



MCWANE
PLANT & INDUSTRIAL

***KENFLEX
RESILIENT HINGED
CHECK VALVE***

*3" - 12" AWWA C508 Full-Flow
Flexible Swing Flap Design*

***INSTALLATION &
OPERATION MANUAL***

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INTRODUCTION

Kenflex resilient hinged check valves have been engineered to provide trouble-free operation for many years. This manual will provide you with the information needed to properly install, operate, and maintain the valve and to provide long service life. The valve is opened by the flow in one direction and closes automatically to prevent flow in the reverse direction.

An optional backflow actuator can be added for manual back flush operation commonly used for priming pumps, flushing lines and system testing.

Optional mechanical disc position indicators are available for instant visual verification of the disc position. This allows for limit switches and other monitoring devices to be installed.

The Kenflex valve is a swing check type utilizing an angled seat and fully encapsulated, EPDM resilient disc and is capable of handling a variety of fluids including flows containing suspended solids.

Kenflex resilient hinged check valves are rated for 250 PSI working pressure and have ANSI 125# flange connections.

RECEIVING & STORAGE

Inspect valves upon receipt to ensure correct material, quantity, and any optional equipment has been received. Also inspect all received equipment for any damage which may have occurred during shipment. Contact the McWane Plant & Industrial sales team to report any issues with received material.

Unload all valves safely to protect both the materials and workers. Do not allow lifting lugs, slings, or chains to come into contact with the valve disc seating surface area. Use eyebolts or rods through the flange holes on large valves.

INSTALLATION

When installing the valve verify the direction of flow. The arrow on the bonnet indicates the direction of flow of the line media. Kenflex check valves are designed for flow in either a horizontal or vertical (flow upward) environment. When using the valve in horizontal pipelines make certain to keep the bonnet in a horizontal plane to ensure shutoff.

For longest service life, it is suggested that the valve be installed five to ten pipe diameters from any turbulence producing devices such as pumps, etc. Kenflex check valves have ANSI B16.1 flat-faced 125# flanges. Standard ANSI B16.21 flanges and gaskets should be used to install the valve in the pipeline.

NOTE: *It is recommended that valves be installed into piping system in accordance with AWWA M-11 to prevent any undue piping stress, deflection or bending that may affect the performance of the valve.*

1. Carefully place valves into position avoiding contact or impact with other equipment or physical structures.
2. Install valves in accordance with the general arrangement drawings furnished for the order.
3. Inspect and confirm there is no foreign material within the valve prior to installation. Foreign material can damage the valve disc and seat when valve is operated.
4. Prepare pipe ends and install valves in accordance with the pipe manufacturer's instructions. Do not deflect pipe or valve joints.
5. Install the valve to minimize bending of valve connection with pipe loading. Do not use the valve to pull pipe into alignment.

MAINTENANCE

The only moving component of the Kenflex check valve is the flapper disc. Should the flapper disc be damaged due to service conditions it can be easily removed and replaced. The valve requires no scheduled maintenance or lubrication.

INSPECTION OF THE VALVE:

1. Line should be shut down and drained, if possible. If not, safeguards should be taken to protect maintenance personnel.
2. The bottom threaded pipe plug can be removed to drain remaining media in the valve if required.
3. Remove all fasteners on the bonnet.
4. Bonnet can now be lifted, paying special attention not to damage the cover seal O-ring which can be reused.
5. The flapper disc can now be removed from the valve if required.
6. Upon completion of inspection/repairs install the flapper disc in the same location.
7. Re-lay the cover seal gasket and return the bonnet to original position, taking care to line up bolt holes.
8. Insert and tighten the bonnet bolts.
9. Return the line to service and inspect all connections for leakage.

TROUBLESHOOTING

PROBLEM

SUGGESTED SOLUTIONS

Leakage from bottom of valve

Remove line pressure and remove plug or jack screw device. Replace any seals and reattach. Repressure line and recheck for leakage.

Leakage at cover for valve flanges

Tighten bolts, replace cover seals and flange gaskets.

Valve leakage when closed

Inspect flapper disc for damage and replace if needed. Contact MPI sales team for information on spare parts.

Valve does not open

Check for obstructions in valve or pipeline. Operating pressure may be less than disc cracking pressure; contact MPI sales team to discuss.

