Crispin Check Valves

THE SWC SERIES:

AWWA C508 (Full Waterway)

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

CRISPIN VALVE

SINCE 1905

600 FOWLER AVENUE,
BERWICK, PA 18603

(800) 247-8258
TEL. (570) 752-4524
FAX (570) 752-4962

WWW.CRISPINVALVE.COM
INFO@CRISPINVALVE.COM

SWC SERIES SWING CHECK VALVE

An AWWA C508 Swing Check Valve for Sewage and Slurry Applications

SWC SERIES ADVANTAGES

- AWWA C508 Compliant
- Large Diameter Pivot Shaft Construction
- Accepts Air Cushion and Oil Control Devices
- O-Ring Design
- Standard Rubber Disc Seats and Stainless Steel Body Seats can be changed while the valve is in line
- Class 125/150 & 250/300 Available
- Valve can be mounted horizontally or vertically

SWC SERIES OPTIONS

- Limit Switches 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, the Buy America Act, the Buy American Act and the Build America Buy America Act

The SWC Series Swing Check Valve from Crispin provides users with an AWWA C-508-1 solution for more arduous check valve applications, including sewage and slurry. The SWC Series design takes over when the RF Rubber Flapper Series and the TD Tilting Disc Series are not optimal.

Designed with a heavy-duty pivot shaft, the SWC Series can accept both air cushion as well as oil cushion devices. The substantial shaft diameter is ideal for those difficult applications where back pressure can reach higher values quickly.

In order to reduce hammer and protect the system itself, these back pressures need to be absorbed by a cushion. This requirement generates a larger amount of torque on the pivot shaft than commodity type valves cannot handle.

Once pump pressure exceeds the back pressure on the down-stream side of the valve disc, the SWC Series moves the disc out of the flow by displacing the seat disc to the upper portion of the valve body. With standard rubber disc seats and stainless steel body seats, the SWC's "no-cost" upgrades make the valve ideal for aggressive water and sewage applications found in many areas.

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.

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SWC SERIES DESIGN FEATURES

- **Body Seat**

  Many valve designs incorporate a threaded-in seat. Especially in larger sizes, replacement of this seat is almost impossible, let alone while the valve remains inline. In the SWC Series, the body seat is held in place for stainless steel set screws. Both the Body Seat and the Disc Seat can be easily accessed and changed by removing the valve cover while the valve is inline.

- **O-Ring Design**

  Most swing check valve designs rely on the use of packing of "stuffing boxes." The SWC Series uses o-rings that are easily replaceable and readily available.

- **Pivot Shaft**

  Larger valve diameters require a larger body and disc arm, and standard designs can't incorporate a diameter large enough to use an Oil Control device. Even with lighter duty valves that use Air Cushions, any back pressure outside the normal operating range can cause severe damage and wear. The diameter of the SWC Series pivot shaft sets it apart from commodity type swing check valves.

- **Full Waterway Flow Area**

  With a flow area that is greater than or equal to the nominal valve size, the SWC Series has a lower head loss characteristic than a Silent Check Valve. It can also be mounted both horizontally and vertically on the project's pipeline.

- **Disc**

  Most standard designs hold the disc in place via a single connection to the disc arm, which can cause vibration. The SWC Series Disc Arm connects the pivot shaft to the Disc itself, Pinned to the arm in two places, the disc won't tilt or vibrate on the arm during operation.

- **Through Shaft**

  Internalizing the shaft on one end can increase wear of the unit dramatically. On the SWC Series, the Pivot Shaft extends though both sizes of the body, allowing it to be changed to either side of the unit, and making installation more manageable.

- **Lever & Weight or Lever & Spring Closure Options**

  Lever & Weight is standard, but a Lever & Spring is available for applications where high pressure, high flow velocities, and insufficient back pressure occur. Please contact the factory for more information.

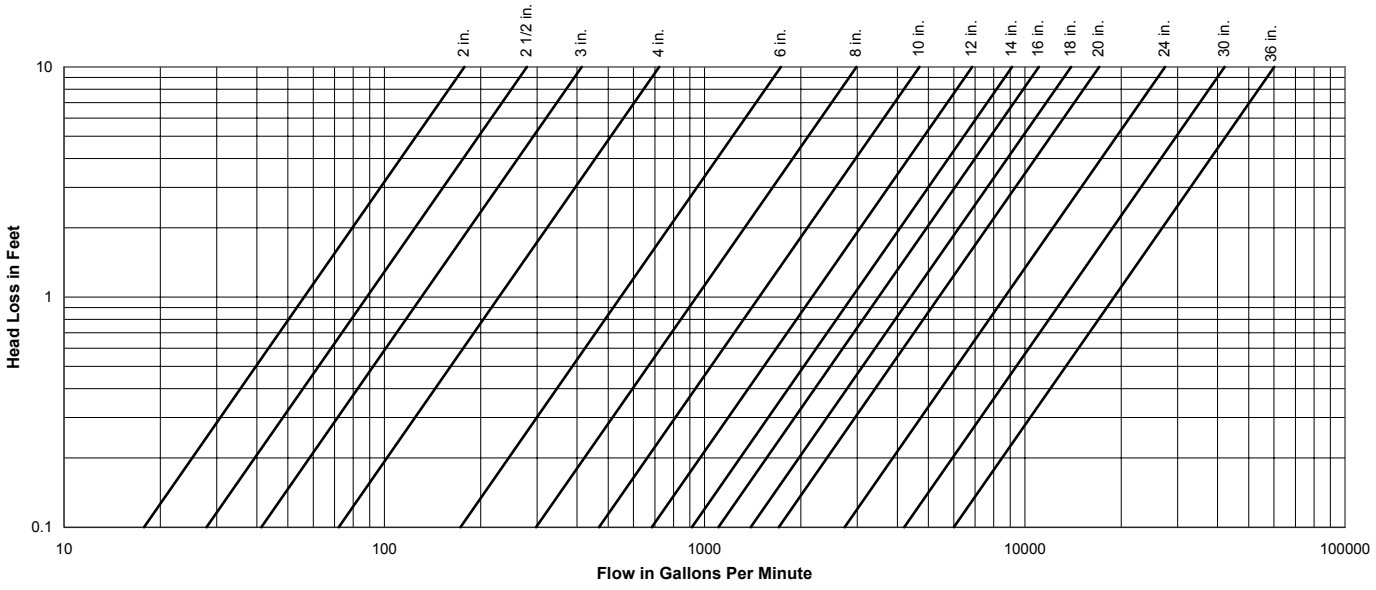
- **Dashpots and Cushions**

  Available as options, Dashpots and Cushions are designed to give the customer control over the opening and closing speeds of the valve, which can be very helpful in eliminating down line surges and valve wear. Dashpots are field adjustable and available in both side and bottom mountings. Side mountings can also be added later. Both designs utilize a high quality hydraulic cylinder to impact disc movement. Air Cushions can also be added to the unit's exterior and offer a simple, cost-effective way to absorb the slamming common to most swing check units.

