Check Valves

CV1, CV2, CV3, CV4, CV5, CV6, CV7

Features

CV1 Series

- Resilient O-ring seat design for leak free sealing
- Working pressure up to: 3000 psig (207 bar)
- Working temperature: -10°F to 375°F (-23°C to 190°C)
- Cracking pressure: 1/3 to 25 psig (0.02 to 1.7 bar)
- Variety of end connections and materials available
- Fixed cracking pressure, mountable in any directions

CV2 Series

- Seat ring continuously cleaned by media, avoiding secondary pollution
- Working pressure up to: 6000 psig (414 bar)
- Working temperature: -10 F°to 400 F°(-23 C°to 204 C°)
- Cracking pressure: 1/3 to 25 psig (0.02 to 1.7 bar)
- Variety of end connections and materials available
- Fixed cracking pressure, mountable in any directions
- ECE R110 type approved valves for use in CNG/NGV application are available

CV3 Series

- Working pressure up to: 3000 psig (207 bar)
- Working temperature: -10°F to 400°F (-23°C to 204°C)
- Cracking pressure: less than 2 psig (0.14 bar)
- Variety of end connections and materials available
- All-welded design for safety
- Standard or fine polished wetted surfaces optional

CV4 Series

- Compact design, one piece body
- Working pressure up to: 3000 psig (207 bar)
- Working temperature: -10 F°to 375 F°(-23 C°to 190 C°)
- Cracking pressure: 1/3 to 25 psig (0.02 to 1.7 bar)
- Variety of end connections and materials available
- Fixed cracking pressure, mountable in any directions

CV5 Series

- Compact design, one-piece body
- Working pressure up to: 3000 psig (207 bar)
- Working temperature: -10°F to 375°F (-23°C to 190°C)
- Cracking pressure: 3 to 600 psig (0.2 to 41.4 bar)
- Variety of end connections and materials available
- Various springs available
- Adjustable cracking pressure, mountable in any directions

CV6 Series

- Working pressure up to: 3000 psig (207 bar)
- Working temperature: -10°F to 375°F (-23°C to 190°C)
- Cracking pressure: 3 to 600 psig (0.2 to 41.4 bar)
- Variety of end connections and materials available
- Various springs available
- Adjustable cracking pressure, mountable in any directions

CV7 Series

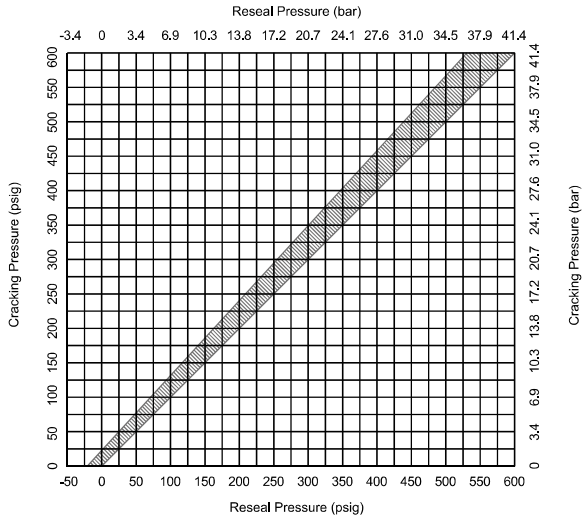
- Working pressure up to: 6000 psig (414 bar)
- Working temperature: -65 F°to 900 F°(-53 C°to 482 C°)
- Rugged, all-stainless steel construction
- Union bonnet design, all-stainless steel structure, horizontal installation with bonnet nut on top
- Reverse flow coefficient less than 0.1% of forward flow coefficient

Cracking Pressure and Reseal Pressure

Cracking pressure - the upstream pressure at which the first indication of flow occurs.

