

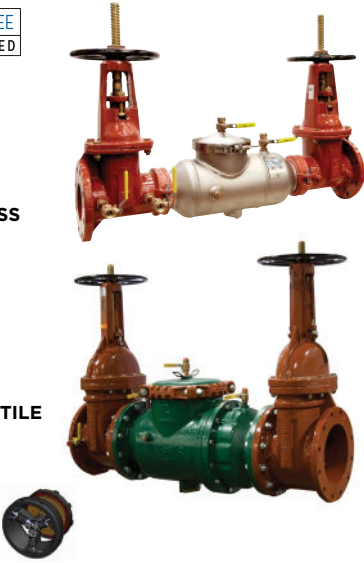
DCLF 4A SERIES DOUBLE CHECK VALVE BACKFLOW PREVENTER ASSEMBLY



2-1/2" - 8"
304 STAINLESS
STEEL BODY

10" - 12"
FDA EPOXY
COATED DUCTILE
IRON BODY

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, 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 1015
- CSA B64.5
- Approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California (2-1/2" - 12")
- AWWA C-510 (2-1/2" - 12")
- IAPMO
- UL, ULC Classified
- FM Approved
- NSF/ANSI/CAN 61 - Water Quality
- NSF/ANSI 372 - Lead Free

STANDARD MATERIALS LIST

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

Flow Curves - Page 56

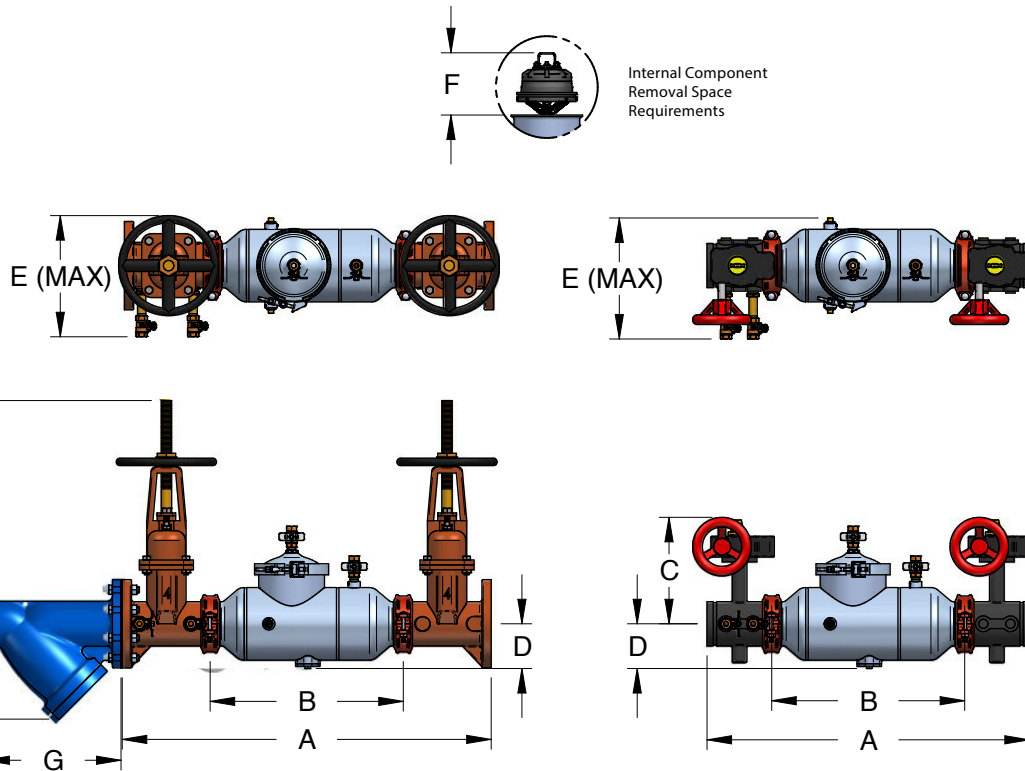
PART NUMBER MATRIX

4ALF	1 X	X	XX	XX
	Y-STRAINER	SIZE	SHUT-OFF VALVES (INLET x OUTLET)	OPTIONS
4ALF - Lead Free Standard	0 - Standard	9 - 2-1/2"	02 - NRS Flange x NRS Flange	D - Domestic Assembly
	1 - w/Y-strainer (shipped loose)	0 - 3" A - 4" C - 6" E - 8" G - 10" H - 12"	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	

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)

† Butterfly valves not available in 12" size.

DCLF 4A SERIES
DOUBLE CHECK VALVE BACKFLOW PREVENTER ASSEMBLY



DRAWING SHOWN DEPICTS 2-1/2" - 8" ASSEMBLIES.
 SEE SUBMITTAL SS1271 FOR DETAILED DRAWINGS FOR EACH SIZE.

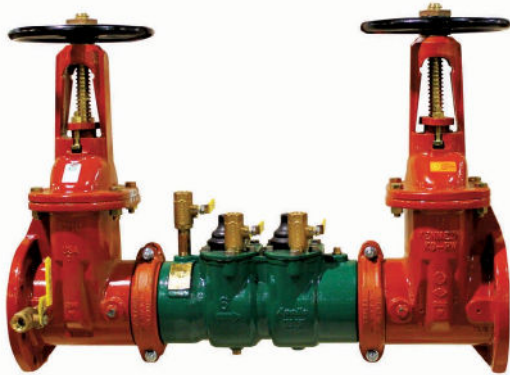
DIMENSIONS

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

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	838	38.5	978	46	1168	52	1321	N/A	N/A
A (Gate Valves)	31	787	32	813	37.6	955	45.5	1156	53.1	1349	62.3	1582	65.4	1661
B (Less Shut-off Valves)	16	406	16	406	19.8	503	24.5	622	30	762	36	914	37	940
C (Butterfly Valves)	8.6	218	9.6	244	10.9	277	13	330	16.5	419	19	483	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)	16.4	417	20.5	521	22.8	579	27.3	693	37.8	960	45.8	1163	53.1	1349
D (Centerline to Bottom)	3.9	99	3.9	99	4.6	117	5.9	150	8.3	211	11.1	282	11.4	290
E (Max w/Gate or Butterfly Valves)	11	279	11.3	287	12.4	315	14.5	368	19.3	490	21.9	556	21.9	556
F (Check Removal Clearance)	4.8	122	4.8	122	6.5	165	7.5	191	7.5	191	10	254	10	254
G (Strainer Length)	10.9	277	11.6	295	14	356	18.6	472	25.5	648	26.1	663	30.1	765
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"	15	1/2"	15	1/2"	15	3/4"	20	3/4"	20	3/4"	20	3/4"	20
WEIGHTS	LB.	KG	LB.	KG	LB.	KG	LB.	KG	LB.	KG	LB.	KG	LB.	KG
Net Wt. (Less Valves)	22	10	23	10	39	18	75	34	208	94	702	318	805	365
Net Wt. (w/ Butterfly Valves)	84	38	90	41	116	53	176	80	386	175	921	418	N/A	N/A
Net Wt. (w/ NRS Gate Valves)	76	34	94	43	137	62	258	117	525	238	1209	548	1665	755
Net Wt. (w/ OS&Y Gate Valves)	94	43	110	50	165	75	317	144	600	272	1324	601	1780	807

