



Doc # B-CV-SWL-r1

Crispin Check Valves

THE SWL SERIES:

AWWA C508 (Full Waterway)

- Sizes 3"-36" • Available in Lever&Weight, Lever&Spring and Oil&Air Cushion Configurations



CRISPIN VALVE

SINCE 1905



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SWL SERIES SWING CHECK VALVE

An AWWA C508 Swing Check Valve for Sewage and Slurry Applications

SWL SERIES ADVANTAGES

- ✓ **AWWA C508 Compliant**
- ✓ **Valve Disc allows Full Flow through the valve**
- ✓ **Ductile Iron Body and Disc with 316 Stainless Steel Seat standard**
- ✓ **Design handles repeated stroking without vibration or loosening**
- ✓ **Adjustable Packing for fine tuning of sealing joints**
- ✓ **Bronze and Stainless Trim provides excellent protection against corrosion**
- ✓ **Buna-N Rubber Faced Disc provides drip tight sealing**
- ✓ **Valve can be mounted horizontally or vertically**
- ✓ **Lifting Eye Bolts standard**

SWL SERIES OPTIONS

- ✓ **Limit Switches available upon request**
- ✓ **Optional Air Cushions available in Commercial or Bronze Cylinders**
- ✓ **Available in both Lever & Weight and outside Lever & Spring designs**
- ✓ **Optional double outside Levers for Weight or Spring**
- ✓ **Optional Configurations ensure compliance with the American Iron & Steel Act and the Buy American Act**



The SWL Series Swing Check Valve is an ideal solution for most check valve applications, including water and wastewater systems, pump discharge and valve vaults. Designed completely in house using advanced 3D modeling and FEA technology, the SWL is available in Outside Lever/Weight, Lever/Spring, Air Cushion, and Oil Control configurations.

Manufactured in Ductile Iron with #150 flanged ends, the SWL Series is intended for

check valve applications up thru a 250 psi operating pressure. Standard with 316 Stainless Steel seats, bronze and stainless trim, and Buna-N rubber faced discs, the SWL offers drip-tight seating and excellent protection against corrosion, all in a design that handles repeated stroking without vibration or loosening.

With a flow area that is greater than or equal to the nominal valve size, the SWL Series also has a lower head loss characteristic than a Silent Check valve, and can be mounted in both the horizontal and vertical positions. For ease of service in the field, the SWL is designed to permit top entry for the complete removal of internal components without removing the valve from the line. Perfect for standard check valves where expensive maintenance rebuilds are not justified, the SWL's adjustable packing allows for fine tuning of sealing joints over time. Available in a variety of industry approved epoxy coatings, the SWL offers flexibility in tackling hard water and corrosive environments. Electric limit switches are also available upon request.

FULL FLOW OPERATION AND DRIP-TIGHT SEATING

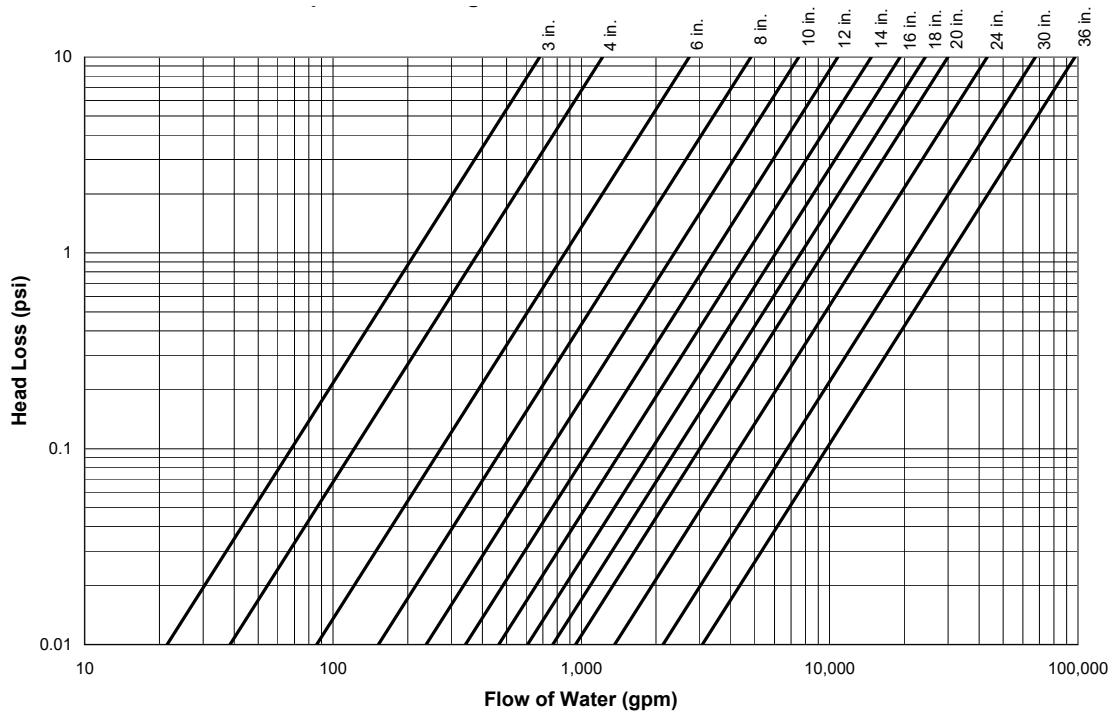
Once pump pressure exceeds the back pressure on the downstream side of the valve disc, the SWL Series moves the disc out of the flow by displacing the seat disc to the upper portion of the valve body. This creates full flow through the unit for both water and sewage. Upon pump shut down, the disc will 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. Please note that C-508 allows for two laying length dimensions. If replacing an existing unit, be sure to verify the face to face dimensions of the valve before ordering.

