

# **INSTALLATION, OPERATION &** MAINTENANCE MANUAL

### **III. TROUBLESHOOTING**

SYMPTOM	CAUSE	CORRECTIVE ACTION		
Check valve fails to hold 1psid.	<ol> <li>Shut-off valve not closed completely.</li> <li>Check valve fouled with debris.</li> <li>Check poppet stem not moving freely in guide.</li> </ol>	<ol> <li>Close #2 shut-off valve or inspect for possible through leakage.</li> <li>Inspect and clean seat disc and seat.</li> <li>Inspect for debris or deposit on poppet stem or guide.</li> </ol>		

### **IV. MAINTENANCE INSTRUCTIONS**

### 2-1/2" - 6" SIZES

Open test cocks #2, #3, and #4 to relieve pressure from the device. Both shut-off valves must be closed.

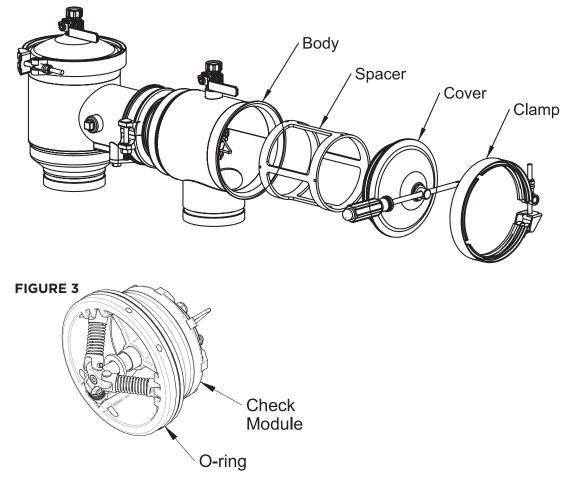
#### A. CHECK REMOVAL

Note: If the first check seat disc needs only to be cleaned, it is not necessary to remove the entire check module from the valve body. See the next section, "Check Maintenance", for seat disc cleaning instructions.

- 1. Remove the cover clamp by backing off the nut until the latch can be disengaged from the T-bolt. Pull the clamp apart and slide away from the valve. See Figure 2.
- 2. Lift off the cover. A flat screwdriver will aid in lifting the cover out of the body. See Figure 2.
- 3. Remove the check-retaining spacer from the body. Pull the check module straight out of body. The check module is sealed in place with an o-ring. See Figure 3.

### FIGURE 2

4





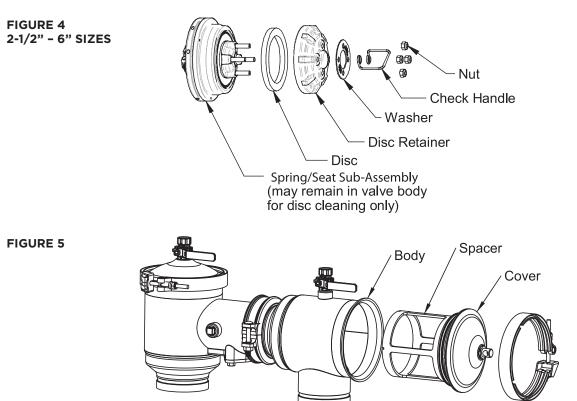


# **IV. MAINTENANCE INSTRUCTIONS**

### **B. CHECK MAINTENANCE**

If only cleaning of the first check is necessary, simply remove the three (3) nuts for 2-1/2" & 3" valves/ four(4) nuts for 4" & 6" valves on the black plastic disc retainer (See Figure 4). Remove the check handle and washer and lift the disc retainer and disc out of the body. Rinse the disc with clean water or replace if necessary. The disc may be flipped over for a temporary repair, but should be replaced if damaged. Replace the disc, disc retainer, washer, handle, and nuts. **Do not over tighten locknuts**.

NOTE: The springs are factory installed and should not be removed or adjusted. Serious injury could occur if springs are disassembled.



### 8" - 12" SIZES

Open test cocks #2, #3, and #4 to relieve pressure from the device. Both shut-off valves must be closed.

### A. CHECK REMOVAL

Note: If the first check disc needs only to be cleaned, it is not necessary to remove the entire check module from the valve body. See the next section, "Check Maintenance", for disc cleaning instructions.

