The SWL Series Swing Check Valves

- Meets AWWA C-508 Standards (Full Waterway)
- Accepts Air and Oil Cushion
- Swing Check Valve Solution

Crispin

Since 1905

Crispin Multiplex Manufacturing Co. • 600 Fowler Avenue • Berwick, PA 18603 • 1-800-247-VALV
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SWL SERIES

Swing Check Valve

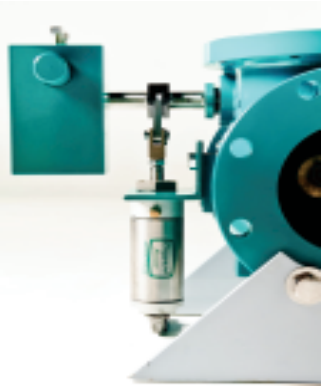
SWL Swing Check Valve

Applications

- Water and Waste-water Systems
- Pump Discharge
- Valve Vaults

Features Include

- Both lever-and-weight and outside lever-and-spring designs available.
- Optional Air Cushion (Commercial or Bronze Cylinder Designs available).
- Ductile iron body with Ductile iron disc and 316 ss Seat standard.
- Valve Disc allows "full flow" through the valve
- Buna-N Rubber faced Discs standard.
- Optional double outside levers for weight or spring
- Available in sizes 3" thru 36"



The "SWL" series Swing Check Valve from Crispin Valve is an ideal solution for most check valve applications. Designed completely in-house using advanced 3D modeling and FEA technology, the SWL offers the same Crispin quality that you've come to expect from all of our products.

The SWL is available in Outside Lever/Weight, Lever/Spring, Air Cushion, and Oil Control configurations. Only produced in Ductile Iron with #150 flanged ends, the SWL swing check valve is intended for all swing check applications up to and including a 250 psi operating pressure.

Standard with 316ss seats and available with a variety of industry-approved epoxy coatings, the SWL offers flexibility in tackling hard water and corrosive environments.

Operation

Once pump pressure exceeds the back pressure on the down-stream side of the valve disc, the SWL Swing Check Valve moves the disc out of the flow by displacing the seat disc to the upper portion of the valve body. This creates full flow through the unit for both water and sewage.

Upon pump shut down, the disc will stroke closed when velocity begins to slow and stop. With the incorporation of a rubberized disc face, the resultant drip-tight seating will protect the system from costly leakage.

Design

• Body Seat

The threaded-in 316 stainless steel seat provides firm, water-tight retention in the body. This design can handle repeated stroking of the typical swing check application without vibration or loosening.

• Standard Rubber-Faced Discs

Standard on all sizes, the rubber-faced disc configuration provides drip-tight sealing.

• Adjustable Packing

Perfect for standard check valves where expensive maintenance rebuilds are not justified, the adjustable packing allows for fine tuning of sealing joints over time.

• Bronze and Stainless Trim

Standard in all units, the SWL's bronze and stainless steel trim provides excellent protection against corrosion.

• Limit Switches

Mountable on all valves sizes, electric limit switches are available upon customer's request.

• Full Waterway Flow Area

With a flow area that is greater than or equal to the nominal valve size, the SWL swing check valve has a lower head loss characteristic than a Silent Check valve, and can be mounted in both the horizontal and vertical positions.

• Serviceable

The disc and clapper of the SWL can be removed from the valve while it is still in line. ■

