

"Apollo"<sup>®</sup>

**BACKFLOW  
PREVENTION  
CATALOG**

# PRODUCT CATALOG

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<b>1/2" - 2" TESTABLE</b>	Double Check Valve Assembly	DC 4A, DCLF 4A	4A-100, 4ALF-100	1/2" - 2"	8	53	
		DC/DCLF 4AST	4A100-ST	1-1/2" - 2"	8	53	
	Double Check Valve Detector Assembly	DCDA2/DCDA2LF 4AST	4A600-ST	1-1/2" - 2"	9	55	
		Reduced Pressure Principle	RP 4A, RPLF 4A	4A-200, 4ALF-200	1/2" - 2"	10	54
			RP/RPLF 4AST	4A200-ST	1-1/2" - 2"	10	54
		RP 4AFHB	4A-200FHB	1"	11	54	
		RPS 40 (Stainless Steel)	40-200S (Stainless Steel)	1/4" - 1"	12	54	
	Reduced Pressure Detector Assembly	RPDA2/RPDA2LF 4AST	4A700-ST	1-1/2" - 2"	13	55	
Pressure Vacuum Breaker	PVB 4A, PVBLF 4A	4A-500, 4ALF-500	1/2" - 2"	14	66		
Spill Resistant Pressure Vacuum Breaker	SVB 4A, SVBLF 4A	4A-900, 4ALF-900	3/4" - 1"	15	65		
<b>2-1/2" - 12" TESTABLE</b>	Double Check Valve Assembly	DCLF 4A	4ALF-100	2-1/2" - 12"	16-17	56	
		DCLF4SG	4SGLF-100	2-1/2" - 6"	18-19	58	
		DC4SG	4SG-100	8"	18-19	58	
		DC 4S	4S-100	10"	18-19	58	
	Double Check Valve Detector Assembly	DCLF 4An	4AnLF-100	2-1/2" - 12"	20-21	57	
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		RPLF4A	4ALF-200	2-1/2" - 12"	28-29	61	
	Reduced Pressure Detector Assembly	RPLF4An	4AnLF-200	2-1/2" - 12"	30-31	62	
		RPDALF/RPDA2LF 4A	4ALF-700	2-1/2" - 12"	32-33	63	
	RPDALF/RPDA2LF 4An	4AnLF-700	2-1/2" - 12"	34-35	64		
<b>1/2" - 2" NON-TESTABLE</b>	Atmospheric Type Vacuum Breaker	AVB1, AVBLF1, AVB2	38-100/38LF-100/200	1/4" - 2"	36	65	
	Dual Check w/Atmospheric Port	DCAP, DCAPLF	4A-400, 4ALF-400	1/2" - 3/4"	37	67	
	Dual Check Valve	DUC 4ALF	4ALF-300	3/8" - 1-1/4"	38	67	
		DUC4FP	DUC4FP	1" - 1-1/4"	39	68	
		DUC 40, 40LF	40-300, 40LF-300	1/2" - 1"	39	67	
	Carbonated Beverage Backflow Preventer	CBBP	4C-100	1/4", 3/8"	40	68	
	Hose Connection Vacuum Breaker	HBV2	38-300	3/4"	41	-	
	Anti-Freeze Hose Connection Vacuum Breaker	HBVAF2	38-400	3/4"	41	-	
	Hose Connection Dual Check	HBDUC	38-300	3/4"	42	69	
Lab Faucet Dual Check	LFUC	38-500, 38LF-500	1/4"-3/8"	42	69		
<b>PARTS &amp; ACCESSORIES</b>	Freeze Protection Valve	FPV, FPVLF	40-000	1/4"	43	-	
	"Y" Strainers	YB, YBLF, YSCF	59/59LF & YCF	1/4"-12"	44-45	-	
	Thermal Expansion Relief Valve	EXV, EXVLF	78-RV, RVLF	3/4" - 1"	46	-	
	Expansion Tanks for Potable Systems	EXP	40-XT	2-10 Gallon	46	-	
	Test Kits	TK	40-200-TK	3 Valve / 5 Valve	47	-	
	Hose Connection Pressure Gauge	HCPG	W-8078	3/4"	47	-	
	Test Kit Accessories	TKF	40-000-TFK	1/4" - 3/4"	47	-	
	Valve Setters	4An	4An-000	2-1/2" - 12"	48	-	
	Backflow Shut-Off Valves	-	-	1/2" - 12"	49-51	-	
	Air Gap Drains	AGD	AGD 4A	1/4"-12"	52	70 (Discharge Rates)	



**WATERWORKS**  
RP 4AN SERIES



**PLUMBING**  
RP 4A SERIES



**FIRE PROTECTION**  
DCDA 4A SERIES



**IRRIGATION**  
PVB 4A SERIES

TYPE OF DEVICE	SERIES	APPLICATION				
		BACK SIPHONAGE	BACK PRESSURE	CONTINUOUS PRESSURE	AESTHETIC HAZARD	HEALTH HAZARD
DOUBLE CHECK VALVE	DCLF 4A DCLF 4AN DCLF 4SG, DCLF 4S	X	X	X	X	
DOUBLE CHECK DETECTOR ASSEMBLY	DCDALF 4A DCDALF 4AN DCDA 4SG, DCDA 4S	X	X	X	X	
REDUCED PRESSURE PRINCIPLE	RPLF 4A	X	X	X	X	X
REDUCED PRESSURE PRINCIPLE (N & V FLOW)	RPLF 4AN	X	X	X	X	X
REDUCED PRESSURE PRINCIPLE (STAINLESS STEEL)	RPS 40	X	X	X	X	X
REDUCED PRESSURE DETECTOR ASSEMBLY	RPDALF 4A RPDALF 4AN	X	X	X	X	X
ATMOSPHERIC VACUUM BREAKER	AVB1, AVB1LF AVB2	X			X	X
PRESSURE VACUUM BREAKER	PVB 4A, PVBLF 4A	X		X	X	X
SPILL RESISTANT PRESSURE VACUUM BREAKER	SVB 4A, SVB 4ALF	X		X	X	X
DUAL CHECK	DUC 4ALF DUC 4FP DUC40, DUCLF40	X	X	X	X	
DUAL CHECK W/ ATMOS. PORT	DCAP 4A, DCAP 4ALF	X	X	X	X	
CARBONATED BEVERAGE BACKFLOW PREVENTER	CBBP	X	X	X	X	
HOSE CONNECTION VACUUM BREAKER	HBV2, HBV2LF	X	X*		X	X
ANTI FREEZE HOSE CONN. VACUUM BREAKER	HBVAF2, HBVAF2LF	X	X*		X	X
HOSE CONNECTION BACKFLOW PREVENTER	HBDUC, HBDUCLF	X	X*		X	X
LAB FAUCET VACUUM BREAKER	LFDUCLF	X	X		X	

\* Limited back pressure to 10' head  
\*\* Check with local authorities having jurisdiction



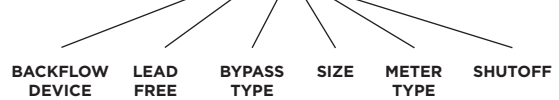
APOLLO® BACKFLOW PREVENTERS MODEL NUMBERS

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



APOLLO® BACKFLOW PREVENTERS PART NUMBERS

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



- OR -

	MODEL NUMBERS	FACTORY NUMBERS
<b>BACKFLOW DEVICE</b>	<b>SERIES</b>	
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)	<b>DCDA LF 4A</b>	<b>4ALF 62X</b>
	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
<b>OPTIONS</b>		
Standard. "81" metal Bronze	No Code	No Code
Lead Free Bronze	<b>LF</b>	<b>LF</b>
No Strainer (Standard 1/2" - 12")	No Code	No Code
With Wye Strainer	YS	1
<b>TYPE - DETECTOR BYPASS CONFIGURATION ORIENTATION DETERMINED BY FACING DOWNSTREAM</b>		
Type 2 - Standard & On Right Side (except 4SG - on top)	<b>2</b>	<b>2</b>
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
<b>SIZE</b>		
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"	<b>4</b>	<b>A</b>
6"	6	C
8"	8	E
10"	10	G
12"	12IN	H
<b>DETECTOR ASSEMBLY METERS</b>		
Cubic Feet Meter	CFM	C
Gallons Meter	<b>GPM</b>	<b>E</b>
Less Meter	LM	G



	MODEL NUMBERS	FACTORY NUMBERS
<b>ASSEMBLY SHUTOFF VALVE OPTIONS</b>		
<b>1/2" - 2"</b>		
Less Shutoffs	LS	T1
Ball Valves FNPT	Standard No Code	A2
Union Ball Valves	UBV	A4
Press Connection	PR	PR
Push Connection	P	P
<b>2-1/2" - 12"</b>		
Less Shutoffs	LS	1
NRS Flanged X Flanged	NF	2
NRS Flanged X Grooved	NFG	12
NRS Grooved X Grooved	NG	11
OS&Y Flanged X Flanged	OF	3
OS&Y Flanged X Grooved	OFG	7
OS&Y Grooved X Grooved	OG	8
Flanged OS&Y X Butterfly Grooved	OFBG	4
Flanged OS&Y X Post Indicator Flanged	OFPIF	6
Flanged OS&Y X Post Indicator Grooved	OFPIG	5
Grooved Butterfly X Butterfly Grooved	BG	9
Grooved Butterfly X Post Indicator Flanged	BGPIF	15
Flanged Ball Valve X Ball Valve Flanged	FBV	5
Flanged Post Indicator X Butterfly Grooved	PIFBG	13
Flanged Post Indicator X Post Indicator Flanged	PIFPIF	14
Flanged Post Indicator X OSY Grooved	PIFOG	17
Grooved OS&Y x Post Indicator Grooved	OGPIG	18
Grooved Butterfly x Post Indicator Grooved	BVGPIG	19
Flanged Post Indicator x OS&Y Flanged	PIFOF	20
Grooved Post Indicator x OS&Y Grooved	PIGOF	21
Grooved Post Indicator x Butterfly Grooved	PIGBG	22
Grooved Butterfly x OS&Y Flanged	GBOF	23
<b>TESTCOCK OPTIONS</b>		
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
<b>SHUTOFF VALVE HANDLE OPTIONS</b>		
"T" Handles (Standard on 1/2" - 1" Assemblies)	No Code	No Code
Level Handles (Standard on 1-1/4" - 2" Assemblies)	No Code	No Code
Locking Lever Handles (1/2" - 2")	LL	LL
<b>DUAL CHECK, DCAP OPTIONS - INLET, OUTLET OPTIONS</b>		
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
<b>CHROME PLATING OPTIONS (SELECTED MODELS)</b>		
Rough Chrome	RC	03
Satin Chrome	SC	CS
Polished Chrome	PC	06



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 4AST***	4A100-ST	1-1/2"-2"	Yes	1015	B64.5	N/A	Yes	Yes	N/A
	DC 4ALF	4ALF 100	2-1/2"-12"	2-1/2" - 8"	1015	B64.5	Yes	2-1/2" - 8"	Yes	Yes
	DC 4ANLF	4ANLF 100	2-1/2"-12"	2-1/2" - 8"	1015	B64.5	Yes	2-1/2" - 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 4AST***	4A200-ST	1-1/2"-2"	Yes	1015	B64.4	N/A	Yes	Yes	N/A
	RP 4ALF	4ALF 200	2-1/2"-12"	2-1/2" - 8"	1013	B64.4	Yes	2-1/2" - 8"	Yes	Yes
	RP 4ANLF	4ANLF 200	2-1/2"-12"	2-1/2" - 8"	1013	B64.4	Yes	2-1/2" - 8"	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 (Non LF Only)	1020	B64.1.2	Yes	N/A	N/A	N/A
Spill-Resistant SVB	SVB	4A 900	1/4"-1/2"	Pending	1056	Pending	Pending	N/A	N/A	N/A
Double Check Detector Assembly	DCDA 4ALF	4ALF 600	2-1/2"-12"	2-1/2" - 8" Types 1 & 2	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 4AST***	4A600-ST	1-1/2"-2"	Yes	1048	B64.5	N/A	N/A#	Yes	N/A
	DCDA 4SG	4SG 600	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" - 8" Type 1 2-1/2" - 8" Type 2	1047	B64.4	N/A	N/A#	Yes	Yes
	RPDA 4ANLF	4ANLF 700	2-1/2"-12"	2-1/2" - 8" Type 1	1047	B64.4	N/A	N/A#	Yes	Yes
	RPDA 4AST***	4A700-ST	1-1/2"-2"	Yes	1047	B64.4	N/A	N/A#	Yes	N/A
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	LF Duc	38 500	1/4"-3/8"	N/A	1035	B64.7	Yes	N/A	N/A	N/A

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  
 \*\*\* Slow Close Tamper Switched  
 # Detector assemblies are not addressed by AWWA.  
 † 4SGLF is Lead Free 2-1/2" - 6" only



DOUBLE CHECK ASSEMBLIES						
SIZE	APOLLO MODEL NUMBER	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 LF (2 1/2"-6") 4SG (10")	4ALF 10X 4SGLF 10X 4SG 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 DCDA 4ALF, DCDA 4S (10")	4SG 60X 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	LF866
	RPDA 4AnLF	4An 72X 4AnLF 72X			475DA	LF886Y
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	



## DC 4A / DCLF 4A SERIES

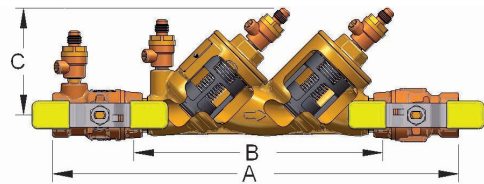
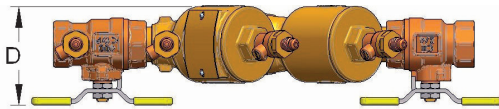
### DOUBLE CHECK VALVE BACKFLOW PREVENTER ASSEMBLY



The Apollo® Model DC 4A or 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 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.



**SLOW CLOSE WITH MONITOR SWITCHES  
T2ST OPTION (1-1/2" AND 2" ONLY)  
SEE SS1396 FOR DIMENSIONS**

*Flow Curves - Page 53*

#### 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 & Maintenance
- Threaded Testcock Protectors
- Corrosion Resistant
- No Special Tools Required
- 5 Year Warranty
- Lead-Free Option
- Chloramine-Resistant Elastomers
- **Designed, Cast, Machined, Assembled and Tested in the USA**

#### PERFORMANCE RATING

- Maximum Working Pressure: 175 psi
- Temperature Range: 33° to 180°F

#### APPROVALS

- Horizontal and Vertical Up Approvals
- AWWA C510
- UL, ULC Classified (T2ST Option or Less Shutoffs)
- Approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California
- ASSE 1015
- IAPMO
- CSA
- NSF/ANSI 61 Water Quality (4ALF only)
- NSF/ANSI 372 Lead Free (4ALF only)

#### STANDARD MATERIALS LIST

<b>BODY, CAPS</b>	Bronze C84400/LF C89836
<b>BV SHUT-OFFS TEST COCKS</b>	Bronze C84400 or LF C87800
<b>CHECK VALVES</b>	Glass-Filled PPO
<b>SPRINGS</b>	300 Series Stainless Steel
<b>SEAT DISCS</b>	Chloramine-Resistant Silicone
<b>O-RINGS</b>	Chloramine-Resistant EPDM
<b>BV HANDLES</b>	Stainless Steel

#### PART NUMBER MATRIX

4A X	1X	X	XX	X
	Y-STRAINER	SIZE	SHUT-OFF VALVES	OPTIONS (CAN BE COMBINED)
4A - STANDARD	0 - STANDARD	3 - 1/2"	A2 - W/BALL VALVES (STANDARD)	F - SAE THREADED TEST COCKS (STANDARD 1/2" -2")
4ALF - LEAD FREE	1 - W/ Y-STRAINER (SHIPPED LOOSE)	4 - 3/4"	A4 - W/UNION BALL VALVES (3/4" -2")	LL - SS LOCKING LEVER HANDLES
		5 - 1"		PR - PRESS CONNECTIONS (FACTORY INSTALLED)
		6 - 1-1/4"		P - PUSH (3/4" -1") CONNECTIONS (FACTORY INSTALLED)
		7 - 1-1/2"	<b>EXAMPLE: 4A 104 A4LL = 3/4" double check valve assembly with union ball valves with locking lever handles</b>	
		8 - 2"		

#### DIMENSIONS

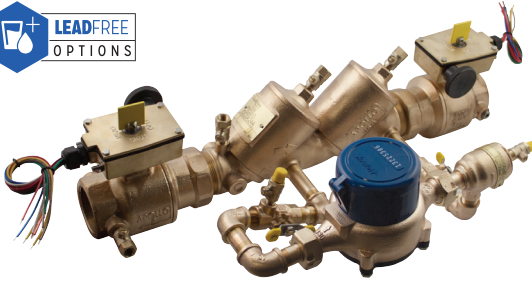
MODEL NO. PART NO. SIZE	4A 103 A2F DC 4A 12 1/2"	4A 103 A2F DC 4A 12 15 MM.	4A 104 A2F DC 4A 34 3/4"	4A 104 A2F DC 4A 34 20 MM.	4A 105 A2F DC 4A 1 1"	4A 105 A2F DC 4A 1 25MM.	4A 106 A2F DC 4A 114 1-1/4"	4A 106 A2F DC 4A 114 32 MM.	4A 107 A2F DC 4A 112 1-1/2"	4A 107 A2F DC 4A 112 40 MM.	4A 108 A2F DC 4A 2 2"	4A 108 A2F 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
<b>WEIGHTS</b>	<b>LB.</b>	<b>KG.</b>	<b>LB.</b>	<b>KG.</b>	<b>LB.</b>	<b>KG.</b>	<b>LB.</b>	<b>KG.</b>	<b>LB.</b>	<b>KG.</b>	<b>LB.</b>	<b>KG.</b>
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 T2ST Option, Union Ball Valve, Press, and Push connection dimensions, see submittal sheets.





## DCDA2 4AST / DCDA2LF 4AST SERIES DOUBLE CHECK DETECTOR BACKFLOW PREVENTER ASSEMBLY



The Apollo<sup>®</sup> Model DCDA2 4AST or DCDA2LF 4AST Lead Free\* 1-1/2" - 2" Double Check Detector Assembly consists of a mainline double check valve with a Type 2 bypass consisting of a single check (SCV) and meter bypassing the mainline second check to prevent backflow while accurately measuring all flows up to 2 gpm while the mainline 2nd check remains closed. The pressure drop across the assembly shall be documented by independent approval agencies. The assembly shall prevent contamination of the potable water supply due to back-siphonage or backpressure from substances that are non-health hazards. This Made in America assembly features Apollo<sup>®</sup> UL<sup>®</sup> Listed, slow-close, full open port, gear operated ball valves with integral tamper switches and carries the five-year Apollo<sup>®</sup> factory warranty.

### STANDARD MATERIALS LIST

<b>BODY, CAPS, BALL VALVE SHUTOFFS, TEST COCKS</b>	Bronze C84400 or C89836 or C87800 (Lead Free*)
<b>CHECK VALVE CARTRIDGES</b>	Glass-Filled PPO
<b>SPRINGS</b>	300 Series Stainless Steel
<b>SEAT DISCS</b>	Chloramine-Resistant Silicone
<b>O-RINGS</b>	Chloramine-Resistant EPDM

### DIMENSIONS

SIZE (IN.)	DIMENSIONS (IN.)				WT. (LB.)
	A	B	C	D	
1-1/2"	22-1/4	2-5/8	9-3/4	7-5/8	35.2
2"	23-3/4	2-5/8	10	8	45.8

**Flow Curves - Page 55**

### FEATURES

- Low Pressure Loss Documented By Independent Approval Agencies
- Easily Removable Modular Check Valve Cartridges
- Captured Stainless Steel Springs
- Apollo<sup>®</sup> UL<sup>®</sup> Listed, Slow-Close, Full Open Port, Gear Operated Ball Valves with Integral Tamper Switches
- Top-Mounted Test Cocks for Easy Testing
- No Special Tools Required
- Chloramine-Resistant Elastomers
- **Designed, Cast, Machined, Assembled and Tested in the USA**
- Short Lay-Length for Small Spaces
- Pre-Wired Tamper (Supervisory) Switches
- 5 Year Warranty

### PERFORMANCE RATING

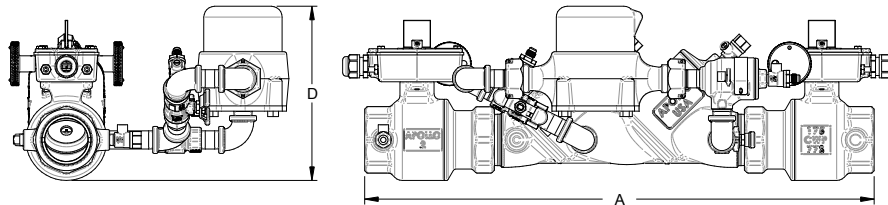
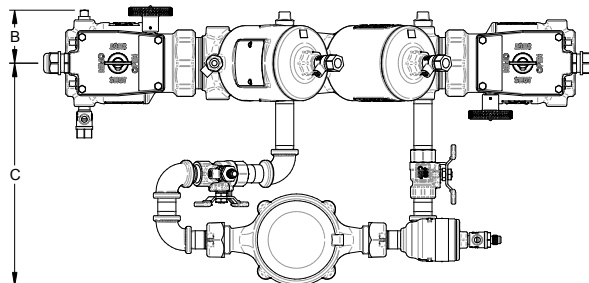
- Maximum Working Pressure: 175 psi
- Temperature Range: 33° to 140°F
- Hydrostatic Test Pressure: 350 psi

### APPROVALS

- ASSE 1048 (Horizontal & Vertical Up)
- UL<sup>®</sup> Classified (Horizontal & Vertical Up)
- C-UL<sup>®</sup> Classified (Horizontal & Vertical Up)
- Approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California. (Horizontal & Vertical Up)
- NSF/ANSI 61 Water Quality (4ALF only)
- NSF/ANSI 372 Lead Free (4ALF only)

### PART NUMBER MATRIX

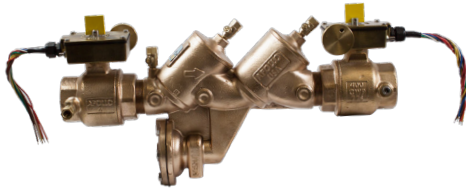
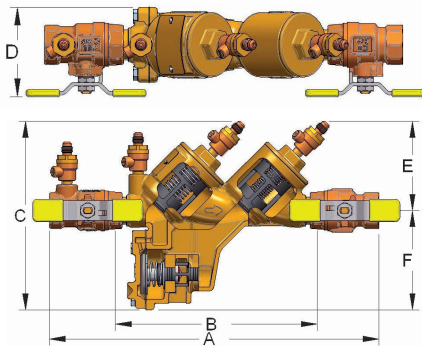
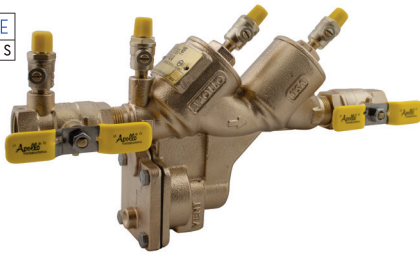
4A X	6 X	X	X 2ST
	BYPASS SIDE	SIZE	METER OPTION
4A - STANDARD	2 - BYPASS LINE ON RIGHT SIDE (STANDARD - AS SHOWN)	7 - 1-1/2"	C - CUBIC FT/MIN
4ALF - LEAD FREE	4 - BYPASS LINE ON LEFT SIDE	8 - 2"	E - GPM
			G - NO METER





**RP 4A / RPLF 4A SERIES**

**REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTER ASSEMBLY**



**SLOW CLOSE WITH MONITOR SWITCHES  
T2ST OPTION (1-1/2" AND 2" ONLY)  
SEE SS1397 FOR DIMENSIONS**

**Flow Curves - Page 54**

The Apollo® Series RP 4A or RPLF 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 test cocks 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
- Modular Captured Spring Relief Valve
- Lead Free Option
- Standard with Full Port Ball Valves with Stainless Steel Handles
- Corrosion Resistant
- Optional Air Gap Drain
- **Designed, Cast, Machined, Assembled and Tested in the USA**
- 5 Year Warranty

**PERFORMANCE RATING**

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

**APPROVALS**

- ASSE 1013
- CSA B64.4
- Federal Public Law 111-380
- AWWA C511
- UL, ULC Classified (T2ST Option or Less Shutoffs)
- Approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California
- Horizontal Installation Approvals on 1/2" thru 2"
- NSF/ANSI 61 Water Quality (4ALF only)
- NSF/ANSI 372 Lead Free (4ALF only)

**STANDARD MATERIALS LIST**

<b>BODY, CAPS</b>	Bronze (C84400/LF C89836)	<b>DIAPHRAGM</b>	Nitrile and Nylon
<b>BV SHUT-OFFS, TEST COCKS</b>	Bronze (C84400/LF C87800)	<b>CHECK MODULES</b>	Glass-Filled PPO
<b>SPRINGS</b>	300 Series SS	<b>O-RINGS</b>	Chloramine-Resistant EPDM
<b>SEAT DISCS</b>	Chloramine-Resistant Silicone	<b>BALL VALVE HANDLES</b>	Stainless Steel

Contact local water authorities for installation/service requirements.

**PART NUMBER MATRIX**

4A X	2 X	X	XX	X
	Y-STRAINER	SIZE	SHUT-OFF VALVES	OPTIONS (CAN BE COMBINED)
4A - STANDARD	0 - STANDARD	3 - 1/2"	A2 - W/BALL VALVES (STANDARD)	F - SAE THREADED TEST COCKS (STANDARD 1/2")
4ALF - LEAD FREE	1 - WITH Y-STRAINER (SHIPPED LOOSE)	4 - 3/4"	A4 - W/UNION BALL VALVES (3/4" - 2")	L - LEVER HANDLE (3/4" & 1" ONLY)
EXAMPLE: 4A 215 A4LL = 1" reduced pressure backflow preventer with strainer, union ball valves and locking lever handles		5 - 1"	T2ST - TAMPER GEAR OPERATED BALL VALVE (1-1/2" - 2")	LL - LOCKING LEVER HANDLES
		6 - 1-1/4"		P - PUSH CONNECTION (FACTORY INSTALLED)
		7 - 1-1/2"		PR - PRESS CONNECTION (FACTORY INSTALLED)
		8 - 2"		

**DIMENSIONS**

MODEL NO. PART 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 A2F 1-1/4"	RP4A114 4A 206 A2F 32 MM.	RP4A112 4A 207 A2F 1-1/2"	RP4A112 4A 207 A2F 40 MM.	RP4A2 4A 208 A2F 2"	RP4A2 4A 208 A2F 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
<b>WEIGHTS</b>	<b>LB.</b>	<b>KG.</b>	<b>LB.</b>	<b>KG.</b>	<b>LB.</b>	<b>KG.</b>	<b>LB.</b>	<b>KG.</b>	<b>LB.</b>	<b>KG.</b>	<b>LB.</b>	<b>KG.</b>
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 T2ST Option, Union Ball Valve, Press, and Push connection dimensions, see submittal sheets.



**RPFHB 4A SERIES**

**REDUCED PRESSURE PRINCIPLE FIRE HYDRANT BACKFLOW PREVENTER ASSEMBLY METER**



**SIZE 1"**  
CONTACT LOCAL WATER AUTHORITIES FOR  
INSTALLATION/SERVICE REQUIREMENTS.

The Apollo® Series RPFHB 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**

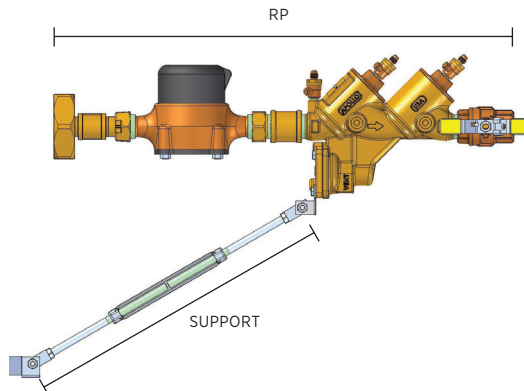
The Fire Hydrant Backflow Meter is connected directly to a fire hydrant with a 2-1/2" - 7-1/2" NST fire hose female swivel coupling. The device operates like a standard Reduced Pressure device except the flow through the device is measured by a Water Meter connected to the inlet of the backflow preventer.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

**FEATURES**

- Normal Operating Flow Range: 2-30 gpm
- Maximum Pressure Loss: 11.0 psi at 30 gpm
- Maximum Operating Pressure: 150 psi
- Trim and Casing Bolts are Stainless Steel
- 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, Cast, Machined, Assembled and Tested in the USA**
- 5 Year Warranty

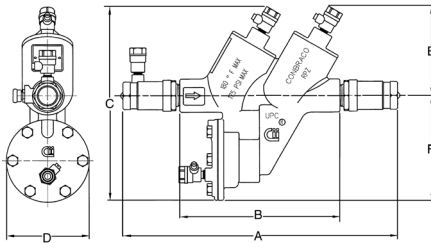
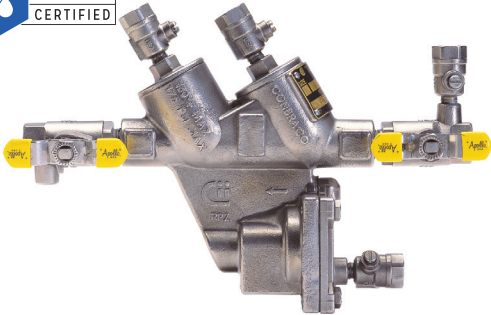
**DIMENSIONS**

MODEL NO.	DIMENSION (IN.)		WEIGHTS (LB.)	
	RP	SUPPORT	NET WT.	SHIPPING WT.
4A-205-FHB (meter in cu. ft.)	25-1/8"	20" - 28"	24.1	27.6
4A-205-FHBG (meter in gallons)	25-1/8"	20" - 28"	24.1	27.6





## RPS 40 SERIES STAINLESS STEEL REDUCED PRESSURE BACKFLOW PREVENTER ASSEMBLY



### STANDARD MATERIALS LIST

<b>BODY, COVERS</b>	316 Stainless Steel (CF8M)
<b>SPRINGS</b>	Stainless Steel
<b>FASTENERS</b>	Stainless Steel
<b>POPPETS</b>	Glass-Filled Celcon®
<b>SEAT DISCS</b>	Silicone Rubber
<b>DIAPHRAGM, O-RINGS</b>	FDA Fluorocarbon
<b>REPLACEABLE SEATS</b>	Glass-Filled PPO
<b>TEST COCKS &amp; HANDLES</b>	Stainless Steel

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### PART NUMBER MATRIX

40 2 X	X	TX	SX
	SIZE	SHUT-OFF VALVES	OPTIONS (CAN BE COMBINED)
0 - STANDARD	2 - 3/8"	1 - LESS BALL VALVES (UL CLASSIFIED - 3/4", 1")	LL - LOCKING LEVER HANDLES
1 - W/SS Y-STRAINER (SHIPPED LOOSE)	3 - 1/2"	2 - W/SS BALL VALVES, W/SS TEE HANDLES (STANDARD)	
	4 - 3/4"		
	5 - 1"		

### DIMENSIONS (X = SHUT-OFF VALVE CONFIGURATION)

MODEL NO. PART NO. SIZE	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	267	10-1/2	267	10-1/2	267	13-1/2	343	15-1/4	387
B	146	5-3/4	146	5-3/4	146	7-15/16	202	7-15/16	202
C	175	6-7/8	175	6-7/8	175	9	229	9	229
D	68	2-5/8	68	2-5/8	68	4-1/16	103	4-1/16	103
E	81	3-3/16	81	3-3/16	81	4-3/8	111	4-3/8	111
F	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
<b>WEIGHTS</b>	<b>KG.</b>	<b>LB.</b>	<b>KG.</b>	<b>LB.</b>	<b>KG.</b>	<b>LB.</b>	<b>KG.</b>	<b>LB.</b>	<b>KG.</b>
Net Wt. (w/o Ball Valves)	2.0	4.3	2.0	4.1	1.9	8.1	3.8	8.1	3.7
Net Wt. (with Ball Valves)	2.5	5.5	2.5	5.4	2.4	10.8	4.9	11	5.0
Shpg. Wt. (w/o Ball Valves)	2.4	5.1	2.3	5	2.3	9.8	4.4	9.6	4.3
Shpg. Wt. (with Ball Valves)	2.9	6.4	2.9	6.3	2.8	12.3	5.6	12.8	5.8

The Apollo® Series RPS 40 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
- **Designed, Cast, Machined, Assembled and Tested in the USA**
- 5 Year Warranty
- Optional Air Gap Drain

### PERFORMANCE RATING

- Maximum Working Pressure: 175 psi
- Temperature Range: 33° to 180°F

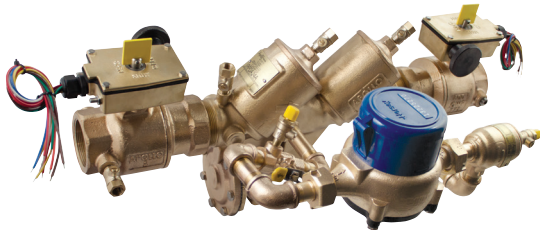
### APPROVALS

- Approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California
- ASSE 1013
- CSA



## RPDA2 / RPDA2LF 4A SERIES

### BRONZE REDUCED PRESSURE DETECTOR BACKFLOW PREVENTER ASSEMBLY



The Apollo® Model RPDA24A or RPDA2LF4A Lead Free\* 1-1/2" - 2" Reduced Pressure Detector Assembly consists of a mainline reduced pressure principle backflow preventer (RP) with a Type 2 bypass consisting of a single check (SCV) and meter bypassing the mainline second check to prevent backflow while accurately measuring all flows up to 2 gpm while the mainline 2nd check remains closed. The pressure drop across the assembly shall be documented by independent approval agencies. The assembly shall prevent contamination of the potable water supply due to back-siphonage or backpressure from substances that are health and non-health hazards. This Made in America assembly features Apollo® UL® Listed, slow-close, full open port, gear operated ball valves with integral tamper switches and carries the five-year Apollo® factory warranty.

