Introduction

Parker C Series Check Valves are designed for uni-directional flow control of fluids and gases in industries such as chemical processing, oil and gas production and transmission, pharmaceutical, pulp and paper, power and utilities.

Features

- Resilient, custom molded, blow-out resistant seat design
- ▶ Back stopped poppet minimizes spring stress
- ▶ 100% factory tested for both crack and reseat
- ► Cracking pressures include: 1/3, 1, 5, 10, 25, 50, 75, and 100 psi.
- ► Port connections include male and female NPT, CPITM, A-LOK®, UltraSeal, VacuSeal, BSP, SAE and Seal-Lok®
- ▶ Heat code traceability

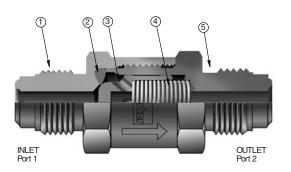
Specifications

Pressure Rating:**

316 SS - 1/8" to 3/4":	6000 psig (414 bar) CWP
1":	5000 psig (345 bar) CWP
PTFE Seats, all sizes:	4000 psig (276 bar) CWP
Brass - 1/8" to 1":	3000 psig (207 bar) CWP

Temperature Rating:

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Fluorocarbon Rubber15°F to +400°F (-26°C to +204°C)
Nitrile30°F to +275°F (-34°C to +135°C)
Ethylene Propylene Rubber70°F to +275°F (-57°C to +135°C)
Neoprene Rubber45°F to +250°F (-43°C to +121°C)
PTFE65°F to +400°F (-54°C to +204°C)
Highly Fluorinated Fluorocarbon Rubber
15°F to +200°F (-26°C to +93°C)
Orifice: 078" to .656" (2.0 mm to 16.7 mm)



Model Shown: 4V-C4L-5-SS

Materials of Construction

Item #	Part Description	Stainless Steel	Brass				
1	Cap	ASTM A 276,	ASTM B 16,				
_ '	Cap	Type 316	Alloy C36000				
2	Seat*	Fluorocarbon Rubber*					
3	Poppet	ASTM A 479,	ASTM B 16,				
٥		Type 316	Alloy C36000				
4	Spring	316 Stainless	Steel				
5		ASTM A 276,	ASTM B 16,				
Э	Body	Type 316	Alloy C36000				

Optional seat materials are available. See How to Order section. Lubrication: Perfluorinated Polyether.

Note: PTFE seated valves employ an additional PTFE coated 316 SS gasket between the seat and the body and are distinguishable from elastomeric seated valves by the gap designed between the body and cap.

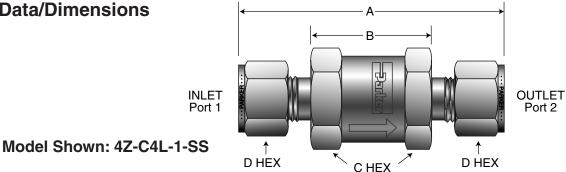
Flow Calculations with 1000 psig (69 bar) Inlet Pressure

Valve	Maximum	Pressu	re Drop P		iter (16°C)	Air @ 60°F (16°C)			
Series	C_V	psig	bar	gpm	m3/hr	SCFM	m3/hr		
		10	0.7	1.0	0.2	30.8	52.1		
C2	0.31	50	3.4	2.2	0.5	67.2	112.8		
		100	6.9	3.1	0.7	92.0	155.3		
		10	0.7	2.4	0.5	74.6	126.1		
C4	0.75	50	3.4	5.3	1.2	162.7	273.0		
		100	6.9	7.5	1.7	222.8	376.2		
		10	0.7	7.1	1.6	225.3	380.9		
C6	2.26	50	3.4	16.0	3.6	495.2	831.0		
		100	6.9	22.6	5.1	685.1	1157.2		
		10	0.7	11.2	2.5	352.0	595.0		
C8	3.53	50	3.4	25.0	5.6	774.3	1299.4		
			6.9	35.3	8.0	1072.4	1811.6		
		10	0.7	19.0	4.3	596.6	1008.3		
C12	6.01	50	3.4	42.5	9.6	1287.5	2160.4		
		100	6.9	60.1	13.7	1738.5	2934.5		
		10	0.7	20.7	4.7	648.9	1096.6		
C16	6.56	50	3.4	46.4	10.5	1379.4	2314.7		
		100	6.9	65.6	14.9	1824.4	3077.6		



^{**}See Pressure Rating note on page 4.