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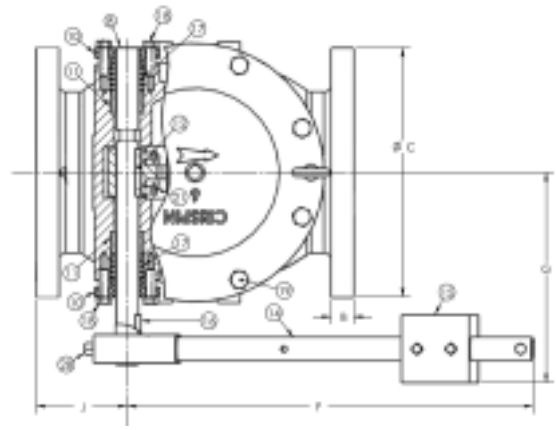
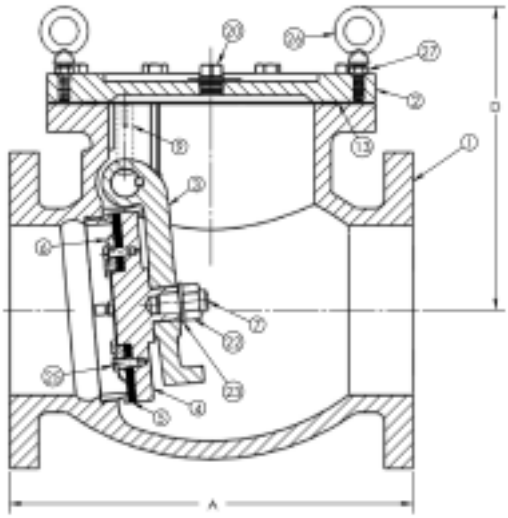
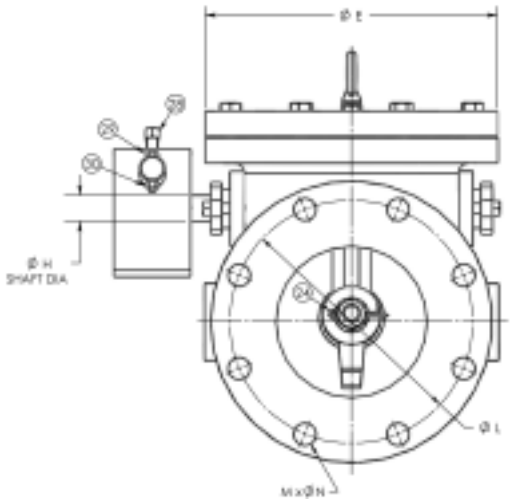
SWL Swing Check Valve

Swing Check Design Features



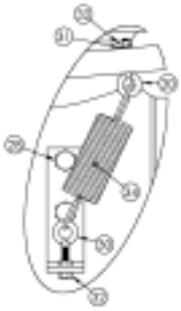




SWL-LW Series Parts List

ITEM	DESCRIPTION	MATERIAL
1	BODY/SEAT ASSY	A536 GR.65-45-12 & A351 GR CF8M
2	COVER	A536 GR.65-45-12 DUCTILE IRON
3	DISC ARM	A536 GR.65-45-12 DUCTILE IRON
4	DISC	A536 GR.65-45-12 DUCTILE IRON
5	DISC SEAT	D2000 BUNA-N RUBBER
6	SEAT RETAINER	A240 TYPE 316 S/S
7	STUD	18-8 STAINLESS STEEL
8	PIVOT SHAFT	A276 TYPE 304
9	PIVOT SHAFT PIN	BEARING BRONZE ALLOY 932
10	PACKING GLAND	CARBON STEEL
11	PT SFT BUSHING	BEARING BRONZE ALLOY 932
12	INNER PIVOT SHAFT KEY	A276 TYPE 316 S/S
13	COVER GASKET	KLINGERSIL C-4401
14	LEVER WELDMENT	CARBON STEEL
15	LEVER WEIGHT	ASTM A36
16	OUTER PIVOT SHAFT KEY	A276 TYPE 316
17	PACKING	PTFE IMPREGNATED, INTERLOCK BRAID
18	HX HD SCREW	18-8 STAINLESS STEEL
19	HHCS	STEEL, GR 5, ZINC-PLATED
20	PIPE PLUG SQ HD	CARBON STEEL
21	HHCS	18-8 STAINLESS STEEL
22	FINISH HEX NUT	18-8 STAINLESS STEEL
23	FLAT WASHER	18-8 STAINLESS STEEL
24	COTTER PIN	STEEL, ZINC-PLATED
25	HHCS	18-8 STAINLESS STEEL
26	EYEBOLT W/ SHOULDER	STEEL, ZINC-PLATED
27	HEX HEAD JAM NUT	STEEL, ZINC-PLATED
28	SQ HD SET SCREW,	CARBON STEEL
29	HHCS	STEEL, GR 5, ZINC-PLATED
30	STD HEX HEAD NUT	STEEL, ZINC-PLATED