- 1. Take off the cover coupling by removing the two bolts and nuts. The gasket may remain on the valve body.
- 2. Lift off the cover. (See Figure 6)
- 3. Remove the six (6) nuts for 8" valves/ eight (8) nuts for 10" & 12" valves with a 3/4" socket and ratchet.
- 4. Slide the entire check module off the body studs and remove from body (see Figure 7).

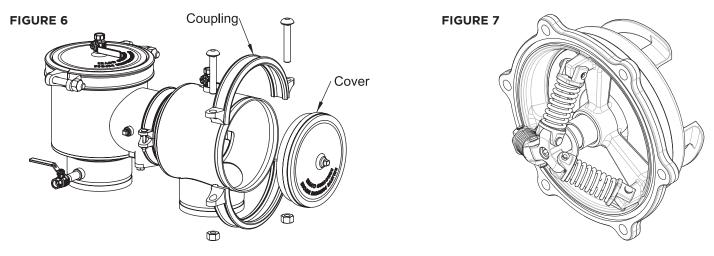


5



## **IV. MAINTENANCE INSTRUCTIONS**

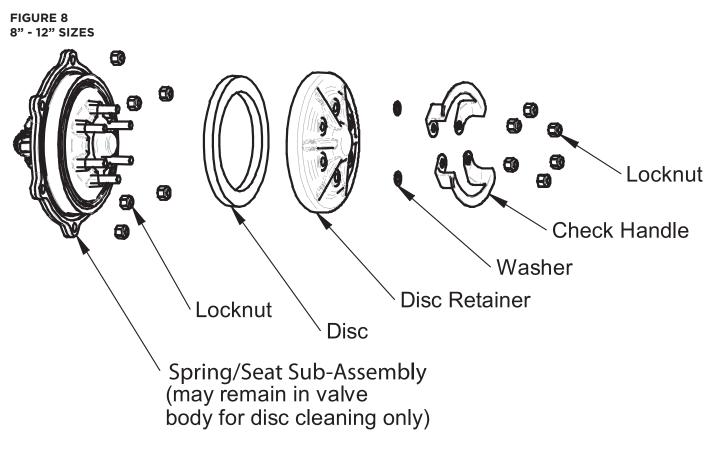
"Apollo" BACKFLOW



# B. CHECK MAINTENANCE (CAN BE ACHIEVED WITHOUT REMOVING ENTIRE CHECK.)

If only cleaning of either check is necessary, simply remove the six (6) nuts for 8" valves / eight (8) nuts for 10" & 12" valves on the black plastic disc retainer (See Figure 8). Remove the check handles and washers and lift the disc retainer and disc out of the body. Rinse the disc with clean water or replace if necessary. The disc may be flipped over for a temporary repair, but should be replaced if damaged. Replace the disc, disc retainer, washer, handle, and nuts. **Do not over tighten locknuts.** 

NOTE: The springs are factory installed and should not be removed or adjusted. Serious injury could occur if springs are disassembled.

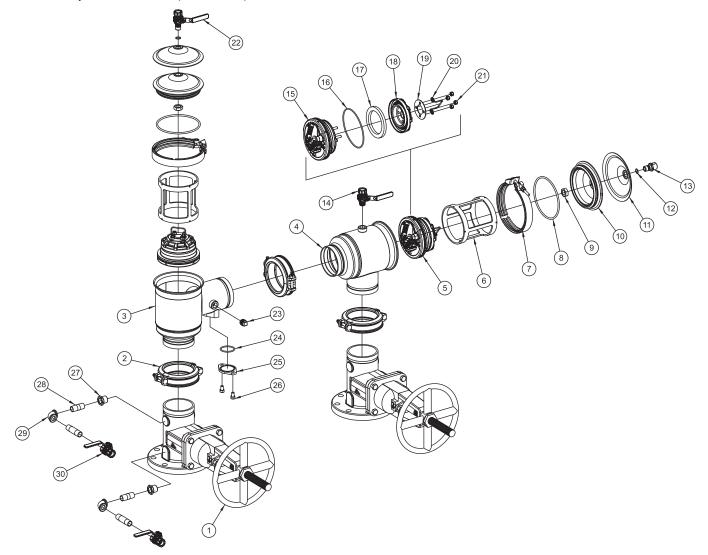






### PART NUMBER DIAGRAM - 2-1/2" - 6"

FIGURE 10 DC4AN, DCLF4AN DCDA4AN, DCDALF4AN (MAINLINE) DCDA24AN, DCDA2LF4AN (MAINLINE)







