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Job Location:	
Engineer:	
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DESCRIPTION

The 2-1/2" – 12" Double Check Detector Assembly shall be an Apollo® Model DCDALF 4A or DCDA2LF 4A. The assembly shall be manufactured in America and carry a 5-year Apollo® factory warranty. The TriForce™ center-stem guided check valves shall feature reversible silicone rubber seat discs. The check valves shall be held in place by SS snap-in retainers (2-1/2" – 6") or SS studs & nuts (8" – 12"). Access to the check valves shall be by an Apollo® quick-connect SS coupling (2-1/2" – 6") or grooved couplings (8" – 12"). The bodies shall be domestic SS in 22-1/2" – 8" sizes and FDA epoxy-coated ductile iron in 10" & 12" sizes. The assembly consists of a mainline double check valve with a Type 2 bypass (Type 1 optional) consisting of a lead free* 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. Assemblies with the optional Type 1 bypass consist of a lead free* double check valve and meter which bypass both mainline checks and accurately meter all flows up to 2 gpm with the mainline checks closed. The Apollo® lead free* domestic ball valve test cocks shall have SS handles. The pressure drop across the assembly shall be documented by an independent laboratory. The assembly shall prevent contamination of the potable water supply due to back-siphonage or backpressure from substances that are non-health hazards.

FEATURES

- Domestic Stainless steel body: 2-1/2" – 8"
- FDA Epoxy-Coated Ductile Iron Body: 10" & 12"
- Easy Maintenance – No Special Tools Required
- Snap-In Check Retainers: 2-1/2" – 6"
- Bolted-In Checks: 8" – 12"
- Low Pressure Loss as Documented by an Independent Laboratory
- Center-Stem Guided TriForce™ Check Valves
- Approved For Horizontal (2-1/2"-12") and Vertical Flow Up (2-1/2" – 8")
- US Patent Nos. 6,443,184; 7,025,085; 7,533,699
- Made in the USA (D option)

PERFORMANCE RATING

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

APPROVALS

- Sizes 2-1/2" – 12": ASSE 1048*, CSA B64.5, FM, UL*, cUL*
- NSF/ANSI 372 (2-1/2" – 12")
- 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)

*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/Stainless Steel
COVERS (8")	304 Stainless Steel
COVERS (10" & 12")	FDA Epoxy Coated Ductile Iron
CHECK VALVES (2 1/2" – 12")	Glass-filled PPO/Bronze (C89836 Lead-Free*)/SS
BYPASS VALVES	Bronze (C89836 Lead-Free*)
SPRINGS	Stainless Steel
SEAT DISCS	Chloramine-resistant Silicone