#### STANDARD MATERIALS LIST

<b>BODY, CAPS, BALL VALVE SHUTOFFS, TEST COCKS</b>	Bronze C84400 or C89836 or C87800 (Lead Free*)
<b>CHECK VALVE CARTRIDGES</b>	Glass-Filled PPO
<b>SPRINGS</b>	300 Series Stainless Steel
<b>SEAT DISCS</b>	Chloramine-Resistant Silicone
<b>O-RINGS</b>	Chloramine-Resistant EPDM

#### DIMENSIONS

SIZE (IN.)	DIMENSIONS (IN.)				WT. (LB.)
	A	B	C	D	
1-1/2"	22-1/4	2-5/8	9-3/4	10-1/2	39.4
2"	23-3/4	2-5/8	10	12-3/8	51.4

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#### FEATURES

- Low Pressure Loss Documented By Independent Approval Agencies
- Easily Removable Modular Check Valve Cartridges
- Captured Stainless Steel Springs
- Apollo® UL® Listed, Slow-Close, Full Open Port, Gear Operated Ball Valves with Integral Tamper Switches
- Top-Mounted Test Cocks for Easy Testing
- No Special Tools Required
- Chloramine-Resistant Elastomers
- **Designed, Cast, Machined, Assembled and Tested in the USA**
- Short Lay-Length for Small Spaces
- Pre-Wired Tamper (Supervisory) Switches

#### PERFORMANCE RATING

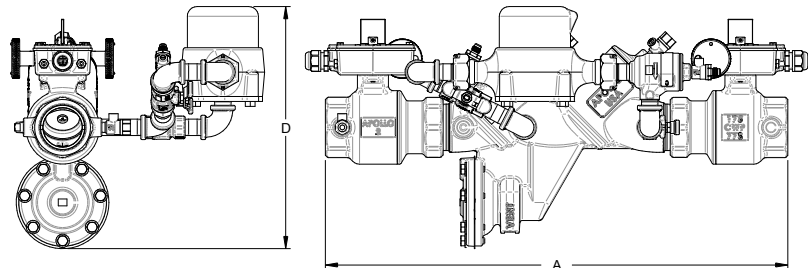
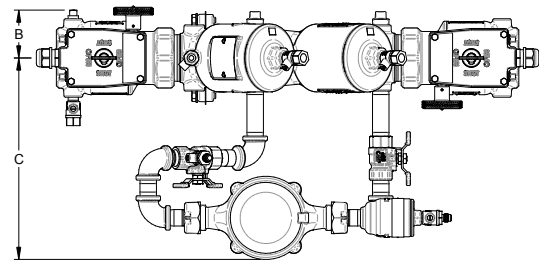
- Maximum Working Pressure: 175 psi
- Temperature Range: 33° to 140°F
- Hydrostatic Test Pressure: 350 psi

#### APPROVALS

- ASSE 1047 (Horizontal)
- UL Classified (Horizontal)
- C-UL Classified (Horizontal)
- Approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California. (Horizontal)
- NSF/ANSI 61 Water Quality (4ALF only)
- NSF/ANSI 372 Lead Free (4ALF only)

#### PART NUMBER MATRIX

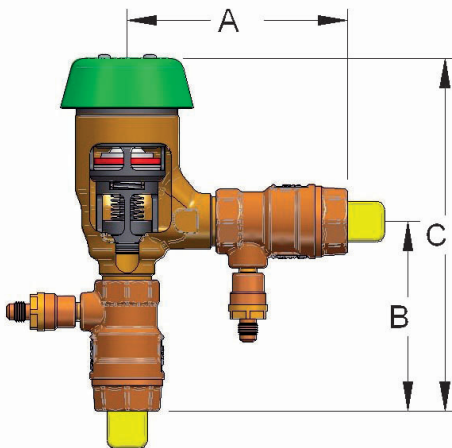
4A X	7 X	X	X 2ST
	BYPASS SIDE	SIZE	METER OPTION
4A - STANDARD	2 - BYPASS LINE ON RIGHT SIDE (STANDARD - AS SHOWN)	7 - 1-1/2"	C - CUBIC FEET/MIN
4ALF - LEAD FREE	4 - BYPASS LINE ON LEFT SIDE	8 - 2"	E - GPM G - NO METER





**PVB 4A / PVBLF 4A SERIES**

**FREEZE RESISTANT PRESSURE VACUUM BREAKER BACKFLOW PREVENTER**



The Apollo® Model PVB 4A or PVBLF 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. Ball valves with stainless steel handles and nuts are standard.

**FEATURES**

- Modular Captured Spring Cartridge Check Valve
- Low Pressure Loss
- Easy Maintenance
- Built-In Freeze Resistant Relief Valve
- Compact Yet Easy to Maintain
- Ball Valves w/SS Handles & Nuts Standard
- Testcocks Located for Easy Draining
- Threaded Testcock Protectors
- Corrosion Resistant
- 5 Year Warranty
- No Special Tools Required
- Lead Free Option (3/4" - 1")
- Unique Canopy Detachment

**PERFORMANCE RATING**

- Maximum Operating Pressure: 150 psi
- Design Pressure: 300 psi
- Temperature Range: 33° to 140°F

**APPROVALS**

- 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
- NSF/ANSI 372 Lead Free (4ALF only)

**STANDARD MATERIALS LIST**

<b>BODY</b>	Bronze (C84400/LF C89836)
<b>BALL VALVES, TESTCOCKS</b>	Bronze (C84800/LF C87800)
<b>CANOPY</b>	UV Resistant ABS
<b>BONNET</b>	Glass-Filled PPO
<b>CHECK VALVE CARTRIDGE</b>	Glass-Filled PPO
<b>SPRINGS</b>	Stainless Steel
<b>SEAT DISCS</b>	Chloramine-Resistant Silicone
<b>FLOAT</b>	Glass-Filled Polypropylene
<b>O-RINGS</b>	Chloramine-Resistant EPDM
<b>BALL VALVE HANDLES</b>	Stainless Steel

Contact local water authorities for installation/service requirements.

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**DIMENSIONS**

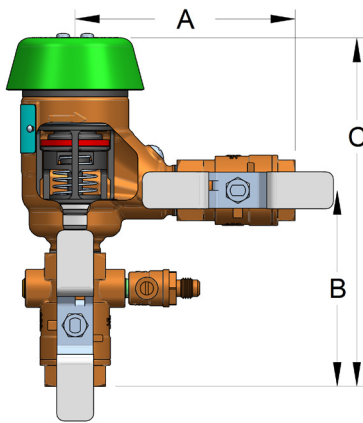
PART NO.	MODEL NO.	DIMENSIONS (IN.) (MM)				WEIGHT	
		SIZE	A	B	C	LB.	KG.
4A-503-A2	PVB4A12	1/2" (15)	4-1/2 (114)	3-3/4 (95)	7-1/4 (184)	2.9	1.3
4A-504-A2	PVB4A34	3/4" (20)	4-3/4 (121)	4-1/8 (105)	7-5/8 (194)	3.0	1.4
4A-505-A2	PVB4A1	1" (25)	5-3/8 (135)	4-5/8 (194)	8-3/8 (211)	4.2	1.9
4A-506-A2	PVB4A114	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

**PART NUMBER MATRIX**

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	LL - LOCKING LEVER HANDLES (3/4" - 2")
	5 - 1"	(3/4" AND 1" ONLY)	
	6 - 1-1/4"		
	7 - 1-1/2"		
	8 - 2"		



**SVB 4A / SVBLF 4A SERIES**  
**SPILL RESISTANT VACUUM BREAKER BACKFLOW PREVENTER**



The Apollo<sup>®</sup> Series SVB 4A or SVBLF 4A 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.

**FEATURES**

- Modular Captured Spring Check Valve
- Shut-Off Valves w/ Stainless Steel Handles and Nuts
- Threaded Testcock Protectors
- Designed For Easy Maintenance
- Lead-Free Options
- Low Head Loss
- Corrosion Resistant
- 5 Year Warranty
- Unique Canopy Detachment
- No Special Tools Required
- **Designed, Manufactured, Assembled and Tested in the USA**

**PERFORMANCE RATING**

- Maximum Operating Pressure: 150 psi
- Temperature Range: 33° to 180°F

**APPROVALS**

- ASSE 1056
- NSF/ANSI 372 Lead Free (4ALF only)

**STANDARD MATERIALS LIST**

<b>BODY</b>	Bronze C84400 or C89836 Lead Free*
<b>BALL VALVES, TEST COCKS</b>	Bronze C84400 or C87800 Lead Free*
<b>CANOPY</b>	UV-Resistant ABS
<b>BONNET</b>	Glass-Filled PPO
<b>CHECK VALVE CARTRIDGE</b>	Glass-Filled PPO
<b>SPRINGS</b>	Stainless Steel
<b>SEAT DISCS</b>	Chloramine-resistant Silicone
<b>FLOAT</b>	Glass-Filled PPO
<b>O-RINGS</b>	Chloramine-resistant EPDM

*Flow Curves - Page 65*

**DIMENSIONS**

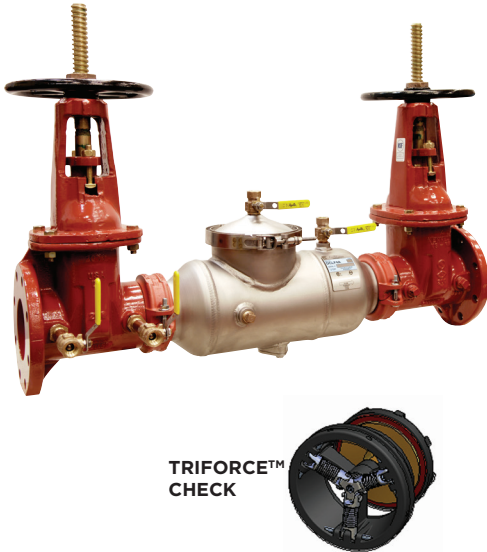
PART NO.	LEAD FREE PART NO.	MODEL NO.	LEAD FREE MODEL NO.	DIMENSIONS (IN.) (MM)				WEIGHT	
				SIZE	A	B	C	LB.	KG.
4A-904-A2F	4ALF-904-A2F	SVB4A34	SVBLF4A34	3/4" (20)	4-1/2 (121)	4 (105)	7-1/4 (194)	3.0	1.4
4A-905-A2F	4ALF-905-A2F	SVB4A1	SVBLF4A1	1" (25)	5-3/8 (135)	4-3/4 (194)	8-1/8 (211)	4.2	1.9

**PART NUMBER MATRIX**

4A [XX]	90 X	XX	X
	SIZE	SHUT-OFF VALVES	
4A - NON-LEAD FREE	4 - 3/4"	A2 - W/BALL VALVES (STANDARD)	F - SAE THREADED TEST COCKS (STANDARD)
4ALF - LEAD FREE*	5 - 1"	A4 - W/UNION END BALL VALVES	LL - LOCKING LEVER HANDLES



## DCLF 4A SERIES DOUBLE CHECK VALVE BACKFLOW PREVENTER ASSEMBLY



TRIFORCE™  
CHECK

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 Approval Laboratory
- Center Stem Guided TriForce™ Check Valves
- Approved for Horizontal and Vertical Up Flow
- Chloramine-Resistant Elastomers
- Lead Free Standard
- US Patent Nos.: 6,443,184; 7,025,085; 7,533,699
- **Designed, Fabricated, Assembled and Tested in the USA**
- 5 Year Warranty

### APPROVALS

- 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
- NSF/ANSI 372 Lead Free

### PERFORMANCE RATING

- Maximum Working Pressure: 175 psi
- Temperature Range: 33° to 140°F, 180°F Intermittent

### STANDARD MATERIALS LIST

<b>BODY (2-1/2" - 8")</b>	304 Stainless Steel
<b>BODY (10" &amp; 12")</b>	FDA Epoxy Coated Ductile Iron
<b>COVERS (2-1/2" - 6")</b>	Glass Filled PPO/SS
<b>COVERS (8")</b>	304 Stainless Steel
<b>COVERS (10" &amp; 12")</b>	FDA Epoxy Coated Ductile Iron
<b>CHECK VALVES</b>	Bronze/Glass-Filled PPO/SS
<b>SPRINGS</b>	Stainless Steel
<b>SEAT DISCS</b>	Chloramine-Resistant Silicone

Flow Curves - Page 56

### PART NUMBER MATRIX

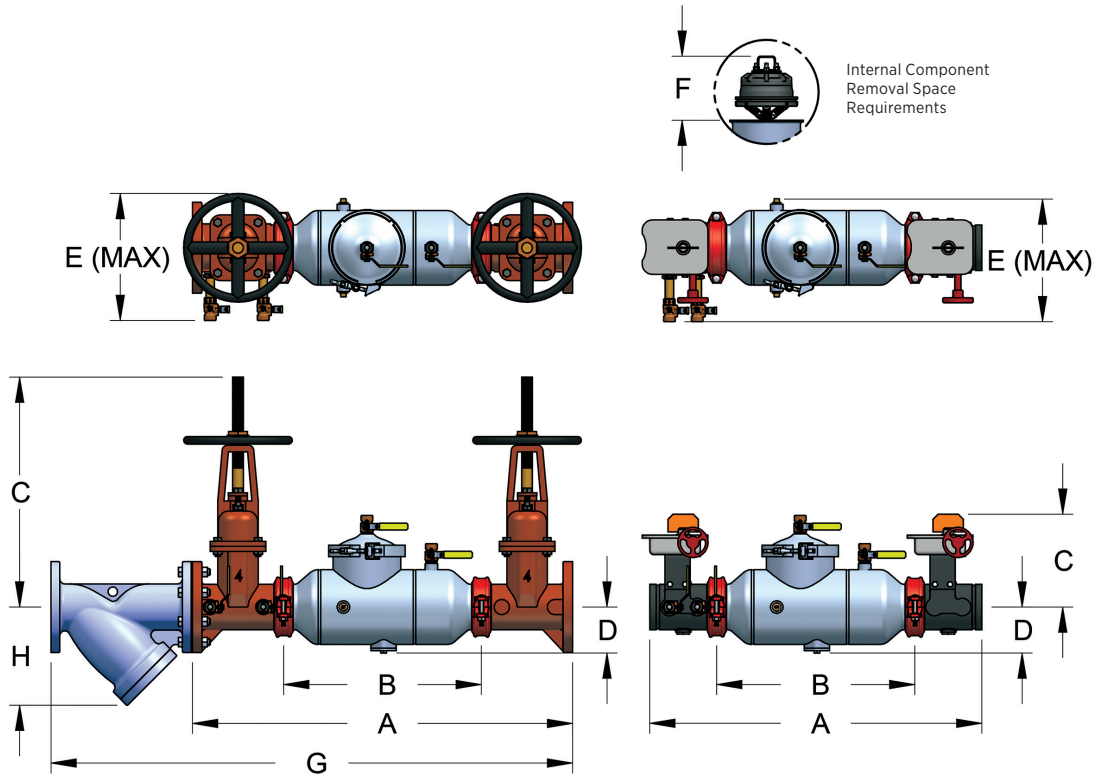
4ALF	1X	X	XX	XX
	Y-STRAINER	SIZE	SHUT-OFF VALVES (INLET X OUTLET)	OPTIONS
4ALF - LEAD FREE STANDARD	0 - STANDARD	9 - 2-1/2"	01 - LESS SHUT-OFF VALVES	D - DOMESTIC ASSEMBLY
	1 - W/Y-STRAINER (SHIPPED LOOSE)	0 - 3"	02 - NRS FLANGE X NRS FLANGE	R1 - RETROFIT*
		A - 4"	03 - OS&Y FLANGE X OS&Y FLANGE	R2 - RETROFIT*
		C - 6"	04 - OS&Y FLANGE X MONITORED (MON.) BUTTERFLY VALVE GROOVE†	R3 - RETROFIT*
		E - 8"	06 - OS&Y FLANGE X POST INDICATOR FLANGE**	
		G - 10"	07 - OS&Y FLANGE X OS&Y GROOVE	
		H - 12"	08 - OS&Y GROOVE X OS&Y GROOVE	
			09 - MON. BUTTERFLY VALVE GROOVE X MON. BUTTERFLY VALVE GROOVE†	
			10 - OS&Y FLANGE X POST INDICATOR GROOVE**	
			11 - NRS GROOVE X NRS GROOVE	
			12 - NRS FLANGE X NRS GROOVE	
			13 - POST INDICATOR FLANGE X MON. BUTTERFLY VALVE GROOVE†	
			14 - POST INDICATOR FLANGE X POST INDICATOR FLANGE	
			16 - MON BUTTERFLY VALVE GROOVE X POST INDICATOR FLANGE†	
			17 - POST INDICATOR FLANGE X OS&Y GROOVE	
			18 - OS&Y GROOVE X POST INDICATOR GROOVE	
			19 - MON. BUTTERFLY VALVE GROOVE X POST INDICATOR GROOVE	
			20 - POST INDICATOR FLANGE X OS&Y FLANGE	
			21 - POST INDICATOR GROOVE X OS&Y GROOVE	
			22 - POST INDICATOR GROOVE X MON. BUTTERFLY VALVE GROOVE	
			23 - MON. BUTTERFLY VALVE GROOVE X OS&Y FLANGE	

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)





**DCLF 4A SERIES**  
DOUBLE CHECK VALVE BACKFLOW PREVENTER ASSEMBLY

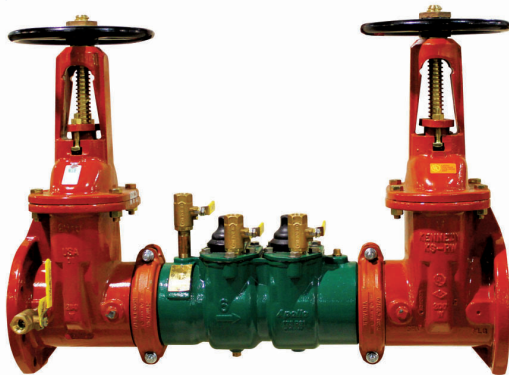


**DIMENSIONS**

SIZE	2-1/2"	65 MM	3"	80MM	4"	100MM	6"	150MM	8"	200MM	10"	250MM	12"	300MM
A (Butterfly Valves)	28	711	28.5	724	33.3	846	38.9	988	46.4	1179	56.3	1328	N/A	N/A
A (Gate Valves)	31	787	32	813	38	965	45.9	1166	53.4	1356	62.3	1582	65.5	1664
B (less Shut-off Valves)	15.9	404	15.9	404	19.6	498	24.5	622	30	762	36	914	37	940
C (Butterfly Valves)	8	203	8.4	213	9.1	231	10.1	257	12	305	13.4	340	N/A	N/A
C (NRS/PI Gate Valves)	11.8	300	13	330	14	356	17.8	452	21	533	24.5	622	30	762
C (OS&Y Open)	18.8	478	20.3	515	22.1	562	29.4	747	36.8	934	45.2	1147	52.2	1326
D (Centerline to Bottom)	3.9	99	3.9	99	4.6	117	6	152	8.1	206	11.8	300	12	305
E (Width Max)	10.5	267	11	279	12.5	318	14.4	366	17.6	447	21	533	22	559
F (Check Removal Clearance)	4.8	122	4.8	122	6.5	165	7.5	191	7.5	191	10	254	10	254
G (With Strainer)	41.9	1064	43.6	1107	52	1321	64.5	1638	78.9	2004	88.4	2245	95.6	2428
H (Strainer Clearance)	8	203	8.8	224	9.5	241	12.6	320	16.4	417	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 Shutoff Valves)	22	10	23	10	39	18	75	34	208	95	702	319	805	366
Ship Wt. (Less Shutoff Valves)	52	24	53	24	69	31	135	61	308	140	892	405	995	452
Net Wt. (w/ Butterfly Valves)	49	22	53	24	83	38	143	65	339	154	920	418	N/A	N/A
Ship Wt. (w/ Butterfly Valves)	133	60	137	62	147	67	231	105	487	221	1110	505	N/A	N/A
Net Wt. (w/ NRS Valves)	76	35	94	43	137	62	258	117	525	239	1209	550	1665	757
Ship Wt. (w/ NRS Valves)	160	73	178	81	222	101	346	157	673	306	1399	636	1855	843
Net Wt. (w/ OS&Y Valves)	94	43	110	50	165	75	317	144	600	273	1324	602	1780	809
Ship Wt. (w/ OS&Y Valves)	178	81	194	88	253	115	406	185	748	340	1514	688	1970	895

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

## DC 4SGLF / 4SG / 4S SERIES DOUBLE CHECK VALVE BACKFLOW PREVENTER ASSEMBLY



The Apollo® DC 4SGLF / 4SG / 4S 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 (2-1/2" - 8"), flanged (10" only).

### 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 (2-1/2" - 6" only)
- Corrosion Resistant Epoxy-Coated Ductile Iron Body
- US Patents Nos.: 5,711,341 and 6,343,618
- 5 Year Warranty
- **Assembled and Tested in the USA**

### APPROVALS

- ASSE 1015
- CSA
- Approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California (2-1/2"-6" Lead Free / 8" & 10" Non-Lead Free Only)
- AWWA C-510
- UL Classified
- FM Approved
- NSF/ANSI 372 Lead Free (4SGLF only)

### STANDARD MATERIALS LIST

<b>BODY</b>	FDA Epoxy Coated Ductile Iron
<b>COVERS (2-1/2" - 6")</b>	FDA Epoxy Coated Steel
<b>COVERS (8" &amp; 10")</b>	FDA Epoxy Coated Ductile Iron
<b>CHECK VALVES (2-1/2" - 6")</b>	Glass-Filled PPO
<b>CHECK VALVES (8" &amp; 10")</b>	Bronze (C84400/LF C89836)
<b>SPRINGS</b>	Stainless Steel
<b>SEAT DISCS</b>	Chloramine-Resistant EPDM
<b>TEST COCK HANDLES</b>	Stainless Steel

### PERFORMANCE RATING

- Maximum Working Pressure: 175 psi
- Temperature Range: 33°F - 140°F
- Hydrostatic Test Pressure: 350 psi

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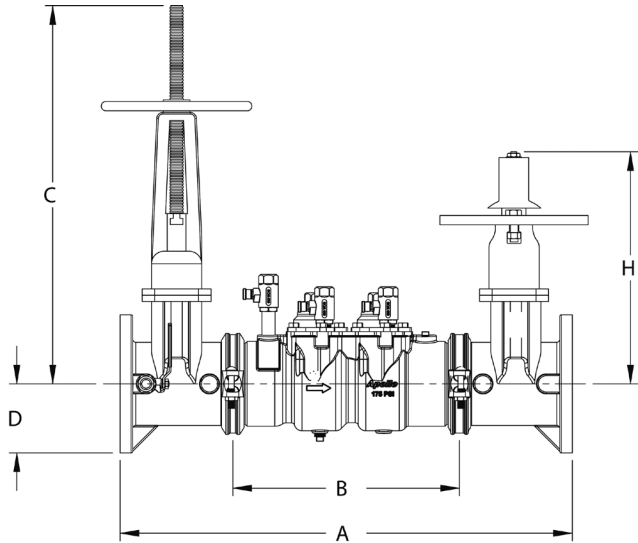
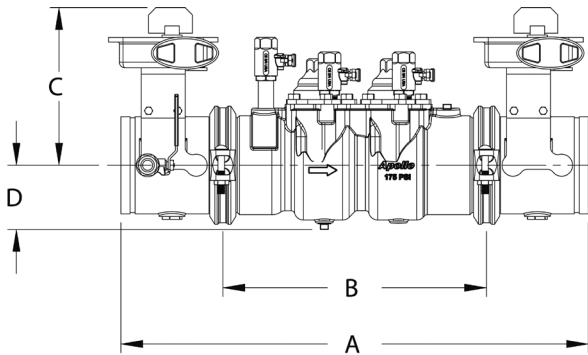
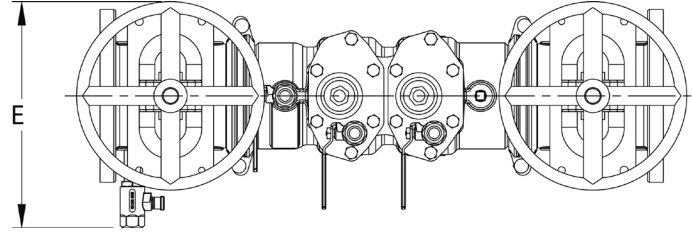
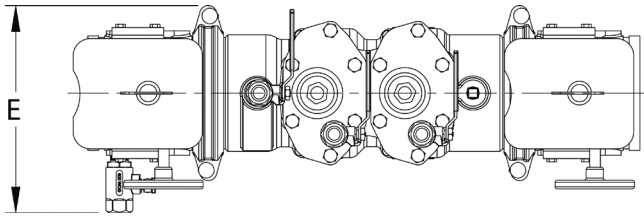
### PART NUMBER MATRIX

4S XXX	1 X	X	XX	X
	Y-STRAINER	SIZE	SHUT-OFF VALVES (INLET X OUTLET)	OPTIONS
4SGLF - LEAD FREE (2-1/2"-6" ONLY)	0 - NONE (STANDARD) 1 - WITH Y-STRAINER (FLANGED ONLY, SHIPPED LOOSE)	9 - 2-1/2" 0 - 3" A - 4" C - 6" E - 8" G - 10"	01 - LESS SHUT-OFF VALVES (GROOVED-END BODY) 02 - NRS FLANGE X NRS FLANGE 03 - OS&Y FLANGE X OS&Y FLANGE 04 - OS&Y FLANGE X MONITORED BUTTERFLY VALVE GROOVE 06 - OS&Y FLANGE X FLANGE POST INDICATOR 07 - OS&Y FLANGE X OS&Y GROOVE 08 - OS&Y GROOVE X OS&Y GROOVE 09 - MON. BUTTERFLY VALVE GROOVE X MON. BUTTERFLY VALVE GROOVE 10 - OS&Y FLANGE X GROOVE POST INDICATOR	D - DOMESTIC ASSEMBLY
4SG - 8" ONLY				
4S - 10" ONLY				
<b>EXAMPLE:</b> 4SGLF 10A 07 = 4" size lead free double check valve assembly with OS&Y flanged inlet x OS&Y grooved outlet shut-off valves				

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



**DC 4SGLF / 4SG / 4S SERIES**  
DOUBLE CHECK VALVE BACKFLOW PREVENTER ASSEMBLY



**DIMENSIONS**

MODEL NO. PART 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)	18.8	478	20.3	515	22.1	562	29.4	747	36.8	934	45.8	1147
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)	11.5	292	12	305	12.5	318	14.6	366	17.6	447	21	533
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	13	1/2	13	1/2	13	3/4	20	3/4	20	3/4	20
<b>WEIGHTS</b>	<b>LB.</b>	<b>KG.</b>	<b>LB.</b>	<b>KG.</b>	<b>LB.</b>	<b>KG.</b>	<b>LB.</b>	<b>KG.</b>	<b>LB.</b>	<b>KG.</b>	<b>LB.</b>	<b>KG.</b>
Net Wt. (Less Shutoff Valves)	53	24	53	24	53	24	60	27	375	170	470	N/A
Ship Wt. (Less Shutoff Valves)	83	38	83	38	83	38	120	55	475	216	570	N/A
Net Wt. (w/ Butterfly Valves)	80	36	83	38	97	44	128	58	506	230	N/A	N/A
Ship Wt. (w/ Butterfly Valves)	164	75	168	76	185	84	216	98	654	297	N/A	N/A
Net Wt. (w/ Post Indicator Valves)	67	30	124	56	148	67	208	95	692	315	997	453
Ship Wt. (w/ Post Indicator Valves)	151	69	209	95	236	107	296	135	840	382	1167	530
Net Wt. (w/ OS&Y Valves)	125	57	140	64	179	81	303	138	767	349	1092	496
Ship Wt. (w/ OS&Y Valves)	209	95	225	102	264	120	391	178	915	416	1282	583

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



**DCLF 4An SERIES**

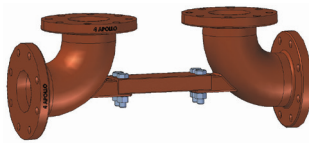
**n STYLE DOUBLE CHECK VALVE BACKFLOW PREVENTER ASSEMBLY**



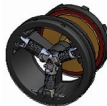
n FLOW



OPTIONAL VALVE SETTER



TRIFORCE™ CHECK



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 Approval Laboratory
- Center Stem Guided TriForce™ Check Valves
- Lead-Free Standard
- Small Installation Space Required - Small Footprint
- Chloramine-Resistant Elastomers
- Optional Valve Setters Eliminate Need for Thrust Blocks
- US Patent Nos: 6,443,184; 7,025,085; 7,533,699
- 5 year Warranty
- **Designed, Fabricated, Assembled and Tested in the USA**

**APPROVALS**

- 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
- NSF/ANSI 372 Lead Free

**PERFORMANCE RATING**

- Maximum Working Pressure: 175 psi
- Temperature Range: 33° to 140°F, 180°F Intermittent

**STANDARD MATERIALS LIST**

<b>BODY (2-1/2" - 8")</b>	304 Stainless Steel
<b>BODY (10" &amp; 12")</b>	FDA Epoxy Coated Ductile Iron
<b>COVERS (2-1/2" - 6")</b>	Glass Filled PPO/SS
<b>COVERS (8")</b>	304 Stainless Steel
<b>COVERS (10" &amp; 12")</b>	FDA Epoxy Coated Ductile Iron
<b>CHECK VALVES</b>	Bronze/Glass-Filled PPO/SS
<b>SPRINGS</b>	Stainless Steel
<b>SEAT DISCS</b>	Chloramine-Resistant Silicone

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**PART NUMBER MATRIX**

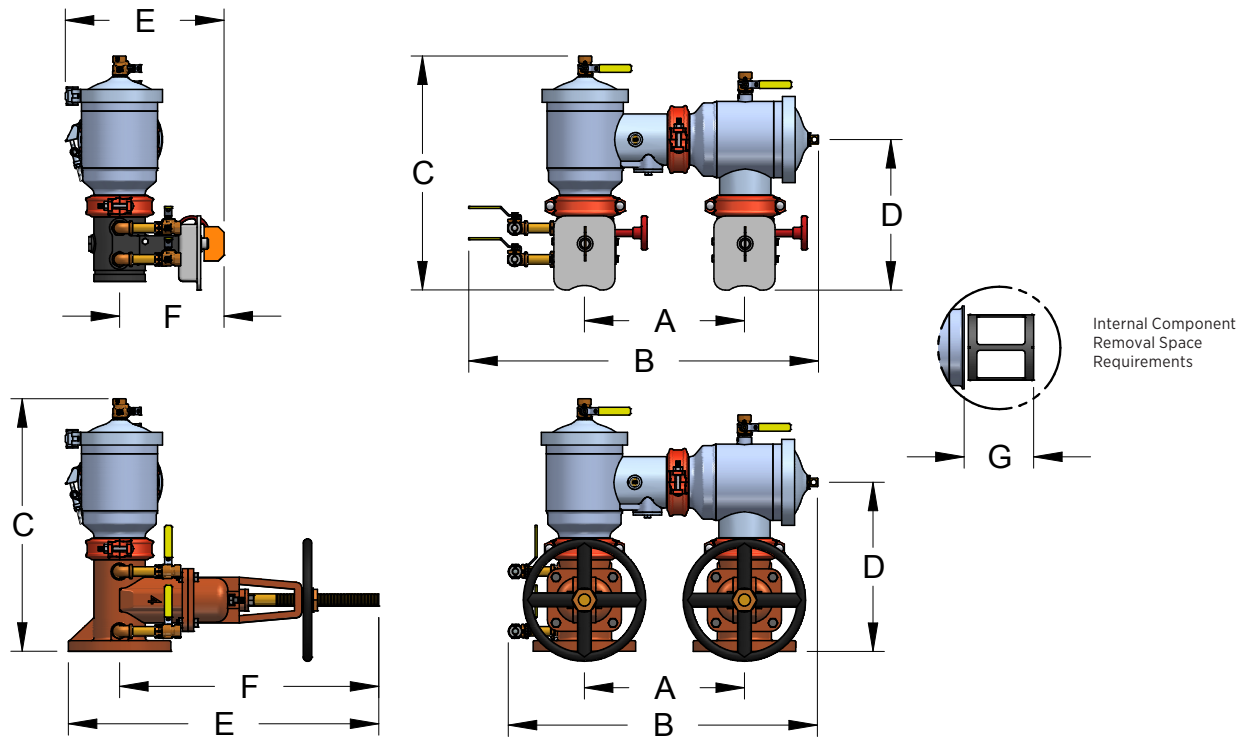
4ANLF	1X	X	XX	X
	Y-STRAINER	SIZE	SHUT-OFF VALVES (INLET X OUTLET)	OPTIONS
4ANLF - LEAD FREE STANDARD	0 - STANDARD 1 - W/ Y-STRAINER (SHIPPED LOOSE)	9 - 2-1/2" 0 - 3" A - 4" C - 6" E - 8" G - 10" H - 12"	01 - LESS SHUT-OFF VALVES 02 - NRS FLANGE X NRS FLANGE 03 - OS&Y FLANGE X OS&Y FLANGE 04 - OS&Y FLANGE X MONITORED (MON.) BUTTERFLY VALVE GROOVE 06 - OS&Y FLANGE X POST INDICATOR FLANGE 07 - OS&Y FLANGE X OS&Y GROOVE 08 - OS&Y GROOVE X OS&Y GROOVE 09 - MON. BUTTERFLY VALVE GROOVE X MON. BUTTERFLY VALVE GROOVE 10 - OS&Y FLANGE X POST INDICATOR GROOVE 11 - NRS GROOVE X NRS GROOVE 12 - NRS FLANGE X NRS GROOVE 13 - POST INDICATOR FLANGE X MON. BUTTERFLY VALVE GROOVE 14 - POST INDICATOR FLANGE X POST INDICATOR FLANGE 16 - MON BUTTERFLY VALVE GROOVE X POST INDICATOR FLANGE 17 - POST INDICATOR FLANGE X OS&Y GROOVE 18 - OS&Y GROOVE X POST INDICATOR GROOVE 19 - MON. BUTTERFLY VALVE GROOVE X POST INDICATOR GROOVE 20 - POST INDICATOR FLANGE X OS&Y FLANGE 21 - POST INDICATOR GROOVE X OS&Y GROOVE 22 - POST INDICATOR GROOVE X MON. BUTTERFLY VALVE GROOVE 23 - MON. BUTTERFLY VALVE GROOVE X OS&Y FLANGE	D - DOMESTIC ASSEMBLY