# **INSTALLATION, OPERATION &** MAINTENANCE MANUAL

# PARTS LIST - 2-1/2" - 6"

# DC4AN/DCDA4AN (MAINLINE) / DCDA24AN (MAINLINE) PARTS LIST DCLF4AN/DCDALF4AN (MAINLINE) / DCDA2LF4A (MAINLINE) PARTS LIST

ITEM #	DESCRIPTION	OTV	PART NUMBER			
11 EM #	DESCRIPTION	QTY.	2-1/2"	3"	4"	6"
1	Shut-off Valve	2	See Pages 18 & 19			
2	Coupling	3	W-5237-00	W-5238-00	W-5239-00	W-5240-00
3	First Check Body	1		Consul	t Factory	
4	Second Check Body	1		Consul	t Factory	
5	Check Module	2	W-98	856-05	W-9668-05	W-9669-05
6	Check Retaining Spacer	2	G-48	332-00	G-4804-00	G-4805-00
7	Cover Clamp	2	W-92	293-00	W-9183-00	W-9221-00
8	O-ring, Cover	2	D-49	976-00	D-4870-00	D-5001-00
9	Retaining Nut	2		C-2635-00		C-1756-00
10	Cover, Inner	2	F-39	00-00	F-3864-00	F-3865-00
11	Cover, Outer	2	E-29	03-00	E-2865-00	E-2866-00
12	O-ring, Test Cock	2	D-4892-00		D-3904-00	
13	Second Check Cover Plug	1	L-8462-06		L-8463-06	
14	Test Cock, MxF	1		77CLF-803-10		77CLF-804-10
15	Seat/Spring Sub-Assy	2	W-9	715-05	W-9717-05	W-9719-05
16	Check Seat O-ring	1	D-5	171-00	D-4869-00	D-5000-00
17	Disc	1	D-49	958-00	D-4862-00	D-4890-00
18	Disc Retainer	1	L-78	00-00	F-3862-00	F-3863-00
19	Washer	(QTY)	E-290	5-00 (1)	E-2920-00 (1)	E-2878-00 (4)
20	Handle	1	H-38	314-00	H-3792-00	H-3793-00
21	Locknut	(QTY)	C-1900	0-00 (3)	C-2052-00 (4)	C-2053-00 (4)
22	Test Cock, Cover	2		77CLF-803-A0		77CLF-804-A0
23	Plug, 1/2" NPT	2		K-45	594-05	
24	O-ring, RV Port	1	D-4866-00			
25	Cover, RV Port	1	F-3875-00			
26	Screw, 3/8-16 x .63	2	B-1921-00			
27	Reducer Bushing	2	K-4605-00		N/A	
28	Nipple	4	K-3406-00		K-3412-00	
29	Elbow, 90°	2		K-4598-00		K-3501-00
30	Test Cock, FxF	2		77CLF-103-10		77CLF-104-10

Individual parts are only available for bulk sales. Please refer to the appropriate repair kits below and on page 13. Note: All bronze components listed are lead-free\*

\*LEAD FREE: The wetted surfaces of this product shall contain no more than 0.25% lead by weighted average. Complies with CA AB1953, VT Act 193, MD HB

### **REPAIR KITS - 2-1/2" - 6"**

CHECK RUBBER ONLY KIT (ONE KIT REPAIRS ONE CHECK)		SIZE			
		2-1/2" & 3"	4"	6"	
	REPAIR KIT MODEL NUMBER	RK4A3CMR	RK4A4CMR	RK4A6CMR	
ITEM #	ORDERING NUMBER	4A-000-01	4A-00A-01	4A-00C-01	
not Shown	Lubricant	I-9016-00			
17	Disc	D-4958-00	D-4862-00	D-4890-00	
16	Check O-ring	D-5171-00	D-4869-00	D-5000-00	
24	Relief Valve Port O-ring	D-4866-00			
8	Cover O-ring	D-4976-00	D-4870-00	D-5001-00	
12	Test Cock O-ring	D-4892-00		D-3904-00	

