CV 42 - Check valve - Wafer and lug styles

Dual Disc - ANSI Class 150 - Carbon and Stainless Steel

By ESFEROMATIC

BT ESFERET_0218

Models

Now Available in Lug Styles!

Sizes : 2” ~ 24”
Wafer styles 2” ~ 6” provide dual
Pressure service (ansi class 150/300)
Lug styles are blind tapped as standard

CV 42-CS
(carbon steel - wafer)

CV 42L-CS
(carbon steel - lug)

CV 42-SS
(stainless steel - wafer)

CV 42L-SS
(stainless steel - lug)

Features

AVAILABLE IN WAFER AND LUG STYLES
This low weight and short laying de sign is now available in both lug and wafer styles. Lug styles, threaded on both sides of the body, can be used as a block valve for the pipeline.

MINIMAL HEAD LOSS
Contour of body provides a short and straight flow path that generates very little turbulence. Additionally, the spring- loaded discs are de signed with very low cracking pressure which reduces the amount of energy required to open the valve.

QUICK CLOSURE TO REDUCE WATER HAMMER
Shut-off is achieved via the fully automatic, spring-ass isted discs that close near zero flow velocity. The light weight, split disc design create s a positive shutof f prior to flow reversal and helps to keeps lamming and surges to a minimum.

DESIGNED FOR LONG SERVICE LIFE
The spring and discs are designed to al low the discs to lift linearly before pivoting to avoid the disc heal from scrub bing the sealing surface. Also, discs are equipped with cast-in shock bumpers that help to reduce wear and tear on internal components.

FUGITIVE EMISSION DESIGN
The retainer-less body design eliminates potential leak paths to the environment so there are no body emissions.

RESILIENT AND METAL SEATS
Board, lapped sealing surface (metal) meets or exceeds api 598 test requirements. Resilient seats (viton/buna) ensure a bubble tight seal.

Technical

PRESSURE/ TEMPERATURE RATING CS - ASTM A216 GR. WCB - CLASS 150
WOG (Non-shock): 285 PSI @ 100 °F
PRESSURE/ TEMPERATURE RATING SS - ASTM A351 GR. CF8M - CLASS 150
WOG (Non-shock): 275 PSI @ 100 °F
SEAT MATERIAL TEMPERATURE RANGE
VITON: -40 ~ 400 °F BUNA-N: -20 ~ 250 °F
SPRING MATERIAL TEMPERATURE MAXIMUM
INCONEL X-750: 1000 °F

The above listed temperatures are theoretical and may vary during actual operating conditions.

Applications

MARKETS:

Water & wastewater, pulp & paper, chemical & petrochemical, power, petroleum and oi l & gas.

BUNA-N PROPERTIES:

Most widely used elastomer. Good for most petroleum oils and fluids, silicone greases and oils, and cold water. excellent compression set, tear, and abrasion resistance. Poor weather resistance and moderate heat resistance. Not recommended for severe ozone-resistant applications.

VITON PROPERTIES:

Offers a broad range of chemical resistance and excellent heat resistance. Good mechanical properties and compression set resistance. ften us ed in applications where nothing else will work. Fair low temperature resistance and limited hot-water resistance and shrinkage .

The above data represents common market and service applications. No representation or guarantee, expressed or implied, is given due to the numerous variations of concentrations, temperatures and flow conditions that may occur during actual service.

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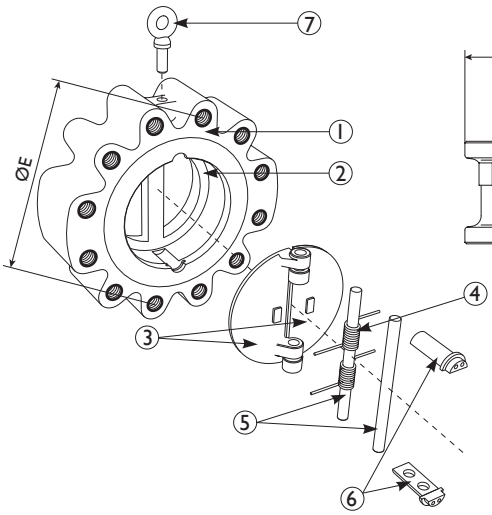
BILL OF MATERIALS (1)

