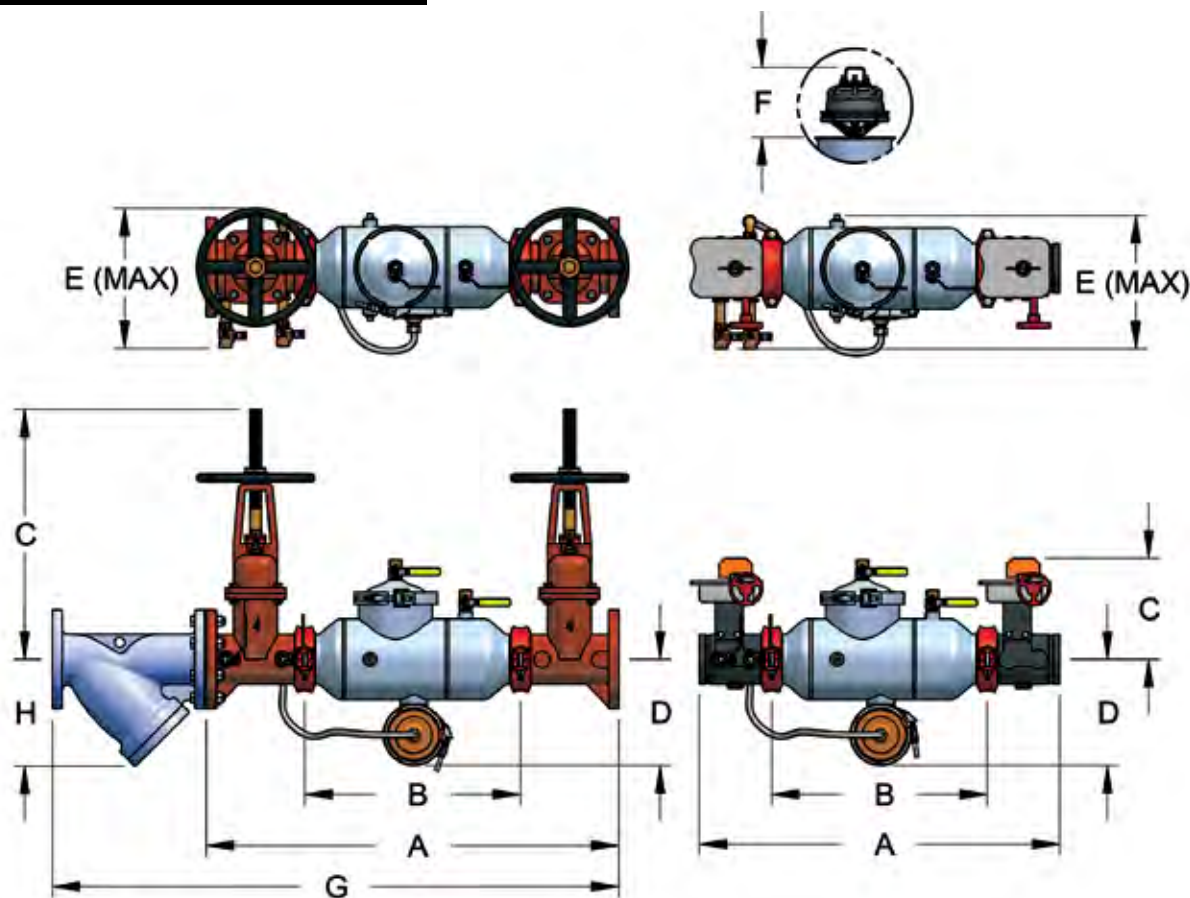
Example:

4ALF 20A 07 = 4" size Lead Free Reduced Pressure Assembly with OS&Y flanged inlet x OS&Y grooved outlet shut-off valves.

BACKFLOW PREVENTION CATALOG

Reduced Pressure Backflow Preventers

RPLF 4A SERIES



DIMENSIONS

Nominal dimensions are shown. Allowances must be made for manufacturers' tolerances ($\pm 1/8"$ (3 mm) per joint)

See Page 63 For Flow Curves

DIMENSIONS	2-1/2"	60 mm.	3"	75 mm.	4"	100 mm.	6"	150 mm.	8"	200 mm.	10"	250 mm.	12"	300 mm.
A (Butterfly Valves)	28	711 ±	28-1/2 ±	724 ±	33-1/4 ±	845 ±	38-7/8 ±	987 ±	46-3/8 ±	1178 ±	52-1/4 ±	1327 ±	N/A	N/A
A (Gate Valves)	31 ±	787 ±	32 ±	813 ±	38 ±	965 ±	45-7/8 ±	1165 ±	53-3/8 ±	1356 ±	62-1/4 ±	1581 ±	62-1/2 ±	1586 ±
B (Less Shut-off Valves)	15-7/8 ±	403 ±	15-7/8 ±	403 ±	19-5/8 ±	498 ±	24-1/2 ±	622 ±	30 ±	762 ±	36 ±	914 ±	37 ±	940 ±
C (Butterfly Valves)	8	203	8-3/8	213	9-1/8	233	10-1/8	257	12	306	13-3/8	340	N/A	N/A
C (NRS/PI Gate Valves)	11-3/8	289	12-3/8	314	14-3/4	375	19	483	22-1/2	572	26-1/2	673	30	762
C (OS&Y Open)	16-3/8	416	18-7/8	479	22-3/4	578	30-1/8	765	37-3/4	959	45-3/4	1162	53-1/8	1349
D (Centerline to bottom)	9-5/8	238	9-5/8	238	10-3/8	264	11-5/8	295	15-5/8	397	21	533	21	533
E (Width Max)	11-1/2	292	12	305	12-1/2	318	14-3/8	365	17-5/8	449	21	533	22	559
F (Check Removal Clearance)	4-3/4	121	4-3/4	121	6-1/2	165	7-1/2	191	7-1/2	191	10	254	10	254
G (With Strainer)	41-7/8	1064	43-5/8	1108	52	1321	64-1/2	1638	74-7/8	1902	88-3/8	2245	95-5/8	2429
H (Strainer Clearance)	8	203	8-3/4	222	9-1/2	241	12-5/8	321	16-3/8	416	19	483	22	559
Test Cocks (NPT)	1/2"	15	1/2"	15	1/2"	15	3/4"	20	3/4"	20	3/4"	20	3/4"	20
WEIGHTS	lb.	kg	lb.	kg	lb.	kg	lb.	kg	lb.	kg	lb.	kg	lb.	kg
Net Wt. (Less Shut-offs)	31	14	32	5	48	22	84	38	228	103	762	346	865	392
Net Wt. (w/ Butterfly Valves)	58	26	62	28	92	42	152	69	359	163	980	445	N/A	N/A
Net Wt. (w/NRS Gate Valves)	117	53	143	65	197	89	323	147	691	313	1608	729	2003	909
Net Wt. (w/ OS&Y Gate Valves)	127	58	153	69	203	92	333	151	705	320	1648	748	2057	933

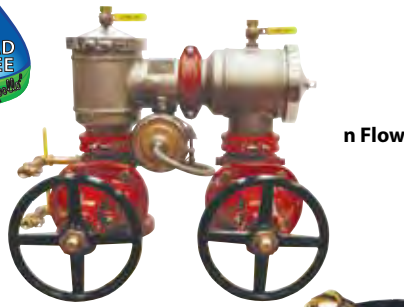
Notes:

- Nominal dimensions are shown. Allowances must be made for manufacturers' tolerances (1/8" per joint).
- Internal body connections are grooved on 2 1/2" - 10" sizes.
- Internal body connections are flanged on 12" size.
- Strainer option only available for flanged-end shut-off options.

BACKFLOW PREVENTION CATALOG

Reduced Pressure Backflow Preventers

RPLF 4An SERIES



n Flow

Vertical Up Flow

Sizes 2-1/2"-12"



TriForce™ Check



Optional Valve Setter (see pg 50)

REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTER

The Apollo® MODEL RPLF 4An Reduced Pressure Principle Backflow Preventer consists of two independently acting, TriForce™ center stem guided check valves with a differential pressure relief valve located between the check valves. The unit is designed to give maximum protection against backflow of health or non-health hazard fluids by either back-pressure or back-siphonage. The normally vertical up/vertical down oriented body incorporates an internal swivel connection providing the ability to pivot the second check 180° to a vertical up/vertical up flow. The durable domestic stainless steel units (2-1/2" to 8") and the FDA epoxy coated ductile iron units (10" and 12") are easily maintained in the line without any special tools. The TriForce™ check valves operate with a spring assist in the flowing condition to provide excellent flow rates which are documented by an independent laboratory.

OPERATION

During normal flow conditions, the two check valves are held off their seats, supplying water downstream. The relief valve is held shut by supply pressure acting through the sensing tube on the relief valve diaphragm. In the area between the check valves, called the zone, the pressure is maintained approximately 7 psi lower than supply pressure. Should a back-pressure or back-siphonage condition occur, the second check valve will seal, prohibiting the backflow of water. Should the second check become fouled, the pressure in the zone will increase causing the differential relief valve to open to atmosphere. This will maintain the pressure in the zone at least 2 psi lower than supply pressure.

FEATURES

- Domestic Stainless steel body: 2-1/2"-8"
- FDA epoxy coated ductile iron body: 10" & 12"
- Easy maintenance - no special tools required
- Drop-in check retainers: 2-1/2"-6"
- Bolted-in checks: 8"-12"
- Low pressure loss as documented by an independent laboratory
- Center stem guided TriForce™ check valves
- Optional Air Gap Drains (see page 52 for details and discharge rates)
- Small installation space required - small footprint
- Approved for n-flow and vertical up flow*
- Chloramine-resistant elastomers
- **Lead-Free** standard
- ASSE 1013
- CSA B64.4
- Approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California (4" - 6")
- AWWA C-511
- UL, ULC Classified
- FM approved
- Maximum working pressure 175 psi
- Temperature range 33°F - 140°F, 180°F intermittent
- Optional valve setters eliminate need for thrust blocks between elbows
- US Patent Nos. 6,443,184; 7,025,085; 7,533,699
- Made in the USA
- 5 year, domestic warranty

MATERIALS

Part	Material
Body (2-1/2"-8")	304 Stainless Steel
Body (10 & 12")	FDA Epoxy Coated Ductile Iron
Covers (2-1/2"-6")	Glass Filled PPO/SS
Covers (8")	304 Stainless Steel
Covers (10 & 12")	FDA Epoxy Coated Ductile Iron
Relief Valve	Bronze C84400/ LF C89836
Check Valves	Bronze/Glass-filled PPO/SS
Springs	Stainless Steel
Seat Discs	Chloramine-resistant Silicone

FACTORY CODE

4AnLF	2 X	X	0 X
	Y-STRAINER	SIZE	SHUT-OFF VALVES
4AnLF= Lead Free	0 = Standard 1 = w/Y-strainer (shipped loose)	9 = 2-1/2" 0 = 3" A = 4" C = 6" E = 8" G = 10" H = 12"	1 = Less Shut-off Valves 2 = NRS Flg x NRS Flg 3 = OS&Y Flg x OS&Y Flg 4 = OS&Y Flg x Monitored (Mon.) Butterfly Vlv Grv [†] 6 = OS&Y Flg x Post indicator Flg** 7 = OS&Y Flg x OS&Y Grv 8 = OS&Y Grv x OS&Y Grv 9 = Mon. Butterfly Vlv Grv x Mon. Butterfly Vlv Grv [†] 10 = OS&Y Flg x Post Indicator Grv** 11 = NRS Grv x NRS Grv 12 = NRS Flg x NRS Grv 13 = Post Indicator Flg x Mon. Butterfly Vlv Grv [†] 14 = Post Indicator Flg x Post Indicator Flg 16 = Mon Butterfly Vlv Grv x Post Indicator Flg [†] 17 = Post Indicator Flg x OS&Y Grv 18 = OS&Y Grv x Post Indicator Grv 19 = Mon. Butterfly Vlv Grv x Post Indicator Grv 20 = Post Indicator Flg x OS&Y Flg

** Post indicator with plate & nut option not available in 2-1/2" size.
† Butterfly valves not available in 12" size.

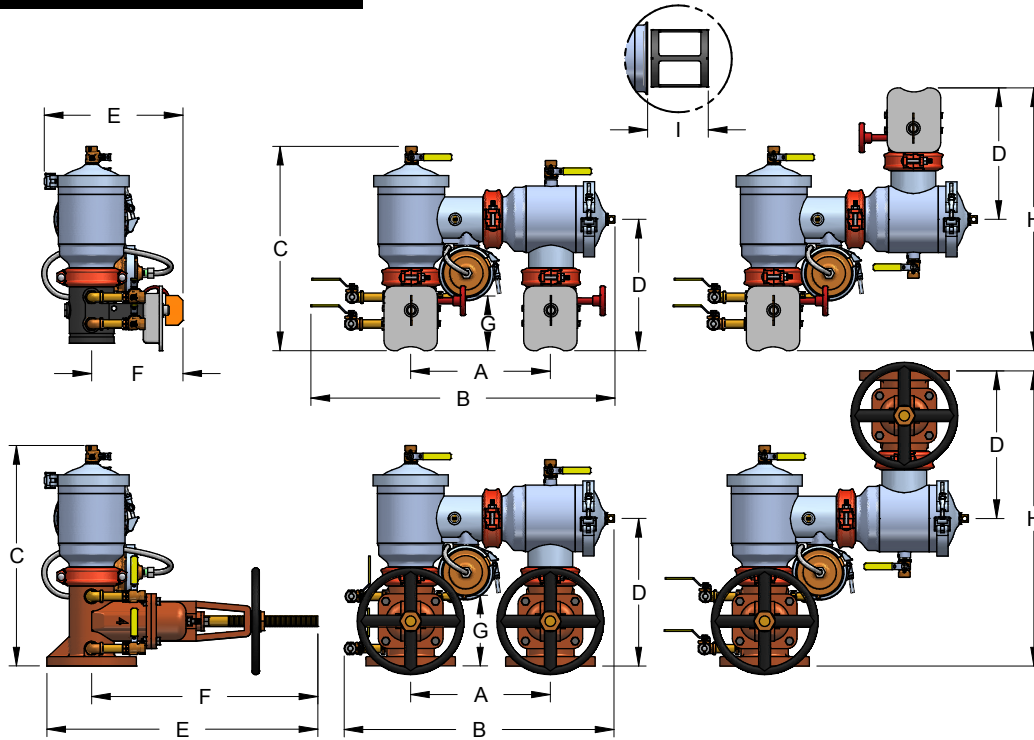
Example:
4AN 20A 07 = 4" size Reduced Pressure Assembly with OS&Y flanged inlet x OS&Y grooved outlet shut-off valves



BACKFLOW PREVENTION CATALOG

Reduced Pressure Backflow Preventers

RPLF 4An SERIES



DIMENSIONS

Nominal dimensions are shown. Allowances must be made for manufacturers' tolerances ($\pm 1/8"$ (3 mm) per joint)
See Page 64 For Flow Curves

DIMENSIONS	2-1/2"	60mm	3"	75mm	4"	100mm	6"	150mm	8"	200mm	10"	250mm	12"	300mm
A (Centerline to Centerline)	12-1/2 \pm	318 \pm	12-1/2 \pm	318 \pm	14 \pm	356 \pm	16 \pm	406 \pm	18-1/2 \pm	470 \pm	21 \pm	533 \pm	26-3/4 \pm	675 \pm
B (Butterfly Valves)	27-1/2 \pm	699 \pm	27-1/2 \pm	699 \pm	30-3/4 \pm	781 \pm	36 \pm	914 \pm	37-3/8 \pm	949 \pm	43 \pm	1092 \pm	N/A	N/A
B (Gate Valves)	24-1/2 \pm	622 \pm	24-1/2 \pm	622 \pm	27 \pm	686 \pm	32 \pm	813 \pm	40-3/4 \pm	1035 \pm	49 \pm	1245 \pm	55-3/4 \pm	1416 \pm
C (Butterfly Valves)	18-1/4	468	18-1/2	470	20	508	24-3/4	629	28-1/2	724	35	889	N/A	N/A
C (Gate Valves)	19-5/8	498	20	508	22-1/2	572	27-3/4	705	32-1/8	816	40	1016	44	1118
D (Butterfly Valves)	11-1/2	292	11-3/4	298	12-1/2	318	14-1/2	368	17-7/8	454	19-3/4	502	N/A	N/A
D (Gate Valves)	13	330	13-1/2	343	14-7/8	378	18	457	21-3/8	543	24-3/4	629	28-3/4	730
E (Butterfly Valves)	11-1/2	292	12-1/8	308	12-7/8	327	15-7/8	403	22-1/4	565	23-1/8	587	N/A	N/A
E (OS&Y Open)	19-7/8	505	24-1/2	622	27-1/4	692	32-3/4	832	44-1/2	1130	54	1372	62-3/4	1594
E (NRS/PI)	14-7/8	378	16-1/8	410	19-1/4	489	24-1/2	622	29-1/4	740	36-3/8	924	40	1016
F (Butterfly Valves)	8	203	8-3/8	213	9	229	10-7/8	277	12-7/8	327	13-1/2	343	N/A	N/A
F (OS&Y Open)	16-3/8	416	20-1/2	521	22-3/4	578	28	711	37-3/4	959	46	1168	53-1/8	1349
F (NRS/PI)	11-3/8	289	12-3/8	314	14-3/4	375	19	483	22-1/2	572	26-1/2	673	30	762
G (Butterfly Valves)	4-1/8	105	4-1/2	114	4-3/8	111	6-1/2	165	5-1/4	133	4	102	N/A	N/A
G (Gate Valves)	5-1/2	140	6	152	6	152	9	229	9	229	9	229	10	254
H (Butterfly Valves)	23	584	23-1/2	597	25	635	29	737	35-3/4	908	N/A	N/A	N/A	N/A
H (Gate Valves)	26	660	27	686	29-3/4	756	36	914	42-3/4	1086	N/A	N/A	N/A	N/A
I (Check Removal Clearance)	6	152	6	152	6	152	8	203	8-1/2	216	12	305	12	305
Test Cocks (NPT)	1/2"	15	1/2"	15	1/2"	15	3/4"	20	3/4"	20	3/4"	20	3/4"	20
WEIGHTS	lb.	kg	lb.	kg	lb.	kg	lb.	kg	lb.	kg	lb.	kg	lb.	kg
Net Wt. (Less Shut-offs)	39	18	39	18	48	22	83	38	325	147	841	381	966	438
Net Wt. (w/ Butterfly Valves)	66	30	69	31	92	42	151	69	456	207	1019	462	N/A	N/A
Net Wt. (w/NRS Gate Valves)	125	57	150	68	197	89	322	146	788	357	1487	674	2103	954
Net Wt. (w/ OS&Y Gate Valves)	135	61	160	73	203	92	332	151	802	364	1509	684	2157	978

Notes:

1. Internal body connections are grooved on 2-1/2"-10" sizes.
2. Internal body connections are flanged on 12" size.



BACKFLOW PREVENTION CATALOG

Reduced Pressure Detector Assembly

RPDALF 4A SERIES

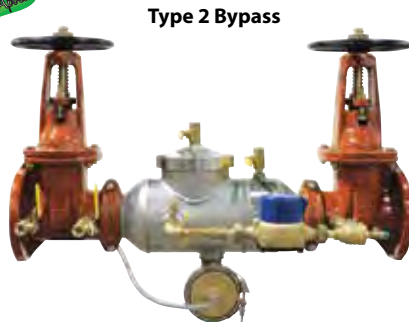
RPDALF 4A REDUCED PRESSURE DETECTOR ASSEMBLY

The Apollo® MODEL RPDALF 4A Reduced Pressure Detector Assembly consists of two independently acting, TriForce™ center stem guided check valves with a differential pressure relief valve located between the check valves. The unit is designed to give maximum protection against backflow of health or non-health hazard fluids by either back-pressure or back-siphonage and at the same time detect leakage or unauthorized use of water from fire or automatic sprinkler systems. The durable domestic stainless steel units (2-1/2" to 8") and the FDA epoxy coated ductile iron units (10" and 12") are easily maintained in line without any special tools. The TriForce™ check valves operate with a spring assist in the flowing condition to provide low flow rates which are documented by an independent laboratory.

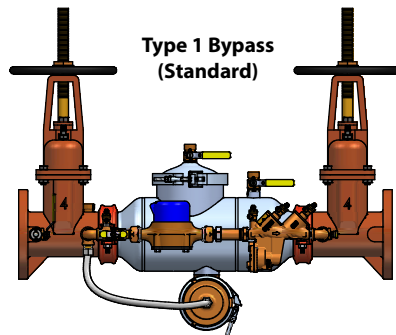
The Type 2 bypass uses the first check of the mainline assembly as the first check of the bypass. The second check of the bypass is a single check valve with a model number and serial number for test recording. This arrangement complies with the National Backflow Standards. The arrangement provides the same level of protection as the standard Type 1 bypass and the testing procedure is the same.