SWC 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.



SWC-LW Series with Outside Lever & Weight, Sizes 3"-36"

SWC-LW SERIES PARTS LIST

ITEM	DESCRIPTION	MATERIAL
1	BODY	A536 Gr. 65-45-12 Ductile Iron (DI)
2	COVER	A536 Gr. 65-45-12 DI
3	DISC ARM	A536 Gr. 65-45-12 DI
4	BODY SEAT	B148 UNS C95400 Al-Bronze (Al-Br)
5	DISC	DI (A536 Gr. 65-45-12)
6	DISC SEAT	Buna-N (ASTM D2000)
7	SEAT RETAINER	A240 Type 316 Stainless Steel (SS)
8	SEAT RETAINING BOLT	A193 Type 316 SS
9	SEAT RETAINER SET SCREW	A193 Type 316 SS
10	SEAT O-RING	Buna-N (ASTM D2000)
11	DISC PIN	A276 Type 316 SS
12	DISC ARM SLEEVE	A276 Type 316 SS
13	DISC PIN RETAINING RING	PH 15-7 MO SS
14	DISC SLEEVE	A276 Type 316 SS

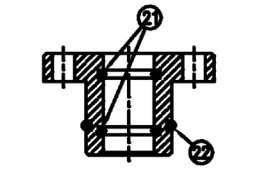
ITEM	DESCRIPTION	MATERIAL
15	PIVOT SHAFT	A582 Type 303 SS
**15B	PIVOT SHAFT RING	A582 Type 303 SS
**15C	SET SCREW	A193 Type 316 SS
16	R.H. END CAP BSHG	B505 UNS C95400 Al-Br
17	L.H. END CAP BSHG	B505 UNS C95400 Al-Br
*18	END CAP FLANGE	A536 Gr. 65-45-12 DI
19	PIVOT BUSHING	B505 UNS C95400 Al-Brnz
20	DISC STOP	A276 Type 316 SS
21	DISC STOP NUT	A194 Type 316 SS
22	INT. O-RING	Buna-N (ASTM D2000)
23	EXT. O-RING	Buna-N (ASTM D2000)
24	DISC SET SCREW	A193 Type 316 SS
25	PIVOT KEY	A276 Type 316 SS
26	COVER GASKET	Klinger-SIL C4401
27	COVER BOLT	A307 GR. B Steel
28	END CAP BOLT	A307 GR. B Steel
29	PLUG	DI
32	LEVER ASSEMBLY	Steel

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

SWC-LW Series with Lever & Weight Reference Drawing

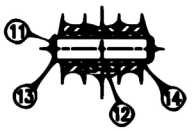
NOTES ON PARTS LIST:

1. *: Used on 10" and larger valves.
2. **: Used on 14" and larger valves.
3. Valves 14" and larger have dual lever assemblies.
4. Bypass piping available on 14" and larger valves.