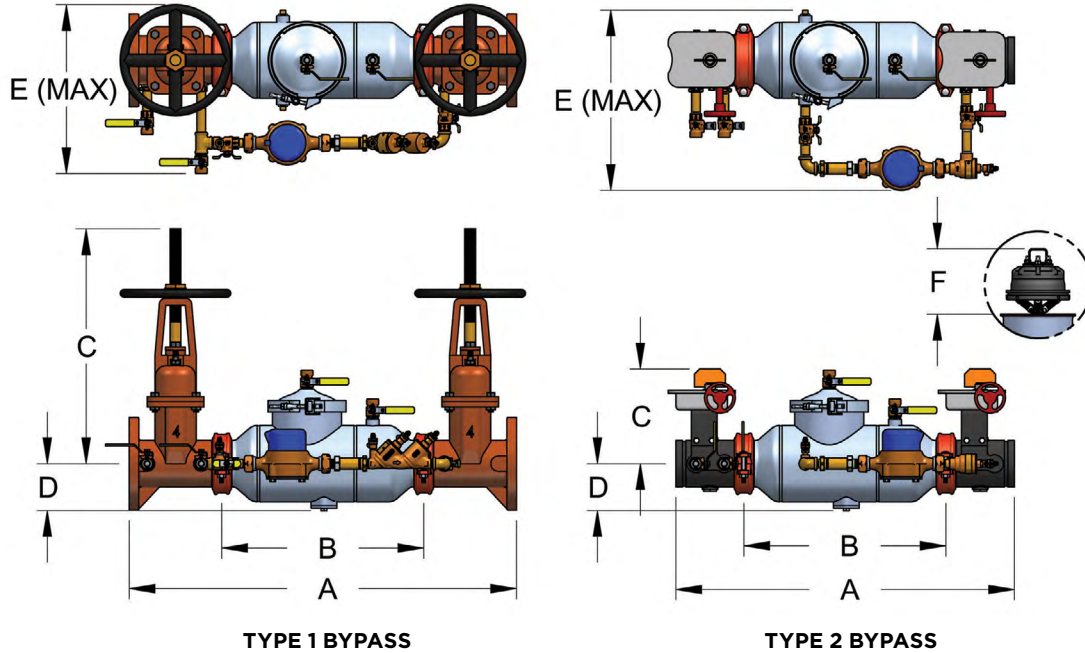
PART NUMBER MATRIX

4ALF	6 X	X	X	[X]	X
	BYPASS SUB-ASSEMBLY OPTIONS	SIZE	METER OPTION	SHUT-OFF VALVES (INLET X OUTLET)	SIZE
4ALF - LEAD FREE	0 - TYPE 1 W/ 1/2" DOUBLE CHECK	9 - 2-1/2"	C - CUBIC FEET/MIN	1 - LESS SHUT-OFF VALVES	D - DOMESTIC ASSEMBLY
	2 - TYPE 2 W/ 1/2" SINGLE CHECK (STD)	0 - 3"	E - GALLONS/MIN	3 - OS&Y FLANGE X OS&Y FLANGE	R1 - RETROFIT*
	3 - TYPE 1 W/ BYPASS ON LEFT*	A - 4"	G - LESS METER	4 - OS&Y FLANGE X MONITORED (MON.) BUTTERFLY VALVE GROOVE*	R2 - RETROFIT*
	4 - TYPE 2 W/ BYPASS ON LEFT*	C - 6"		6 - OS&Y FLANGE X POST INDICATOR FLANGE	R3 - RETROFIT*
		E - 8"		7 - OS&Y FLANGE X OS&Y GROOVE	
		G - 10"		8 - OS&Y GROOVE X OS&Y GROOVE	
		H - 12"		9 - MON. BUTTERFLY VALVE GROOVE X MON. BUTTERFLY VALVE GROOVE*	*CUSTOM LENGTH RETROFIT ORDERS MUST BE ACCOMPANIED WITH SIGNED FROM #0FBFRETRO 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 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.

*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.



