



Instrumentation Solutions

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Check Valves



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ZHEJIANG FANGDUN INSTRUMENT VALVE CO.,LTD

Contents

01 Check Valves
C1, C2, C3, C4, C5 and C6 Series

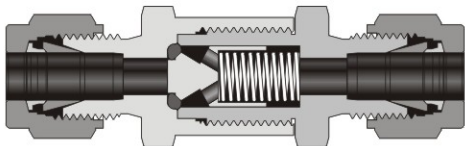


Features

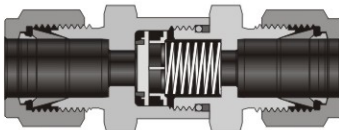
Reliable prevent back flow function and high Cv flow rates

C1, C2, and C3 Series
Fixed cracking pressures Can be install in any directions

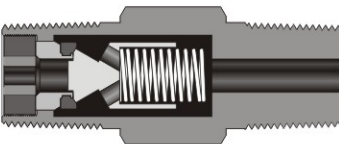
- C1 Series**
- resilient O-ring seat design provides cushioned and noise-free closing, and resists flow-out
 - Maximum working pressure: 3000 psig (207 bar)
 - Working temperatures:-10°F to 375°F (-23°C to 190°C)
 - Cracking pressures:1/3 to 25 psig (0.02 to 1.7 bar)
 - Various end connections and many materials of construction



- C2 Series**
- The floating O-ring is cleaned continually to protect sealing from system contaminants
 - Maximum working pressure: 6000 psig(414 bar)
 - Working temperatures:-10°F to 400°F (-23°C to 204°C)
 - Cracking pressures:1/3 to 25psig (0.02 to 1.7 bar)
 - Various end connections and many materials of construction

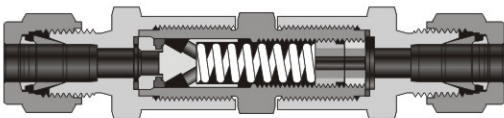


- C3 Series**
- Compact, one piece body
 - Maximum working pressure: 3000 psig(207 bar)
 - Working temperature:-10°F to 375°F (-23°C to 190°C)
 - Cracking pressures:1/3 to 25 psig(0.02 to 1.7 bar)
 - Various end connections and many materials of construction

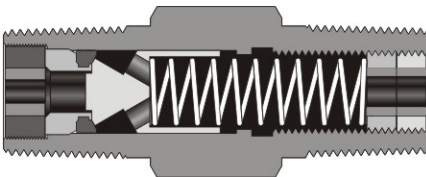


C4 and C5 series
Adjustable Cracking pressures various optional springs install in any directions

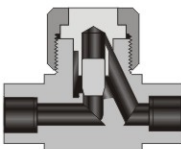
- C4 Series**
- Maximum working pressure: 3000 psig(207 bar)
 - Working temperatures:-10°F to 375°F (-23°C to 190°C)
 - Cracking pressures:3 to 600 psig(0.2 to 41.3 bar)
 - Various end connections and many materials of construction



- C5 Series**
- Compact, one piece body
 - Maximum working pressure: 3000 psig(207 bar)
 - Working temperatures:-10°F to 400°F (-23°C to 204°C)
 - Cracking pressures:3 to 600 psig (0.2 to 41.3 bar)
 - Various end connections and many materials of construction