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

PERFORMANCE RATING

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

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

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

Flow Curves - Page 58

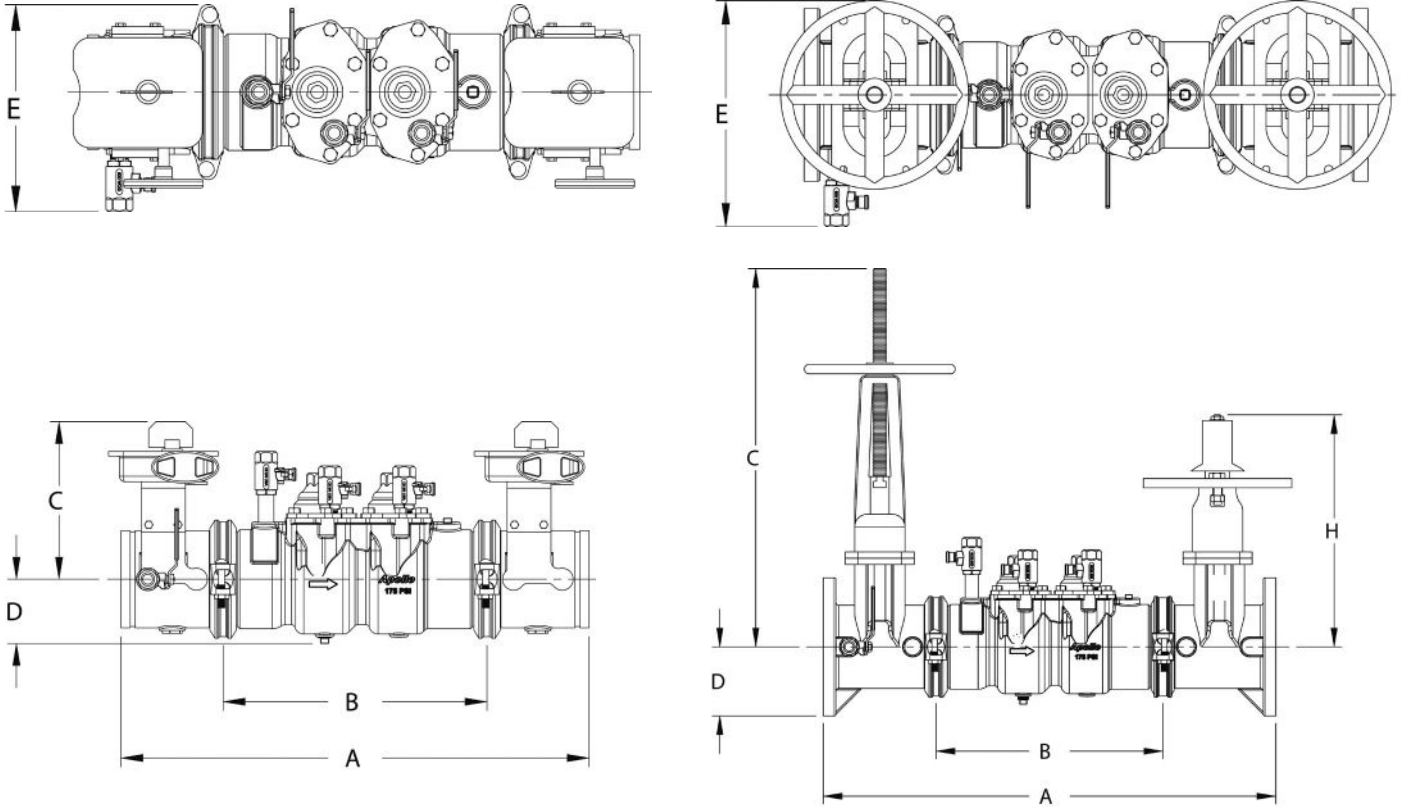
PART NUMBER MATRIX

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"	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

EXAMPLE: 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 NUMBER PART NUMBER 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
WEIGHTS	LB.	KG.	LB.	KG.	LB.	KG.	LB.	KG.	LB.	KG.	LB.	KG.
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 (± 1/8" (3 mm) per joint)

DCLF 4An SERIES

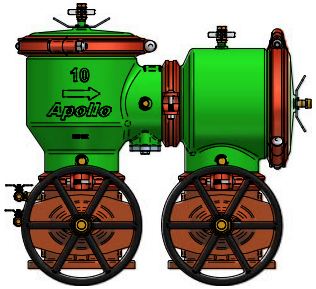
n STYLE DOUBLE CHECK VALVE BACKFLOW PREVENTER ASSEMBLY



n FLOW
2-1/2" - 8"
304 STAINLESS
STEEL BODY



n FLOW
10" - 12"
FDA EPOXY
COATED DUCTILE
IRON BODY



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, Assembled and Tested in the USA

PERFORMANCE RATING

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

APPROVALS

- Approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California (2-1/2" -12")
- ASSE 1015-2011
- AWWA C-510 (2-1/2" - 12")
- UL, ULC Classified
- FM Approved
- CSA B64.5
- NSF/ANSI/CAN - 61 Water Quality
- NSF/ANSI 372 - Lead Free

STANDARD MATERIALS LIST

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

Flow Curves - Page 57

**OPTIONAL
VALVE SETTER**



**TRIFORCE™
CHECK**



PART NUMBER MATRIX

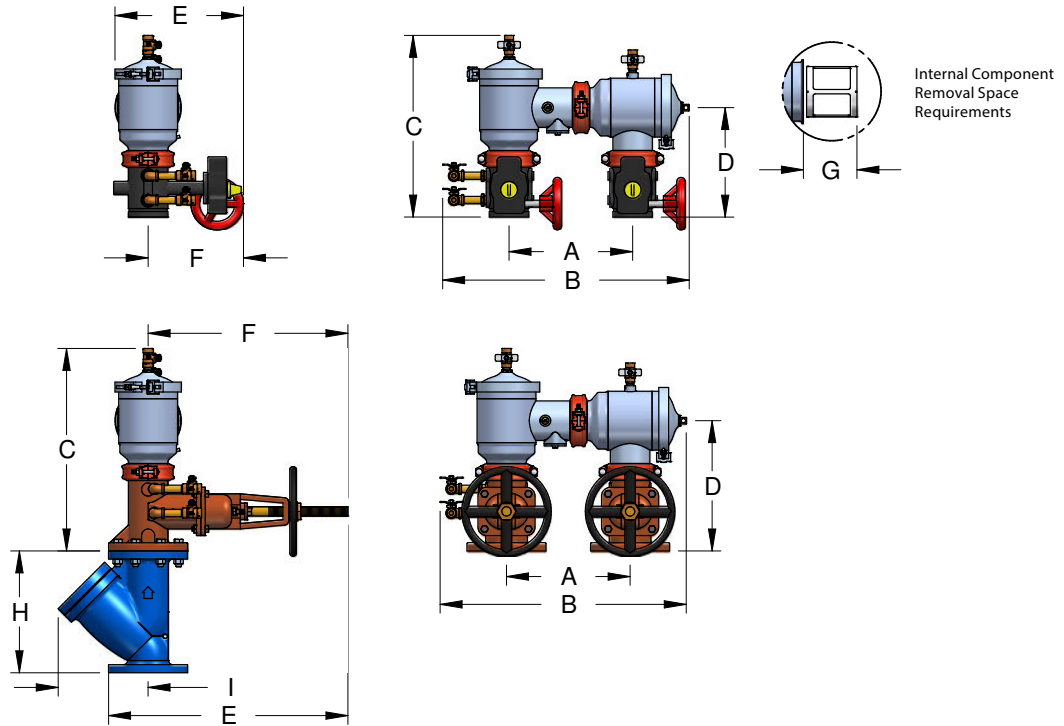
4ANLF	1 X	X	XX	X
	Y-STRAINER	SIZE	SHUT-OFF VALVES (INLET x OUTLET)	OPTIONS
4AnLF - Lead Free Standard	0 - Standard	9 - 2-1/2"	02 - NRS Flange x NRS Flange	D - Domestic Assembly
	1 - w/ Y-strainer (Shipped Loose)	0 - 3"	03 - OS&Y Flange x OS&Y Flange	
		A - 4"	04 - OS&Y Flange x Monitored (Mon.) Butterfly Valve Groove	
		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	
			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: 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)

†Butterfly valves not available in 12" size.