PARTS & SERVICE

Parts and service are available from your local representative or the factory. For availability and pricing of spare parts please contact the MPI sales team:

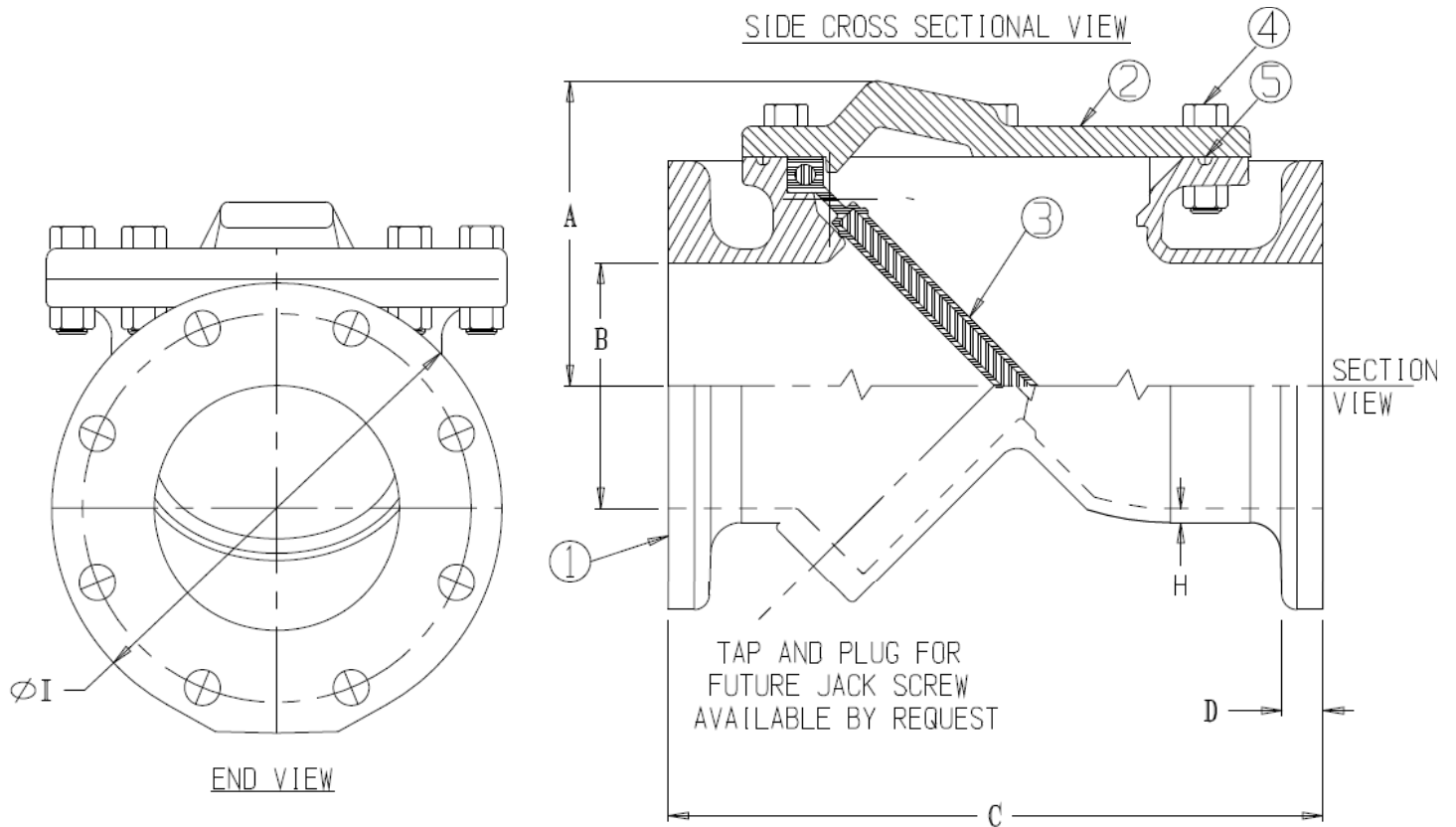
McWane Plant & Industrial

www.mcwanepi.com

Phone: 866-924-8674

Email: sales@mcwanepi.com

KENFLEX CHECK VALVE, NO ACCESSORIES

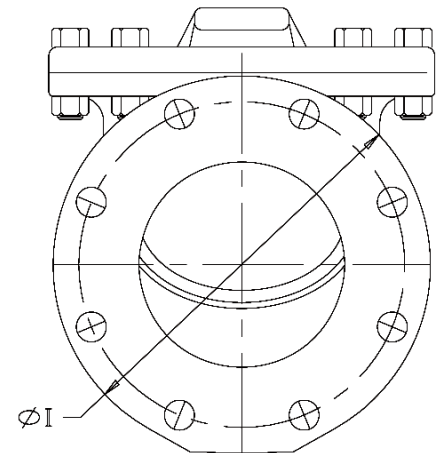
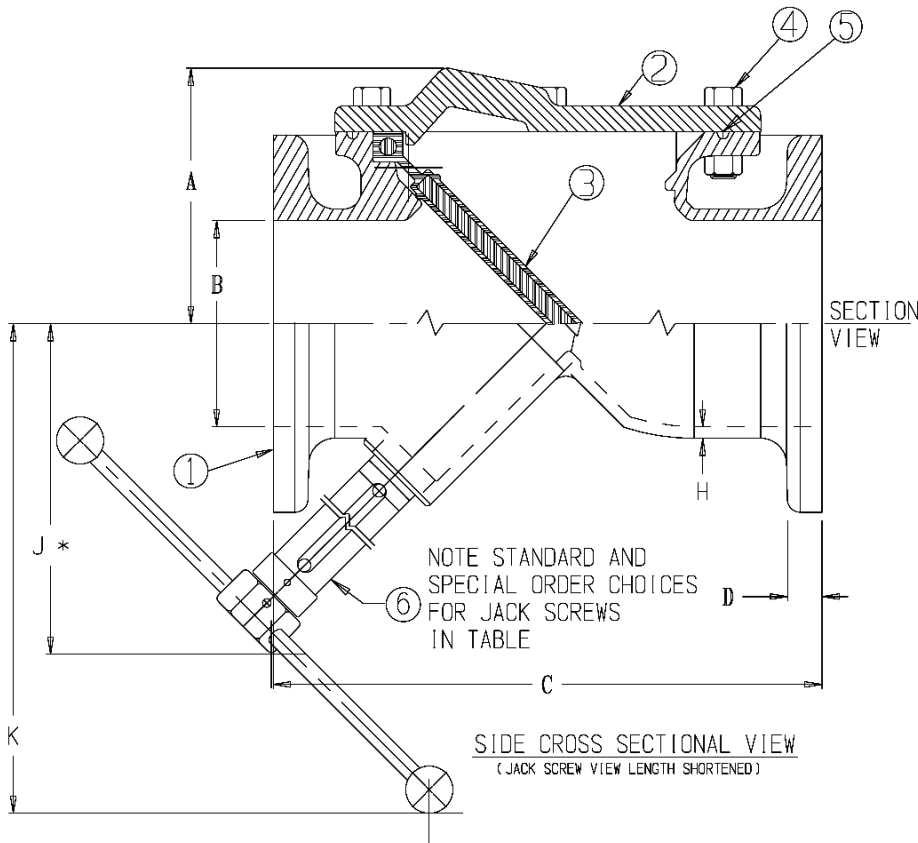


E - BOLT CIRCLE DIA. END FLANGE
 F - NUMBER OF BOLTS REQ'D EACH END FLANGE
 G - BOLT HOLE DIAMETER FOR END FLANGE
 END FLANGES CONFORM TO ANSI B16.1

PARTS LIST			
PART No.	PART	MATERIAL	ASTM DESIGNATION
1	Body (FLG x FLG)	Ductile Iron, Coated	ASTM A536 GR 65-45-12
2	Cover Plate	Ductile Iron, Coated	ASTM A536 GR 65-45-12
3	Flapper	EPDM Flapper, Met. Insert	A536 DI/D-2000 BK 807
4	Cover Bolts & Nuts	Stainless Steel	SS 18-8 F593
5	O-Ring	Nutrilite (Buna-N)	ASTM D2000