DIMENSIONS

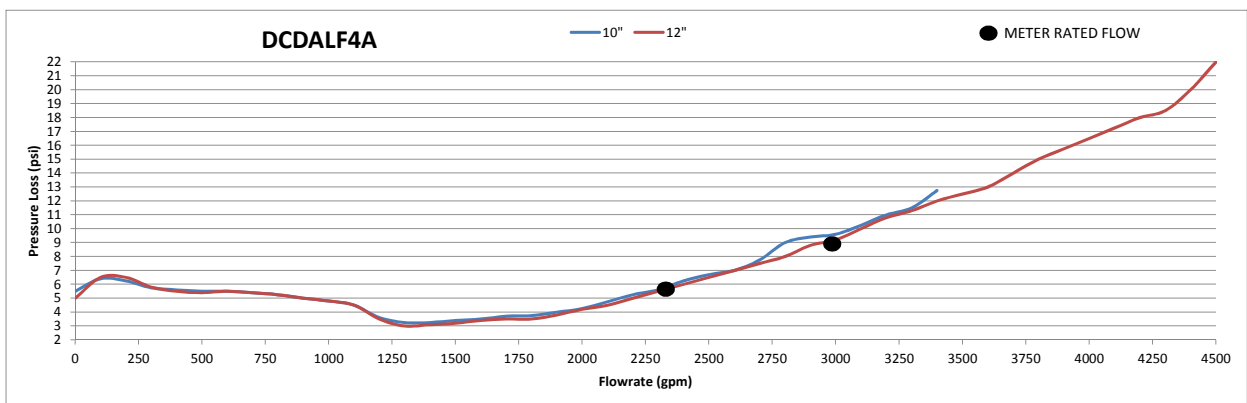
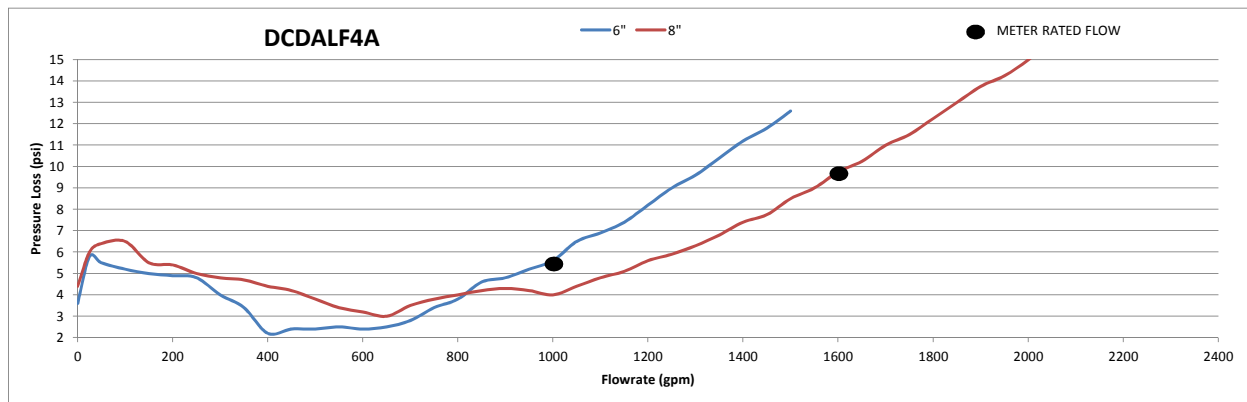
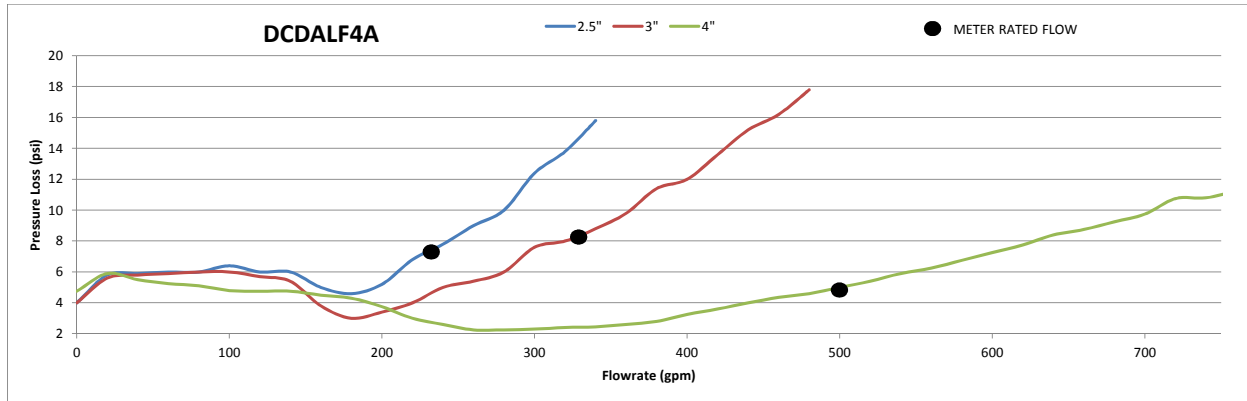
Nominal dimensions are shown. Allowances must be made for manufacturers' tolerances ($\pm 1/8"$ (3 mm) per joint)

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	33.3	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
WEIGHTS	LB.	KG	LB.	KG	LB.	KG	LB.	KG	LB.	KG	LB.	KG	LB.	KG
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

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

Internal body connections are flanged on 12" size.

FLOW CURVES



Notes:
 Flow curves directly reflect data collected by an independent laboratory.
 Flow curves shown were recorded with gate shut-off valves. Contact factory for more information.
 All data points are based on ASSE increasing flow data, from zero GPM to rated flow (opening curve).
 For high flow rates/pressure loss information - contact factory.