DCLF 4An SERIES

n STYLE DOUBLE CHECK VALVE BACKFLOW PREVENTER ASSEMBLY



DRAWING SHOWN DEPICTS 2-1/2" - 8" ASSEMBLIES.
SEE SUBMITTAL SS1272 FOR DETAILED DRAWINGS FOR EACH SIZE.

DIMENSIONS

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

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)	25.5	648	25.6	651	28.1	714	33.3	845	38.1	968	46.0	1168	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)	18.8	476	19.0	483	20.8	527	25.0	635	29.5	749	34.8	883	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	298	12.5	318	14.6	371	17.9	454	19.8	502	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)	12.1	308	13.1	333	14.8	375	18.3	465	25.9	657	29.3	745	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)	8.6	219	9.6	244	10.9	276	12.5	318	16.5	419	18.1	460	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
H (Strainer Length)	10.9	277	11.6	295	14	356	18.6	472	25.5	648	26.1	663	30.1	765
I (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)	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)	91.0	41	95.0	43	120.0	54	163.0	74	471.0	214	945.0	429	N/A	N/A
Ship Wt. (w/ Butterfly Valves)	152.0	69	156.0	71	181.0	82	243.0	110	606.0	275	1135.0	515	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

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
2-1/2" - 8"
304 STAINLESS
STEEL BODY



TYPE 2 BYPASS
2-1/2" - 8"
304 STAINLESS
STEEL BODY



TYPE 2 BYPASS
10" - 12"
FDA EPOXY
COATED DUCTILE
IRON BODY



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, 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

- ASSE 1048*, CSA B64.5, FM, UL*, cUL*
 - NSF/ANSI/CAN - 61 Water Quality
 - NSF/ANSI 372 - Lead Free
 - Approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California (2-1/2" - 8" Type 1 & Type 2, 10" & 12" + type 2 bypass only)
- *ASSE, UL, and cUL installations must include indicating-type shut-off valves

STANDARD MATERIALS LIST

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

**TRIFORCE™
CHECK**



Flow Curves - Page 59

PART NUMBER MATRIX

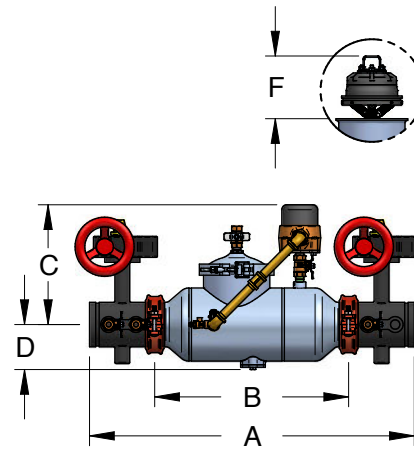
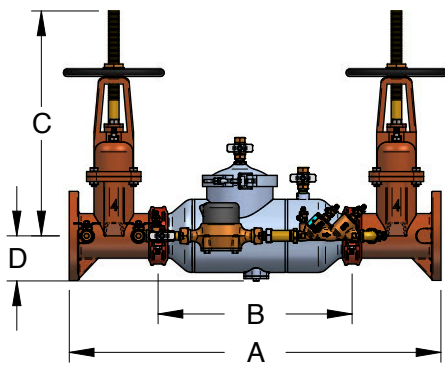
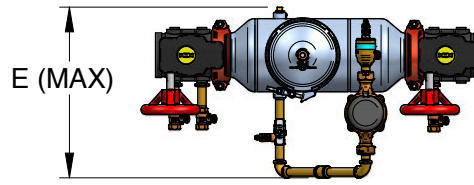
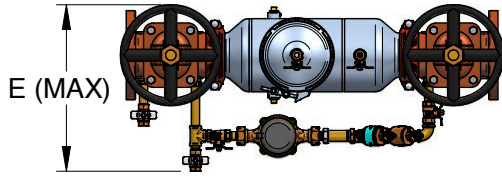
4ALF	6 X	X	X	X X	X
	BYPASS SUB-ASSEMBLY OPTIONS	SIZE	METER OPTION	SHUT-OFF VALVES (INLET x OUTLET)	OPTIONS
4ALF - Lead Free	0 - Type 1 w/ 1/2" Double Check	9 - 2-1/2"	C - Cubic ft/min	03 - OS&Y Flange x OS&Y Flange	D - Domestic Assembly
	2 - Type 2 w/ 1/2" Single Check (STD)	0 - 3"	E - Gallons/min	04 - OS&Y Flange x Monitored (Mon.) Butterfly Valve Groove†	
	3 - Type 1 w/ Bypass on Left*	A - 4"	G - Less Meter	06 - OS&Y Flange x Post indicator Flange	
	4 - Type 2 w/ Bypass on Left*	C - 6"		07 - OS&Y Flange x OS&Y Groove	
		E - 8"		08 - OS&Y Groove x OS&Y Groove	
	Type 2 & 4 only	G - 10"		09 - Mon. Butterfly Valve Groove x Mon. Butterfly Valve Groove†	
	Type 2 & 4 only	H - 12"		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 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



Internal Component
Removal Space
Requirements

TYPE 1 BYPASS
4" DCDALF4A W/ OS&Y GATES SHOWN

TYPE 2 BYPASS
4" DCDA2LF4A W/ BUTTERFLY VALVES SHOWN

DRAWING SHOWN DEPICTS 2-1/2" - 8" ASSEMBLIES.
SEE SUBMITTAL SS1328 FOR DETAILED DRAWINGS FOR EACH SIZE.

DIMENSIONS

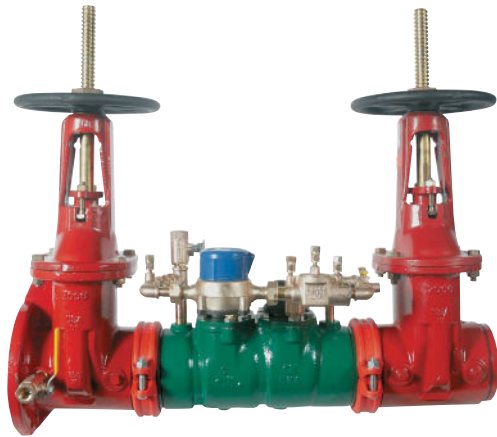
Nominal dimensions are shown. Allowances must be made for manufacturers' tolerances ($\pm 1/8"$ (3 mm) per joint)

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	838	38.5	978	46	1168	52	1321	N/A	N/A
A (Gate Valves)	31	787	32	813	37.6	955	45.5	1156	53.1	1349	62.3	1582	65.4	1661
B (Less Shut-off Valves)	16	406	16	406	19.8	503	24.5	622	30	762	36	914	37	940
C (Butterfly Valves - Type 1)	8.6	218	9.6	244	10.9	277	13	330	16.5	419	N/A	N/A	N/A	N/A
C (Butterfly Valves - Type 2)	13.3	338	13.3	338	12.1	307	13.8	351	16.5	419	19	483	N/A	N/A
C (NRS/PI Gate Valves - Type 1)	11.8	300	13	330	14	356	17.8	452	21	533	N/A	N/A	N/A	N/A
C (NRS/PI Gate Valves - Type 2)	13.3	338	13.3	338	14	356	17.8	452	21	533	24.5	622	30	762
C (OS&Y Open)	16.4	417	20.5	521	22.8	579	27.3	693	37.8	960	45.8	1163	53.1	1349
D (Centerline to Bottom)	3.9	99	3.9	99	4.6	117	5.9	150	8.3	211	11.1	282	11.4	290
E (Max w/Gate or Butterfly Valves - Type 1)	15.5	394	15.5	394	16.6	422	19.4	493	22.4	569	N/A	N/A	N/A	N/A
E (Max w/Gate or Butterfly Valves - Type 2)	14.1	358	14.1	358	17.4	442	18.4	467	22	559	24.9	632	25	635
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"	15	1/2"	15	1/2"	15	3/4"	20	3/4"	20	3/4"	20	3/4"	20
WEIGHTS	LB.	KG	LB.	KG	LB.	KG	LB.	KG	LB.	KG	LB.	KG	LB.	KG
Net Wt. (Less Valves)	22	10	23	10	39	18	75	34	208	94	702	318	805	365
Net Wt. (w/ Butterfly Valves)**	96	44	102	46	128	58	189	86	399	181	985	447	N/A	N/A
Net Wt. (w/ NRS Gate Valves)**	94	43	109	49	149	68	273	124	540	245	1229	557	1685	764
Net Wt. (w/ OS&Y Gate Valves)**	109	49	125	57	180	82	333	151	615	279	1343	609	1800	816