DIMENSIONS									
SIZE	A (APPROX.)	ØB	C	D (NDM)	ØE	F # BOLTS	ØG	H (NDM)	I
3	5.37	4.00	13	1.00	6.00	4	X	0.31	9.0
4	5.37	4.00	13	1.00	7.50	8	0.75	0.31	9.0
6	7.45	6.00	16	1.06	9.50	8	0.88	0.34	11.0
8	8.77	8.00	19.5	1.19	11.75	8	0.88	0.34	13.5
10	10.20	10.00	24.5	1.25	14.25	12	1.00	0.38	16.0
12	11.61	12.00	27.5	1.28	17.00	12	1.00	0.41	19.0
3" Valve (4) 0.62UNC-11-2B Tapped Holes (G) Straddle C.L. similar to other sizes.									

KENFLEX CHECK VALVE WITH JACK SCREW



E - BOLT CIRCLE DIA. END FLANGE
 F - NUMBER OF BOLTS REQ'D EACH END FLANGE
 G - BOLT HOLE DIAMETER FOR END FLANGE
 END FLANGES CONFORM TO ANSI B16.1

3" VALVE (4) 0.625UNC-11-2B TAPPED HOLES (G) STRADDLE C.L. SIMILAR TO OTHER SIZES

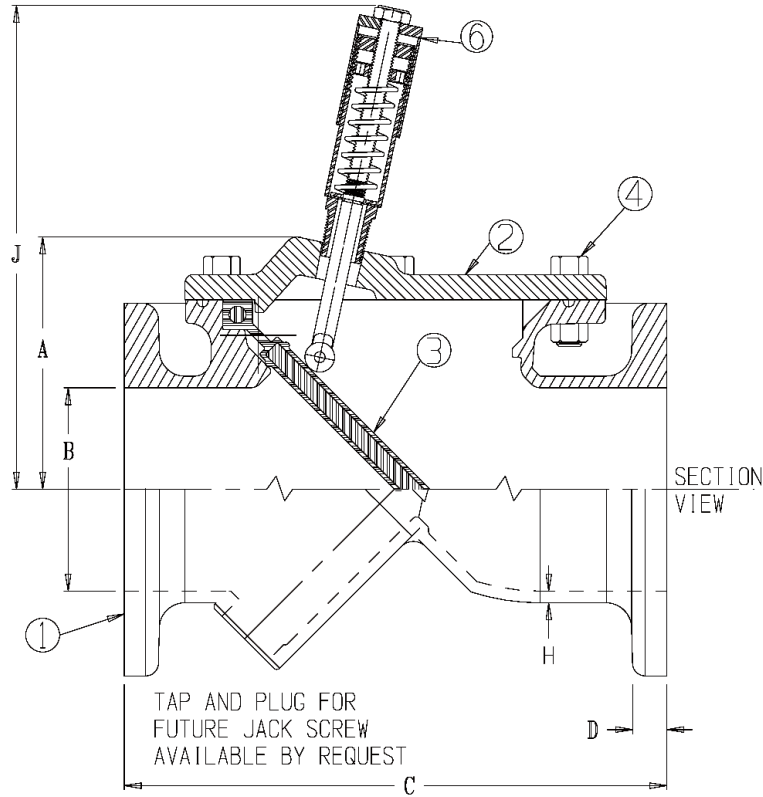
* ADD 4" FOR REMOVAL OF JACK SCREW
 SPINDLES CAN BE ROTATED TO ACCOMMODATE

PARTS LIST			
PART No.	PART	MATERIAL	ASTM DESIGNATION
1	Body (FLG x FLG)	Ductile Iron, Coated	ASTM A536 GR 65-45-12
2	Cover Plate	Ductile Iron, Coated	ASTM A536 GR 65-45-12
3	Flapper	EPDM Flapper, Met. Insert	A536 DI/D-2000 BK 807
4	Cover Bolts & Nuts	Stainless Steel	SS 18-8 F593
5	O-Ring	Nutrlite (Buna-N)	ASTM D2000
6	*1* Standard: Back Flow Jack Subassembly *2* Special Order: Back Flow Jack Subassembly	---	N/A