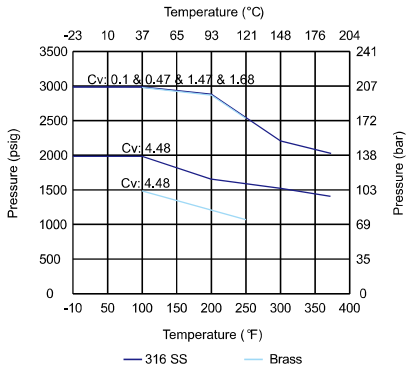
Reseal pressure - the pressure at which there is no indication of flow.

Series	Nominal Cracking Pressure psig (bar)	Cracking Pressure Range psig (bar)	Reseal Pressure Range psig (bar)
CV1	1/3 (0.02) 1 (0.06) 3 (0.21) 10 (0.68) 25 (1.7)	0 to 3 (0 to 0.21) 0 to 4 (0 to 0.28) 1 to 5 (0.06 to 0.34) 7 to 15 (0.49 to 1.1) 20 to 30 (1.4 to 2.1)	Up to 6 (0.42) downstream pressure Up to 6 (0.42) downstream pressure Up to 6 (0.42) downstream pressure 3 (0.21) or higher upstream pressure 17 (1.2) or higher upstream pressure
CV2	1/3 (0.02) 1 (0.06) 3 (0.21) 10 (0.68) 25 (1.7)	0 to 3 (0 to 0.21) 0 to 4 (0 to 0.28) 1 to 5 (0.06 to 0.34) 7 to 15 (0.49 to 1.1) 20 to 30 (1.4 to 2.1)	Up to 6 (0.42) downstream pressure Up to 5 (0.35) downstream pressure Up to 2 (0.14) downstream pressure 3 (0.21) or higher upstream pressure 17 (1.2) or higher upstream pressure
CV3	1/3 (0.02)	0 to 2 (0 to 0.14)	Up to 2 (0.14) downstream pressure
CV4	1/3 (0.02) 1 (0.06) 3 (0.21) 10 (0.68) 25 (1.7)	0 to 3 (0 to 0.21) 0 to 4 (0 to 0.28) 1 to 5 (0.06 to 0.34) 7 to 15 (0.49 to 1.1) 20 to 30 (1.4 to 2.1)	6 to 20 (0.42 to 1.4) downstream pressure 5 to 20 (0.35 to 1.4) downstream pressure 3 to 20 (0.21 to 1.4) downstream pressure 3 to 10 (0.21 to 0.68) downstream pressure 5 (0.35) or higher upstream pressure
CV5	3 to 50 (0.21 to 3.4) 50 to 150 (3.4 to 10.3) 150 to 350 (10.3 to 24.1) 350 to 600 (24.1 to 41.3)	———	Refer to the chart below
CV6			

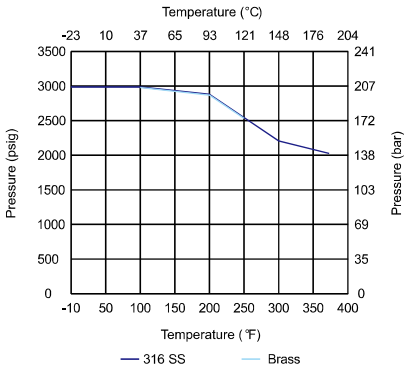


Pressure vs. Temperature

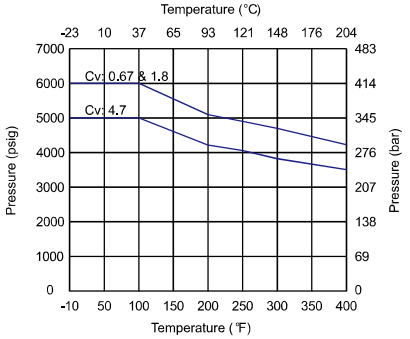
CV1 Series
FKM O-ring in 316 SS Body and Buna N in Brass Body



