

Check Valves

CV2 Series



- ❖ Maximum working pressure up to 6000 psig (413 bar)
- ❖ Working temperature from -10°F to 400°F (-23°C to 204°C)
- ❖ With bonded elastomer seal structure design
- ❖ Liquid or gas service
- ❖ Cracking pressure: 1/3, 1, 3, 10, and 25 psig (0.03, 0.07, 0.21, 0.69, and 1.7 bar)

Features

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- ❖ Variety of end connections and materials available

Cracking Pressure and Resealing Pressure

Series	Nominal Cracking Pressure psig (bar)	Cracking Pressure Range psig (bar)
CV2	1/3 (0.02)	0 to 3 (0 to 0.21)
	1 (0.06)	0 to 4 (0 to 0.28)
	3 (0.21)	1 to 5 (0.06 to 0.34)
	10 (0.68)	7 to 15 (0.49 to 1.1)
	25 (1.7)	20 to 30 (1.4 to 2.1)

Pressure vs. Temperature

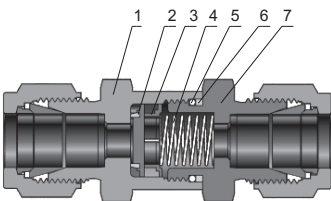
Ratings based on fluorocarbon FKM O-rings in 316 stainless steel valves and Buna N O-rings in brass valves.

Material Temperature, °F (°C)	316 S.S. Working Pressure, psig (bar)	
	-10 (-23) to 100 (37)	6000 (413)
200 (93)	5160 (355)	4290 (295)
250 (121)	4910 (338)	4080 (281)
300 (148)	4660 (321)	3875 (266)
400 (204)	4280 (294)	3560 (245)

Seal Materials

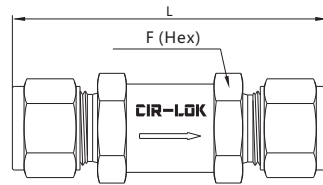
Seal Material	Temperature Range °F (°C)	
Buna N	-10 to 250	(-23 to 121)
Ethylene propylene	-50 to 300	(-45 to 148)
Fluorocarbon FKM	-10 to 400	(-23 to 204)
Neoprene	-40 to 250	(-40 to 121)

Standard Materials of Construction



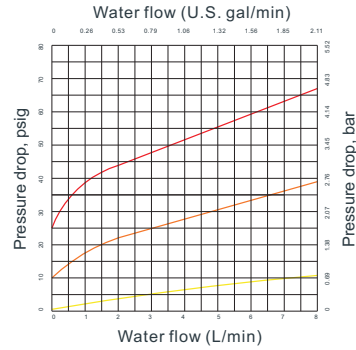
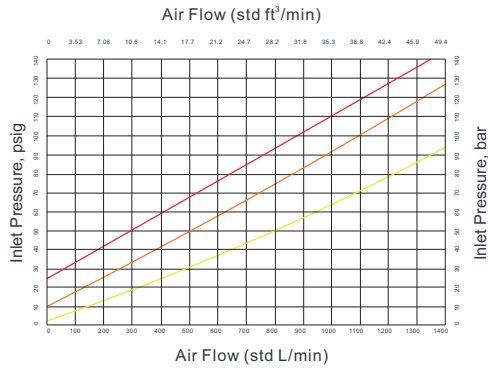
Component	Valve Material Grade/ASTM Specification	
1	Inlet Body	316 S.S./A479
2	Poppet	Fluorocarbon FKM - bonded 316 S.S./A479
3	Poppet Stop	316 S.S./A240
4	Spring	302 S.S./A313
5	O-ring	Fluorocarbon FKM
6	Backup Ring	PTFE/D1710
7	Outlet Body	316 S.S./A479

Dimensions

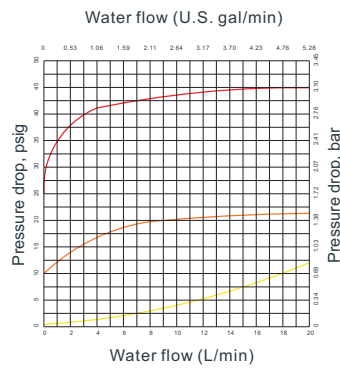
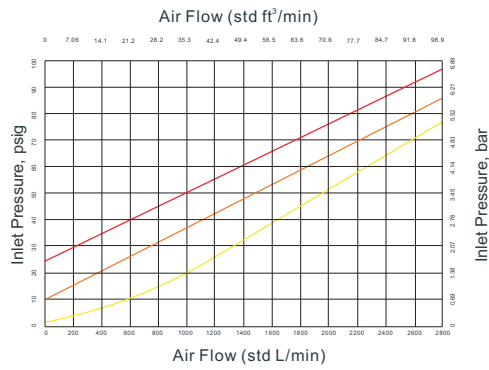