FEATURES

- Domestic Stainless steel body: 2-1/2"-8"
- FDA epoxy coated ductile iron body: 10" & 12"
- Easy maintenance - no special tools required
- Snap-in check retainers: 2-1/2"-6"
- Bolted-in checks: 8"-12"
- Low pressure loss as documented by an independent laboratory
- Center stem guided TriForce™ check valves
- Approved for horizontal flow
- ASSE 1047 (with meter)
- Optional air gap drains (see page 52 for details and discharge rates.)
- **Lead-Free** standard
- CSA B64.4
- Approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California (RPDALF 4A 2-1/2" - 6")
- UL, ULC Classified
- FM approved
- Maximum working pressure 175 psi
- Temperature range 33°F - 140°F, 180°F intermittent
- US Patent Nos. 6,443,184; 7,025,085; 7,533,699
- Made in the USA
- 5 year, domestic warranty
- Optional mounting of bypass on either side for ease of installation



Type 2 Bypass



Type 1 Bypass (Standard)

Sizes 2-1/2"-12"



TriForce™ Check

MATERIALS

Part	Material
Body (2-1/2"-8")	304 Stainless Steel
Body (10 & 12")	FDA Epoxy Coated Ductile Iron
Covers (2-1/2"-6")	Glass Filled PPO/SS
Covers (8")	304 Stainless Steel
Covers(10 & 12")	FDA Epoxy Coated Ductile Iron
Relief Valve	Bronze (C84400/LF C89836)
Check Valves	Bronze/Glass-filled PPO/SS
Springs	Stainless Steel
Seat Discs	Chloramine-resistant Silicone

FACTORY CODE

4ALF	7 X	X	X	[X]
	BY-PASS SUB-ASSEMBLY OPTIONS	SIZE	METER OPTION	SHUT-OFF VALVES (Inlet x Outlet)
4ALF = Lead Free Standard	0 = Type 1 w/ 1/2" Reduced Pressure 2 = Type 2 w/1/2" Single Check 3 = Type 1 w/ bypass on left* 4 = Type 2 w/ bypass on left*	9 = 2-1/2" 0 = 3" A = 4" C = 6" E = 8" G = 10" H = 12"	C = Cubic feet/min E = Gallons/min G = Less meter	1 = Less Shut-off Valves 3 = OS&Y Flg x OS&Y Flg 4 = OS&Y Flg x Monitored (Mon.) Butterfly Vlv Grv [†] 6 = OS&Y Flg x Post indicator Flg** 7 = OS&Y Flg x OS&Y Grv 8 = OS&Y Grv x OS&Y Grv 9 = Mon. Butterfly Vlv Grv x Mon. Butterfly Vlv Grv [†] 10 = OS&Y Flg x Post Indicator Grv** 13 = Post Indicator Flg x Mon. Butterfly Vlv Grv [†] 14 = Post Indicator Flg x Post Indicator Flg 16 = Mon Butterfly Vlv Grv x Post Indicator Flg [†] 17 = Post Indicator Flg x OS&Y Grv 18 = OS&Y Grv x Post Indicator Grv 19 = Mon. Butterfly Vlv Grv x Post Indicator Grv 20 = Post Indicator Flg x OS&Y Flg

Example:
4ALF 72A E3 = 4" size Lead Free Reduced Pressure Detector Assembly with OS&Y flanged inlet x OS&Y flanged outlet shut-off valves Type 2 Bypass w/ meter in gallons

* Orientation of bypass looking downstream. Standard is right hand side. Left hand is on opposite side

** Post indicator with plate & nut option not available in 2-1/2" size.

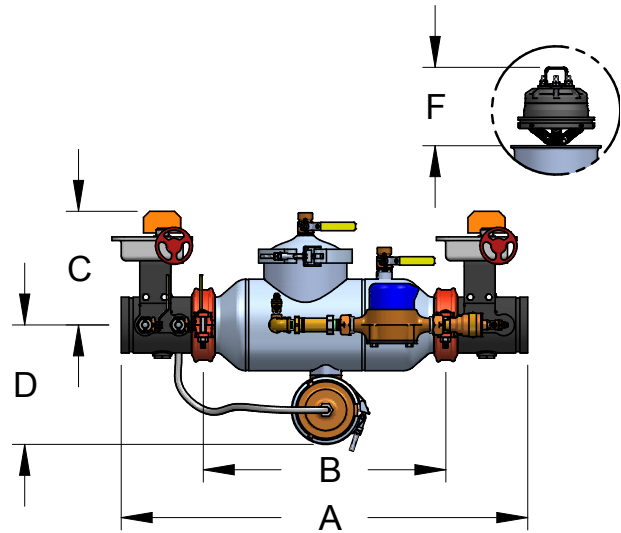
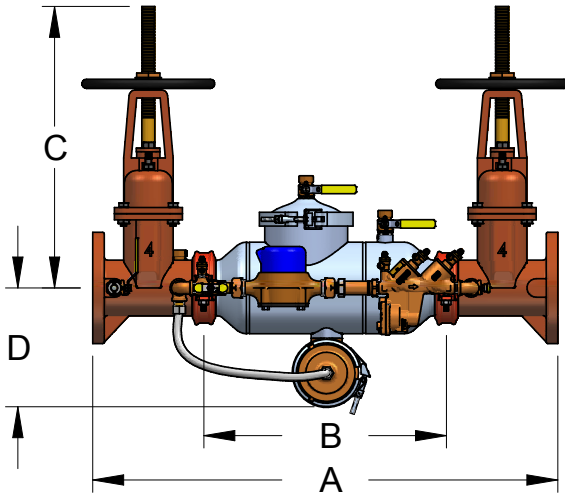
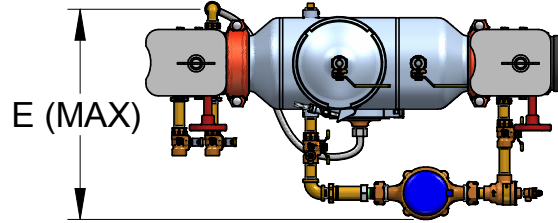
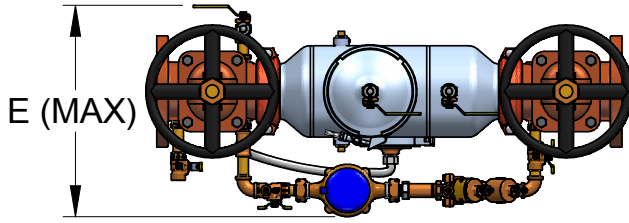
† Butterfly valves not available in 12" size.



BACKFLOW PREVENTION CATALOG

Reduced Pressure Detector Assembly

RPDALF 4A SERIES



TYPE 1 BYPASS

TYPE 2 BYPASS

DIMENSIONS

Nominal dimensions are shown. Allowances must be made for manufacturers' tolerances ($\pm 1/8"$ (3 mm) per joint)
See Page 65 For Flow Curves

DIMENSIONS	2-1/2"	60mm	3"	75mm	4"	100mm	6"	150mm	8"	200mm	10"	250mm	12"	300mm
A (Butterfly Valves)	28 ±	711 ±	28-1/2 ±	724 ±	33-1/4 ±	845 ±	38-7/8 ±	987 ±	46-3/8 ±	1178 ±	52-1/4 ±	1327 ±	N/A	N/A
A (Gate Valves)	31 ±	787 ±	32 ±	813 ±	38 ±	965 ±	45-7/8 ±	1165 ±	53-3/8 ±	1356 ±	62-1/4 ±	1581 ±	65-1/2 ±	1664 ±
B (Less Shut-off Valves)	15-7/8 ±	403 ±	15-7/8 ±	403 ±	19-5/8 ±	498 ±	24-1/2 ±	622 ±	30 ±	762 ±	36 ±	914 ±	37 ±	940 ±
C (Butterfly Valves)	8	230	8-3/8	213	9-1/8	232	10-1/8	257	12	305	13-3/8	340	N/A	N/A
C (NRS/PI Gate Valves)	11-3/8	289	12-3/8	314	14-3/4	375	19	483	22-1/2	572	26-1/2	673	30	762
C (OS&Y Open)	16-3/8	41	18-7/8	479	22-3/4	578	30-1/8	765	37-3/4	959	45-3/4	1162	53-1/8	1349
D (Centerline to bottom)	9-5/8	244	9-5/8	244	10-3/8	264	11-5/8	295	15-5/8	397	21	533	21	533
E (Width Max)	17	432	17	432	17	432	20	508	21-1/2	546	26-1/2	673	27-1/2	699
F (Check Removal Clearance)	4-3/4	121	4-3/4	121	6-1/2	165	7-1/2	191	7-1/2	191	10	254	10	254
Test Cocks (NPT)	1/2"	15	1/2"	15	1/2"	15	3/4"	20	3/4"	20	3/4"	20	3/4"	20
WEIGHTS	lb.	kg	lb.	kg	lb.	kg	lb.	kg	lb.	kg	lb.	kg	lb.	kg
Net Wt. (Less Shut-offs)	48	22	49	22	65	30	101	46	245	111	787	358	890	405
Net Wt. (w/ Butterfly Valves)	75	34	79	36	109	50	169	77	376	171	1005	457	N/A	N/A
Net Wt. (w/ OS&Y Gate Valves)	144	65	170	77	220	100	350	159	722	328	1673	760	2082	946

Notes:

1. Internal body connections are grooved on 2-1/2"-10" sizes.
2. Internal body connections are flanged on 12" size.

BACKFLOW PREVENTION CATALOG

Reduced Pressure Detector Assembly

RPDALF 4An SERIES



Sizes 2-1/2" - 12"



TriForce™ Check



Optional Valve Setter (see pg 50)

n STYLE REDUCED PRESSURE DETECTOR ASSEMBLY

The Apollo® MODEL RPDALF 4An Reduced Pressure Detector Assembly consists of two independently acting, TriForce™ center stem guided check valves with a differential pressure relief valve located between the check valves. The unit is designed to give maximum protection against backflow of health or non-health hazard fluids by either back-pressure or back-siphonage and at the same time detect leakage or unauthorized use of water from fire or automatic sprinkler systems. The normally vertical up/vertical down oriented body incorporates an internal swivel connection providing the ability to pivot the second check 180° to a vertical up/vertical up flow. The durable domestic stainless steel units (2-1/2" to 8") and the FDA epoxy coated ductile iron units (10" and 12") are easily maintained in the line without any special tools. The TriForce™ check valves operate with a spring assist in the flowing condition to provide low flow rates which are documented by an independent laboratory.

The Type 2 bypass uses the first check of the mainline assembly as the first check of the bypass. The second check of the bypass is a single check valve with a model number and serial number for test recording. This arrangement complies with the National Backflow Standards. The arrangement provides the same level of protection as the standard Type 1 bypass and the testing procedure is the same.

FEATURES

- Domestic Stainless steel body: 2-1/2"-8"
- FDA epoxy coated ductile iron body: 10" & 12"
- Easy maintenance - no special tools required
- Drop-in check retainers: 2-1/2"-6"
- Bolted-in checks: 8"-12"
- Low pressure loss as documented by an independent laboratory
- Center stem guided TriForce™ check valves
- Optional air gap drains (see pg 52)
- Small installation space required - small footprint
- Approved for n-flow and vertical up flow
- Chloramine-resistant elastomers
- Made in the USA
- Lead-Free standard
- CSA B64.4
- Approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California (RPDALF 4AN 4")
- ASSE 1047 (with meter)
- UL, ULC Classified
- FM approved
- Maximum working pressure 175 psi
- Temperature range 33°F - 140°F, 180°F intermittent
- Optional valve setters eliminate need for thrust blocks below grade
- US Patent Nos. 6,443,184; 7,025,085; 7,533,699
- 5 year, domestic warranty
- Optional mounting of bypass on either side for ease of installation

MATERIALS

Part	Material
Body (2-1/2"-8")	304 Stainless Steel
Body (10 & 12")	FDA Epoxy Coated Ductile Iron
Covers (2-1/2"-6")	Glass Filled PPO/SS
Covers (8")	304 Stainless Steel
Covers(10 & 12")	FDA Epoxy Coated Ductile Iron
Relief Valve	Bronze (C84400/LF C89836)
Check Valves	Bronze/Glass-filled PPO/SS
Springs	Stainless Steel
Seat Discs	Chloramine-resistant Silicone

FACTORY CODE

4AnLF	7 X	X	X	X [X]
	BY-PASS SUB-ASSEMBLY OPTIONS	SIZE	METER OPTION	SHUT-OFF VALVES (Inlet x Outlet)
4AnLF = Lead Free Standard	0 = Type 1 w/ 1/2" Reduced Pressure 2 = Type 2 w/1/2" Single Check 3 = Type 1 w/ bypass on left* 4 = Type 2 w/ bypass on left*	9 = 2-1/2" 0 = 3" A = 4" C = 6" E = 8" G = 10" H = 12"	C = Cubic feet/min E = Gallons/min G = Less meter	1 = Less Shut-off Valves 3 = OS&Y Flg x OS&Y Flg 4 = OS&Y Flg x Monitored (Mon.) Butterfly Vlv Grv† 6 = OS&Y Flg x Post indicator Flg** 7 = OS&Y Flg x OS&Y Grv 8 = OS&Y Grv x OS&Y Grv 9 = Mon. Butterfly Vlv Grv x Mon. Butterfly Vlv Grv† 10 = OS&Y Flg x Post Indicator Grv** 13 = Post Indicator Flg x Mon. Butterfly Vlv Grv† 14 = Post Indicator Flg x Post Indicator Flg 16 = Mon Butterfly Vlv Grv x Post Indicator Flg† 17 = Post Indicator Flg x OS&Y Grv 18 = OS&Y Grv x Post Indicator Grv 19 = Mon. Butterfly Vlv Grv x Post Indicator Grv 20 = Post Indicator Flg x OS&Y Flg

Example:

4ANLF 70A E3 = 4" size Lead Free Reduced Pressure Detector Assembly with meter in GPM and OS&Y flanged inlet x OS&Y flanged outlet shut-off valves.

* Orientation of bypass looking downstream. Standard is right hand side. Left hand is on opposite side

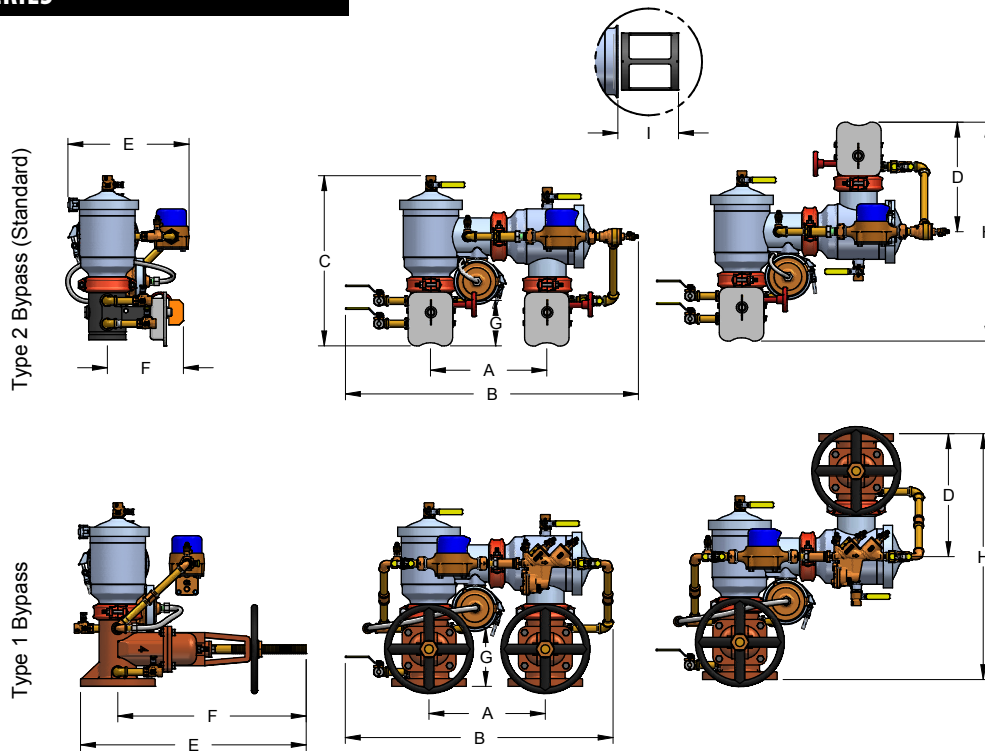
** Post indicator with plate & nut option not available in 2-1/2" size.

† Butterfly valves not available in 12" size.

BACKFLOW PREVENTION CATALOG

Reduced Pressure Detector Assembly

RPDALF 4An SERIES



DIMENSIONS

Nominal dimensions are shown. Allowances must be made for manufacturers' tolerances ($\pm 1/8"$ (3 mm) per joint)

See Page 66 For Flow Curves

DIMENSIONS	2-1/2"	60mm	3"	75mm	4"	100mm	6"	150mm	8"	200mm	10"	250mm	12"	300mm
A Centerline to Centerline	12-1/2 \pm	318 \pm	12-1/2 \pm	318 \pm	14 \pm	356 \pm	16 \pm	406 \pm	18-1/2 \pm	470 \pm	21 \pm	533 \pm	26-3/4 \pm	679 \pm
B (Butterfly Valves)	32-3/4 \pm	832 \pm	32-3/4 \pm	832 \pm	35-1/2 \pm	902 \pm	40 \pm	1016 \pm	44 \pm	1118 \pm	54 \pm	1372 \pm	N/A	N/A
B (Gate Valves)	31 \pm	787 \pm	31 \pm	787 \pm	31-3/4 \pm	806 \pm	36-3/4 \pm	933 \pm	41-1/2 \pm	1054 \pm	49 \pm	1245 \pm	55-3/4 \pm	1416 \pm
C (Butterfly Valves)	18-1/4	464	18-1/2	470	20	508	24-3/4	629	28-1/2	724	35	889	N/A	N/A
C (Gate Valves)	19-5/8	498	20	508	22-1/2	572	27-3/4	705	32-1/8	816	40	1016	44	1118
D (Centerline to top-Butterfly Valves)	11-1/2	292	11-3/4	298	13-1/4	337	15-3/8	391	17-7/8	454	19-3/4	502	N/A	N/A
D (Centerline to top-Gate Valves)	13	330	13-1/2	343	14-7/8	378	18	457	21-3/8	543	24-3/4	629	28-3/4	730
E (Butterfly Valves)	11-1/2	292	12-1/8	308	12-7/8	327	15-7/8	403	22-1/4	565	23-1/8	587	N/A	N/A
E (OS&Y Open)	19-7/8	505	24-1/4	616	27-1/4	692	32-3/4	832	44-1/2	1130	54	1372	62-3/4	1594
E (NRS/PI)	14-7/8	378	16-1/8	410	19-1/4	489	24-1/4	616	29-1/4	743	36-3/8	924	40	1016
F (Butterfly Valves)	8	203	8-3/8	213	9	229	10-7/8	276	12-7/8	327	13-1/2	343	N/A	N/A
F (OS&Y Open)	16-3/8	416	20-1/2	521	22-3/4	578	28	711	37-3/4	959	46	1168	53-1/8	1349
F (NRS/PI)	11-3/8	289	12-3/8	314	14-3/4	375	19	483	22-1/2	572	26-1/2	673	30	762
G (Butterfly Valves)	4-1/8	105	4-1/2	114	4-3/8	111	6-1/2	165	5-1/4	133	4	102	N/A	N/A
G (Gate Valves)	5-1/2	140	6	152	6	152	9	229	9	229	9	229	10	254
H (Butterfly Valves)	23	584	23-1/2	597	25	635	29	737	3-3/4	908	N/A	N/A	N/A	N/A
H (Gate Valves)	26	660	27	686	29-3/4	756	36	914	42-3/4	1086	N/A	N/A	N/A	N/A
I (Check Removal Clearance)	6	152	6	152	6	152	8	203	8-1/2	216	12	305	12	305
Test Cocks (NPT)	1/2"	13	1/2"	13	1/2"	13	3/4"	20	3/4"	20	3/4"	20	3/4"	20
WEIGHTS	lb.	kg	lb.	kg	lb.	kg	lb.	kg	lb.	kg	lb.	kg	lb.	kg
Net Wt. (Less Shut-offs)	58	26	58	26	83	38	325	148	861	391	987	449		
Net Wt. (w/ Butterfly Valves)	85	39	88	40	92	42	151	69	456	207	1039	472	N/A	N/A
Net Wt. (w/NRS Gate Valves)	144	65	169	77	197	90	322	146	788	358	1507	685	2123	965
Net Wt. (w/ OS&Y Gate Valves)	154	70	179	81	203	92	332	151	802	365	1529	695	2177	990

Notes:

1. Internal body connections are grooved on 2-1/2"-10" sizes.
2. Internal body connections are flanged on 12" size.

BACKFLOW PREVENTION CATALOG

Vacuum Breaker Backflow Preventers

AVB1/AVB2 SERIES



AVB1

Sizes 1/4", 3/8", 1/2", 3/4", 1", 1-1/4", 1-1/2", 2"



AVB2

Sizes 1/4", 3/8", 1/2", 3/4"
(Optional Polished Chrome Finish Shown)

ATMOSPHERIC TYPE VACUUM BREAKERS

The Apollo Series Atmospheric Type Vacuum Breakers are designed to prevent back-siphonage of polluted water into a potable water system. They should only be installed in areas where spillage of water could not cause damage and where it can be accessible for periodic maintenance. These devices are not designed for continuous pressure application. Should be installed a minimum of 6" above all downstream piping with no downstream shutoffs.

OPERATION

During flow conditions, the flow of water lifts the float disc and seals the atmospheric vent at all rates of flow, preventing leakage. When a negative pressure is created at the supply line or when the water supply valve upstream of the device is closed, the float disc will fall, thus opening the atmospheric vent. This prevents back-siphonage and creation of vacuum at the discharge line.

FEATURES

- Corrosion resistant
- Bronze body (AVB1)
- Forged Body (AVB2)
- Suitable for hot or cold water service:
 - (up to 212°F at 125 psig) for up to 1"
 - (up to 180°F at 125 psig) for 1-1/4" thru 2"
- **Lead-Free** option
- Heat resistant silicone seat disc
- Rough brass, rough chrome, or polished chrome finish
- Easy to maintain
- Compact and lightweight
- Durable
- ASSE1001

MATERIALS

Part	Material
Valve Body (AVB1)	Cast Bronze (LF C89836)
Valve Body (AVB2)	Forged Brass
Seat Disc	Silicone
Float & Gasket	Polypropylene
Canopy	Powder Coated Steel
Screw	Zinc-plated Steel

Contact local water authorities for installation/service requirements.

SUFFIX

No.	Finish
01	Rough Brass
03	Rough Chrome (1/4" - 1" only)
06	Polished Chrome (AVB2)
N	n shape (AVB2)

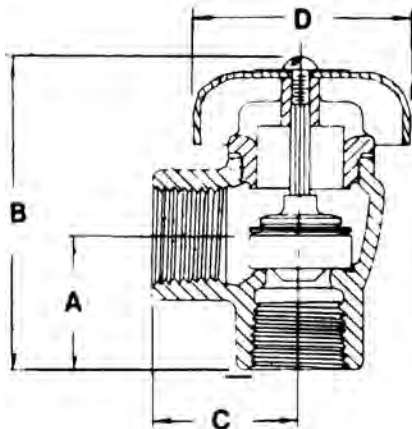
FACTORY CODE

38(LF) X	OX	OX
	SIZE	FINISH
1 = Bronze	1 = 1/4"	1 = Rough Brass
2 = Forged Brass (not available in LF)	2 = 3/8"	3 = Rough Chrome (1/4" - 1" only)
	3 = 1/2"	6 = Polished Chrome (AVB2 only)
	4 = 3/4"	
	5 = 1"	
	6 = 1-1/4"	
	7 = 1-1/2"	
	8 = 2"	

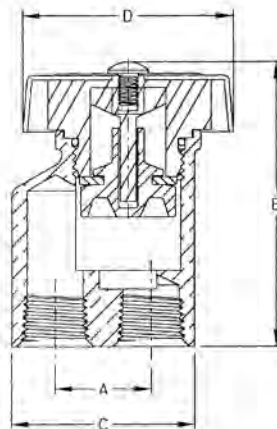
BACKFLOW PREVENTION CATALOG

Vacuum Breaker Backflow Preventers

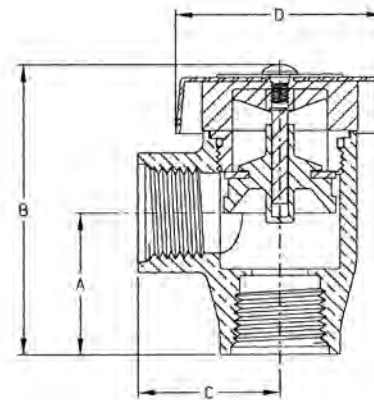
AVB1/AVB2 SERIES



AVB1
38/38LF-10X



38-23xN (n Flow)



AVB2
38-20x

DIMENSIONS

See Page 67 For Flow Curves

Factory No.	Model No.	Size In.	Size mm.	A (In.)	A (mm.)	B (In.)	B (mm.)	C (In.)	C (mm.)	D (In.)	D (mm.)	Wt. Lbs.	Wt. Kgs.
38-101	AVB114	1/4	6	29/32	23	2-3/8	60	1-1/32	26	1-13/16	46	50.96	23
38-102	AVB138	3/8	10	29/32	23	2-3/8	60	1-1/32	26	1-13/16	46	47.7	22
38-103	AVB112	1/2	15	1-3/32	28	2-1/2	65	1-3/16	30	1-3/16	30	54.7	25
38-104	AVB134	3/4	20	1-5/16	33	3-1/16	78	1-15/32	37	2-1/8	54	79.7	36
38-105	AVB111	1	25	1-3/4	45	4-1/16	103	1-7/8	48	2-7/8	73	174	79
38-106	AVB1114	1-1/4	32	2	50	4-3/8	111	2	50	3-3/4	95	316	143
38-107	AVB1112	1-1/2	40	2	50	4-3/8	111	2	50	3-3/4	95	289	131
38-108	AVB12	2	50	2-1/8	54	4-1/2	114	2-1/4	57	3-3/4	95	369	167
38LF-101	AVB114LF	1/4	6	29/32	23	2-3/8	60	1-1/32	26	1-13/16	46	50.96	23
38LF-102	AVB138LF	3/8	10	29/32	23	2-3/8	60	1-1/32	26	1-13/16	46	47.7	22
38LF-103	AVB112LF	1/2	15	1-3/32	28	2-1/2	65	1-3/16	30	1-3/16	30	54.7	25
38LF-104	AVB134LF	3/4	20	1-5/16	33	3-1/16	78	1-15/32	37	2-1/8	54	79.7	36
38LF-105	AVB11LF	1	25	1-3/4	45	4-1/16	103	1-7/8	48	2-7/8	73	174	79
38LF-106	AVB1114LF	1-1/4	32	2	50	4-3/8	111	2	50	3-3/4	95	316	143
38LF-107	AVB1112LF	1-1/2	40	2	50	4-3/8	111	2	50	3-3/4	95	289	131
38LF-108	AVB12LF	2	50	2-1/8	54	4-1/2	114	2-1/4	57	3-3/4	95	369	167
38-201	AVB214	1/4	6	1-3/32	28	2-5/16	59	1-1/32	26	21/32	17	50.6	23
38-202	AVB238	3/8	10	1-3/32	28	2-5/16	59	1-1/32	26	21/32	17	47.7	22
38-203	AVB212	1/2	15	1-9/32	33	2-5/8	67	1-9/32	33	1-7/8	48	54.7	25
38-204	AVB234	3/4	20	1-15/32	37	3	80	1-15/32	37	2	50	63.1	29
38-231N	DMVB14	1/4	6	3/4	20	2-7/32	56	1-7/16	36	21/32	17	26.2	12
38-232N	DMVB38	3/8	10	7/8	22	2-7/32	56	1-3/4	44	21/32	17	31.2	14

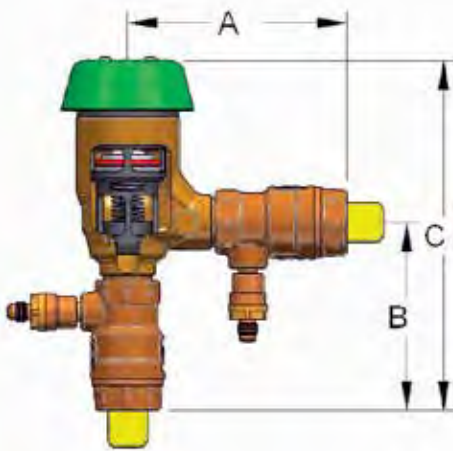
BACKFLOW PREVENTION CATALOG

Pressure Vacuum Breaker Backflow Preventers

PVB 4A SERIES



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



4A FREEZE RESISTANT PRESSURE VACUUM BREAKER

The Apollo Model PVB 4A Pressure Vacuum Breakers are designed to prevent contamination of potable water due to back-siphonage. An integral relief valve serves to reduce the possibility of damage due to intermittent freezing conditions. The modular check valve cartridge has a replaceable seat and a reversible silicone seat disc. Apollo ball valves with stainless steel handles and nuts are standard.