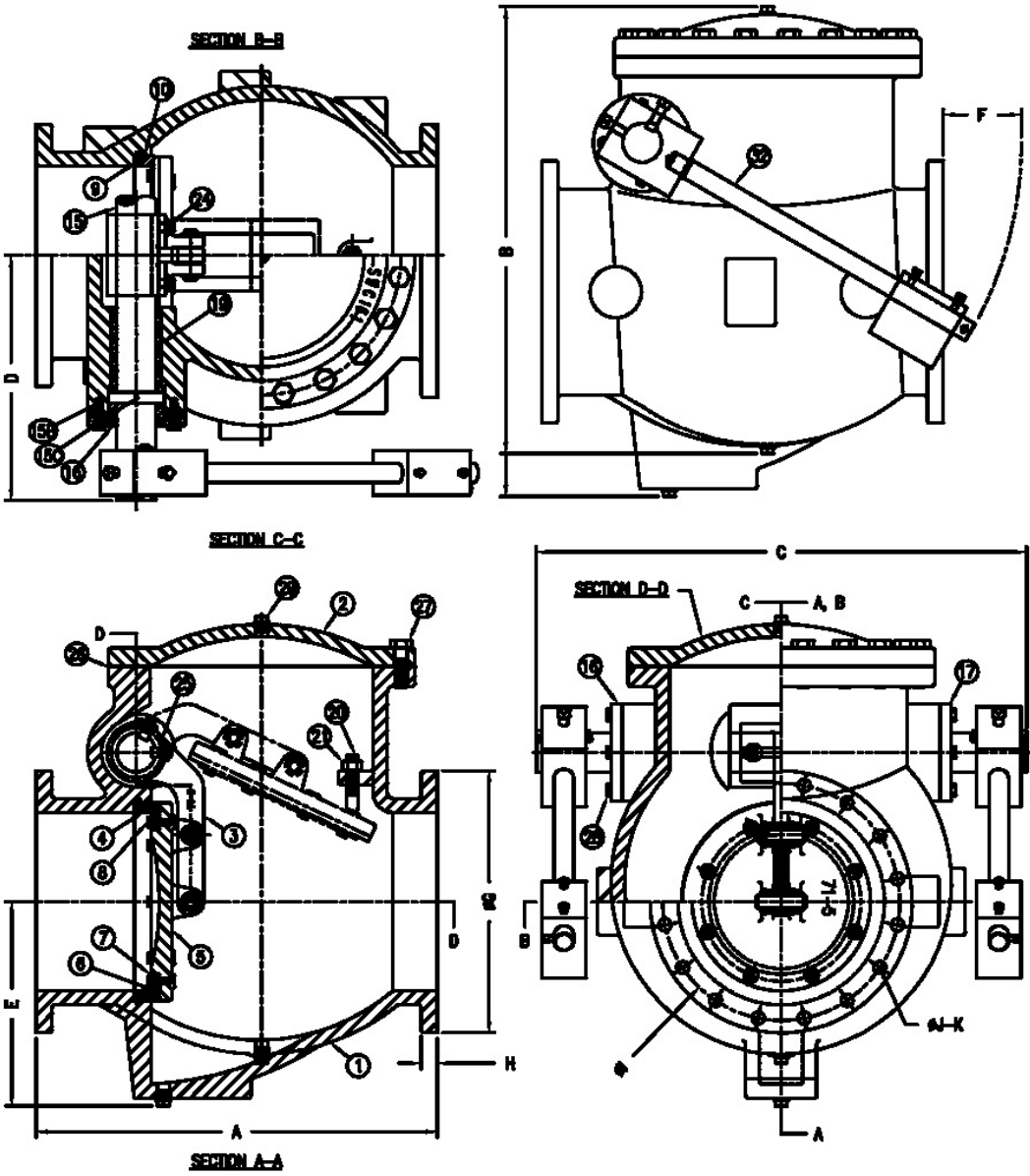


3"–8" END CAP DETAIL

10"–36" END CAP DETAIL



DISC PIN DETAIL



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

ALL DIMENSIONS ARE IN INCHES

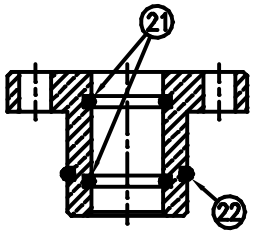
Size	Model	Flg CL	A	B	C	D	E	F	G	H	I	J	K
3"	SWC31-LW	CL 125	11.00	13.50	15.14	9.13	4.35	3.25	7.50	0.75	6.00	0.75	4
	SWC32-LW	CL 250	11.00	13.75	15.14	9.13	4.35	3.25	8.25	1.12	6.62	0.88	8
4"	SWC41-LW	CL 125	13.00	15.00	17.19	10.19	5.17	2.75	9.00	0.94	7.50	0.75	8
	SWC42-LW	CL 250	13.00	15.44	17.19	10.19	5.17	2.75	10.00	1.25	7.88	0.88	8
6"	SWC61-LW	CL 125	17.50	22.50	23.00	12.50	9.00	7.50	11.00	1.00	9.50	0.88	8
	SWC62-LW	CL 250	17.50	23.34	23.00	12.50	9.00	7.50	12.50	1.44	10.62	0.88	12
8"	SWC81-LW	CL 125	19.50	25.96	24.00	14.11	11.05	7.00	13.50	1.12	11.75	0.88	8
	SWC82-LW	CL 250	19.50	26.65	24.00	14.11	11.05	7.00	15.00	1.62	13.00	1.00	12
10"	SWC101-LW	CL 125	24.50	30.50	28.75	16.48	13.27	7.75	16.00	1.19	14.25	1.00	12
	SWC102-LW	CL 250	24.50	31.25	28.75	16.48	13.27	7.75	17.50	1.88	15.25	1.12	16
12"	SWC121-LW	CL 125	28.00	34.93	30.25	17.38	14.93	7.88	19.00	1.25	17.00	1.00	12
	SWC122-LW	CL 250	28.00	35.08	30.25	17.38	14.93	7.88	20.50	2.00	17.75	1.25	16
14"	SWC141-LW	CL 125	31.00	40.00	42.50	21.25	16.50	7.25	21.00	1.38	18.75	1.12	12
	SWC142-LW	CL 250	31.00	40.18	42.50	21.25	16.50	7.25	23.00	2.12	20.25	1.25	20
16"	SWC161-LW	CL 125	36.00	43.88	44.00	22.00	18.32	7.00	23.50	1.44	21.25	1.12	16
	SWC162-LW	CL 250	36.00	44.13	44.00	22.00	18.32	7.00	25.50	2.25	22.50	1.38	20
18"	SWC181-LW	CL 125	40.00	49.00	48.25	24.13	20.88	8.39	25.00	1.56	22.75	1.25	16
	SWC182-LW	CL 250	40.00	49.25	48.25	24.13	20.88	8.39	28.00	2.38	24.75	1.38	24
20"	SWC201-LW	CL 125	40.00	51.61	50.19	25.09	22.06	8.26	27.50	1.69	25.00	1.25	20
	SWC202-LW	CL 250	40.00	51.85	50.19	25.09	22.06	8.26	30.50	2.50	27.00	1.38	24
24"	SWC241-LW	CL 125	48.00	60.38	59.25	29.63	26.38	10.00	32.00	1.88	29.50	1.38	20
	SWC242-LW	CL 250	48.00	60.80	59.25	29.63	26.38	10.00	36.00	2.75	32.00	1.62	24
30"	SWC301-LW	CL 125	56.00	68.38	69.00	34.50	29.63	5.02	38.75	2.12	36.00	1.38	28
	SWC302-LW	CL 250	56.00	68.69	69.00	34.50	29.63	5.02	43.00	3.00	39.25	2.00	28
36"	SWC361-LW	CL 125	63.00	79.00	74.25	37.13	32.86	2.00	46.00	2.38	42.75	1.62	32
	SWC362-LW	CL 250	63.00	79.75	74.25	37.13	32.86	2.00	50.00	3.38	46.00	2.25	32

DATA KEY

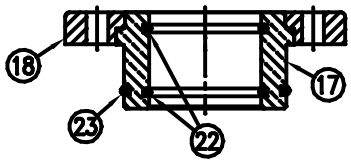
- **A:** Flange to Flange (Lay Length)
- **B:** Overall Height
- **C:** Valve Width
- **D:** Valve Centerline to End of Shaft
- **E:** Valve Centerline to Valve Base
- **F:** Amount Lever Arm Extends Past Flange Face
- **G:** Flange O.D.
- **H:** Flange Thickness
- **I:** Bolt Circle Diameter
- **J:** Bolt Hole Diameter
- **K:** Number of Bolts

SWC-LW Series w/Lever & Weight, Side Air Cushion, Sizes 3"-36"

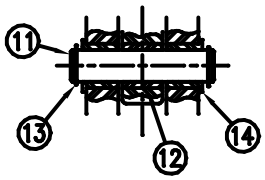
An external side mounted Air Cushion can be added to the standard Lever & Weight or Lever & Spring Unit to help reduce the slamming of the valve. Easily adjustable and fully enclosed, the bronze cylinder allows unrestricted opening and cushioned closure of the valve stroke.