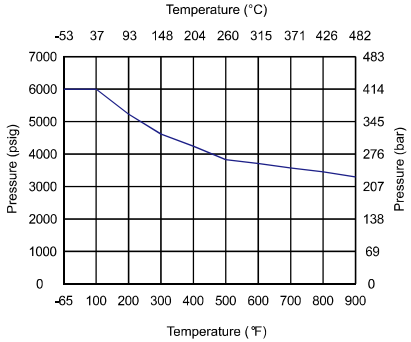
CV4, CV5 and CV6 Series
FKM O-ring in 316 SS Body and Buna N in Brass Body



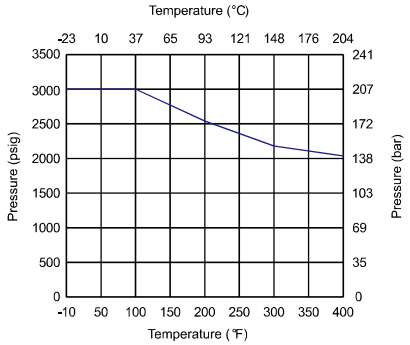
CV2 Series
FKM O-ring in 316 SS Body



CV7 Series

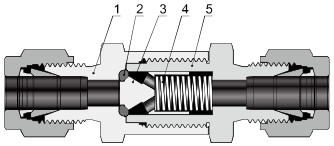


CV3 Series
FKM O-ring in 316 SS Body



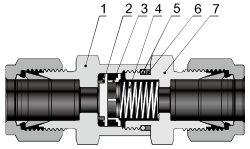
Standard Materials of Construction

CV1 Series



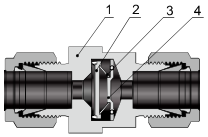
Component		Material Grade/ASTM Specification	
		316 SS	Brass
1	Inlet Body	316 SS/A479	Brass C36000/B16
2	O-ring	Fluorocarbon FKM	Buna N
3	Poppet	316 SS/A479	Brass C36000/B16
4	Spring	302 SS/A313	302 SS/A313
5	Outlet Body	316 SS/A479	Brass C36000/B16

CV2 Series



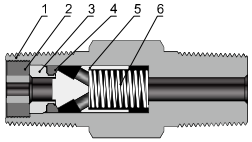
Component		Material Grade/ASTM Specification
1	Inlet Body	316 SS/A479
2	Poppet	Fluorocarbon-FKM-bonded 316 SS/A479
3	Poppet Stop	316 SS/A240
4	Spring	302 SS/A313
5	O-ring	Fluorocarbon FKM
6	Backup Ring	PTFE/D1710
7	Outlet Body	316 SS/A479

CV3 Series



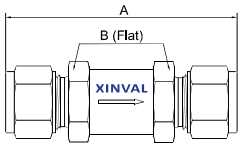
Component		Material Grade/ASTM Specification
1	Body	316L SS/A479
2	Poppet	Fluorocarbon FKM-bonded 316 SS/A479
3	Belleville Spring	Alloy X - 750/B637
4	Poppet Stop	316L SS/A240

CV4 Series



Component		Material Grade/ASTM Specification	
		316 SS	Brass
1	Body	316 SS/A479	Brass C36000/B16
2	Insert Locking Screw	316 SS/A276 or A479	Brass C36000/B16
3	Insert	316 SS/A479	Brass C36000/B16
4	O-ring	Fluorocarbon FKM	Buna N
5	Poppet	316 SS/A479	Brass C36000/B16
6	Spring	302 SS/A313	302 SS/A313