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)



**DCLF 4An SERIES**

**n STYLE DOUBLE CHECK VALVE BACKFLOW PREVENTER ASSEMBLY**



**DIMENSIONS**

SIZE	2 1/2"	65 MM	3"	80MM	4"	100MM	6"	150MM	8"	200MM	10"	250MM	12"	300MM
A (Centerline to Centerline)	12.5	318	12.5	318	14	356	16	406	18.5	470	21	533	26.8	681
B (Lay Length Space - Butterfly Valves)	27.5	699	27.5	699	30.8	782	36	914	37.4	950	43	1092	N/A	N/A
B (Lay Length Space - Gate Valves)	24.5	622	24.5	622	27	686	32	813	40.8	1036	49	1245	55.8	1417
C (Butterfly Valves - Flange to Top)	18.3	465	18.5	470	20	508	24.8	630	28.5	724	37	940	N/A	N/A
C (Gate Valves - Flange to Top)	19.6	498	20	508	22.5	572	27.8	706	32.1	815	40	1016	44	1118
D (Centerline to bottom Butterfly Valves)	11.5	292	11.8	300	13.3	338	15.4	391	17.9	455	19.8	503	N/A	N/A
D (Centerline to bottom Gate Valves)	13	330	13.5	343	14.9	378	18	457	21.4	544	24.8	630	28.8	732
E (Maximum Width - Butterfly Valves)	11.5	292	12.1	307	12.9	328	15.9	404	22.3	566	23.1	587	N/A	N/A
E (Maximum Width - NRS/PI Gate Valves)	15.6	396	16.9	429	18.6	472	23.8	605	29.1	739	36.3	922	40	1016
E (Maximum Width - OS&Y Valves Open)	22.3	575	24.2	614	26.6	679	34.4	875	44.9	1140	57.0	1447	61.9	1572
F (Centerline to Width - Butterfly Valves)	8	203	8.4	213	9	229	10.9	277	12.9	328	13.5	343	N/A	N/A
F (Centerline to Width - NRS/PI Gate Valves)	11.8	300	13	330	14	356	17.8	452	21	533	24.5	622	30	762
F (Centerline to Width - OS&Y Valves Open)	18.8	478	20.3	515	22.1	562	29.4	747	36.8	934	45.2	1147	52.2	1326
G (Check Removal Clearance)	6	152	6	152	6	152	8	203	8.5	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
<b>WEIGHTS</b>	<b>LB.</b>	<b>KG</b>	<b>LB.</b>	<b>KG</b>	<b>LB.</b>	<b>KG</b>	<b>LB.</b>	<b>KG</b>	<b>LB.</b>	<b>KG</b>	<b>LB.</b>	<b>KG</b>	<b>LB.</b>	<b>KG</b>
Net Wt. (Less Shutoff Valves)	30	14	30	14	39	18	74	34	305	139	785	357	910	413
Ship Wt. (Less Shutoff Valves)	60	27	60	27	79	36	134	61	405	184	975	443	1100	413
Net Wt. (w/ Butterfly Valves)	57	26	60	27	84	38	142	65	436	198	963	438	N/A	N/A
Ship Wt. (w/ Butterfly Valves)	118	54	121	55	145	66	222	101	571	260	1153	524	N/A	N/A
Net Wt. (w/ NRS/Post Indicator Valves)	84	38	101	46	134	61	257	117	757	344	1292	587	1770	805
Ship Wt. (w/ NRS/Post Indicator Valves)	145	66	162	74	192	87	337	153	892	405	1482	674	1960	891
Net Wt. (w/ OS&Y Valves)	102	46	117	53	165	75	316	144	697	317	1407	640	1885	857
Ship Wt. (w/ OS&Y Valves)	163	74	178	81	226	103	396	180	832	378	1597	726	2075	943

Nominal dimensions are shown. Allowances must be made for manufacturers' tolerances ( $\pm 1/8"$  (3 mm) per joint)  
 Internal body connections are grooved on 2-1/2" to 10" sizes.  
 Internal body connections are flanged on 12" size.



## DCDALF 4A / DCDA2LF 4A SERIES

### DOUBLE CHECK DETECTOR BACKFLOW PREVENTER ASSEMBLY



TYPE 1 BYPASS



TYPE 2 BYPASS

TRIFORCE™ CHECK



The Apollo® Model DCDALF 4A / DCDA2LF 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 bypass assembly serves to measure accurate water use of up to 2 GPM. Available in a wide variety of shut-off options.

Available in both Type 1 and Type 2 bypass configurations. 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 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 Approval Laboratory
- Center Stem Guided Triforce™ Check Valves
- Approved for Horizontal and Vertical Up Flow
- Chloramine-Resistant Elastomers
- Lead-Free Standard
- US Patent Nos.: 6,443,184; 7,025,085; 7,533,699
- **Designed, Fabricated, Assembled and Tested in the USA**
- 5 Year Warranty
- Optional Mounting of Bypass on Either Side for Ease of Installation

#### APPROVALS

- 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 (2-1/2" - 8" Type 1 & 2 Bypass)
- NSF/ANSI 372 Lead Free

#### PERFORMANCE RATING

- Maximum Working Pressure: 175 Psi
- Temperature Range: 33° to 140°F, 180°F Intermittent

#### STANDARD MATERIALS LIST

<b>BODY (2-1/2" - 8")</b>	304 Stainless Steel
<b>BODY (10" &amp; 12")</b>	FDA Epoxy Coated Ductile Iron
<b>COVERS (2-1/2" - 6")</b>	Glass Filled PPO/SS
<b>COVERS (8")</b>	304 Stainless Steel
<b>COVERS (10" &amp; 12")</b>	FDA Epoxy Coated Ductile Iron
<b>CHECK VALVES</b>	Bronze/Glass-Filled PPO/SS
<b>SPRINGS</b>	Stainless Steel
<b>SEAT DISCS</b>	Chloramine-Resistant Silicone

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#### PART NUMBER MATRIX

4ALF	6 X	X	X	XX	X
	BYPASS SUB-ASSEMBLY OPTIONS	SIZE	METER OPTION	SHUT-OFF VALVES (INLET X OUTLET)	OPTIONS
4ALF - LEAD FREE	0 - TYPE 1 W/ 1/2" DOUBLE CHECK	9 - 2-1/2"	C - CUBIC FEET/MIN	01 - LESS SHUT-OFF VALVES	D - DOMESTIC ASSEMBLY
	2 - TYPE 2 W/1/2" SINGLE CHECK (STD)	0 - 3"	E - GALLONS/MIN	03 - OS&Y FLANGE X OS&Y FLANGE	
	3 - TYPE 1 W/ BYPASS ON LEFT*	A - 4"	G - LESS METER	04 - OS&Y FLANGE X MONITORED (MON.) BUTTERFLY VALVE GROOVE'	R1 - RETROFIT*
	4 - TYPE 2 W/ BYPASS ON LEFT*	C - 6"		06 - OS&Y FLANGE X POST INDICATOR FLANGE	R2 - RETROFIT*
		E - 8"		07 - OS&Y FLANGE X OS&Y GROOVE	R3 - RETROFIT*
		G - 10"		08 - OS&Y GROOVE X OS&Y GROOVE	
		H - 12"		09 - MON. BUTTERFLY VALVE GROOVE X MON. BUTTERFLY VALVE GROOVE'	
				10 - OS&Y FLANGE X POST INDICATOR GROOVE	*CUSTOM LENGTH RETROFIT ORDERS MUST BE ACCOMPANIED WITH SIGNED FROM #OFFRETRO WITH EXACT LENGTH REQUIRED.
				13 - POST INDICATOR FLANGE X MON. BUTTERFLY VALVE GROOVE'	
				14 - POST INDICATOR FLANGE X POST INDICATOR FLANGE	
				16 - MON BUTTERFLY VALVE GROOVE X POST INDICATOR FLANGE'	
				17 - POST INDICATOR FLANGE X OS&Y GROOVE	
				18 - OS&Y GROOVE X POST INDICATOR GROOVE	
				19 - MON. BUTTERFLY VALVE GROOVE X POST INDICATOR GROOVE	
				20 - POST INDICATOR FLANGE X OS&Y FLANGE	
				21 - POST INDICATOR GROOVE X OS&Y GROOVE	
				22 - POST INDICATOR GROOVE X MON. BUTTERFLY VALVE GROOVE'	
				23 - MON. BUTTERFLY VALVE GROOVE X OS&Y FLANGE	

**EXAMPLE:**

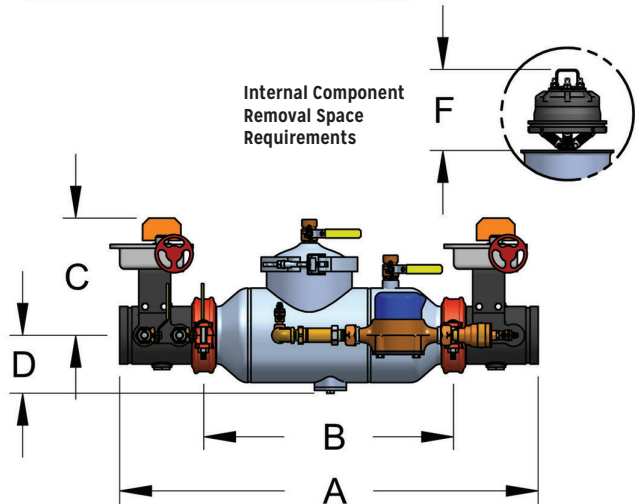
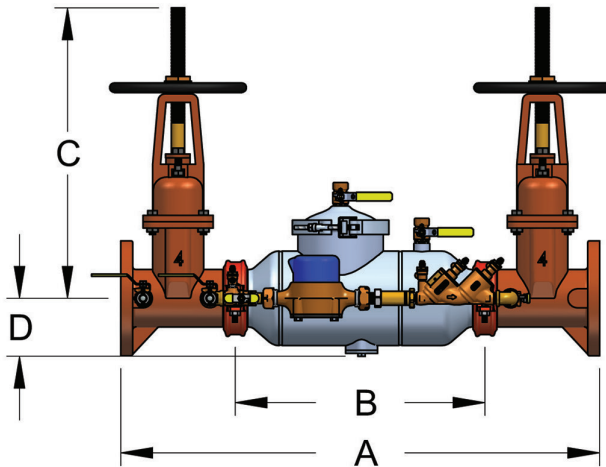
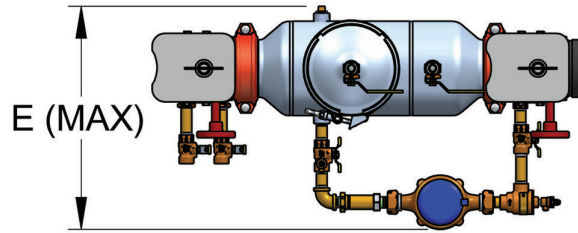
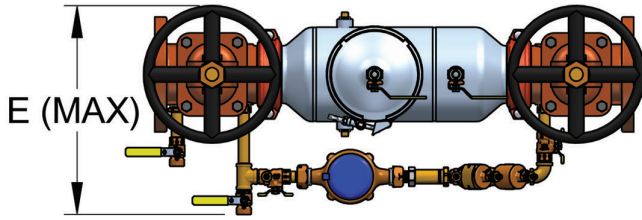
4ALF 60A E3 = 4" size lead free double check detector assembly with OS&Y flanged inlet x OS&Y flanged outlet shut-off valves w/ meter in gallons.

\*Orientation of bypass looking downstream.

Standard is right hand side. Left hand is on opposite side

\*Butterfly valves not available in 12" size.

**DCDALF 4A / DCDA2LF 4A SERIES**  
DOUBLE CHECK DETECTOR BACKFLOW PREVENTER ASSEMBLY



**TYPE 1 BYPASS**

**TYPE 2 BYPASS**

**DIMENSIONS**

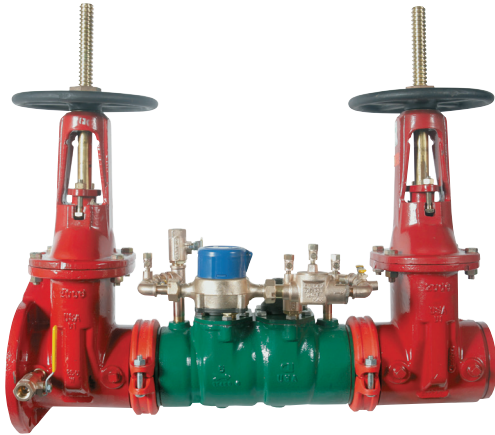
SIZE	2 1/2"	65 MM	3"	80MM	4"	100MM	6"	150MM	8"	200MM	10"	250MM	12"	300MM
A (Butterfly Valves)	28	711	28.5	724	33.3	846	38.9	988	46.4	1179	56.3	1328	N/A	N/A
A (Gate Valves)	31	787	32	813	38	965	45.9	1166	53.4	1356	62.3	1582	65.5	1664
B (less Shut-off Valves)	15.9	404	15.9	404	19.6	498	24.5	622	30	762	36	914	37	940
C (Butterfly Valves)	8	203	8.4	213	9.1	231	10.1	257	12	305	13.4	340	N/A	N/A
C (NRS/PI Gate Valves)	11.8	300	13	330	14	356	17.8	452	21	533	24.5	622	30	762
C (OS&Y Open)	18.8	478	20.3	515	22.1	562	29.4	747	36.8	934	45.2	1147	52.2	1326
D (Centerline to Bottom)	3.9	99	3.9	99	4.6	117	6	152	8.1	206	11.8	300	12	305
E (Width Max)	17	432	17	432	17	432	20	508	21.5	546	26.5	673	26.5	673
F (Check Removal Clearance)	4.8	122	4.8	122	6.5	165	7.5	191	7.5	191	10	254	10	254
Test Cocks (NPT)	1/2"	13	1/2"	13	1/2"	13	3/4"	20	3/4"	20	3/4"	20	3/4"	20
<b>WEIGHTS</b>	<b>LB.</b>	<b>KG</b>	<b>LB.</b>	<b>KG</b>	<b>LB.</b>	<b>KG</b>	<b>LB.</b>	<b>KG</b>	<b>LB.</b>	<b>KG</b>	<b>LB.</b>	<b>KG</b>	<b>LB.</b>	<b>KG</b>
Net Wt. (w/ Butterfly Valves)	64	29	68	31	98	45	158	72	354	161	940	427	N/A	N/A
Ship Wt. (w/ Butterfly Valves)	88	40	92	42	183	83	248	113	502	228	1130	514	N/A	N/A
Net Wt. (w/ Post Indicator Valves)	94	43	109	50	149	68	273	124	540	245	1229	559	1685	766
Ship Wt. (w/ Post Indicator Valves)	178	81	193	88	234	106	361	164	688	313	1419	645	1875	852
Net Wt. (w/ OS&Y Valves)	109	50	125	57	180	82	333	151	615	280	1343	610	1800	818
Ship Wt. (w/ OS&Y Valves)	193	88	209	95	265	120	421	191	763	347	1533	697	1990	905

Nominal dimensions are shown. Allowances must be made for manufacturers' tolerances ( $\pm 1/8"$  (3 mm) per joint)  
Internal body connections are grooved on 2-1/2" to 10" sizes.  
Internal body connections are flanged on 12" size.



**DCDA 4SG SERIES**

**DOUBLE CHECK DETECTOR BACKFLOW PREVENTER ASSEMBLY**



The Apollo<sup>®</sup> 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. (2-1/2" - 8")

**FEATURES**

- Lightweight
- Short Lay Length
- Low Pressure Loss
- Modular Check Valves
- Individual Access to Check Calves
- Reversible/Replaceable Seat Discs
- Approved for Vertical and Horizontal Installations
- Gate Valves Epoxy Coated (FDA)
- Corrosion Resistant FDA Epoxy Coated Ductile Iron Body
- US Patents Nos.: 5,711,341 and 6,343,618
- 5 Year Warranty
- **Assembled and Tested in the USA**

**APPROVALS**

- 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

**PERFORMANCE RATING**

- Maximum Working Pressure: 175 psi
- Temperature Range: 33°F - 140°F
- Hydrostatic Test Pressure: 350 psi

**STANDARD MATERIALS LIST**

<b>BODY (MAINLINE)</b>	FDA Epoxy Coated Ductile Iron
<b>BYPASS DC</b>	Bronze (C84400/LF C89836)
<b>COVERS (2-1/2" - 6")</b>	FDA Epoxy Coated Steel
<b>COVERS (8")</b>	FDA Epoxy Coated Ductile Iron
<b>CHECK VALVES (2-1/2" - 6")</b>	Glass-Filled PPO
<b>CHECK VALVES (8" - 10")</b>	Bronze (C8440)
<b>SPRINGS</b>	Stainless Steel
<b>SEAT DISCS</b>	Chloramine-Resistant EPDM
<b>TEST COCK HANDLES</b>	Stainless Steel

**Flow Curves - Page 58**

**PART NUMBER MATRIX**

4S X	60 X	X	XX	X
	SIZE	METER OPTION	SHUT-OFF VALVES (INLET X OUTLET)	OPTION
4SG - STANDARD (2-1/2"-8" ONLY)	9 - 2-1/2"	C - CUBIC FEET/MIN	03 - OS&Y FLANGE X OS&Y FLANGE	D - DOMESTIC ASSEMBLY
4S - 10" ONLY	0 - 3"	E - GALLONS/MIN	04 - OS&Y FLANGE X MONITORED BUTTERFLY VALVE GROOVE	
	A - 4"	G - LESS METER	06 - OS&Y FLANGE X FLANGE POST INDICATOR	
	C - 6"		07 - OS&Y FLANGE X OS&Y GROOVE	
	E - 8"		08 - OS&Y GROOVE X OS&Y GROOVE	
	G - 10"		09 - MON. BUTTERFLY VALVE GROOVE X MON. BUTTERFLY VALVE GROOVE	
			10 - OS&Y FLANGE X GROOVE POST INDICATOR	

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

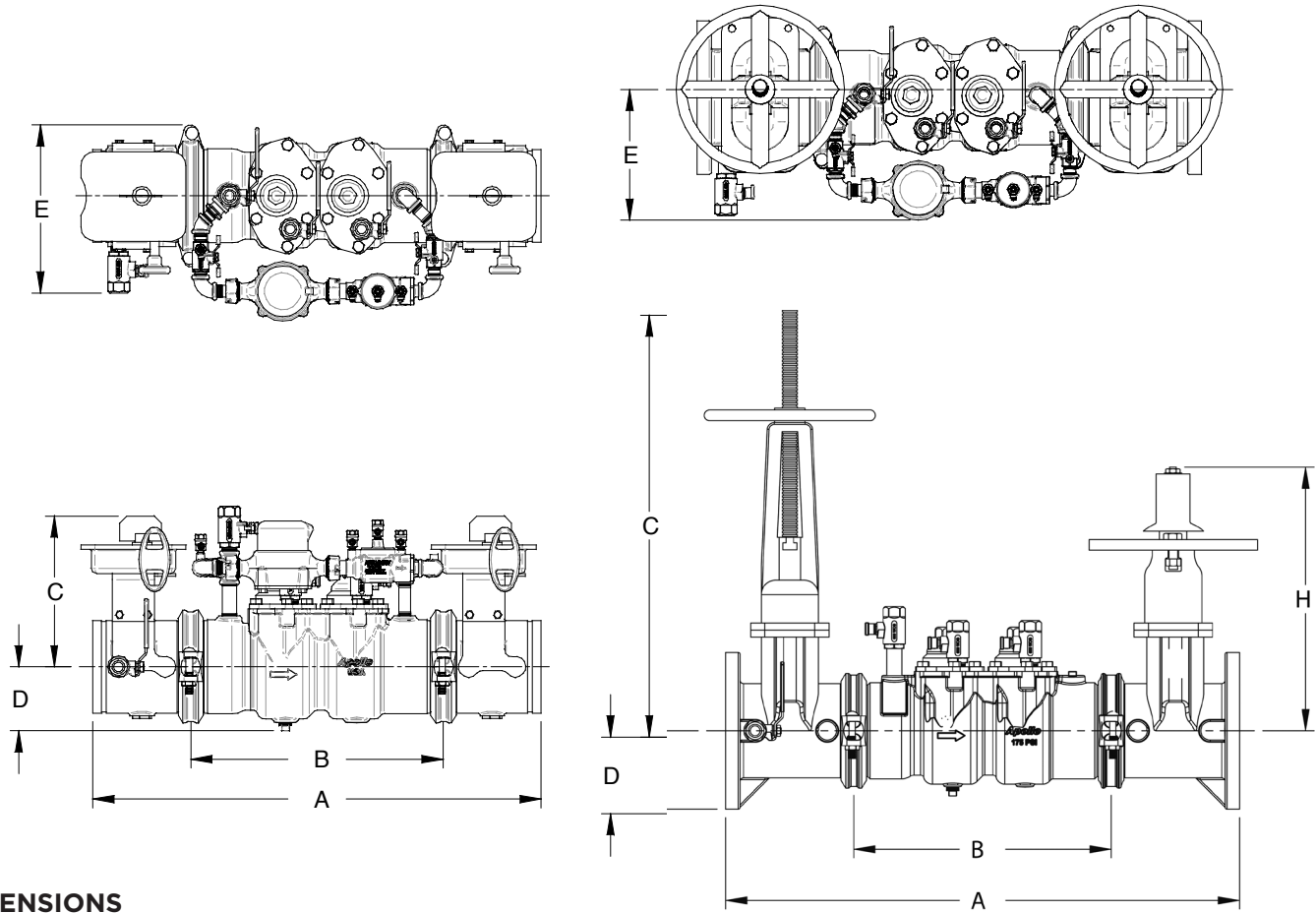
**EXAMPLE:**  
 4SG 60A E7 = 4" size double check detector assembly with meter in GPM and OS&Y flanged inlet x OS&Y grooved outlet shut-off valves





### DCDA 4SG SERIES

### DOUBLE CHECK DETECTOR BACKFLOW PREVENTER ASSEMBLY



### DIMENSIONS

MODEL NO. PART 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)	18.8	478	20.3	515	22.1	562	29.4	747	37.8	934	45.8	1147
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
<b>WEIGHTS</b>	<b>LB.</b>	<b>KG.</b>	<b>LB.</b>	<b>KG.</b>	<b>LB.</b>	<b>KG.</b>	<b>LB.</b>	<b>KG.</b>	<b>LB.</b>	<b>KG.</b>	<b>LB.</b>	<b>KG.</b>
Net Wt. (w/ Butterfly Valves)	92	42	95	43	109	50	140	64	523	238	N/A	N/A
Ship Wt. (w/ Butterfly Valves)	175	80	179	81	270	123	304	138	691	314	N/A	N/A
Net Wt. (w/ Post Indicator Valves)	119	54	136	62	160	73	255	116	712	324	997	453
Ship Wt. (w/ Post Indicator Valves)	203	92	220	100	245	111	343	156	860	391	1187	540
Net Wt. (w/ OS&Y Valves)	137	62	152	69	191	87	315	143	787	358	1112	505
Ship Wt. (w/ OS&Y Valves)	221	100	236	107	276	125	403	183	935	425	1302	592

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

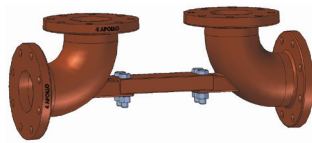


**DCDALF 4An / DCDA2LF 4An SERIES**

**n STYLE DOUBLE CHECK DETECTOR BACKFLOW PREVENTER ASSEMBLY**



**TYPE 2 BYPASS**



**OPTIONAL VALVE SETTER**



**TRIFORCE™ CHECK**

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.

Available in both Type 1 and Type 2 bypass configurations. 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 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 Approval Laboratory
- Center Stem Guided TriForce™ Check Valves
- 5 Year Warranty
- Small Installation Space Required - Small Footprint
- Chloramine-Resistant Elastomers
- Lead Free Standard
- Optional Valve Setters Eliminate Need for Thrust Blocks Below Grade
- US Patent Nos.: 6,443,184; 7,025,085; 7,533,699
- **Designed, Fabricated, Assembled and Tested in the USA**
- Optional Mounting of Bypass on either Side for Ease of Installation

**APPROVALS**

- 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 (2-1/2" - 8" Type 1 Bypass)
- FM Approved
- NSF/ANSI 372 Lead Free

**PERFORMANCE RATING**

- Maximum Working Pressure: 175 psi
- Temperature Range: 33° to 140°F, 180°F intermittent

**STANDARD MATERIALS LIST**

<b>BODY (2-1/2" - 8")</b>	304 Stainless Steel
<b>BODY (10" &amp; 12")</b>	FDA Epoxy Coated Ductile Iron
<b>COVERS (2-1/2" - 6")</b>	Glass Filled PPO/SS
<b>COVERS (8")</b>	304 Stainless Steel
<b>COVERS (10" &amp; 12")</b>	FDA Epoxy Coated Ductile Iron
<b>CHECK VALVES</b>	Bronze/Glass-Filled PPO/SS
<b>SPRINGS</b>	Stainless Steel
<b>SEAT DISCS</b>	Chloramine-Resistant Silicone

**Flow Curves - Page 60**

**PART NUMBER MATRIX**

4ANLF	6 X	X	X	XX	X
	BYPASS SUB-ASSEMBLY OPTIONS	SIZE	METER OPTION	SHUT-OFF VALVES (INLET X OUTLET)	OPTIONS
4ANLF - LEAD FREE	0 - TYPE 1 W/ 1/2" DOUBLE CHECK	9 - 2-1/2"	C - CUBIC FEET/MIN	01 - LESS SHUT-OFF VALVES	D - DOMESTIC ASSEMBLY
	2 - TYPE 2 W/1/2" SINGLE CHECK (STD)	0 - 3"	E - GALLONS/MIN	03 - OS&Y FLANGE X OS&Y FLANGE	
	3 - TYPE 1 W/ BYPASS ON LEFT*	A - 4"	G - LESS METER	04 - OS&Y FLANGE X MONITORED (MON.) BUTTERFLY VALVE GROOVE†	
	4 - TYPE 2 W/ BYPASS ON LEFT*	C - 6"		06 - OS&Y FLANGE X POST INDICATOR FLANGE	
		E - 8"		07 - OS&Y FLANGE X OS&Y GROOVE	
		G - 10"		08 - OS&Y GROOVE X OS&Y GROOVE	
		H - 12"		09 - MON. BUTTERFLY VALVE GROOVE X MON. BUTTERFLY VALVE GROOVE†	
				10 - OS&Y FLANGE X POST INDICATOR GROOVE	
				13 - POST INDICATOR FLANGE X MON. BUTTERFLY VALVE GROOVE†	
				14 - POST INDICATOR FLANGE X POST INDICATOR FLANGE	
				16 - MON BUTTERFLY VALVE GROOVE X POST INDICATOR FLANGE†	
				17 - POST INDICATOR FLANGE X OS&Y GROOVE	
				18 - OS&Y GROOVE X POST INDICATOR GROOVE	
				19 - MON. BUTTERFLY VALVE GROOVE X POST INDICATOR GROOVE	
				20 - POST INDICATOR FLANGE X OS&Y FLANGE	
				21 - POST INDICATOR GROOVE X OS&Y GROOVE	
				22 - POST INDICATOR GROOVE X MON. BUTTERFLY VALVE GROOVE†	
				23 - MON. BUTTERFLY VALVE GROOVE X OS&Y FLANGE	

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

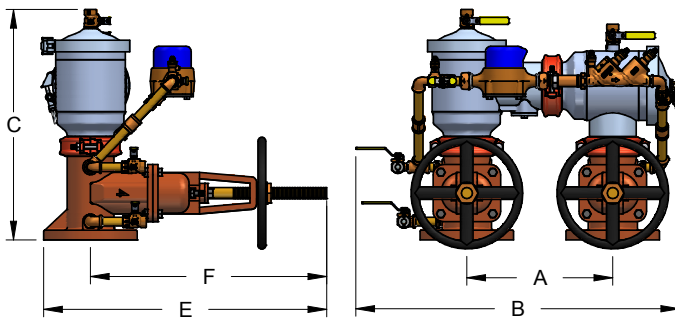
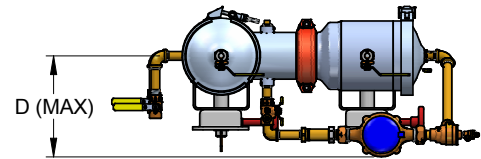
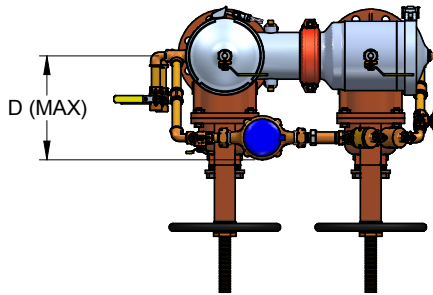
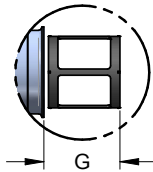
\*Orientation of bypass looking downstream. Standard is right hand side. Left hand is on opposite side  
 †Butterfly valves not available in 12" size.