3"–8" END CAP DETAIL



10"–36" END CAP DETAIL



DISC PIN DETAIL

Available Sizes	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"	24"	30"	36"
# of Levers & Weights	1	1	1	1	1	1	1	1	1	1	1	1	2
# of Cylinders	1	1	1	1	1	1	1	1	1	1	1	1	2

SWC-LWAC SERIES PARTS LIST

ITEM	DESCRIPTION	MATERIAL
1	BODY	A536 Gr. 65-45-12 Ductile Iron (DI)
2	COVER	A536 Gr. 65-45-12 DI
3	DISC ARM	A536 Gr. 65-45-12 DI
4	BODY SEAT	B148 UNS C95400 Al-Bronze (Al-Br)
5	DISC	A536 Gr. 65-45-12 DI
6	DISC SEAT	Buna-N (ASTM D2000)
7	SEAT RETAINER	A240 Type 316 Stainless Steel (SS)
8	SEAT RETAINING BOLT	A193 Type 316 SS
9	SEAT RETAINER SET SCREW	A193 Type 316 SS
10	SEAT O-RING	Buna-N (ASTM D2000)
11	DISC PIN	A276 Type 316 SS
12	DISC ARM SLEEVE	A276 Type 316 SS
13	DISC PIN RETAINING RING	PH 15-7 MO SS
14	DISC SLEEVE	A276 Type 316 SS

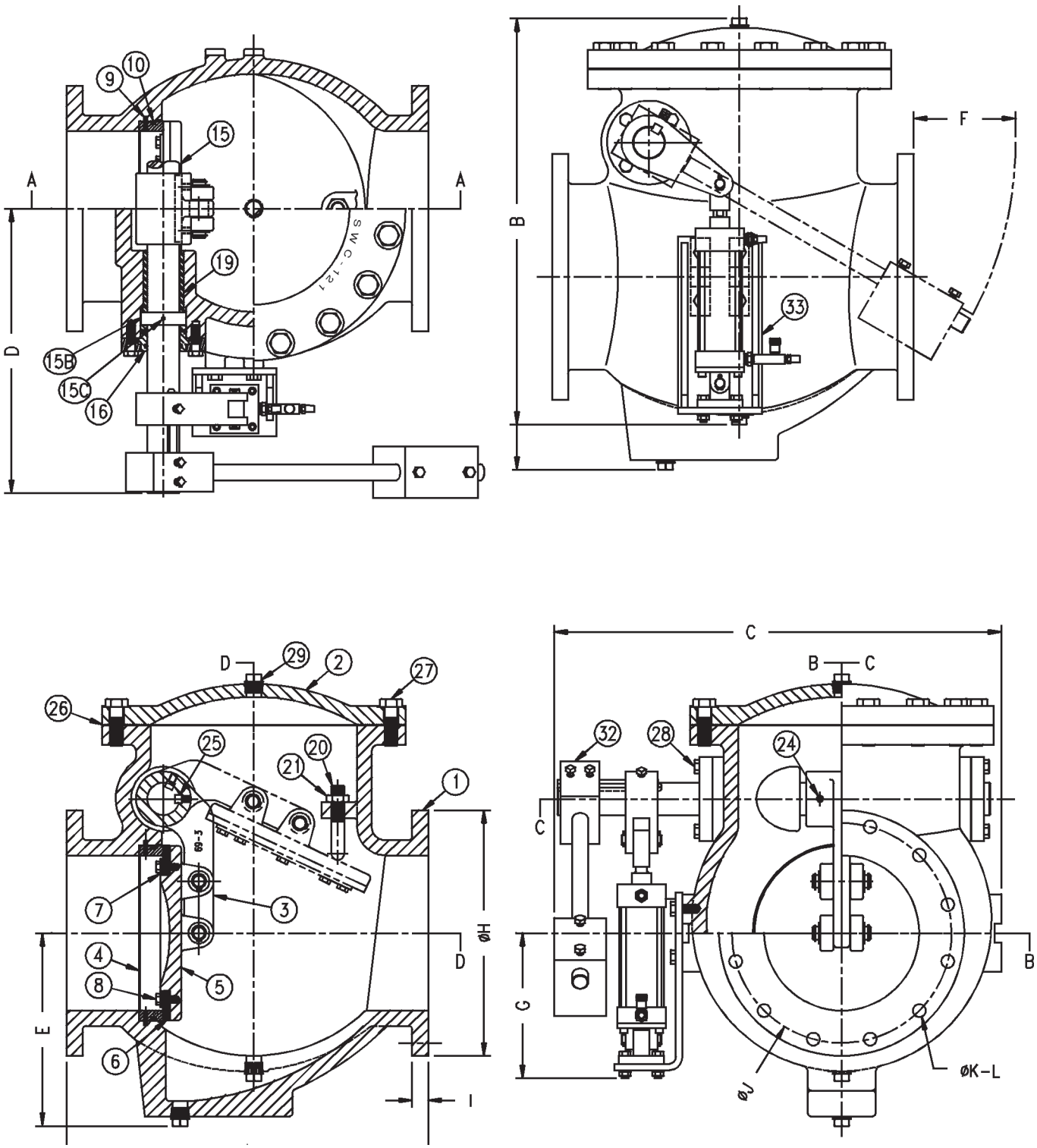
ITEM	DESCRIPTION	MATERIAL
15	PIVOT SHAFT	A582 Type 303 SS
***15B	PIVOT SHAFT RING	A582 Type 303 SS
***15C	SET SCREW	A193 Type 316 SS
16	R.H. END CAP BSHG	B505 UNS C95400 Al-Br
17	L.H. END CAP BSHG	B505 UNS C95400 Al-Br
**18	END CAP FLANGE	A536 Gr. 65-45-12 DI
19	PIVOT BUSHING	B505 UNS C95400 Al-BR
*20	DISC STOP	A276 Type 316 SS
*21	DISC STOP NUT	A194 Type 316 SS
22	INT. O-RING	Buna-N (ASTM D2000)
23	EXT. O-RING	Buna-N (ASTM D2000)
24	DISC SET SCREW	A193 Type 316 SS
25	PIVOT KEY	A276 Type 316 SS
26	COVER GASKET	Klinger-SIL C4401
27	COVER BOLT	A307 GR. B Steel
28	END CAP BOLT	A307 GR. B Steel
29	PLUG	A536 Gr. 65-45-12 DI
32	LEVER ASSEMBLY	Steel
33	AIR CUSHION	Aluminum