Basic Ordering Number	Connection Type and Size	CV	Dimension, in. (mm)	
			L	F
CV2-F2-	1/8" CIR-LOK	0.67	2.27 (57.7)	11/16 (17.46)
CV2-F4-	1/4" CIR-LOK		2.43 (61.7)	
CV2-F6-	3/8" CIR-LOK	1.8	2.75 (69.9)	1 (25.4)
CV2-F8-	1/2" CIR-LOK		2.96 (75.2)	
CV2-F12-	3/4" CIR-LOK	4.7	3.52 (89.4)	1 5/8 (41.28)
CV2-F16-	1" CIR-LOK		3.88 (98.6)	
CV2-M6-	6 mm CIR-LOK	0.67	2.43 (61.7)	11/16 (17.46)
CV2-M8-	8 mm CIR-LOK	1.8	2.70 (68.6)	1 (25.4)
CV2-M10-	10 mm CIR-LOK		2.80 (71.1)	
CV2-M12-	12 mm CIR-LOK		2.96 (75.2)	
CV2-M22-	22 mm CIR-LOK	4.7	3.48 (88.4)	1 5/8 (41.28)
CV2-M25-	25 mm CIR-LOK		3.88 (98.6)	
CV2-FNPT4-	1/4 Female NPT	0.67	2.13 (54.1)	11/16 (17.46)
CV2-FNPT6-	3/8 Female NPT	1.8	2.55 (64.8)	1 (25.4)
CV2-FNPT8-	1/2 Female NPT		3.03 (77.0)	1 1/16 (26.99)
CV2-FNPT12-	3/4 Female NPT	4.7	3.23 (82.0)	1 5/8 (41.28)
CV2-FNPT16-	1 Female NPT		3.83 (97.3)	
CV2-NPT2-	1/8 Male NPT	0.67	1.79 (45.4)	11/16 (17.46)
CV2-NPT4-	1/4 Male NPT		2.17 (55.1)	
CV2-NPT6-	3/8 Male NPT	1.8	2.36 (59.9)	1 (25.4)
CV2-NPT8-	1/2 Male NPT		2.73 (69.3)	
CV2-NPT12-	3/4 Male NPT	4.7	3.29 (83.6)	1 5/8 (41.28)
CV2-NPT16-	1 Male NPT		3.67 (93.2)	
CV2-FBT4-	1/4 Female BSPT	0.67	2.28 (57.9)	11/16 (17.46)
CV2-FBT8-	1/2 Female BSPT	1.8	3.29 (83.6)	1 1/16 (26.99)
CV2-FBT12-	3/4 Female BSPT	4.7	3.55 (90.2)	1 5/8 (41.28)
CV2-FBT16-	1 Female BSPT		3.83 (97.3)	
CV2-MBT4-	1/4 Male BSPT	0.67	2.17 (55.1)	11/16 (17.46)
CV2-MBT8-	1/2 Male BSPT	1.8	2.73 (69.3)	1 (25.4)
CV2-MBT12-	3/4 Male BSPT	4.7	3.35 (85.1)	1 5/8 (41.28)
CV2-MBT16-	1 Male BSPT		3.67 (93.2)	

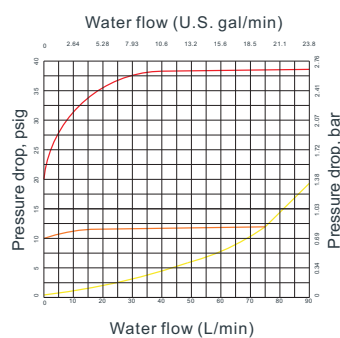
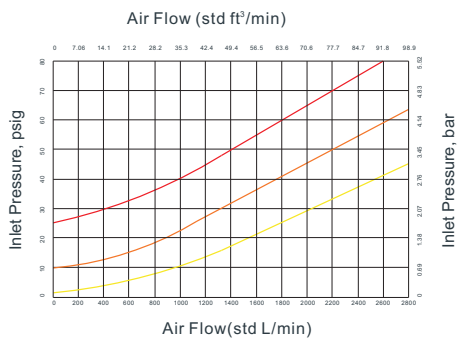
Flow Data at 70 °F(20°C)



- Cv = 0.67
Cracking Pressure = 1 psig
- Cv = 0.67
Cracking Pressure = 10 psig
- Cv = 0.67
Cracking Pressure = 25 psig



- Cv = 1.8
Cracking Pressure = 1 psig
- Cv = 1.8
Cracking Pressure = 10 psig
- Cv = 1.8
Cracking Pressure = 25 psig



- Cv = 4.7
Cracking Pressure = 1 psig
- Cv = 4.7
Cracking Pressure = 10 psig
- Cv = 4.7
Cracking Pressure = 25 psig

How to Order

CV2 — F8 — M10 — N — 1 — 316

Series	Inlet Type	Inlet Size	Outlet Type	Outlet Size	Seal Material	Cracking Pressure	Body Material
CV2	FNPT Female NPT	2 1/8 in.	Same as inlet type and inlet size		V Fluorocarbon FKM	1 1 psig	316 316 S.S.
	NPT Male NPT	4 1/4 in.				2 1/3 psig	316L 316L S.S.
	FBT Female BSPT	6 3/8 in. or 6 mm	If outlet and inlet are the same, eliminate the outlet designator		B Buna N	3 3 psig	304 304 S.S.
	MBT Male BSPT	8 1/2 in. or 8 mm				10 10 psig	304L 304L S.S.
	FMS Female ISO 261	10 10 mm				25 25 psig	A400 Alloy 400
	MS Male ISO 261	12 3/4 in. or 12 mm				50 50 psig	A20 Alloy 20
	FBP Female BSPP	14 14 mm				A600 Alloy 600	
	MBP Male BSPP	16 1 in. or 16 mm				A825 Alloy 825	
	F Fractional Tube Fitting	18 18 mm				A276 Alloy C276	
	M Metric Tube Fitting	20 1 1/4 in. or 20 mm				DU7 Duplex 2507	
	UGF Nut + Gasket+ Fractional Bulge Nipple	22 22 mm				BR Brass	
	UGM Nut + Gasket+ Metric Bulge Nipple	25 25 mm					
	FGFS Female GFS Fitting						
	GFS Male GFS Fitting						
	RGFS Rotatable Male GFS Fitting						