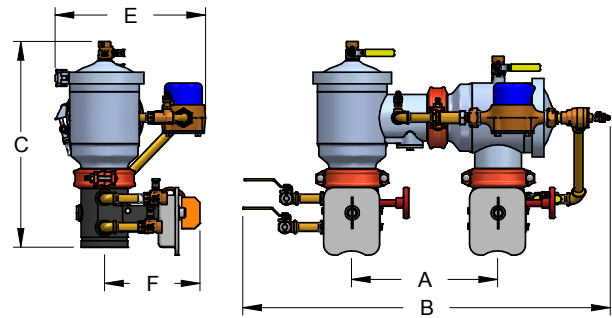
### DCDALF 4An / DCDA2LF 4An SERIES

### n STYLE DOUBLE CHECK DETECTOR BACKFLOW PREVENTER ASSEMBLY

Internal Component Removal Space Requirements



TYPE 1 BYPASS



TYPE 2 BYPASS

### DIMENSIONS

DIMENSIONS	2-1/2"	60MM	3"	75MM	4"	100MM	6"	150MM	8"	200MM	10"	250MM	12"	300MM
A (Centerline to Centerline)	12.5	318	12.5	318	14	356	16	406	18.5	470	21	533	26.8	681
B (Lay Length Space - Butterfly Valves)	32.8	833	32.8	833	35.3	897	40	1016	44	1118	54	1372	N/A	N/A
B (Lay Length Space - Gate Valves)	31	787	31	787	31.8	808	36.3	922	41.5	1054	49	1245	55.8	1417
C (Butterfly Valves - Flange to Top)	18.3	465	18.5	470	20	508	24.8	630	28.5	724	37	940	N/A	N/A
C (Gate Valves - Flange to Top)	19.6	498	20	508	22.5	572	27.8	706	32.1	815	40	1016	44	1118
D (Centerline to bottom Butterfly Valves)	11.5	292	11.8	300	13.3	338	15.4	391	17.9	455	19.8	503	N/A	N/A
D (Centerline to bottom Gate Valves)	13	330	13.5	343	14.9	378	18	457	21.4	544	24.8	630	28.8	732
E (Centerline to Maximum Bypass Width)	10	254	10	254	10.1	257	11.3	287	12.5	318	14.4	366	15.3	389
F (Maximum Width - Butterfly Valves)	11.5	292	12.1	307	12.9	328	15.9	404	22.3	566	23.1	587	N/A	N/A
F (Maximum Width - NRS/PI Gate Valves)	15.6	396	16.9	429	18.6	472	23.8	605	29.1	739	36.3	922	40	1016
F (Maximum Width - OS&Y Valves Open)	22.7	575	24.2	514	26.6	679	34.4	875	44.9	1140	57.9	1471	61.9	1572
G (Centerline to Width - Butterfly Valves)	8	203	8.4	213	9	229	10.9	277	12.9	328	13.5	343	N/A	N/A
G (Centerline to Width - NRS/PI Gate Valves)	11.8	300	13	330	14	356	17.8	452	21	533	24.5	622	30	762
G (Centerline to Width - OS&Y Valves Open)	18.8	478	20.3	515	22.1	562	29.4	747	36.8	934	45.2	1147	52.2	1326
H (Check Removal Clearance)	6	152	6	152	6	152	8	203	8.5	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
<b>WEIGHTS</b>	<b>LB.</b>	<b>KG</b>	<b>LB.</b>	<b>KG</b>	<b>LB.</b>	<b>KG</b>	<b>LB.</b>	<b>KG</b>	<b>LB.</b>	<b>KG</b>	<b>LB.</b>	<b>KG</b>	<b>LB.</b>	<b>KG</b>
Net Wt. (w/ Butterfly Valves)	57	26	60	27	84	38	142	65	436	198	963	438	N/A	N/A
Ship Wt. (w/ Butterfly Valves)	118	54	121	55	145	66	222	101	571	260	1153	524	N/A	N/A
Net Wt. (w/ Post Indicator Valves)	84	38	101	46	134	61	257	117	622	283	1292	587	1770	805
Ship Wt. (w/ Post Indicator Valves)	145	66	161	73	195	89	337	153	757	344	1482	674	1960	891
Net Wt. (w/ OS&Y Valves)	102	46	117	53	165	75	316	144	697	317	1407	640	1885	857
Ship Wt. (w/ OS&Y Valves)	163	74	178	81	226	103	396	180	832	378	1597	726	2075	943

Nominal dimensions are shown. Allowances must be made for manufacturers' tolerances ( $\pm 1/8"$  (3 mm) per joint)  
 Internal body connections are grooved on 2-1/2" to 10" sizes.  
 Internal body connections are flanged on 12" size.

**RPLF 4A SERIES**

**REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTER ASSEMBLY**



**TRIFORCE™ CHECK**

**STANDARD MATERIALS LIST**

<b>BODY (2-1/2" - 8")</b>	304 Stainless Steel
<b>BODY (10" &amp; 12")</b>	FDA Epoxy Coated Ductile Iron
<b>COVERS (2-1/2" - 6")</b>	Glass Filled PPO/SS
<b>COVERS (8")</b>	304 Stainless Steel
<b>COVERS (10" &amp; 12")</b>	FDA Epoxy Coated Ductile Iron
<b>RELIEF VALVE</b>	LF C89836
<b>CHECK VALVES</b>	Bronze/Glass-filled PPO/SS
<b>SPRINGS</b>	Stainless Steel
<b>SEAT DISCS</b>	Chloramine-Resistant Silicone

Flow Curves - Page 61

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"
- Modular Captured Spring Relief Valve
- Low Pressure Loss as Documented by an Independent Approval Laboratory
- Center Stem Guided TriForce™ Check Valves
- Chloramine-Resistant Elastomers
- **Designed, Fabricated, Assembled and Tested in the USA**
- Lead Free Standard
- Optional Air Gap Drains
- 5 Year Warranty
- US Patent Nos.: 6,443,184; 7,025,085; 7,533,699

**PERFORMANCE RATING**

- Maximum Working Pressure: 175 psi
- Temperature Range: 33° to 140°F, 180°F Intermittent

**APPROVALS**

- Approved for Horizontal Flow
- 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" - 8")
- UL, ULC Classified
- FM Approved
- NSF/ANSI 372 Lead Free

**PART NUMBER MATRIX**

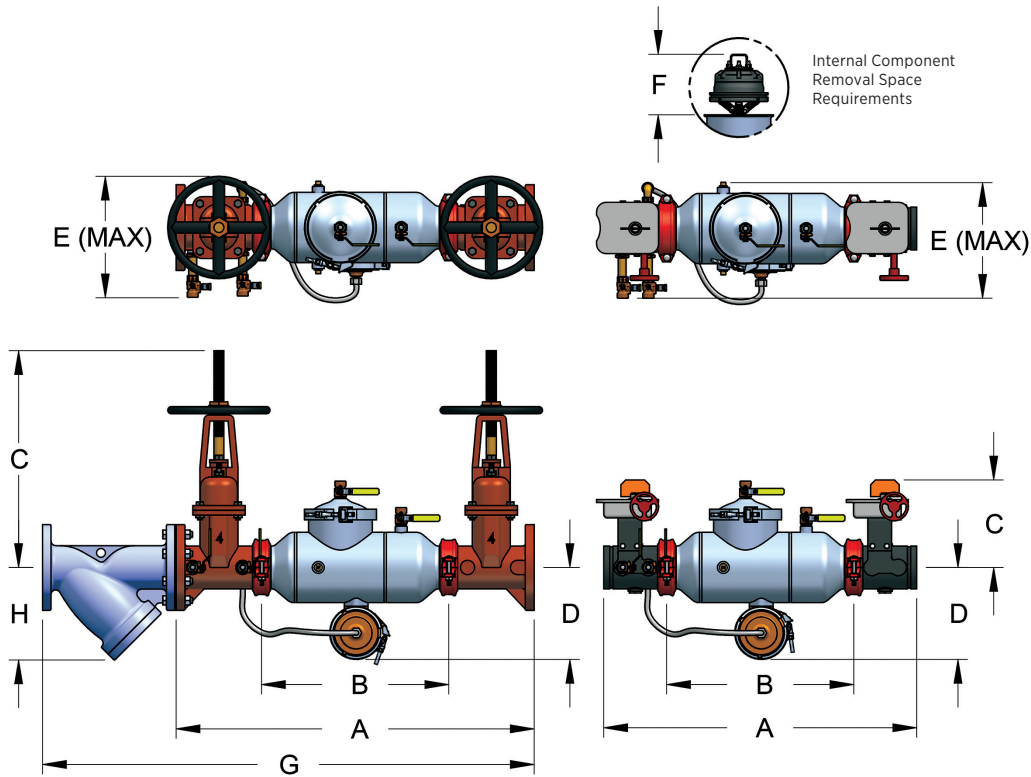
4ALF	2 X	X	XX	XX
	Y-STRAINER	SIZE	SHUT-OFF VALVES	OPTIONS
4ALF - LEAD FREE STANDARD	0 - STANDARD	9 - 2-1/2"	01 - LESS SHUT-OFF VALVES	D - DOMESTIC ASSEMBLY
	1 - W/ Y-STRAINER (SHIPPED LOOSE)	0 - 3"	02 - NRS FLANGE X NRS FLANGE	R1 - RETROFIT*
		A - 4"	03 - OS&Y FLANGE X OS&Y FLANGE	R2 - RETROFIT*
		C - 6"	04 - OS&Y FLANGE X MONITORED (MON.) BUTTERFLY VALVE GROOVE <sup>†</sup>	R3 - RETROFIT*
		E - 8"	06 - OS&Y FLANGE X POST INDICATOR FLANGE	
		G - 10"	07 - OS&Y FLANGE X OS&Y GROOVE	*CUSTOM LENGTH RETROFIT ORDERS MUST BE ACCOMPANIED WITH SIGNED FROM #OFBFRETRO WITH EXACT LENGTH REQUIRED.
		H - 12"	08 - OS&Y GROOVE X OS&Y GROOVE	
			09 - MON. BUTTERFLY VALVE GROOVE X MON. BUTTERFLY VALVE GROOVE <sup>†</sup>	
			10 - OS&Y FLANGE X POST INDICATOR GROOVE	
			11 - NRS GROOVE X NRS GROOVE	
			12 - NRS FLANGE X NRS GROOVE	
			13 - POST INDICATOR FLANGE X MON. BUTTERFLY VALVE GROOVE <sup>†</sup>	
			14 - POST INDICATOR FLANGE X POST INDICATOR FLANGE	
			16 - MON BUTTERFLY VALVE GROOVE X POST INDICATOR FLANGE <sup>†</sup>	
			17 - POST INDICATOR FLANGE X OS&Y GROOVE	
			18 - OS&Y GROOVE X POST INDICATOR GROOVE	
			19 - MON. BUTTERFLY VALVE GROOVE X POST INDICATOR GROOVE	
			20 - POST INDICATOR FLANGE X OS&Y FLANGE	
			21 - POST INDICATOR GROOVE X OS&Y GROOVE	
			22 - POST INDICATOR GROOVE X MON. BUTTERFLY VALVE GROOVE <sup>†</sup>	
			23 - MON. BUTTERFLY VALVE GROOVE X OS&Y FLANGE	

EXAMPLE: 4ALF 20A 07 = 4" size lead free reduced pressure assembly with OS&Y flanged inlet x OS&Y grooved outlet shut-off valves.

<sup>†</sup> Butterfly valves not available in 12" size.



**RPLF 4A SERIES**  
REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTER ASSEMBLY



**DIMENSIONS**

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	28.5	724	33.3	846	38.9	988	46.4	1179	56.3	1328	N/A	N/A
A (Gate Valves)	31	787	32	813	38	965	45.9	1166	53.4	1356	62.3	1582	65.5	1664
B (less Shut-off Valves)	15.9	404	15.9	404	19.6	498	24.5	622	30	762	36	914	37	940
C (Butterfly Valves)	8	203	8.4	213	9.1	231	10.1	257	12	305	13.4	340	N/A	N/A
C (NRS/PI Gate Valves)	11.8	300	13	330	14	356	17.8	452	21	533	24.5	622	30	762
C (OS&Y Open)	18.8	478	20.3	515	22.1	562	29.4	747	36.8	934	45.2	1147	52.2	1326
D (Centerline to Bottom)	9.6	244	9.6	244	10.4	264	11.6	295	15.6	396	21	533	21	533
E (Width Max)	11.5	292	12	305	12.5	318	14.4	366	17.6	447	21	533	22	559
F (Check Removal Clearance)	4.8	122	4.8	122	6.5	165	7.5	191	7.5	191	10	254	10	254
G (With Strainer)	41.9	1064	43.6	1107	52	1321	64.5	1638	78.9	2004	88.4	2245	95.6	2428
H (Strainer Clearance)	8	203	8.8	224	9.5	241	12.6	320	16.4	417	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
<b>WEIGHTS</b>	<b>LB.</b>	<b>KG</b>	<b>LB.</b>	<b>KG</b>	<b>LB.</b>	<b>KG</b>	<b>LB.</b>	<b>KG</b>	<b>LB.</b>	<b>KG</b>	<b>LB.</b>	<b>KG</b>	<b>LB.</b>	<b>KG</b>
Net Wt. (Less Shutoff's)	31	14	32	15	48	22	84	38	228	104	762	346	865	393
Ship Wt. (Less Shutoff's)	61	28	62	28	78	35	144	65	328	149	952	433	1055	480
Net Wt. (W/ Butterfly Valves)	58	26	62	28	92	42	152	69	359	163	980	445	N/A	N/A
Ship Wt. (W/ Butterfly Valves)	142	65	146	66	177	80	240	109	507	230	1170	532	N/A	N/A
Net Wt. (W/ NRS Valves)	85	39	103	47	143	65	267	121	545	248	1269	577	1725	784
Ship Wt. (W/ NRS Valves)	169	77	187	85	228	104	355	161	693	315	1459	663	1915	870
Net Wt. (W/ OS&Y Valves)	103	47	119	54	174	79	327	149	620	282	1384	629	1840	836
Ship Wt. (W/ OS&Y Valves)	187	85	203	92	259	118	415	189	176	80	1574	715	2030	923

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.



**RPLF 4An SERIES**

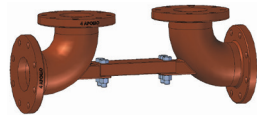
**n STYLE REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTER ASSEMBLY**



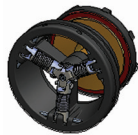
n FLOW



VERTICAL UP FLOW



OPTIONAL VALVE SETTER



TRIFORCE™ CHECK

Flow Curves - Page 62

The Apollo® 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 Approval Laboratory
- Center Stem Guided TriForce™ Check Valves
- Modular Captured Spring Relief Valve
- Optional Air Gap Drains
- Small Installation Space Required/Footprint
- Approved for n-Flow and Vertical Up Flow
- Chloramine-Resistant Elastomers
- Lead Free Standard
- Optional Valve Setters
- US Patent Nos.: 6,443,184; 7,025,085; 7,533,699
- **Designed, Fabricated, Assembled and Tested in the USA**
- 5 Year Warranty

**PERFORMANCE RATING**

- Maximum Working Pressure; 175 psi
- Temperature Range; 33° to 140°F, 180°F Intermittent

**APPROVALS**

- ASSE 1013
- CSA B64.4
- Approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California (2-1/2" - 8")
- AWWA C-511
- UL, ULC Classified
- FM Approved
- NSF/ANSI 372 Lead Free

**STANDARD MATERIALS LIST**

<b>BODY (2-1/2" - 8")</b>	304 Stainless Steel	<b>RELIEF VALVE</b>	Bronze (C84400/LF C89836)
<b>BODY (10" &amp; 12")</b>	FDA Epoxy Coated Ductile Iron	<b>CHECK VALVES</b>	Bronze/Glass-Filled PPO/SS
<b>COVERS (2-1/2" - 6")</b>	Glass Filled PPO/SS	<b>SPRINGS</b>	Stainless Steel
<b>COVERS (8")</b>	304 Stainless Steel	<b>SEAT DISCS</b>	Chloramine-Resistant Silicone
<b>COVERS (10" &amp; 12")</b>	FDA Epoxy Coated Ductile Iron		

**PART NUMBER MATRIX**

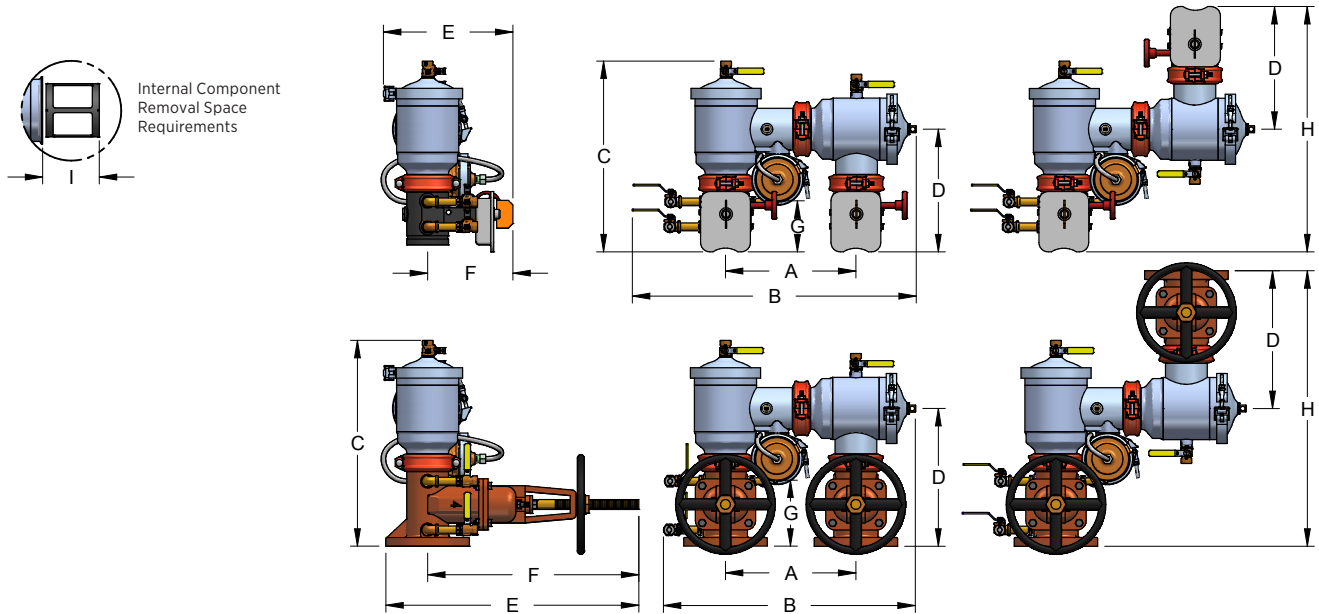
4ANLF	2 X	X	XX	X
	Y-STRAINER	SIZE	SHUT-OFF VALVES	OPTIONS
4ANLF - LEAD FREE	0 - STANDARD 1 - W/ Y-STRAINER (SHIPPED LOOSE)	9 - 2-1/2" 0 - 3" A - 4" C - 6" E - 8" G - 10" H - 12"	01 - LESS SHUT-OFF VALVES 02 - NRS FLANGE X NRS FLANGE 03 - OS&Y FLANGE X OS&Y FLANGE 04 - OS&Y FLANGE X MONITORED (MON.) BUTTERFLY VALVE GROOVE† 06 - OS&Y FLANGE X POST INDICATOR FLANGE 07 - OS&Y FLANGE X OS&Y GROOVE 08 - OS&Y GROOVE X OS&Y GROOVE 09 - MON. BUTTERFLY VALVE GROOVE X MON. BUTTERFLY VALVE GROOVE† 10 - OS&Y FLANGE X POST INDICATOR GROOVE 11 - NRS GROOVE X NRS GROOVE 12 - NRS FLANGE X NRS GROOVE 13 - POST INDICATOR FLANGE X MON. BUTTERFLY VALVE GROOVE† 14 - POST INDICATOR FLANGE X POST INDICATOR FLANGE 16 - MON BUTTERFLY VALVE GROOVE X POST INDICATOR FLANGE† 17 - POST INDICATOR FLANGE X OS&Y GROOVE 18 - OS&Y GROOVE X POST INDICATOR GROOVE 19 - MON. BUTTERFLY VALVE GROOVE X POST INDICATOR GROOVE 20 - POST INDICATOR FLANGE X OS&Y FLANGE 21 - POST INDICATOR GROOVE X OS&Y GROOVE 22 - POST INDICATOR GROOVE X MON. BUTTERFLY VALVE GROOVE† 23 - MON. BUTTERFLY VALVE GROOVE X OS&Y FLANGE	D - DOMESTIC ASSEMBLY
EXAMPLE: 4AN 20A 03 = 4" size reduced pressure assembly with OS&Y flanged inlet x OS&Y flanged outlet shut-off valves				

† Butterfly valves not available in 12" size.



**RPLF 4An SERIES**

**n STYLE REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTER ASSEMBLY**



**DIMENSIONS**

DIMENSIONS	2-1/2"	65MM	3"	80MM	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 ±	675 ±
B (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 (Gate Valves)	24-1/2 ±	622 ±	24-1/2 ±	622 ±	27 ±	686 ±	32 ±	813 ±	40-3/4 ±	1035 ±	49 ±	1245 ±	55-3/4 ±	1416 ±
C (Butterfly Valves)	18-1/4	468	18-1/2	470	20	508	24-3/4	629	28-1/2	724	37	940	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)	21-7/8	556	23-7/8	606	25-5/8	652	35-1/2	902	45-1/8	1146	56-3/4	1441	62-3/4	1594
E (NRS/PI)	15-5/8	398	16-7/8	429	18-5/8	474	23-3/4	603	29-1/8	739	36-1/4	921	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)	18	457	20	508	21	533	29-1/2	749	37	940	45	1143	53-1/8	1349
F (NRS/PI)	11-3/4	298	13	330	14	356	17-3/4	451	21	573	24-1/2	622	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
J	30-1/2	775	31-5/8	803	36-1/2	927	46-3/8	1178	53-5/8	1362	66-1/8	1680	74-1/8	1883
K	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
<b>WEIGHTS</b>	<b>LB.</b>	<b>KG</b>	<b>LB.</b>	<b>KG</b>	<b>LB.</b>	<b>KG</b>	<b>LB.</b>	<b>KG</b>	<b>LB.</b>	<b>KG</b>	<b>LB.</b>	<b>KG</b>	<b>LB.</b>	<b>KG</b>
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:  
 Nominal dimensions are shown. Allowances must be made for manufacturers' tolerances.  
 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.

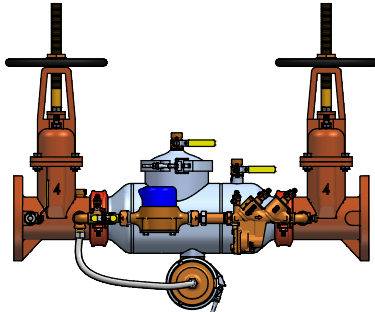


**RPDALF 4A / RPDA2LF SERIES**

**REDUCED PRESSURE DETECTOR BACKFLOW PREVENTER ASSEMBLY**



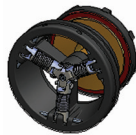
**TYPE 1 BYPASS**



**TYPE 2 BYPASS**



**TRIFORCE™ CHECK**



The Apollo® Model RPDALF 4A / RPDA2LF 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.

Available in both Type 1 and Type 2 bypass configurations. 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 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 Approval Laboratory
- Center Stem Guided TriForce™ Check Valves
- Modular Captured Spring Relief Valve
- Optional Air Gap Drain
- Lead-Free Standard
- US Patent Nos.: 6,443,184; 7,025,085; 7,533,699
- **Designed, Fabricated, Assembled and Tested in the USA**
- 5 Year Warranty
- Optional Mounting of Bypass on Either Side for Ease of Installation

**PERFORMANCE RATING**

- Maximum Working Pressure: 175 psi
- Temperature Range: 33° to 140°F, 180°F Intermittent

**APPROVALS**

- Approved for Horizontal Flow
- ASSE 1047 (with Meter)
- CSA B64.4
- Approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California (2-1/2" - 8" Types 1 & 2 Bypass)
- UL, ULC Classified
- FM Approved
- NSF/ANSI 372 Lead Free

**Flow Curves - Page 63**

**STANDARD MATERIALS LIST**

<b>BODY (2-1/2"-8")</b>	304 Stainless Steel	<b>COVERS (10" &amp; 12")</b>	FDA Epoxy Coated Ductile Iron
<b>BODY (10" &amp; 12")</b>	FDA Epoxy Coated Ductile Iron	<b>CHECK VALVES</b>	Bronze/Glass-Filled PPO/SS
<b>COVERS (2-1/2"-6")</b>	Glass Filled PPO/SS	<b>SPRINGS</b>	Stainless Steel
<b>COVERS (8")</b>	304 Stainless Steel	<b>SEAT DISCS</b>	Chloramine-Resistant Silicone

**PART NUMBER MATRIX**

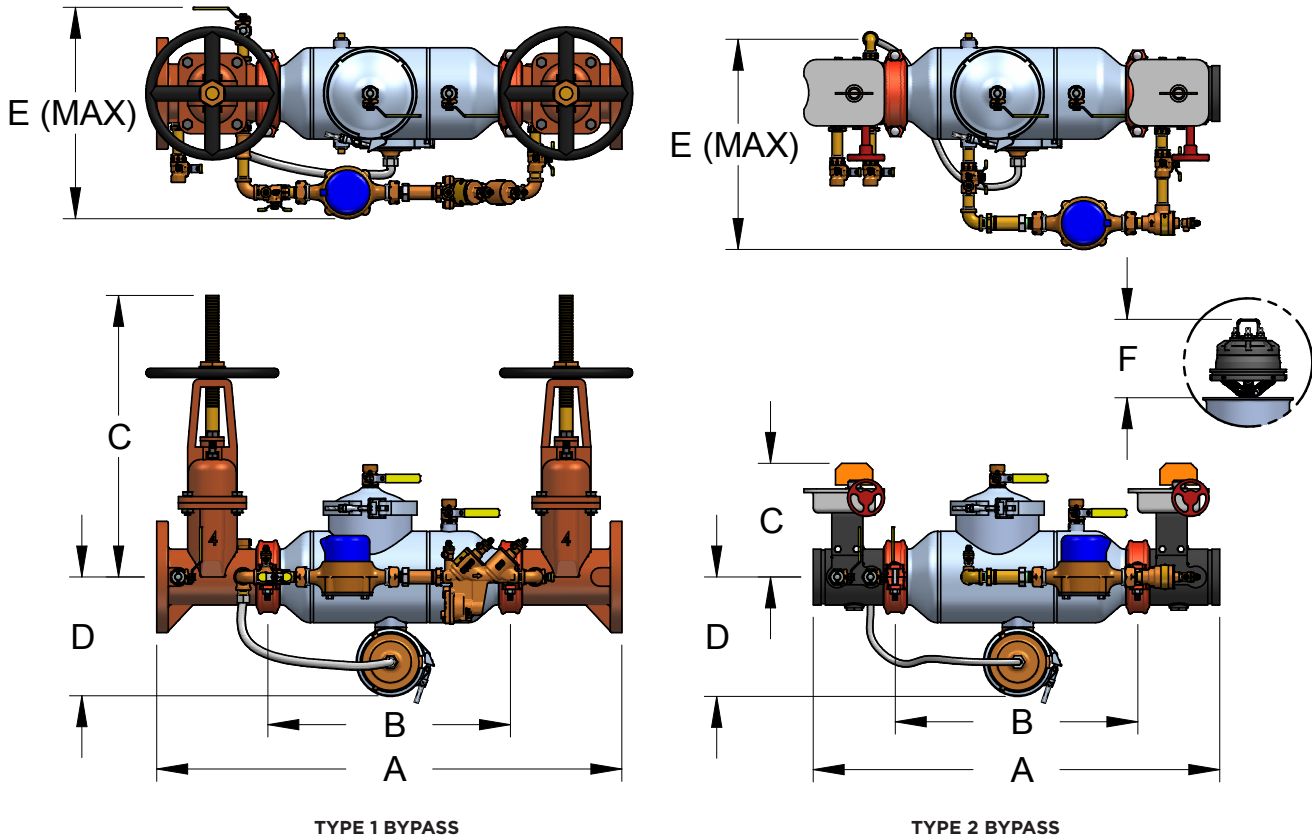
4ALF	7 X	X	X	XX	XX
	BYPASS SUB-ASSEMBLY OPTIONS	SIZE	METER OPTION	SHUT-OFF VALVES (INLET X OUTLET)	OPTIONS
4ALF - LEAD FREE (STANDARD)	0 - TYPE 1 W/ 1/2" REDUCED PRESSURE	9 - 2-1/2"	C - CUBIC FEET/MIN	01 - LESS SHUT-OFF VALVES	D - DOMESTIC ASSEMBLY
	2 - TYPE 2 W/ 1/2" SINGLE CHECK	0 - 3"	E - GALLONS/MIN	03 - OS&Y FLANGE X OS&Y FLANGE	R1 - RETROFIT*
	3 - TYPE 1 W/ BYPASS ON LEFT*	A - 4"	G - LESS METER	04 - OS&Y FLANGE X MONITORED (MON.) BUTTERFLY VALVE GROOVE†	R2 - RETROFIT*
	4 - TYPE 2 W/ BYPASS ON LEFT*	C - 6"		06 - OS&Y FLANGE X POST INDICATOR FLANGE	R3 - RETROFIT*
		E - 8"		07 - OS&Y FLANGE X OS&Y GROOVE	
		G - 10"		08 - OS&Y GROOVE X OS&Y GROOVE	
		H - 12"		09 - MON. BUTTERFLY VALVE GROOVE X MON. BUTTERFLY VALVE GROOVE†	*CUSTOM LENGTH RETROFIT ORDERS MUST BE ACCOMPANIED WITH SIGNED FROM #OFBRETRO WITH EXACT LENGTH REQUIRED.
				10 - OS&Y FLANGE X POST INDICATOR GROOVE	
				13 - POST INDICATOR FLANGE X MON. BUTTERFLY VALVE GROOVE†	
				14 - POST INDICATOR FLANGE X POST INDICATOR FLANGE	
				16 - MON BUTTERFLY VALVE GROOVE X POST INDICATOR FLANGE†	
				17 - POST INDICATOR FLANGE X OS&Y GROOVE	
				18 - OS&Y GROOVE X POST INDICATOR GROOVE	
				19 - MON. BUTTERFLY VALVE GROOVE X POST INDICATOR GROOVE	
				20 - POST INDICATOR FLANGE X OS&Y FLANGE	
				21 - POST INDICATOR GROOVE X OS&Y GROOVE	
				22 - POST INDICATOR GROOVE X MON. BUTTERFLY VALVE GROOVE†	
				23 - MON. BUTTERFLY VALVE GROOVE X OS&Y FLANGE	

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  
 †Butterfly valves not available in 12" size.



**RPDALF 4A / RPDALF2LF SERIES**  
REDUCED PRESSURE DETECTOR BACKFLOW PREVENTER ASSEMBLY



**DIMENSIONS**

DIMENSIONS	2-1/2"	60MM	3"	75MM	4"	100MM	6"	150MM	8"	200MM	10"	250MM	12"	300MM
A (Butterfly Valves)	28	711	28.5	724	33.3	846	38.9	988	46.4	1179	56.3	1328	N/A	N/A
A (Gate Valves)	31	787	32	813	38	965	45.9	1166	53.4	1356	62.3	1582	65.5	1664
B (less Shut-off Valves)	15.9	404	15.9	404	19.6	498	24.5	622	30	762	36	914	37	940
C (Butterfly Valves)	8	203	8.4	213	9.1	231	10.1	257	12	305	13.4	340	N/A	N/A
C (NRS/PI Gate Valves)	11.8	300	13	330	14	356	17.8	452	21	533	24.5	622	30	762
C (OS&Y Open)	18.8	478	20.3	515	22.1	562	29.4	147	36.8	934	45.2	1147	52.2	1326
D (Centerline to Bottom)	9.6	244	9.6	244	10.4	264	11.6	295	15.6	396	21	533	21	533
E (Width Max)	17	432	17	432	17	432	20	508	21.5	546	26.5	673	27.5	699
F (Check Removal Clearance)	4.8	122	4.8	122	6.5	165	7.5	191	7.5	191	10	254	10	254
Test Cocks (NPT)	1/2"	13	1/2"	13	1/2"	13	3/4"	20	3/4"	20	3/4"	20	3/4"	20
<b>WEIGHTS</b>	<b>LB.</b>	<b>KG</b>	<b>LB.</b>	<b>KG</b>	<b>LB.</b>	<b>KG</b>	<b>LB.</b>	<b>KG</b>	<b>LB.</b>	<b>KG</b>	<b>LB.</b>	<b>KG</b>	<b>LB.</b>	<b>KG</b>
Net Wt. (W/ Butterfly Valves)	75	34	79	36	109	50	169	77	376	171	1005	457	N/A	N/A
Ship Wt. (W/ Butterfly Valves)	159	72	163	74	194	88	257	117	524	238	1995	907	N/A	N/A
Net Wt. (w/ Post Indicator Valves)	102	46	120	55	160	73	284	129	562	255	1294	588	1750	795
Ship Wt. (w/ Post Indicator Valves)	186	85	204	93	245	111	372	169	710	323	1484	675	1940	882
Net Wt. (W/ OS&Y Valves)	120	55	136	62	191	87	344	156	637	290	1404	638	1865	848
Ship Wt. (W/ OS&Y Valves)	204	93	220	100	276	125	432	196	785	357	1595	725	2055	934

Notes:  
Nominal dimensions are shown. Allowances must be made for manufacturers' tolerances.  
Internal body connections are grooved on 2-1/2" - 10" sizes.  
Internal body connections are flanged on 12" size.



**RPDALF 4An SERIES**

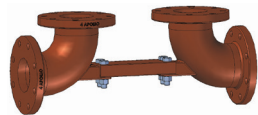
**n STYLE REDUCED PRESSURE DETECTOR BACKFLOW PREVENTER ASSEMBLY**



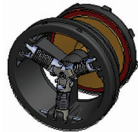
**n FLOW  
TYPE 2 BYPASS**



**TYPE 2 BYPASS  
VERTICAL UP FLOW**



**OPTIONAL VALVE SETTER**



**TRIFORCE™ CHECK**

*Flow Curves - Page 64*

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.

