

All-Welded Check Valves

CW Series

Features

- Internally threadless and all-welded design
- Forward flow starts at less than 2 psig (0.14 bar) pressure differential
- Valve closes with less than 2 psig (0.14 bar) back pressure
- Standard surface roughness finished to an average of Ra 20 $\mu\text{in.}$ (0.51 μm) or electropolished to Ra 10 $\mu\text{in.}$ (0.25 μm) optional
- Variety of end connections available



Technical Data

Ports Size	1/4" to 1/2" or 6 mm to 12 mm
Flow Coefficient (Cv)	0.55 or 0.70
Cracking Pressure ^①	Less than 2 psig (0.14 bar)
Max. Working Pressure	3000 psig (206 bar)
Max. Pressure Drop	145 psig (10 bar)
Working Temperature	-10~400°F (-23~204°C)

① For valves not actuated for a period of time, initial cracking pressure may be higher than the set cracking pressure.

Flow Data

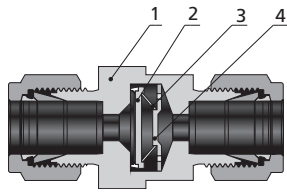
Air @ 70°F (21°C)

Pressure Drop to Atmosphere psi (bar)	Cv 0.55 (l/min)	Cv 0.70 (l/min)
10 (0.68)	170	220
50 (3.4)	450	590
100 (6.8)	820	1040

Product Technology Grade

Product Grade Technology	General Purpose	Special Cleaning and Packaging (F2)	Ultra High Purity (F3)
Material/Specification	316L SS/ASTM A479		316L SS/ASTM A479 316L VAR/SEMI F20
Wetted Surface Roughness	Ra 20 $\mu\text{in.}$ (0.51 μm)		Ra 10 $\mu\text{in.}$ (0.25 μm)
Polishing Process	Machine finished		Electropolished
Process Specification	FC-01 Standard Cleaning and Packaging	FC-02 Special Cleaning and Packaging	FC-03 Ultra High Purity Process Specification
Cleaning	Thrice degreasing ultrasonic cleaning	Special cleaning with non-ozone-depleting chemicals	Ultra high purity cleaning in continuously monitored ultrasonic cleaning system with deionized water
Assembly Environment	At atmosphere	In specially cleaned areas	In ISO Class 5/Federal Class 100 cleanroom
Packaging	Individually bagged	Double bagged	Double bagged and vacuum sealed in cleanroom

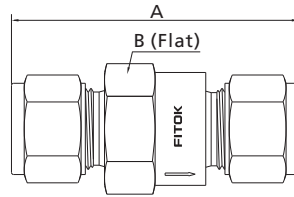
Major Materials of Construction



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

Note: Check valves are designed for directional flow control only and should never be used as code safety relief devices.

Dimensions



Basic Ordering Number	Connection Type and Size		Cv	Dimensions, in. (mm)	
	Inlet	Outlet		A	B
CW□□-TB4	1/4" TB	1/4" TB	0.55	1.24 (31.5)	7/8 (22.22)
CW□□-TB6	3/8" TB	3/8" TB	0.70		
CW□□-TB8	1/2" TB	1/2" TB	0.55		
CW□□-MTB6	6 mm MTB	6 mm MTB	0.55	1.80 (45.7)	1 (25.4)
CW□□-FR4	1/4" Male FR	1/4" Male FR	0.70		
CW□□-FR8	1/2" Male FR	1/2" Male FR	0.55	2.06 (52.3)	1 (25.4)
CW□□-FL4	1/4" FITOK	1/4" FITOK	0.55	1.96 (49.8)	7/8 (22.22)
CW□□-ML6	6 mm FITOK	6 mm FITOK			

Ordering Number Description

CW6L - FL8 - ML10 - B - F2

Series	Body Material	Inlet Type	Inlet Size	Outlet Type	Outlet Size	Seal Material	Technology Grade
CW	6L 316L SS 6LV 316L VAR SS	FL Fractional Tube Fitting ML Metric Tube Fitting FFR Female FR Fitting FR Male FR Fitting RFR Rotatable Male FR Fitting TB Fractional Tube Butt Weld MTB Metric Tube Butt Weld	4 1/4" 6 3/8" or 6 mm 8 1/2" or 8 mm 10 10 mm 12 12 mm	Same as Inlet Specified in the same way as the inlet type and size		Fluorocarbon FKM B Buna N E EPDM	General Purpose F2 Special Cleaning and Packaging F3 Ultra High Purity