

ES Series Spring Check Valves



PVC

SERIES: ES

SIZES: 1/2" to 4"

ENDS: Socket, Threaded, Flanged, ChemFlare™

SEALS: EPDM, FKM (Viton®)

Chemline **ES Series** PVC True Union Spring Check valves have a PTFE covered stainless steel spring for positive closing. Compared to ball check valves, ES Series require very low liquid head pressure to close. That means more flexibility as to where valves may be placed in a piping system.

Features

True Union Design

- Easy installation and maintenance

PTFE Covered Stainless Steel Spring

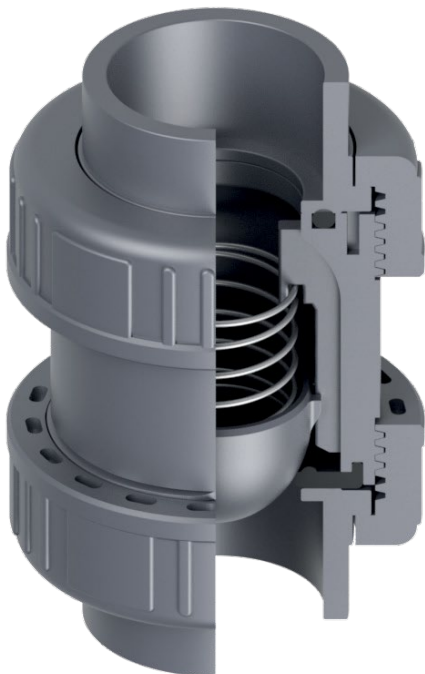
- Resistant to almost all chemicals
- Minimal seating head is required with self closing disc

New Disc Design¹

- Fully guided for smooth, trouble-free operation
- Hydraulic design to minimize pressure loss

Moulded Elastomer Seat

- For a secure seal even at low pressures



ES Series Spring Check Valves

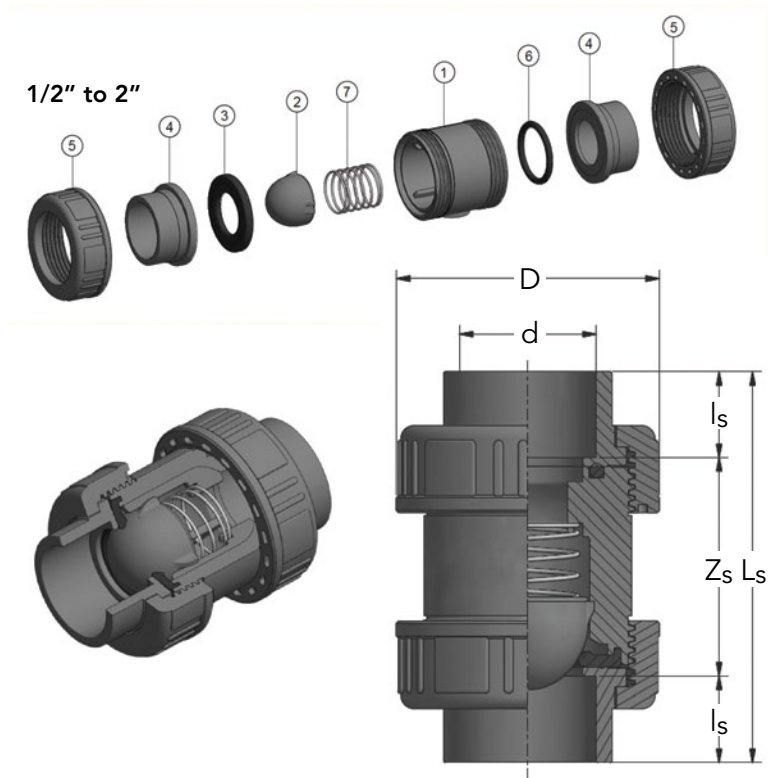


PARTS

▲ Recommended Spare Parts

No.	Part	Pcs.	Materials
1	Body	1	PVC
2	Disc	1	PVC
3▲	Seat	1	EPDM, FKM (Viton®)
4	End Connector	2	PVC
5	Union Nut	2	PVC
6▲	Face O-Ring	1/2 ¹	EPDM, FKM (Viton®)
7▲	Spring	1	PTFE covered SS
8	Seat Carrier	1	PVC
9▲	Seat O-Ring	1	EPDM, FKM (Viton®)
10▲	Seat Carrier O-Ring	1	EPDM, FKM (Viton®)