NOTES ON PARTS LIST:

1. ***: Used on 6" and larger valves.**
2. ****: Used on 10" and larger valves.**
3. *****: Used on 14" and larger valves.**
4. **36" valves have dual cushion and lever assemblies.**

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

SWC-LWAC Series, Lever & Weight, Air Cushion, Sizes 3"-36"



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

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

ALL DIMENSIONS ARE IN INCHES

Size	Model	Flg CL	A	B	C	D	E	F	G	H	I	J	K	L
3"	SWC31-LW-AC	CL 125	11.00	13.50	18.50	12.50	4.35	3.25	7.50	0.75	6.00	0.75	4	10.50
	SWC32-LW-AC	CL 250	11.00	13.75	18.50	12.50	4.35	3.25	8.25	1.12	6.62	0.88	8	10.50
4"	SWC41-LW-AC	CL 125	13.00	15.00	20.50	13.50	5.17	2.75	9.00	0.94	7.50	0.75	8	9.63
	SWC42-LW-AC	CL 250	13.00	15.44	20.50	13.50	5.17	2.75	10.00	1.25	7.88	0.88	8	9.63
6"	SWC61-LW-AC	CL 125	17.50	22.50	25.75	16.50	9.00	7.50	11.00	1.00	9.50	0.88	8	9.50
	SWC62-LW-AC	CL 250	17.50	23.34	25.75	16.50	9.00	7.50	12.50	1.44	10.62	0.88	12	9.50
8"	SWC81-LW-AC	CL 125	19.50	25.96	27.25	17.38	11.05	7.00	13.50	1.12	11.75	0.88	8	8.63
	SWC82-LW-AC	CL 250	19.50	26.65	27.25	17.38	11.05	7.00	15.00	1.62	13.00	1.00	12	8.63
10"	SWC101-LW-AC	CL 125	24.50	30.50	33.50	21.50	13.27	7.75	16.00	1.19	14.25	1.00	12	10.00
	SWC102-LW-AC	CL 250	24.50	31.25	33.50	21.50	13.27	7.75	17.50	1.88	15.25	1.12	16	10.00
12"	SWC121-LW-AC	CL 125	28.00	34.93	34.63	22.13	14.93	7.88	19.00	1.25	17.00	1.00	12	11.25
	SWC122-LW-AC	CL 250	28.00	35.08	34.63	22.13	14.93	7.88	20.50	2.00	17.75	1.25	16	11.25
14"	SWC141-LW-AC	CL 125	31.00	40.00	41.50	26.25	16.50	7.25	21.00	1.38	18.75	1.12	12	12.88
	SWC142-LW-AC	CL 250	31.00	40.18	41.50	26.25	16.50	7.25	23.00	2.12	20.25	1.25	20	12.88
16"	SWC161-LW-AC	CL 125	36.00	43.88	47.13	30.63	18.32	7.00	23.50	1.44	21.25	1.12	16	20.88
	SWC162-LW-AC	CL 250	36.00	44.13	47.13	30.63	18.32	7.00	25.50	2.25	22.50	1.38	20	20.88
18"	SWC181-LW-AC	CL 125	40.00	49.00	51.00	32.50	20.88	8.39	25.00	1.56	22.75	1.25	16	19.63
	SWC182-LW-AC	CL 250	40.00	49.25	51.00	32.50	20.88	8.39	28.00	2.38	24.75	1.38	24	19.63
20"	SWC201-LW-AC	CL 125	40.00	51.61	56.00	36.00	22.06	8.26	27.50	1.69	25.00	1.25	20	20.63
	SWC202-LW-AC	CL 250	40.00	51.85	56.00	36.00	22.06	8.26	30.50	2.50	27.00	1.38	24	20.63
24"	SWC241-LW-AC	CL 125	48.00	60.38	61.63	38.00	26.38	10.00	32.00	1.88	29.50	1.38	20	22.63
	SWC242-LW-AC	CL 250	48.00	60.80	61.63	38.00	26.38	10.00	36.00	2.75	32.00	1.62	24	22.63
30"	SWC301-LW-AC	CL 125	56.00	68.38	73.13	44.50	29.63	5.02	38.75	2.12	36.00	1.38	28	12.88
	SWC302-LW-AC	CL 250	56.00	68.69	73.13	44.50	29.63	5.02	43.00	3.00	39.25	2.00	28	12.88
36"	SWC361-LW-AC	CL 125	63.00	79.00	95.25	47.63	32.86	2.00	46.00	2.38	42.72	1.62	32	17.25
	SWC362-LW-AC	CL 250	63.00	79.75	95.25	47.63	32.86	2.00	50.00	3.38	46.00	2.25	32	17.25

DATA KEY

- **A:** Flange to Flange (Lay Length)
- **B:** Overall Height
- **C:** Valve Width
- **D:** Valve Centerline to End of Shaft
- **E:** Valve Centerline to Valve Base
- **F:** Amount Lever Arm Extends Past Flange Face
- **G:** Flange O.D.
- **H:** Flange Thickness
- **I:** Bolt Circle Diameter
- **J:** Bolt Hole Diameter
- **K:** Number of Bolts
- **L:** Valve Centerline to bottom of air cushion

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

Crispin Valve, 600 Fowler Ave., Berwick, PA 18603 • 1-800-247-VALV
T: (570)752-4524 • F: (570) 752-4962 • WWW.CRISPINVALVE.COM • info@crispinvalve.com

SWC-OC Series w/Lever & Weight, Side Oil Cushion, Sizes 3"-20"

The operating principle of this mechanism is essentially the same as a SWC-BD Swing Check Valve with a Bottom Mounted Oil Control (Dashpot). However, the hydraulic cylinder is connected directly to the pivot shaft via a clevis, link and rod eye. This is done so that both the opening and closing of the valve may be controlled. When the valve opens, oil is displaced into the pressurized accumulator and can be adjusted as above. This controls the full stroke of opening.