Note: All bronze components listed are lead-free\*

\* LEAD REE: The wetted surfaces of this product shall contain no more than 0.25% lead by weighted average. Complies with CA AB1953, VT Act 193, MD HB372, LA HB471, and Federal Public Law 111-380.

backflow.apollovalves.com





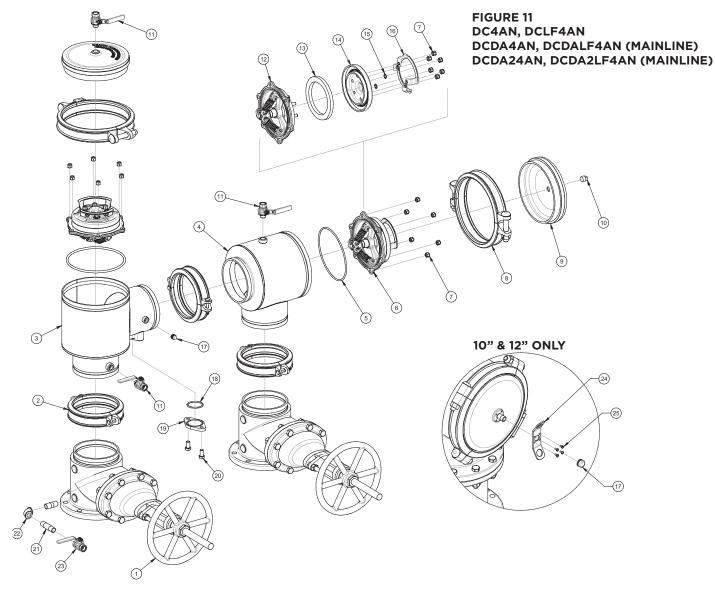
# REPAIR KITS (MAINLINE) 2-1/2" - 6"

DC CHECK COMPLETE KIT (ONE KIT REPAIRS ONE CHECK)		SIZE		
		2-1/2" & 3"	4"	6"
REPAIR KIT MODEL NUMBER		RK4A3CMC	RK4A4CMC	RK4A6CMC
ITEM #	ORDERING NUMBER	4A-000-02	4A-00A-02	4A-00C-02
not shown	Lubricant	I-9016-00		
5	Check Module S-Assy	W-9856-05	W-9668-05	W-9669-05
16	Check O-ring	D-5171-00	D-4869-00	D-5000-00
8	Cover O-ring	D-4976-00	D-4870-00	D-5001-00

Note: All bronze components listed are lead-free\*

\* LEAD FREE: The wetted surfaces of this product shall contain no more than 0.25% lead by weighted average. Complies with CA AB1953, VT Act 193, MD HB372, LA HB471, and Federal Public Law 111-380.

# PART NUMBER DIAGRAM - 8 - 12"



13

### PARTS LIST & REPAIR KITS - 8" - 12"

(FLOW

"Apollo" BACI

DC4AN/DCDA4AN (MAINLINE) / DCDA24AN (MAINLINE) PARTS LIST DCLF4AN/DCDALF4AN (MAINLINE) / DCDA2LF4AN (MAINLINE) PARTS LIST