Available in both Type 1 and Type 2 bypass configurations. 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 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 Approval Laboratory
- Center Stem Guided TriForce™ Check Valves
- Modular Captured Spring Relief Valve
- Optional Air Gap Drains
- Small Installation Space Required - Small Footprint
- Approved for n-Flow and Vertical Up Flow
- Chloramine-Resistant Elastomers
- **Designed, Fabricated, Assembled and Tested in the USA**
- Lead Free Standard
- Optional Valve Setters Eliminate Need for Thrust Blocks Below Grade

- US Patent Nos.: 6,443,184; 7,025,085; 7,533,699
- 5 Year Warranty
- Optional Mounting of Bypass on Either Side for Ease of Installation

**PERFORMANCE RATING**

- Maximum Working Pressure: 175 psi
- Temperature Range: 33° to 140°F, 180°F intermittent

**APPROVALS**

- CSA B64.4
- Approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California (2-1/2"-8" Type 1 Bypass)
- ASSE 1047 (with Meter)
- UL, ULC Classified
- FM Approved
- NSF/ANSI 372 Lead Free

**STANDARD MATERIALS LIST**

<b>BODY (2-1/2"-8")</b>	304 Stainless Steel	<b>RELIEF VALVE</b>	Bronze (LF C89836)
<b>BODY (10 &amp; 12")</b>	FDA Epoxy Coated Ductile Iron	<b>CHECK VALVES</b>	Bronze/Glass-Filled PPO/SS
<b>COVERS (2-1/2"-6")</b>	Glass Filled PPO/SS	<b>SPRINGS</b>	Stainless Steel
<b>COVERS (8")</b>	304 Stainless Steel	<b>SEAT DISCS</b>	Chloramine-Resistant Silicone
<b>COVERS (10" &amp; 12")</b>	FDA Epoxy Coated Ductile Iron		

**PART NUMBER MATRIX**

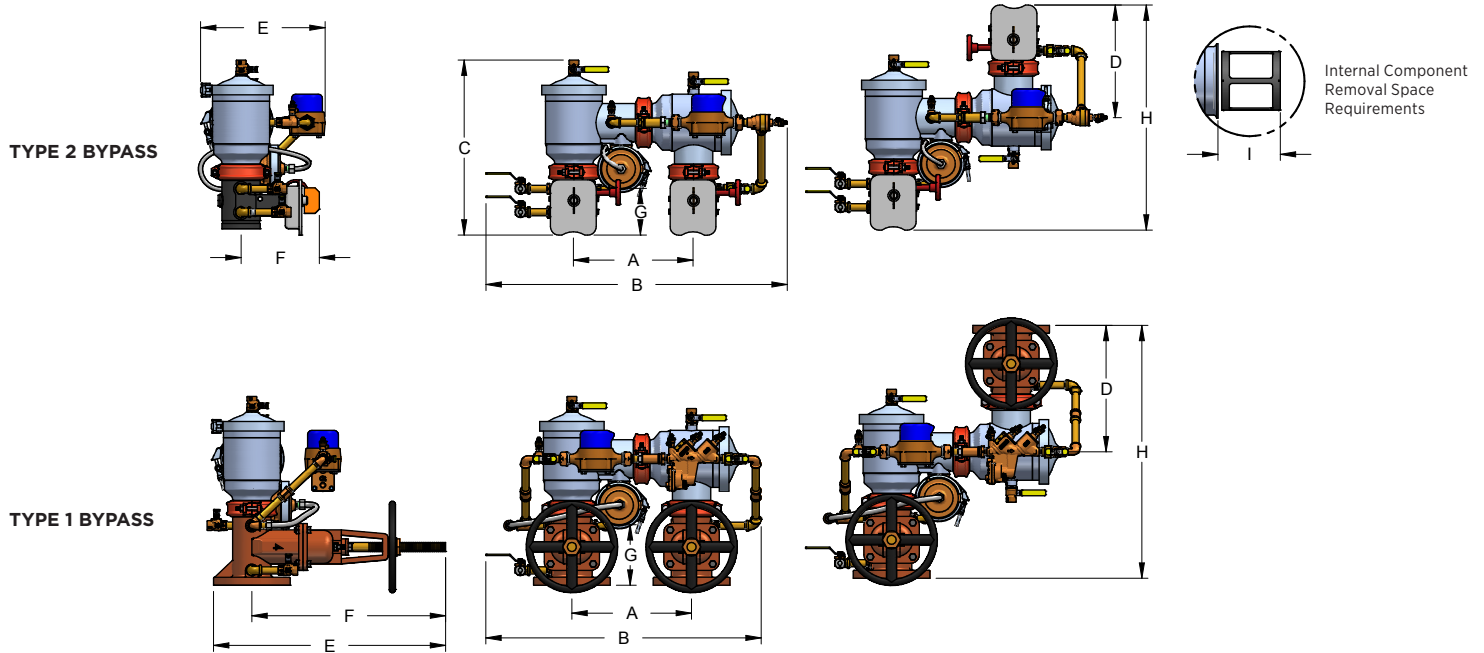
4ANLF	7 X	X	X	X X	X
	BYPASS SUB-ASSEMBLY OPTIONS	SIZE	METER OPTION	SHUT-OFF VALVES (INLET X OUTLET)	OPTIONS
4ANLF - LEAD FREE (STANDARD)	0 - TYPE 1 W/ 1/2" REDUCED PRESSURE	9 - 2-1/2"	C - CUBIC FEET/MIN	01 - LESS SHUT-OFF VALVES	D - DOMESTIC ASSEMBLY
	2 - TYPE 2 W/ 1/2" SINGLE CHECK	0 - 3"	E - GALLONS/MIN	03 - OS&Y FLANGE X OS&Y FLANGE	
	3 - TYPE 1 W/ BYPASS ON LEFT*	A - 4"	G - LESS METER	04 - OS&Y FLANGE X MONITORED (MON.) BUTTERFLY VALVE GROOVE†	
	4 - TYPE 2 W/ BYPASS ON LEFT*	C - 6"		06 - OS&Y FLANGE X POST INDICATOR FLANGE	
		E - 8"		07 - OS&Y FLANGE X OS&Y GROOVE	
		G - 10"		08 - OS&Y GROOVE X OS&Y GROOVE	
		H - 12"		09 - MON. BUTTERFLY VALVE GROOVE X MON. BUTTERFLY VALVE GROOVE†	
				10 - OS&Y FLANGE X POST INDICATOR GROOVE	
				13 - POST INDICATOR FLANGE X MON. BUTTERFLY VALVE GROOVE†	
				14 - POST INDICATOR FLANGE X POST INDICATOR FLANGE	
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.				16 - MON BUTTERFLY VALVE GROOVE X POST INDICATOR FLANGE†	
				17 - POST INDICATOR FLANGE X OS&Y GROOVE	
				18 - OS&Y GROOVE X POST INDICATOR GROOVE	

\*Orientation of bypass looking downstream. Standard is right hand side. Left hand is on opposite side  
 †Butterfly valves not available in 12" size.



**RPDALF 4An SERIES**

**n STYLE REDUCED PRESSURE DETECTOR BACKFLOW PREVENTER ASSEMBLY**



**DIMENSIONS**

DIMENSIONS	2-1/2"	60MM	3"	75MM	4"	100MM	6"	150MM	8"	200MM	10"	250MM	12"	300MM
A (Centerline to Centerline)	12.5	318	12.5	318	14	356	16	406	18.5	470	21	533	26.8	681
B (Lay Length Space - Butterfly Valves)	32.8	833	32.8	833	35.5	902	40	1016	44	1118	54	1372	N/A	N/A
B (Lay Length Space - Gate Valves)	31	787	31	787	31.8	808	36.8	935	41.5	1054	49	1245	55.8	1417
C (Butterfly Valves - Flange to Top)	18.3	465	18.5	470	20	508	24.8	630	28.5	724	37	940	N/A	N/A
C (Gate Valves - Flange to Top)	19.6	498	20	508	22.5	572	27.8	706	32.1	815	40	1016	44	1118
D (Centerline to bottom Butterfly Valves)	11.5	292	11.8	300	13.3	338	15.6	396	17.9	455	19.8	503	N/A	N/A
D (Centerline to bottom Gate Valves)	13	330	13.5	343	14.9	378	18	457	21.4	544	24.8	630	28.8	732
E (Maximum Width - Butterfly Valves)	11.5	292	12.1	307	12.9	328	15.9	404	22.3	566	23.1	587	N/A	N/A
E (Maximum Width - NRS/PI Gate Valves)	15.6	396	16.9	429	18.6	472	23.8	605	29.1	739	36.3	922	40	1016
E (Maximum Width - OS&Y Valves Open)	22.7	575	24.2	614	26.6	679	34.4	875	44.9	1140	57.9	1471	61.9	1572
F (Centerline to Width - Butterfly Valves)	8	203	8.4	213	9	229	10.9	277	12.9	328	13.5	343	N/A	N/A
F (Centerline to Width - NRS/PI Gate Valves)	11.8	300	13	330	14	356	17.8	452	21	533	24.5	622	30	762
F (Centerline to Width - OS&Y Valves Open)	18.8	478	20.3	515	22.1	562	29.4	747	36.8	934	45.2	1147	52.2	1326
G (Relief Valve to SOV Flange - Butterfly Valves)	4.1	104	4.5	114	4.4	112	6.5	165	5.3	135	4	102	N/A	N/A
G (Relief Valve to SOV Flange - Gate Valves)	5.5	140	6	152	6	152	9	229	9	229	9	229	N/A	N/A
H (Flange to flange Vertical Up Butterfly Valves)	23	584	23.5	597	25	635	29	737	35.8	909	N/A	N/A	N/A	N/A
H (Flange to flange Vertical Up Gate Valves)	26	660	27	686	29.8	757	36	914	42.8	1087	N/A	N/A	N/A	N/A
I (Check Removal Clearance)	6	152	6	152	6	152	8	203	8.5	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
<b>WEIGHTS</b>	<b>LB.</b>	<b>KG</b>	<b>LB.</b>	<b>KG</b>	<b>LB.</b>	<b>KG</b>	<b>LB.</b>	<b>KG</b>	<b>LB.</b>	<b>KG</b>	<b>LB.</b>	<b>KG</b>	<b>LB.</b>	<b>KG</b>
Net Wt. (W/ Butterfly Valves)	85	39	88	40	92	42	151	69	456	207	1039	472	N/A	N/A
Ship Wt. (W/ Butterfly Valves)	146	66	149	68	153	70	231	105	591	269	1229	559	N/A	N/A
Net Wt. (W/ NRS/Post Indicator Valves)	112	51	129	59	155	70	266	121	642	292	1368	622	1847	840
Ship Wt. (W/ NRS/Post Indicator Valves)	173	79	190	86	216	98	346	157	777	353	1558	708	2137	971
Net Wt. (W/ OS&Y Valves)	130	59	142	65	186	85	326	148	717	326	1483	674	1962	892
Ship Wt. (W/ OS&Y Valves)	191	87	203	92	247	112	406	185	852	387	1673	760	2152	978

Nominal dimensions are shown. Allowances must be made for manufacturers' tolerances (± 1/8" (3 mm) per joint)  
 Internal body connections are grooved on 2-1/2" to 10" sizes.  
 Internal body connections are flanged on 12" size.



**AVB1/AVB2 SERIES**  
ATMOSPHERIC TYPE VACUUM BREAKER BACKFLOW PREVENTER



AVB1



AVB2  
SIZES 1/4", 3/8, 1/2", 3/4"  
(OPTIONAL POLISHED CHROME FINISH SHOWN)

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 (maximum 12 hours in any 24 hour period). 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**

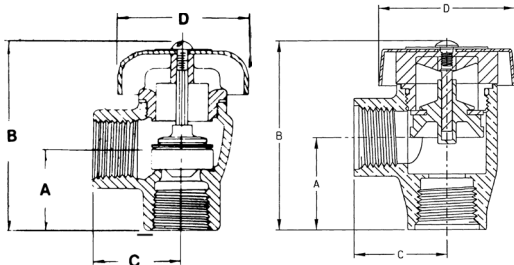
- Corrosion Resistant
- Bronze Body (AVB1)
- Forged Body (AVB2)
- Lead Free Option (100 Series)
- Heat Resistant Silicone Seat Disc
- Rough Brass, Rough Chrome or Polished Chrome Finish
- Easy to Maintain
- Compact and Lightweight
- Durable

**PERFORMANCE RATING**

- 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"

**APPROVALS**

- ASSE 1001
- NSF/ANSI 372 Lead Free (38LF only)



AVB1  
38/38LF-10X

AVB2  
38-20X

**STANDARD MATERIALS LIST**

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.

**PART NUMBER MATRIX**

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"	

**DIMENSIONS**

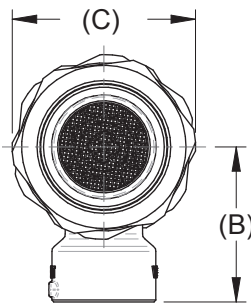
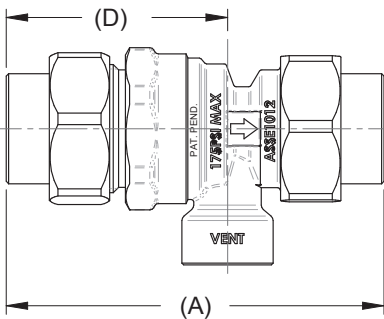
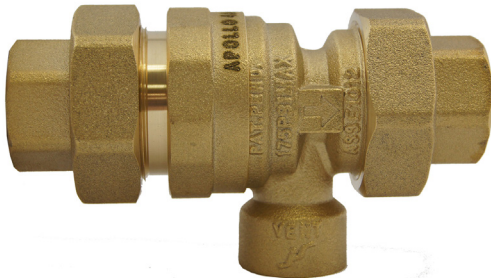
PART NO.	MODEL NO.	SIZE IN.	SIZE MM.	A (IN.)	A (MM.)	B (IN.)	B (MM.)	C (IN.)	C (MM.)	D (IN.)	D (MM.)	WT. LB.	WT. KG.
38(LF)-101	AVB114	1/4	6	29/32	23	2-3/8	60	1-1/32	26	1-13/16	46	50.96	23
38(LF)-102	AVB138	3/8	10	29/32	23	2-3/8	60	1-1/32	26	1-13/16	46	47.7	22
38-103	AVB112	1/2	15	1-3/32	28	2-1/2	65	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	AVB11	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

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**DCAP SERIES**

**DUAL CHECK WITH ATMOSPHERIC PORT BACKFLOW PREVENTER**



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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
- 5 Year Warranty

**PERFORMANCE RATING**

- Maximum Working Pressure: 175 psig
- Inlet Temperature Range: 33° to 210°F
- Maximum Backflow Temperature: 250°F

**APPROVALS**

- ASSE 1012
- CSA B64.3
- NSF/ANSI 372 Lead Free (4ALF only)

**STANDARD MATERIALS LIST**

<b>BODY</b>	Forged Brass C87800
<b>UNION NUT &amp; TAILPIECES</b>	Forged Brass C87800
<b>SEAT DISCS</b>	EPDM (FDA/NSF 61)
<b>SEAT STEM &amp; RETAINER</b>	Forged Brass C46500
<b>SPRINGS</b>	Stainless Steel

**DIMENSIONS**

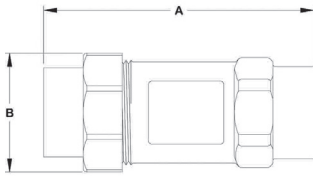
PART NUMBER	DIMENSIONS (IN.)				WT. (LB.)
	A	B	C	D	
4ALF4A33A, 4ALF4A33AC	4.1	1.6	1.9	2.4	1.31
4ALF4H33H, 4ALF4H33HC	3.9	1.6	1.9	2.3	1.24
4ALF4A44A, 4ALF4A44AC	4.3	1.6	1.9	2.5	1.32
4ALF4H44H, 4ALF4A44HC	4.4	1.6	1.9	2.6	1.29

**PART NUMBER MATRIX**

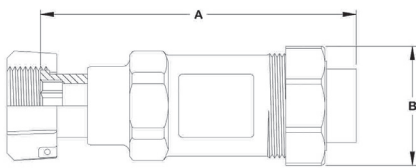
4A [X]	4 X	X - X	X	X
	UNION INLET CONNECTION	INLET AND OUTLET SIZE	UNION OUTLET CONNECTION	OPTION
4A - STANDARD	A - FNPT	3 - 1/2"	A - FNPT	C - CANADIAN (DISCHARGE PORT NOT THREADED)
4ALF - LEAD FREE	H - SOLDER JOINT	4 - 3/4"	B - MNPT	
			H - SOLDER JOINT	



**DUC 4A / DUCLF 4A SERIES**  
DUAL CHECK VALVE BACKFLOW PREVENTER



UNION X NPT



METER SWIVEL X NPT

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The Apollo® DUC 4A / DUCLF 4A 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 Captured Spring Check Valves
- Compact and Lightweight
- Corrosion Resistant
- Replaceable Check Modules
- Industry Lay Lengths
- Available in Standard and Swivel Types
- 5 Year Warranty

**PERFORMANCE RATING**

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

**APPROVALS**

- ASSE 1024
- CSA B64.6
- NSF/ANSI 372 Lead Free (4ALF only)

**STANDARD MATERIALS LIST**

<b>BODY</b>	Lead Free Bronze C87800
<b>TAILPIECE</b>	Lead Free Brass C46500
<b>UNION NUT</b>	Brass C36000
<b>CHECK MODULES</b>	Acetal (3/4"-1")
<b>SPRINGS</b>	Stainless Steel
<b>SEAT DISCS</b>	Buna-N (3/4"-1")

Contact local water authorities for installation/service requirements.

**DIMENSIONS**

SIZE (IN.)	DIMENSIONS (IN.)		WT. (LB.)
	A	B	
1/2"	4.38	2.00	1.40
3/4"	4.38	2.00	1.40
3/4" Meter Swivel	4.75	2.00	1.60
1"	4.38	2.00	1.40
1" Meter Swivel	4.75	2.00	1.75

**METER THREAD SIZING**

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

**PART NUMBER MATRIX**

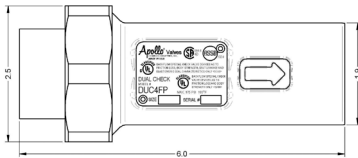
4ALF [X]	3 X	X X	X	X
	UNION INLET CONNECTION <sup>1,2</sup>	INLET AND OUTLET SIZE	OUTLET CONNECTION <sup>1,2</sup>	FINISH
4ALF - LEAD FREE	A - FNPT	3 - 1/2"	A - FNPT	BLANK - SATIN BRASS
	B - MNPT	4 - 3/4"	B - MNPT	
	C - FEMALE METER THREAD	5 - 1"		
	S - FEMALE METER SWIVEL	6 - 1-1/4" (METER THREAD SIZING FOR 1" METER SWIVEL)	EXAMPLE: 4ALF 3S54A = Lead Free Dual Check with Female Swivel 1" Inlet (for 3/4" meter connection x 3/4" FNPT outlet)	

<sup>1</sup>For meter threads, order one size larger than meter size. (i.e. - 4ALF3S54A = 1" Female Meter Swivel Inlet (for connection to 3/4" meter) x 3/4" FNPT outlet

<sup>2</sup>Not all inlet and outlet combinations are available. Please contact Apollo Customer Service for availability.



## DUC 4FP SERIES DUAL CHECK VALVE BACKFLOW PREVENTER



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The Apollo<sup>®</sup> 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 Warranty
- **Made in the USA**

### PERFORMANCE RATING

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

### APPROVALS

- ASSE 1024
- UL Classified
- CSA B64.6
- NSF/ANSI 372 Lead Free (4FPLF only)

### STANDARD MATERIALS LIST

<b>BODY</b>	Bronze (C84400)	<b>SPACER</b>	Glass-Filled Noryl <sup>®</sup>
<b>UNION NUT &amp; TAILPIECES</b>	Brass	<b>O-RING</b>	Stainless Steel
<b>CHECK MODULES</b>	Acetal/Nitrile/Stainless Steel		

Contact local water authorities for installation/service requirements.

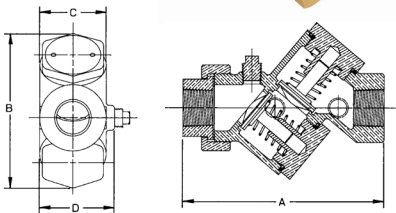
### PART NUMBER MATRIX

4FP [XX]	3 X	X	X	X
	INLET CONNECTION <sup>1</sup>	INLET SIZE	OUTLET SIZE	OUTLET CONNECTION <sup>1</sup>
4FP - STANDARD	A - FNPT	5 - 1"	5 - 1"	A - FNPT
4FPLF - LEAD FREE	C - FEMALE METER THREAD	6 - 1-1/4" (METER THREAD SIZING FOR 1" METER)	6 - 1-1/4" (METER THREAD SIZING FOR 1" METER)	B - MNPT E - MALE METER THREAD

<sup>1</sup> Not all inlet and outlet combinations are available. Please contact Customer Service for availability.

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

## DUC 40 SERIES DUAL CHECK VALVE BACKFLOW PREVENTER



The Apollo<sup>®</sup> 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
- Available in Standard and Swivel Types
- **Made in the USA**
- 5 Year Warranty

### PERFORMANCE RATING

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

### APPROVALS

- ASSE 1024
- CSA B64.6
- NSF/ANSI 372 Lead Free (40LF only)

### STANDARD MATERIALS LIST

<b>BODY</b>	Bronze (C84400 - LF C89836)
<b>CAPS</b>	Brass
<b>SPRINGS</b>	Stainless Steel
<b>SEAT DISCS</b>	EPDM

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### DIMENSIONS

PART NUMBER MODEL NUMBER	DIMENSIONS (IN.)			WT. (LB.)	WT. W/TEST COCKS & BALL VALVES
	A	B	C		
DUC4012   40-3x3-3x	4-3/8	3-1/2	3-1/2	2	4
DUC4034   40-3x4-4x	4-3/8	3-1/2	1-1/2	2	4.6
DUC4011   40-3x5-5x	4-3/8	3-1/2	1-1/2	2.1	6.4

### PART NUMBER MATRIX

40 [X]	3 X	X	X	X
	INLET CONNECTION <sup>1,2</sup>	INLET & OUTLET SIZE	OUTLET CONNECTION <sup>1,2</sup>	OPTIONS (CAN BE COMBINED)
40 - STANDARD	A - FNPT	3 - 1/2"	A - FNPT	TP - W/TEST PORTS DRILLED, TAPPED W/PLUGS
40LF - LEAD FREE	C - FEMALE METER THREAD	4 - 3/4"	C - FEMALE METER THREAD	TC - W/3 1/8" x 1/4" TEST COCKS
	S - FEMALE METER SWIVEL	5 - 1"		

<sup>1</sup> For meter threads, order one size larger than meter size.

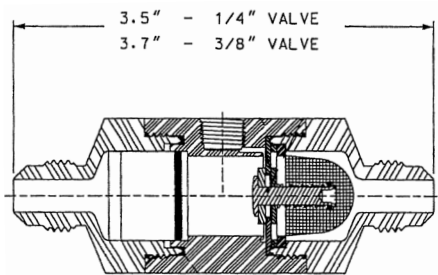
<sup>2</sup> Not all inlet and outlet combinations are available. Please contact Customer Service for availability.

\* Standard body not drilled & tapped for test cocks.

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



## CBBP SERIES 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 beverage 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 backflow preventer.

### FEATURES

- Compact Design
- Lowest Head Loss
- Atmospheric Vent Provides Indication of Problems
- Integral Strainer for Equipment Protection
- Lead Free
- 5 Year Warranty
- Available in SAE & NPT Connections
- Repairable Check Assemblies
- Non-Metallic Body for Corrosion Resistance

### APPROVALS

- CSA
- NSF/ANSI 61 Water Quality
- ASSE 1022
- IAPMO® Listed

### STANDARD MATERIALS LIST

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.

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### PART NUMBER MATRIX

4C10 X	X
SIZE	INLET AND OUTLET CONNECTION
1 - 1/4"	01 - FLARE
2 - 3/8"	02 - MNPT (3/8" ONLY)

### DIMENSIONS

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





**HBV SERIES**

**3/4" HOSE CONNECTION VACUUM BREAKER BACKFLOW PREVENTER**



3/4" APOLLO INTERNATIONAL™ (OPTIONAL SATIN CHROME FINISH SHOWN)

The Apollo® 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.

**PERFORMANCE RATING**

- Maximum Working Pressure: 125 psig
- Maximum Temperature: 180° F

**APPROVALS**

- ASSE 1011
- CSA B64.2
- IAPMO

**DIMENSIONS**

PART NO.	MODEL NO.	FINISH	WT./EA
38LF-314-AS	HBVLF234	Satin Brass	.17
38LF-314-CS	HBVLC234	Satin Chrome	.17

38LF-314 shipped in 12 pcs./box

**HBVB SERIES**

**3/4" FREEZE RESISTANT HOSE CONNECTION VACUUM BREAKER**



3/4" APOLLO INTERNATIONAL™

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.

**PERFORMANCE RATING**

- Maximum Working Pressure: 125 psig
- Maximum Temperature: 180° F

**APPROVALS**

- ASSE 1011

**DIMENSIONS**

PART NO.	MODEL NO.	FINISH	WT./EA
38LF-414-AS	HBVBLF2	Satin Brass	.37

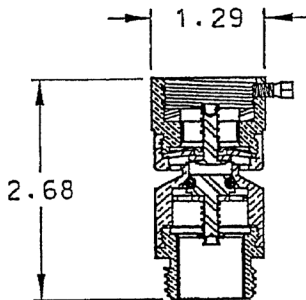


**HBDUC SERIES**

**3/4" HOSE CONNECTION/LAB FAUCET DUAL CHECK BACKFLOW PREVENTER**



38-304-02  
3/4"



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

**STANDARD MATERIALS LIST**

<b>BODY</b>	Brass
<b>SEATS</b>	EPDM
<b>CHECK COMPONENTS</b>	Stainless Steel
<b>CHECK GUIDE</b>	Acetal

Contact local water authorities for installation/service requirements.

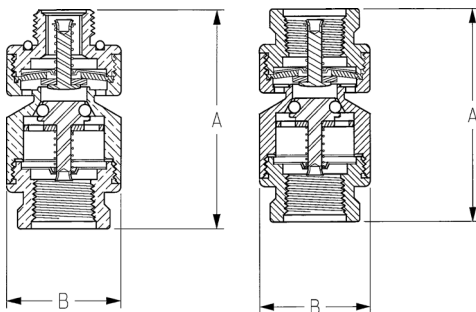
**DIMENSIONS**

PART NO.	MODEL NO.	WT./EA
38-304-02	HBDUC34	.46
38LF-304-02	HBDUCLF34	.46

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**LFDUC SERIES**

**LAB 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
- Easy to Maintain
- Compact and Lightweight
- (-CP2 and -CP3 are Rough Brass Only)

**APPROVALS**

- ASSE 1035
- NSF/ANSI 372 Lead Free

**DIMENSIONS**

PART 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

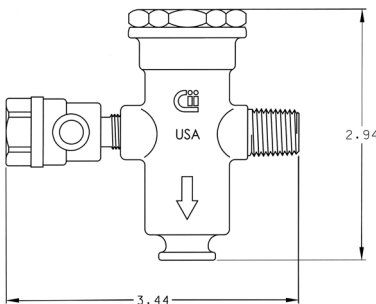
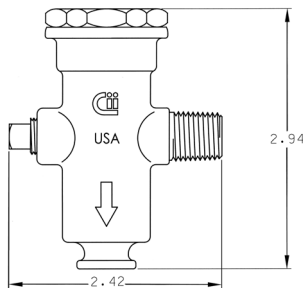
\*American National Standard straight pipe thread for free-fitting mechanical joints (male)

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

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**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
- Corrosion Resistant
- 1/4" Male Pipe Thread Inlet Port
- Available With 1/8" M x 1/4" F Testcock
- Discharge Port Accommodates 5/8" I.D. Hose
- Lead-Free Option
- Mechanical Operating Principle
- Compact Design
- IAPMO listed
- US Patent #6,374,849
- 5 Year Warranty

**PERFORMANCE RATING**

- Nominal Start to Open Temperature of 35°F
- Maximum Operating Pressure: 175 psig
- Maximum Temperature of 180°F

**APPROVALS**

- NSF/ANSI 372 Lead Free (40LF only)

**STANDARD MATERIALS LIST**

<b>BODY</b>	Bronze (C84400/LF C89836)
<b>CAP</b>	Brass
<b>SPRING GUIDE</b>	Brass
<b>SPRING</b>	Stainless Steel
<b>CAP O-RING</b>	Buna-N
<b>GUIDE O-RING</b>	Buna-N
<b>THERMAL ELEMENT</b>	Copper/Stainless Steel/EPDM

Contact local water authorities for installation/service requirements.

**WEIGHTS**

MODEL NO.	NET WEIGHT (LB.)
40-000-FPV1	.70
40-000-FPV2	.77

**MODEL NUMBERS**

MODEL NO.
40-000-FPV1
40-000-FPV2 - w/test cock
40LF-000-FPV1
40LF-000-FPV2F - w/SAE testcock

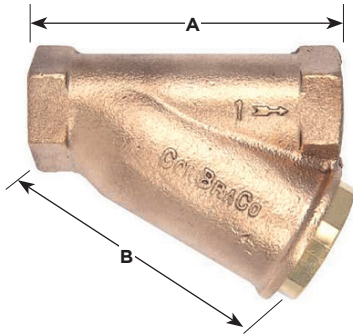
**PART NUMBER MATRIX**

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)



## YB SERIES WYE STRAINERS



Heavy pattern design with large area screens ensures excellent protection against foreign particles in your fluid system. Corrosion-resistant bronze body and stainless steel screens provide years of service.

### FEATURES

- Blow-Off Ball Valve Option (3/4" - 2")
- Replaceable Self-Aligning Screen
- Large Net Flow Area for Longer Maintenance Intervals
- 59-400 Series is Female x Male NPT (3/4" & 1" Only)
- Several Screen and Cap Options
- **Made in USA, ARRA Compliant**

### PERFORMANCE RATING

- Working Pressure:  
CWP: 400 psi (up to 3")  
SWP: 125 psi
- Maximum Temperature: 350° F

### APPROVALS

- NSF/ANSI 372 Lead Free (59LF)
- CRN-0E 8959.5

## DIMENSIONS

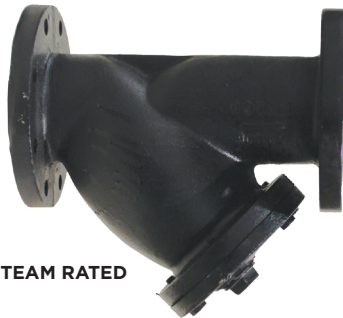
PART NO.	MODEL NO.	SIZE IN.	DIMENSIONS				CAP TAPPING SUFFIX -02	WEIGHT	
			A (IN.)	A (MM.)	B (IN.)	B (MM.)		LB.	KG.
59-001-01	YB14	1/4 NPT	2	50	1-1/4	32	1/8 NPT	.42	.19
59-002-01	YB38	3/8 NPT	2-11/16	68	2	50	1/4 NPT	.79	.36
59-003-01	YB12	1/2 NPT	2-11/16	68	2	50	1/4 NPT	.75	.34
59-004-01	YB34	3/4 NPT	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



## YCF SERIES CLASS 125 CAST IRON WYE STRAINER



LEAD FREE



STEAM RATED

The Apollo International™ YCF Strainers are designed to protect piping systems and process equipment from unwanted foreign particles with minimum pressure loss.