During closure, however, the design of the two chamber cylinder allows closing to be broken into two stages. The first stage of the closing stroke is able to be much quicker due to the pressurized air cushion in the accumulator. This air expands and forces the oil back into the chamber faster, creating pressure against the piston and closing the valve quicker. The actual closure rate of this first stage is acheived by the use of a needle valve.

The second, final stage of closure is controlled by a small internal valve and an oil flow channel that controls the last portion of the oil flow into the accumulator. Adjustment of this valve gives the disc a final "cushion" at the end of the closing stroke.

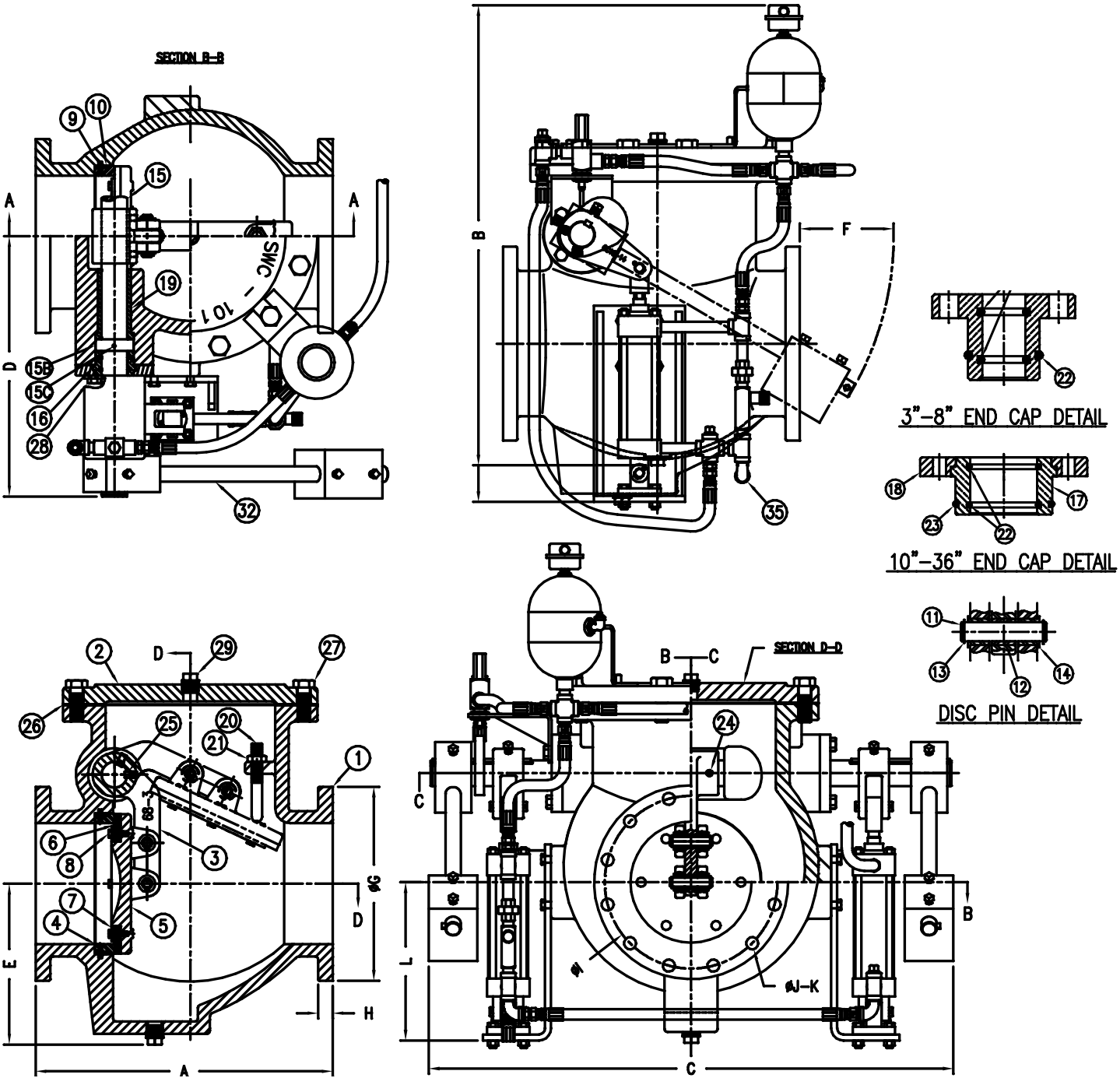
This option is also available with the addition of a Timing Valve. The optional timing valve allows the valve to close to an adjustable degree rapidly on pump shut off. The option provides a means of reducing the closing time, which is key to containing column reversal. This is accomplished without the "slamming" associated with non-cushioned valves.

Available Sizes	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"
# of Levers & Weights	1	1	1	1	2	2	2	2	2	2
# of Cylinders	1	1	1	1	2	2	2	2	2	2

SWC-LWOC SERIES PARTS LIST

ITEM	DESCRIPTION	MATERIAL
1	BODY	A536 Gr. 65-45-12 Ductile Iron (DI)
2	COVER	A536 Gr. 65-45-12 DI
3	DISC ARM	A536 Gr. 65-45-12 DI
4	BODY SEAT	B148 UNS C95400 Al-Bronze (Al-Br)
5	DISC	DI (A536 Gr. 65-45-12)
6	DISC SEAT	Buna-N (ASTM D2000)
7	SEAT RETAINER	A240 Type 316 Stainless Steel (SS)
8	SEAT RETAINING BOLT	A193 Type 316 SS
9	SEAT RTR SET SCREW	A193 Type 316 SS
10	SEAT O-RING	Buna-N (ASTM D2000)
11	DISC PIN	A276 Type 316 SS
12	DISC ARM SLEEVE	A276 Type 316 SS
13	DISC PIN RET RING	PH 15-7 MO SS
14	DISC SLEEVE	A276 Type 316 SS
15	PIVOT SHAFT	A582 Type 303 SS
***15B	PIVOT SHAFT RING	A582 Type 303 SS
***15C	SET SCREW	A193 Type 316 SS
16	R.H. END CAP BSHG	B505 UNS C95400 Al-Br
17	L.H. END CAP BSHG	B505 UNS C95400 Al-Br
**18	END CAP FLANGE	A536 Gr. 65-45-12 DI
19	PIVOT BUSHING	B505 UNS C95400 Al-BR
*20	DISC STOP	A276 Type 316 SS
*21	DISC STOP NUT	A194 Type 316 SS
22	INT. 0-RING	Buna-N (ASTM D2000)
23	EXT. O-RING	Buna-N (ASTM D2000)
24	DISC SET SCREW	A193 Type 316 SS
25	PIVOT KEY	A276 Type 316 SS
26	COVER GASKET	Klinger-SIL C4401
27	COVER BOLT	A307 GR. B Steel
28	END CAP BOLT	A307 GR. B Steel
29	PLUG	A536 Gr. 65-45-12 DI
32	LEVER ASSEMBLY	Steel
35	OIL CUSHION	Steel