Materials, Dimensions and Pricing subject to change without notice. Certified Dimensions available upon request.

SWL SERIES FLOW CHARACTERISTICS

Head Loss Chart*

*Head loss charts are for flow when valve is positioned with the seat downstream.
 Maximum full-open velocity is 16 ft/sec based on nominal valve size per AWWA C508 standards.

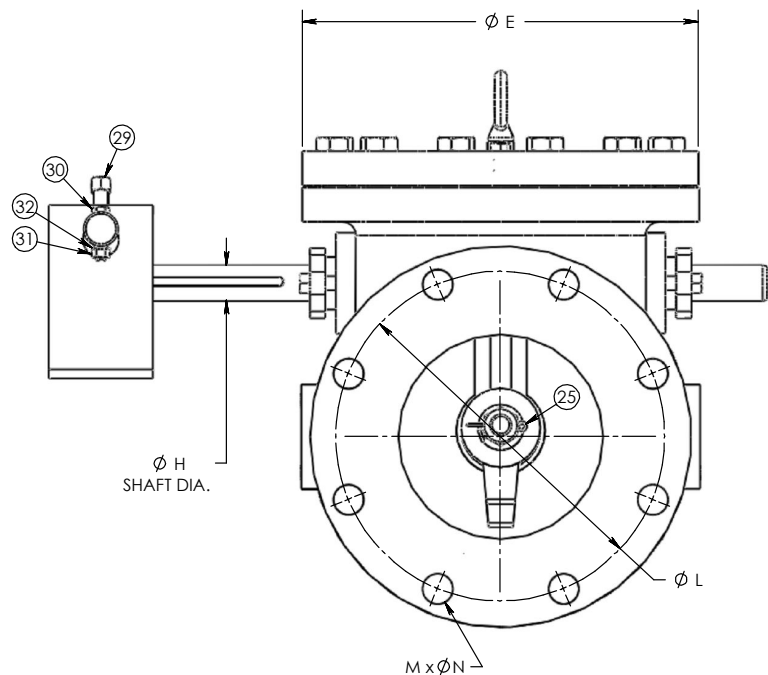
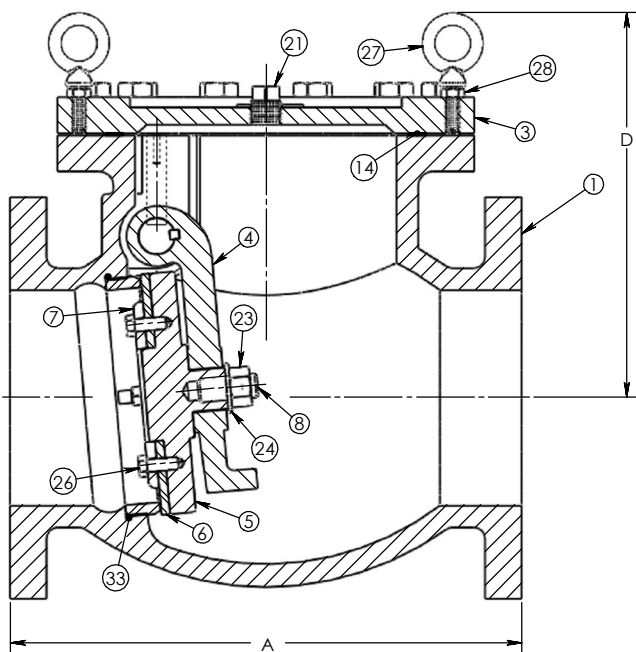
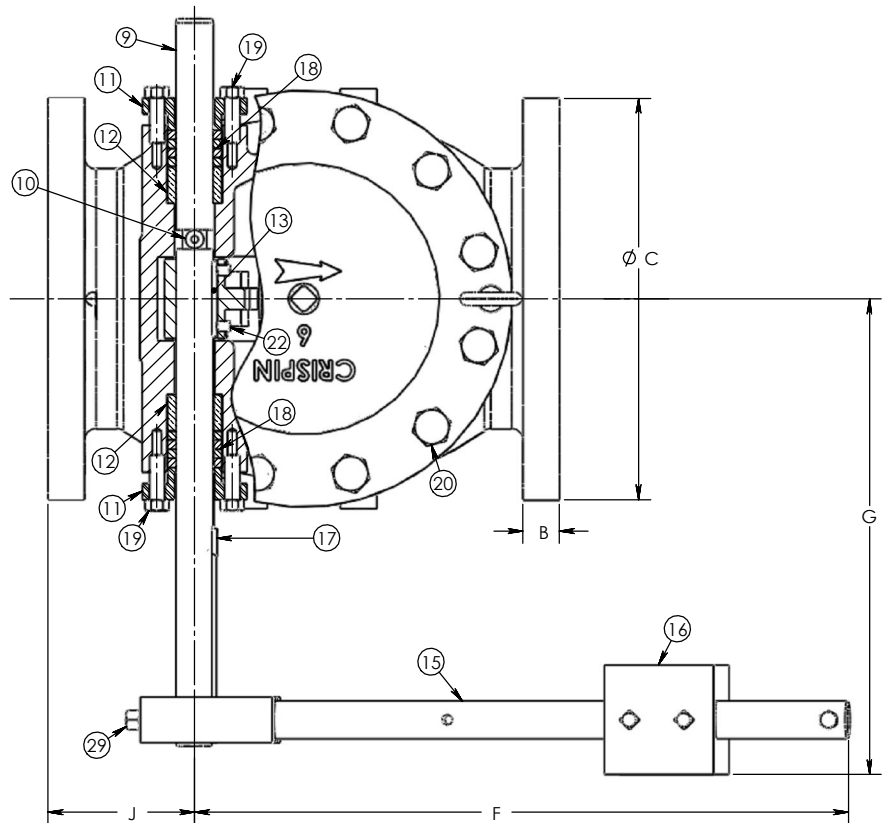
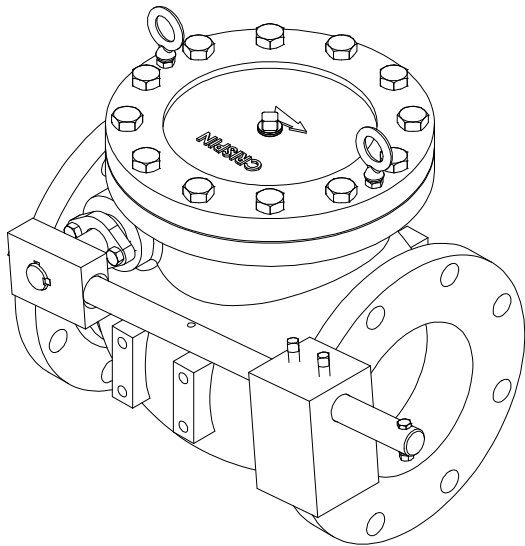