### FEATURES

- Iron Strainer with Flat Face Flanges Conforms to ASME/ANSI 16.1 Class 125
- One Piece Cast Body Meets ASME Standard
- Epoxy Coating Models conform to FDA CFR21, Section 175.300 and NSF/ANSI 372 Lead Free
- Equipped with Bolted Cover Employing Flat Gasket Seal
- Upper and Lower Machined Seats for Self-Aligning Screen Design
- 304 SS Perforated Screens are Standard (P045 STD 2"-3", P125 STD 4"-12")
- Tapped Blow Off Connection with Plug
- 100% Factory Pressure Tested

### PERFORMANCE RATING (LEAD FREE)

- Working Pressure:  
CWP: 200 psi @ 150° F
- **\*not for steam service.**

### PERFORMANCE RATING (STEAM RATED)

- Working Pressure:  
CWP 200 PSIG  
SWP 125 PSIG @ 352°F

### STANDARD MATERIALS LIST

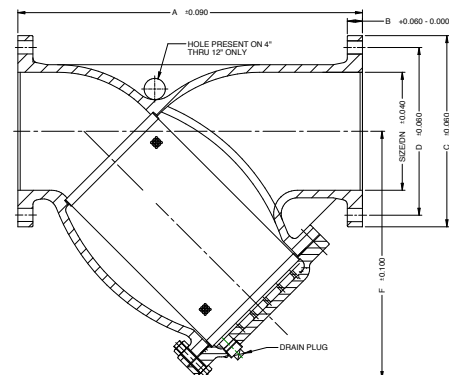
<b>BODY</b>	Cast Iron, ASTM A126-B
<b>CAP/COVER</b>	Cast Iron, ASTM A126-B
<b>PLUG</b>	Carbon Steel, ASTM A307
<b>BOLT/STUD/NUT</b>	Carbon Steel, ASTM A307
<b>SCREEN</b>	304 Stainless Steel
<b>GASKET</b>	Graphite
<b>COATING (LEAD FREE ONLY)</b>	Epoxy, FDA Approved

### DIMENSIONS

PART NUMBER STEAM RATED	PART NUMBER LEAD FREE	SIZE/DN		A		B		C		D		E		F		DRAIN PLUG		WEIGHT	
		IN	MM	IN	MM	IN	MM	IN	MM	IN	MM	IN	MM	IN	MM	IN	MM	LB.	KG.
YCF02P045	YCF02P045E	2"	50	8.86	255	0.63	16	5.98	152	4.75	121	0.75	19	6.30	160	1/2"	4	23	11
YCF25P045	YCF25P045E	2-1/2"	65	10.75	273	0.69	18	7.01	178	5.50	140	0.75	19	7.64	194	1"	4	34	15
YCF03P045	YCF03P045E	3"	80	11.50	292	0.75	19	7.48	190	6.00	153	0.75	19	8.86	225	1"	4	47	21
YCF04P125	YCF04P125E	4"	100	13.86	352	0.94	24	8.98	228	7.50	191	0.75	19	10.63	270	1-1/4"	8	72	33
YCF05P125	YCF05P125E	5"	125	16.38	416	0.94	24	10.00	254	8.50	216	0.88	22	12.60	320	1-1/4"	8	111	50
YCF06P125	YCF06P125E	6"	150	18.50	470	1.00	25	10.98	279	9.50	242	0.88	22	14.69	373	1-1/2"	8	150	68
YCF08P125	YCF08P125E	8"	200	21.38	543	1.12	29	13.46	342	11.75	299	0.88	22	17.72	450	1-1/2"	8	235	107
YCF10P125	YCF10P125E	10"	250	25.98	660	1.18	30	15.98	406	14.25	362	1.00	25	20.67	525	2"	12	369	168
YCF12P125	YCF12P125E	12"	300	30.00	762	1.25	32	19.02	483	17.00	432	1.00	25	23.94	608	2"	12	552	250

### PART NUMBER MATRIX

YCF	XXX	XXX[X]	X
	CONNECTION SIZE	SCREEN TYPE	OPTION
YCF (FLAT FACE)	F02 - FLANGED 2"	M20 - 20 MESH	E - EPOXY COATING, FDA APPROVED
	F25 - FLANGED 2.5"	M40 - 40 MESH	LEAD FREE ONLY, NOT FOR STEAM
	F03 - FLANGED 3"	M80 - 80 MESH	
	F04 - FLANGED 4"	M100 - 100 MESH	
	F05 - FLANGED 5"	P045 - .045" PERF	
	F06 - FLANGED 6"	P125 - .125" PERF	
	F08 - FLANGED 8"		
	F10 - FLANGED 10"		
	F12 - FLANGED 12"		



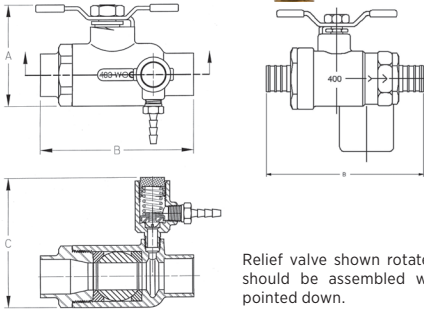
\*All mesh screens include liner:  
.045" Perf on 3" and smaller  
.125" Perf on 4" and larger

\*\*All screens not available for all sizes.

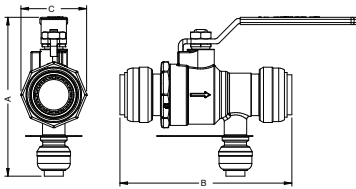
\*\*\*Limited screen options available for non-lead free steam rated version.



**78RV SERIES**  
THERMAL EXPANSION RELIEF VALVE



**PUSH OPTION**



The Apollo® 78RV combines thermal expansion protection and water heater shut-off in a single, simple installation. They're space saving and a less costly alternative to large expansion tanks. Made in the USA, featuring lead free dezincification resistant brass materials.

**FEATURES**

- 3/4" Solder, NPT, and PEX Ball Valve Connections
- Corrosion Resistant, Heavy Pattern, Forged Brass, Materials
- Chrome-Plated Ball
- Thermal Relief Valve is Factory Preset and Sealed
- Relief Valve Features Soft Seat and Stainless Steel Spring
- Relief Valve Available with Hose Barb, 1/2" PEX, 3/8" Compression or 1/2" Combination Solder/Thread Fitting

- Multiple Relief Pressure Kit Options
- Easily Identifiable White Handle Grip and Blue "Lead Free" Hang Tag
- EZ-Solder™ Lead Free Brass

**PERFORMANCE RATING**

- Maximum Temperature: 210°F

**APPROVALS**

- IAPMO IGC 128-2008
- City of Los Angeles Registered
- CSA B125.1 & B125.3

**DIMENSIONS**

PART NUMBER	SIZE (IN.)	DIMENSIONS (IN.)			WT. (LB.)
		A	B	C	
78LF-300	3/4" Solder	4.0	3.9	3.3	.687
78LF-400	3/4" FNPT	3.9	2.8	3.3	.750
78LF-700	3/4" PEX	3.9	3.8	3.3	.750

**DIMENSIONS - PUSH OPTION**

PART NUMBER	SIZE (IN.)	DIMENSIONS (IN.)			PORT DIA. (IN.)	PRESSURE
		A	B	C		
78RV88P80	3/4" PUSH	3.9	4.2	1.6	.750	80
78RV88P100	3/4" PUSH	3.9	4.2	1.6	.750	100
78RV88P125	3/4" PUSH	3.9	4.2	1.6	.750	125

**PART NUMBER MATRIX**

X	78 / 78LF X	X RV
PRESSURE SETTING	SIZE	RELIEF VALVE CONNECTION
0 - 125 PSIG	3 - 3/4" SOLDER	4 - HOSE BARB
1 - 100 PSIG	4 - 3/4" NPT	5 - PEX
2 - 80 PSI	7 - 3/4" PEX	6 - COMPRESSION FITTING
		7 - 1/2" NPT/SWT FITTING

**EXPT SERIES**  
EXPANSION TANKS FOR POTABLE SYSTEMS



Apollo® Model EXPT expansion tanks are designed for use in domestic systems installations for sanitary hot water applications to absorb pressure increases from the heating process.

**FEATURES**

- Food quality chlorobutyl diaphragm
- Drawn Steel Construction
- Durable Triple Coated Almond Epoxy Finish
- Field Adjustable Pressure Setting
- Corrosion Resistant Liner Connection
- Lead Free Certified

**PERFORMANCE RATING**

- Maximum Pressure: 150 psi
- Maximum Temperature: 200°F
- Pre-Charge Pressure: 35 psi

**APPROVALS**

- NSF/ANSI 61 Water Quality
- IAPMO

MODEL NUMBER	PART NUMBER	CAPACITY (GAL.)	EXP. VOL- UME (GAL.)	CONNECTION SIZE (NPT)	DIAMETER (IN.)	HEIGHT (IN.)	WEIGHT (LB.)
EXTP2	40XT1-04	2.10	0.9	3/4	8.0	12.5	4.7
EXTP5	40XT3-04	4.5	2.5	3/4	11.0	15.0	8
EXTP10	40XT5-04	10	5.2	3/4	11.5	20	13.5

Maximum expansion volume is based on 35 psi.

**TK SERIES**

**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.

PART NO.	MODEL NO.	APPLICATION	WT./EA (LB.)	WT./CASE (LB.)
40-200-TKU	TK3	ALL DCV, RPZ, PVB & SVB	6.1	9.5
40-200-TK5U	TK5	ALL DCV, RPZ, PVB & SVB	6.1	9.5

**TEST KIT ADAPTER FITTINGS**

Brass fitting which installs onto backflow preventer testcocks by hand to provide quicker testing. Sets of three fittings with o-rings for 1/4" SAE connections to the test kits. Packaged in a resealable plastic bag.



PART NO.	MODEL NO.	SIZE	BACKFLOW APPLICATION
40-000-TFK	TFK14	1/4" SAE x 1/4" NPT	1/4" - 2"
40-001-TFK	TFK12	1/4" SAE x 1/2" NPT	2-1/2" - 6"
40-002-TFK	TFK34	1/4" SAE x 3/4" NPT	8" - 12"
40-003-TFK	TFKSET	Set of all 3 sizes	1/4" - 12"

**HCPG SERIES**

**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 lb.

**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**

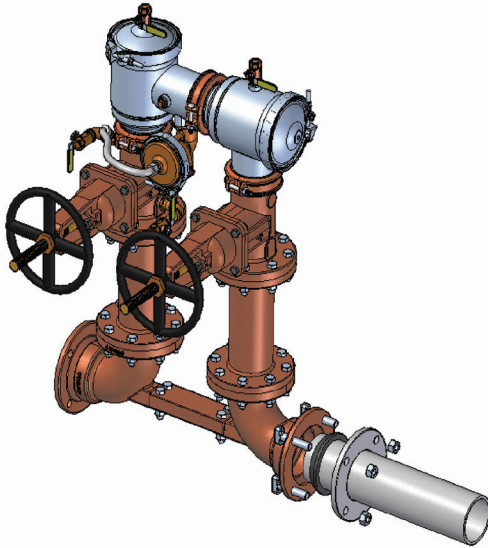


Test valve used to provide accurate readings in field test of the Double Check Valve backflow preventers. Benefits include quick connections, quick bleed off of testing lines and useful in tight locations.

Ordering No. - 40-200-BV



**4AN SERIES  
VALVE SETTERS**



Apollo® 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.

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.

**PART NUMBER MATRIX**

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

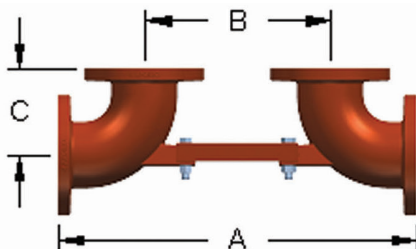
**DIMENSIONS**

SIZE	MODEL	DIMENSIONS (IN.)			WT./EA (LB.)
		A	B	C	
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
	F	27	14	6-1/2	87.1
4"	MJF	24	14	6-1/2	71.1
	MJ	24	14	7-1/2	65.1
	F	32	16	8	147.5
6"	MJF	29	16	8	115.3
	MJ	29	16	9	107.1
	F	36-1/2	18-1/2	9	236.30
8"	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	405
12"	F	50-3/4	26-3/4	12	547

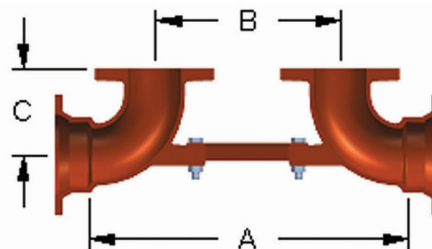
**STANDARD MATERIALS LIST**

<b>SETTER BODY</b>	Ductile Iron (ASTM A536)
<b>SETTER CENTER BRACE</b>	Hot Rolled Steel (ASTM A36)
<b>SETTER BOLTS/NUTS</b>	Stainless Steel
<b>COATING</b>	Fusion-Bonded FDA Grade Epoxy Internal & External

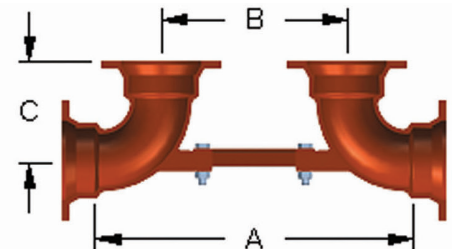
Contact local water authorities for installation/service requirements.



FLANGE X FLANGE (F)



MECHANICAL JOINT X FLANGE (MJF)



MECHANICAL JOINT X MECHANICAL JOINT (MJ)





**SHUT-OFF VALVES**



**FLANGE X GROOVE**

**NON-RISING STEM (NRS)**

SIZE	FLANGE X GROOVE	GROOVE X GROOVE	FLANGE X FLANGE
2-1/2"	W286800	W287400	-
3"	W286900	W287500	-
4"	W287000	W287600	-
6"	W287100	W287700	-
8"	W287200	W287800	-
10"	W287300	W287900	W-2866-00
12"	-	-	W-2867-00

AWWA



**FLANGE X GROOVE**

**OUTSIDE STEM & YOKE (OS&Y)**

SIZE	FLANGE X GROOVE	GROOVE X GROOVE	FLANGE X FLANGE
2-1/2"	W288700	W289300	-
3"	W288800	W289400	-
4"	W288900	W289500	-
6"	W289000	W289600	-
8"	W289100	W289700	-
10"	W289200	W289800	W-2885-00
12"	-	-	W-2886-00

AWWA, UL Listed, ULC Listed, FM Approved

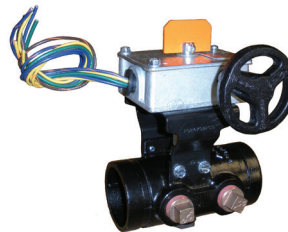


**FLANGE X GROOVE**

**POST INDICATOR (PI)**

SIZE	FLANGE X GROOVE	GROOVE X GROOVE
3"	W912500	W923600
4"	W912600	W923700
6"	W912700	W923800
8"	W912800	W923900
10"	W912900	-

UL Listed, ULC Listed, FM Approved



**MONITORED BUTTERFLY (BG)**

SIZE	GROOVE X GROOVE
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**

**91 SERIES BRONZE BALL VALVE (BV)**

SIZE	INLET FXF NPT	OUTLET FXF NPT	INLET FXF NPT	OUTLET FXF NPT	SIZE	INLET FXF NPT	OUTLET FXF NPT	INLET FXF NPT	OUTLET FXF NPT
	4A A SERIES		4ALF A SERIES			4A A SERIES UNION BALL VALVES	4ALF A SERIES UNION BALL VALVES		
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	3/4"	91B-304-83	91C-304-83	91BLF-304-83	91CLF-304-83
1"	91B-105-83	91C-105-83	91BLF-105-83	91CLF-105-83	1"	91B-305-83	91C-305-83	91BLF-305-83	91CLF-305-83
1-1/4"	91B-106-84	91C-106-84	91BLF-106-84	91CLF-106-84	1-1/4"	91B-306-84	91C-306-84	91BLF-306-84	91CLF-306-84
1-1/2"	91B-107-84	91C-107-84	91BLF-107-84	91CLF-107-84	1-1/2"	91B-307-84	91C-307-84	91BLF-307-84	91CLF-307-84
2"	91B-108-84	91C-108-84	91BLF-108-84	91CLF-108-84	2"	91B-308-84	91C-308-84	91BLF-308-84	91CLF-308-84

**TESTCOCKS**

**TESTCOCKS FOR SMALL BACKFLOW**



MALE X FNPT	LEAD FREE - MALE X FNPT
1/8" x 1/4"	1/8" x 1/4"
78 290 01	78LF 290 01
1/4" x 1/4"	1/4" x 1/4"
78 291 01	78LF 291 01



MALE X SAE FLARE	LEAD FREE - MALE X SAE FLARE
1/8" x Flare*	1/8" x Flare
78 292 01	78LF 292 01
1/4" x Flare**	1/4" x Flare
78 293 01	78LF 293 01

\* 1/8" - 1/4" devices  
\*\* 1-1/4" - 2" devices



**LEAD FREE TESTCOCKS FOR LARGE BACKFLOW**

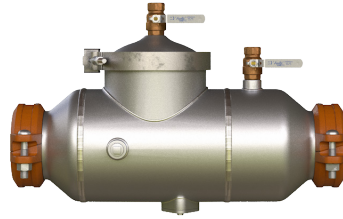


2-1/2" TO 4" SS ASSEMBLIES	
SS Cover Testcock	77CLF803A0
SS Body Testcock	77CLF80310
Shutoff Valves T/C	77CLF10310
6" SS ASSEMBLIES	
SS Cover Testcock	77CLF804A0
SS Body Testcock	77CLF80410
Shutoff Valves T/C	77CLF10410
8" SS ASSEMBLIES	
Cover & Body T/C	77CLF80410
Shutoff Valves T/C	77CLF10410
10" AND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

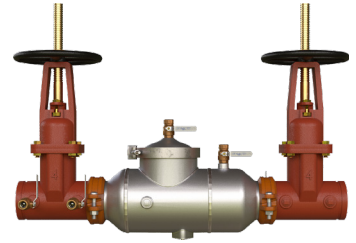


# SHUT-OFF VALVE OPTIONS

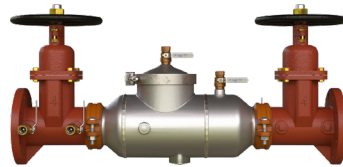
PART# OPTION	MODEL# OPTION
-01	-LS
LESS SHUTOFF VALVES	



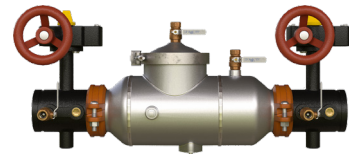
PART# OPTION	MODEL# OPTION
-08	-OG
OS&Y (GROOVED) x OS&Y (GROOVED)	



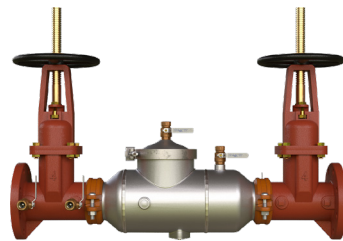
PART# OPTION	MODEL# OPTION
-02	-NF
NRS (FLANGED) x NRS (FLANGED)	



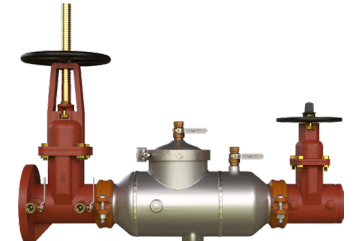
PART# OPTION	MODEL# OPTION
-09	-BG
MONITORED BUTTERFLY (GROOVED) x MONITORED BUTTERFLY (GROOVED)	



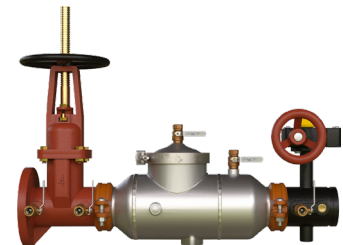
PART# OPTION	MODEL# OPTION
-02	-NF
OS&Y (FLANGED) x OS&Y (FLANGED)	



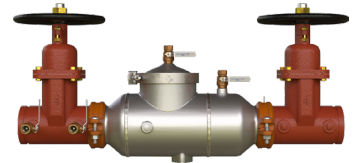
PART# OPTION	MODEL# OPTION
-010	-OFFIG
OS&Y (FLANGED) x POST INDICATOR (GROOVED)	



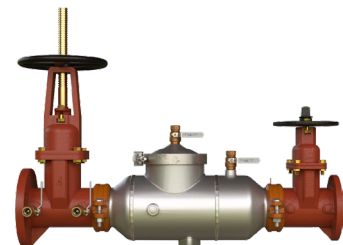
PART# OPTION	MODEL# OPTION
-04	-OFBG
OS&Y (FLANGED) x MONITORED BUTTERFLY (GROOVED)	



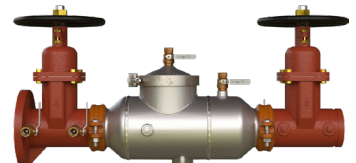
PART# OPTION	MODEL# OPTION
-011	-NG
NRS (GROOVED) x NRS (GROOVED)	



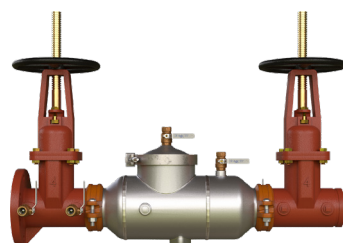
PART# OPTION	MODEL# OPTION
-06	-OFFIF
OS&Y (FLANGED) x POST INDICATOR (FLANGED)	



PART# OPTION	MODEL# OPTION
-012	-NFG
NRS (FLANGED) x NRS (GROOVED)	



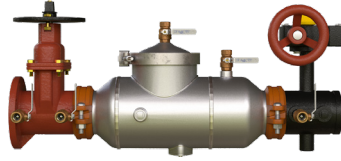
PART# OPTION	MODEL# OPTION
-07	-OFG
OS&Y (FLANGED) x OS&Y (GROOVED)	



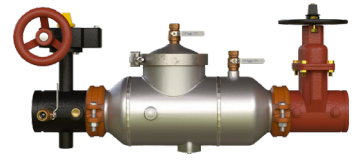


# SHUT-OFF VALVE OPTIONS

PART# OPTION	MODEL# OPTION
-013	-PIFBVG
POST INDICATOR (FLANGED) x MONITORED BUTTERFLY (GROOVED)	



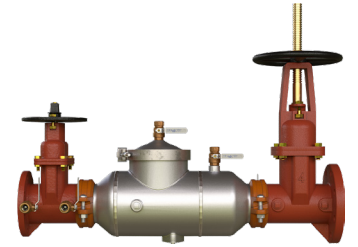
PART# OPTION	MODEL# OPTION
-019	-BVGPIG
MONITORED BUTTERFLY (GROOVED) x POST INDICATOR (GROOVED)	



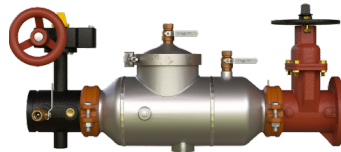
PART# OPTION	MODEL# OPTION
-014	-PIF
POST INDICATOR (FLANGED) x POST INDICATOR (FLANGED)	



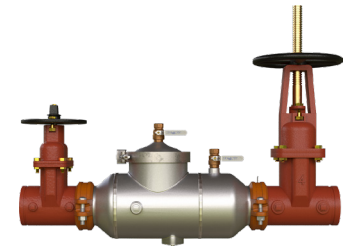
PART# OPTION	MODEL# OPTION
-020	-PIFOF
POST INDICATOR (FLANGED) x OS&Y (FLANGED)	



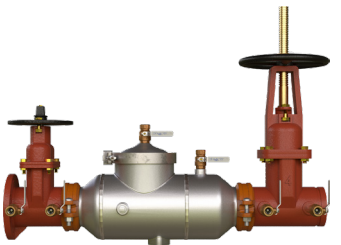
PART# OPTION	MODEL# OPTION
-016	-BVGPIF
MONITORED BUTTERFLY (GROOVED) x POST INDICATOR (FLANGED)	



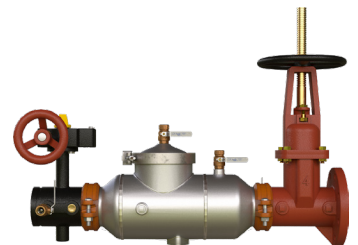
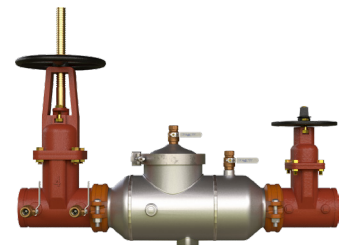
PART# OPTION	MODEL# OPTION
-021	-PIGOG
POST INDICATOR (GROOVED) x OS&Y (GROOVED)	



PART# OPTION	MODEL# OPTION
-017	-FPIOG
POST INDICATOR (FLANGED) x OS&Y (GROOVED)	



PART# OPTION	MODEL# OPTION
-018	-OGPIG
OS&Y (GROOVED) x POST INDICATOR (GROOVED)	





### 4A, 4AN AND RPS 40 SERIES AIR GAP DRAIN



For installation with all 4A, 4An and RPS 40 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.

#### AGD4A6 (2-1/2" - 6")

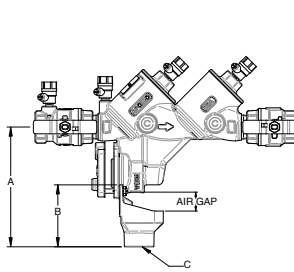
RP SIZE	AIR GAP PART NUMBER	DIMENSIONS (IN.)				OUTLET CONNECTION (FNPT)	WT. (LB.)
		A	B	C	D		
<b>RP4A</b>							
2-1/2"	AGD4A6	11.28	-	2.63	3.13	2"	0.7
3"	AGD4A6	11.28	-	2.63	3.13	2"	0.7
4"	AGD4A6	12.02	-	2.63	3.13	2"	0.7
6"	AGD4A6	13.32	-	2.63	3.13	2"	0.7
<b>RP4AN</b>							
2-1/2"	AGD4A6	-	10.87	2.63	3.13	2"	0.7
3"	AGD4A6	-	10.87	2.63	3.13	2"	0.7
4"	AGD4A6	-	10.51	2.63	3.13	2"	0.7
6"	AGD4A6	-	11.76	2.63	3.13	2"	0.7

#### AGD4A8 (8")

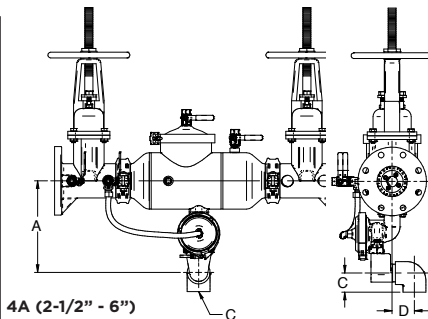
RP STYLE	AIR GAP PART NUMBER	DIMENSIONS (IN.)		OUTLET PIPE SIZE	OUTLET CONNECTION (FNPT)	WT. (LB.)
		A	B			
RP4A	AGD4A8	21.3	9.1	3"	2-1/2"	1.5
RP4AN	AGD4A8	19.8	9.1	3"	2-1/2"	1.5

#### AGD4A12 (10" & 12")

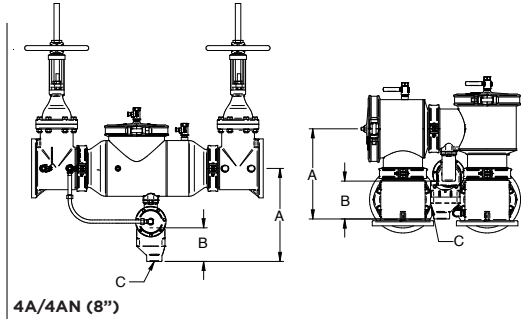
RP STYLE	AIR GAP PART NUMBER	DIMENSIONS (IN.)		OUTLET PIPE SIZE	OUTLET CONNECTION (FNPT)	WT. (LB.)
		A	B			
RP4A	AGD4A12	26.3	7.7	4"	3"	5
RP4AN	AGD4A12	23.4	7.7	4"	3"	5



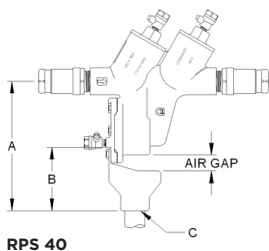
4A (1/2" - 2")



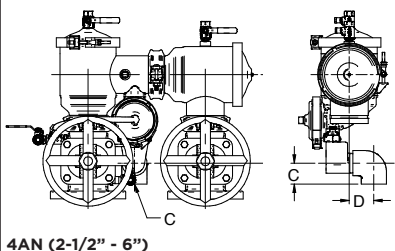
4A (2-1/2" - 6")



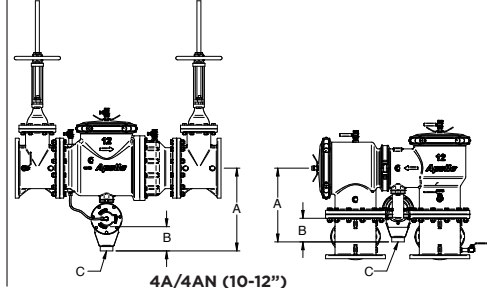
4A/4AN (8")



RPS 40



4AN (2-1/2" - 6")



4A/4AN (10-12")



# PRESSURE DROP Calculator

Apollo® Backflow Preventers are designed to provide positive protection against backflow while also producing the lowest possible pressure drop at all flow rates.

Find accurate, 3<sup>rd</sup> party verified, pressure loss quickly & easily using the Apollo® Backflow Pressure Drop Calculator.

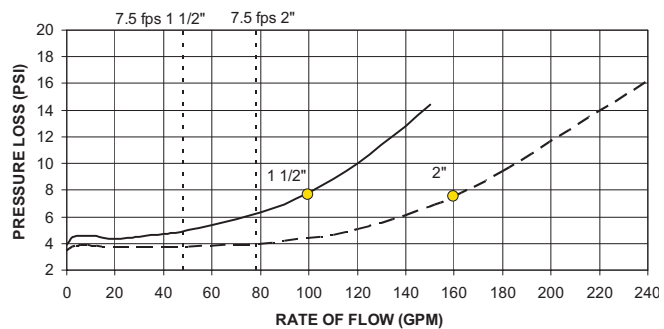
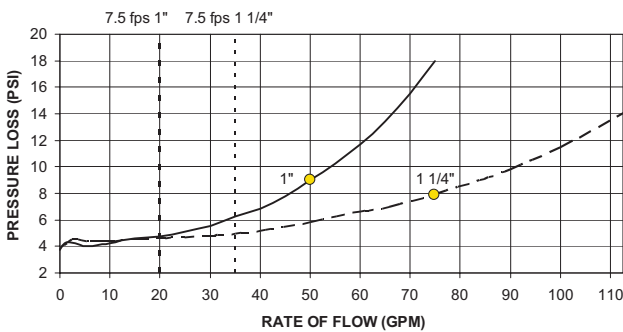
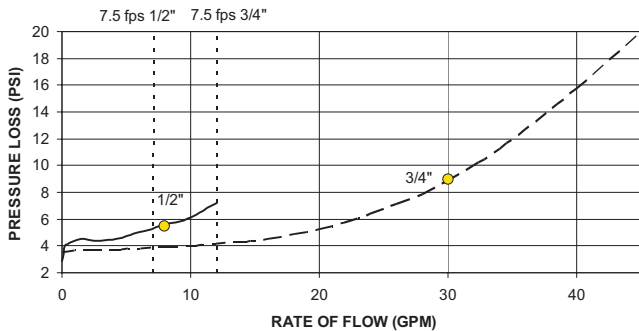
**PDC.APOLLOVALVES.COM**

**PRESSURE LOSS CURVE NOTES:**

Flow curves directly reflect data collected by independent approval laboratories.  
 All data points are based on increasing flow data, from zero GPM to rated flow (opening curve).  
 For higher flow rates/pressure loss information - contact factory.

**DC 4A / DCLF 4A & DC 4AST / DCLF 4AST (1-1/2" - 2")**  
 FLOW CURVES

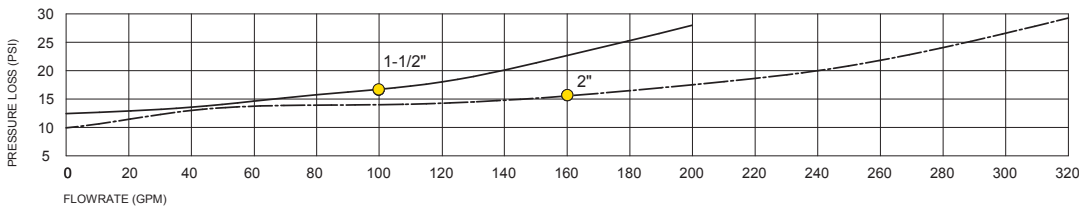
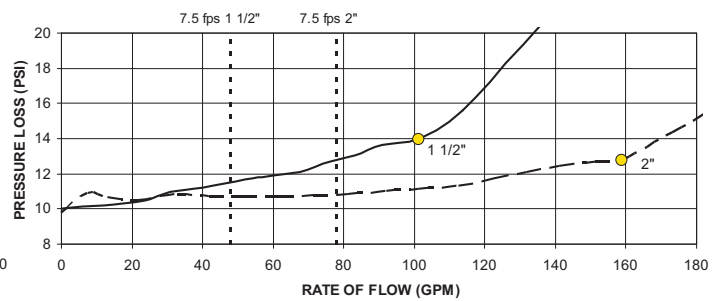
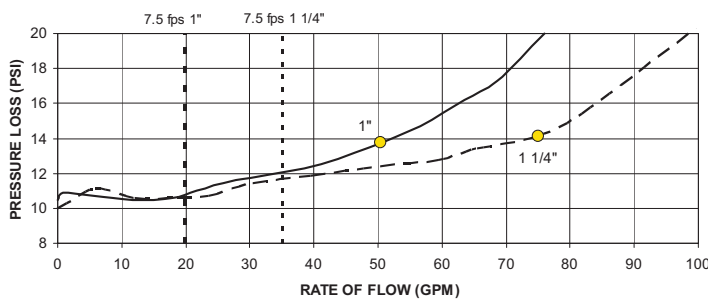
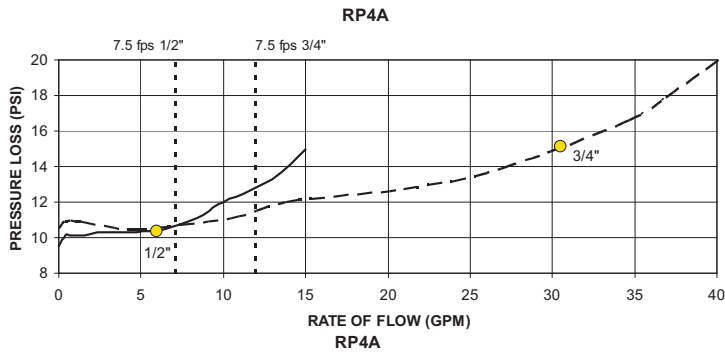
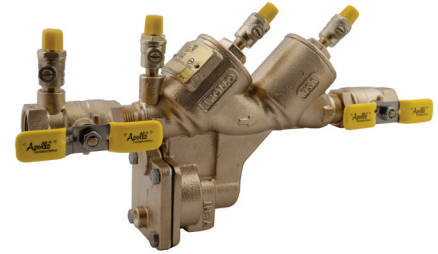
Pressure loss versus flow data as determined by independent approval agencies.