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 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

PERFORMANCE RATING

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

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

STANDARD MATERIALS LIST

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

Flow Curves - Page 58

PART NUMBER MATRIX

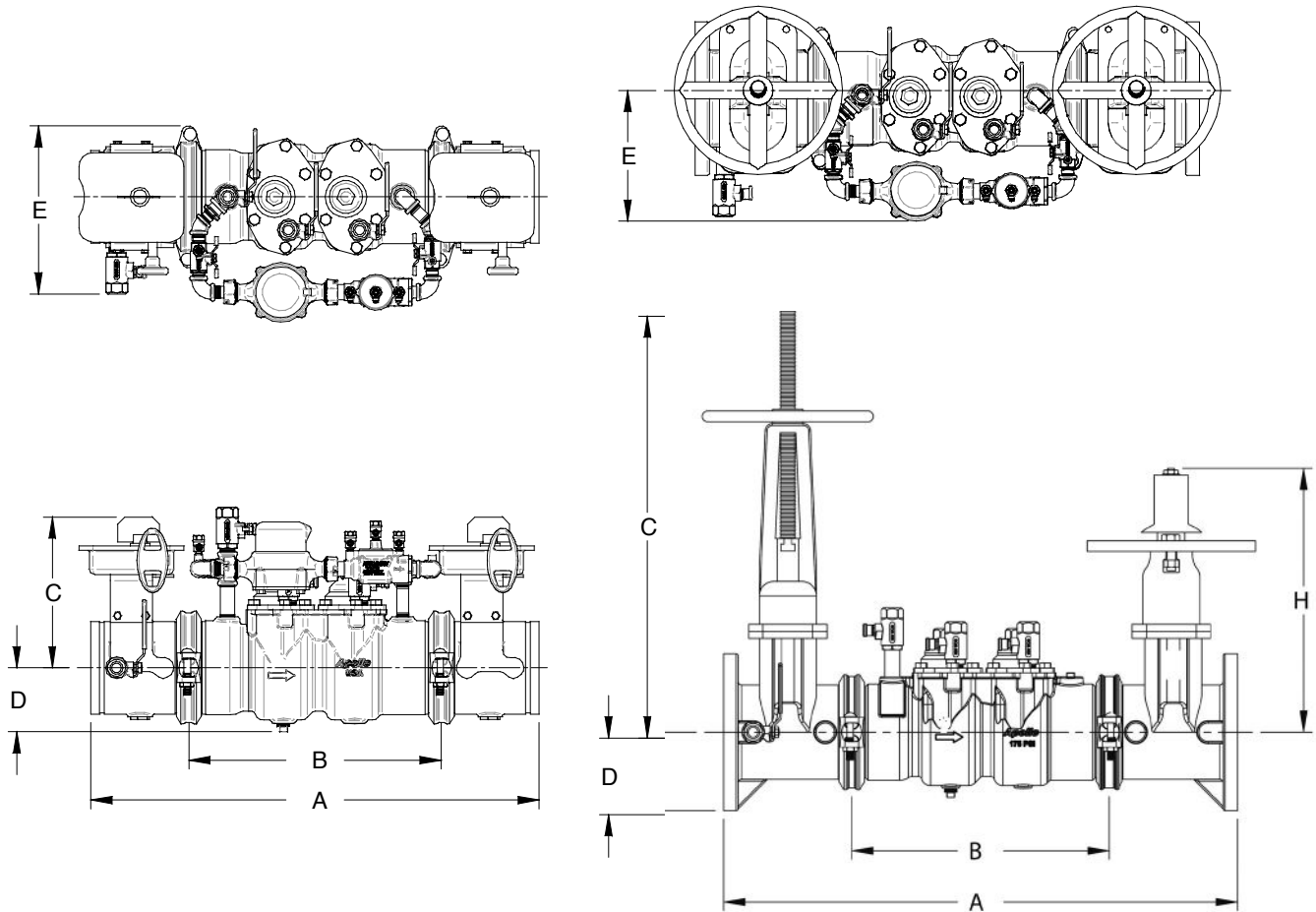
4S X	60 X	X	XX	X
	SIZE	METER OPTION	SHUT-OFF VALVES (INLET X OUTLET)	OPTION
4SG - Standard (2-1/2" - 8" Only)	9 - 2-1/2"	C - Cubic ft/min	03 - OS&Y Flange x OS&Y Flange	D - Domestic Assembly
4S - 10" Only	0 - 3"	E - Gallons/min	04 - OS&Y Flange x Monitored Butterfly Valve Groove	
	A - 4"	G - Less Meter	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	

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

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

DCDA 4SG SERIES

DOUBLE CHECK DETECTOR BACKFLOW PREVENTER ASSEMBLY



DIMENSIONS

MODEL NUMBER PART NUMBER 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
WEIGHTS	LB.	KG.	LB.	KG.	LB.	KG.	LB.	KG.	LB.	KG.	LB.	KG.
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

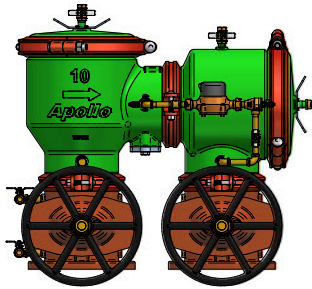
n STYLE DOUBLE CHECK DETECTOR BACKFLOW PREVENTER ASSEMBLY



n FLOW
TYPE 2 BYPASS
2-1/2" - 8"
304 STAINLESS
STEEL BODY



n FLOW
TYPE 2 BYPASS
10" - 12"
FDA EPOXY
COATED DUCTILE
IRON BODY



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, Assembled and Tested in the USA
- 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

- 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, 10"-12" Type 2)
- FM Approved
- NSF/ANSI/CAN 61 - Water Quality
- NSF/ANSI 372 - Lead Free

STANDARD MATERIALS LIST

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

Flow Curves - Page 60

OPTIONAL
VALVE SETTER



TRIFORCE™
CHECK



PART NUMBER MATRIX

4ANLF	6 X	X	X	X [X]	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 ft/min	3 - OS&Y Flange x OS&Y Flange	D - Domestic Assembly
	2 - Type 2 w/ 1/2" Single Check (STD)	0 - 3"	E - Gallons/min	4 - OS&Y Flange x Monitored (Mon.) Butterfly Valve Groove [†]	
	3 - Type 1 w/ Bypass on Left*	A - 4"	G - Less Meter	6 - OS&Y Flange x Post indicator Flange	
	4 - Type 2 w/ Bypass on Left*	C - 6"		7 - OS&Y Flange x OS&Y Groove	
		E - 8"		8 - OS&Y Groove x OS&Y Groove	
	Type 2 & 4 only	G - 10"		9 - Mon. Butterfly Valve Groove x Mon. Butterfly Valve Groove [†]	
	Type 2 & 4 only	H - 12"		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