FEATURES

- Modular cartridge check valve
- Low pressure loss
- Built-in freeze resistant relief valve
- Compact yet easy to maintain
- Apollo ball valves w/SS handles & nuts standard
- Test cocks located for easy draining
- Threaded testcock protectors
- Corrosion resistant
- 5 year, domestic warranty
- No special tools required
- **Lead-Free** option (3/4" - 1")
- Unique canopy detachment
- Patent pending
- ASSE 1020
- Approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California (1/2" - 2" Non Lead Free Only)
- CSA B64.1.2
- Easy maintenance
- Maximum operating pressure 150 psi
- Design pressure 300 psi
- Temperature range 33°F - 140°F
- **MADE IN THE USA**

MATERIALS

Part	Material
Body	Bronze (C84400 - LF C89836)
Ball Valves, Testcocks	Bronze C84800 or C87800 Lead Free
Canopy	UV Resistant ABS
Bonnet	Glass-Filled PPO
Check Valve Cartridge	Glass-Filled PPO
Springs	Stainless Steel
Seat Discs	Chloramine-resistant Silicone
Float	Glass-Filled
O-rings	Chloramine-Resistant EPDM
Ball Valve Handles	Stainless Steel

Contact local water authorities for installation/service requirements.

FACTORY CODE

4A [X]	50 X	A X	X
	SIZE	SHUT-OFF VALVES	OPTIONS (CAN BE COMBINED)
4A = Standard	3 = 1/2"	2 = w/ ball valves (standard)	F = SAE threaded test cocks (standard 1/2", 3/4", 1")
4ALF = Lead Free (3/4" - 1")	4 = 3/4"	4 = w/union ball valves (3/4" and 1" only)	LL = locking lever handles (3/4" - 2")
	5 = 1"		
	6 = 1-1/4"		
	7 = 1-1/2"		
	8 = 2"		

DIMENSIONS

See Page 68 For Flow Curves

Factory No.	Model No.	Size In.	Size mm.	A (In.)	A (mm.)	B (In.)	B (mm.)	C (In.)	C (mm.)	Wt. Lbs.	Wt. Kgs.
4A-503-A2	PVB4A12	1/2"	15	4-1/2	114	3-3/4	95	7-1/4	184	2.9	1.3
4A-504-A2	PVB4A34	3/4"	20	4-3/4	121	4-1/8	105	7-5/8	194	3.0	1.4
4A-505-A2	PVB4A1	1"	25	5-3/8	135	4-5/8	194	8-3/8	211	4.2	1.9
4A-506-A2	PVB4A114	1-1/4"	32	7	178	5-1/4	133	9-7/8	250	4.4	2.0
4A-507-A2	PVB4A112	1-1/2"	40	7-1/4	184	5-5/8	143	10-1/8	257	7.3	3.3
4A-508-A2	PVB4A2	2"	50	8-1/2	216	6-3/8	161	11-1/2	292	8.9	4.0

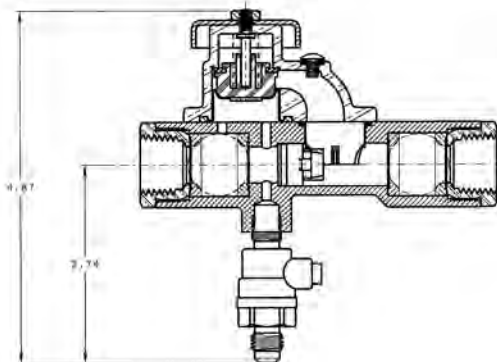
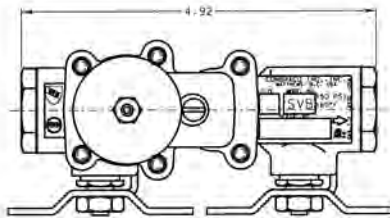
BACKFLOW PREVENTION CATALOG

Spill Resistant Vacuum Breaker Backflow Preventers

SVB 4W SERIES



Sizes 1/4", 3/8", 1/2"



SPILL RESISTANT VACUUM BREAKERS

The Apollo Series SVB 4W Spill Resistant Vacuum Breaker is designed to prevent contamination of the potable water supply due to back-siphonage. The SVB is ideally suited for continuous pressure, indoor applications where water spillage is undesirable. The device has a straight through flow path for minimal head loss. All components are easily accessible for easy repair and maintenance. All components are made of corrosion resistant materials for years of reliable service. Should be installed 12" above all downstream piping.

OPERATION

During normal flow conditions, the check valve remains open and the atmospheric vent seals in the bonnet assembly. As the line pressure falls to 1 psi, the spring loaded atmospheric vent opens and the check valve closes, breaking the vacuum and thereby preventing back-siphonage. Water is not allowed to spill at any time during operation.

FEATURES

- Corrosion Resistant
- In-Line Flow
- Integral Shut-Off Valves w/Stainless Steel Handles and Nuts
- Threaded testcock protectors
- Designed For Easy Maintenance
- **Lead-Free** option
- Economical
- Low Head Loss
- Maximum Working Pressure 150 PSIG
- Operating Temperature Range 33°F-180°F
- ASSE 1056
- CSA B64.1.2
- Approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California
- 5 year, domestic warranty

MATERIALS

Part	Material
Body	PPO, Bronze (C84400 - LF C89836)
Springs	Stainless Steel
Seat Discs	Silicone Rubber
Valve Canopy	ABS Plastic
Float	Acetal
Fasteners	Stainless Steel
Ball Valve Handles	Stainless Steel

Contact local water authorities for installation/service requirements.

FACTORY CODE

4W [X]	50 X	0 2
	SIZE	SHUTOFFS
4W = Standard	1 = 1/4"	SS = Tee Handles
4WLF = Lead Free (3/8" and 1/2" only)	2 = 3/8"	
	3 = 1/2"	

DIMENSIONS

See Page 67 For Flow Curves

Model No.	SVB4W14	SVB4W14	SVB4W38	SVB4W38	SVB4W12	SVB4W12
Factory No.	4W-501-02	4W-501-02	4W-502-02	4W-502-02	4W-503-02	4W-503-02
Size	1/4"	6 mm.	3/8"	10 mm.	1/2"	15 mm.
Test Cock	1/4" Flare	1/4" Flare	1/4" Flare	1/4" Flare	1/4" Flare	1/4" Flare
WEIGHTS	lbs.	kg.	lbs.	kg.	lbs.	kg.
Net Wt. (Lbs.)	1.16	0.5	1.16	0.5	1.16	0.5
Shipping Wt.	1.26	0.6	1.26	0.6	1.26	0.6

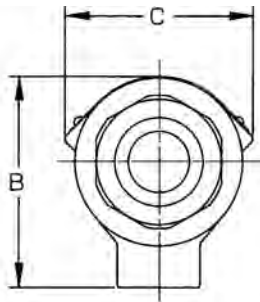
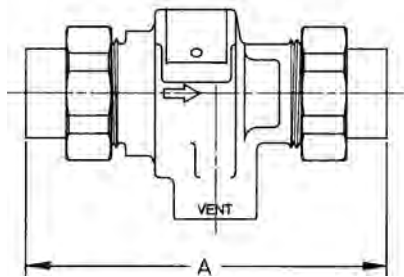
BACKFLOW PREVENTION CATALOG

Dual Check w/Atmospheric Port Backflow Preventers

DCAP SERIES



Sizes 1/2", 3/4"



DUAL CHECK WITH ATMOSPHERIC PORT BACKFLOW PREVENTER

The Apollo DCAP Series Backflow Preventer is designed to protect residential and commercial water supply lines from back-siphonage or back-pressure of non-potable (non-hazardous) substances. It has an intermediate atmospheric vent to insure protection from backflow conditions. It consists of two independently acting and spring-loaded check valves in a corrosion resistant material.

OPERATION

During normal flow operation, the vent valve is closed, and the two check valves are open allowing flow of water through the unit. Each check valve is designed to hold at least 1 psi in the direction of flow. When a back-siphonage condition occurs, both check valves close and the atmospheric vent opens to permit air to enter the intermediate zone. In the event of back-pressure and if the second check valve is prevented from closing tightly, leakage will be vented to the atmosphere through the vent port.

FEATURES

- Corrosion resistant
- Low head loss
- Independently acting check valves
- Ease of repair and installation
- Economical
- Suitable for hot or cold water service
- Durable
- **Lead-Free** option
- Maximum working pressure 175 psig
- ASSE 1012
- CSA B64.3
- Inlet temperature range 33°F-210°F
- 5 year, domestic warranty
- Maximum backflow temperature 250°F

MATERIALS

Part	Material
Body	Bronze (C84400 - LF C89836)
Springs	Stainless Steel
C.V. Seat Discs	EPDM
Seats	Glass-Filled PPO
Spring and Seat Retainer	Glass-Filled PPO
O-Rings	Nitrile/EPDM
Poppets	Glass-Filled PPO

Contact local water authorities for installation/service requirements.

DIMENSIONS

See Page 69 For Flow Curves

Model No.	DCAP12, DCAP34
Factory No.	40-4x33xM, 40-4x44xM
Size	1/2", 3/4"
A	5
B	2-15/16
C	2-5/8
WEIGHTS	lbs.
Unit Weight	1.9

x = connection type

FACTORY CODE

40 [X]	4 X	X - X	X	M	X
	UNION INLET CONNECTION	INLET AND OUTLET SIZE	UNION OUTLET CONNECTION	M	OPTION
40 = Standard 40LF = Lead Free	A = FNPT H = Solder joint 2 = Female BSPP	3 = 1/2" 4 = 3/4"	A = FNPT B = MNPT F = Female BSPP H = Solder joint		C = Canadian (discharge port not threaded)

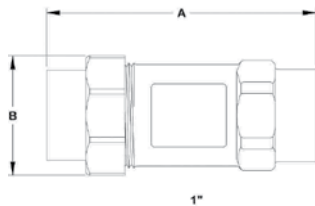
BACKFLOW PREVENTION CATALOG

Dual Check Backflow Preventers

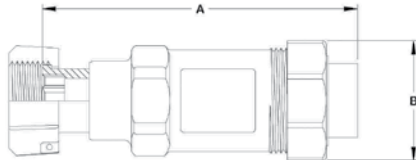
DUCLF-4N SERIES



Dimensions (In.) – Weight (Lbs.)



Union x NPT (shown)



Meter Swivel x NPT (shown)

DUAL CHECK VALVE

The Apollo DUCLF-4N Series Dual Check Valve Backflow Preventer is designed to prevent cross-connections of non-potable water (non-hazardous) into safe drinking water systems. It is a compact and economical device that consists of two independently-acting, spring-loaded check valves in a corrosion-resistant material.

OPERATION

Each of the two spring-loaded check valves is designed to open at 1 psi differential in the direction of flow. The check valves will remain tightly closed until there is a demand for water downstream. If the downstream pressure of the device increases above the supply pressure or there is a reverse direction of flow, the check valves will close to prevent backflow. If the second check valve is prevented from closing tightly, the first check will close to provide protection from a backflow condition.

FEATURES

- Low Head Loss
- Independently-acting Check Valves
- Compact and Lightweight
- Corrosion Resistant
- Replaceable Check Modules
- Industry Lay Lengths
- Lead-Free
- Available in Standard and Swivel Types
- Maximum Working Pressure 175 psi
- Operating Temperature Range 33°F-180°F
- ASSE1024
- CSA B64.6
- 5 year, domestic warranty

MATERIALS

Part	Material
Body	Bronze (LF C89836)
Union Tailpiece	Brass
Union Nut	Brass
Check Modules	Glass-Filled PPO (3/8"-1/2") Acetal (3/4"-1")
Springs	Stainless Steel
Seat Discs	Buna-N

Contact local water authorities for installation/service requirements.

METER THREAD SIZING

5/8" Meter	3/4"
3/4" Meter	1"
1" Meter	1-1/4"

Contact Customer Service for model numbers.

DIMENSIONS

Size	A	B	Wt. (Lbs.)
3/8" & 1/2"	3.32	1.88	.70
3/4"	4.375	2	1.40
3/4" Meter Swivel	4.75	2	1.60
1"	4.375	2	1.40
1" Meter Swivel	4.75	2	1.75

FACTORY CODE

See Page 69 For Flow Curves

4NLF [X]	3 X	X X	X	X
	UNION INLET CONNECTION ^{1,2}	INLET AND OUTLET SIZE	OUTLET CONNECTION ^{1,2}	FINISH
4NLF = Lead Free	A = FNPT B = MNPT C = Female Meter Thread E = Male Meter Thread S = Female Meter Swivel 2 = Female BSPP	2 = 3/8" 3 = 1/2" 4 = 3/4" 5 = 1" 6 = 1-1/4" (Meter Thread sizing for 1" meter swivel)	A = FNPT B = MNPT C = Female Meter Thread E = Male Meter Thread F = Female BSPP	Blank = Satin Brass C = Satin Chrome

Notes:

- 1 For meter threads, order one size larger than meter size. (i.e.- 4N3S54A = 1" Female Meter Swivel Inlet (for connection to 3/4" meter) x 3/4" FNPT outlet
2 Not all inlet and outlet combinations are available. Please contact Conbraco Customer Service for availability.

Example:

4NLF 3S54A = Lead Free Dual Check with Female Swivel 1" Inlet (for 3/4" meter connection x 3/4" FNPT outlet)

BACKFLOW PREVENTION CATALOG

Dual Check Backflow Preventers

DUC 4FP SERIES

DUAL CHECK VALVE

The Apollo DUC 4FP Series Dual Check Backflow Preventer for Residential Fire Sprinkler Systems prevents backflow by either backpressure or backsiphonage from a cross-connection between potable water lines and substances that are objectionable, but not health-hazards.

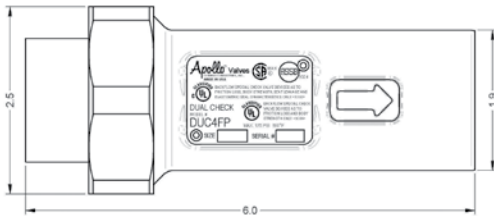
FEATURES

- Low Pressure Loss
- Corrosion Resistant
- Replaceable Check Modules
- Pressure drop at 30 gpm is less than 6 psi
- Complies with NFPA Standard 13D
- 5 year, domestic warranty
- Maximum Supply Pressure 175 psi
- Temperature Range 33°F - 180°F
- ASSE 1024
- UL Classified
- CSA B64.6
- Made in the USA

MATERIALS

Part	Material
Body	Bronze (C84400)
Union Tailpiece	Brass
Union Nut	Brass
Check Modules	Acetal/Nitrile/Stainless Steel
Spacer	Glass-Filled Noryl®
O-Ring	EPDM

Contact local water authorities for installation/service requirements.



FACTORY CODE

See Page 70 For Flow Curves

4FP3 X	X	X	X
INLET CONNECTION ¹	INLET SIZE	OUTLET SIZE	OUTLET CONNECTION ¹
A = FNPT C = Female Meter Thread	5 = 1" 6 = 1-1/4" (Meter thread sizing for 1" meter)	5 = 1" 6 = 1-1/4" (Meter thread sizing for 1" meter)	A = FNPT B = MNPT E = Male Meter Thread

Notes:

¹ Not all inlet and outlet combinations are available. Please contact Conbraco Customer Service for availability.

Example:

4FP3A55A = 1" Dual Check FNPT Inlet x 1" FNPT outlet



BACKFLOW PREVENTION CATALOG

Dual Check Backflow Preventers

DUC 40 SERIES

DUAL CHECK VALVE

The Apollo Series DUC 40 Dual Check Valve prevents backflow by either backpressure or back-siphonage resulting from a cross-connection between potable water lines and substances that are objectionable, but not health-hazards.

FEATURES

- In-line repairable
- Low pressure loss
- Corrosion resistant
- Compact and lightweight
- Independently-acting check valves
- **Lead-Free** option
- ASSE 1024
- CSA B64.6
- Available in standard and swivel types
- MADE IN THE USA
- 5 year, domestic warranty

PERFORMANCE RATING

Maximum Operating Pressure 175 psi
Temperature Range 33° F - 180° F

APPROVALS

ASSE® 1024 and CSA® B64.6

MATERIALS

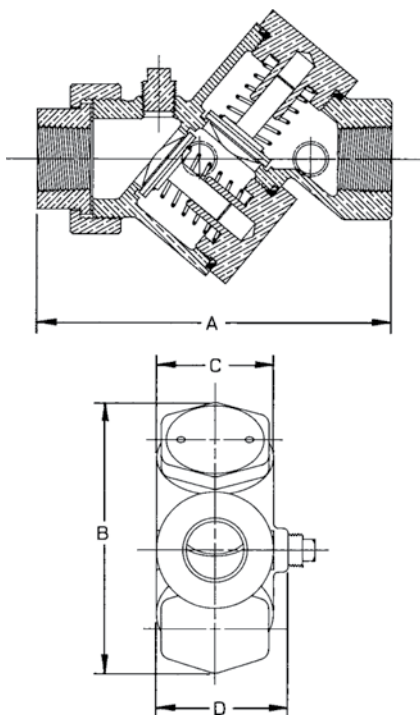
Part	Material
Body	Bronze (C84400 - LF C89836)
Caps	Brass
Springs	Stainless Steel
Seat Discs	EPDM

DIMENSIONS

Size	DUC4012 40-3x3-3x	DUC4034 40-3x4-4x	DUC401 40-3x5-5x
A	4-3/8	4-3/8	4-3/8
B	3-1/2	3-1/2	3-1/2
C	1-1/2	1-1/2	1-1/2
Wt. (Lbs.)	2	2	2.1
Wt. (w/test cocks & ball valves)	4	4.6	6.4



Sizes 1/2", 3/4", 1"



FACTORY CODE

See Page 69 For Flow Curves

40 [X] 3	X	X	X	X
	INLET CONNECTION ^{1,2}	INLET AND OUTLET SIZE	OUTLET CONNECTION ^{1,2}	OPTIONS (CAN BE COMBINED)
40 = Standard 40LF = Lead Free	A = FNPT C = Female Meter Thread S = Female Meter Swivel	3 = 1/2" 4 = 3/4" 5 = 1"	A = FNPT C = Female Meter Thread	TP = w/Test Ports Drilled, Tapped w/Plugs TC = w/3 1/8"x1/4" Test Cocks

Notes:

¹ For meter threads, order one size larger than meter size.

² Not all inlet and outlet combinations are available. Please contact Conbraco Customer Service for availability.

* Standard body not drilled & tapped for testcocks.

Example:

40 3S5 4A = 1" Dual Check Female with Meter Swivel Inlet (for connection to 3/4" meter) x 3/4"



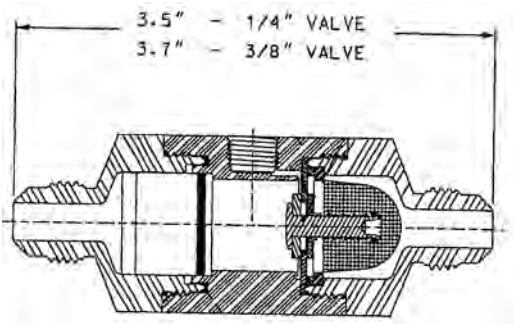
BACKFLOW PREVENTION CATALOG

Carbonated Beverage Backflow Preventers

CBBP SERIES



Sizes 1/4", 3/8"



CARBONATED BEVERAGE BACKFLOW PREVENTER

The Apollo CBBP Series Carbonated Beverage Backflow Preventer (CBBP) is designed to prevent the contamination of the potable water supply due to backflow when installed on water distribution lines serving beverage dispensing equipment. The device consists of two independently acting check valves biased to a normally closed position. A normally open atmospheric port is located between the check valves. During backflow conditions, the port vents gases and/or liquids. Additionally, the CBBP is equipped with a 100 mesh integral strainer screen at the inlet. All wetted areas of the device are non-toxic, corrosion resistant, and approved for use with potable water. The CBBP is suitable for supply pressures to 150 psig and water temperatures from 33° to 130° F.

OPERATION

Under static (non-flowing) conditions, the check valves remain in the closed position. When a valve is opened downstream (i.e. a drink is delivered from the beverage dispensing unit), the check valves open and permit the flow of water. Under backflow conditions, the diaphragm seat on the first check lifts and permits flow through the atmospheric port located between the two check valves. The strainer insures debris does not enter the carbonator.

FEATURES

- Compact Design
- Lowest head loss
- Atmospheric vent provides indication of problems
- Integral strainer for equipment protection
- **Lead Free**
- Available in SAE & NPT connections
- Repairable check assemblies
- Non-metallic body for corrosion resistance
- CSA Certified to ANSI/NSF-61
- ASSE1022
- 5 year, domestic warranty

MATERIALS

Part	Material
End Cap	Acetal
Strainer	PVC/Stainless Steel
O-ring	Nitrile
Upstream Check	Nitrile/Stainless Steel/Acetal
Downstream Check	EPDM/Stainless
Valve Body	Acetal

Contact local water authorities for installation/service requirements.