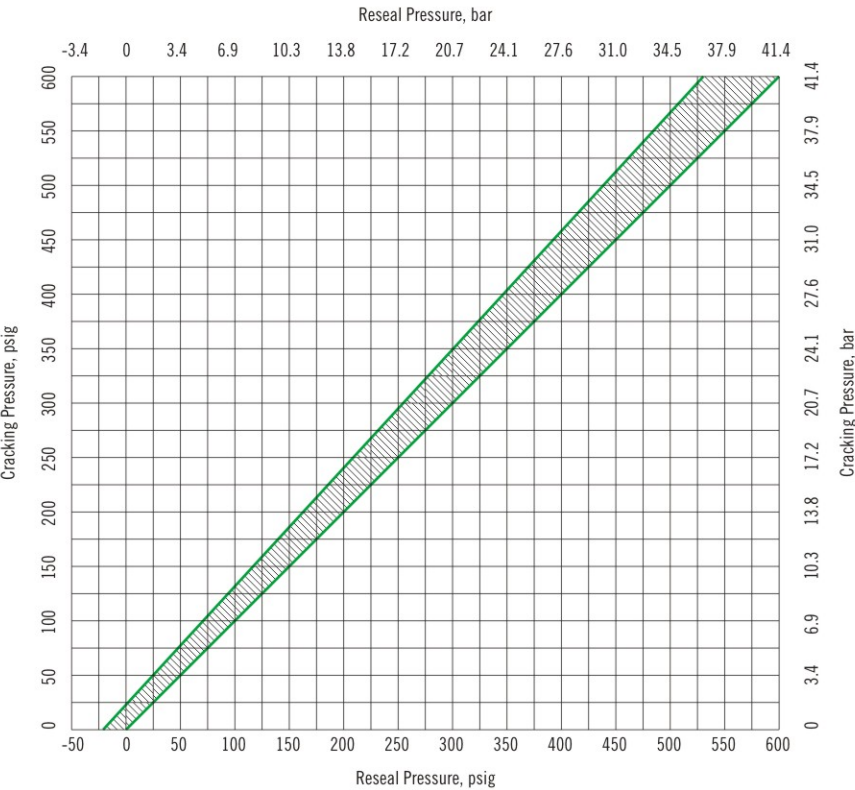
- C6 series**
- Union bonnet design All-stainless steel structure Horizontal installation
- Maximum working pressure:6000 psig (414 bar)
 - Working temperatures:-65°F to 900°F (-53°C to 482°C)
 - Many options for various end connections
 - Provide 316 SS valve body and brass valve body



Cracking Pressure and Resealed Pressure

Series	Nominal Cracking Pressures psig (bar)	Cracking pressures range psig (bar)	Reseal pressure range psig (bar)
C1 Series	1/3 (0.02) 1 (0.06) 10 (0.68) 25 (1.7)	1/3~3 (0.02~0.2) 1~4 (0.06~0.27) 7~15 (0.48~1.0) 20~30 (1.3~2.0)	Max 6(0.41) Max 6(0.41) 3(0.2) or higher 17(1.1) or higher
C2 Series	1/3 (0.02) 1 (0.06) 5 (0.34) 10 (0.68) 25 (1.7)	1/3~3 (0.02~0.2) 1~4 (0.06~0.27) 3~9 (0.20~0.62) 7~15 (0.48~1.0) 20~30 (1.3~2.0)	Max 6(0.41) Max 2(0.13) 3(0.2) or higher 17(1.1) or higher
C3 Series	1/3 (0.02) 1 (0.06) 10 (0.68) 25 (1.7)	1/3~3 (0.02~0.2) 1~4 (0.06~0.27) 7~15 (0.48~1.0) 20~30 (1.3~2.0)	Max 6(0.41) Max 6(0.41) 3(0.2) or higher 17(1.1) or higher
C4 Series	3~50 (0.2~3.4) 50~150 (3.4~10.3) 150~350 (10.3~24.1) 350~600 (24.1~41.3)	—	shown in figure below
C5 Series			
C6 Series	1/3 (0.02) 1 (0.06)	1/3~1/2 (0.002~0.03) 1~4 (0.06~0.27)	Max 6(0.41) Max 5(0.34)

C4 and C5 Cracking Pressure and Reseal Pressure



Pressure vs. Temperature

C1, C3, C4, C5 Series
FKM seat in 316 SS body and buna N in brass body

Temperature		Valve body material	
		316 SS	Brass
°F	°C	Working pressure, psig (bar)	
-10~100	-23~37	3000(207)	3000(207)
200f	93	2575(177)	2600(179)
250	121	2450(168)	2405(165)
300	148	2325(160)	—
375	190	2185(150)	—

C2 Series
FKM seat in 316 SS body

Temperature		Valve body material
		316 SS
°F	°C	Working pressure, psig (bar)
-10~100	-23~37	6000(414)
200	93	5160(355)
250	121	4910(338)
300	148	4660(321)
375	190	4280(294)

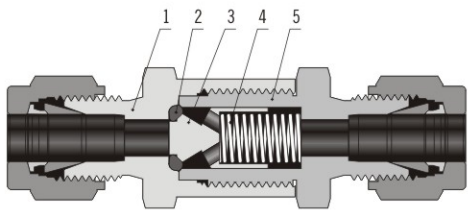
Note: Consult the factory for the curves of other materials.