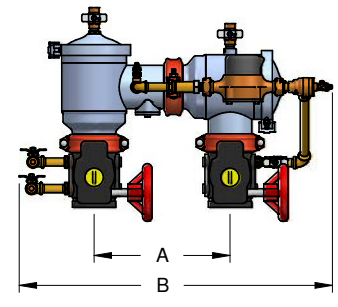
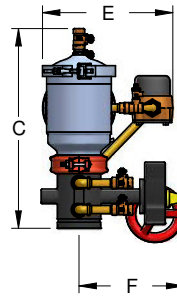
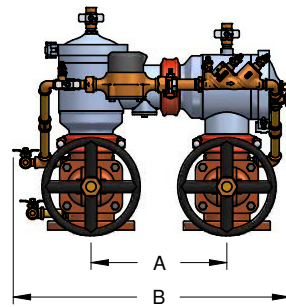
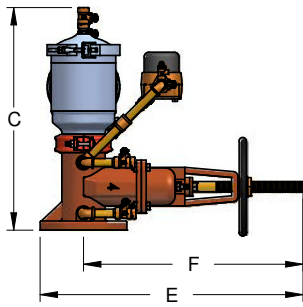
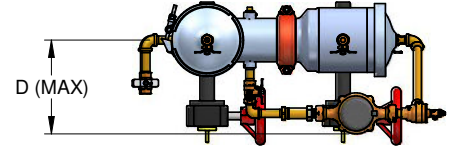
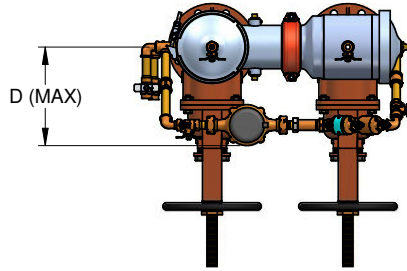
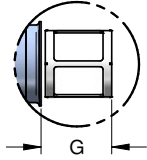
*Orientation of bypass looking downstream. Standard is right hand side. Left hand is on opposite side

†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

DRAWING SHOWN DEPICTS 2-1/2" - 8" ASSEMBLIES.
SEE SUBMITTAL SSI330 FOR DETAILED DRAWINGS FOR EACH SIZE.

DIMENSIONS

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

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)	27.8	705	30.0	762	31.0	787	34.3	870	38.0	965	45.8	1162	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 - Top to Flange)	18.8	476	19.0	483	20.8	527	25.0	635	29.5	749	34.8	883	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	298	12.5	318	14.6	371	17.9	454	19.8	502	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)	13.1	333	13.1	333	15.3	389	16.1	410	23.5	597	24.3	618	15.3	389
F (Centerline Width - Butterfly Valves)	8.6	219	9.6	244	10.9	276	12.5	318	16.5	419	18.1	460	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
WEIGHTS	LB.	KG	LB.	KG	LB.	KG	LB.	KG	LB.	KG	LB.	KG	LB.	KG
Net Wt. (w/Butterfly Valves)	108.4	49	113.4	51	138.4	63	196.4	89	489.0	222	1013.0	459	N/A	N/A
Ship Wt. (W/Butterfly Valves)	169.4	77	174.4	79	199.4	90	276.4	125	624.0	283	1203.0	546	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

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



2-1/2" - 8"
304 STAINLESS
STEEL BODY



10" - 12"
FDA EPOXY
COATED DUCTILE
IRON BODY



TRIFORCE™
CHECK



STANDARD MATERIALS LIST

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

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, Assembled and Tested in the USA
- Lead Free Standard
- Optional Air Gap Drains
- 5 Year Warranty
- US Patent N
- os.: 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

- AWWA C511 (2-1/2" - 12")
- ASSE 1013-2011, CSA B64.4, FM, IAPMO, UL*, cUL*
- NSF/ANSI/CAN 61 - Water Quality
- NSF/ANSI 372 - Lead Free
- Approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California (2-1/2" - 12")

*UL and cUL Installations Must Include Indicating-Type Shut-Off Valves

Flow Curves - Page 61

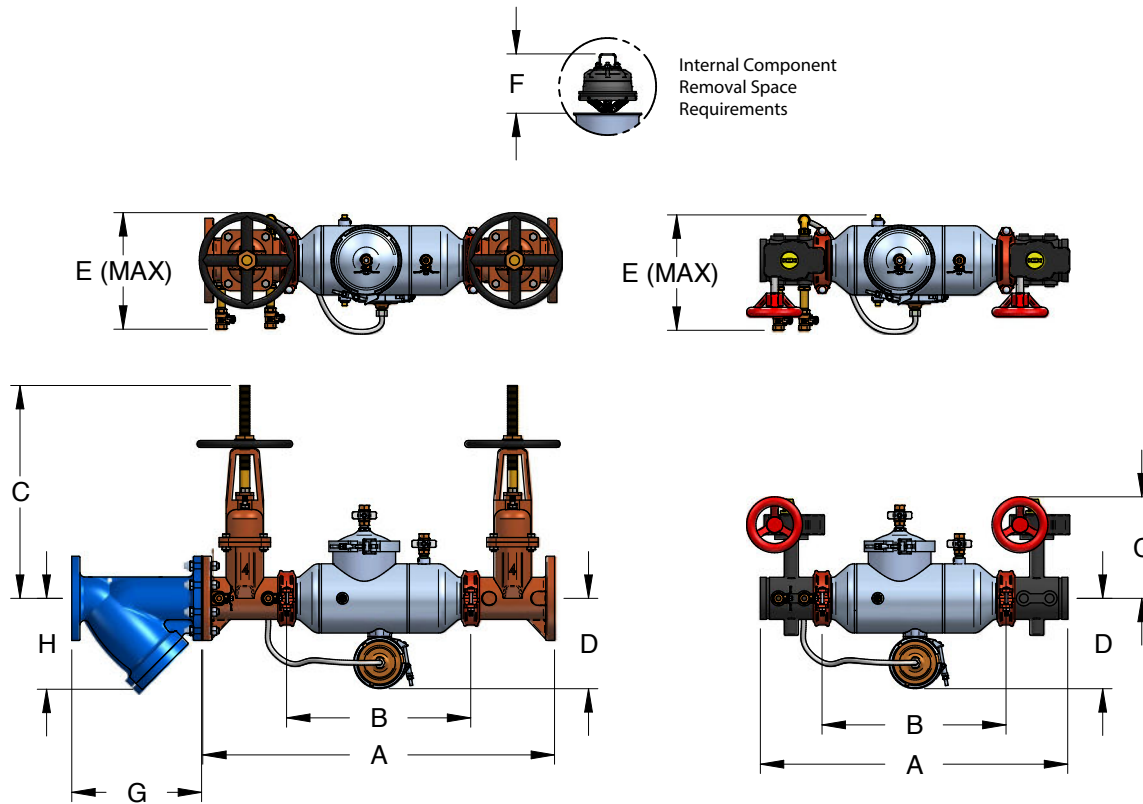
PART NUMBER MATRIX

4ALF	2 X	X	XX	XX
	Y-STRAINER	SIZE	SHUT-OFF VALVES (INLET x OUTLET)	OPTIONS
4ALF - Lead Free (Standard)	0 - Standard	9 - 2-1/2"	02 - NRS Flange x NRS Flange	D - Domestic Assembly
	1 - w/ Y-Strainer (Shipped Loose)	0 - 3"	03 - OS&Y Flange x OS&Y Flange	
		A - 4"	04 - OS&Y Flange x Monitored (Mon.) Butterfly Valve Groove†	
		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	
			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 20A 07 = 4" size lead free reduced pressure assembly with OS&Y flanged inlet x OS&Y grooved outlet shut-off valves.

† Butterfly valves not available in 12" size.

RPLF 4A SERIES REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTER ASSEMBLY



DRAWING SHOWN DEPICTS 2-1/2" - 8" ASSEMBLIES.
SEE SUBMITTAL SS1273 FOR DETAILED DRAWINGS FOR EACH SIZE.