Materials, Dimensions and Pricing subject to change without notice. Certified Dimensions available upon request.

SWL-LW Series with Outside Lever & Weight Reference Drawing

NOTES:

- 250 PSI Maximum Working Pressure
- 500 PSI Hydrostatic Test Pressure
- ANSI B16.42 Flat Face Flanged Ends
- Manufactured in accordance with ANSI/AWWA C508 latest revision



Materials, Dimensions and Pricing subject to change without notice. Certified Dimensions available upon request.

SWL-LW Series with Outside Lever & Weight

SWL-LW SERIES PARTS LIST

ITEM	DESCRIPTION	MATERIAL
1	BODY	DI (A536 Gr. 65-45-12)
2	BODY SEAT	SS A351 Gr CF8M
3	COVER	DI (A536 Gr. 65-45-12)
4	DISC ARM	DI (A536 Gr. 65-45-12)
5	DISC	DI (A536 Gr. 65-45-12)
6	DISC SEAT	Buna-N (ASTM D2000)
7	SEAT RETAINER	304SS (ASTM A276 T304)
8	STUD	18-8 Stainless Steel
9	PIVOT SHAFT	304SS (ASTM A276 T304)
10	PIVOT SHAFT PIN	BRNG Bronze Alloy 932
11	PACKING GLAND	Carbon Steel
12	PVT SHFT BUSHING	BRNG Bronze Alloy 932
13	INR PVT SHFT KEY	SS (A240 Type 316)
14	COVER GASKET	Klingsil C-4401
15	LEVER WELDMENT	Carbon Steel
16	LEVER WEIGHT	CRBN Steel (ASTM A36)
17	OTR PVT SHFT KEY	316 SS (ASTM A276 T316)

ITEM	DESCRIPTION	MATERIAL
18	PACKING	PTFE Impregnated, Interlock Braid
19	HEX HEAD SCREW	18-8 Stainless Steel
20	HEX HEAD SCREW	Steel, Gr. 5, Zinc-Plated
21	PIPE PLUG SQ HD	Carbon Steel
22	SOC SET SCREW CP	18-8 Stainless Steel
23	STD HEX NUT	18-8 Stainless Steel
24	FLAT WASHER	18-8 Stainless Steel
25	COTTER PIN	18-8 Stainless Steel
26	HEX HEAD SCREW	18-8 Stainless Steel
27	EYEBOLT	Steel, Zinc-Plated
28	HEX HEAD JAM NUT	Steel, Zinc-Plated
29	SQ HD SET SCREW	Carbon Steel
30	HEX HEAD SCREW	Steel, Gr. 5, Zinc-Plated
31	STD HEX HEAD NUT	Steel, Zinc-Plated
32	LOCK WASHER	Steel, Zinc-Plated
33	O-Ring	Buna-N (ASTM D2000)