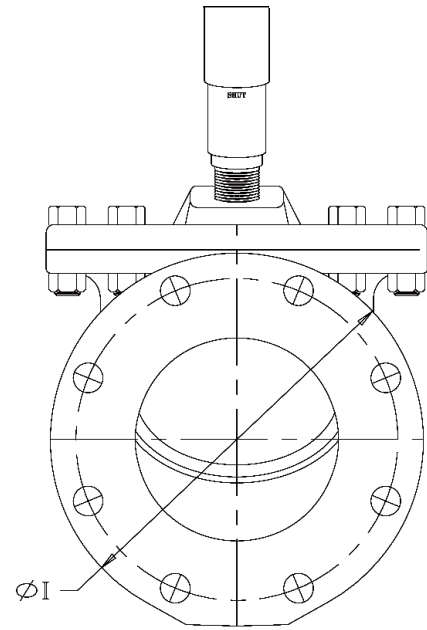
1 Standard Jack Screws;
 4" --> 448010P (Stainless Steel)
 6/8" --> 448106P (Stainless Steel)
 10/12" --> 448010P (Painted, Steel)
 2 Special Order Jack Screws;
 10/12" --> 448110P (Stainless Steel)

DIMENSIONS											
SIZE	A (APPROX.)	ØB	C	D (NDM)	ØE	F	ØG	H (NDM)	I	J (APPROX.)	K (APPROX.)
3	5.37	4.00	13	1.00	6.00	4	TAP SEE ABOVE	0.31	9.0	11	15
4	5.37	4.00	13	1.00	7.50	8	0.75	0.31	9.0	11	15
6	7.45	6.00	16	1.06	9.50	8	0.88	0.34	11.0	17	21
8	8.77	8.00	19.5	1.19	11.75	8	0.88	0.34	13.5	20	24
10	10.20	10.00	24.5	1.25	14.25	12	1.00	0.38	16.0	23	28
12	11.61	12.00	27.5	1.28	17.00	12	1.00	0.41	19.0	24	29

KENFLEX CHECK VALVE WITH POSITION INDICATOR



SIDE CROSS SECTIONAL VIEW



END VIEW

E - BOLT CIRCLE DIA. END FLANGE
 F - NUMBER OF BOLTS REQ'D EACH END FLANGE
 G - BOLT HOLE DIAMETER FOR END FLANGE
 END FLANGES CONFORM TO ANSI B16.1

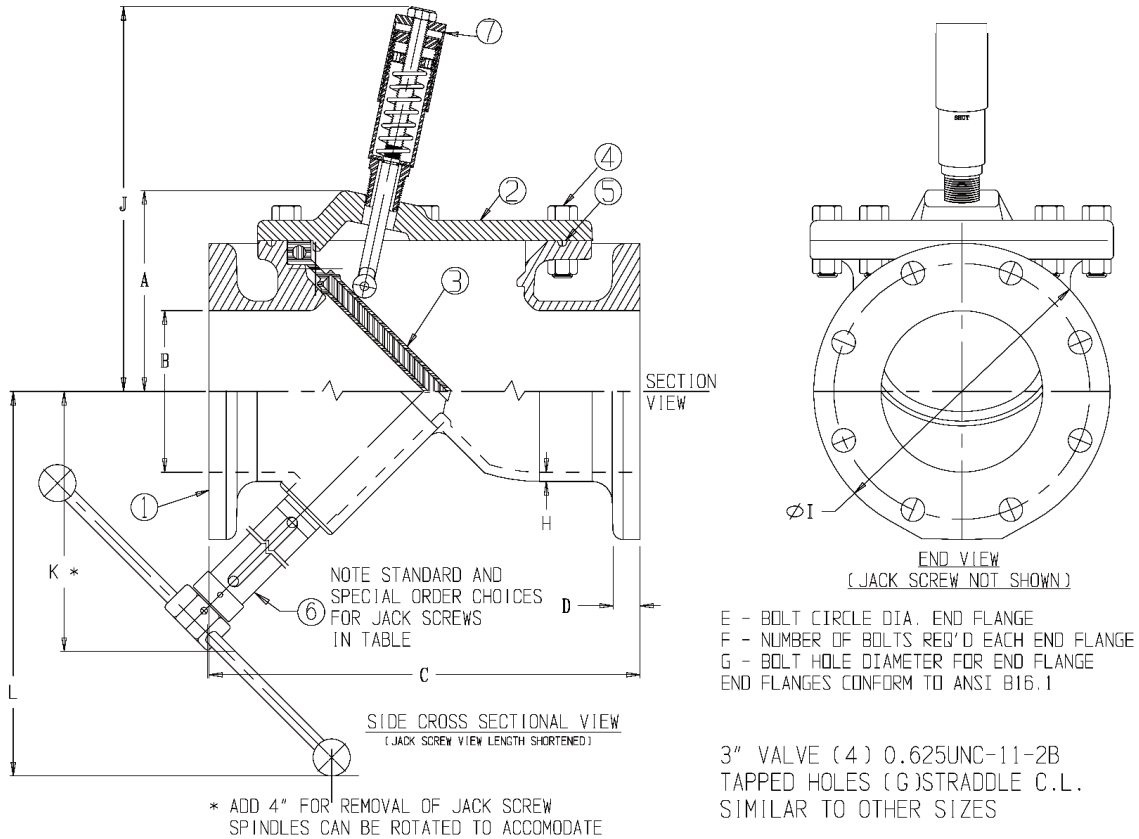
3" VALVE (4) 0.625UNC-11-2B
 TAPPED HOLES (G) STRADDLE C.L.
 SIMILAR TO OTHER SIZES