DIMENSIONS

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

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	838	38.5	978	46	1168	N/A	N/A	N/A	N/A
A (Gate Valves)	31	787	32	813	37.6	955	45.5	1156	53.1	1349	62.3	1582	65.4	1661
B (Less Shut-Off Valves)	16	406	16	406	19.8	503	24.5	622	30	762	36	914	37	940
C (Butterfly Valves)	8.6	218	9.6	244	10.9	277	13	330	16.5	419	N/A	N/A	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)	16.4	417	20.5	521	22.8	579	27.3	693	37.8	960	45.8	1163	53.1	1349
D (Centerline to Bottom)	9	229	9	229	9.8	249	11	279	15.8	401	21	533	21.1	536
E (Max w/Gate or Butterfly Valves)	11.9	302	12.5	318	13	330	15.4	391	19.4	493	21.5	546	21.8	554
F (Check Removal Clearance)	4.8	122	4.8	122	6.5	165	7.5	191	7.5	191	10	254	10	254
G (Strainer Length)	10.9	277	11.6	295	14	356	18.6	472	25.5	648	26.1	663	30.1	765
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"	15	1/2"	15	1/2"	15	3/4"	20	3/4"	20	3/4"	20	3/4"	20
WEIGHTS	LB.	KG	LB.	KG	LB.	KG	LB.	KG	LB.	KG	LB.	KG	LB.	KG
Net Wt. (Less Valves)	31	14	32	15	48	22	84	38	228	103	762	346	865	392
Net Wt. (w/ Butterfly Valves)	92.6	42	98.6	45	124.6	57	184.6	84	407	185	N/A	N/A	N/A	N/A
Net Wt. (w/ NRS Gate Valves)	85	39	103	47	143	65	267	121	545	247	1269	576	1725	782
Net Wt. (w/ OS&Y Gate Valves)	103	47	119	54	174	79	327	148	620	281	1384	628	1840	835

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



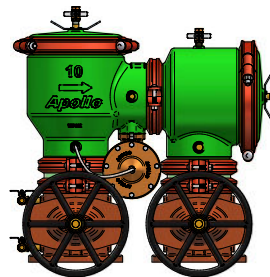
n FLOW
2-1/2" - 8"
304 STAINLESS
STEEL BODY



VERTICAL UP FLOW
2-1/2" - 8"
304 STAINLESS STEEL
BODY



n FLOW
10" - 12"
FDA EPOXY
COATED DUCTILE
IRON BODY



OPTIONAL VALVE SETTER



TRIFORCE™ CHECK

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, 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

- AWWA C511 (2-1/2" - 12")
- ASSE 1013-2011, CSA B64.4, FM, IAPMO, UL*, cUL*
- NSF/ANSI 61 Lead Free
- NSF/ANSI 372 Water Quality
- Approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California (2-1/2" - 12")

*UL and cUL installations Must Include Indicating-Type Shut-Off Valves

STANDARD MATERIALS LIST

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

Flow Curves - Page 62

PART NUMBER MATRIX

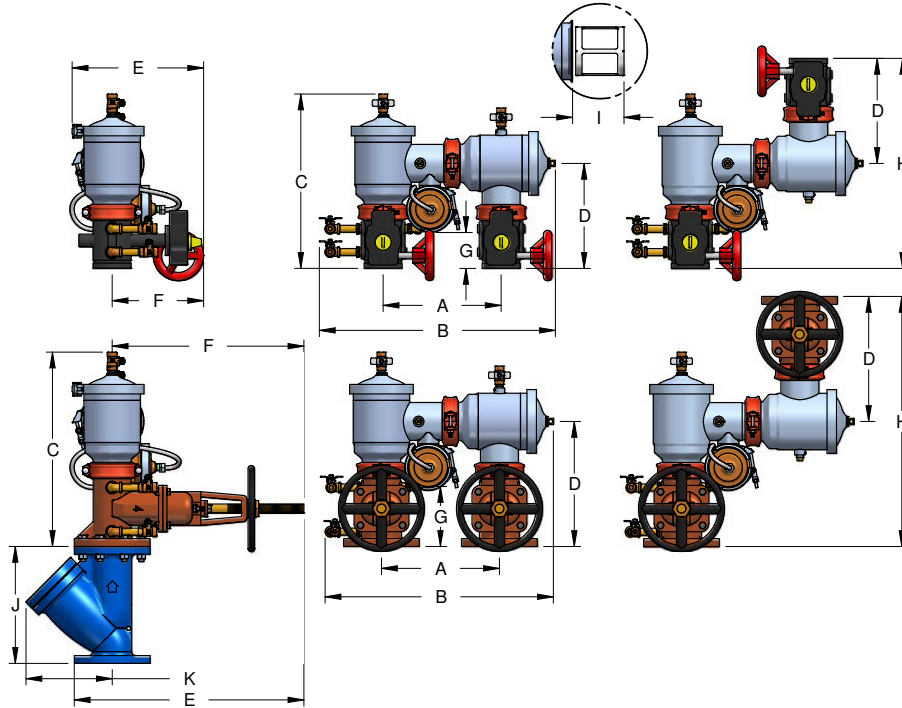
4AnLF	2 X	X	XX	X
	Y-STRAINER	SIZE	SHUT-OFF VALVES (INLET x OUTLET)	OPTIONS
4AnLF - Lead Free	0 - Standard 1 - w/Y-Strainer (Shipped Loose)	9 - 2-1/2" 0 - 3" A - 4" C - 6" E - 8" G - 10" H - 12"	02 - NRS Flange x NRS Flange 03 - OS&Y Flange x OS&Y Flange 04 - OS&Y Flange x Monitored (Mon.) Butterfly Valve 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: 4ALF 20A 07 = 4" size lead free reduced pressure assembly with OS&Y flanged inlet x OS&Y grooved outlet shut-off valves.

† Butterfly valves not available in 12" size.

RPLF 4An SERIES

n STYLE REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTER ASSEMBLY



DRAWING SHOWN DEPICTS 2-1/2" - 8" ASSEMBLIES.
SEE SUBMITTAL SS1274 FOR DETAILED DRAWINGS FOR EACH SIZE.