3'-36" Class 125/150 Swing Check with Lever & Weight Dimensional Data

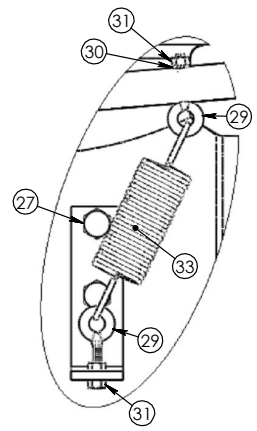
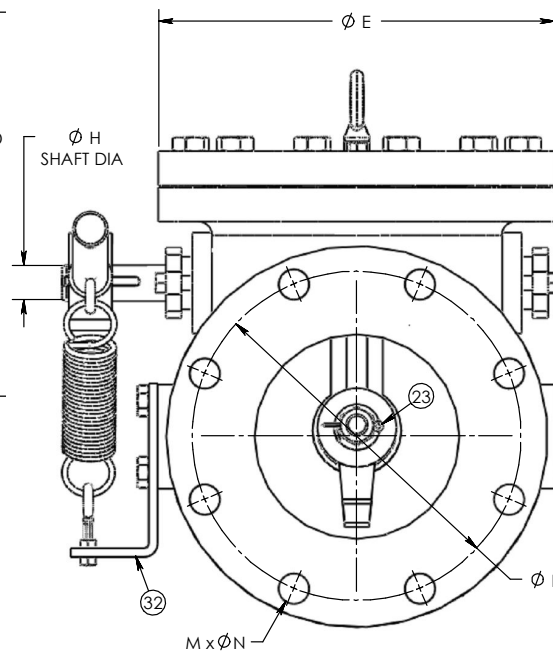
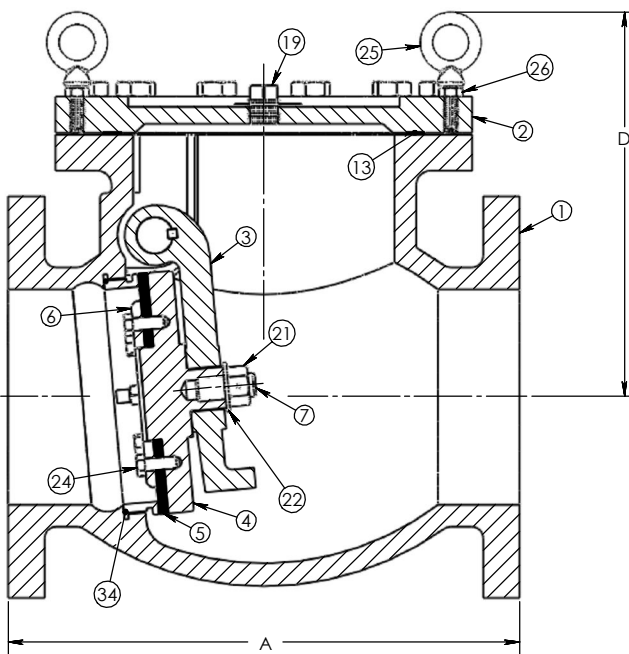
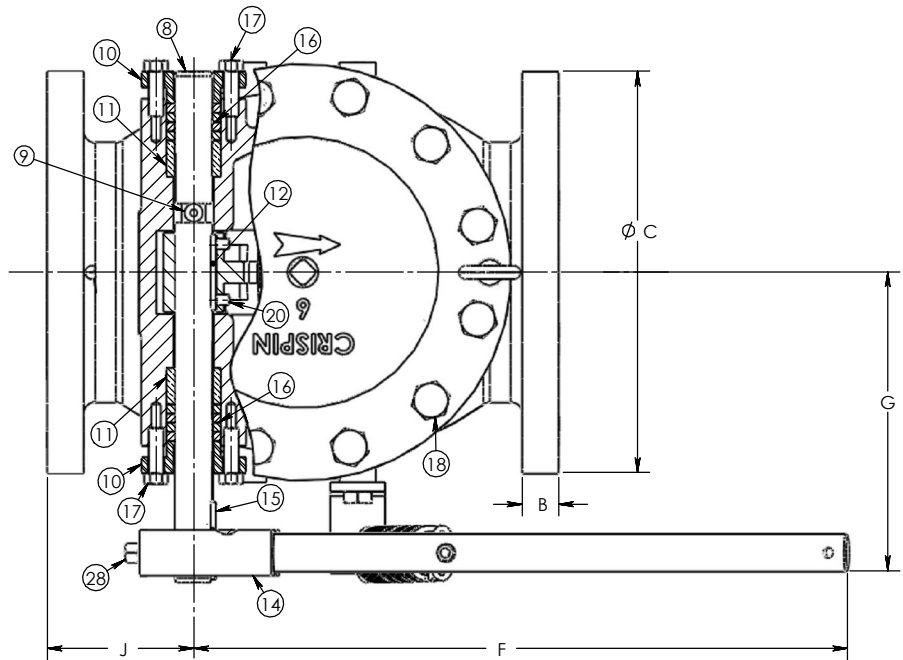
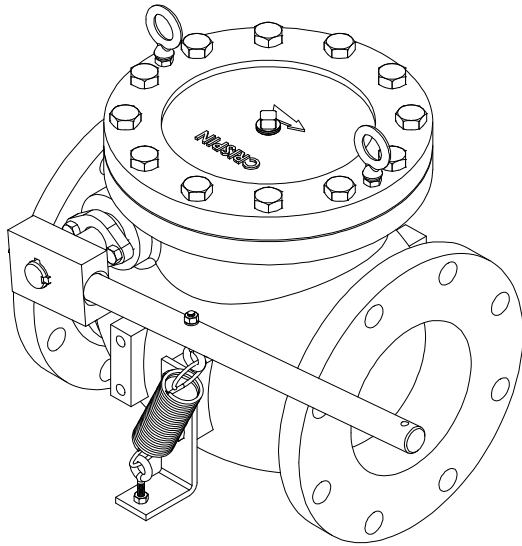
ALL DIMENSIONS ARE IN INCHES													Bare Shaft
Size	Model	A	B	Ø C	D	Ø E	F	G	Ø H	J	Ø L	M x Ø N	WT (lbs)
3"	SWL31-LW	9.50	.75	7.50	8.20	7.31	12.00	8.79	.75	3.00	6.00	4 x .75	71
4"	SWL41-LW	11.50	.94	9.00	9.00	8.06	12.00	10.42	.87	3.75	7.50	8 x .75	121
6"	SWL61-LW	14.00	1.00	11.00	10.54	11.42	18.00	13.04	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	15.10	1.25	5.75	11.75	8 x .88	370
10"	SWL101-LW	24.50	1.19	16.00	14.94	16.50	18.00	17.04	1.25	7.25	14.25	12 x 1.00	650
12"	SWL121-LW	27.50	1.25	19.00	16.63	18.25	18.00	20.66	1.50	7.75	17.00	12 x 1.00	858
14"	SWL141-LW	31.00	1.38	21.00	18.94	21.50	24.75	24.41	2.00	8.50	18.75	12 x 1.12	1007
16"	SWL161-LW	36.00	1.44	23.50	21.83	24.50	24.75	25.91	2.00	10.00	21.25	16 x 1.12	1360
18"	SWL181-LW	40.00	1.56	25.00	22.80	27.25	30.75	28.91	2.00	11.00	22.75	16 x 1.25	1823
20"	SWL-201-LW	40.00	1.69	27.50	24.82	29.25	30.75	30.91	2.00	10.00	25.00	20 x 1.25	2240
24"	SWL-241-LW	48.00	1.88	32.00	28.88	33.50	36.68	34.50	2.75	12.00	29.50	20 x 1.38	3535
30"	SWL-301-LW	60.00	2.18	38.75	35.63	41.75	37.06	39.41	3.12	15.00	36.00	28 x 1.38	5906
36"	SWL-361-LW	63.00	2.44	46.00	40.31	48.50	44.00	43.91	3.50	13.50	42.75	32 x 1.62	8345