C6 Series
316 SS body

Temperature		Valve body material
		316 SS
°F	°C	Working pressure, psig (bar)
-65~100	-53~37	6000(414)
200	93	5160(356)
250	121	4910(338)
300	148	4660(321)
350	176	4470(307)
400	204	4280(295)
450	232	4130(285)
500	260	3980(274)
600f	315	3760(259)
650	343	3690(254)
700	371	3600(248)
750	399	3510(242)
800	426	3460(238)
850	454	3380(232)
900	482	3280(225)

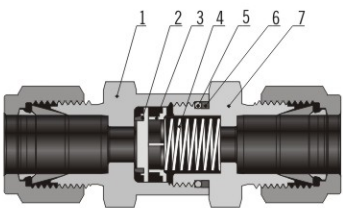
Material of Construction

C1 Series



Component		Valve Material Grade/ASTM Specification	
		316 SS	Brass
1	Inlet body	316 SS/A479	Brass 360/B16
2	O-ring	Fluorocarbon FKM	Buna N
3	Poppet	316 SS/A479	Brass 360/B16
4	Spring	302 SS/A313	302 SS/A313
5	Outlet body	316 SS/A479	Brass 360/B16

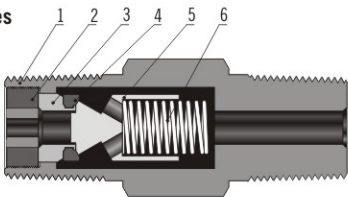
C2 Series



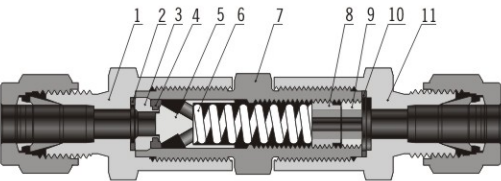
Component	Valve Material Grade/ASTM Specification	
1	Inlet body	316 SS/A479
2	Poppet	Fluorocarbon FKM -bonded 316 SS/A479
3	Poppet stop	316 SS/A240
4	Spring	302 SS/A313
5	O-ring	Fluorocarbon FKM
6	Backup ring	PTFE/D1710
7	Outlet body	316 SS/A479

Check Valves

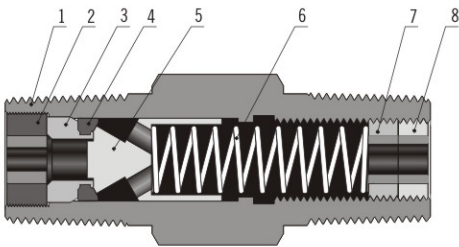
C3 Series



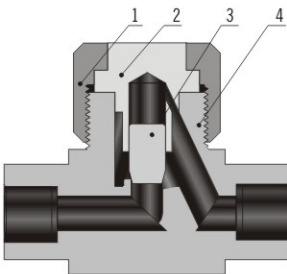
C4 Series



C5 Series



C6 Series



*All valves use same lubricants, they are silicone-based and molybdenum disulfide-based.
*Consult the factory for bill of material for other body materials.

Component		Valve Material Grade/ASTM Specification	
		316 SS	Brass
1	Body	316 SS/A276 or A479	Brass 360/B16
2	Locking screw	316 SS/A276	Brass 360/B16
3	Insert	316 SS/A276	Brass 360/B16
4	O-ring	Fluorocarbon FKM	Buna N
5	Poppet	316 SS/A479	Brass 360/B16
6	Spring	302 SS/A313	302 SS/A313

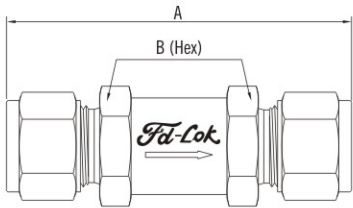
Component		Valve Material Grade/ASTM Specification	
		316 SS	Brass
1	Inlet body	316 SS/A479	Brass 360/B16
2	Inlet gasket	PTFE-coated 316 SS/A276	PTFE-coated 316 SS/A276
3	Insert	316 SS/A479	Naval brass 360/B21
4	O-ring	Fluorocarbon FKM	Fluorocarbon FKM
5	Poppet	316 SS/A479	Brass 360/B16
6	Spring	302 SS/A313	302 SS/A313
7	Center body	316 SS/A479	Brass 360/B16
8	Adjusting screw	316 SS/A276	316 SS/A276
9	Locking nut	316 SS/A276	316 SS/A276
10	Outlet gasket	PTFE-coated 316 SS/A276	PTFE-coated 316 SS/A276
11	Outlet body	316 SS/A479	Brass 360/B16