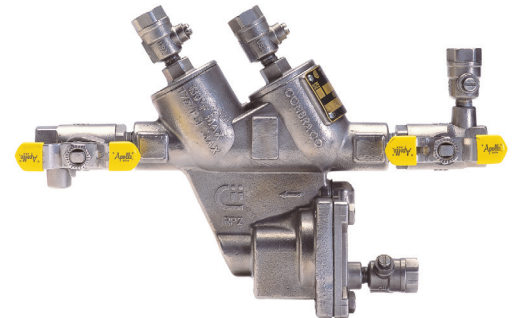
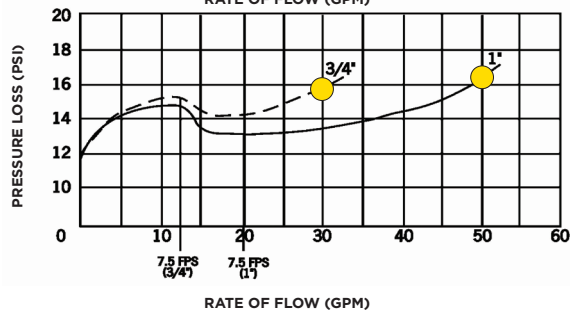
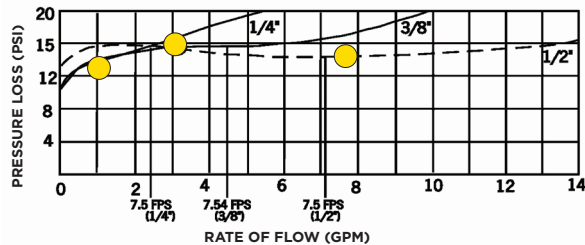
● **METER RATED FLOW**



**RP 4A / RPLF 4A & RP 4AST / RPLF 4AST (1-1/2" - 2")**  
FLOW CURVES



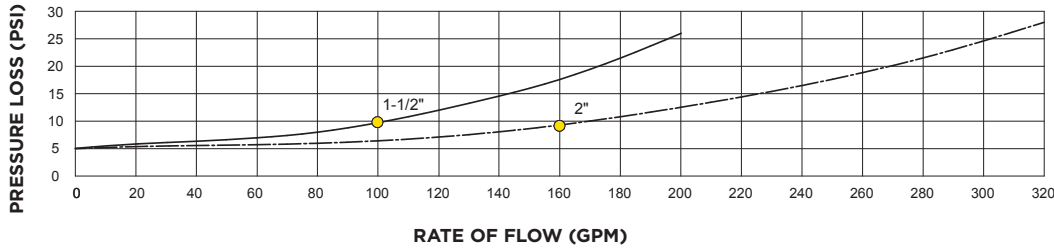
**RPS 40**  
FLOW CURVES



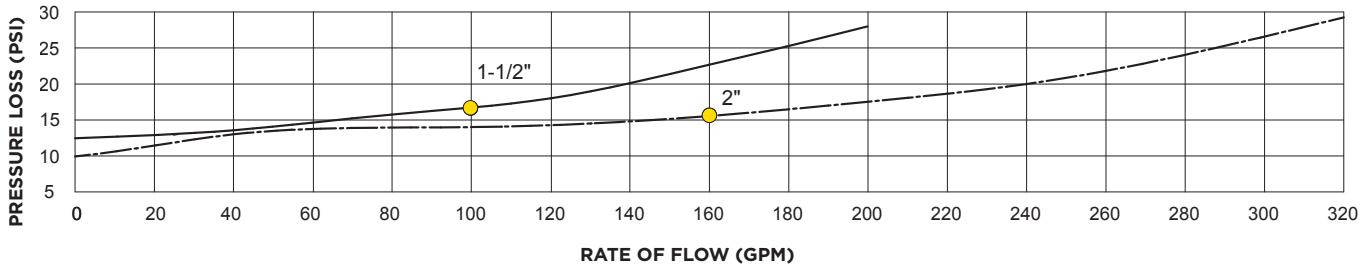
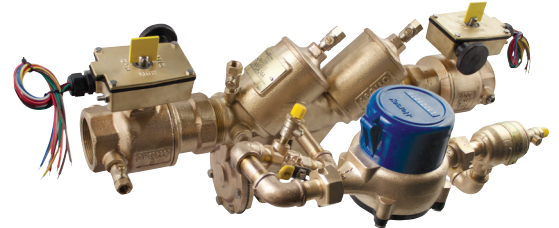
**METER RATED FLOW**

Pressure loss versus flow data as determined by independent approval agencies.

**DCDA2 4A / DCDA2LF 4A**  
FLOW CURVES



**RPDA2/RPDA2LF 4A SERIES**  
FLOW CURVES

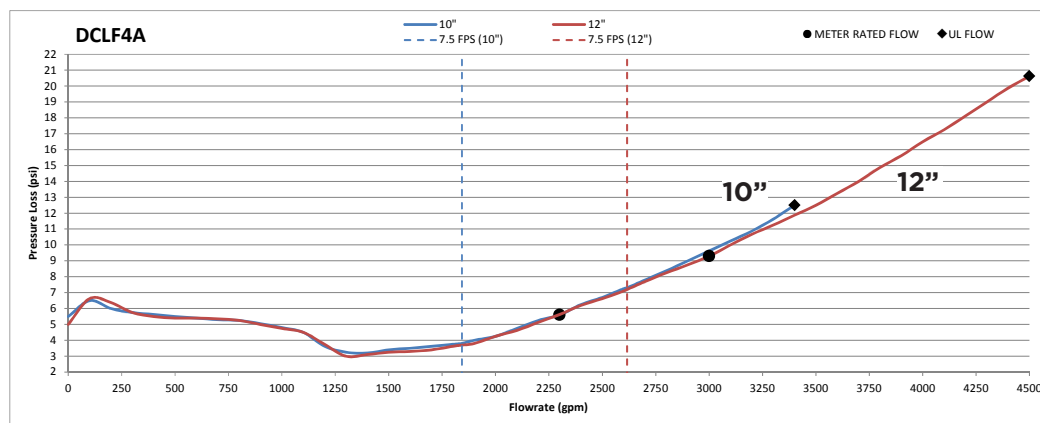
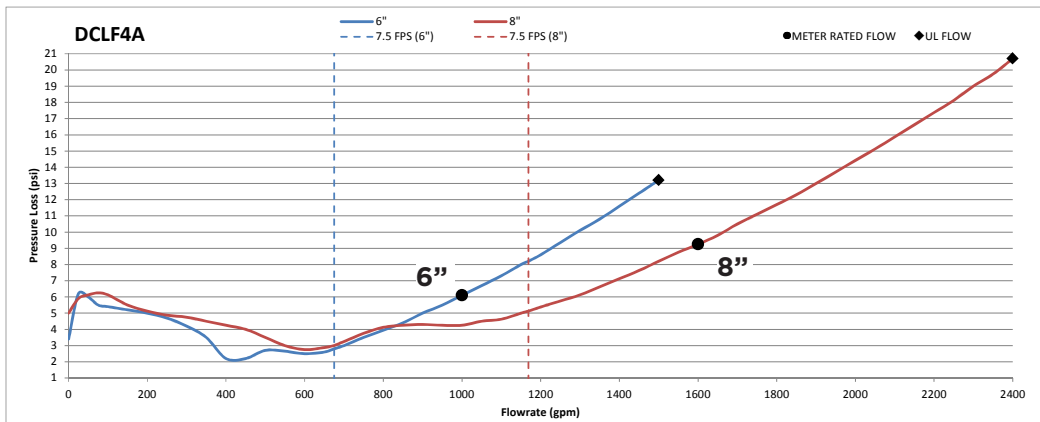
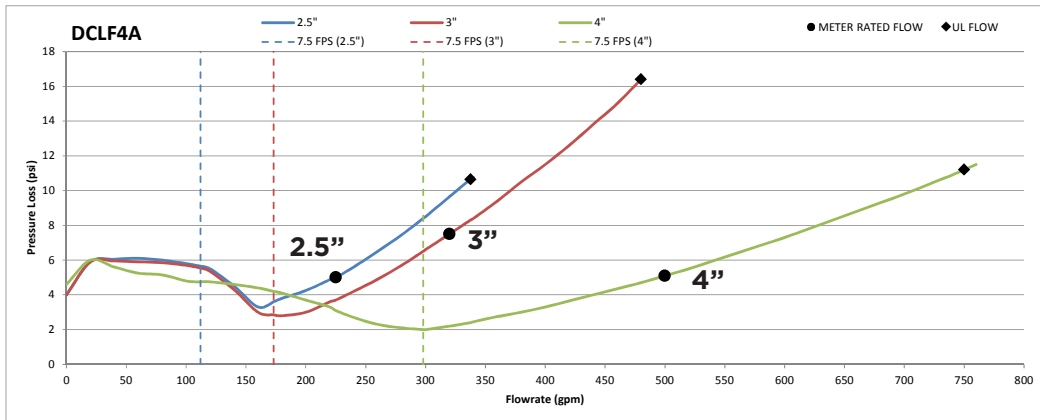
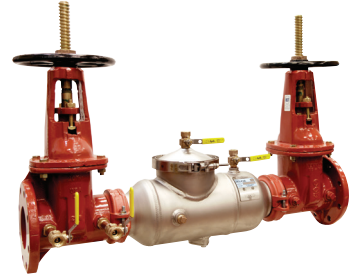


**METER RATED FLOW**

Pressure loss versus flow data as determined by independent approval agencies.



**DCLF 4A**  
FLOW CURVES

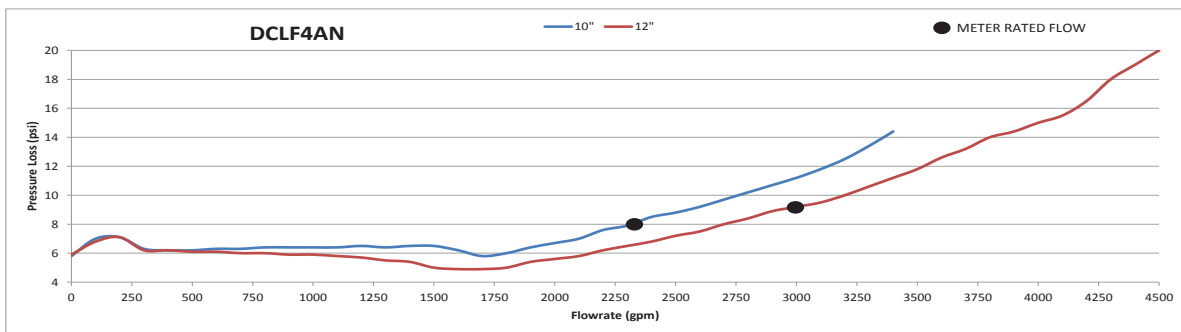
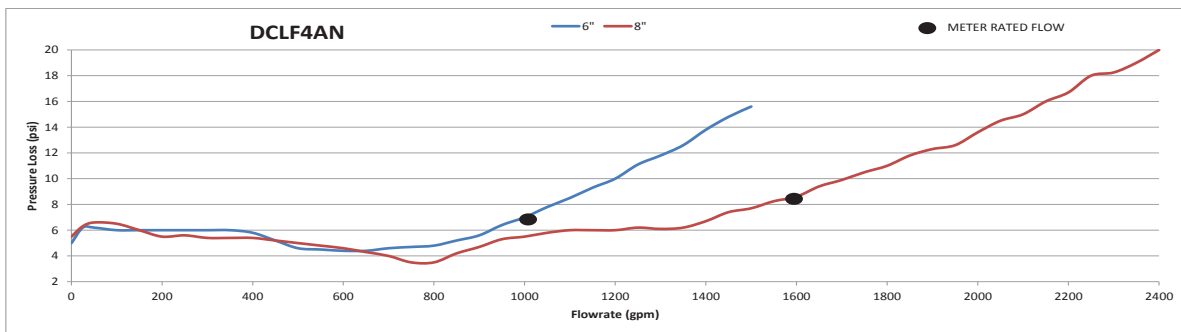
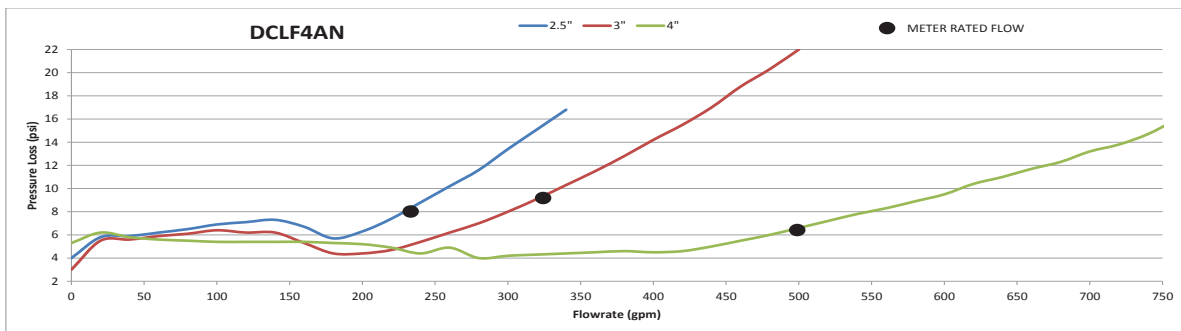


**METER RATED FLOW**  
Pressure loss versus flow data as determined by independent approval agencies.





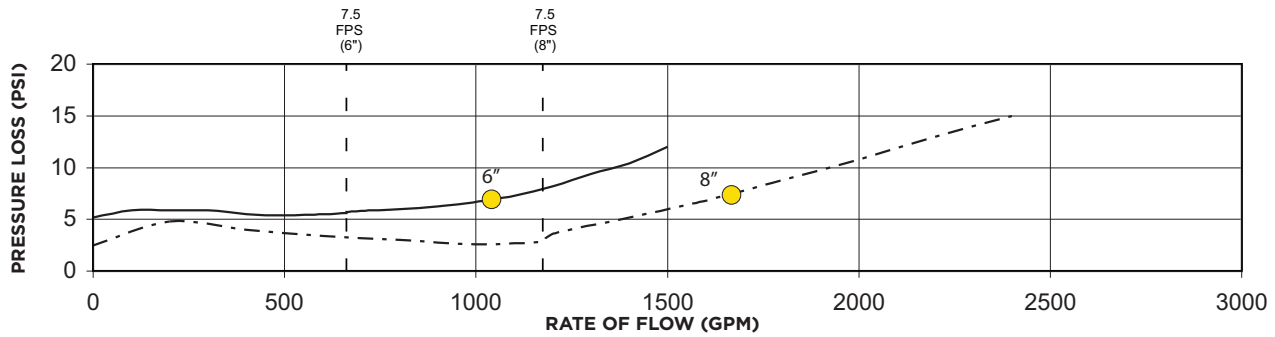
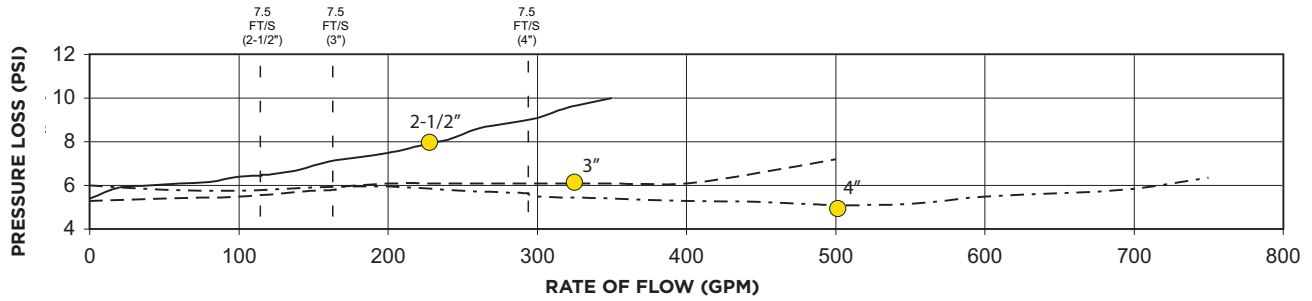
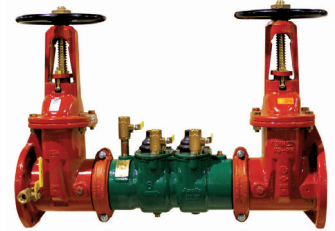
**DCLF 4AN**  
FLOW CURVES



**METER RATED FLOW**

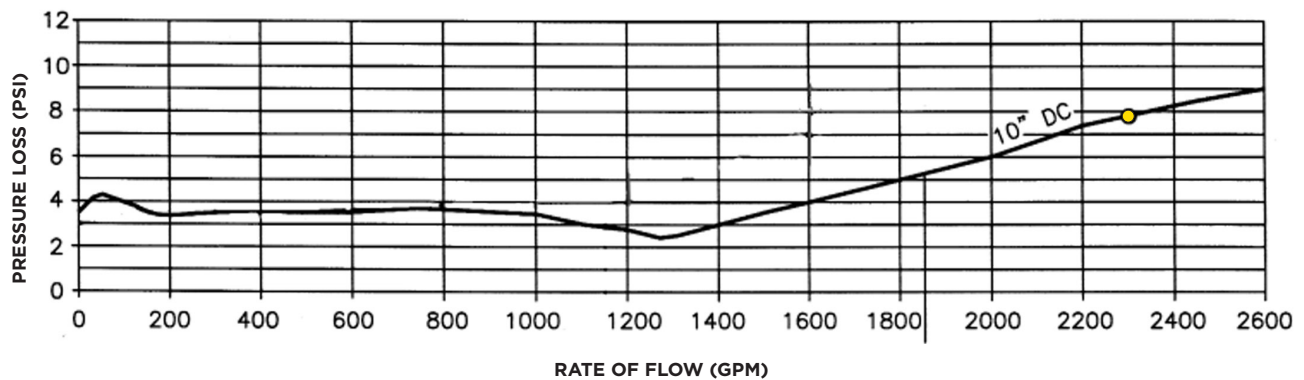
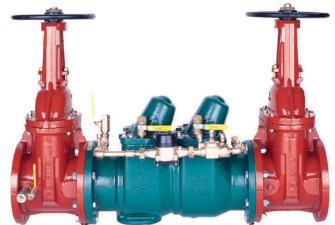
Pressure loss versus flow data as determined by independent approval agencies.

**DC 4SGLF / DCDA 4SG**  
FLOW CURVES



**DC 4S / DCDA 4S**  
FLOW CURVES

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

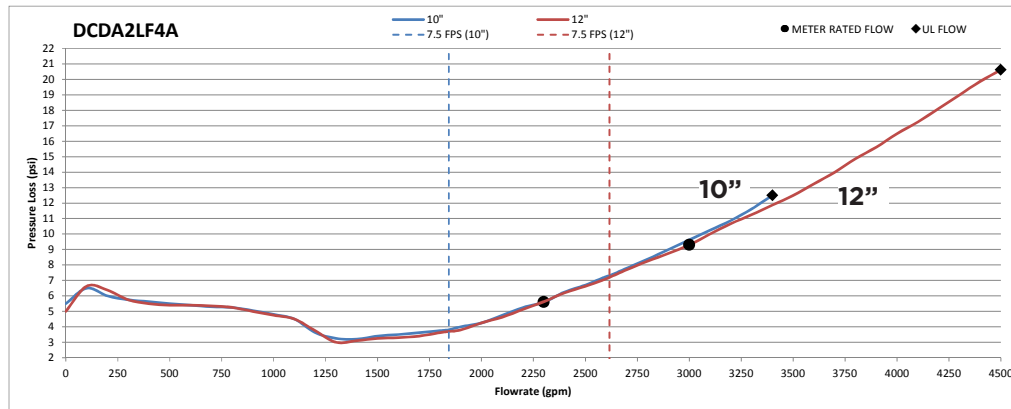
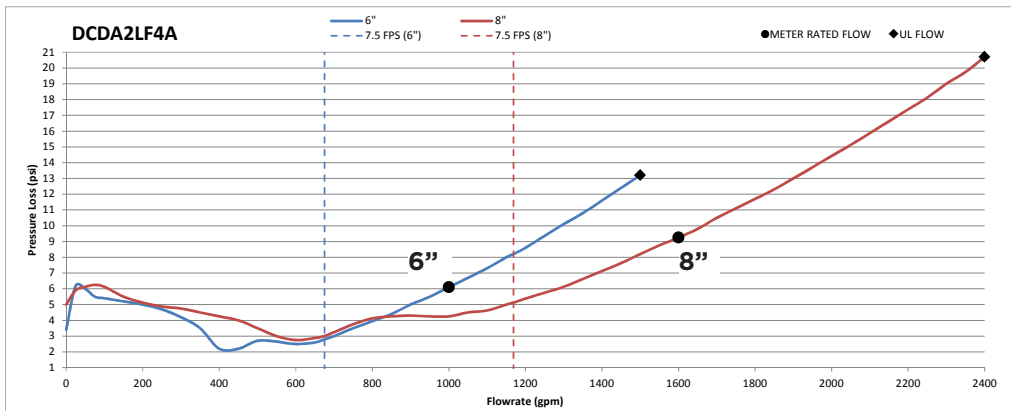
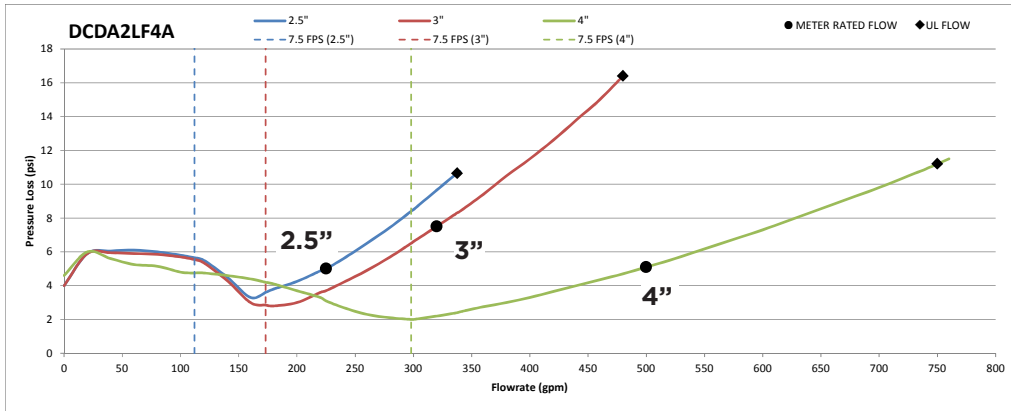


**METER RATED FLOW**

Pressure loss versus flow data as determined by independent approval agencies.



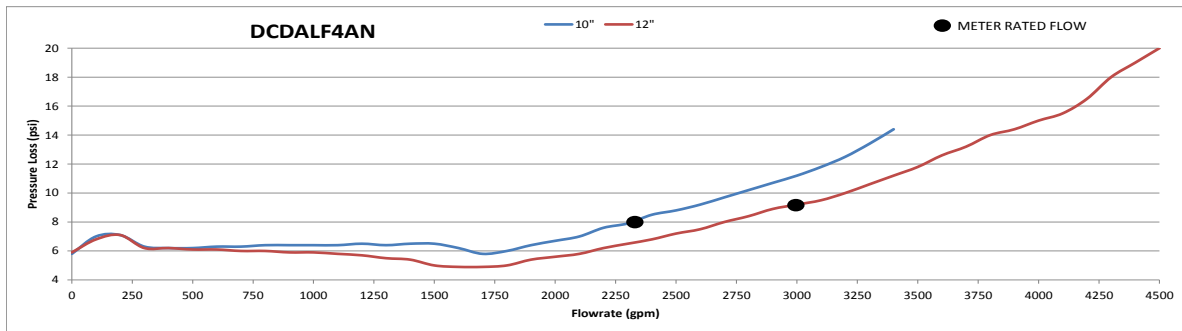
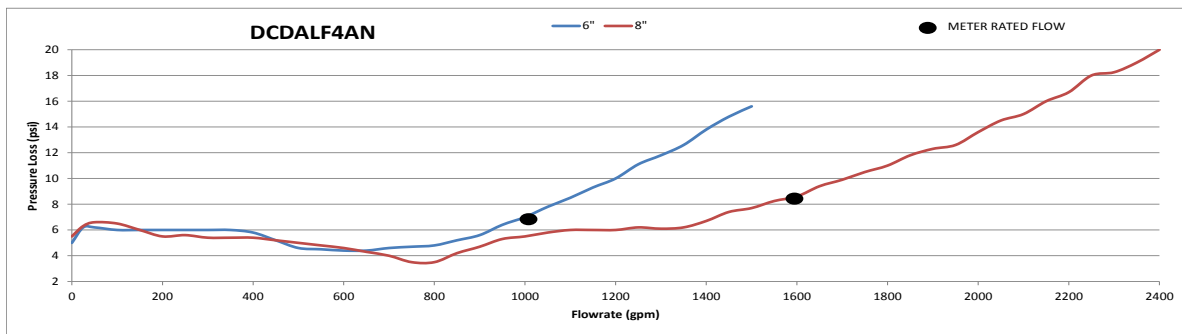
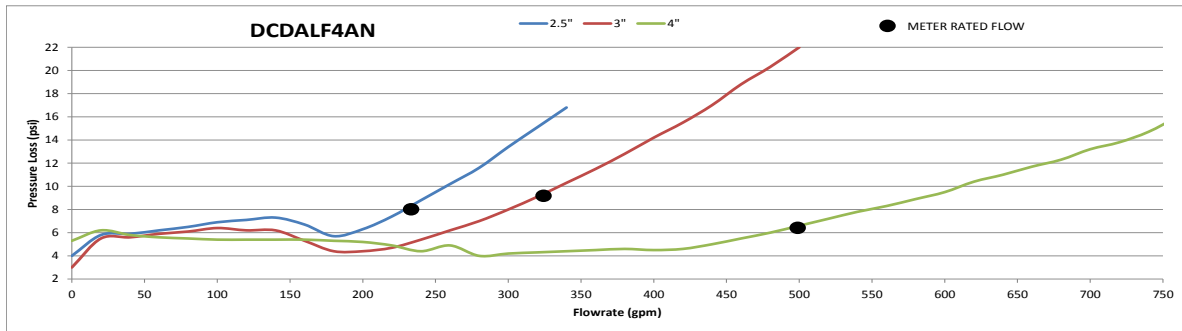
DCDALF 4A / DCDA2LF 4A  
FLOW CURVES



**METER RATED FLOW**  
Pressure loss versus flow data as determined by independent approval agencies.

**DCDALF 4AN / DCDA2LF 4AN**  
FLOW CURVES

Pressure loss versus flow data as determined by independent approval agencies.



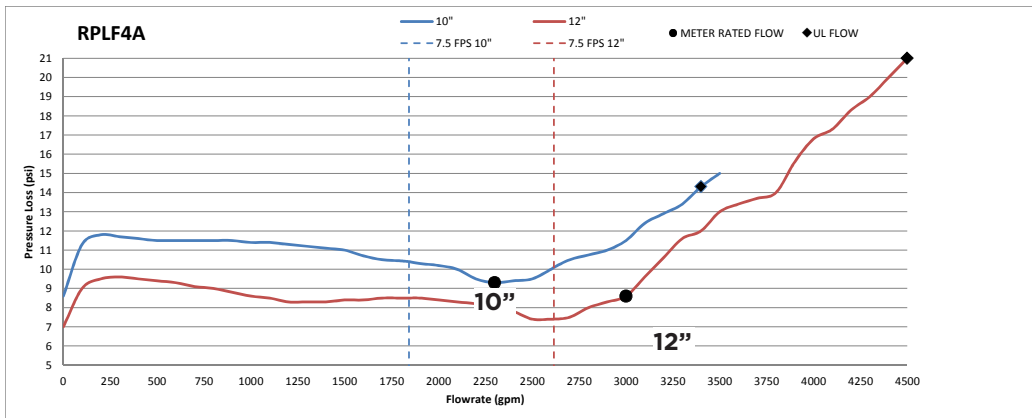
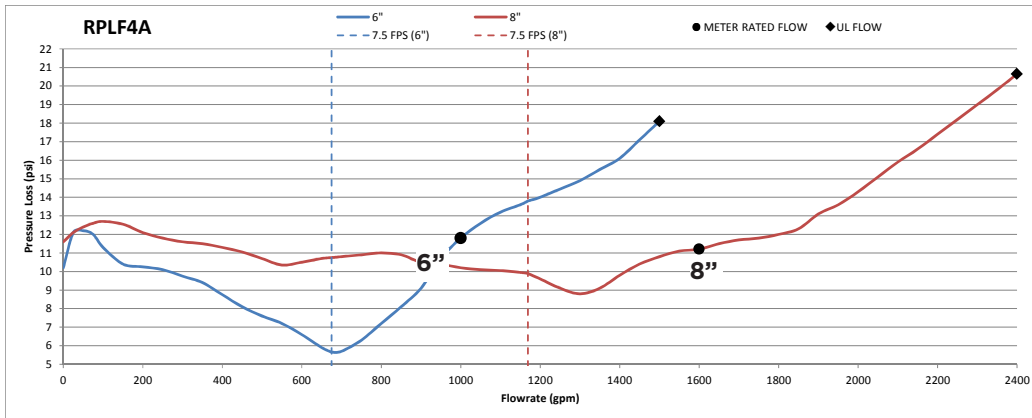
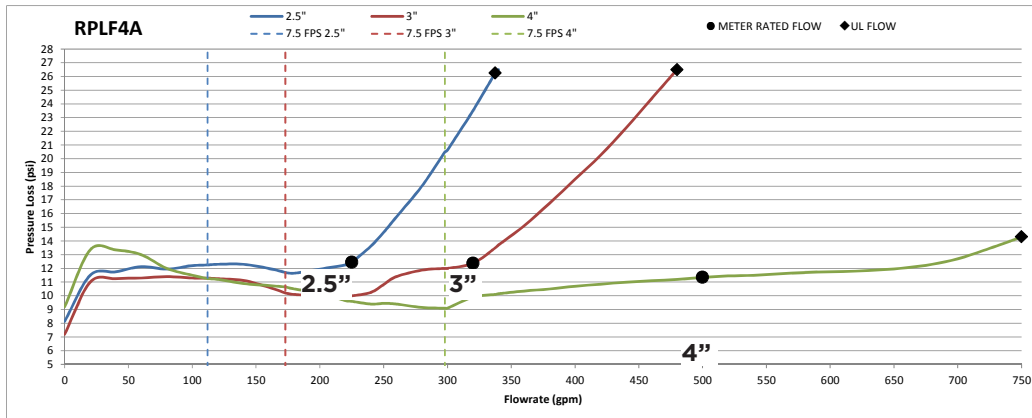
**METER RATED FLOW**

Pressure loss versus flow data as determined by independent approval agencies.



**RPLF 4A**  
FLOW CURVES

Pressure loss versus flow data as determined by independent approval agencies.

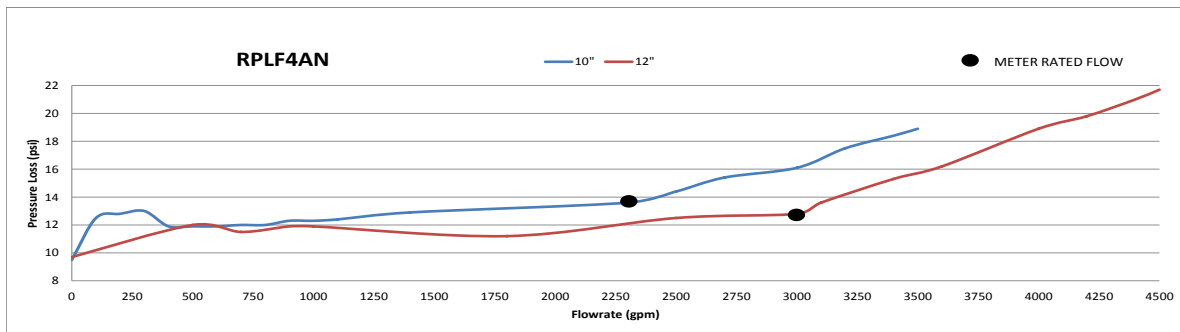
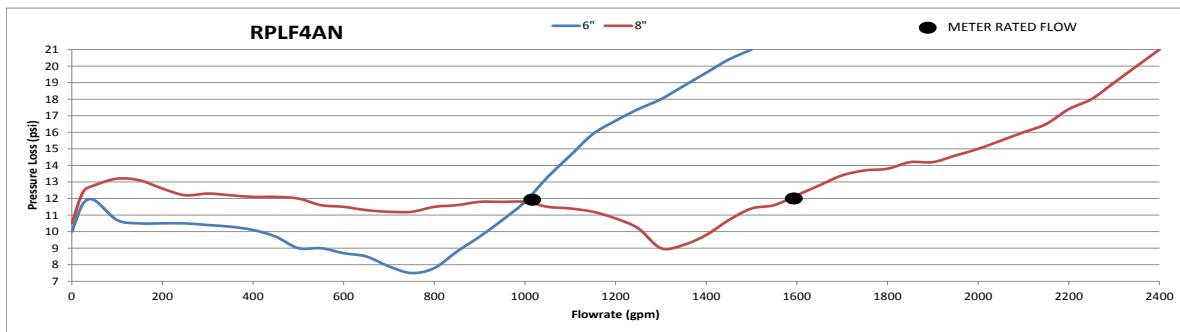
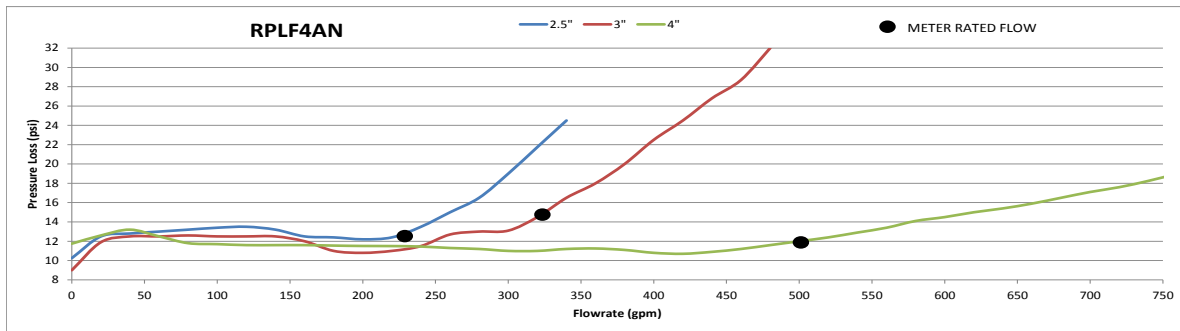
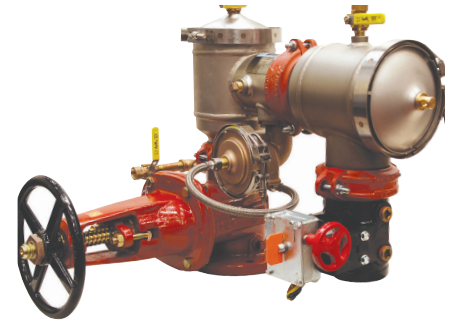


**METER RATED FLOW**

Pressure loss versus flow data as determined by independent approval agencies.