SWC-OC Series w/Lever & Weight, Side Oil Cushion, Sizes 3"-20"



NOTES ON PARTS LIST:

1. *: Used on 6" & larger valves.
2. **: Used on 10" & larger valves.
3. ***: Used on 14" & larger valves.
4. 36" valves have dual cushion and lever assemblies.

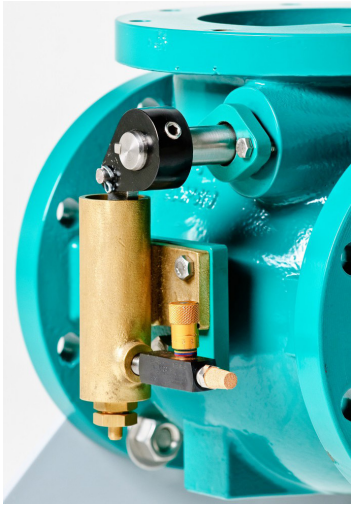
Materials, Dimensions and Pricing subject to change without notice. Certified Dimensions available upon request.

Crispin Valve, 600 Fowler Ave., Berwick, PA 18603 • 1-800-247-VALV
T: (570)752-4524 • F: (570) 752-4962 • WWW.CRISPINVALVE.COM • info@crispinvalve.com

3"-20" Class 125/150 Swing Check with Lever & Weight and Side Oil Cushion Dimensional Data

ALL DIMENSIONS ARE IN INCHES

Size	Model	Flg CL	A	B	C	D	E	F	G	H	I	J	K	L
3"	SWC31-LW-OC	CL 125	11.00	X	X	X	4.35	3.25	7.50	0.75	6.00	0.75	4	X
	SWC32-LW-OC	CL 250	11.00	X	X	X	4.35	3.25	8.25	1.12	6.62	0.88	8	X
4"	SWC41-LW-OC	CL 125	13.00	30.25	20.75	13.63	5.17	2.75	9.00	0.94	7.50	0.75	8	12.25
	SWC42-LW-OC	CL 250	13.00	30.63	20.75	13.63	5.17	2.75	10.00	1.25	7.88	0.88	8	12.25
6"	SWC61-LW-OC	CL 125	17.50	33.38	26.75	17.50	9.00	7.50	11.00	1.00	9.50	0.88	8	12.50
	SWC62-LW-OC	CL 250	17.50	33.88	26.75	17.50	9.00	7.50	12.50	1.44	10.62	0.88	12	12.50
8"	SWC81-LW-OC	CL 125	19.50	34.38	28.88	19.00	11.05	7.00	13.50	1.12	11.75	0.88	8	11.50
	SWC82-LW-OC	CL 250	19.50	34.88	28.88	19.00	11.05	7.00	15.00	1.62	13.00	1.00	12	11.50
10"	SWC101-LW-OC	CL 125	24.50	41.00	43.38	21.50	13.27	7.75	16.00	1.19	14.25	1.00	12	13.13
	SWC102-LW-OC	CL 250	24.50	41.76	43.38	21.50	13.27	7.75	17.50	1.88	15.25	1.12	16	13.13
12"	SWC121-LW-OC	CL 125	28.00	42.38	44.63	22.38	14.93	7.88	19.00	1.25	17.00	1.00	12	13.13
	SWC122-LW-OC	CL 250	28.00	43.25	44.63	22.38	14.93	7.88	20.50	2.00	17.75	1.25	16	13.13
14"	SWC141-LW-OC	CL 125	31.00	X	X	X	16.50	7.25	21.00	1.38	18.75	1.12	12	X
	SWC142-LW-OC	CL 250	31.00	X	X	X	16.50	7.25	23.00	2.12	20.25	1.25	20	X
16"	SWC161-LW-OC	CL 125	36.00	54.00	61.25	30.75	18.32	7.00	23.50	1.44	21.25	1.12	16	22.00
	SWC162-LW-OC	CL 250	36.00	54.88	61.25	30.75	18.32	7.00	25.50	2.25	22.50	1.38	20	22.00
18"	SWC181-LW-OC	CL 125	40.00	55.13	62.38	31.25	20.88	8.39	25.00	1.56	22.75	1.25	16	21.25
	SWC182-LW-OC	CL 250	40.00	56.00	62.38	31.25	20.88	8.39	28.00	2.38	24.75	1.38	24	21.25
20"	SWC201-LW-OC	CL 125	40.00	X	X	X	22.04	8.26	27.50	1.69	25.00	1.25	20	X
	SWC202-LW-OC	CL 250	40.00	X	X	X	22.04	8.26	30.50	2.50	27.00	1.38	24	X



DATAKEY

A: Flange to Flange (Lay Length)
B: Overall Height
C: Valve Width
D: Valve Centerline to End of Shaft
E: Valve Centerline to Valve Base
F: Amount Lever Arm Extends Past Flange Face
G: Flange O.D.
H: Flange Thickness
I: Bolt Circle Diameter
J: Bolt Hole Diameter
K: Number of Bolts
L: Valve Centerline to bottom of oil cushion

SWC SWING CHECK VALVES WITH LEVER & WEIGHT

SWC-LW Series Specification

GENERAL

Crispin SWC Swing Check valves shall conform to AWWA C508 "Full Waterway" Specifications.