Component		Valve Material Grade/ASTM Specification	
		316 SS	Brass
1	Body	316 SS/A276	Brass 360/B16
2	Locking Nut	316 SS/A479	Brass 360/B16
3	Insert	316 SS/A479	Brass 360/B16
4	O-ring	Fluorocarbon FKM	Fluorocarbon FKM
5	Poppet	316 SS/A479	Brass 360/B16
6	Spring	302 SS/A313	302 SS/A313
7	Adjusting screw	316 SS/A276	316 SS/A276
8	Locking screw	316 SS/A276	316 SS/A276

Component	Valve Material Grade/ASTM Specification	
1	Bonnet nut	316 SS/A479
2	Bonnet	316 SS/A479
3	Poppet	S17400/A564
4	Body	316 SS/A479

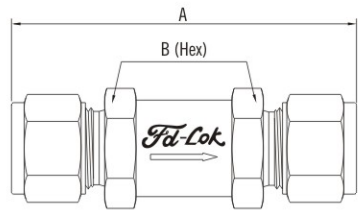
Table of Dimensions

C1 Series



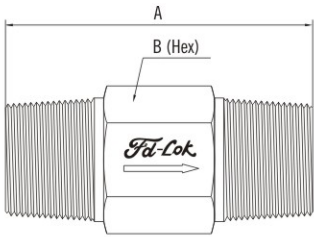
Basic Ordering Number	Connection Size		CV	Dimensions in. (mm)	
	Inlet Size	Outlet Size		A	B
-C1-S2-	1/8" FD-LOK	1/8" FD-LOK	0.16	2.19(55.6)	5/8(15.875)
-C1-S4-	1/4" FD-LOK	1/4" FD-LOK	0.47	2.35(59.7)	5/8(15.875)
-C1-S6-	3/8" FD-LOK	3/8" FD-LOK	1.47	3.17(80.5)	5/8(15.875)
-C1-S8-	1/2" FD-LOK	1/2" FD-LOK	1.68	3.42(86.9)	7/8(22.225)
-C1-S12-	3/4" FD-LOK	3/4" FD-LOK	4.48	4.32(110)	1 1/4(31.75)
-C1-S16-	1" FD-LOK	1" FD-LOK	4.48	4.74(120)	1 3/8(34.925)
-C1-SM6-	6 mm FD-LOK	6 mm FD-LOK	0.47	2.36(59.9)	5/8(15.875)
-C1-SM10-	10 mm FD-LOK	10 mm FD-LOK	1.68	3.32(84.3)	7/8(22.225)
-C1-SM12-	12 mm FD-LOK	12 mm FD-LOK	1.68	3.42(86.9)	7/8(22.225)
-C1-F2-	1/8 Female NPT	1/8 Female NPT	0.16	1.89(48.0)	5/8(15.875)
-C1-F4-	1/4 Female NPT	1/4 Female NPT	0.47	2.15(54.6)	3/4(19.05)
-C1-F6-	3/8 Female NPT	3/8 Female NPT	1.47	2.98(75.7)	7/8(22.225)
-C1-F8-	1/2 Female NPT	1/2 Female NPT	1.68	3.58(90.9)	1 1/16(26.988)
-C1-F12-	3/4 Female NPT	3/4 Female NPT	4.48	4.08(104)	1 1/4(31.75)
-C1-F16-	1 Female NPT	1 Female NPT	4.48	4.84(123)	1 5/8(41.275)
-C1-M2-	1/8 Male NPT	1/8 Male NPT	0.16	1.71(43.4)	5/8(15.875)
-C1-M4-	1/4 Male NPT	1/4 Male NPT	0.47	2.09(53.1)	5/8(15.875)
-C1-M6-	3/8 Male NPT	3/8 Male NPT	1.47	2.78(70.6)	7/8(22.225)
-C1-M8-	1/2 Male NPT	1/2 Male NPT	1.68	3.16(80.3)	7/8(22.225)
-C1-M12-	3/4 Male NPT	3/4 Male NPT	4.48	4.08(104)	1 1/4(31.75)
-C1-M16-	1 Male NPT	1 Male NPT	4.48	4.52(115)	1 5/8(41.275)