Flow Data/Dimensions



mensions in inc	ches (millimeters) are for referen	ce only, subject to change	C HEX											
Basic	, ,	nections	Flow Data Dimensions											
Part	Inlet							A†		3	C			D
Number	Port 1	Port 2	Inch	mm	C_{ν}	X _T *	Inch	mm	Inch	mm	Inch	mm	Inch	mm
2A-C2L	1/8" A-LOK® Compression	1/8" A-LOK® Compression	.093	2.4	.22	0.46	2.29	58.2	1.09	27.7	.625	15.9	.438	11.1
2F-C2L	1/8" Female NPT	1/8" Female NPT	.125	3.2	.31	0.52	1.86	47.2	l –	_	.625	15.9	l –	_
2F5-C2L	1/8" Male SAE	1/8" Male SAE	.063	1.6	.16	0.42	1.83	46.5	1.08	27.4	.625	15.9	l –	_
2G5-C2L	1/8" Female SAE	1/8" Female SAE	.063	1.6	.16	0.42	1.86	47.2	-	l –	.625	15.9	l –	_
2KF-C2L	1/8" Female BSP/ISO Tapered	1/8" Female BSP/ISO Tapered	.125	3.2	.31	0.52	1.86	47.2	l –	l –	.625	15.9	l –	l –
2KM-C2L	1/8" Male BSP/ISO Tapered	1/8" Male BSP/ISO Tapered	.125	3.2	.31	0.52	1.77	45.0	1.00	25.4	.625	15.9	l –	_
2M-C2L	1/8" Male NPT	1/8" Male NPT	.125	3.2	.31	0.52	1.77	45.0	1.01	25.7	.625	15.9	l –	-
2TA-C2L	1/8" Tube Adapter	1/8" Tube Adapter	.078	2.0	.18	0.43	2.07	52.6	.88	22.4	.625	15.9	l –	_
2Z-C2L	1/8" CPI™ Compression	1/8" CPI™ Compression	.093	2.4	.22	0.46	2.29	58.2	1.09	27.7	.625	15.9	.438	11.1
M3A-C2L	3mm A-LOK® Compression	3mm A-LOK® Compression	.086	2.2	.20	0.45	2.30	58.4	1.05	26.7	.625	15.9	.472	12.0
M3Z-C2L	3mm CPI™ Compression	3mm CPI™ Compression	.086	2.2	.20	0.45	2.30	58.4	1.05	26.7	.625	15.9	.472	12.0
2M2A-C2L	1/8" Male NPT	1/8" A-LOK® Compression	.093	2.4	.22	0.46	2.03	51.6	1.05	26.7	.625	15.9	.438	11.1
2M2F-C2L	1/8" Male NPT	1/8" Female NPT	.125	3.2	.31	0.52	1.81	46.0	1.43	36.3	.625	15.9	-	-
2M2Z-C2L	1/8" Male NPT	1/8" CPI™ Compression	.093	2.4	.22	0.46	2.03	51.6	1.05	26.7	.625	15.9	.438	11.1
2F-C4L	1/8" Female NPT	1/8" Female NPT	.187	4.7	.75	0.53	2.01	51.1	-	-	.750	19.1	-	_
2M-C4L	1/8" Male NPT	1/8" Male NPT	.187	4.7	.75	0.53	1.82	46.2	1.06	26.9	.750	19.1	_	_
4A-C4L	1/4" A-LOK® Compression	1/4" A-LOK® Compression	.187	4.7	.75	0.53	2.42	61.5	1.03	26.2	.750	19.1	.563	14.3
4F-C4L	1/4" Female NPT	1/4" Female NPT	.187	4.7	.75	0.53	2.40	61.0	_	_	.750	19.1	_	_
4F5-C4L	1/4" Male SAE	1/4" Male SAE	.172	4.4	.66	0.52	2.02	51.3	1.15	29.2	.750	19.1	_	_
4G5-C4L	1/4" Female SAE	1/4" Female SAE	.172	4.4	.66	0.52	2.20	55.9	_		.750	19.1	_	_
4KF-C4L	1/4" Female BSP/ISO Tapered	1/4" Female BSP/ISO Tapered	.187	4.7	.75	0.53	2.40	61.0	_	_	.750	19.1	_	_
4KM-C4L	1/4" Male BSP/ISO Tapered	1/4" Male BSP/ISO Tapered	.281	4.7	.75	0.53	2.18	55.4	1.06	26.9	.750	19.1	_	_
4L-C4L	1/4" Seal-Lok®	1/4" Seal-Lok®	.172	4.4	.66	0.52	1.82	46.2	1.03	26.2	.750	19.1	_	_