Optional LS (Lever & Spring) configuration available



#	DESCRIPTION	MATERIAL
30	EYE BOLT	STEEL, ZINC-PLATED
31	LOCK WASHER	STEEL, ZINC-PLATED
32	HEX HEAD NUT	STEEL, ZINC-PLATED
33	SPRING BRACKET	CARBON STEEL
34	EXT. SPRING	MUSIC WIRE

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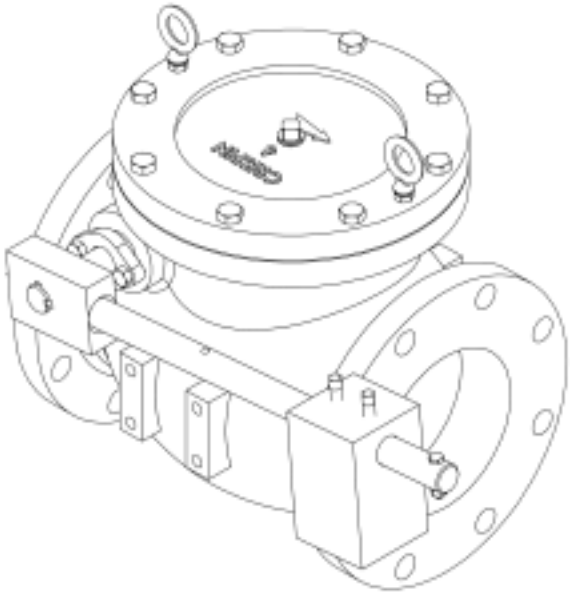
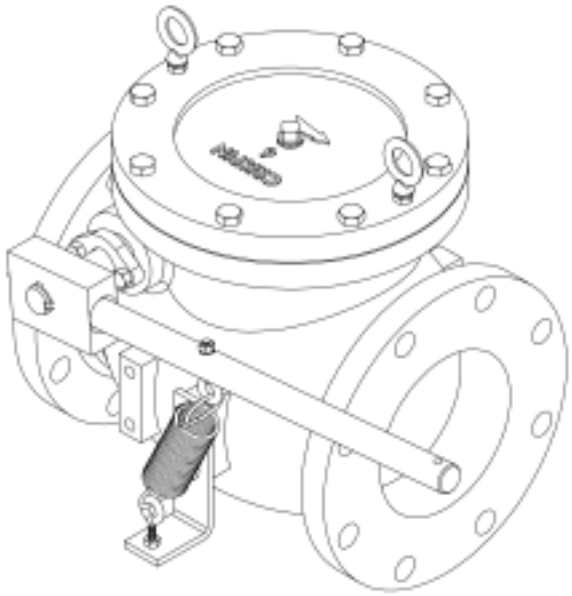
SWL SERIES

Swing Check Valve

"SWL" Series Dimensions
(both LW—Lever and Weight and LS—Lever and Spring)

SIZE	MODEL #	A	B	ØC	D	ØE	F	G	ØH	J	ØL	M xØN	WT (lb)
3	SWL31-LW	9.50	.75	7.50	8.20	7.31	12.00	6.80	.75	3.00	6.00	4 x .75	68
4	SWL41-LW	11.50	.94	9.00	9.00	8.06	12.00	7.23	.87	3.75	7.50	8 x .75	98
6	SWL61-LW	14.00	1.00	11.00	10.54	11.42	18.00	9.29	1.00	4.02	9.50	8 x .88	188
8	SWL81-LW	19.50	1.12	13.50	12.50	13.19	18.00	11.10	1.25	5.75	11.75	8 x .88	317
10	SWL101-LW	24.50	1.19	16.00	14.94	16.50	18.00	13.20	1.25	7.25	14.25	12 x 1.00	500
12	SWL121-LW	27.50	1.25	19.00	16.63	18.25	18.00	14.41	1.50	7.75	17.00	12 x 1.00	670
14	SWL141-LW	31.00	1.38	21.00	18.94	21.50	24.75	16.90	2.00	8.50	18.75	12 x 1.12	1000
16	SWL161-LW	36.00	1.44	23.50	21.83	24.50	24.75	18.41	2.00	10.00	21.25	16 x 1.12	1328
18	SWL181-LW	40.00	1.56	25.00	22.80	27.25	30.75	20.91	2.00	11.00	22.75	16 x 1.25	1888
20	SWL201-LW	40.00	1.69	27.50	24.82	29.25	30.75	22.91	2.00	10.00	25.00	20 x 1.25	2200
24	SWL241-LW	48.00	1.88	32.00	28.88	33.50	36.68	26.22	2.75	12.00	29.50	20 x 1.38	3519
30	SWL301-LW	60.00	2.18	38.75	35.63	41.75	37.06	31.91	3.12	15.00	36.00	28 x 1.38	6248
36	SWL361-LW	63.00	2.44	46.00	40.31	48.50	44.00	37.41	3.50	13.50	42.75	32 x 1.62	9135