DIMENSIONS

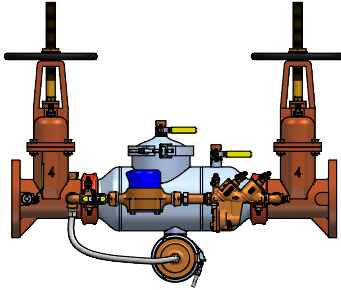
DIMENSIONS	2-1/2"	65MM	3"	80MM	4"	100MM	6"	150MM	8"	200MM	10"	250MM	12"	300MM
A (Centerline to Centerline)	12.5	318	12.5	318	14.0	356	16.0	406	18.5	470	21.0	533	26.8	679
B (Butterfly Valves)	25.5	648	25.6	651	28.1	714	33.3	845	38.1	968	N/A	N/A	N/A	N/A
B (Gate Valves)	24.5	622	24.5	622	27.0	686	32.0	813	40.8	1035	49.0	1245	55.8	1416
C (Butterfly Valves)	18.8	476	19.0	483	20.8	527	25.0	635	29.5	749	34.8	883	N/A	N/A
C (Gate Valves)	19.6	498	20.0	508	22.5	572	27.8	705	32.1	816	40.0	1016	44.0	1118
D (Butterfly Valves)	11.5	292	11.8	298	12.5	318	14.6	371	17.9	454	N/A	N/A	N/A	N/A
D (Gate Valves)	13.0	330	13.5	343	14.9	378	18.0	457	21.3	542	24.8	629	28.8	730
E (Butterfly Valves)	12.1	308	13.1	333	14.8	375	18.3	465	25.9	657	N/A	N/A	N/A	N/A
E (OS&Y Open)	21.9	556	23.9	606	25.6	651	35.5	902	45.1	1146	56.8	1441	62.8	1594
E (NRS/PI)	15.6	397	16.9	429	18.6	473	23.8	603	29.1	740	36.3	921	40.0	1016
F (Butterfly Valves)	8.6	219	9.6	244	10.9	276	12.5	318	16.5	419	N/A	N/A	N/A	N/A
F (OS&Y Open)	18.0	457	20.0	508	21.0	533	29.5	749	37.0	940	45.0	1143	53.1	1349
F (NRS/PI)	11.8	298	13.0	330	14.0	356	17.8	451	21.0	533	24.5	622	30.0	762
G (Butterfly Valves)	3.0	76	3.3	83	4.3	110	5.1	130	4.8	121	N/A	N/A	N/A	N/A
G (Gate Valves)	5.3	133	6.0	152	6.0	152	9.0	229	9.0	229	9.0	229	10.0	254
H (Butterfly Valves)	23.0	584	23.5	597	25.0	635	29.3	743	35.8	908	N/A	N/A	N/A	N/A
H (Gate Valves)	26.0	660	27.0	686	29.8	756	36.0	914	42.8	1086	N/A	N/A	N/A	N/A
I (Check Removal Clearance)	6.0	152	6.0	152	6.0	152	8.0	203	8.5	216	12.0	305	12.0	305
J (Strainer Length)	10.9	277	11.6	295	14.0	356	18.6	472	25.5	648	26.1	663	30.1	765
K (Strainer Clearance)	8.0	203	8.8	224	9.5	241	12.6	320	16.4	417	19.0	483	22.0	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. (w/ Butterfly Valves)	100.0	45	104.0	47	129.0	59	172.0	78	492.0	223	N/A	N/A	N/A	N/A
Ship Wt. (w/ Butterfly Valves)	161.0	73	165.0	75	190.0	86	252.0	114	627.0	284	N/A	N/A	N/A	N/A
Net Wt. (w/ NRS/Post Indicator Valves)	125.0	57	150.0	68	197.0	89	322.0	146	788.0	357	1487.0	674	2103.0	954
Ship Wt. (w/ NRS/Post Indicator Valves)	186.0	84	211.0	96	258.0	117	402.0	182	923.0	419	1677.0	761	2293.0	1040
Net Wt. (w/ OS&Y Valves)	135.0	61	160.0	73	203.0	92	332.0	151	802.0	364	1509.0	684	2157.0	978
Ship Wt. (w/ OS&Y Valves)	196.0	89	221.0	100	264.0	120	412.0	187	937.0	425	1699.0	771	2347.0	1065

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.

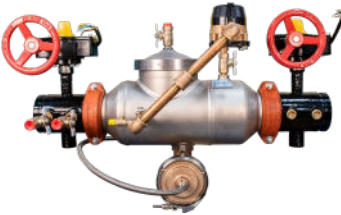
RPDALF 4A / RPDA2LF SERIES REDUCED PRESSURE DETECTOR BACKFLOW PREVENTER ASSEMBLY



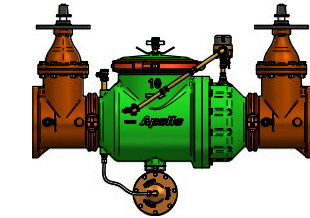
TYPE 1 BYPASS
2-1/2" - 8"
304 STAINLESS
STEEL BODY



TYPE 2 BYPASS
2-1/2" - 8"
304 STAINLESS
STEEL BODY



TYPE 2 BYPASS
10" - 12"
FDA EPOXY
COATED DUCTILE
IRON BODY



**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, 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

- ASSE 1047 (with Meter)
- CSA B64.4
- NSF/ANSI/CAN 61 - Water Quality
- NSF/ANSI 372 - Lead Free
- Approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California (2-1/2" - 8" Types 1 & 2) 10" & 12" + type 2 bypass only
- UL, ULC Classified
- FM Approved

STANDARD MATERIALS LIST

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

Flow Curves - Page 63

PART NUMBER MATRIX

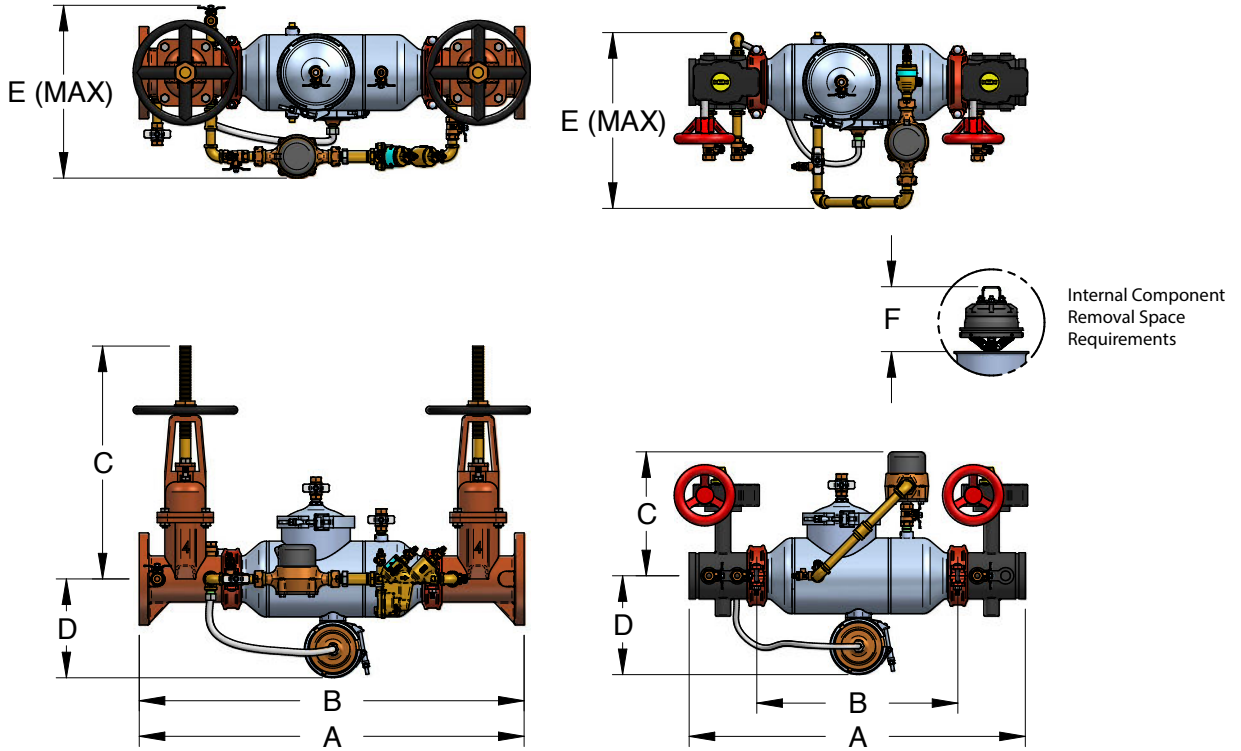
4ALF	7 X	X	X	XX	XX
	BYPASS SUB-ASSEMBLY OPTIONS	SIZE	METER OPTION	SHUT-OFF VALVES (INLET x OUTLET)	OPTIONS
4ALF - Lead Free (Standard)	0 - Type 1 w/ 1/2" Reduced Pressure	9 - 2-1/2"	C - Cubic ft/min	03 - OS&Y FLANGE x OS&Y FLANGE	D - Domestic Assembly
	2 - Type 2 w/ 1/2" Single Check	0 - 3"	E - Gallons/min	04 - OS&Y FLANGE x Monitored (Mon.) Butterfly VALVE Groove†	
	3 - Type 1 w/ Bypass on Left*	A - 4"	G - Less Meter	06 - OS&Y FLANGE x Post indicator FLANGE	
	4 - Type 2 w/ Bypass on Left*	C - 6"		07 - OS&Y FLANGE x OS&Y Groove	
		E - 8"		08 - OS&Y Groove x OS&Y Groove	
	Type 2 & 4 only	G - 10"		09 - Mon. Butterfly Valve Groove x Mon. Butterfly Valve Groove†	
	Type 2 & 4 only	H - 12"		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 / RPDA2LF SERIES
REDUCED PRESSURE DETECTOR BACKFLOW PREVENTER ASSEMBLY



TYPE 1 BYPASS
 4" RPDALF4A W/ OS&Y GATES SHOWN

TYPE 2 BYPASS
 4" RPDA2LF4A W/ BUTTERFLY VALVES SHOWN

DRAWING SHOWN DEPICTS 2-1/2" - 6" ASSEMBLIES.
 SEE SUBMITTAL SS1329 FOR DETAILED DRAWINGS FOR EACH SIZE.