DIMENSIONS

See Page 70 For Flow Curves

CBBP Size	Connection Sizing		Wt./Ea
1/4"	7/16"-20 UNF	SAE Flare	.19
3/8"	5/8"-18 UNF	SAE Flare	.19
3/8"	3/8" NPT	Male NPT	.19

MODEL NO. CBBP14

FACTORY CODE

4C10 X	X
SIZE	INLET AND OUTLET CONNECTION
1 = 1/4"	01 = Flare
2 = 3/8"	02 = MNPT (3/8" only)

BACKFLOW PREVENTION CATALOG



Hose Connection Vacuum Breakers Backflow Preventers

HBV2 SERIES



Optional Satin Chrome Finish (shown)

3/4"
Apollo International

3/4" HOSE CONNECTION VACUUM BREAKERS

Apollo's HBV Hose Connection Vacuum Breakers are designed to prevent cross-connection caused by back-siphonage. They consist of a single check valve with atmospheric vacuum breaker vent. They feature a break-away set-screw for tamper-proof protection. They are not suitable for continuous pressure applications.

OPERATION

At no flow situations, the check disc seats against the diaphragm with the atmospheric vent open. This prevents back-siphonage or backflow of water. At flow conditions, the spring-loaded check disc opens, thus allowing flow of water through the device and at the same time the diaphragm seals the atmospheric vent.

INSTALLATION

It should only be installed in areas where spillage of water could not cause damage. For permanent installation, screw device directly into faucet, firmly hand tighten and turn set-screw in until head breaks off.

FEATURES

- Maximum Working Pressure 125 psig
- Maximum Temperature 180°F.
- ASSE1011
- CSA B64.2

DIMENSIONS

Factory No.	Model No.	Finish	Wt./Ea
38-314-AS	HBV234	Satin Brass	.17
38-314-CS	HBVC234	Satin Chrome	.17

38-314 shipped in 12 pcs./box

HBVAF2 SERIES



3/4"
Apollo International

3/4" FREEZE RESISTANT HOSE CONNECTION VACUUM BREAKERS

The Apollo Series HBVB Freeze Resistant Hose Connection Vacuum Breaker is especially designed to prevent back-siphonage on wall and yard hydrants. It features a break-away set-screw for tamper-proof protection and automatic drain for protection against freezing conditions when hose is removed. It is not suitable for continuous pressure applications.

OPERATION

The principle of operation is similar to the HCVB Series except it has an automatic draining feature. When the hose is removed, the internal mechanism opens to drain water from the unit and the hose bibb to help prevent water from freezing inside the unit.

INSTALLATION

It should only be installed in areas where spillage of water could not cause damage. For permanent installation, screw device directly into faucet, firmly hand tighten and turn set-screw in until head breaks off.

FEATURES

- Maximum Working Pressure 125 psig
- Maximum Temperature 180°F.
- ASSE1011

DIMENSIONS

Factory No.	Model No.	Finish	Wt./Ea
38-414-AS	HBVAF2	Satin Brass	.37

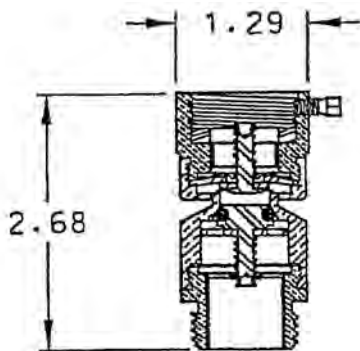
BACKFLOW PREVENTION CATALOG

Hose Connection Dual Check /Lab Faucet Dual Check Backflow Preventers

HBDUC SERIES



38-304-02
Size 3/4"



3/4" HOSE CONNECTION DUAL CHECK

The Apollo Series HBDUC is designed to provide an in-line testable hose connection that will prevent backflow due to back-siphonage or low head back-pressure. Each device consists of two independent checks, forced loaded in the closed position with an atmospheric vent between the checks. The device is threaded for hose connection at both the inlet and outlet with a break-away set screw on the inlet for tamper proof installations. These devices are not suitable for continuous pressure applications.

OPERATION

During initial pressurization, the inlet check shuttles forward to close the atmospheric vent. As flow is established, both the inlet and outlet check open to allow flow through the device. If a backflow condition is present, then both checks will close and the atmospheric vent opens to introduce air and break the siphon.

FEATURES

- Corrosion resistant body and checks
- Low Head loss
- Easy to install with break-away set screw
- Protects against back siphonage and low-head back pressure
- ASSE1052

MATERIALS

Part	Material
Body	Brass
Seats	EPDM
Check components	Stainless steel
Check guide	Acetal

Contact local water authorities for installation/service requirements.

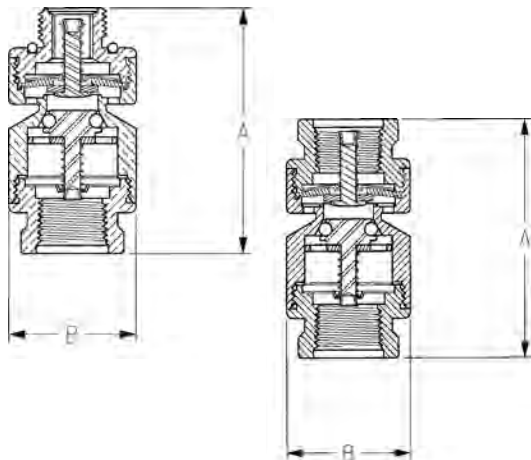
See Page 71 For Flow Curves

Factory No.	Model No.	Wt./Ea
38-304-02	HBDUC34	46

LFDUC SERIES



Sizes 1/4", 3/8"



LABORATORY FAUCET DUAL CHECK BACKFLOW PREVENTER

The Apollo Series LFDUC is designed to provide protection against back-siphonage wherever a hose is connected to a faucet. The device consists of two independently acting checks with an intermediate relief port or vent. It is suitable for supply pressure up to 150 psig and a temperature range of 33°F-212°F. Not suitable for constant pressure conditions.

OPERATION

During normal flow conditions, the two checks are held off their seats, supplying water downstream. The vent is held shut by supply pressure acting on the diaphragm. If the supply pressure should fall below atmospheric, the second check will close due to internal spring pressure and the vent will open to introduce air into the supply line and break the siphon.

NOTE: This device should only be installed where spillage of water could not cause water damage.

FEATURES

- Corrosion resistant
- Suitable for hot or cold water service up to 212°F and 125 psi
- Lead-Free option
- Polished (-CP2 and -CP3 are rough brass only)
- Easy to maintain
- Compact and lightweight
- ASSE 1035

DIMENSIONS

See Page 71 For Flow Curves

Factory No.	Model No.	Inlet	Outlet	A (In.)	B (In.)	Wt./Ea
38-502-01	LFDUCMF38	3/8" MNPSM*	3/8" FNPT	2.33	1.24	.50
38-502-02	LFDUCFF38	3/8" FNPT	3/8" FNPT	2.34	1.24	.50
38-502-03	LFDUCFM38	3/8" FNPT	3/8" MNPSM	2.33	1.24	.50
38-502-CP2**	LFDUCFF14	1/4" FNPT	1/4" FNPT	2.34	1.24	.50
38-502-CP3**	LFDUCFF38	3/8" FNPT	3/8" FNPT	2.34	1.24	.50

*American National Standard straight pipe thread for free-fitting mechanical joints (male)

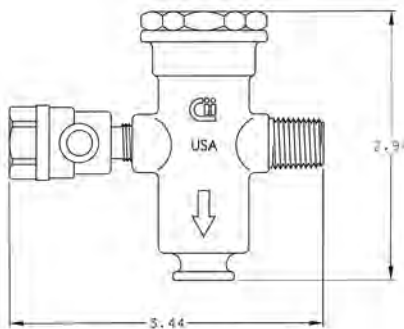
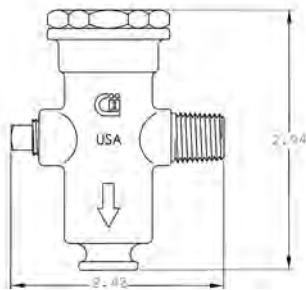
**-CP2 and -CP3 are non-approved devices with a rough brass finish for continuous pressure applications

BACKFLOW PREVENTION CATALOG



Freeze Protection Valve

FPV SERIES



FREEZE PROTECTION VALVE

The Apollo Series FPV Freeze Protection Valve protects backflow preventers from freezing when installed in accordance with manufacturer's instructions. All internal parts of the Freeze Protection Valve are replaceable.

OPERATION

During flow conditions, the Freeze Protection Valve shall be drip-tight during above-freezing normal operating conditions. The Freeze Protection Valve shall be suitable for normal operating pressures of 20 to 175 psig.

FEATURES

- Installs easily on all backflow preventers
- Ease of repair with available repair kit
- 175 psig maximum operating pressure
- Corrosion resistant
- 1/4" male pipe thread inlet port
- Available with 1/8" male x 1/4" female test cock
- Discharge port accommodates 5/8" I.D. hose
- **Lead-Free** option
- Mechanical operating principle
- Nominal start to open temperature of 35°F
- Maximum temperature of 180°F
- Compact design
- Patented design
- IAPMO listed
- US patent #6,374,849
- 5 year, domestic warranty

MATERIALS

Part	Material
Body	Bronze (C84400 / LF C89836)
Cap	Brass
Spring Guide	Brass
Spring	Stainless Steel
Cap O-Ring	Buna-N
Guide O-Ring	Buna-N
Thermal Element	Copper/Stainless Steel/EPDM

Contact local water authorities for installation/service requirements.

DIMENSIONS

Net Weight Each	Lbs.
Model 40-000-FPV1	.70
Model 40-000-FPV2	.77

MODEL NUMBERS

- Model 40-000-FPV1
- Model 40-000-FPV2 – w/test cock
- Model 40LF-000-FPV1
- Model 40LF-000-FPV2F – w/SAE test cock

FACTORY CODE

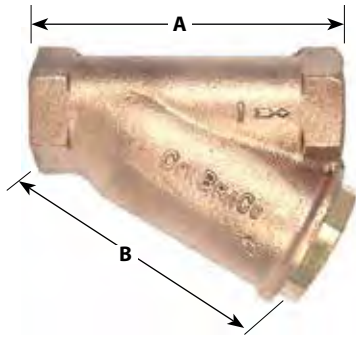
40 [X] 000	FPV X
	OPTIONS
40 = Standard	1 = w/1/8" NPT plug
40LF = Lead Free	2 = w/1/8" male x 1/4" female test cock
	2F = SAE test cock
	R = Repair kit* for FPV1 and FPV2

* Repair kit includes: Thermal element, spring, spring guide, two O-rings (all internal parts)

BACKFLOW PREVENTION CATALOG

"Y" Strainers Backflow Preventers

YB STRAINER SERIES



Y STRAINER

FEATURES

- Maximum protection capability against foreign particles in piping systems and process equipment.
- Cast bronze body (C84400 / LF C89836)
- 304 Stainless Steel screen
- Sizes 1/4" thru 1/2" comes standard with 50 mesh (0.009" wire)
- Sizes 3/4" thru 2" comes standard with 20 mesh (0.016" wire)
- **Lead-Free** option
- Other screen sizes available (contact customer service)
- Operating pressure to 400 psig WOG
- Removable self-aligning screen
- 5 year, domestic warranty
- 400 Series is female x male NPT (3/4" & 1" only)

DIMENSIONS

Factory No.	Model No.	Size In.	A (In.)	A (mm.)	B (In.)	B (mm.)	Cap Tapping Suffix -02	Wt. Lbs.	Wt. Kgs.
59-001-01	YB14	1/4 NPT	2	50	1-1/4	32	1/8 NPT	.42	.19
59-002-01	YB38	3/8 NPT	2-11/16	68	2	50	1/4 NPT	.79	.36
59-003-01	YB12	1/2 NPT	2-11/16	68	2	50	1/4 NPT	.75	.34
59-004-01	YB34	3/4 NPT	3-7/8	98	3-1/4	83	1/2 NPT	1.85	.84
59-005-01	YB1	1 NPT	4-3/4	121	4	100	3/4 NPT	2.76	1.25
59-006-01	YB114	1-1/4 NPT	5-1/8	130	4-1/4	108	3/4 NPT	3.58	1.62
59-007-01	YB112	1-1/2 NPT	5-3/4	146	5	127	1 NPT	5.41	2.45
59-008-01	YB2	2 NPT	6-3/4	171	6	150	1-1/4 NPT	7.47	3.39
59-404-01	YBM34	3/4 F x MNPT	5-3/8	136	3-1/4	83	1/2 NPT	2.0	.9
59-405-01	YBM1	1 F x MNPT	5-3/4	146	4	100	3/4 NPT	2.95	1.3
59LF-001-01	YB14LF	1/4 NPT	2	50	1-1/4	32	1/8 NPT	.42	.19
59LF-002-01	YB38LF	3/8 NPT	2-11/16	68	2	50	1/4 NPT	.79	.36
59LF-003-01	YB12LF	1/2 NPT	2-11/16	68	2	50	1/4 NPT	.75	.34
59LF-004-01	YB34LF	3/4 NPT	3-7/8	98	3-1/4	83	1/2 NPT	1.85	.84
59LF-005-01	YB1LF	1 NPT	1-3/4	121	4	100	3/4 NPT	2.76	1.25
59LF-006-01	YB114LF	1-1/4 NPT	5-1/8	130	4-1/4	108	3/4 NPT	3.58	1.62
59LF-007-01	YB112LF	1-1/2 NPT	5-3/4	146	5	127	1 NPT	5.41	2.45
59LF-008-01	YB2LF	2 NPT	6-3/4	171	6	150	1-1/4 NPT	7.47	3.39
59LF-404-01	YBM34LF	3/4 NPT x MNPT	5-3/8	136	3-1/4	83	1/2 NPT	2.0	.9
59LF-405-01	YBM1LF	1 NPT x MNPT	5-3/4	146	4	100	3/4 NPT	2.95	1.3

BACKFLOW PREVENTION CATALOG



"Y" Strainers Backflow Preventers

YSCF SERIES

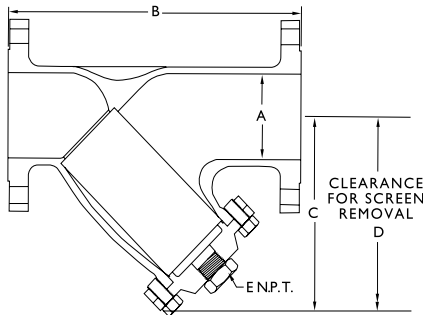
YSCF SERIES FLANGED, STYLE 125YF, CLASS 125 WYE STRAINERS

FEATURES

- Iron strainers are complete with Flat Face flanges in accordance with ASME B16.1.
- Strainer body meets applicable ASME Standard
- One piece cast body.
- Strainers equipped with bolted cover flange that utilize a flat gasket seal
- Low pressure drop.
- Upper and lower machined seats.
- 304 SS perforated screens are standard.
- Drain/Blow-off connection furnished with plug as standard
- 2-1/2" thru 3" come standard with .045 perforated screens
- 4" thru 10" come standard with .125 perforated screens
- Other screen sizes available (contact customer service)
- Generous screen area and properly proportioned straining chamber to minimize initial pressure drop while maximizing time between cleanings.
- Compact end to end dimension.
- FDA Epoxy coated and lined option (add "E" Suffix)



(Optional Epoxy Coating Shown)



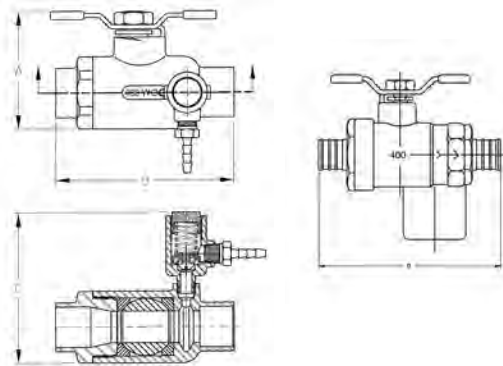
DIMENSIONS

Factory No.	Size	A (In.)	A (mm.)	B (In.)	B (mm.)	C (In.)	C (mm.)	D (In.)	D (mm.)	E	Wt. Lbs.	Wt. Kgs.
125YF25P045E	2-1/2"	2.50	65	10.75	273	8.00	200	11.25	286	1	35	16
125YF03P045E	3"	3.00	80	11.50	292	8.75	222	12.25	311	1	43	20
125YF04P125E	4"	4.00	100	13.88	353	9.50	241	13.38	340	1-1/4	75	34
125YF06P125E	6"	6.00	150	18.50	470	12.63	321	17.69	449	1-1/2	154	70
125YF08P125E	8"	8.00	200	21.38	543	16.38	416	23.00	584	1-1/2	243	110
125YF10P125E	10"	10.00	250	26.00	660	19.00	483	26.70	678	2	390	177

BACKFLOW PREVENTION CATALOG

Accessories – Backflow Preventers

EXV SERIES



Relief valve shown rotated 90°. Valve should be assembled w/hose barb pointed out of page.

THERMAL EXPANSION RELIEF VALVES

The Apollo EXV Thermal Expansion Relief Valves are designed primarily to relieve excessive water pressure build-up caused by thermal expansion.

In a closed hot water piping system, as water is heated, thermal expansion occurs. The increase of pressure will exert unwarranted stress on the system components, which may reach harmful levels well before the emergency setting of the main relief valve is reached. By installing the Series EXV, it will control any amount of expanded water without causing pressure increase to exceed maximum setting.

FEATURES

- Prevents excessive pressure build-up
- Protects plumbing fixtures
- Extends water heater life
- Compact and lightweight design
- Economical
- **Lead-Free** option
- Easy to install and requires no special tool
- Corrosion resistant
- 5 year, domestic warranty
- CSA B125.1 & B125.3
- City of Los Angeles

DIMENSIONS

Factory No.	Model No.	A	B	C	Wt./Ea
78-300	EXVS34	2.6	3.9	3.2	1.5
78-400	EXVT34	2.5	2.7	3.4	1.1
78-700	EXVX34	2.5	4.0	3.9	1.32

FACTORY CODE

78 / 78LF X	X	X RV
SIZE	PRESSURE SETTING	RELIEF VALVE CONNECTION
3 = 3/4"	0 = 125 psig	4 = Hose Barb
4 = 3/4"	1 = 100 psig	5 = Pex
7 = 3/4" PEX	2 = 80 psi	6 = Comp. Fitting
		7 = 1/2" NPT/SWT Fitting

EXP SERIES



EXPANSION TANKS FOR POTABLE SYSTEMS

Designed to protect closed water supply systems, appliances and piping from the hazards of thermal expansion, such as premature water heater failure. Installs easily on direct fired gas, oil and electric hot water heaters and storage tanks. Their pre-pressurized steel design includes an expansion membrane that stops any contact between the water and air in the tank.

FEATURES

- Ideal for use in dorms, apartments, office buildings and hospitals
- Compatible with most standard water heaters and storage tanks
- Maximum working pressure: 150 psig
- Food quality Chlorobutyl diaphragm
- 100 percent non-metallic non-corrosive water reservoir
- Pre-charge pressure 40 psig
- Field adjustable pre-charge
- ANSI/NSF 61-8, Annex G (**Lead Free**)
- **Made in USA**

DIMENSIONS

Factory No.	Capacity (Gal.)	Exp. Vol (Gal.)	Connection	Height	Diameter	Wt./Ea
40-XT1-03	2	1.27	3/4 NPT	12.5	8.25	5.5
40-XT3-03	5	3.05	3/4 NPT	14.0	11.25	8
40-XT5-03	10	7.80	3/4 NPT	15.75	15.25	20

BACKFLOW PREVENTION CATALOG



Accessories – Backflow Preventers

DIFFERENTIAL PRESSURE GAUGE TEST KITS



The Apollo Backflow Preventer Test Kits are compact, lightweight and portable testing devices. They come equipped with a gauge, hoses (with integral filters) and all required adapter fittings. Also included is a flexible or adjustable strap for hanging the gauge, laminated test procedures and a molded plastic carrying case with foam inserts.

TK3

These are three-valve test kits used for testing all DCV, RPZ, PVB & SVB backflow preventers.

- Differential pressure type with a dual scale of 0-15 psid/0-100kPa differential pressure range with a ± 0.2 psig (Descending) accuracy. Maximum working pressure 200 psig.

TK5

This is a five-valve test kit used for testing all DCV, RPZ, PVB & SVB backflow preventers.

The five valve test kit is similar to the three valve kit except it has two additional valves that make it possible to bleed lines without disconnecting hoses.

Factory No.	Model No.	Application	Wt./Ea
40-200-TKU	TK3	ALL DCV, RPZ, PVB & SVB	6.5
40-200-TKSU	TK5	ALL DCV, RPZ, PVB & SVB	6.5

TFK SERIES TEST KIT FITTING



Brass fitting which installs onto Backflow Preventer Test Cocks by hand. No tools required. No Teflon® tape to deal with. Provides quicker testing. Sets of three fittings with o-rings for 1/4" SAE connections to the test kits. Packaged in a reclosable plastic bag.

Size	Factory No.	Model No.	Backflow Application
1/4" SAE x 1/4" NPT	40-000-TFK	TFK14	1/4" - 2"
1/4" SAE x 1/2" NPT	40-001-TFK	TFK12	2-1/2" - 6"
1/4" SAE x 3/4" NPT	40-002-TFK	TFK34	8" - 12"
Set of all 3 sizes	40-003-TFK	TFKSET	1/4" - 12"

HCPG SERIES PRESSURE GAUGE



3/4" HOSE CONNECTION PRESSURE GAUGE

The Apollo Hose Connection Pressure Gauge is designed to measure water pressure through a 3/4" hose thread connection. It consists of an indicator needle to determine maximum pressure.

Ordering No. - W807800 Model No. - HCPG

FEATURES

- 2-1/2" face dial
- 0 - 300 psig pressure range
- Swivel type 3/4" hose connection
- Adjustable indicator needle
- Temperature range = 50°F - 130°F
- Wt./Ea. 46 Lbs.

ST1 SERIES SIGHT TUBE



ST1 SERIES SIGHT TUBE

The kit allows for visual inspection during testing, provides an extension to the check valve body and offers quick connection with the 90° elbow. Provides means to static test double check backflow preventers.

Ordering No. - 40-200-ST Model No. - ST1

40 200 BV BLEED VALVE



BLEED VALVE

Test valve used to provide accurate readings in field test of the Double Check Valve backflow preventers. Benefits include quick connections, quick bleed off of testing lines and useful in tight locations.

Ordering No. - 40-200-BV

BACKFLOW PREVENTION CATALOG

Accessories – Backflow Preventers

VALVE SETTERS



Apollo Valve 4An Setters are specifically designed to match the mounting dimensions of the 4An products. The three-piece configuration simplifies installation and eliminates the need for thrust blocks between the elbows. All hardware is stainless steel and the entire unit is FDA Epoxy coated inside and out. The mechanical joint connections are to AWWA C153 and the flanges are to ANSI B16.1 Class 125.

MATERIALS

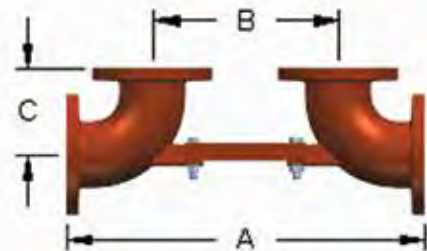
Part	Material
Setter Body	Ductile Iron, ASTM A536
Setter Center Brace	Hot Rolled Steel ASTM A36
Setter Bolts & Nuts	Stainless Steel
Setter & Brace Coating	Fusion-Bonded Epoxy FDA Compliant Internal and External

Contact local water authorities for installation/service requirements.