No.	PART	CV42/CV42L-CS	CV42/CV42L-SS
1	Body	Carbon Steel A216 Gr.WCB	Stainless Steel A351 Gr. CF8M
2	Seat	Metal/Viton/Buna-N (4)	Metal or Viton
3	Disc (2)	Stainless Steel A351 Gr. CF8M	Stainless Steel A351 Gr. CF8M
4	Spring (2)	Inconel X-750	Inconel X-750
5	Shaft/Stop Pin	Stainless Steel A276 Gr. 316	Stainless Steel A276 Gr. 316
6	Cap	Carbon Steel ASTM A105	Stainless Steel A351 Gr. CF8M
7	Eye Bolt (3)	Carbon Steel	Carbon Steel

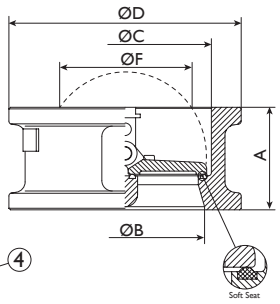
1. Bill of Materials represents standard materials. Equivalent or better materials may be substituted at the manufacturer's discretion.
2. Denotes recommended spare parts.
3. Part #7, Eye Bolt, is only on Sizes 8" and up.
4. Metal seat is stainless steel inlay.

Additional Design & Technical Notes:

- The CV42 and CV42L have a fugitive emission design. The retainer-less body design eliminates potential leak paths to the environment so there are no body emissions.



Cutaway View - Wafer Style



Exploded View
Lug Style (Blind Tapped)

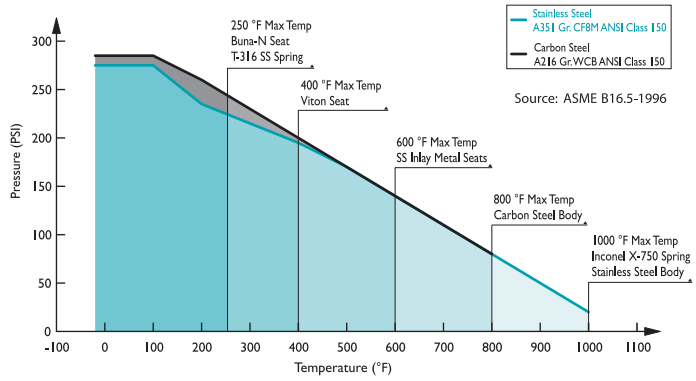
- Illustrations are representative of models CV42 and CV42L; however, some dimensions may not be applicable for both models.
- Wafer-Style Sizes 2" through 6" are scalloped for dual pressure service (ANSI Class 150 and 300).
- Lug-Style is Blind Tapped; contact Titan for Drilled Lug Styles.

DIMENSIONS AND PERFORMANCE DATA (1)