Notes:

1. 250 PSIG Max. Working Pressure
2. 500 PSIG Hydrostatic Shell Test Pressure
3. Valve will be painted externally with phenolic alkyd primer.

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Swing Check Valve

Manufactured in compliance with ANSI/AWWA C512 **Date: July, 2016**

Specifications for SWL Swing Check Valves

GENERAL:

Check valves shall be ductile iron body, bronze and stainless mounted, full opening swing type. Valve body shall be enlarged to allow disc to swing in the waterway. When valve is full open, body design shall permit a "full flow" thru the valve equal to the nominal pipe diameter. They shall comply with AWWA Standard C-508's latest revision.

RATING:

Check valves shall be rated at 250 psi water working pressure, 500 psi hydrostatic test for structural soundness (3" thru 36"). Seat tightness at rated working pressure shall be in accordance with and fully conform to AWWA C-508.

END CONFIGURATIONS

Check valves shall be furnished with type of end connection as follows: 150# ANSI flanged ends.

MATERIALS:

All Ductile iron shall conform to ASTM-A-536 GR 65-45-12. Castings shall be clean and sound without defects that will impair their service. No plugging or welding of such defects will be allowed.

Discs shall be Ductile Iron and rubber-faced for sizes thru 3"-36".

Hinge pins shall be 304 Stainless Steel rotating in bronze bearings.

Bolts shall be electro-zinc plated steel with hex heads and hex nuts in accordance with ASTM A-307 and A-563 respectively.

DESIGN:

Check valves shall be constructed to permit top entry for complete removal of internal components without removing the valve from the line. Gaskets shall be conventional in all sizes 3" - 36".

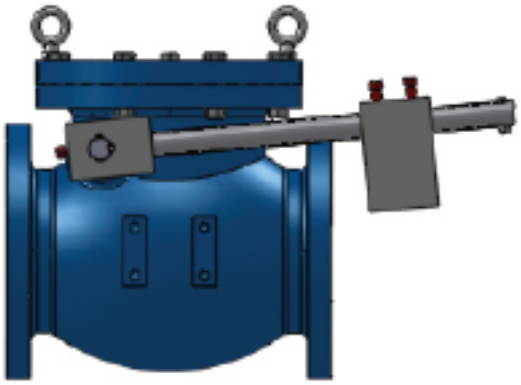
All valves 3"-36" and larger shall have extended hinge pins for addition of levers and springs if required. Valves shall be suitable for installation in either horizontal or vertical position.

PAINTING:

The inside and outside of all valves, together with the working parts except bronze and machined surfaces, shall be coated in accordance with AWWA standards and per the specific project specifications as provided.

MARKING:

Marking shall be in accordance with AWWA C-508 and shall include size, working pressure, and cast arrow to indicate direction of flow, and name of manufacturer.