C2 series



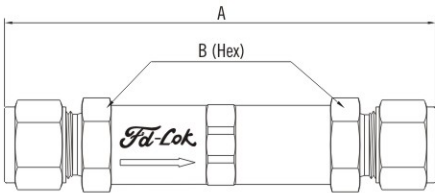
Basic Ordering Number	Connection Size		Pressure Rating at 100 (37°C) psig(bar)	CV	Dimensions in. (mm)	
	Inlet Size	Outlet Size			A	B
-C2-S2-	1/8" FD-LOK	1/8" FD-LOK	6000(414)	0.67	2.27(57.7)	11/16(17.463)
-C2-S4-	1/4" FD-LOK	1/4" FD-LOK	6000(414)	0.67	2.43(61.7)	11/16(17.463)
-C2-S6-	3/8" FD-LOK	3/8" FD-LOK	6000(414)	1.8	2.75(69.9)	1(25.4)
-C2-S8-	1/2" FD-LOK	1/2" FD-LOK	6000(414)	1.8	2.96(75.2)	1(25.4)
-C2-S12-	3/4" FD-LOK	3/4" FD-LOK	5000(344)	4.7	3.52(89.4)	1 5/8(41.275)
-C2-S16-	1" FD-LOK	1" FD-LOK	4700(323)	4.7	3.88(98.6)	1 5/8(41.275)
-C2-SM6-	6 mm FD-LOK	6 mm FD-LOK	6000(414)	0.67	2.43(61.7)	11/16(17.463)
-C2-SM8-	8 mm FD-LOK	8 mm FD-LOK	6000(414)	1.8	2.70(68.6)	1(25.4)
-C2-SM10-	10 mm FD-LOK	10 mm FD-LOK	6000(414)	1.8	2.80(71.1)	1(25.4)
-C2-SM12-	12 mm FD-LOK	12 mm FD-LOK	6000(414)	1.8	2.96(75.2)	1(25.4)
-C2-SM22-	22 mm FD-LOK	22 mm FD-LOK	5000(344)	4.7	3.48(88.4)	1 5/8(41.275)
-C2-SM25-	25 mm FD-LOK	25 mm FD-LOK	5000(344)	4.7	3.88(98.6)	1 5/8(41.275)
-C2-F4-	1/4 Female NPT	1/4 Female NPT	6000(414)	0.67	2.13(54.1)	11/16(17.463)
-C2-F6-	3/8 Female NPT	3/8 Female NPT	5000(344)	1.8	2.55(64.8)	1(25.4)
-C2-F8-	1/2 Female NPT	1/2 Female NPT	4600(316)	1.8	3.03(77.0)	1 1/16(26.988)
-C2-F12-	3/4 Female NPT	3/4 Female NPT	4300(296)	4.7	3.23(82.0)	1 5/8(41.275)
-C2-F16-	1 Female NPT	1 Female NPT	4100(282)	4.7	3.83(97.3)	1 5/8(41.275)
-C2-M2-	1/8 Male NPT	1/8 Male NPT	6000(414)	0.67	1.79(45.4)	11/16(17.463)
-C2-M4-	1/4 Male NPT	1/4 Male NPT	6000(414)	0.67	2.17(55.1)	11/16(17.463)
-C2-M6-	3/8 Male NPT	3/8 Male NPT	6000(414)	1.8	2.36(59.9)	1(25.4)
-C2-M8-	1/2 Male NPT	1/2 Male NPT	6000(414)	1.8	2.73(69.3)	1(25.4)
-C2-M12-	3/4 Male NPT	3/4 Male NPT	5000(344)	4.7	3.29(83.6)	1 5/8(15.875)
-C2-M16-	1 Male NPT	1 Male NPT	5000(344)	4.7	3.67(93.2)	1 5/8(41.275)
-C2-FR4-	1/4 Female BSPT	1/4 Female BSPT	6000(414)	0.67	2.28(57.9)	11/16(17.463)
-C2-FR8-	1/2 Female BSPT	1/2 Female BSPT	4600(316)	1.8	3.29(83.6)	1 1/16(26.988)
-C2-FR12-	3/4 Female BSPT	3/4 Female BSPT	4300(296)	4.7	3.55(90.2)	1 5/8(41.275)
-C2-FR16-	1 Female BSPT	1 Female BSPT	4100(282)	4.7	3.83(97.3)	1 5/8(41.275)
-C2-MR4-	1/4 Male BSPT	1/4 Male BSPT	6000(414)	0.67	2.17(55.1)	11/16(17.463)
-C2-MR8-	1/2 Male BSPT	1/2 Male BSPT	6000(414)	1.8	2.73(69.3)	1(25.4)
-C2-MR12-	3/4 Male BSPT	3/4 Male BSPT	5000(344)	4.7	3.35(85.1)	1 5/8(41.275)
-C2-MR16-	1"Male BSPT	1 Male BSPT	5000(344)	4.7	3.67(93.2)	1 5/8(41.275)