¹1/2" to 2" valves: 1 piece; 3" and 4" valves: 2 pieces



DIMENSIONS INCHES

Size	D	d	Socket			Threaded			Flanged	ChemFlare™
			L _S	Z _S	I _S	L _T	Z _T	I _T	L _F ²	L _{CF}
1/2"	1.9	0.50	3.7	1.9	0.9	3.0	2.0	0.5	5.8	5.31
3/4"	2.4	0.75	4.2	2.1	1.0	3.4	2.3	0.6	6.5	5.55
1"	2.7	1.00	4.7	2.4	1.1	4.0	2.6	0.7	7.3	6.20
1-1/4"	3.1	1.25	5.2	2.7	1.3	4.4	3.1	0.7	8.0	7.08
1-1/2"	3.8	1.50	6.1	3.2	1.4	4.8	3.4	0.7	9.4	-
2"	4.6	2.00	6.3	3.3	1.5	5.3	3.9	0.7	9.7	-
2-1/2"	6.6	2.50	9.1	5.6	1.8	8.5	6.6	0.9	13.6	-
3"	6.6	3.00	9.3	5.5	1.9	7.8	5.8	1.0	13.9	-
4"	7.0	4.00	10.7	6.2	2.3	10.3	8.1	1.1	15.7	-

²Flanged valve is a fabricated with glued on flanges, face to face might vary, consult Chemline before ordering

ES Series Spring Check Valves



NET WEIGHTS LB.		Cv VALUES	WORKING PRESSURES PSI				
Size	Lbs.	USGPM flow @ 1 psi ΔP	20°C 68°F	30°C 94°F	40°C 105°F	50°C 120°F	60°C 140°F
1/2"	0.2	2.0	230	190	150	100	45
3/4"	0.4	4.0	230	190	150	100	45
1"	0.6	6.0	230	190	150	100	45
1-1/4"	0.9	9.0	230	190	150	100	45
1-1/2"	1.4	13.0	230	190	150	100	45
2"	2.4	18.0	230	190	150	100	45
2-1/2"	6.2	38.0	230	190	150	100	45
3"	6.6	51.0	230	190	150	100	45
4"	11.0	58.0	150	120	90	45	15

Maximum Temperature: 60°C (140°F)

PRESSURE TO OPEN/CLOSE PSI

Size	Minimum ΔP to Open		Minimum ΔP to Close	
	Horizontal	Vertical	Horizontal	Vertical
1/2"	0.7	0.1	1.2	1.2
3/4"	0.7	0.1	1.2	1.2
1"	0.7	0.1	1.2	1.2
1-1/4"	1.4	0.3	1.2	1.2
1-1/2"	1.4	0.3	1.2	1.2
2"	1.4	0.3	1.2	1.2
2-1/2"	1.4	0.3	1.2	1.2
3"	1.4	0.3	1.2	1.2
4"	1.4	0.3	1.5	1.5

SAMPLE SPECIFICATION

- All PVC Spring Check valves 1/2" to 4", will be Chemline ES Series or equal, slip-out true union design, with EPDM (or FKM Viton®) seals. Valves 1/2" to 2" will be pressure rated 230 psi. 2-1/2" to 4" valves will be 150 psi rated.
 - Springs will be stainless steel, with minimum **xxx** mm thick PTFE covering for chemical resistance. "Teflon" spray coated springs are not acceptable.
 - Socket ends shall be Schedule 80 and conform to ASTM D-2467.
 - Threaded ends shall be Schedule 80 and conform to ASTM D-2464.¹
 - Flanged ends shall be ANSI Class 150.
 - Valves shall be NSF/ANSI 61 certified for contact with drinking water.
- ¹ Threaded connections are available but socket ends are recommended for 3" and 4" valves

VACUUM RATING

- 29.9 inches mercury

INSTALLATION RECOMMENDATIONS

- Install at least 5 pipe diameters from fittings or valves
- Install at least 10 pipe diameters from pump outlet
- Maximum recommended fluid velocity 5 m/s (16 ft/sec.)

ORDERING EXAMPLE

Chemline ES Series True Union Spring Check	ES	A	015	E	S
Material	A – PVC				
Size	005 – 1/2" 007 – 3/4" 010 – 1" 012 – 1-1/4" 015 – 1-1/2" 020 – 2" 025 – 2-1/2" 030 – 3" 040 – 4"				
Seals	E – EPDM V – FKM (Viton®)				
Ends	S – Socket T – Threaded F – Flanged ChemFlare™ – Use Item Numbers below				

Example: Chemline ES Series Spring Check, 1-1/2", with EPDM seals, socket ends.

CHEMFLARE™ ITEM NUMBERS

Valve Size	Tube O.D.	End Connector	Nut	Item Number
1/2"	1/4"	PVC	PVDF	A4N-1
1/2"	3/8"	PVC	PVDF	A6N-1
1/2"	1/2"	PVC	PVC	A8N-1
3/4"	3/4"	PVC	PVDF	A12N-1
1"	1"	PVC	PVDF	A16N-1

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