Materials, Dimensions and Pricing subject to change without notice. Certified Dimensions available upon request.

SWL-LS Series with Outside Lever & Spring Reference Drawing

NOTES:

- 250 PSI Maximum Working Pressure
- 500 PSI Hydrostatic Test Pressure
- ANSI B16.42 Flat Face Flanged Ends
- Manufactured in accordance with ANSI/AWWA C508 latest revision



Materials, Dimensions and Pricing subject to change without notice. Certified Dimensions available upon request.

SWL-LS Series with Outside Lever & Spring

SWL-LS SERIES PARTS LIST

ITEM	DESCRIPTION	MATERIAL
1	BODY/SEAT ASSY	DI (A536 Gr. 65-45-12)/ SS (A351 Gr CF8M)
2	COVER	DI (A536 Gr. 65-45-12)
3	DISC ARM	DI (A536 Gr. 65-45-12)
4	DISC	DI (A536 Gr. 65-45-12)
5	DISC SEAT	Buna-N (ASTM D2000)
6	SEAT RETAINER	304SS (ASTM A276 T304)
7	STUD	18-8 Stainless Steel
8	PIVOT SHAFT	304SS (ASTM A276 T304)
9	PIVOT SHAFT PIN	BRNG Bronze Alloy 932
10	PACKING GLAND	Carbon Steel
11	PVT SHFT BUSHING	BRNG Bronze Alloy 932
12	INR PVT SHFT KEY	SS (A240 Type 316)
13	COVER GASKET	Klingersil C-4401
14	LEVER WELDMENT	Carbon Steel
15	OTR PVT SHFT KEY	316 SS (ASTM A276 T316)
16	PACKING	PTFE Impregnated, Interlock Braid