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	838	38.5	978	46	1168	52	1321	N/A	N/A
A (Gate Valves)	31	787	32	813	37.6	955	45.5	1156	53.1	1349	62.3	1582	65.4	1661
B (Less Shut-off Valves)	16	406	16	406	19.8	503	24.5	622	30	762	36	914	37	940
C (Butterfly Valves - Type 1)	8.6	218	9.6	244	10.9	277	13	330	16.5	419	N/A	N/A	N/A	N/A
C (Butterfly Valves - Type 2)	13.3	338	13.3	338	12.1	307	13.8	351	16.5	419	N/A	N/A	N/A	N/A
C (NRS/PI Gate Valves - Type 1)	11.8	300	13	330	14	356	17.8	452	21	533	N/A	N/A	N/A	N/A
C (NRS/PI Gate Valves - Type 2)	13.3	338	13.3	338	14	356	17.8	452	21	533	24.5	622	30	762
C (OS&Y Open)	16.4	417	20.5	521	22.8	579	27.3	693	37.8	960	45.8	1163	53.1	1349
D (Centerline to Bottom)	9	229	9	229	9.8	249	11	279	15.8	401	21	533	21.1	536
E (Max w/Gate or Butterfly Valves - Type 1)	15.5	394	15.5	394	16.6	422	19.4	493	22.4	569	N/A	N/A	N/A	N/A
E (Max w/Gate or Butterfly Valves - Type 2)	14.1	358	14.1	358	17.4	442	18.4	467	22	559	24.9	632	25	635
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"	15	1/2"	15	1/2"	15	3/4"	20	3/4"	20	3/4"	20	3/4"	20
WEIGHTS	LB.	KG	LB.	KG	LB.	KG	LB.	KG	LB.	KG	LB.	KG	LB.	KG
Net Wt. (Less Valves)	31	14	32	15	48	22	84	38	228	103	762	346	865	392
Net Wt. (w/ Butterfly Valves)**	105	48	111	50	137	62	198	90	420	191	N/A	N/A	N/A	N/A
Net Wt. (w/ NRS Gate Valves)**	103	47	118	54	158	72	282	128	561	254	1299	589	1755	796
Net Wt. (w/ OS&Y Gate Valves)**	118	54	134	61	189	86	342	155	636	288	1413	641	1870	848

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



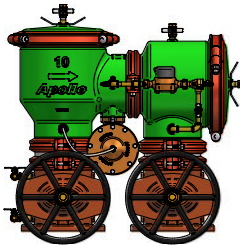
n FLOW
TYPE 2 BYPASS
2-1/2" - 8"
304 STAINLESS
STEEL BODY



VERTICAL UP FLOW
TYPE 2 BYPASS
2-1/2" - 8"
304 STAINLESS
STEEL BODY



n FLOW
TYPE 2 BYPASS
10" - 12"
FDA EPOXY
COATED DUCTILE
IRON BODY



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, 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, 10"-12" Type 2)
- ASSE 1047 (with Meter)
- UL, ULC Classified
- FM Approved
- NSF/ANSI/CAN 61 - Water Quality
- NSF/ANSI 372 - Lead Free

STANDARD MATERIALS LIST

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

Flow Curves - Page 64

PART NUMBER MATRIX

4ANLF	7 X	X	X	XX	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 ft/min	03 - OS&Y Flange x OS&Y Flange	D - Domestic Assembly
	2 - Type 2 w/ 1/2" Single Check	0 - 3"	E - Gallons/min	04 - OS&Y Flange x Monitored (Mon.) Butterfly Valve Groove†	
	3 - Type 1 w/ Bypass on Left*	A - 4"	G - Less Meter	06 - OS&Y Flange x Post Indicator Flange	
	4 - Type 2 w/ Bypass on Left*	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†	
		H - 12"		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	

EXAMPLE: 4ANLF 70A E3 = 4" size lead free reduced pressure detector assembly with meter in GPM and OS&Y flanged inlet x OS&Y flanged outlet shut-off valves.

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

OPTIONAL
VALVE SETTER

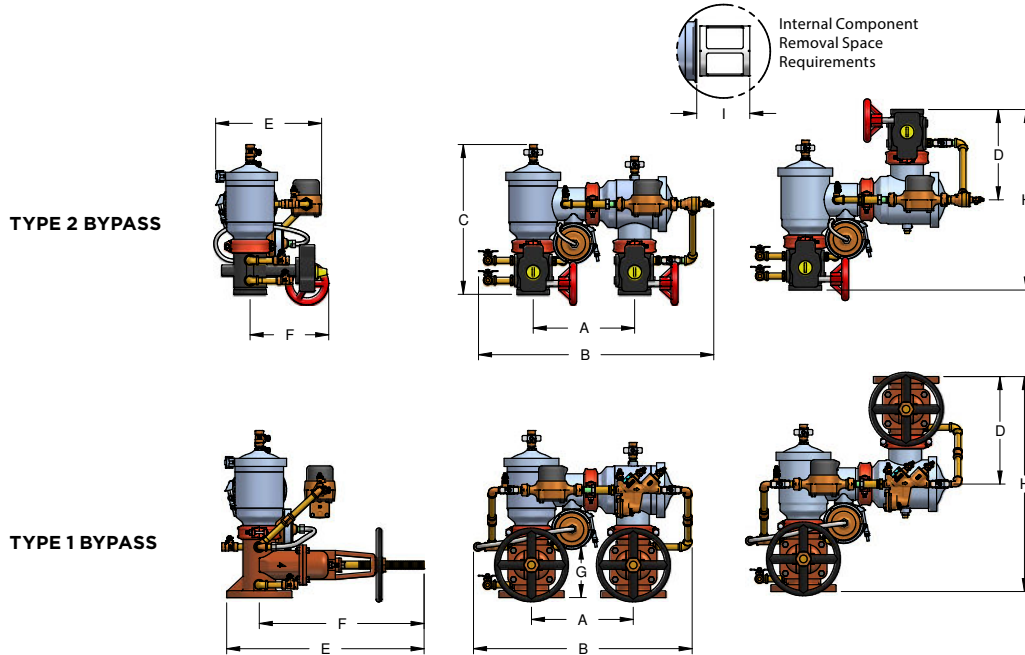


TRIFORCE™
CHECK



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)	27.8	705	30.0	762	31.0	787	34.3	870	38.0	965	N/A	1162	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)	18.8	476	19.0	483	20.8	527	25.0	635	29.5	749	N/A	883	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	N/A	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)	13.1	333	13.1	333	15.3	389	16.1	410	23.5	597	N/A	618	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)	8.6	219	9.6	244	10.9	276	12.5	318	16.5	419	N/A	460	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)	3.0	76	3.3	83	4.3	110	5.1	130	4.8	121	N/A	156	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)	23.0	584	23.5	597	25.0	635	29.3	743	35.8	908	N/A	1003	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
WEIGHTS	LB.	KG	LB.	KG	LB.	KG	LB.	KG	LB.	KG	LB.	KG	LB.	KG
Net Wt. (w/ Butterfly Valves)	117.0	53	122.0	55	147.0	67	205.0	93	510.0	231	N/A	491	N/A	N/A
Ship Wt. (w/ Butterfly Valves)	178.0	81	183.0	83	208.0	94	285.0	129	645.0	293	N/A	577	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 ($\pm 1/8"$ (3 mm) per joint)
 Internal body connections are grooved on 2-1/2" to 10" sizes.
 Internal body connections are flanged on 12" size.