SPECIFICATIONS FOR SWL SERIES

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SWL-AC SERIES

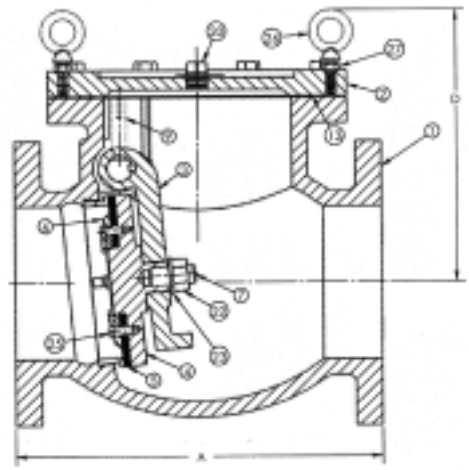
Swing Check Valve

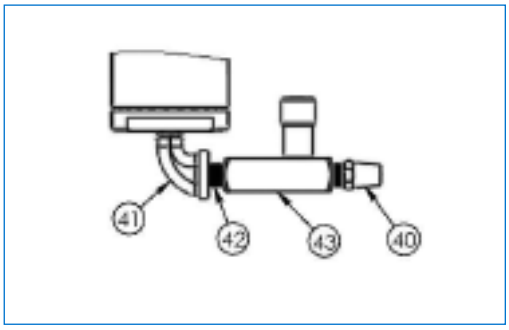
Swing Check Valve w/ Air Cushion

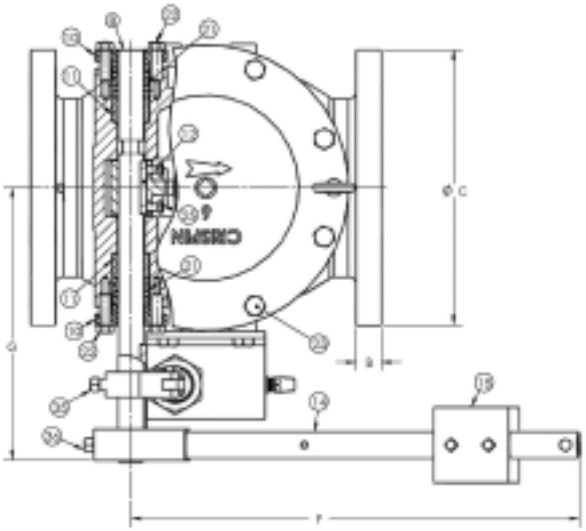
"SWL-AC" Series with Side Air Cushion

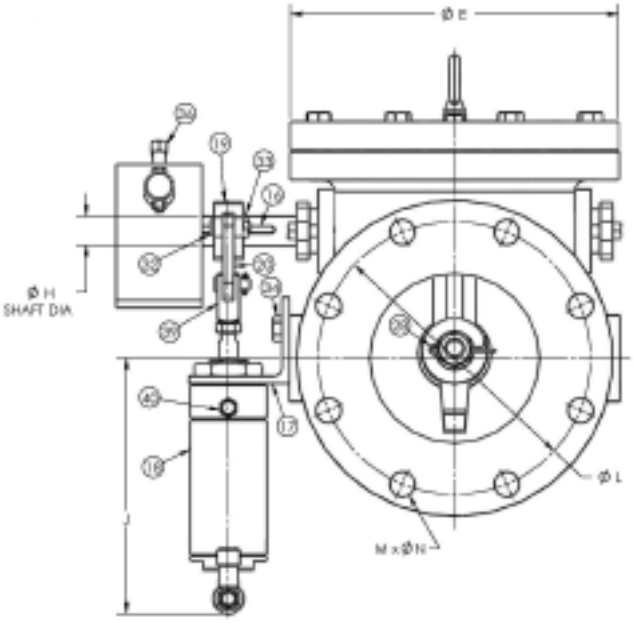
An external side mounted Air Cushion can be added to the standard Lever/Weight Unit to help reduce slamming of the valve. Easily adjustable and fully enclosed, the Aluminum cylinder allows unrestricted opening and cushioned closure of the valve stroke. A cast bronze cylinder version is also available. Contact the factory for Oil Control Information. ■

Both Aluminum and Bronze cylinders are available on the SWL-AC.