CV2 Series



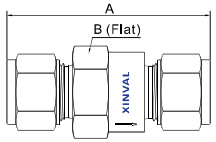
Basic Ordering Number	Connection Type and Size		Pressure Rating at 100 °F (37°C) bar (psig)	Cv	Dimensions, in.(mm)	
	Inlet	Outlet			A	B
316-CV2-F2-	1/8" Tube Fitting	1/8" Tube Fitting	414 (6000)	0.67	2.27 (57.7)	11/16 (17.5)
316-CV2-F4-	1/4" Tube Fitting	1/4" Tube Fitting			2.43 (61.7)	
316-CV2-F6-	3/8" Tube Fitting	3/8" Tube Fitting		1.8	2.75 (69.9)	1 (25.4)
316-CV2-F8-	1/2" Tube Fitting	1/2" Tube Fitting			2.96 (75.2)	
316-CV2-F12-	3/4" Tube Fitting	3/4" Tube Fitting	344 (5000)	4.7	3.52 (89.4)	1 5/8 (41.3)
316-CV2-F16-	1" Tube Fitting	1" Tube Fitting	323 (4700)		3.88 (98.6)	
316-CV2-F6M-	6 mm Tube Fitting	6 mm Tube Fitting	414 (6000)	0.67	2.43 (61.7)	11/16 (17.5)
316-CV2-F8M-	8 mm Tube Fitting	8 mm Tube Fitting		1.8	2.70 (68.6)	
316-CV2-F10M-	10 mm Tube Fitting	10 mm Tube Fitting			2.80 (71.1)	1 (25.4)
316-CV2-F12M-	12 mm Tube Fitting	12 mm Tube Fitting			2.96 (75.2)	
316-CV2-F22M-	22 mm Tube Fitting	22 mm Tube Fitting	337 (4900)	4.7	3.48 (88.4)	1 5/8 (41.3)
316-CV2-F25M-	25 mm Tube Fitting	25 mm Tube Fitting	316 (4600)		3.88 (98.6)	
316-CV2-FN4-	1/4 Female NPT	1/4 Female NPT	414 (6000)	0.67	2.13 (54.1)	11/16 (17.5)
316-CV2-FN6-	3/8 Female NPT	3/8 Female NPT	365 (5300)	1.8	2.55 (64.8)	1(25.4)
316-CV2-FN8-	1/2 Female NPT	1/2 Female NPT	337 (4900)		3.03 (77.0)	1 1/16 (27.0)
316-CV2-FN12-	3/4 Female NPT	3/4 Female NPT	316 (4600)	4.7	3.23 (82.0)	1 5/8 (41.3)
316-CV2-FN16-	1 Female NPT	1 Female NPT	303 (4400)		3.83 (97.3)	
316-CV2-N2-	1/8 Male NPT	1/8 Male NPT	414 (6000)	0.67	1.79 (45.4)	11/16 (17.5)
316-CV2-N4-	1/4 Male NPT	1/4 Male NPT			2.17 (55.1)	
316-CV2-N6-	3/8 Male NPT	3/8 Male NPT		1.8	2.36 (59.9)	1 (25.4)
316-CV2-N8-	1/2 Male NPT	1/2 Male NPT			2.73 (69.3)	
316-CV2-N12-	3/4 Male NPT	3/4 Male NPT	344 (5000)	4.7	3.29 (83.6)	1 5/8 (41.3)
316-CV2-N16-	1 Male NPT	1 Male NPT			3.67 (93.2)	
316-CV2-FRT4-	1/4 Female BSPT	1/4 Female BSPT	414 (6000)	0.67	2.28 (57.9)	11/16 (17.5)
316-CV2-FRT8-	1/2 Female BSPT	1/2 Female BSPT	351 (5100)	1.8	3.29 (83.6)	1 1/16 (27.0)
316-CV2-FRT12-	3/4 Female BSPT	3/4 Female BSPT	330 (4800)	4.7	3.55 (90.2)	1 5/8 (41.3)
316-CV2-FRT16-	1 Female BSPT	1 Female BSPT	303 (4400)		3.83 (97.3)	
316-CV2-RT4-	1/4 Male BSPT	1/4 Male BSPT	414 (6000)	0.67	2.17 (55.1)	11/16 (17.5)
316-CV2-RT8-	1/2 Male BSPT	1/2 Male BSPT		1.8	2.73 (69.3)	1 (25.4)
316-CV2-RT12-	3/4 Male BSPT	3/4 Male BSPT	344 (5000)	4.7	3.35 (85.1)	1 5/8 (41.3)
316-CV2-RT16-	1 Male BSPT	1 Male BSPT			3.67 (93.2)	
316-CV2-MR4-	1/4" Male MR	1/4" Male MR	414 (6000)	0.67	2.28 (57.9)	11/16 (17.5)
316-CV2-MR8-	1/2" Male MR	1/2" Male MR	296 (4300)	1.8	2.73 (69.3)	1 (25.4)
316-CV2-MR12-	3/4" Male MR	3/4" Male MR	254 (3700)	4.7	3.78 (96.0)	1 5/8 (41.3)
316-CV2-OR4-	1/4" Male OR	1/4" Male OR	414 (6000)	0.67	1.98 (50.3)	11/16 (17.5)
316-CV2-OR8-	1/2" Male OR	1/2" Male OR		1.8	2.35 (59.7)	1 (25.4)
316-CV2-OR12-	3/4" Male OR	3/4" Male OR	344 (5000)	4.7	2.90 (73.7)	1 5/8 (41.3)
316-CV2-OR16-	1" Male OR	1" Male OR				