ITEM	DESCRIPTION	MATERIAL
17	HEX HEAD SCREW	18-8 Stainless Steel
18	HEX HEAD SCREW	Steel, Gr. 5, Zinc-Plated
19	PIPE PLUG SQ HD	Carbon Steel
20	SOC SET SCREW CP	18-8 Stainless Steel
21	STD HEX NUT	18-8 Stainless Steel
22	FLAT WASHER	18-8 Stainless Steel
23	COTTER PIN	18-8 Stainless Steel
24	HEX HEAD SCREW	18-8 Stainless Steel
25	EYEBOLT w/shoulder	Steel, Zinc-Plated
26	HEX HEAD JAM NUT	Steel, Zinc-Plated
27	HEX HEAD SCREW	Steel, Zinc-Plated
28	SET SCREW CP	Carbon Steel
29	EYE BOLT	Steel, Zinc-Plated
30	LOCK WASHER	Steel, Zinc-Plated
31	HEX HEAD NUT	Steel, Zinc-Plated
32	SPRING BRACKET	Carbon Steel
33	EXTENSION SPRING	Music Wire
34	O-Ring	Buna-N (ASTM D2000)

3'-36" Class 125/150 Swing Check with Lever & Spring Dimensional Data

ALL DIMENSIONS ARE IN INCHES													Bare Shaft
Size	Model	A	B	Ø C	D	Ø E	F	G	Ø H	J	Ø L	M x Ø N	WT (lbs)
3"	SWL31-LS	9.50	.75	7.50	8.20	7.31	12.00	8.50	.75	3.00	6.00	4 x .75	68
4"	SWL41-LS	11.50	.94	9.00	9.00	8.06	12.00	10.13	.87	3.75	7.50	8 x .75	119
6"	SWL61-LS	14.00	1.00	11.00	10.54	11.42	18.00	12.25	1.00	4.02	9.50	8 x .88	178
8"	SWL81-LS	19.50	1.12	13.50	12.50	13.19	18.00	14.32	1.25	5.75	11.75	8 x .88	352
10"	SWL101-LS	24.50	1.19	16.00	14.94	16.50	18.00	16.63	1.25	7.25	14.25	12 x 1.00	630
12"	SWL121-LS	27.50	1.25	19.00	16.63	18.25	18.00	20.00	1.50	7.75	17.00	12 x 1.00	830
14"	SWL141-LS	31.00	1.38	21.00	18.94	21.50	24.75	24.00	2.00	8.50	18.75	12 x 1.12	972
16"	SWL161-LS	36.00	1.44	23.50	21.83	24.50	24.75	25.50	2.00	10.00	21.25	16 x 1.12	1300
18"	SWL181-LS	40.00	1.56	25.00	22.80	27.25	30.75	28.00	2.00	11.00	22.75	16 x 1.25	1734
20"	SWL-201-LS	40.00	1.69	27.50	24.82	29.25	30.75	29.50	2.00	10.00	25.00	20 x 1.25	2105
24"	SWL-241-LS	48.00	1.88	32.00	28.88	33.50	36.68	33.50	2.75	12.00	29.50	20 x 1.38	3350
30"	SWL-301-LS	60.00	2.18	38.75	35.63	41.75	37.06	38.00	3.12	15.00	36.00	28 x 1.38	5638
36"	SWL-361-LS	63.00	2.44	46.00	40.31	48.50	44.00	42.50	3.50	13.50	42.75	32 x 1.62	8010

