

# 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
- Standard surface roughness finished to an average of Ra 20  $\mu\text{m}$ . (0.51  $\mu\text{m}$ ) or electropolished to Ra 10  $\mu\text{m}$ . (0.25  $\mu\text{m}$ ) 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 <sup>①</sup>	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 psig (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

### Process Specification

Technology	Standard Cleaning and Packaging (FC-01)	Special Cleaning and Packaging (FC-02)	Ultra High Purity (FC-03)
Material/Specification	316L SS/SEMI F20 316L VAR/SEMI F20		
Wetted Surface Roughness	Ra 20 $\mu\text{m}$ . (0.51 $\mu\text{m}$ )		Ra 10 $\mu\text{m}$ . (0.25 $\mu\text{m}$ )
Polishing Process	Machine finished		Electropolished

Note: Refer to page P-01 for a detailed description of Process Specification.

Fittings

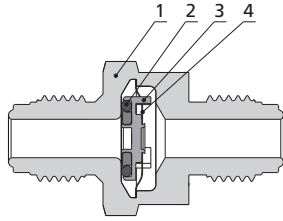
Valves

Pressure Gauges

Integrated Systems and Others

Process Specification

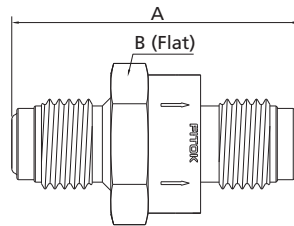
## Major Materials of Construction



Item	Material Grade/ASTM Specification
1 Body	316L SS/SEMI F20 or 316L VAR/SEMI F20
2 Seal	Fluorocarbon FKM
3 Poppet	316L SS/SEMI F20 or 316L VAR/SEMI F20
4 Belleville Spring	Hastelloy

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"x0.035" Tube Butt Weld	1/4"x0.035" Tube Butt Weld	0.55	1.24 (31.5)	7/8 (22.22)
CW□□-TB6	3/8"x0.035" Tube Butt Weld	3/8"x0.035" Tube Butt Weld	0.70		
CW□□-TB8	1/2"x0.049" Tube Butt Weld	1/2"x0.049" Tube Butt Weld	0.55		
CW□□-MTB6	6x1 mm Tube Butt Weld	6x1 mm Tube Butt Weld	0.55	1.80 (45.7)	1 (25.4)
CW□□-FR4	1/4" Integral Male FR Metal Gasket Face Seal Fitting	1/4" Integral Male FR Metal Gasket Face Seal Fitting	0.70		
CW□□-FR8	1/2" Integral Male FR Metal Gasket Face Seal Fitting	1/2" Integral Male FR Metal Gasket Face Seal Fitting	0.70	2.06 (52.3)	1 (25.4)

## Ordering Number Description

**CW6L - FFR4 - FR4 - B - F2**

Series	Inlet Type	Inlet Size	Outlet Type	Outlet Size	Seal Material	Process Specification
CW	FFR Rotatable Female FR Metal Gasket Face Seal Fitting	4 1/4" or 1/4"x0.035"	Same as Inlet	Same as Inlet	Fluorocarbon FKM	FC-01
<b>Body Material</b>	FR Integral Male FR Metal Gasket Face Seal Fitting	6 6x1 mm or 3/8"x0.035"			B Buna N	F2 FC-02
6L 316L SS	RFR Rotatable Male FR Metal Gasket Face Seal Fitting	8 8x1 mm or 1/2" or 1/2"x0.049"	Specified in the same way as Inlet	E EPDM	F3 FC-03	
6LV 316L VAR SS	TB Fractional Tube Butt Weld	10 10x1 mm				
	MTB Metric Tube Butt Weld	12 12x1 mm or 3/4" or 3/4"x0.049"				

Note: "Ordering Number Description" is a reference to understand the combination rules of FITOK product part number. Not all combinations are available.