ITEM #	DESCRIPTION	OTY	PART NUMBER		
		QTY.	8"	10"	12"
1	Shut-off Valve	2	See Page 18 & 19		
2	Coupling	(QTY)	W-9791-00 (3)	W-5242-00 (3)	W-9243-00 (1)
2	Bolt Pack	1	N/A	N/A	40-00H-BP
3	First Check Valve Body	1		Consult Factory	
4	Second Check Valve Body	1		Consult Factory	
5	Check O-ring	2	D-4935-00	D-49	97-00
6	Check Module	2	W-9672-05	W-98	61-05
7	Locknut, 1/2-13	(QTY)	C-2638-00 (24)	C-2638-	-00 (32)
8	Cover Clamp	2	W-9243-00	W-93	55-00
9	Cover	2	E-2898-05	Q-70	64-19
10	Plug, 3/4" NPT	1	K-4595-05	N/A	
11	Test Cock	3	77CLF-804-10	77CLF-104-10	
12	Seat/Spring Sub-Assy	2	W-9721-05	W-9723-05	
13	Disc	2	D-4934-00	D-4960-00	
14	Disc Retainer	1	F-3899-00	F-3903-00	
15	Washer	2		E-2897-00	
16	Handle	2	H-3828-00	H-38	13-00
17	Cap, 1/2" NPT	5	N/A	K-465	56-00
17	Plug, 1/2" NPT	2	K-4594-05	N/A	N/A
18	O-ring, RV Port	1	D-4963-00	D-2304-00	
19	Cover, RV Port	1	F-3898-05	F-3898-05 F-3922-00	
20	Screw	2	B-2348-00 B-1690-00		
21	Nipple	2	K-3412-00		
22	Elbow, 3/4", 90°	1	K-4599-00		
23	Test Cock, FxF	1	77CLF-104-10		
24	Lifting Tab	2	N/A	E-295	55-05
25	Screw, 1/4-20 X .50	8	N/A B-1913-00		

Individual parts are only available for bulk sales. Please refer to the appropriate repair kits below. Note: All bronze components listed are lead-free\*

\*LEAD FREE: The wetted surfaces of this product shall contain no more than 0.25% lead by weighted average. Complies with CA AB1953, VT Act 193, MD HB372, LA HB471, and Federal Public Law 111-380.

# REPAIR KITS (MAINLINE) 8"-12"

CHECK RUBBER ONLY KIT (ONE KIT REPAIRS ONE CHECK)		SIZE		
		8"	10" & 12"	
	REPAIR KIT MODEL NUMBER	RK4A8CMR	RK4A12INCMR	
ITEM #	ORDERING CODE	4A-00E-01	4A-00H-01	
not shown	Lubricant	1-9016-0	0	
13	Disc	D-4934-00	D-4960-00	
5	Check O-ring	D-4935-00	D-4997-00	
18	Relief Valve Port O-ring	D-4963-00	D-2304-00	
·	DC Check Complete Kit	Size		
	(One kit repairs one check)	8"	10" & 12"	
	Repair Kit Model Number	RK4A8CMC	RK4A12INCMC	
ltem #	Ordering Code	4A-00E-00	4A-00H-00	
not shown	Lubricant	I-9016-0	0	
6	Check Module S-Assy	W-9672-05	W-9861-05	
5	Check O-ring	D-4935-00	D-4997-00	

Note: All bronze components listed are lead-free\*

\* LEAD FREE: The wetted surfaces of this product shall contain no more than 0.25% lead by weighted average. Complies with CA AB1953, VT Act 193, MD HB372, LA HB471, and Federal Public Law 111-380.





# **BFMMDC4ANLBF** ES1597 REV A

0

(3)

# PART LIST - BYPASS SINGLE CHECK (TYPE 2)

W977005 SINGLE CHECK VALVE (LEAD FREE\*)

ITEM	PART #	DESCRIPTION	QTY
1	K-4587-06	Tail Piece	1
2	C-1844-05	Union Nut	1
3	Q-7281-05	Body	1
4	D-3885-00	Check O-ring	1
5	1-9342-00	Nameplate	1
6	F-3228-00	Check Valve	1
7	D-3589-00	Cap O-ring	1
8	F-4042-05	Сар	1
9	78LF-270-01	Test Cock	1

Individual parts are only available for bulk sales. Please refer to the appropriate repair kits below.

1)

# **BYPASS SINGLE CHECK REPAIR KITS**

2

4A-003-12: Check Repair Kit: Includes items 4, 6, and 7 (1 ea.)

### 4A-003-13:

Check Complete Kit: Includes items 1-9 (1 ea.)

Note: All branze components listed are lead-free\* \* LEAD FREE: The wetted surfaces of this product shall contain no more than 0.25% lead by weighted average. Complies with CA AB1953, VT Act 193, MD HB372, LA HB471, and Federal Public Law 111-380.

n

(4)



(9)

8

7

(6)

〔5〕