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Swing Check Valve w/ Air Cushion

"SWL" Series W/ Air Cushion Dimensions (LW-AC)

SIZE	MODEL #	A	B	ØC	D	ØE	F	G	ØH	J	ØL	M xØN	WT (lb)
3	SWL31-LW-AC	9.50	.75	7.50	8.20	7.31	12.00	8.50	.75	9.00	6.00	4 x .75	81
4	SWL41-LW-AC	11.50	.94	9.00	9.00	8.06	12.00	9.44	.87	9.75	7.50	8 x .75	107
6	SWL61-LW-AC	14.00	1.00	11.00	10.54	11.42	18.00	11.00	1.00	8.88	9.50	8 x .88	195
8	SWL81-LW-AC	19.50	1.12	13.50	12.50	13.19	18.00	12.81	1.25	7.44	11.75	8 x .88	330
10	SWL101-LW-AC	24.50	1.19	16.00	14.94	16.50	18.00	16.62	1.25	7.88	14.25	12 x 1.0	520
12	SWL121-LW-AC	27.50	1.25	19.00	16.63	18.25	18.00	17.75	1.50	8.50	17.00	12 x 1.0	725
14	SWL141-LW-AC	31.00	1.38	21.00	18.94	21.50	24.75	21.50	2.00	5.50	18.75	12 x 1.12	1085
16	SWL161-LW-AC	36.00	1.44	23.50	21.83	24.50	24.75	23.50	2.00	5.50	21.25	16 x 1.12	1440
18	SWL181-LW-AC	40.00	1.56	25.00	22.80	27.25	30.75	25.00	2.00	5.50	22.75	16 x 1.25	1905
20	SWL201-LW-AC	40.00	1.69	27.50	24.82	29.25	30.75	26.50	2.00	6.63	25.00	20 x 1.25	2275
24	SWL241-LW-AC	48.00	1.88	32.00	28.88	33.50	36.68	31.00	2.75	4.63	29.50	20 x 1.38	3555
30	SWL301-LW-AC	60.00	2.18	38.75	35.63	41.75	37.06	35.50	3.12	3.13	36.00	28 x 1.38	6365
36	SWL361-LW-AC	63.00	2.44	46.00	40.31	48.50	44.00	40.00	3.50	5.88	42.75	32 x 1.62	9365

Notes:
1. 250 PSIG Max. Working Pressure
2. 500 PSIG Hydrostatic Shell Test Pressure

SWL-AC Series Parts List

ITEM	DESCRIPTION	MATERIAL
1	Body & Body Seat Assy	A536 GR 65-45-12 & A351 GR CF8M
2	Cover	Ductile Iron A536 Gr 65-45-12
3	Disc Arm	Ductile Iron A536 Gr 65-45-12
4	Disc	Ductile Iron A536 Gr 65-45-12
5	Disc Seat	D2000 Buna N Rubber 70 Durometer
6	Disc Seat Retainer	AISI 304
7	Stud	18-8 Stainless Steel
8	Pivot Shaft	A276 Type 304
9	Pivot Shaft Pin	Bearing Bronze Alloy 932 (SAE 660)
10	Packing Gland	Carbon Steel
11	Pivot Shaft Bushing	Bearing Bronze Alloy 932 (SAE 660)
12	Inner Pivot Shaft Key	A276 TYPE 316
13	Cover Gasket	Klingersil C-4401
14	Lever Weldment	Carbon Steel
15	Lever Weight	ASTM A36
16	Outer Pivot Shaft Key	A276 Type 316
17	Cylinder Bracket	Carbon Steel
18	Air Cylinder	Stainless Steel
19	Cylinder Lever	Ductile Iron A536 Gr 65-45-12
20	Cylinder Link	Carbon Steel
21	Packing	PTFE impregnated, Interlock Braid