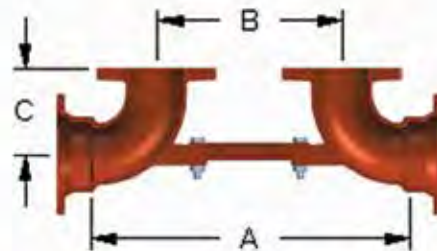
FACTORY CODE

4An 00 X	X
SIZE	TYPE
9 - 2-1/2"	F = Flange x Flange
0 - 3"	MJF = Mechanical Joint x Flange
A - 4"	MJ = Mechanical Joint x Mechanical Joint
C - 6"	
E - 8"	
G - 10"	
H - 12"	

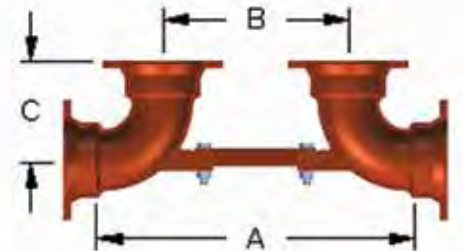
* Flange x Flange only



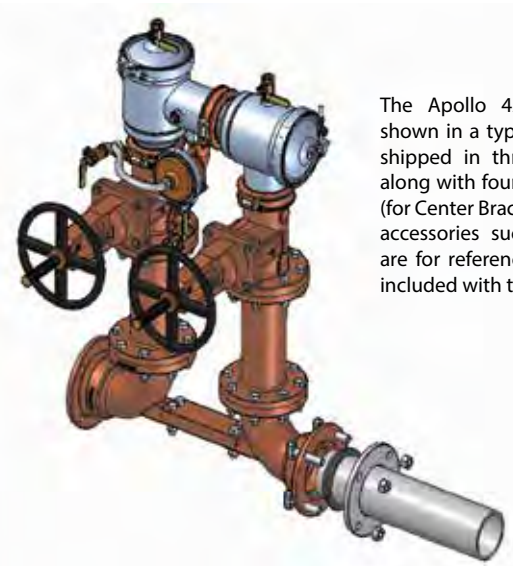
Flange x Flange
(F)



Mechanical Joint x Flange
(MJF)



Mechanical Joint x Mechanical Joint
(MJ)



The Apollo 4An Valve Setter is shown in a typical installation. It is shipped in three separate pieces along with four nuts and four bolts (for Center Brace). Mechanical Joint accessories such as those shown are for reference only and are not included with the 4An Valve Setter.

DIMENSIONS

Size	Model	A	B	C	Wt./Ea
2-1/2"	F	23-1/2	12-1/2	5-1/2	43.7
	F	23-1/2	12-1/2	5-1/2	50.4
3"	MJF	21-1/2	12-1/2	5-1/2	50.4
	MJ	21-1/2	12-1/2	7	50.7
4"	F	27	14	6-1/2	87.1
	MJF	24	14	6-1/2	71.1
	MJ	24	14	7-1/2	65.1
6"	F	32	16	8	147.5
	MJF	29	16	8	115.3
	MJ	29	16	9	107.1
8"	F	36-1/2	18-1/2	9	236.30
	MJF	33-1/2	18-1/2	9	216.40
	MJ	33-1/2	18-1/2	10	193.20
10"	F	43.0	21	11.0	388
12"	F	50-3/4	26-3/4	12	547



BACKFLOW PREVENTION CATALOG

Backflow Shut-Off Valves



Flange x Groove Shown

NON-RISING STEM (NRS)

Size	Flg x Flg	Flg x Grv	Grv x Grv
2-1/2"	W-6785-00	W-5310-00	W-9369-00
3"	W-6786-00	W-5311-00	W-9370-00
4"	W-6743-00	W-5312-00	W-9371-00
6"	W-6744-00	W-5313-00	W-9372-00
8"	W-6827-00	W-5314-00	W-9373-00
10"	W-6858-00	W-5315-00	N/A
12"	W-9529-00	N/A	N/A

AWWA



Groove x Groove Shown

OUTSIDE STEM & YOKE (OS&Y)

Size	Flg x Flg	Flg x Grv	Grv x Grv
2-1/2"	W-6789-00	W-4733-00	W-5282-00
3"	W-6790-00	W-4734-00	W-5283-00
4"	W-6824-00	W-4735-00	W-5284-00
6"	W-6825-00	W-4736-00	W-5285-00
8"	W-6826-00	W-4737-00	W-5286-00
10"	W-6859-00	W-4738-00	W-5321-00
12"	W-9528-00	N/A	N/A

AWWA, UL Listed, ULC Listed, FM Approved



Flange x Flange Shown

POST INDICATOR (PI)

Size	Flg x Flg	Flg x Grv	Grv x Grv
3"	W-4478-00	W-9125-00	W-9236-00
4"	W-4366-00	W-9126-00	W-9237-00
6"	W-4367-00	W-9127-00	W-9238-00
8"	W-4368-00	W-9128-00	W-9239-00
10"	W-4369-00	W-9129-00	N/A

UL Listed, ULC Listed, FM Approved



Groove x Groove Only

MONITORED BUTTERFLY (3G)

Size	Grv x Grv
2-1/2"	W-5244-00
3"	W-5245-00
4"	W-5246-00
6"	W-5247-00
8"	W-5248-00
10"	W-5249-00

UL Listed, ULC Listed, FM Approved



FNPT x FNPT

77 SERIES BRONZE BALL VALVE (BV)

Size	Inlet FxFNPT	Outlet FxFNPT	Inlet FxFNPT	Outlet FxFNPT
4A Series		4ALF Series		
1/2"	77B-103-85	77C-103-A4	77BLF-103-85	77CLF-103-85
3/4"	77B-104-83	77C-104-83	77BLF-104-83	77CLF-104-83
1"	77B-105-83	77C-105-83	77BLF-105-83	77CLF-105-83
1-1/4"	77B-106-84	77C-106-84	77BLF-106-84	77CLF-106-84
1-1/2"	77B-107-84	77C-107-84	77BLF-107-84	77CLF-107-84
2"	77B-108-84	77C-108-84	77BLF-108-84	77CLF-108-84

Size	Inlet FxFNPT	Outlet FxFNPT	Inlet FxFNPT	Outlet FxFNPT
4A Series Union Ball Valves		4ALF Series Union Ball Valves		
1/2"	77B-303-85	77C-303-85	77BLF-303-85	77CLF-303-85
3/4"	77B-304-83	77C-304-83	77BLF-304-83	77CLF-304-83
1"	77B-305-83	77C-305-83	77BLF-305-83	77CLF-305-83
1-1/4"	77B-306-84	77C-306-84	77BLF-306-84	77CLF-306-84
1-1/2"	77B-307-84	77C-307-84	77BLF-307-84	77CLF-307-84
2"	77B-308-84	77C-308-84	77BLF-308-84	77CLF-308-84

91 SERIES BRONZE BALL VALVE (BV)

Size	Inlet FxFNPT	Outlet FxFNPT	Inlet FxFNPT	Outlet FxFNPT
4A A Series		4ALF A Series		
1/2"	91B-103-85	91C-103-85	91BLF-103-85	91CLF-103-85
3/4"	91B-104-83	91C-104-83	91BLF-104-83	91CLF-104-83
1"	91B-105-83	91C-105-83	91BLF-105-83	91CLF-105-83
1-1/4"	91B-106-84	91C-106-84	91BLF-106-84	91CLF-106-84
1-1/2"	91B-107-84	91C-107-84	91BLF-107-84	91CLF-107-84
2"	91B-108-84	91C-108-84	91BLF-108-84	91CLF-108-84

Size	Inlet FxFNPT	Outlet FxFNPT	Inlet FxFNPT	Outlet FxFNPT
4A A Series Union Ball Valves		4ALF A Series Union Ball Valves		
-	-	-	-	-
3/4"	91B-304-83	91C-304-83	91BLF-304-83	91CLF-304-83
1"	91B-305-83	91C-305-83	91BLF-305-83	91CLF-305-83
1-1/4"	91B-306-84	91C-306-84	91BLF-306-84	91CLF-306-84
1-1/2"	91B-307-84	91C-307-84	91BLF-307-84	91CLF-307-84
2"	91B-308-84	91C-308-84	91BLF-308-84	91CLF-308-84



TEST COCKS FOR SMALL BACKFLOW

Male x FNPT	LEAD FREE Male x FNPT
1/8" x 1/4" 78 290 01	1/8" x 1/4" 78LF 290 01
1/4" x 1/4" 78 291 01	1/4" x 1/4" 78LF 291 01
Male x SAE Flare	LEAD FREE Male x SAE Flare
1/8" x Flare 78 292 01	1/8" x Flare 78LF 292 01
1/4" x Flare 78 293 01	1/4" x Flare 78LF 293 01



LEAD FREE TEST COCKS FOR LARGE BACKFLOW

2-1/2" to 4" SS Assemblies	
SS Cover Testcock	77CLF803A0
SS Body Testcock	77CLF80310
Shutoff Valves T/C	77CLF10310
6" SS Assemblies	
SS Cover Testcock	77CLF804A0
SS Body Testcock	77CLF80410
Shutoff Valves T/C	77CLF10410
8" SS Assemblies	
Cover & Body T/C	77CLF80410
Shutoff Valves T/C	77CLF10410
10" and 12" Assemblies	
All Testcocks	77CLF10410

BACKFLOW PREVENTION CATALOG

Accessories – Backflow Preventers

MODEL RP 40 & RP 4A BACKFLOW PREVENTERS

AIR GAP DRAIN

For installation with Conbraco's RP 4A, RPDA 4A, RP 4An, RPDA 4An, and RP 40S Series Reduced Pressure Principle backflow preventers.

The Apollo Air Gap Drain (AGD) is designed to funnel minor relief valve discharges, due to line pressure fluctuations and /or minor check valve fouling, into the drainage system. Drain piping is easily attached to the drain's threaded bottom.

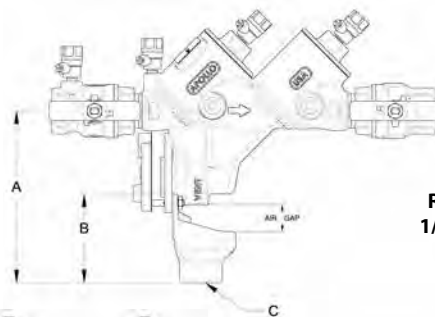
Note: The AGD is designed to collect expected minor discharges due to fouled checks or pressure fluctuations but not the full discharge capacity of the relief valve.



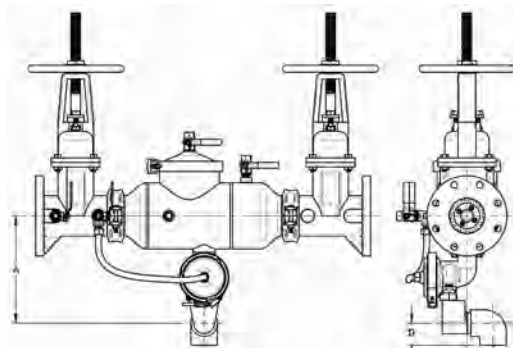
DIMENSIONS

See Page 72 For Relief Valve Discharge Rates

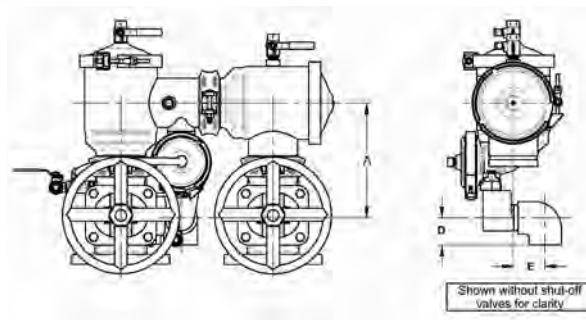
RP4A Series	AGD4A Model No.	A (In.)	A (mm.)	B (In.)	B (mm.)	Exit Piping Threads C	OD of C	D (In.)	D (mm.)	E (In.)	E (mm.)	Wt. Lbs.	Wt. Kgs.
1/2", 3/4", 1"	AGD4A1	6.5	165	3.4	86	1" FNPT	1-1/4" Pipe					.1	.05
1-1/4" - 1-1/2"	AGD4A112	8.5	216	4.1	104	1-1/2" FNPT	2" Pipe					.20	.10
2"	AGD4A2	10.0	254	5.3	135	2" FNPT	2-1/2" Pipe					.35	.16
2-1/2"	AGD4A6	11.28	287			2" MNPT	2" FNPT	2.34	59	2.78	71	1.27	.58
3"	AGD4A6	11.28	287			2" MNPT	2" FNPT	2.34	59	2.78	71	1.27	.58
4"	AGD4A6	12.02	305			2" MNPT	2" FNPT	2.34	59	2.78	71	1.27	.58
6"	AGD4A6	13.32	338			2" MNPT	2" FNPT	2.34	59	2.78	71	1.27	.58
8"	AGD4A8	21.3	541	9.1	231	2-1/2" NPT	3" Pipe			1.05	.48		
10"	AGD4A12IN	26.3	668	7.8	198	3" NPT	4"					4.0	1.8
12"	AGD4A12IN	26.3	668	7.8	198	3" NPT	4"					4.0	1.8
RP4An Series													
2-1/2"	AGD4A6	10.87	276			2" MNPT	2" FNPT	2.34	59	2.78	71	1.27	.58
3"	AGD4A6	10.87	276			2" MNPT	2" FNPT	2.34	59	2.78	71	1.27	.58
4"	AGD4A6	10.51	267			2" MNPT	2" FNPT	2.34	59	2.78	71	1.27	.58
6"	AGD4A6	11.76	299			2" MNPT	2" FNPT	2.34	59	2.78	71	1.27	.58
8"	AGD4A8	19.1	485	9.1	231	2-1/2" NPT	3" Pipe					1.05	.48
10"	AGD4A12IN	22.7	577	7.8	198	3" NPT	4"					4.0	1.8
12"	AGD4A12IN	23.3	591	7.8	198	3" NPT	4"					4.0	1.8



RP-4A
1/2" - 2"



RP 4ALF and RPDA 4ALF



RP 4AnLF and RPDA 4AnLF



BACKFLOW PREVENTION CATALOG

Available Assembly Shut-Off Valve Options

Part #
Option

Model #
Option

Less Shut-Off Valves

-01 -LS



Part #
Option

Model #
Option

OS&Y Flange x OS&Y Groove

-07 -OFG



NRS Flange x NRS Flange

-02 -NF



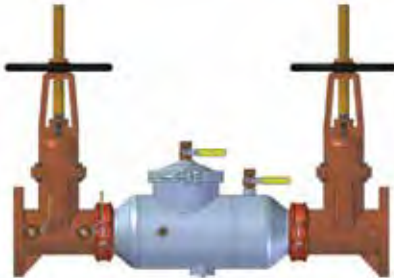
OS&Y Groove x OS&Y Groove

-08 -OG



OS&Y Flange x OS&Y Flange

-03 -OF



Monitored Butterfly Groove x Monitored Butterfly Groove

-09 -BG



OS&Y Flange x Monitored Butterfly Grooved

-04 -OFBG



OS&Y Flange x Post Indicator Groove

(PI not available in 2-1/2")

-010 -OFPIG



OS&Y Flange x Post Indicator Flange

(PI not available in 2-1/2")

-06 -OFPIF



NRS Groove x NRS Groove

-011 -NG



BACKFLOW PREVENTION CATALOG

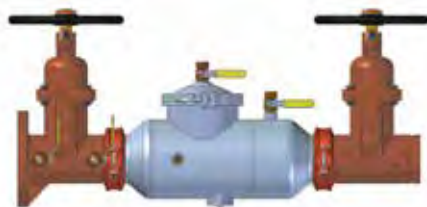
Available Assembly Shut-Off Valve Options

Part #
Option

Model #
Option

NRS Flanged x NRS Groove

-012 -NFG



Part #
Option

Model #
Option

OS&Y Groove x Post Indicator Groove

-018 -09PIG

(PI not available in 2-1/2")



Post Indicator Flanged x Monitored Butterfly Groove

-013 -PIFBVG



Monitored Butterfly Groove x Post Indicator Groove

-019 -BVGPIG

(PI not available in 2-1/2")



Post Indicator Flange x Post Indicator Flanged

-014 -PIF

(PI not available in 2-1/2")



Post Indicator Flange x OS&Y Flange

-020 -PIFOF

(PI not available in 2-1/2")



Monitored Butterfly Groove x Post Indicator Flange

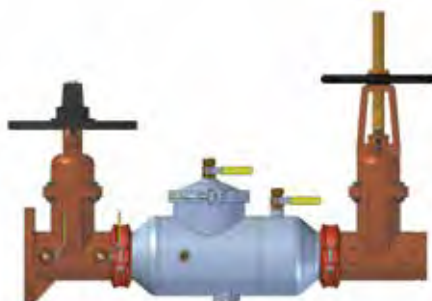
-016 -BVGPIF



Post Indicator Flange x OS&Y Groove

-017 -FPIOG

(PI not available in 2-1/2")





BACKFLOW PREVENTION CATALOG

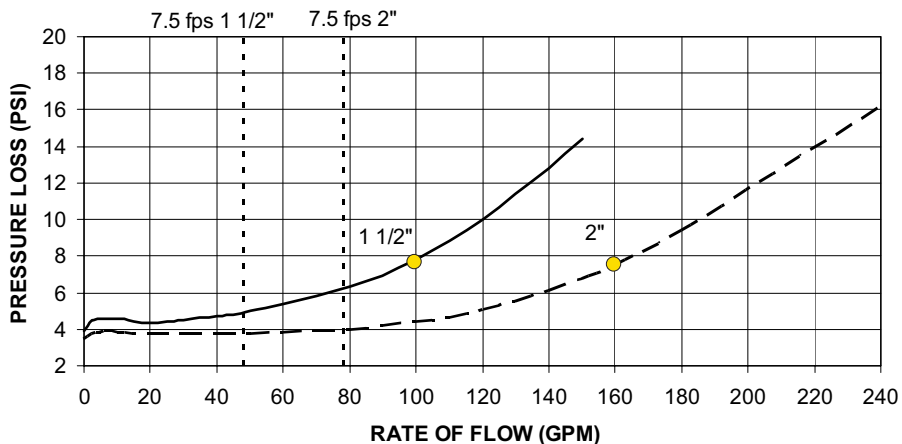
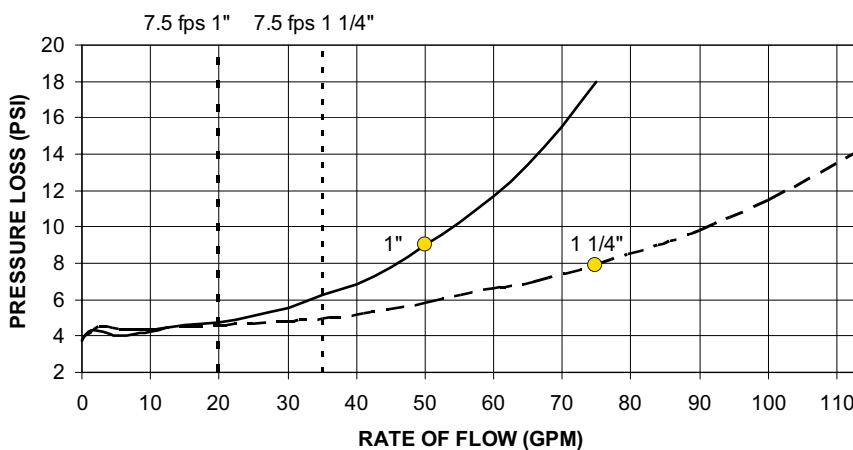
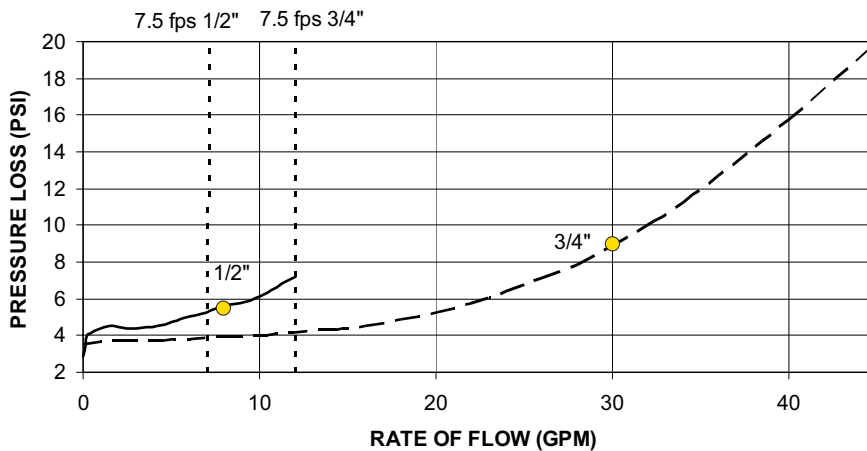
Flow Curves

Flow Curves: Pressure loss versus flow data as determined by independent approval agencies. (See Notes on page 71)

DOUBLE CHECK VALVES

DC 4A

DCLF 4A



● Meter Rated Flow



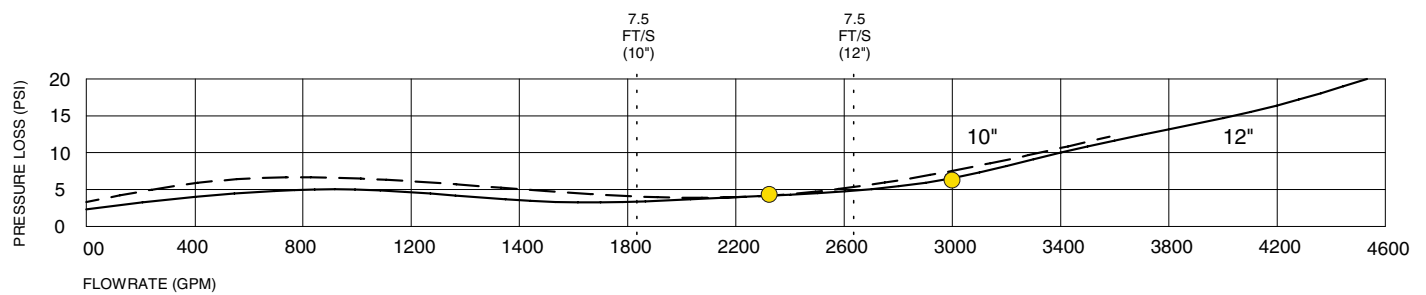
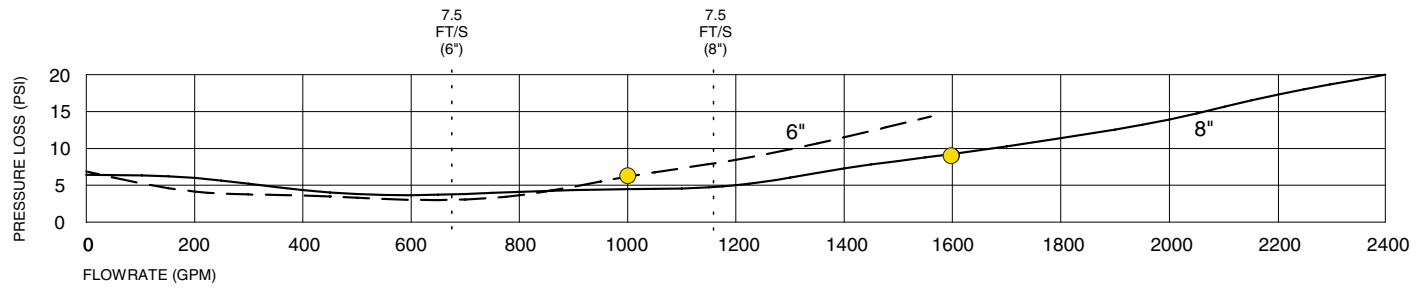
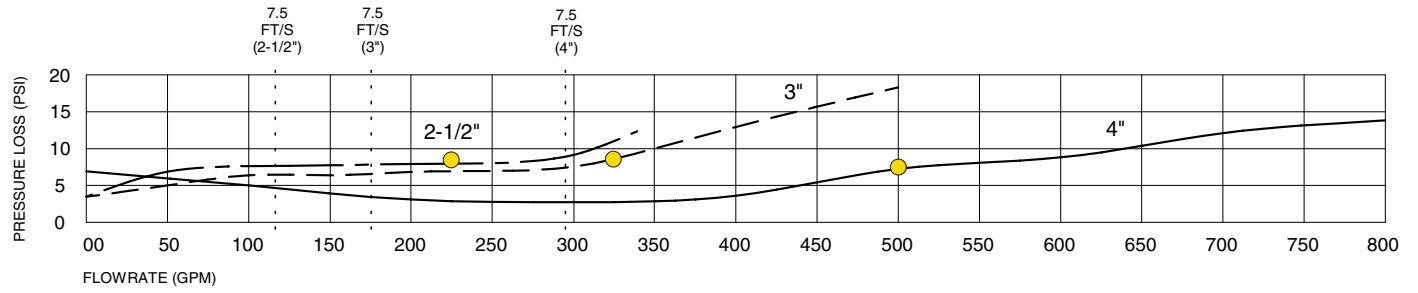
BACKFLOW PREVENTION CATALOG