PARTS LIST			
PART No.	PART	MATERIAL	ASTM DESIGNATION
1	Body (FLG x FLG)	Ductile Iron, Coated	ASTM A536 GR 65-45-12
2	Cover Plate	Ductile Iron, Coated	ASTM A536 GR 65-45-12
3	Flapper	EPDM Flapper, Met. Insert	A536 DI/D-2000 BK 807
4	Cover Bolts & Nuts	Stainless Steel	SS 18-8 F593
5	O-Ring	Nitrile (Buna-N)	ASTM D2000
6	Position Indicator Subassembly	Stainless Steel Ext. Components	---

DIMENSIONS										
SIZE	A (APPROX.)	ØB	C	D (NDM)	ØE	F	ØG	H (NDM)	I	J (APPROX.)
3	5.37	4.00	13	1.00	6.00	4	TAP SEE ABOVE	0.31	9.0	12.21
4	5.37	4.00	13	1.00	7.50	8	0.75	0.31	9.0	12.21
6	7.45	6.00	16	1.06	9.50	8	0.88	0.34	11.0	14.28
8	8.77	8.00	19.5	1.19	11.75	8	0.88	0.34	13.5	15.61
10	10.20	10.00	24.5	1.25	14.25	12	1.00	0.38	16.0	17.04
12	11.61	12.00	27.5	1.28	17.00	12	1.00	0.41	19.0	18.45

KENFLEX CHECK VALVE

WITH JACK SCREW AND POSITION INDICATOR



PARTS LIST

PART No.	PART	MATERIAL	ASTM DESIGNATION
1	Body (FLG x FLG)	Ductile Iron, Coated	ASTM A536 GR 65-45-12
2	Cover Plate	Ductile Iron, Coated	ASTM A536 GR 65-45-12
3	Flapper	EPDM Flapper, Met. Insert	A536 DI/D-2000 BK 807
4	Cover Bolts & Nuts	Stainless Steel	SS 18-8 F593
5	O-Ring	Nutrilite (Buna-N)	ASTM D2000
6	*1* Standard: Back Flow Jack Subassembly *2* Special Order: Back Flow Jack Subassembly	Refer to Standard & Special Jack Screw Legend	N/A
7	Position Indicator Subassembly	Stainless Steel Ext. Components	---

DIMENSIONS

SIZE	A (APPROX.)	ØB	C	D (NDM)	ØE	F	ØG	H (NDM)	I	J (APPROX.)	K	L
3	5.37	4.00	13	1.00	6.00	4	TAP SEE ABOVE	0.31	9.0	12.21	11	15
4	5.37	4.00	13	1.00	7.50	8	0.75	0.31	9.0	12.21	11	15
6	7.45	6.00	16	1.06	9.50	8	0.88	0.34	11.0	14.28	17	21
8	8.77	8.00	19.5	1.19	11.75	8	0.88	0.34	13.5	15.61	20	24
10	10.20	10.00	24.5	1.25	14.25	12	1.00	0.38	16.0	17.04	23	28
12	11.61	12.00	27.5	1.28	17.00	12	1.00	0.41	19.0	18.45	24	29