SIZE		in	2	2 1/2	3	4	5	6	8	10	12	14	16	18	20	24
		mm	50	65	80	100	125	150	200	250	300	350	400	450	500	600
A DIMENSION FACE TO FACE (2)		in	2.38	2.62	2.88	2.88	3.38	3.87	5.00	5.75	7.12	7.25	7.50	8.00	8.62	8.75
		mm	60	67	73	73	86	99	127	146	181	184	191	203	219	222
ØB DIMENSION INLET DIAMETER		in	2.00	2.50	3.00	4.00	5.00	6.52	8.00	10.00	12.00	13.26	15.24	17.24	19.50	23.42
		mm	51	64	76	102	127	166	203	254	305	337	387	438	495	595
ØC DIMENSION OUTLET DIAMETER		in	2.16	2.67	3.23	4.25	5.12	6.38	8.66	10.63	12.60	13.78	15.75	17.24	19.50	23.42
		mm	55	68	82	108	130	162	220	270	320	350	400	438	495	595
WAFER-STYLE	**ØD** DIMENSION OVERALL DIAMETER	in	4.33	5.04	5.31	7.05	8.43	9.81	10.91	13.27	16.02	17.64	20.15	21.54	23.78	28.15
		mm	110	128	147	179	214	249	277	337	407	448	512	547	604	715
	ASSEMBLED WEIGHT (Wafer)	lb	5.5	8.0	10.0	15.5	23.5	36.0	51.5	88.0	131.0	178.0	242.0	276.0	362.0	462.0
		kg	2.5	3.6	4.5	7.0	10.6	16.3	23.3	39.9	59.4	80.7	109.7	125.1	164.2	209.6
LUG-STYLE ONLY	**ØE** DIMENSION BOLT CIRCLE DIAMETER	in	4.75	5.5	6.0	7.5	8.5	9.5	11.75	14.25	17.0	C/F	21.25	C/F	25.0	29.5
		mm	121	140	152	191	216	241	298	362	432	C/F	540	C/F	635	749
	NO. OF BOLTS	qty	4	4	4	8	8	8	8	12	12	C/F	16	C/F	20	20
	BOLT SIZE	in-UNC	5/8-11	5/8-11	5/8-11	5/8-11	3/4-10	3/4-10	3/4-10	7/8-9	7/8-9	C/F	1-8	C/F	1 1/8-6	1 1/4-7
	ASSEMBLED WEIGHT (Lug)	lb	8.0	C/F	16.0	28.0	C/F	50.0	95.0	150.0	242.0	C/F	C/F	C/F	C/F	C/F
		kg	3.6	C/F	7.3	12.7	C/F	22.7	43.1	68.0	109.8	C/F	C/F	C/F	C/F	C/F
ØF DIMENSION MINIMUM BORE DIAMETER(4)		in	.94	1.69	2.36	3.54	4.45	5.31	7.13	8.82	10.47	11.81	14.29	15.87	18.03	22.28
		mm	24	43	60	90	113	135	181	224	266	300	363	403	458	566
Flow Coefficient		C_V	62	110	175	350	550	850	1500	2400	3700	5400	8250	10400	14200	23000
Cracking Pressure (3)		psi	≤ .25	≤ .25	≤ .25	≤ .25	≤ .25	≤ .25	≤ .25	≤ .25	≤ .25	≤ .25	≤ .25	≤ .25	≤ .25	≤ .25

1. Dimensions and weights are for reference only. When required, request certified drawings. 2. Face to face values have a tolerance of ±0.06 in (±2.0 mm) for sizes 10" and lower and a tolerance of ±0.12 in (±3.0 mm) for sizes 12" and larger. 3. Cracking pressure is for horizontal installations only. For vertical installations, please consult factory. 4. Minimum Bore Diameter indicates the minimum internal diameter of the adjacent pipe.

PRESSURE - TEMPERATURE RATINGS (1)



1. The above chart displays the pressure-temperature ratings for the valve's body material per ASME B16.5-1996. Max temperature limits have been added for seat and spring materials. For ANSI Class 300 ratings (Wafer-Style 2" ~ 6"), please refer to the CV 44-CC/SS specification sheet.

REFERENCED STANDARDS & CODES

CODE	DESCRIPTION
ANSI/API 594	Valve Design and Manufacture
ANSI/ASME 16.5	Flange Dimensions
ANSI/API 594	Valve Face to Face Dimensions
API 598	Valve Inspection and Pressure Test

PRESSURE - TEMPERATURE RATING		
Body Material	**A216 Gr.WCB**	**A351 Gr. CF8M**
WOG (Non-shock):	285 PSI @ 100 °F	275 PSI @ 100 °F

Wafer-Style Sizes 2" through 6" are designed for dual pressure service (Class 150 and 300). For ANSI Class 300 ratings, please refer to the CV 44-CC/SS specification sheet.

SEAT AND SPRING TEMPERATURE RATING			
Seat Material	**Range**	**Spring Material**	**Max**
VITON:	-40 ~ 400 °F	INCONEL X-750:	1000 °F
BUNA-N:	-20 ~ 250 °F	T-316 SS:	450 °F