Flow Curves

Flow Curves: Pressure loss versus flow data as determined by independent approval agencies. (See Notes on page 71)

DOUBLE CHECK VALVES

DCLF 4A



● Meter Rated Flow



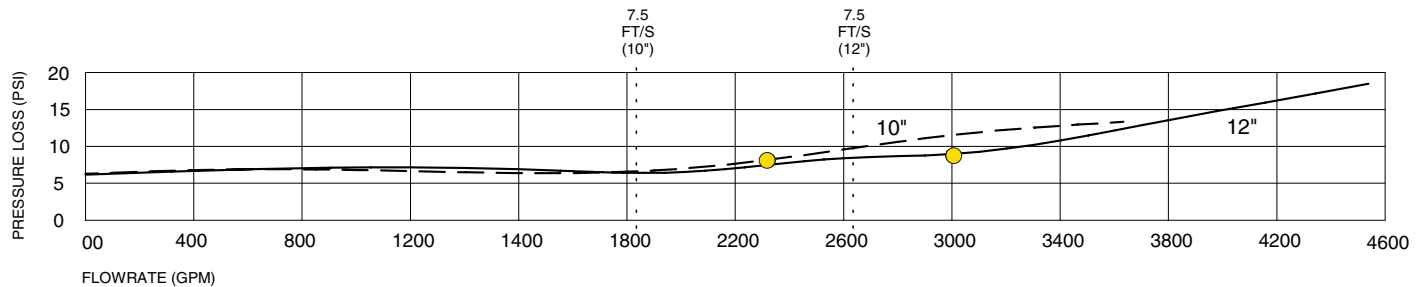
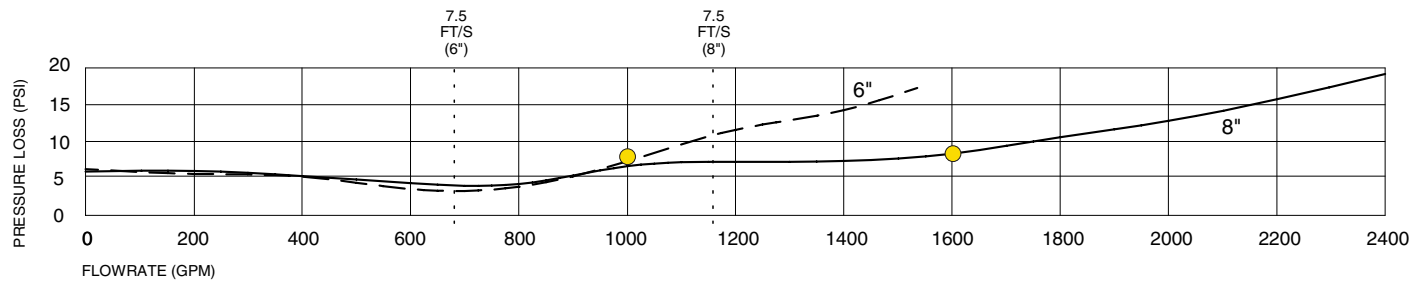
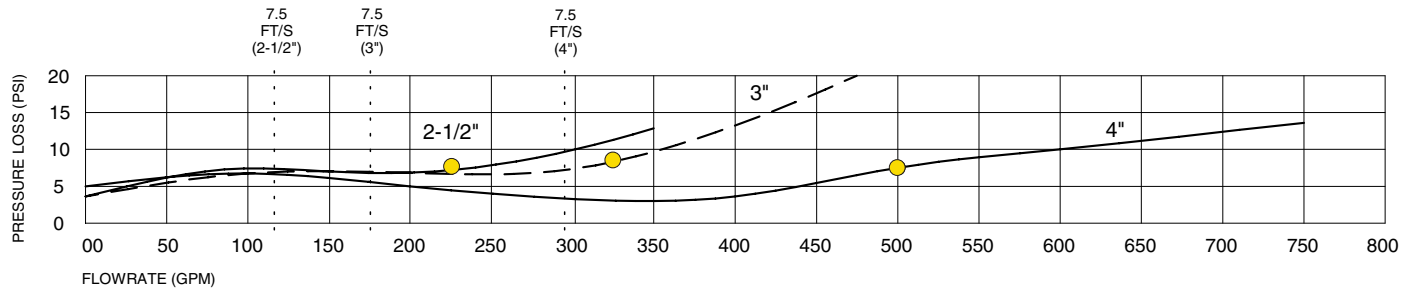
BACKFLOW PREVENTION CATALOG

Flow Curves

Flow Curves: Pressure loss versus flow data as determined by independent approval agencies. (See Notes on page 71)

DOUBLE CHECK VALVES

DCLF 4An



● Meter Rated Flow



BACKFLOW PREVENTION CATALOG

Flow Curves

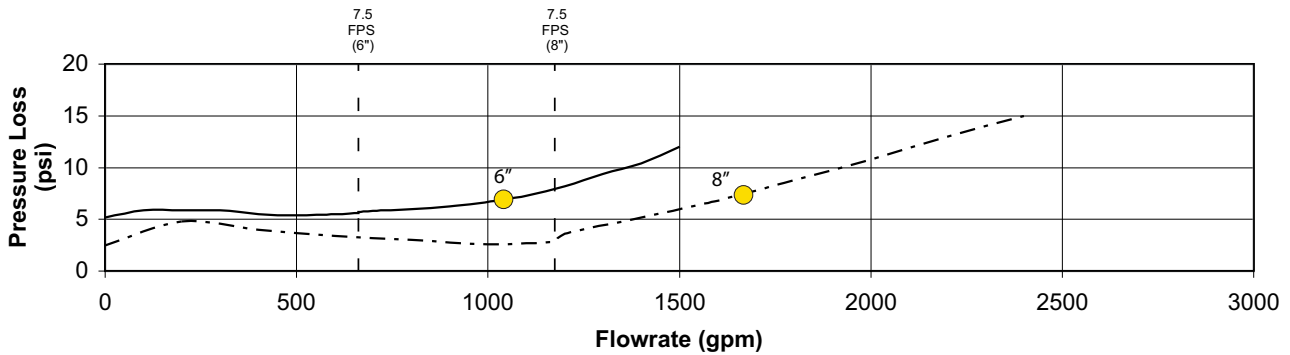
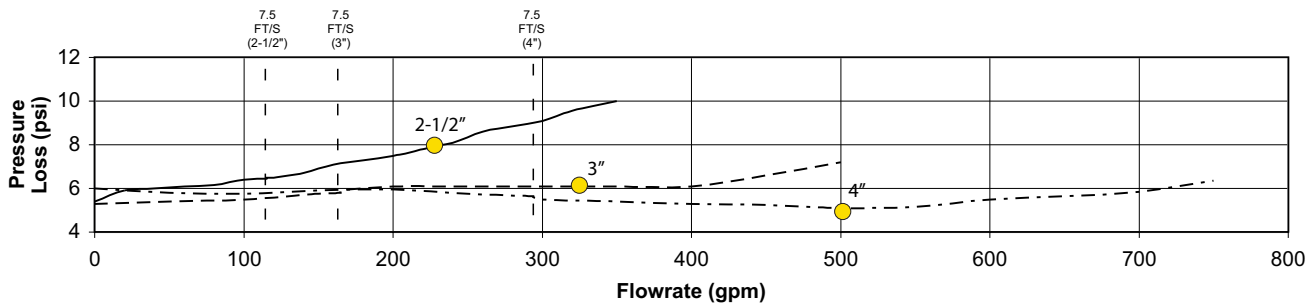
Flow Curves: Pressure loss versus flow data as determined by independent approval agencies. (See Notes on page 71)

DOUBLE CHECK ASSEMBLIES

DC 4SG

DOUBLE CHECK DETECTOR ASSEMBLIES

DCDA 4SG



DOUBLE CHECK ASSEMBLIES

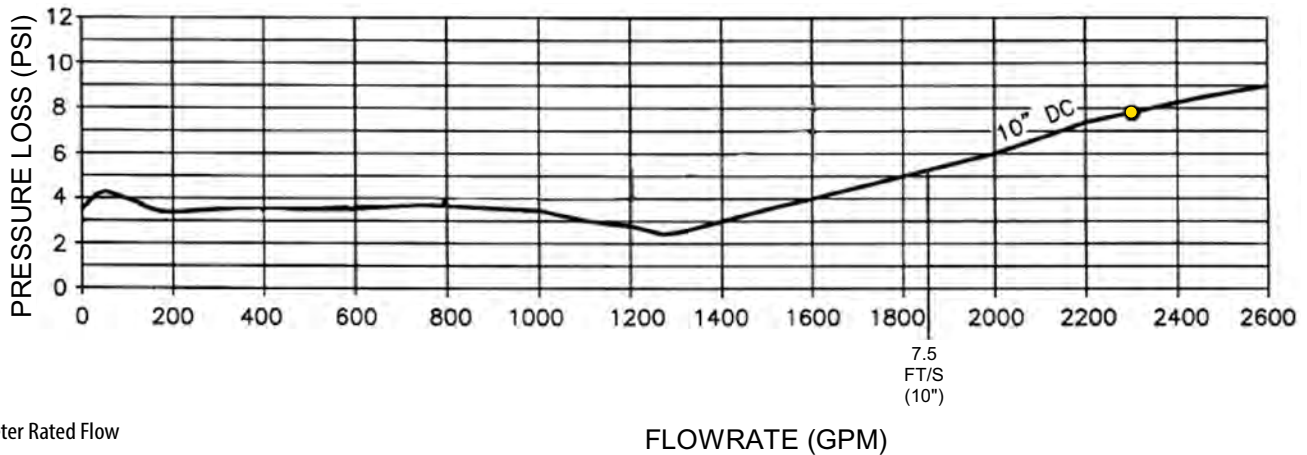
DC 4S (10"- Flanged Internal Connections Only)

DOUBLE CHECK DETECTOR ASSEMBLIES

DCDA 4S



10"



● Meter Rated Flow



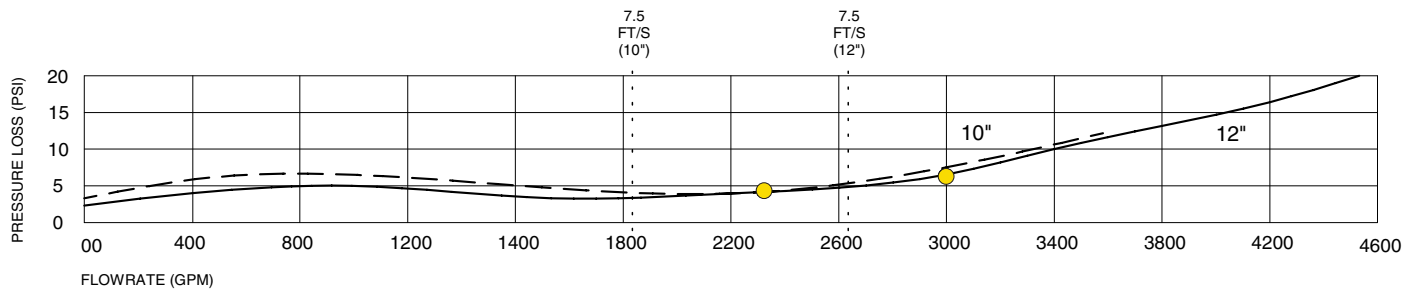
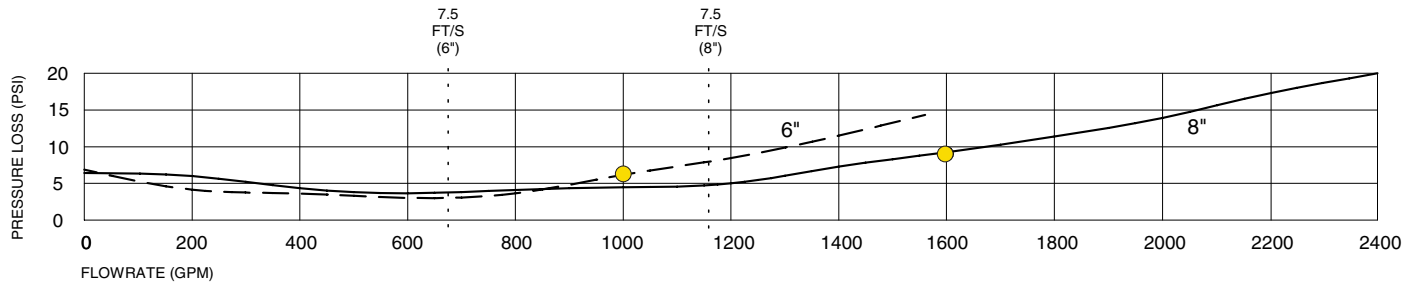
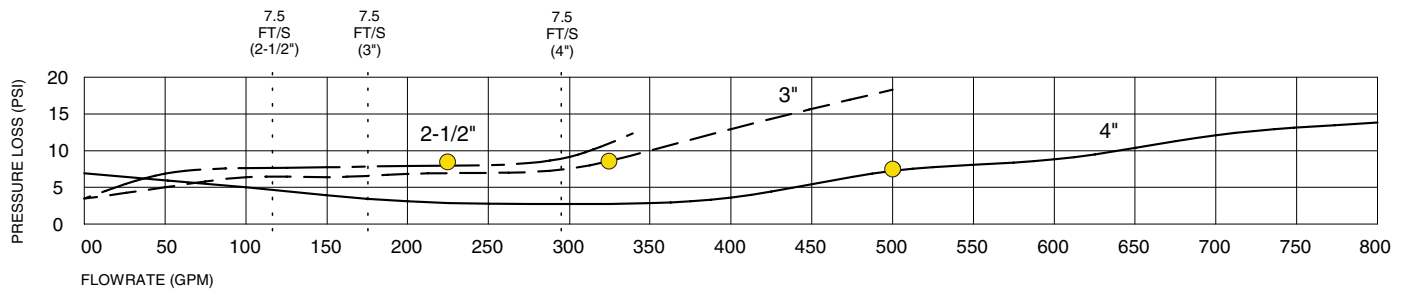
BACKFLOW PREVENTION CATALOG

Flow Curves

Flow Curves: Pressure loss versus flow data as determined by independent approval agencies. (See Notes on page 71)

DOUBLE CHECK DETECTOR ASSEMBLIES

DCDALF 4A
DCDA2LF 4A



● Meter Rated Flow



BACKFLOW PREVENTION CATALOG

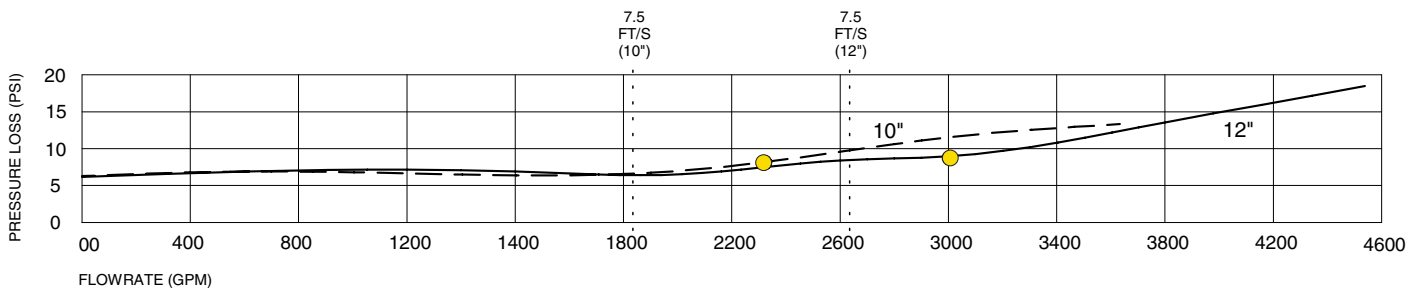
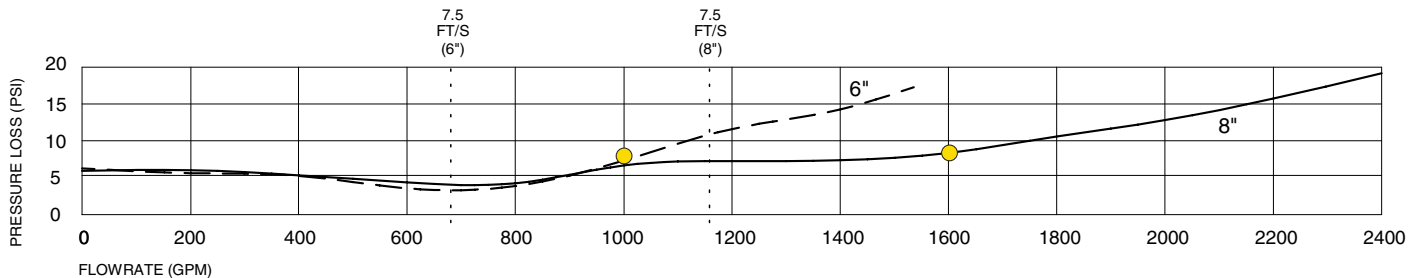
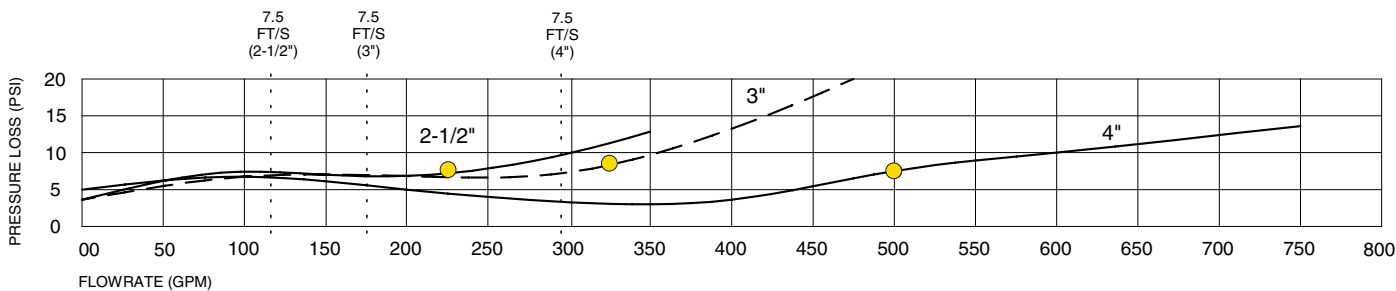
Flow Curves

Flow Curves: Pressure loss versus flow data as determined by independent approval agencies. (See Notes on page 71)

DOUBLE CHECK DETECTOR ASSEMBLIES

DCDALF 4An

DCDA2LF 4An



● Meter Rated Flow



BACKFLOW PREVENTION CATALOG

Flow Curves

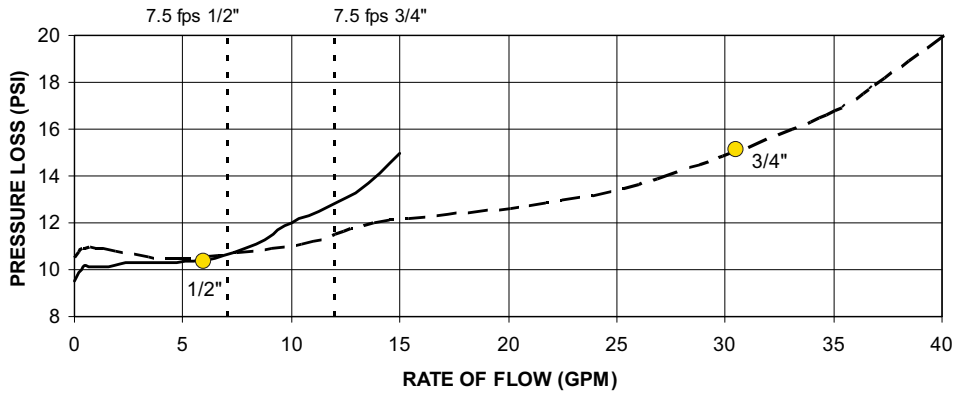
Flow Curves: Pressure loss versus flow data as determined by independent approval agencies. (See Notes on page 71)

REDUCED PRESSURE PRINCIPLE

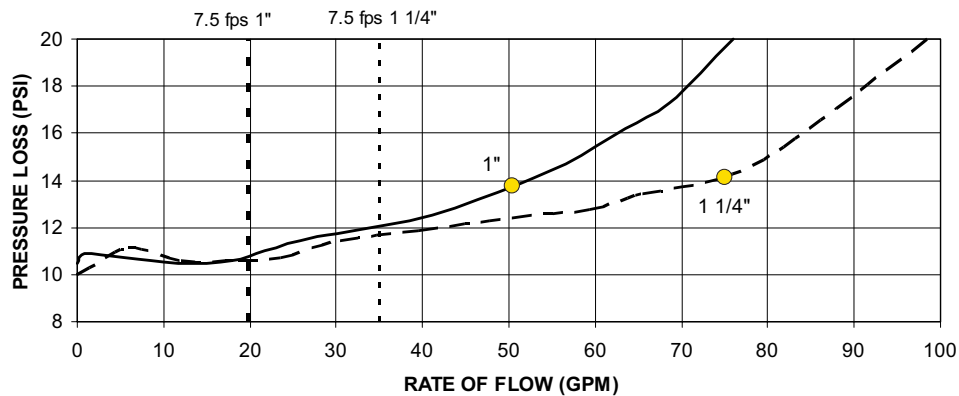
RP 4A
RPLF 4A



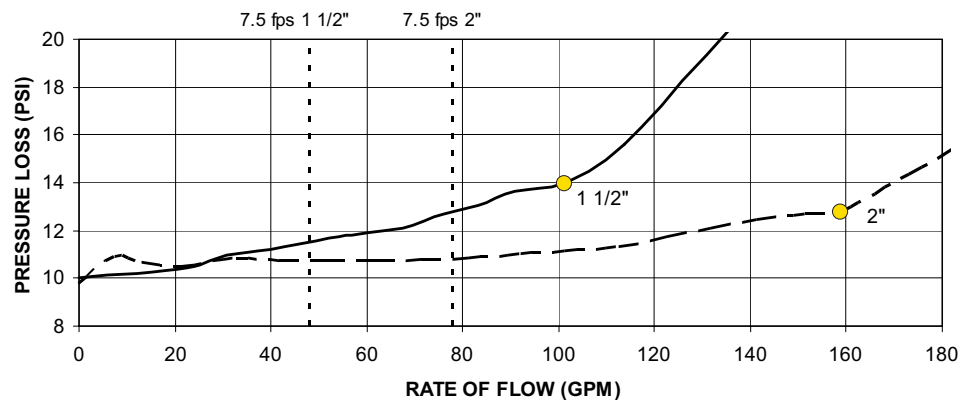
RP4A



RP4A



RP4A



● Meter Rated Flow



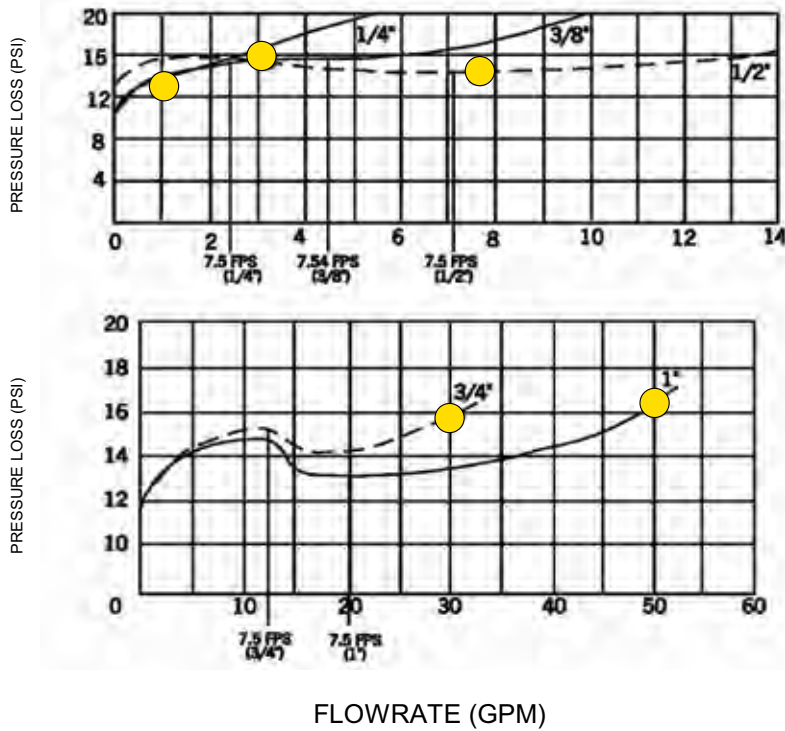
BACKFLOW PREVENTION CATALOG

Flow Curves

Flow Curves: Pressure loss versus flow data as determined by independent approval agencies. (See Notes on page 71)