ITEM	DESCRIPTION	MATERIAL
22	HX KD SCREW	18-8 Stainless Steel
23	HHCS	Steel, Gr 5, Zinc-Plated
24	Pipe Plug	Carbon Steel
25	HHCS	18-8 Stainless Steel
26	Finish Hex Nut	18-8 Stainless Steel
27	Flat Washer	18-8 Stainless Steel
28	Cotter Pin	Steel, Zinc-Plated
29	HHCS	18-8 Stainless Steel
30	Eyebolt w/Shoulder	Steel, Zinc-Plated
31	Hex Head Jam Nut	Steel, Zinc-Plated
32	Clevis Pin	A582 Type 303 S.S.
33	Cotter Pin	Steel, Zinc Plated
34	HHCS	Steel, Gr 5, Zinc Plated
35	Sq Hd Set Screw	Carbon Steel
36	Sq hd Set Screw, Cup Point	Carbon Steel
37	HHCS	Steel, GR 5, Zinc-Plated
38	Std Hex Head Nut	Steel, Zinc-Plated
39	Rod Clevis w/Pin	Steel, Zinc-Plated
40	Mini Air-Intake Filter	Brass
41	Street Elbow	Carbon Steel
42	Nipple	Carbon Steel
43	Flow Control Valve	Carbon Steel

SPECS FOR SWL-AC SERIES

Swing Check Valve w/Air Cushion

Manufactured in compliance with ANSI/AWWA C512 **Date: July, 2016**

Specifications for SWL-AC Swing Check Valves

GENERAL:

Check valves shall be ductile iron body, bronze and stainless mounted, full opening swing type. Valve body shall be enlarged to allow disc to swing in the waterway. When valve is full open, body design shall permit a "full flow" thru the valve equal to the nominal pipe diameter. They shall comply with AWWA Standard C-508's latest revision.

RATING:

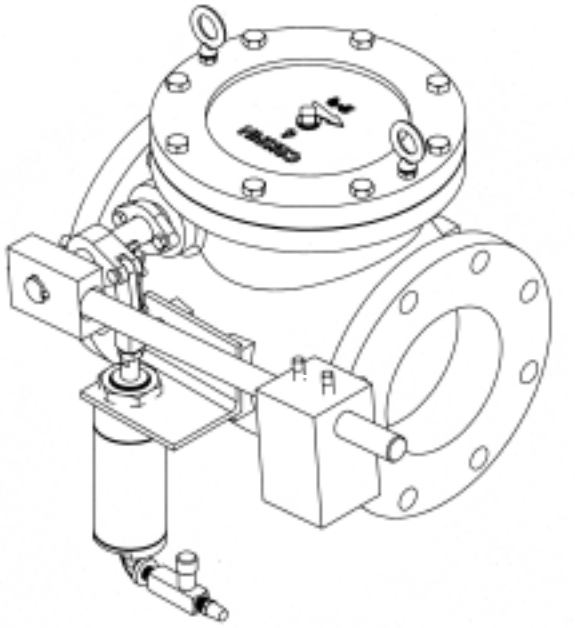
Check valves shall be rated at 250 psi water working pressure, 500 psi hydrostatic test for structural soundness (3" thru 36"). Seat tightness at rated working pressure shall be in accordance with and fully conform to AWWA C508.

END CONFIGURATIONS

Check valves shall be furnished with type of end connection as follows: 150# ANSI flanged ends.

MATERIALS:

All Ductile iron shall conform to ASTM-A-536 GR 65-45-12. Castings shall be clean and sound without defects that will impair their service. No plugging or welding of such defects will be allowed. Valve will be coated externally with phenolic primer (2 Part Epoxy available as an option).



Discs shall be Ductile Iron and rubber faced for sizes thru 3"-36".

Hinge pins shall be 304 Stainless Steel rotating in bronze bearings.

Bolts shall be electro-zinc plated steel with hex heads and hex nuts in accordance with ASTM A-307 and A-563 respectively.

DESIGN:

Check valves shall be constructed to permit top entry for complete removal of internal components without removing the valve from the line.

Gaskets shall be conventional in all sizes 3" -36".

All valves 3"-36" and larger shall have extended hinge pins for addition of external Air Cushions to dampen final valve closure.

Cushion Cylinders shall be either Aluminum or Bronze per customer request, shall be non-pivoting, and shall be securely attached to the Valve Body. Adjustment of cylinder operation will be by means of a flow control valve.

PAINTING:

The inside and outside of all valves, together with the working parts except bronze and machined surfaces, shall be coated in accordance with AWWA standards and per the specific project specifications as provided.

MARKING:

Marking shall be in accordance with AWWA C-508 and shall include size, working pressure, and cast arrow to indicate direction of flow, and name of manufacturer.

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