4M-C4L	1/4" Male NPT	1/4" Male NPT	.187	4.7	.75	0.53	2.18	55.4	1.04	26.4	.750	19.1	_	_
4Q-C4L	1/4" UltraSeal	1/4" UltraSeal	.180	4.6	.72	0.53	1.97	50.0	1.04	26.4	.750	19.1	_	_
4V-C4L	1/4" VacuSeal	1/4" VacuSeal	.187	4.7	.75	0.53	2.22	56.4	.98	24.9	.750	19.1	_	_
4TA-C4L	1/4" Tube Adapter	1/4" Tube Adapter	.156	4.0	.58	0.52	2.35	59.7	1.07	27.2	.750	19.1	_	_
4Z-C4L	1/4" CPI™ Compression	1/4" CPI™ Compression	.187	4.7	.75	0.52	2.42	61.5	1.03	26.2	.750	19.1	.563	14.3
6A-C4L	3/8" A-LOK® Compression	3/8" A-LOK® Compression	.187	4.7	.75	0.53	2.55	64.8	1.03	26.2	.750	19.1	.688	17.5
6Z-C4L	3/8" CPI™ Compression	3/8" CPI™ Compression	.187	4.7	.75	0.53	2.55	64.8	1.03	26.2	.750	19.1	.688	17.5
M6A-C4L	6mm A-LOK® Compression	6mm A-LOK® Compression	.187	4.7	.75	0.53	2.43	61.7	1.03	26.2	.750	19.1	.551	14.0
M6Z-C4L	6mm CPI™ Compression	6mm CPI™ Compression	.187	4.7	.75	0.53	2.43	61.7	1.03	26.2	.750	19.1	.551	14.0
4M4A-C4L	1/4" Male NPT	1/4" A-LOK® Compression	.187	4.7	.75	0.53	2.29	58.2	1.02	25.9	.750	19.1	.563	14.3
4M4F-C4L	1/4" Male NPT	1/4" Female NPT	.187	4.7	.75	0.53	2.29	58.2	1.72	43.7	.750	19.1	000	-
4M4Z-C4L	1/4" Male NPT	1/4" CPI™ Compression	.187	4.7	.75	0.53	2.29	58.2	1.02	25.9	.750	19.1	.563	14.3
4M6A-C4L	1/4" Male NPT	3/8" A-LOK® Compression	.187	4.7	.75	0.53	2.35	59.7	1.02	25.9	.750	19.1	.688	17.5
4M6Z-C4L	1/4" Male NPT	3/8" CPI™ Compression	.187	4.7	.75	0.53	2.35	59.7	1.02	25.9	.750	19.1	.688	17.5
6A-C6L	3/8" A-LOK® Compression	3/8" A-LOK® Compression	.281	7.1	2.09	0.74	3.27	83.1	1.75	44.5	1.000	25.4	.688	17.5
6F-C6L	3/8" Female NPT	3/8" Female NPT	.359	9.1	2.26	0.77	3.03	77.0	-	-	1.000	25.4	_	-
6F5-C6L	3/8" Male SAE	3/8" Male SAE	.264	6.7	2.05	0.74	2.71	68.8	1.76	44.7	1.000	25.4	_	_
6G5-C6L	3/8" Female SAE	3/8" Female SAE	.264	6.7	2.05	0.74	2.96	75.2	'-'	-	1.000	25.4	_	_
6KF-C6L	3/8" Female BSP/ISO Tapered	3/8" Female BSP/ISO Tapered	.359	9.1	2.26	0.77	3.03	77.0	_	_	1.000	25.4	_	_
6KM-C6L	3/8" Male BSP/ISO Tapered	3/8" Male BSP/ISO Tapered	.359	9.1	2.26	0.77	2.96	75.2	1.84	46.7	1.000	25.4	_	_
6L-C6L	3/8" Seal-Lok®	3/8" Seal-Lok®	.264	6.7	2.05	0.74	2.65	67.3	1.77	45.0	1.000	25.4	_	_
6M-C6L	3/8" Male NPT	3/8" Male NPT	.359	9.1	2.26	0.74	2.96	75.2	1.82	46.2	1.000	25.4	_	_
6Q-C6L	3/8" UltraSeal	3/8" UltraSeal	.250	6.4	2.02	0.77	2.75	69.9	1.80	45.7	1.000	25.4	_	_
6TA-C6L	3/8" Tube Adapter	3/8" Tube Adapter	.281	7.1	2.02	0.73	3.24	82.3	1.80	45.7	1.000	25.4	_	_
6Z-C6L	3/8" CPI™ Compression	3/8" CPI™ Compression	.281	7.1	2.09	0.74	3.27	83.1	1.75	44.5	1.000	25.4	.688	17.5
02 00L	I 3/0 OLI OUIIIPIU33IUII	JO OF F COMPTOSSION	1.201	1 1 . 1	2.00	U.17	0.21	1 00.1	1.70	1 77.0	11.000	L 20.7		1 11.0