REDUCED PRESSURE PRINCIPLE

RP 40S



● Meter Rated Flow



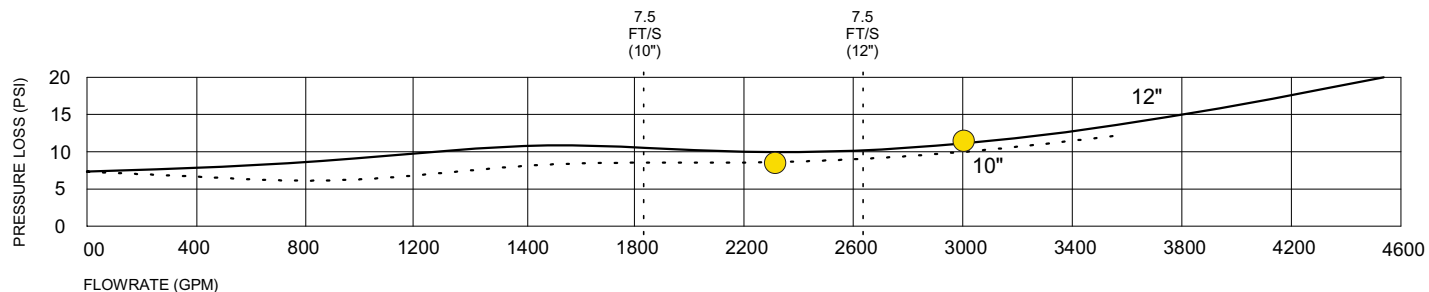
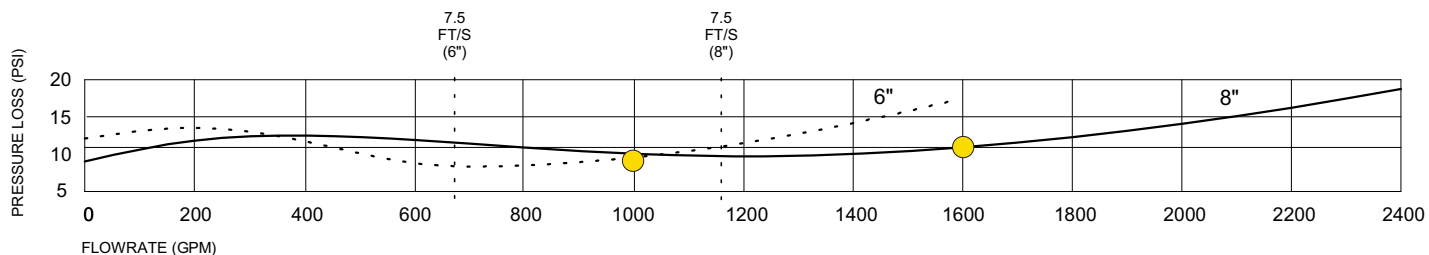
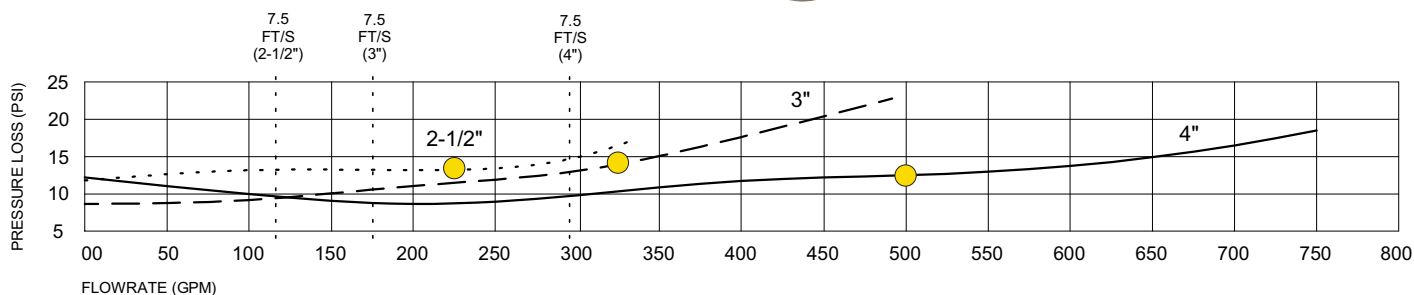
BACKFLOW PREVENTION CATALOG

Flow Curves

Flow Curves: Pressure loss versus flow data as determined by independent approval agencies. (See Notes on page 71)

REDUCED PRESSURE PRINCIPLE

RPLF 4A



● Meter Rated Flow



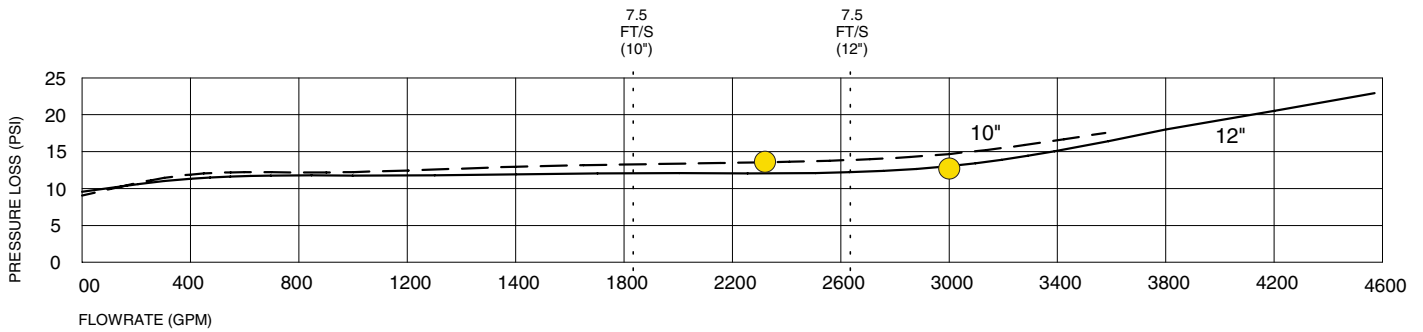
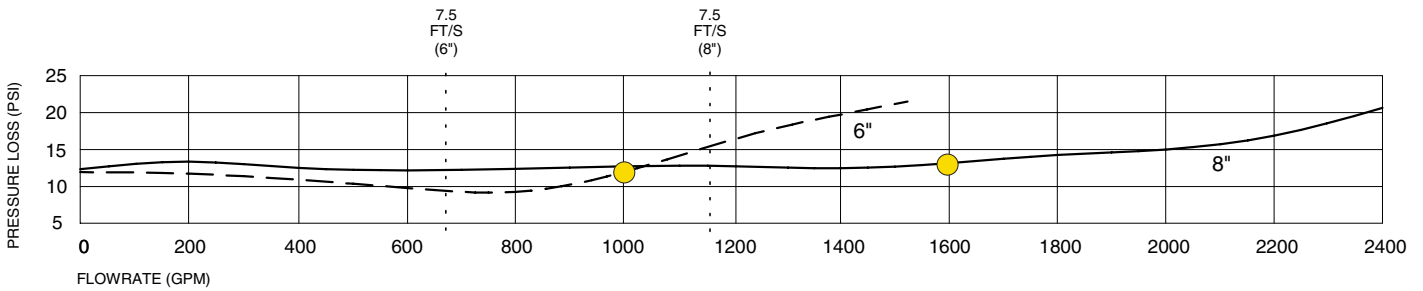
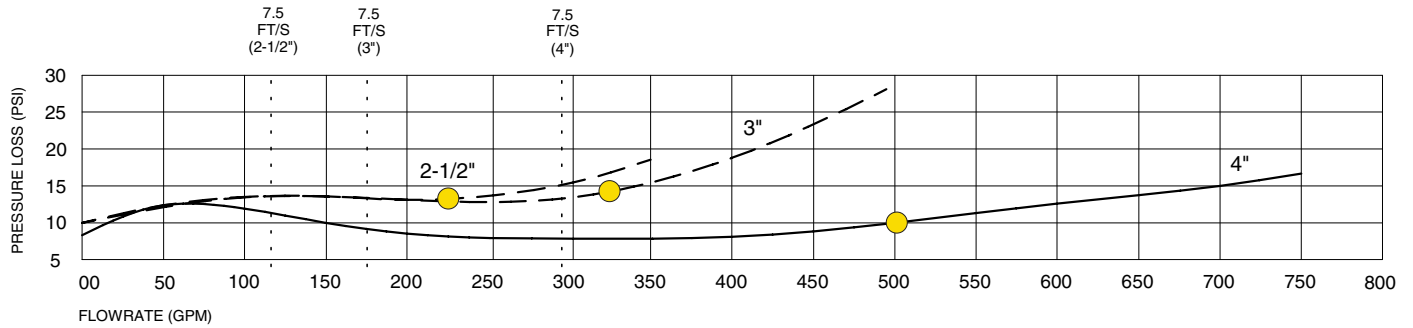
BACKFLOW PREVENTION CATALOG

Flow Curves

Flow Curves: Pressure loss versus flow data as determined by independent approval agencies. (See Notes on page 71)

REDUCED PRESSURE PRINCIPLE

RPLF 4An



● Meter Rated Flow



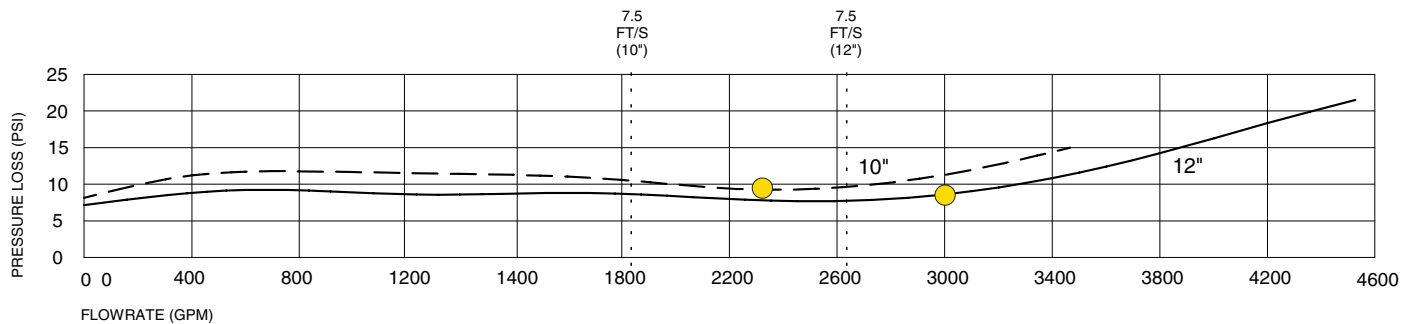
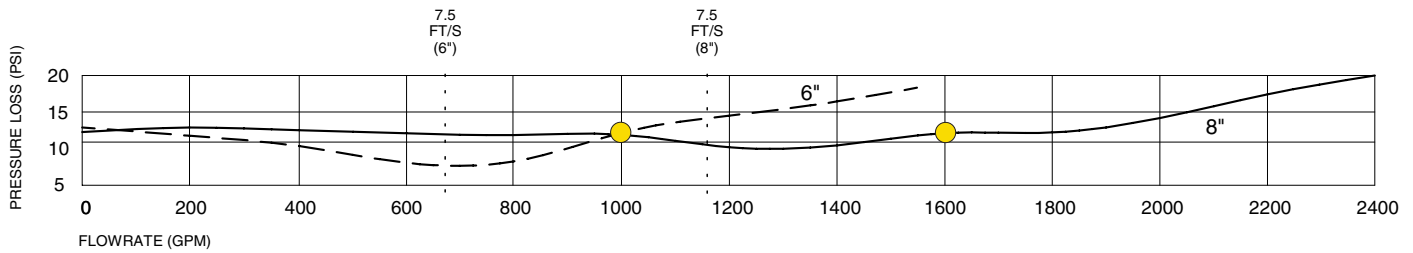
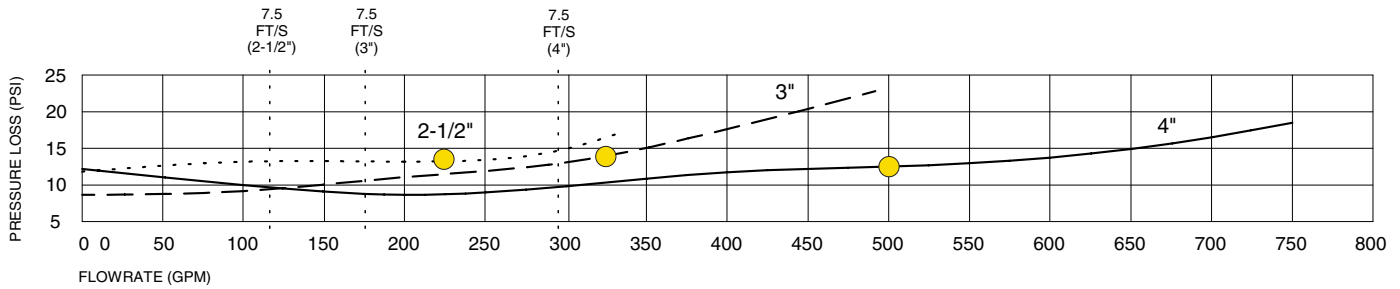
BACKFLOW PREVENTION CATALOG

Flow Curves

Flow Curves: Pressure loss versus flow data as determined by independent approval agencies. (See Notes on page 71)

REDUCED PRESSURE DETECTOR ASSEMBLY

RPDALF 4A
RPDA2LF 4A



● Meter Rated Flow



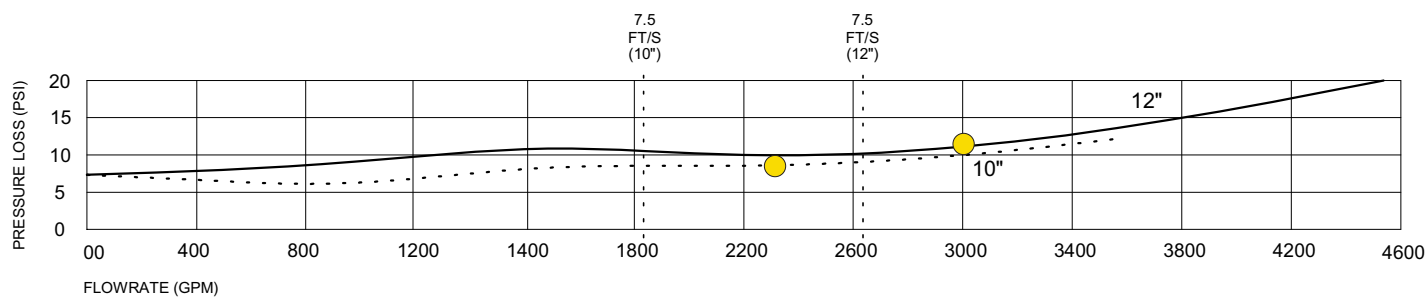
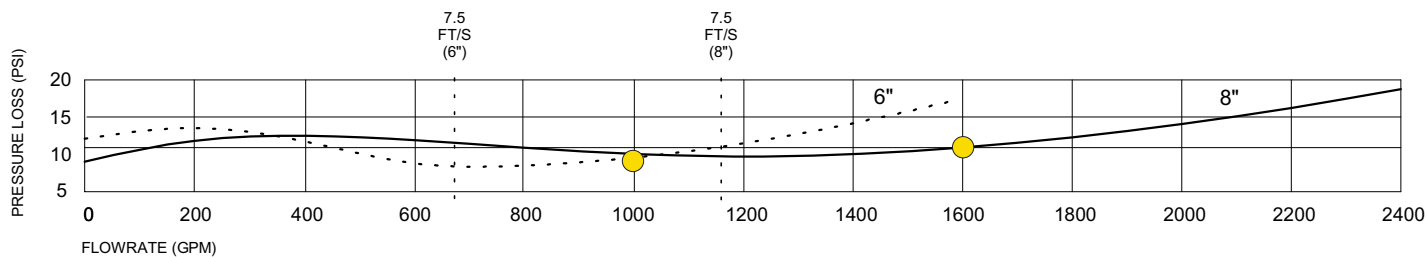
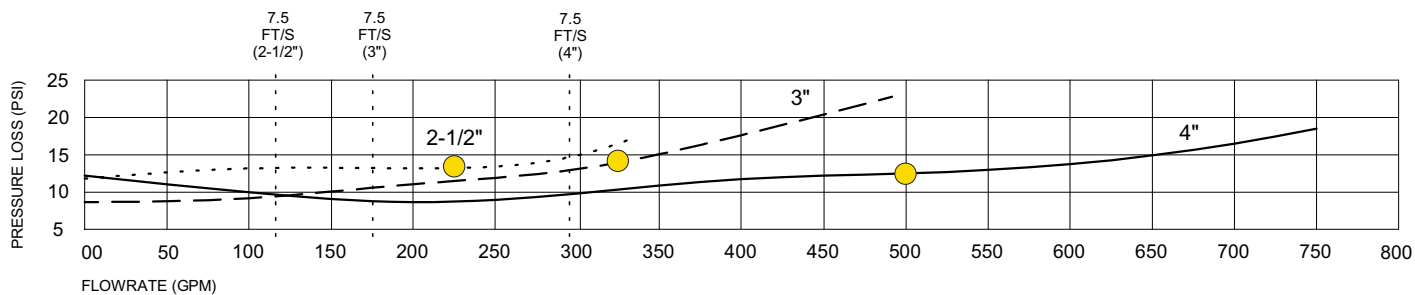
BACKFLOW PREVENTION CATALOG

Flow Curves

Flow Curves: Pressure loss versus flow data as determined by independent approval agencies. (See Notes on page 71)

REDUCED PRESSURE DETECTOR ASSEMBLY

RPDALF 4An
RPDA2LF 4An



● Meter Rated Flow



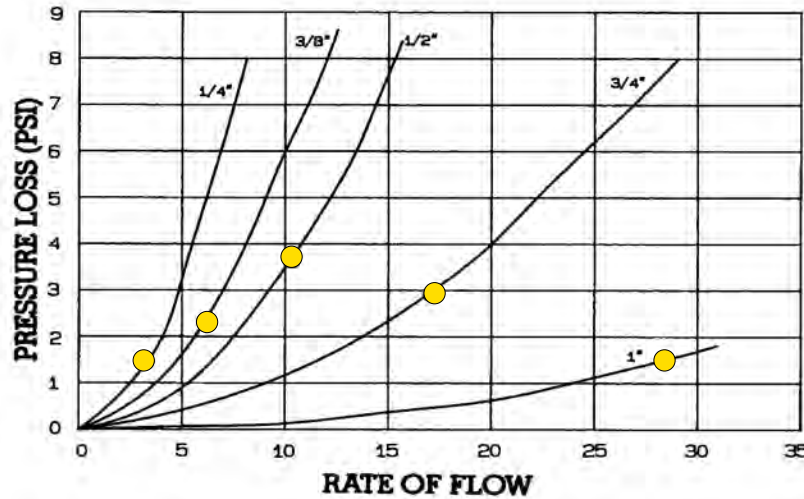
BACKFLOW PREVENTION CATALOG

Flow Curves

Flow Curves: Pressure loss versus flow data as determined by independent approval agencies. (See Notes on page 71)

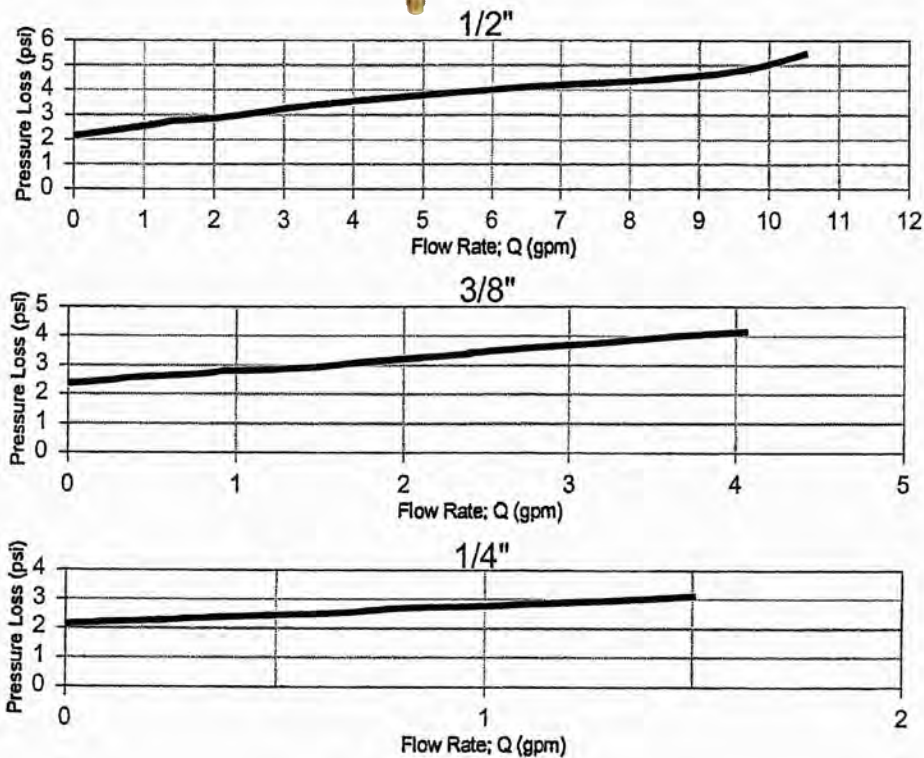
ATMOSPHERIC TYPE VACUUM BREAKERS

**AVB1/AVB2
AVB1LF**



SPILL RESISTANT VACUUM BREAKERS

**SVB 4W
SVB 4WLF**



● Meter Rated Flow



BACKFLOW PREVENTION CATALOG

Flow Curves

Flow Curves: Pressure loss versus flow data as determined by independent approval agencies. (See Notes on page 71)