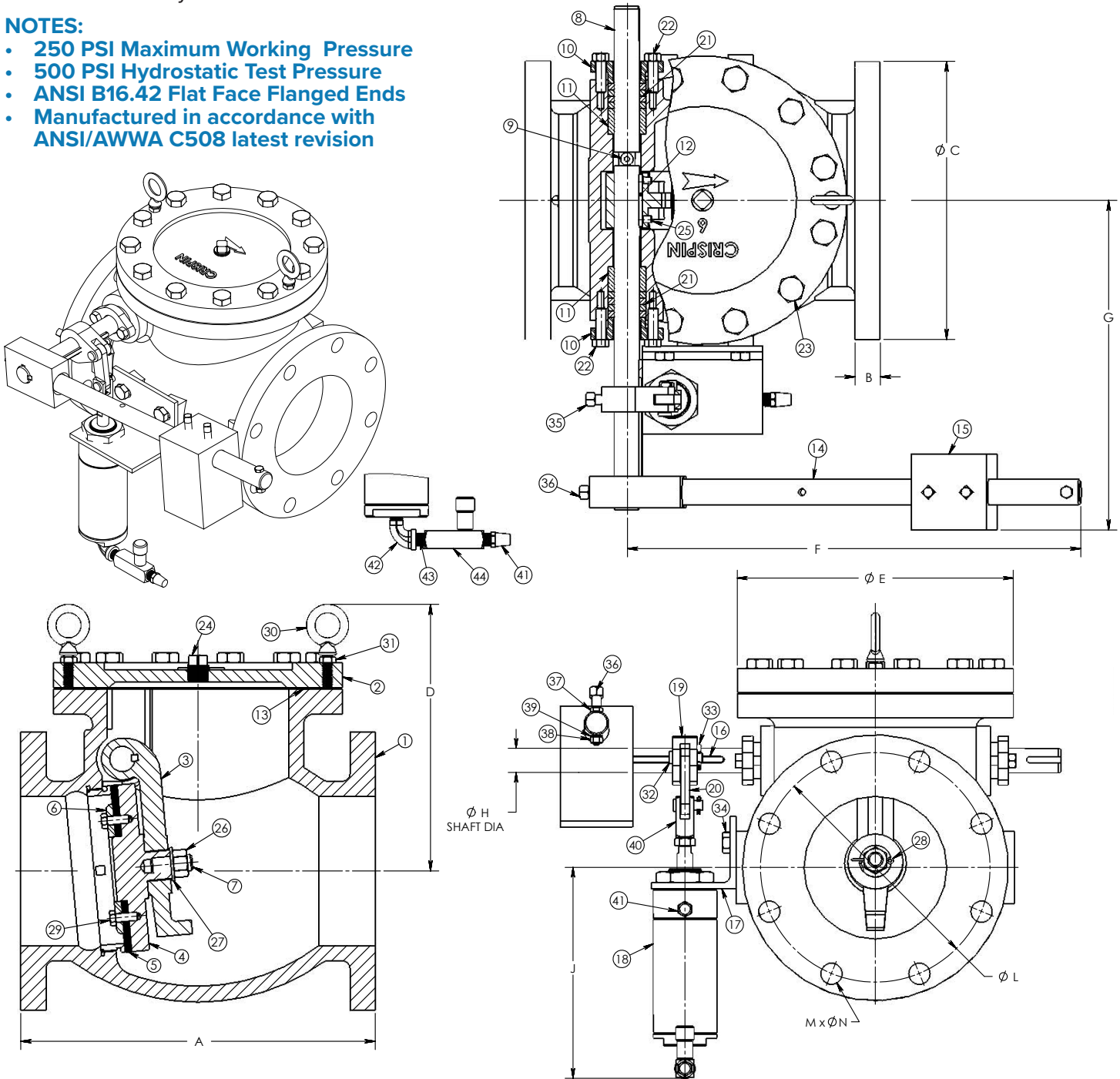
Materials, Dimensions and Pricing subject to change without notice. Certified Dimensions available upon request.

SWL-AC Series w/Lever & Weight & Air Cushion Reference Drawing

An external side-mounted Air Cushion can be added to the standard SWL Series Lever & Weight Unit to help reduce slamming of the valve. Easily adjustable and fully enclosed, the standard Aluminum cylinder allows unrestricted opening and cushioned closure of the valve stroke. A cast Bronze cylinder is also available. Please contact the factory for Oil Control information.

NOTES:

- 250 PSI Maximum Working Pressure
- 500 PSI Hydrostatic Test Pressure
- ANSI B16.42 Flat Face Flanged Ends
- Manufactured in accordance with ANSI/AWWA C508 latest revision



Materials, Dimensions and Pricing subject to change without notice. Certified Dimensions available upon request.

SWL-AC Series w/Lever & Weight & Air Cushion

SWL-AC SERIES PARTS LIST

ITEM	DESCRIPTION	MATERIAL	ITEM	DESCRIPTION	MATERIAL
1	BODY/SEAT ASSY	DI (A536 Gr. 65-45-12)/ SS (A351 Gr CF8M)	24	PIPE PLUG	Carbon Steel
2	COVER	DI (A536 Gr. 65-45-12)	25	SOC SET SCREW CP	18-8 Stainless Steel
3	DISC ARM	DI (A536 Gr. 65-45-12)	26	STD HEX NUT	18-8 Stainless Steel
4	DISC	DI (A536 Gr. 65-45-12)	27	FLAT WASHER	18-8 Stainless Steel
5	DISC SEAT	Buna-N (ASTM D2000)	28	COTTER PIN	18-8 Stainless Steel
6	SEAT RETAINER	304SS (ASTM A276 T304)	29	HEX HEAD SCREW	18-8 Stainless Steel
7	STUD	18-8 Stainless Steel	30	EYEBOLT	Steel, Zinc-Plated
8	PIVOT SHAFT	304SS (ASTM A276 T304)	31	HEX HEAD JAM NUT	Steel, Zinc-Plated
9	PIVOT SHAFT PIN	BRNG Bronze Alloy 932	27	HEX HEAD SCREW	Carbon Steel
10	PACKING GLAND	Carbon Steel	32	CLEVIS PIN	Steel, Zinc-Plated
11	PVT SHFT BUSHING	BRNG Bronze Alloy 932	33	COTTER PIN	Stainless Steel
12	INR PVT SHFT KEY	SS (A240 Type 316)	34	HEX HEAD SCREW	Steel, Gr. 5, Zinc-Plated
13	COVER GASKET	Klingersil C-4401	35	SET SCREW CP	Carbon Steel
14	LEVER WELDMENT	Carbon Steel	36	SET SCREW CP	Carbon Steel
15	LEVER WEIGHT	Carbon Steel (ASTM A36)	37	HEX HEAD SCREW	Steel, Gr. 5 Zinc-Plated
16	OTR PVT SHFT KEY	316 SS (ASTM A276 T316)	38	HEX HEAD NUT	Steel, Zinc-Plated
17	CYLINDER BRACKET	Carbon Steel	39	LOCK WASHER	Steel, Zinc-Plated
18	AIR CYLINDER	3-10": SS; 12-36": Aluminum	40	ROD CLEVIS W/PIN	Steel, Zinc-Plated
19	CYLINDER LEVER	DI (A536 Gr 65-45-12)	41	AIR INTK FLTR, NPT	Brass
20	CYLINDER LINK	Stainless Steel	42	ST ELBOW, NPTx90°	Carbon Steel
21	PACKING	PTFE IMPG, INTL Braid	43	NIPPLE, NPT	Carbon Steel
22	HEX HEAD SCREW	18-8 Stainless Steel	44	FLOW CONTROL VALVE	Stainless Steel
23	HEX HEAD SCREW	Steel, Gr. 5, Zinc-Plated	45	O-Ring	Buna-N (ASTM D2000)

