

IC Check Valves

The IC series valves are poppet sliding check valves that have smooth closing and opening operation due to their precision fitting finish. In addition, because of their specially designed elastomer, the valves can retain a seal from low pressure to high pressure, and they have been perfected into designs that minimize gas accumulation due to their compact design.

Features

- ⊙ Made out of SUS316L, these valves have improved corrosion resistance.
- ⊙ These valves have a mechanism such that when there is strong back pressure, the poppet and body contact at each metal part, and the force of the pressing of the poppet and molded gasket and the stress are always constant, so a long life will be obtained.
- ⊙ The specially designed molded gasket employs elastomer, instead of a conventional O-ring to minimize the dead space. In addition, special processing prevents blowouts.
- ⊙ The component parts have simpler structures. In addition, excellent external air-tightness is obtained by the use of metal seat.
- ⊙ Precision fit between the two bodies and the design of the sealing surface provides excellent seal performance.
- ⊙ KITZ SCT has taken advantage of the elasticity of the elastomer during the assembly to achieve highest sealing performance for both external and internal leak.

Specifications

Size	IC4 (1/4")		IC6 (3/8")		IC8 (1/2")	
Cv	0.35		1.1		1.1	
Maximum Operating Pressure	2350psig (16.2MPa(G))					
Fluid Temperature Range	-10°C~80°C					
Atmospheric Temperature	-10°C~60°C					
Leak Rates	Inboard He Leak Test Rates		≤ 1×10 ⁻⁹ sccs (≤ 1×10 ⁻¹⁰ Pa·m ³ /sec)			
Cracking Pressure (kPa)	1/3:2.26	1:6.86	10:68.6	25:171.6	1/3:2.26	
Back Pressure Seal (kPa)	4.26psi (29.4kpa)		0.71psi (4.9kpa)		4.26psi (29.4kpa)	

Product Grade

Grade	STD	EP
Body Material	SUS316L	
Surface Roughness	≤ Rz 3.2 μm	≤ Rz 0.7 μm
Polish	Mechanical Polished	Electro Polished
Cleaning	Degreasing + Precision cleaning	
Clear Room Environment	Class 10 (some products, Class 100)	
Packaging	Single bagged package	Double bagged package

Precautions

- ① For these valve seals, the appropriate differential pressure for each value of cracking pressure will be needed.
- ② In cases where the differential pressure is small due to the operating state, variations in seal performance may occur.
- ③ During initial operation or when operated after long inactivity, the initial cracking pressure may be slightly higher than the cracking pressure specified.
- ④ The cracking pressure rated on the valve is a pressure for the valve to be fully open, but the valve starts opening at lower than rated pressure.
- ⑤ Back Pressure Seal is subject to change depending on seat material.
- ⑥ The valves are designed to be used under atmospheric pressure. Usage such as under vacuum vessels are not guaranteed.
- ⑦ Back Pressure Seal is 69 (KPa) when the seat material is Kalrez.



Product Code Table

Model	Size	Cracking pressure	Connection	Seat material	Grade + Body material
IC	4	1/3H	VF	F	EP-316L
Check valve	4:1/4" 6:3/8" 8:1/2"	1/3H:2.26kPa 1H:6.86kPa 10H:68.6kPa 25H:171.6kPa	V: CVC male VF: CVC female S: Compression	F: Fluorine rubber N: Nitrile rubber NE: Neoprene rubber KL: KALREZ® *1	STD-316L : Mechanical Polished + SUS316L EP-316L : Electro Polished + SUS316L

*1 KL=KALREZ® is a trademark of DuPont Performance Elastomers
Only those sizes that accommodate a 1/4" cracking pressure of 1H or less.

Dimensions

Unit: inch (mm)

Model	Type	Connection	A	L	D	Li*
	IC4□-V□	1/4" CVC Male	0.75 (19.0)	2.22 (56.4)	1.00 (25.4)	-
	IC8□-V□	1/2" CVC Male	0.94 (24.0)	2.72 (69.0)	1.26 (32.0)	-
	IC4□-VF□	1/4" CVC Female	0.75 (19.0)	2.76 (70.0)	1.00 (25.4)	-
	IC8□-VF□	1/2" CVC Female	0.94 (24.0)	3.11 (79.0)	1.26 (32.0)	-
	IC4□-S□	1/4" Compression Fittings	0.75 (19.0)	1.81 (46.0)	1.00 (25.4)	0.31 (7.9)
	IC6□-S□	3/8" Compression Fittings	0.94 (24.0)	2.20 (55.9)	1.26 (32.0)	0.37 (9.5)
	IC8□-S□	1/2" Compression Fittings	0.94 (24.0)	2.28 (57.8)	1.26 (32.0)	0.50 (12.7)

* Li dimension for compression fitting is the dimension of how far tube inserted from end of body.