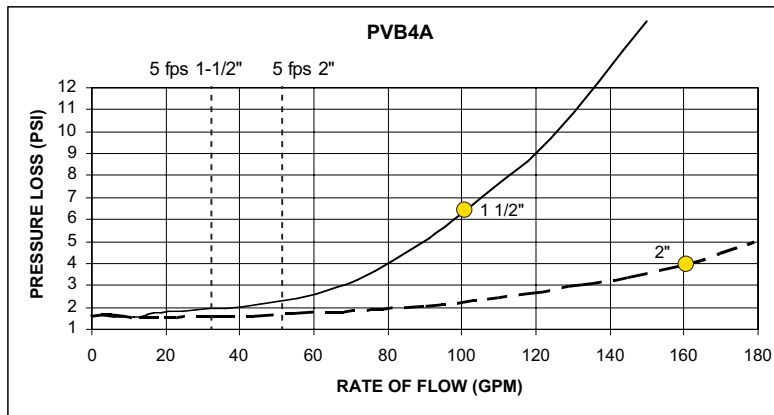
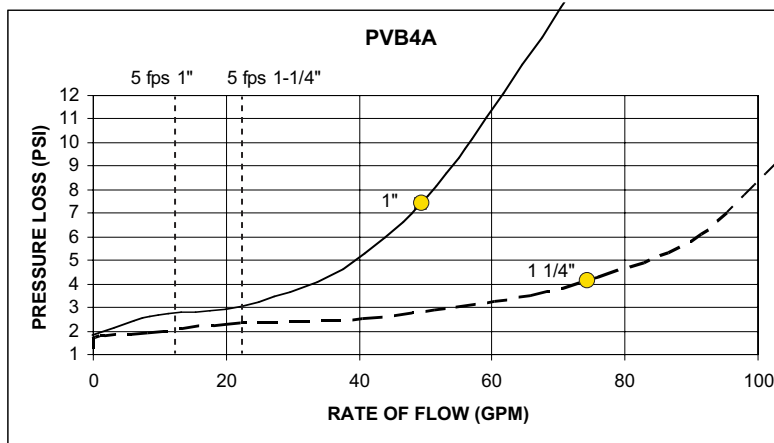
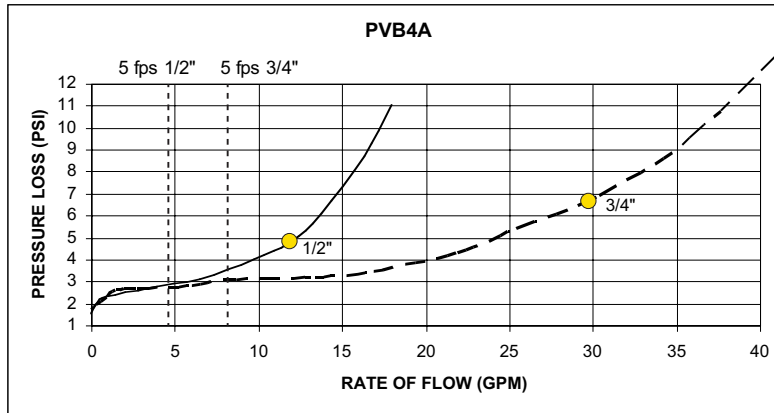
ATMOSPHERIC TYPE VACUUM BREAKERS

PVB 4A

PVBLF 4A



Note: 5 feet per second is the normal flow rate for irrigation systems (where majority of PVBs are used)



● Meter Rated Flow



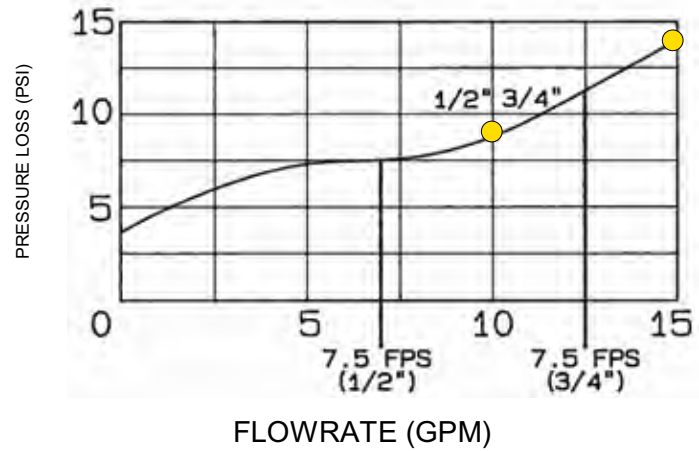
BACKFLOW PREVENTION CATALOG

Flow Curves

Flow Curves: Pressure loss versus flow data as determined by independent approval agencies. (See Notes on page 71)

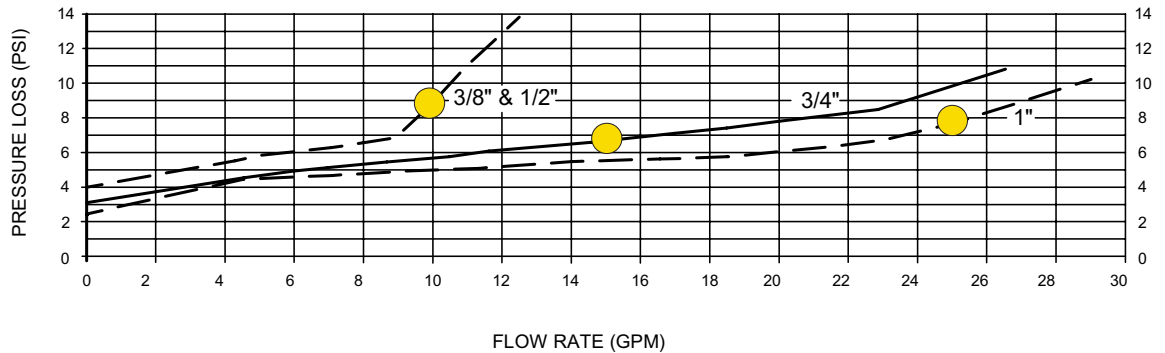
DUAL CHECK W/ ATMOSPHERIC PORT

DCAP
DCAP LF



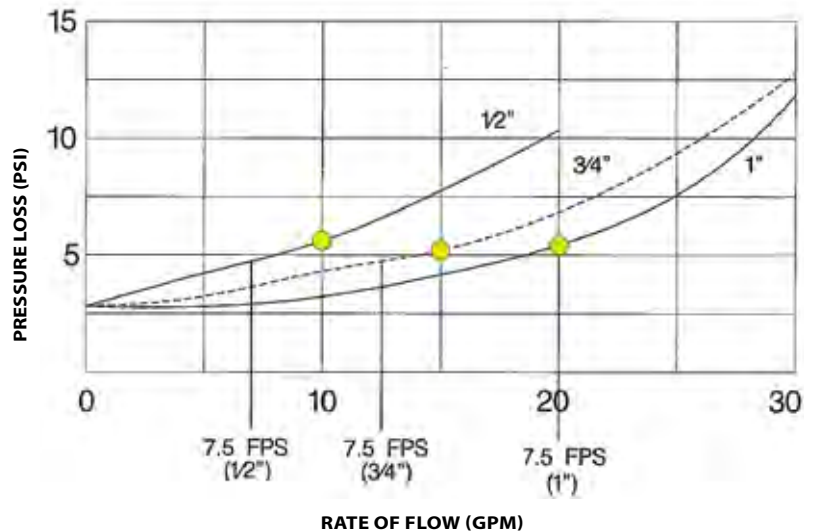
DUAL CHECK VALVE

DuC 4N
DuCLF 4N



DUAL CHECK VALVE

DUC 40
DUCLF 40



● Meter Rated Flow

BACKFLOW PREVENTION CATALOG

Flow Curves

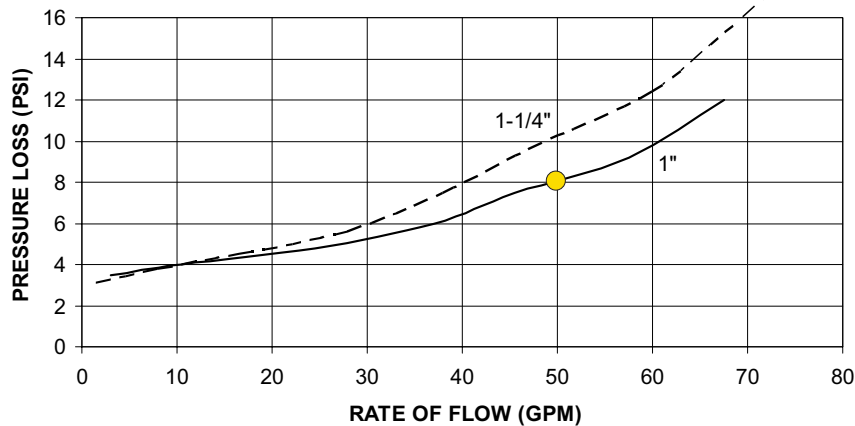
Flow Curves: Pressure loss versus flow data as determined by independent approval agencies. (See Notes on page 71)

DUAL CHECK

DUC 4FP



DUC-4FP

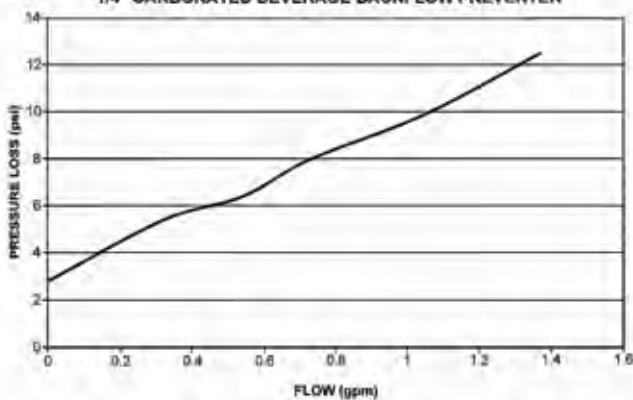


CARBONATED BEVERAGE

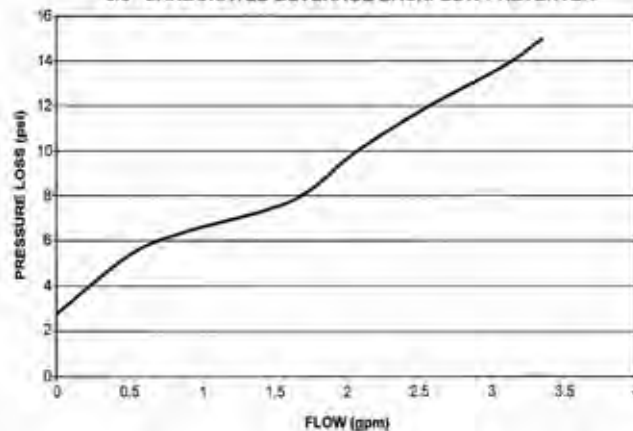
CBBP



1/4" CARBONATED BEVERAGE BACKFLOW PREVENTER



3/8" CARBONATED BEVERAGE BACKFLOW PREVENTER



● Meter Rated Flow

BACKFLOW PREVENTION CATALOG

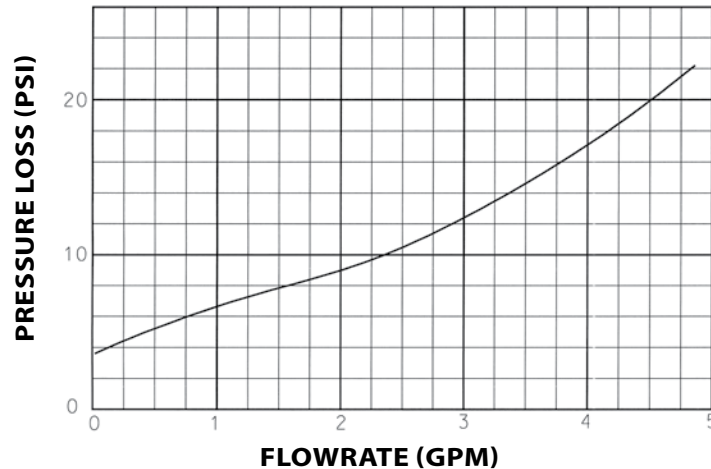


Flow Curves

Flow Curves: Pressure loss versus flow data as determined by independent approval agencies. (See Notes below)

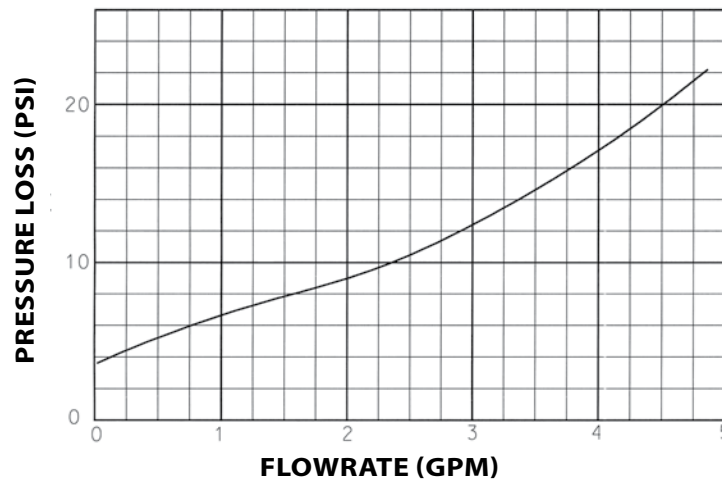
HOSE CONNECTION DUAL CHECK

HBDUC



LAB FAUCET DUAL CHECK

LFDUC



PRESSURE LOSS CURVE NOTES:

1. Flow curves directly reflect data collected by independent approval laboratories.
2. Flow curves shown were recorded with butterfly shut-off valves. Flow curves with gate valves are slightly lower. Contact factory for more information.
3. All data points are based on increasing flow data, from zero GPM to rated flow (opening curve)
4. For higher flow rates/pressure loss information - contact factory.

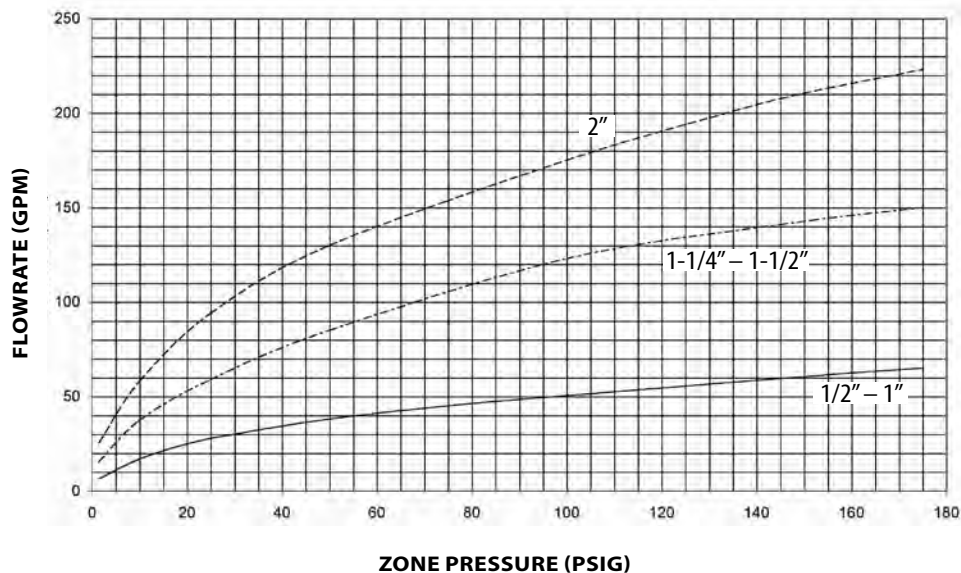
● Meter Rated Flow

BACKFLOW PREVENTION CATALOG

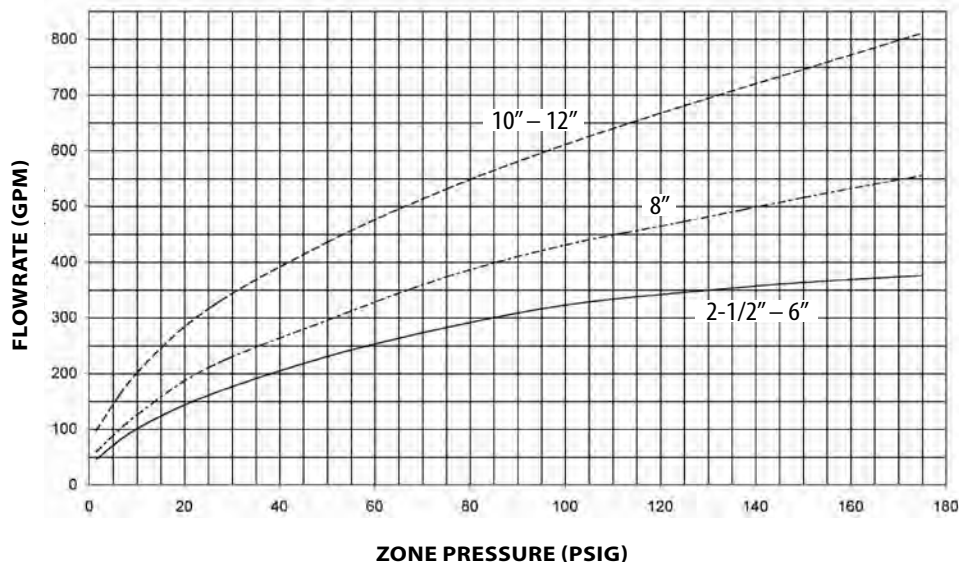
Relief Valve Discharge Rates



RV DISCHARGE RATES RP4A 1/2" TO 2"



RV DISCHARGE RATES RP4A 2-1/2" TO 12"



BACKFLOW PREVENTION CATALOG



APPROVALS**

TYPE OF DEVICE	MODEL	FACTORY CODE	SIZE	APPROVALS						
				Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California	ASSE	CSA	IAPMO	AWWA	UL/cUL*	FM*
Double Check	DC 4A	4A 100	1/2"-2"	Yes	1015	B64.5	Yes	Yes	3/4" - 2"	N/A
	DC 4ALF	4ALF 100	1/2" - 2"	Yes	1015	B64.5	Yes	Yes	3/4" - 2"	N/A
	DC 4ALF	4ALF 100	2-1/2"-12"	2-1/2" - 8"	1015	B64.5	Yes	2-1/2" - 6"	Yes	Yes
	DC 4ANLF	4ANLF 100	2-1/2"-12"	2-1/2" - 8"	1015	B64.5	Yes	4" - 8"	Yes	Yes
	DC 4S	4S 100	10"	Yes	1015	B64.5	Yes	C-510	Yes	Yes
	DC 4SG, LF	4SG 100, LF	2-1/2"-8"	Yes	1015	B64.5	Yes	C-510	Yes	Yes
Reduced Pressure	RP 4A	4A 200	1/2" - 2"	Yes	1013	B64.4	Yes	Yes	3/4" - 2"	N/A
	RP 4ALF	4ALF 200	1/2" - 2"	Yes	1013	B64.4	Yes	Yes	3/4" - 2"	N/A
	RP 4ALF	4ALF 200	2-1/2"-12"	2-1/2" - 6"	1013	B64.4	Yes	2-1/2" - 6"	Yes	Yes
	RP 4ANLF	4ANLF 200	2-1/2"-12"	4", 6"	1013	B64.4	Yes	Pending	Yes	Yes
	RP 40S	40 200 T2S	1/4"-1"	Yes	1013	B64.4	Yes	N/A	3/4"-1"	N/A
Dual Check	DUC 40	40 300	1/2"-1"	N/A	1024	B64.6	N/A	N/A	N/A	N/A
	DUC 4N	4N 300	3/8"-1"	N/A	1024	B64.6	N/A	N/A	N/A	N/A
Dual Check Atmospheric Port	DCAP	40 400	1/2"-3/4"	N/A	1012	B64.3	N/A	N/A	N/A	N/A
Dual Check Fire Protection	DUC 4FP	4FP 300	1" - 1-1/4"	N/A	1024	B64.6	N/A	N/A	Yes	N/A
Pressure Vacuum Breaker	PVB 4A	4A 500	1/2"-2"	Yes	1020	B64.1.2	Yes	N/A	N/A	N/A
Spill-Resistant SVB	SVB	4W 500	1/4"-1/2"	Yes	1056	B64.1.2	Yes	N/A	N/A	N/A
Double Check Detector Assembly	DCDA 4ALF	4ALF 600	2-1/2"-12"	2-1/2" - 8" Type 1	1048	B64.5	N/A	N/A#	Yes	Yes
	DCDA 4ANLF	4ANLF 600	2-1/2"-12"	2-1/2" - 8" Type 1	1048	B64.5	N/A	N/A#	Yes	Yes
	DCDA 4SG, LF	4SG 600, LF	2-1/2"-8"	Yes	1048	B64.5	N/A	N/A#	Yes	Yes
	DCDA 4S	4S 600	2-1/2"-10"	Yes	1048	N/A	N/A	N/A#	Yes	Yes
Reduced Pressure Detector Assembly	RPDA 4ALF	4ALF 700	2-1/2"-12"	2-1/2" - 6" Type 1	1047	B64.4	N/A	N/A#	Yes	Yes
	RPDA 4ANLF	4ANLF 700	2-1/2"-12"	4" Type 1	1047	B64.4	N/A	N/A#	Yes	Yes
Atmospheric Vacuum Breaker	AVB1	38 100	1/4"-2"	N/A	1001	B64.1.1	Yes	N/A	N/A	N/A
	AVB2	38 200	1/4"-3/4"	N/A	1001	B64.1.1	Yes	N/A	N/A	N/A
Carbonated Beverage Back. Prev	CBBP	4C 100	1/4"-3/8"	N/A	1022	B64.3.1	Yes	N/A	N/A	N/A
Hose Conn. Vacuum Breaker	HVB	38 304	3/4"	N/A	1011	B64.2	Yes	N/A	N/A	N/A
Hose Conn. Backflow Dual Check	HBDUC	38 304 02	3/4"	N/A	1052	B64.2	N/A	N/A	N/A	N/A
Anti-Freeze Hose Con. V.B	HBVB	38 404	3/4"	N/A	1011	B64.2	Yes	N/A	N/A	N/A
Lab Faucet Dual Check	LFUC	38 500	1/4"-3/8"	N/A	1035	B64.7	Yes	N/A	N/A	N/A

6/26/2014

Approved for horizontal and vertical installation - 4ANLF models VUVD and VUVU installation.

- * Must have indicating type shut-off valves
- ** Consult with factory for current approval details
- # Detector assemblies are not addressed by AWWA.

BACKFLOW PREVENTION CATALOG

OTHER APOLLO LITERATURE FOR YOUR SPECIFICATION LIBRARY



All Products Catalog



Automatic Control Valve Catalog



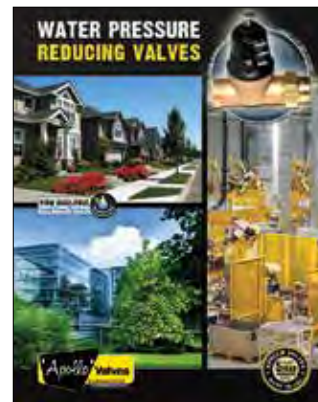
Commercial Products Catalog



Fire Protection Products Catalog



Hydronic & Steam Heating Products Catalog



Water Pressure Reducing Valves Catalog



Y-Strainer Catalog