3'-36" Class 125/150 Swing Check with Lever & Weight & Air Cushion Dimensional Data

ALL DIMENSIONS ARE IN INCHES													Bare Shaft
Size	Model	A	B	Ø C	D	Ø E	F	G	Ø H	J	Ø L	M x Ø N	WT (lbs)
3"	SWL31-LW-AC	9.50	.75	7.50	8.20	7.31	12.00	8.79	.75	9.00	6.00	4 x .75	76
4"	SWL41-LW-AC	11.50	.94	9.00	9.00	8.06	12.00	10.42	.87	9.75	7.50	8 x .75	125
6"	SWL61-LW-AC	14.00	1.00	11.00	10.54	11.42	18.00	13.04	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	15.10	1.25	7.44	11.75	8 x .88	375
10"	SWL101-LW-AC	24.50	1.19	16.00	14.94	16.50	18.00	17.04	1.25	10.19	14.25	12 x 1.00	668
12"	SWL121-LW-AC	27.50	1.25	19.00	16.63	18.25	18.00	20.66	1.50	8.50	17.00	12 x 1.00	883
14"	SWL141-LW-AC	31.00	1.38	21.00	18.94	21.50	24.75	24.41	2.00	10.16	18.75	12 x 1.12	1060
16"	SWL161-LW-AC	36.00	1.44	23.50	21.83	24.50	24.75	25.91	2.00	11.16	21.25	16 x 1.12	1410
18"	SWL181-LW-AC	40.00	1.56	25.00	22.80	27.25	30.75	28.91	2.00	12.16	22.75	16 x 1.25	1875
20"	SWL-201-LW-AC	40.00	1.69	27.50	24.82	29.25	30.75	30.91	2.00	13.16	25.00	20 x 1.25	2294
24"	SWL-241-LW-AC	48.00	1.88	32.00	28.88	33.50	36.68	34.50	2.75	13.75	29.50	20 x 1.38	3600
30"	SWL-301-LW-AC	60.00	2.18	38.75	35.63	41.75	37.06	39.41	3.12	15.56	36.00	28 x 1.38	5988
36"	SWL-361-LW-AC	63.00	2.44	46.00	40.31	48.50	44.00	43.91	3.50	11.06	42.75	32 x 1.62	8430

Materials, Dimensions and Pricing subject to change without notice. Certified Dimensions available upon request.

SWL SWING CHECK VALVES

SWL Series Specification

GENERAL

Check valves shall be ductile iron body, bronze and stainless mounted, full opening swing type.

BODY

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 that is equal to the nominal pipe diameter. It shall comply with AWWA Standard C-508's latest revision.

RATING

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

END CONFIGURATIONS

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

MATERIALS

All ductile iron shall conform to ASTM A536 Grade 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 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 A307 and A563 respectively.

DESIGN

Check valve 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 the addition of external Air Cushions to dampen final valve closure. Cushion cylinders shall be either aluminum or bronze per customer specifications, shall be non-pivoting, and shall be squarely attached to the valve body. Adjustment of cylinder operation will be by means of a flow control valve.

COATINGS

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. All valves shall be lined and coated with minimum 8 mils DFT of NSF 61 epoxy coating. Fusion bonded NSF certified coatings are acceptable. Color and coating manufacture is to be specified on the drawings.

MARKINGS

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.

SITE COMMISSIONING

The Valve Vendor or Manufacturer shall provide the services of a factory trained and authorized Manufacturer's Representative for a sufficient period of time as required to insure proper adjustment, installation, and operation of the valve. Preinstallation training shall be required prior to the delivery of the valves to the selected installers.

EXPERIENCE AND REQUIREMENTS

The Manufacturer shall have previously manufactured AWWA C508 compliant Swing Check Valves of the same design for a minimum period of ten years.

ACCEPTABLE MANUFACTURERS

The valve shall be Crispin SWL Series, as manufactured by Crispin-Multiplex Manufacturing Co., Berwick, PA.

Materials, Dimensions and Pricing subject to change without notice. Certified Dimensions available upon request.