Example:

Standard CV2 check valve comes with 1/3 psig cracking pressure, no suffix is needed.

Add the number as a suffix to define the cracking pressure if needed, 316-CV2-F4-3 means the cracking pressure is 3 psig.

CV3 Series

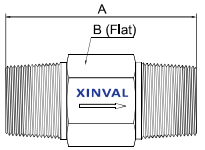


Basic Ordering Number	Connection Type and Size		Cv	Dimensions, in.(mm)	
	Inlet	Outlet		A	B
316-CV3-TB4	1/4" TB	1/4" TB	0.55	1.24 (31.5)	7/8 (22.22)
316-CV3-TB6	3/8" TB	3/8" TB	0.70		
316-CV3-TB8	1/2" TB	1/2" TB			
316-CV3-MTB6	6 mm MTB	6 mm MTB	0.55		
316-CV3-MR4	1/4" Male MR	1/4" Male MR	0.70	1.80 (45.7)	
316-CV3-MR8	1/2" Male MR	1/2" Male MR		2.06 (52.3)	1 (25.4)
316-CV3-F4	1/4" Tube Fitting	1/4" Tube Fitting	0.55	1.96 (49.8)	7/8 (22.22)
316-CV3-F6M	6 mm Tube Fitting	6 mm Tube Fitting			

Note:

CV3 check valve comes with 1/3 psig cracking pressure, no suffix is needed.

CV4 Series



Basic Ordering Number	Connection Type and Size		Cv	Dimensions, in. (mm)	
	Inlet	Outlet		A	B
316-CV4-FN4-	1/4 Female NPT	1/4 Female NPT	0.35	2.41 (61.2)	3/4 (19.1)
316-CV4-FN8-	1/2 Female NPT	1/2 Female NPT	1.20	3.71 (94.2)	1 1/16 (27.0)
316-CV4-N4-	1/4 Male NPT	1/4 Male NPT	0.35	1.62 (41.1)	9/16 (14.3)
316-CV4-N8-	1/2 Male NPT	1/2 Male NPT	1.20	2.28 (57.9)	7/8 (22.2)
316-CV4-FRT4-	1/4 Female BSPT	1/4 Female BSPT	0.35	2.54 (64.5)	3/4 (19.1)
316-CV4-RT4-	1/4 Male BSPT	1/4 Male BSPT		1.62 (41.1)	9/16 (14.3)

Example:

Standard CV4 check valve comes with 1/3 psig cracking pressure, no suffix is needed.

Add the number as a suffix to define the cracking pressure if needed, 316-CV4-F4-3 means the cracking pressure is 3 psig.