BODY

The valve shall incorporate an O-Ring sealing design with the use of bronze bushings on each side of the body. A lever and weight shall be mounted on and keyed to the pivot shaft. (A lever and weight is mounted on both sides of valves that are 36" and larger.) The seat ring shall be aluminum bronze and be held in place by means of 316 stainless steel locking screws. The seat will be capable of being removed in the field without special tools. The body, disc and disc arm shall be ductile iron. The disc shall be pinned to the arm with two stainless steel pins and sleeves. A Buna-N disc seat shall be held in place with a 316 stainless steel retaining ring. The valve shall seal drip tight.

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

End caps must be two-piece design and utilize O-Ring seals. Packing gland sealing will not be acceptable.

COATINGS

The valve is to be coated internally and externally with NSF 61 approved epoxy.

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 SWC-LW Series, as manufactured by Crispin-Multiplex Manufacturing Co., Berwick, PA

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SWC SWING CHECK VALVES WITH AIR CUSHION

SWC-AC Series Specification

GENERAL

Crispin SWC Swing Check valves shall conform to AWWA C508 "Full Waterway" Specifications.

BODY

The valve shall incorporate a large diameter stainless steel pivot shaft extending through both sides of the body. The valve shall incorporate an O-Ring sealing design with the use of bronze bushings on each side of the body. A lever and weight shall be mounted on the same side as the air cushion and keyed to the pivot shaft. (A lever and weight is mounted on both sides of valves that are 36" and larger.) The seat ring shall be aluminum bronze and be held in place by means of 316 stainless steel locking screws. The seat will be capable of being removed in the field without special tools. The body, disc and disc arm shall be ductile iron. The disc shall be pinned to the arm with two stainless steel pins and sleeves. A Buna-N disc seat shall be held in place with a 316 stainless steel retaining ring. The valve shall seal drip tight.

EXTERIOR AIR CUSHION

An exterior air cushion shall be supplied with the check valve. The cushioning system will be mounted on the exterior of the valve and will connect directly to the pivot shaft by means of keyed arm. The Air Cylinder will cushion the closing stroke of the valve while providing unrestricted opening. The cushioning system will incorporate a closed aluminum pneumatic cylinder with internal adjustability that will not allow any debris to enter the cushion, a steel actuator arm that is keyed to the shaft, and steel connecting pins and clips. The buffering system shall include an air filter and be adjustable through the use of a needle valve internal cylinder adjustment.

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

End caps must be two-piece design and utilize O-Ring seals. Packing gland sealing will not be acceptable.

COATINGS

The valve is to be coated internally and externally with NSF 61 approved epoxy.

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 SWC-AC Series, as manufactured by Crispin-Multiplex Manufacturing Co., Berwick, PA

SWC SWING CHECK VALVES WITH OIL CUSHION

SWC-OC Series Specification

GENERAL

Crispin SWC Swing Check valves shall conform to AWWA C508 "Full Waterway" Specifications.

BODY

The valve shall incorporate a large diameter Type 17-4 PH stainless steel pivot shaft extending through both sides of the body. The valve shall incorporate an O-Ring sealing design with the use of bronze bushings on each side of the body. A lever, weight and hydraulic cylinder shall be mounted on both sides of the pivot shaft for valves sizes 10" and larger. The seat ring shall be aluminum bronze and be held in place by means of 316 stainless steel locking screws. The seat will be capable of being removed in the field without special tools. The body, disc and disc arm shall be ductile iron. The disc shall be pinned to the arm with two stainless steel pins and sleeves. A Buna-N disc seat shall be held in place with a 316 stainless steel retaining ring. The valve shall seal drip tight.

SIDE-MOUNTED OIL CUSHION

A side-mounted oil-cushion shall be provided for three-stage controlled closing of the valve. The hydraulic cylinder(s) shall be equipped with two stages of control during the closing cycle along with a third stage, though the use of a timing valve, to provide instant closure of the disc from fully open to any degree of closure upon pump shut down.

The three stages of closure adjustment are:

1. Stage 1: Instant closure from fully open to any degree.
2. Stage 2: Adjustable closure to final 10% through use of a flow control valve.
3. Stage 3: From 10% open to closed through the adjustment of an internal needle valve on an hydraulic cylinder.

Each state is independently adjustable with the hydraulic system self-contained and separate from the media in the main line.

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

End caps must be two-piece design and utilize O-Ring seals. Packing gland sealing will not be acceptable.

COATINGS

The valve is to be coated internally and externally with NSF 61 approved epoxy.

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 SWC-OC Series, as manufactured by Crispin-Multiplex Manufacturing Co., Berwick, PA

SWC SWING CHECK VALVES WITH BOTTOM BUFFER

SWC-BB Series Specification

GENERAL

Crispin SWC Swing Check valves shall conform to AWWA C508 "Full Waterway" Specifications.

BODY

The valve shall incorporate a large diameter stainless steel pivot shaft extending through both sides of the body. The valve shall incorporate an O-Ring sealing design with the use of bronze bushings on each side of the body. A lever and weight shall be mounted on both sides of the pivot shaft for valves sizes 14" and larger. The seat ring shall be aluminum bronze and be held in place by means of 316 stainless steel locking screws. The seat will be capable of being removed in the field without special tools. The body, disc and disc arm shall be ductile iron. The disc shall be pinned to the arm with two stainless steel pins and sleeves. A Buna-N disc seat shall be held in place with a 316 stainless steel retaining ring. The valve shall seal drip tight.

BOTTOM-MOUNTED OIL BUFFER

A bottom oil buffer shall be supplied with the check valve. The buffering system will be mounted on the underside of the valve and will not be connected to the disc or outside arm in any way. The buffering system will cushion the last 10% of the closing stroke of the valve while providing free, unrestricted opening. The buffering system will incorporate a steel hydraulic cyliinder, 17-4PH stainless steel snubber rod, bronze bushing and ductile iron spacer. The buffering system shall include a stainless steel air/oil accumulator with pressure gage, and be adjustable though the use of a flow control valve. The hydraulic system is self-contained and separate from the media in the main line.

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

End caps must be two-piece design and utilize O-Ring seals. Packing gland sealing will not be acceptable.

COATINGS

The valve is to be coated internally and externally with NSF 61 approved epoxy.

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 SWC-BB Series, as manufactured by Crispin-Multiplex Manufacturing Co., Berwick, PA