Pressure Rating and Tubing Selection: For working pressures of A-LOK® and CPI™ tube connections, please see the Instrument Tubing Selection Guide (Bulletin 4200-TS), found in the Technical Section of the Parker Instrumentation Process Control Binder, or the Parker Instrument Tube Fitting Installation Manual (Bulletin 4200-B4).

For working pressures of valves with external or internal pipe threads, please see Catalog 4260, Instrumentation Pipe Fittings.

[†] For CPI™ and A-LOK®, dimensions are measured with nuts in the finger tight position.



^{*} Tested in accordance with ISA S75.02. Gas flow will be choked when $P_1 - P_2 / P_1 = x_T$.

How to Order

Dimensions in inches (millimeters) are for reference only, subject to change.

The correct part number is easily derived from the following example and ordering chart. The six product characteristics required are coded as shown in the chart.

Example 1 below describes a C Series Check Valve with 3/4" CPI[™] compression inlet and outlet ports, a 5 psi cracking pressure, nitrile seal and brass body construction.

Example 2 below describes a C Series Check Valve with a 1" male NPT inlet port and a 1" A-LOK® outlet port, a 10 psi cracking pressure, neoprene seal and stainless steel body construction.

Example 1: 12Z-C12L-5-BN-B (shown in the part number blocks below)

Example 2: 16M16A-C16L-10-NE-SS

			12Z			-	[C12L	-	5	-	BN	-	В
			Inlet Port*	Out Por				Body Size		Crack Pressure	е	Seat Material		Body Material
		ilet ort*		1		Outlet Port*		Body Size	Р	Crack ressure		Seat Material		Body Material
2A 2F 2F5	2G5 2KF 2KM	2M 2TA 2Z	M3A M3Z	2A 2F 2F5	2G5 2KF 2KM	2M 2TA 2Z	M3A M3Z	C2L		1/3 psi 1 psi 5 psi	Blank	Fluorocarboo Rubber Nitrile	n B S	Brass S 316 Stainless
4A 4F 4F5	4KF 4KM 4L	4Q 4TA 4V	M6A M6Z	4A 4F 4F5	4KF 4KM 4L	4Q 4TA 4V	M6A M6Z	C4L		10 psi 25 psi 50 psi	EPR	Ethylene Propylene Rubber		Steel
4G5 6A 6F 6F5	4M 6KF 6KM 6L	4Z 6Q 6TA 6Z	M8Z M10A M10Z	4G5 6A 6F 6F5	6KF 6KM 6L	4Z 6Q 6TA 6Z	M8Z M10A M10Z	C6L	_	75 psi I 00 psi	**T ***KZ	Neoprene Rubber PTFE Highly		
6G5 8A 8F	8KF 8KM	M8A 8Q 8TA	M12A M12Z	6G5 8A 8F	8KF 8KM	M8A 8Q 8TA	M12A M12Z	C8L				Fluorinated Fluorocarboi Rubber	ו	
8F5 8G5 12A 12F	8L 8M 12KF 12KM	8V 8Z 12Q 12TA	M20A M20Z	8F5 8G5 12A 12F	8L 8M 12KF 12KM	8V 8Z 12Q 12TA	M20A M20Z	C12L			stai	/ available with nless steel valves available on C2		
12F5 12G5	12L 12M	12V 12Z	M22A M22Z	12F5 12G5	12L 12M	12V 12Z	M22A M22Z	0461			seri			
16A 16F 16F5	16G5 16KF 16KM	16L 16M 16TA	16Z M25A M25Z	16A 16F 16F5	16G5 16KF 16KM	16L 16M 16TA	16Z M25A M25Z	C16L						

^{*}If the inlet and outlet ports are the same, eliminate the outlet port designator.

Options

Oxygen Cleaning – Add the suffix -C3 to the end of the part number to receive filters cleaned and assembled for oxygen service in accordance with Parker specification ES8003. **Example:** 4A-C4L-1-BN-SS-C3

Laser Weld – Add the suffix **-LW** to the end of the part number to receive tamper-resistant stainless steel filters. **Example:** 2F-C2L-1-SS**-LW**

NGV Certification – To receive valves approved and certified by CSA America, Inc, ECE R110, and ISO 15500 for use on natural gas vehicles, please contact the Instrumentatation Products Division or your local authorized Parker distributor.



Kit Information

To order repair kits for the C Series Check Valves simply fill in the designators from the chart below.

Size	Crack Pressure		Seat Material
C2	1/3 psi	٧	Fluorocarbon Rubber
C4	1 psi	BN	Nitrile
C6	5 psi	EPR	Ethylene Propylene
C8	10 psi		Rubber
C12	25 psi	NE	Neoprene Rubber
	50 psi	*T	PTFE
C16	75 psi	KZ	Highly Fluorinated
	100 psi		Fluorocarbon

^{*}PTFE kits can only be used to replace factory installed PTFE seats. It cannot be interchanged with seats of any other material.

Examples: KIT-C8-10-V, KIT-C16-100-BN



Check Valve Kits Contain:
Seat
Spring
Instructions