**RPFL 4AN**  
FLOW CURVES

Pressure loss versus flow data as determined by independent approval agencies.



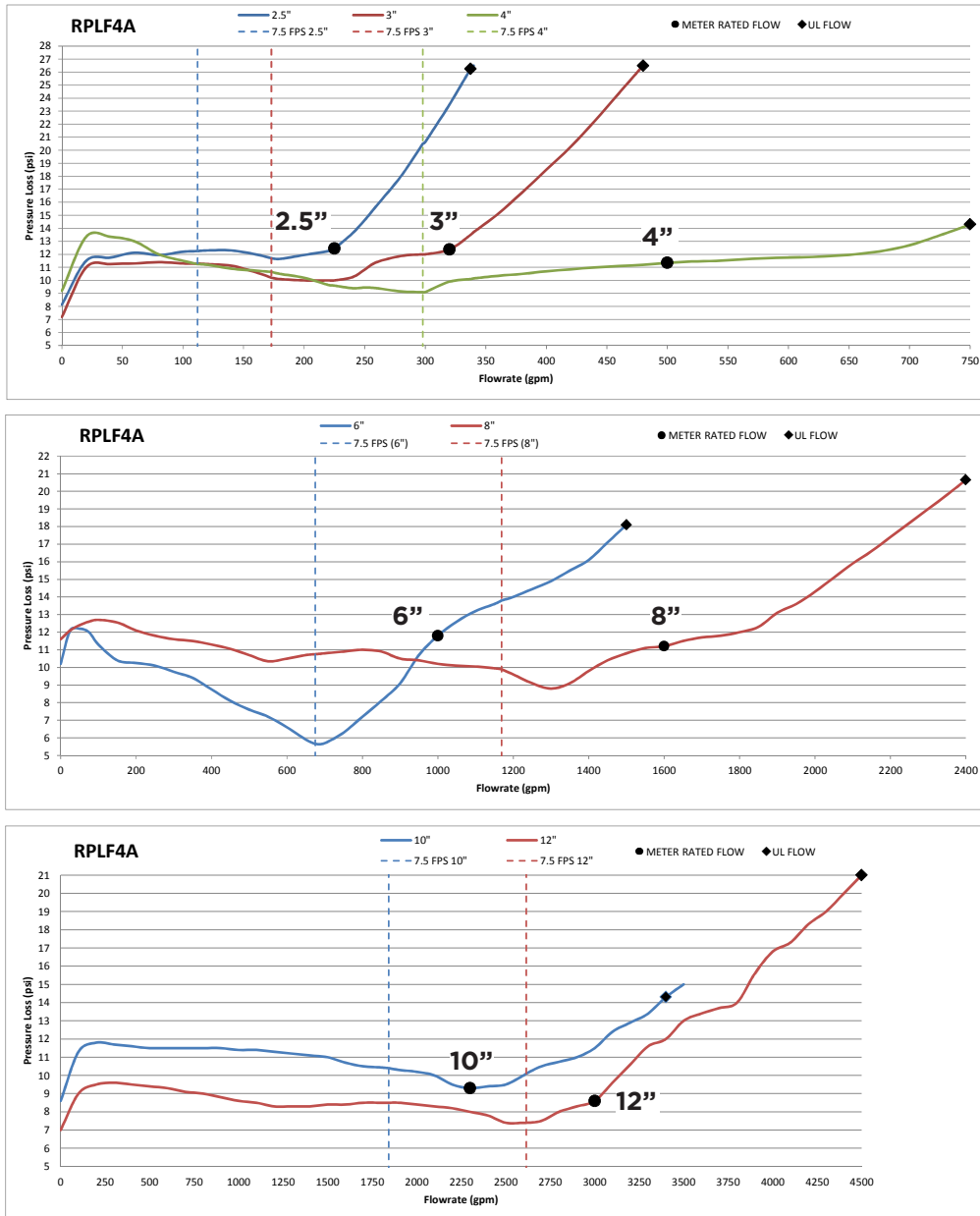
**METER RATED FLOW**

Pressure loss versus flow data as determined by independent approval agencies.



**RPDALF 4A / RPDA2LF 4A**  
FLOW CURVES

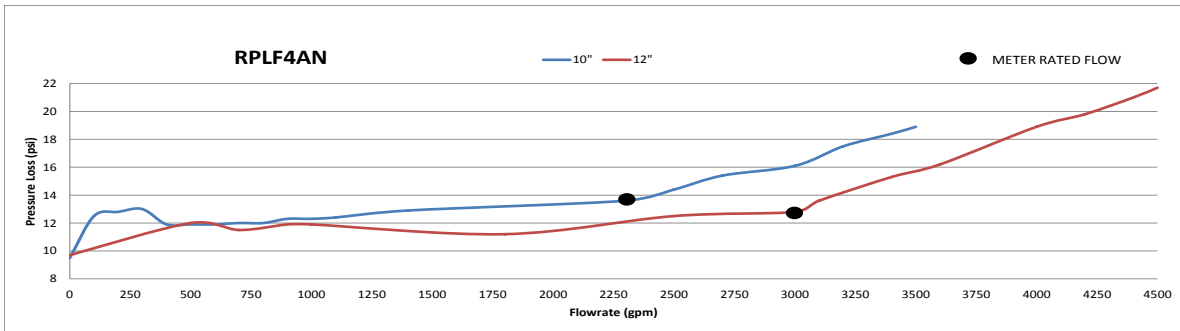
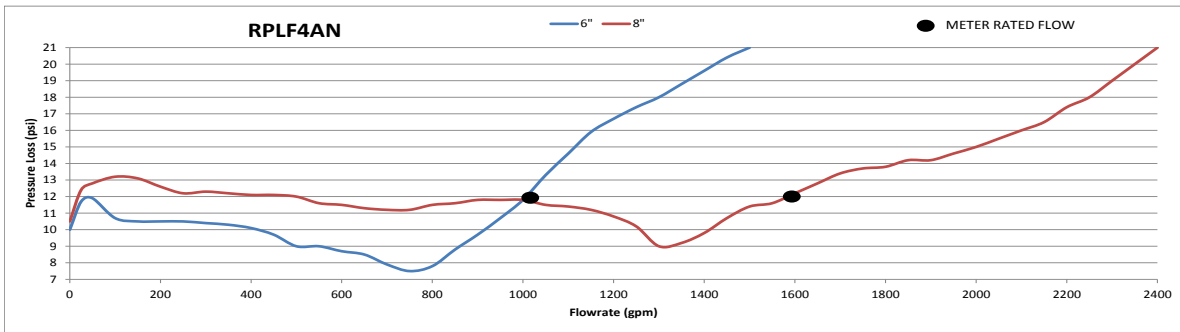
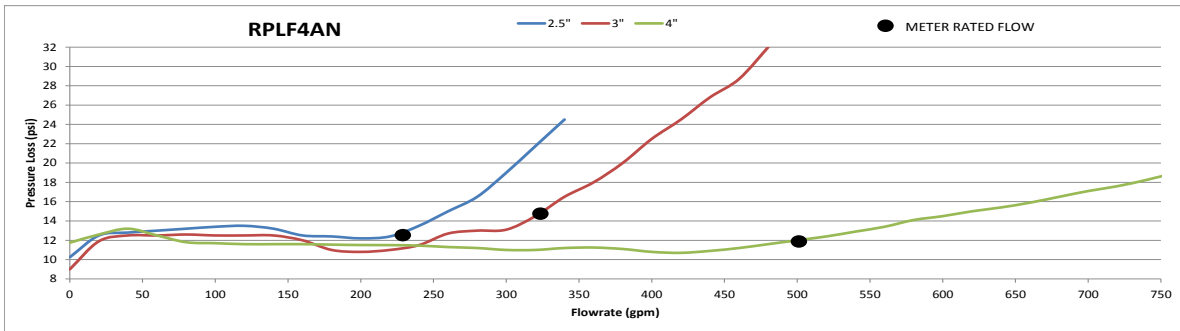
Pressure loss versus flow data as determined by independent approval agencies.



**METER RATED FLOW**

Pressure loss versus flow data as determined by independent approval agencies.

RPDALF 4AN / RPDA2LF 4AN  
FLOW CURVES

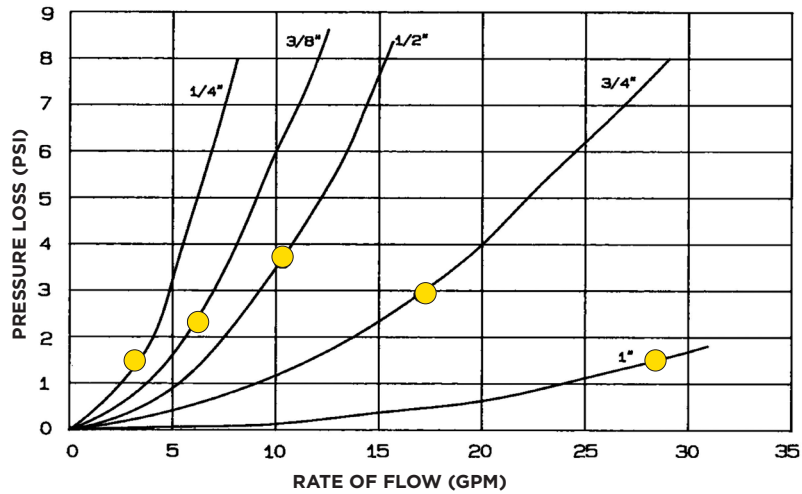


**METER RATED FLOW**  
Pressure loss versus flow data as determined by independent approval agencies.

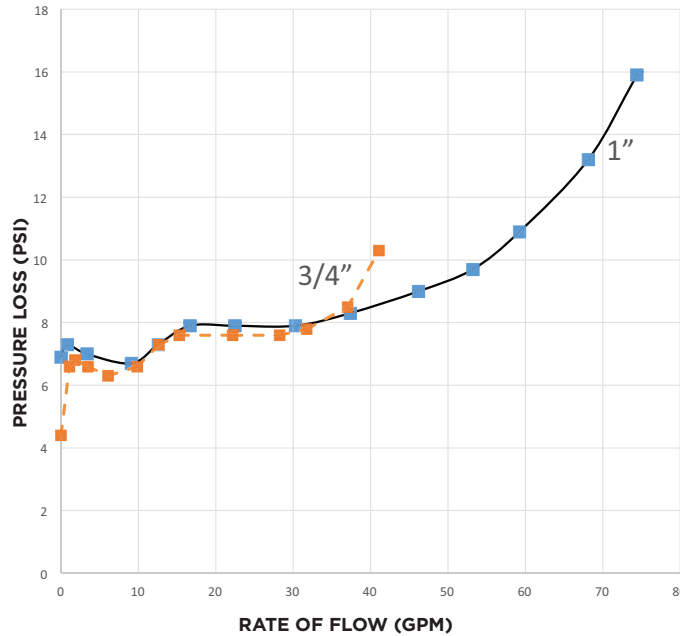




**AVB1/ABV2/AVB1LF**  
FLOW CURVES



**SVB 4A / SVBLF 4A**  
FLOW CURVES

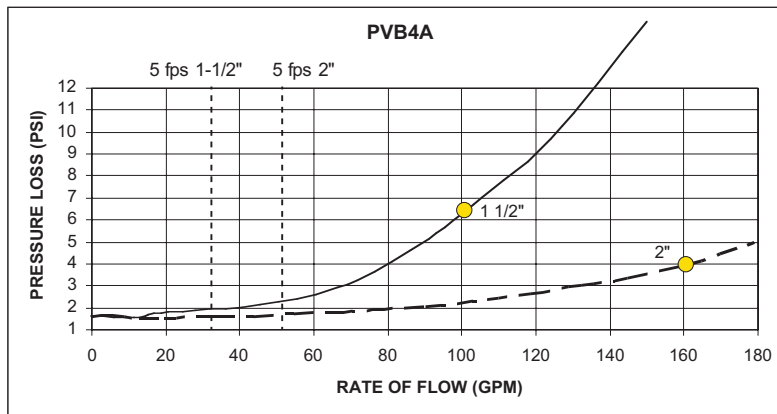
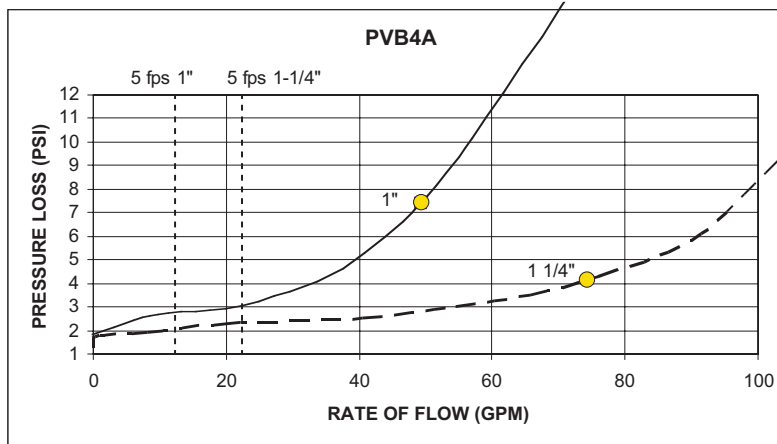
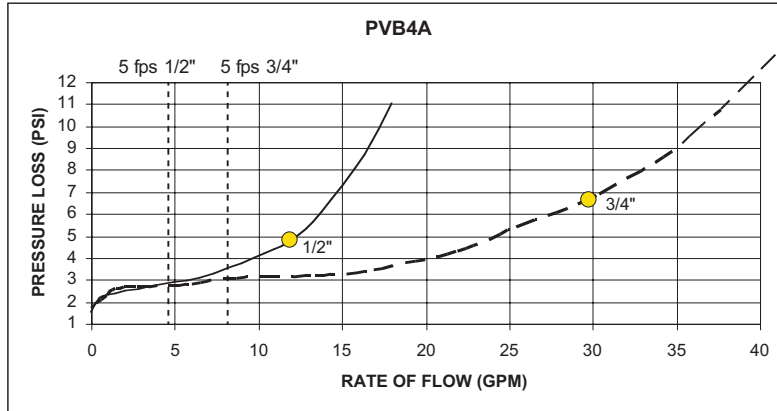


**METER RATED FLOW**

Pressure loss versus flow data as determined by independent approval agencies.



**PVB 4A / PVBLF 4A**  
FLOW CURVES



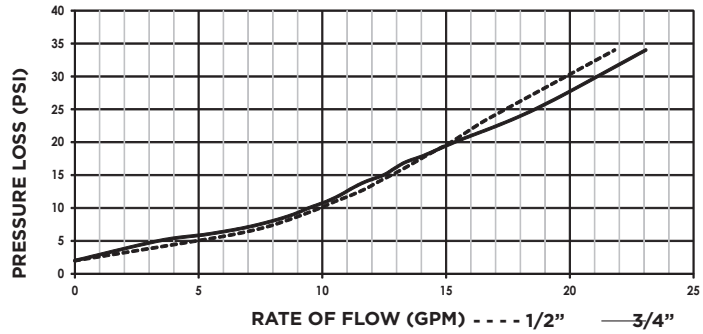
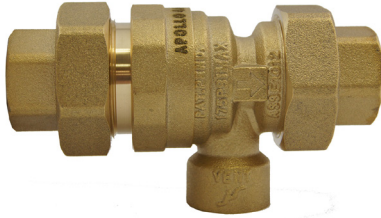
Note: 5 feet per second is the normal flow rate for irrigation systems (where majority of PVBs are used)

**METER RATED FLOW**

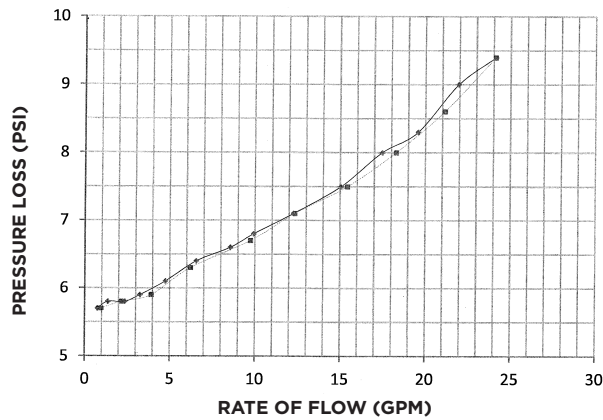
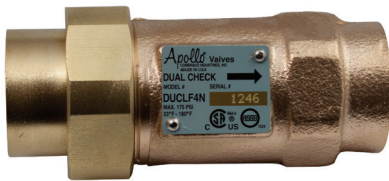
Pressure loss versus flow data as determined by independent approval agencies.



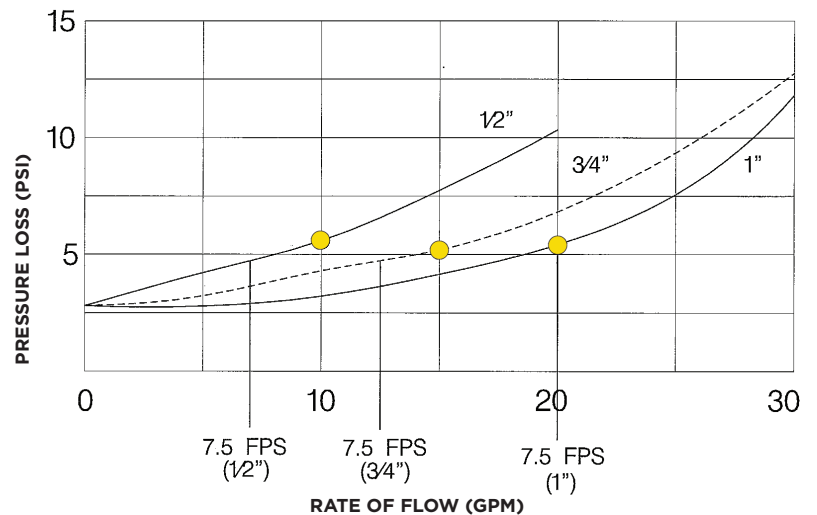
**DCAP / DCAP LF**  
FLOW CURVES



**DUC 4A / DUCLF 4A**  
FLOW CURVES



**DUC 40 / DUCLF 40**  
FLOW CURVES

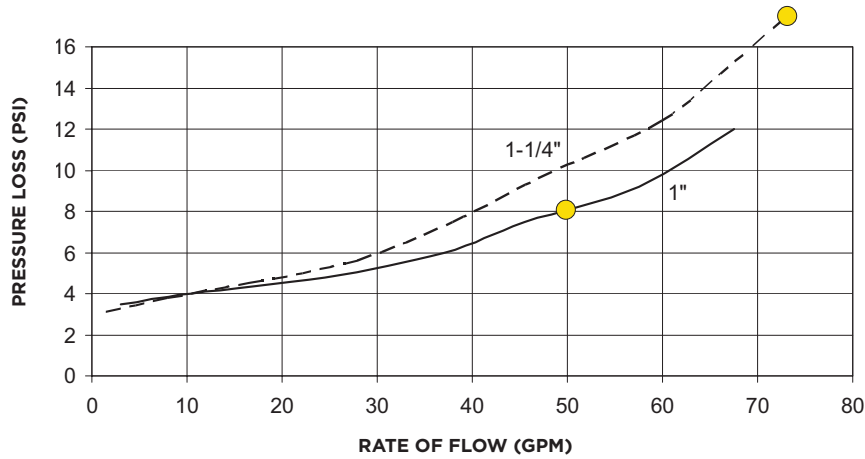


**METER RATED FLOW**

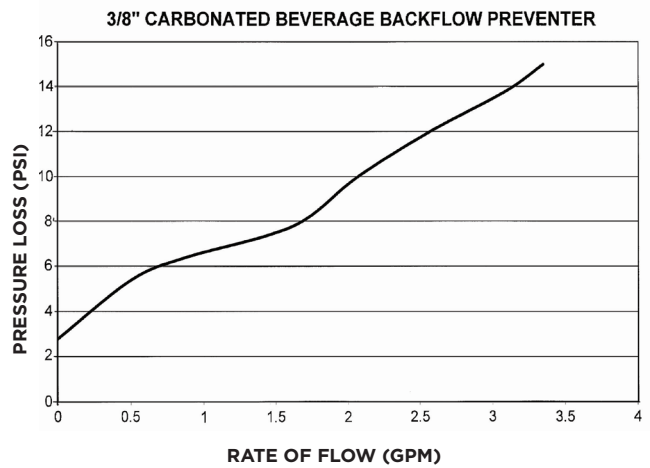
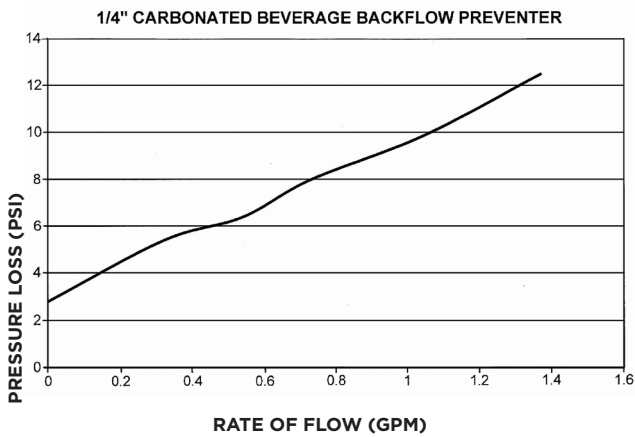
Pressure loss versus flow data as determined by independent approval agencies.



**DUC 4FP**  
FLOW CURVES



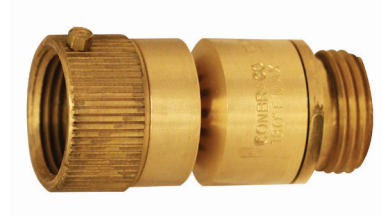
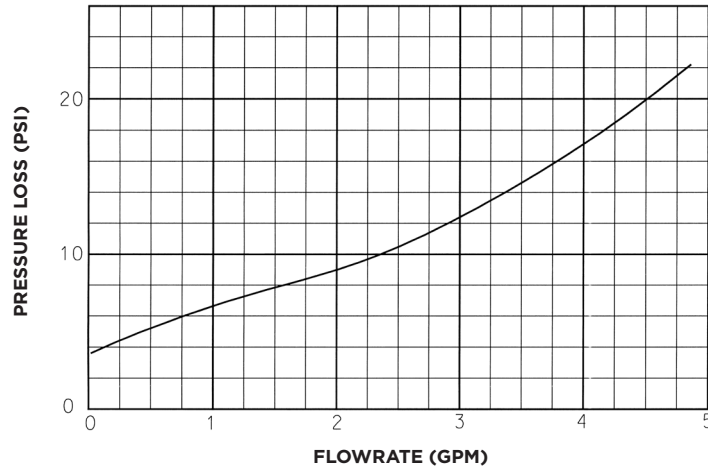
**CBBP**  
FLOW CURVES



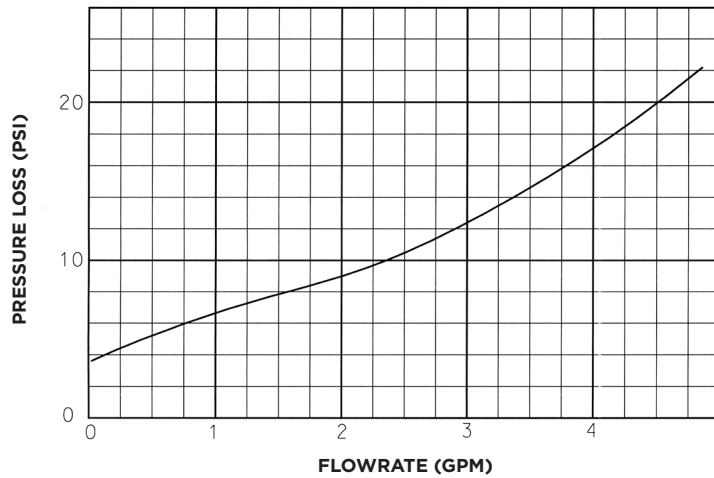
**METER RATED FLOW**  
Pressure loss versus flow data as determined by independent approval agencies.



**HBDUC**  
FLOW CURVES



**LFDUC**  
FLOW CURVES



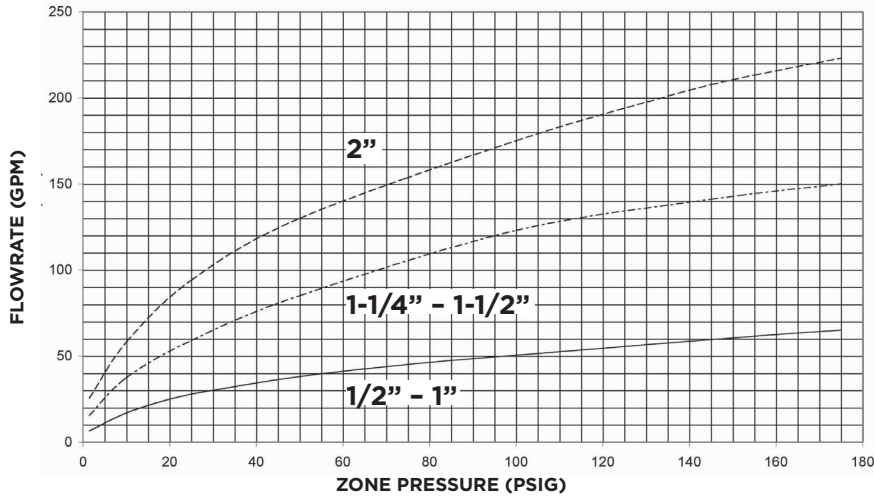
**METER RATED FLOW**

Pressure loss versus flow data as determined by independent approval agencies.

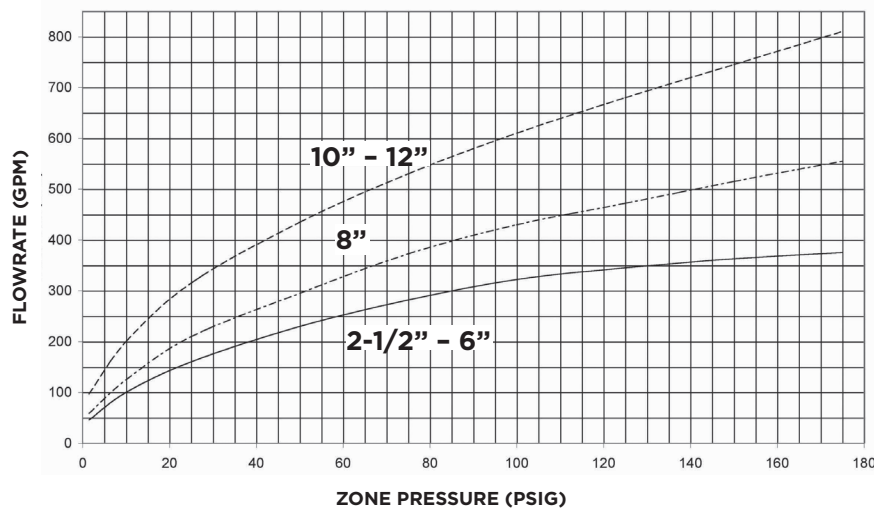


**RELIEF VALVE  
DISCHARGE RATES**

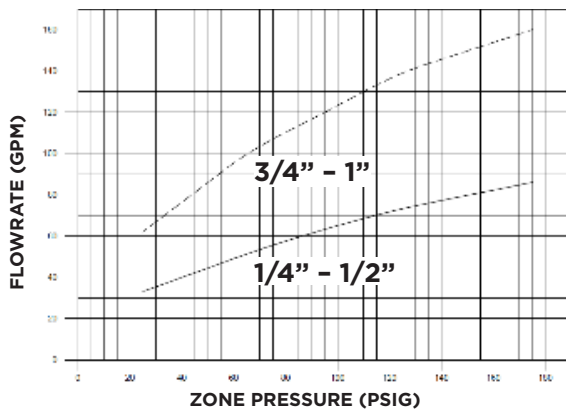
**RV DISCHARGE RATES RP4A 1/2" TO 2"**



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



**RV DISCHARGE RATES RPS40**





## WARRANTY & TERMS AND CONDITIONS OF SALE



Conbraco Industries, Inc. warrants, to its initial purchaser only, that its products which are delivered to this initial purchaser will be of the kind described in the order or price list and will be free of defects in workmanship or material for a period of FIVE years from the date of delivery to you, our initial purchaser. This warranty applies to Apollo brand product with “Made in the USA” markings only.

Should any failure to conform to this warranty appear within FIVE years after the date of the initial delivery to our initial purchaser, Conbraco will, upon written notification thereof and substantiation that the goods have been stored, installed, maintained and operated in accordance with Conbraco’s recommendations and standard industry practice, correct such defects by suitable repair or replacement at Conbraco’s own expense.

APOLLO INTERNATIONAL PRODUCTS: Conbraco Industries, Inc. warrants its International products, to its initial purchaser only, that its international products which are delivered to this initial purchaser will be of the kind described in the order or price list and will be free of defects in workmanship or material for a period of TWO years from the date of delivery to you, our initial purchaser.

THIS WARRANTY IS EXCLUSIVE AND IS IN LIEU OF ANY IMPLIED WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OTHER WARRANTY OF QUALITY, WHETHER EXPRESSED OR IMPLIED, EXCEPT THE WARRANTY OF TITLE AND AGAINST PATENT INFRINGEMENT. Correction of non-conformities, in the manner and for the period of time provided above, shall constitute fulfillment of all liabilities of Conbraco to our initial purchaser, with respect to the goods, whether based on contract, negligence, strict tort or otherwise. It is the intention of Conbraco Industries, Inc. that no warranty of any kind, whether expressed or implied shall pass through our initial purchaser to any other person or corporation.

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\* It is the end user’s responsibility to confirm that items intended for use satisfy local codes and standards.

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- Payment: 2% 10th prox. Net 30 days.
- All prices F.O.B. shipping point with freight allowed on shipments of 750 pounds and/or \$5,000 net minimum to all shipping points within the United States excluding Alaska and Hawaii. No freight allowed on Air Freight or Parcel Post shipments. Claims for shortages must be made within 10 days of receipt of material. Our responsibility ends when a receipt is furnished us by the carrier.
- No Invoice Rendered For Less Than \$50.00.
- No freight will be allowed on Air Freight, Air Express, Parcel Post or U.P.S. shipments.
- All Conbraco products may be combined to make sufficient weight for full freight allowance.
- Phone order quoted prices are subject to correction. Prices and designs are subject to change without notice.
- Orders for material or special design or specification are made to customer’s order and are not subject to cancellation or return.
- All goods returned to us will not be accepted unless a full explanation has been made and our written authorized permission obtained in advance. All goods returned – if accepted – will be credited at invoice price, less 30% for service and rehandling charges, plus shipping expenses.
- We reserve the right to adjust orders to box quantities.



THROUGHOUT THIS CATALOG, PRODUCTS THAT ARE CERTIFIED LEAD FREE\* OR HAVE A LEAD FREE\* OPTION WILL BE IDENTIFIED WITH THESE LOGOS.

\*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.

Conbraco Industries offers a wide range of Apollo<sup>®</sup> 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<sup>®</sup> products are installed in systems intended for potable water service. Further information related to our product offering and the U.S. Safe Drinking Water Act (SDWA) is available at [www.apollovalves.com/lead\\_free](http://www.apollovalves.com/lead_free) or by contacting Conbraco Customer Service.

\*\* Any imported products will be clearly identified as “Apollo International<sup>™</sup>” or “Conbraco<sup>™</sup> International”.

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