C3 Series



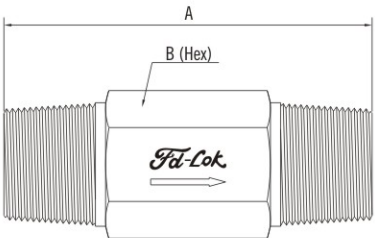
Basic Ordering Number	Connection Size		CV	Dimensions in. (mm)	
	Inlet Size	Outlet Size		A	B
-C3-F4-	1/4 Female NPT	1/4 Female NPT	0.35	2.41(61.2)	3/4(19.05)
-C3-F8-	1/2 Female NPT	1/2 Female NPT	1.20	3.71(94.2)	1 1/16(26.988)
-C3-M4-	1/4 Male NPT	1/4 Male NPT	0.35	1.62(41.1)	9/16(14.288)
-C3-M8-	1/2 Male NPT	1/2 Male NPT	1.20	2.28(57.9)	7/8(22.225)
-C3-FR4-	1/4 Female BSPT	1/4 Female BSPT	0.35	2.54(64.5)	3/4(19.05)
-C3-MR4-	1/4 Male BSPT	1/4 Male BSPT	0.35	1.62(41.1)	9/16(14.288)

C4 Series



Basic Ordering Number	Connection Size		CV	Dimension in. (mm)	
	Inlet Size	Outlet Size		A	B
-C4-S4-	1/4" FD-LOK	1/4" FD-LOK	0.37	3.23(82.0)	5/8(15.875)
-C4-SM6-	6 mm FD-LOK	6 mm FD-LOK	0.37	3.23(82.0)	5/8(15.875)
-C4-SM8-	8 mm FD-LOK	8 mm FD-LOK	0.37	3.32(84.3)	5/8(15.875)

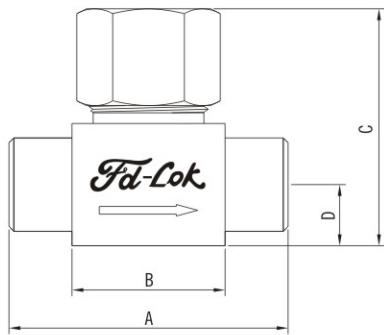
C5 Series



Basic Ordering Number	Connection Size		CV	Dimensions in. (mm)	
	Inlet Size	Outlet Size		A	B
-C5-F4-	1/4 Female NPT	1/4 Female NPT	0.35	2.98(75.7)	3/4(19.05)
-C5-M4-	1/4 Male NPT	1/4 Male NPT	0.35	1.62(41.1)	9/16(14.288)
-C5-M8-	1/2 Male NPT	1/2 Male NPT	1.20	2.56(65.0)	7/8(22.225)
-C5-MR4-	1/4 Male BSPT	1/4 Male BSPT	0.35	1.62(41.1)	9/16(14.288)
-C5-MR8-	1/2 Male BSPT	1/2 Male BSPT	1.20	2.56(65.0)	7/8(22.225)

Check Valves

C6 series



Basic Ordering Number	Connection Size		CV	dimensions in. (mm)			
	Inlet Size	Outlet Size		A	B	C	D
-C6-S4	1/4" FD-LOK	1/4" FD-LOK	0.30	2.40(61.0)	1.01(25.7)	1.47(37.3)	0.39(9.9)
-C6-S6	3/8" FD-LOK	3/8" FD-LOK	0.64	2.83(71.9)	1.31(33.3)	1.85(47.0)	0.50(12.7)
-C6-S8	1/2" FD-LOK	1/2" FD-LOK	2.20	3.92(99.6)	2.19(55.6)	2.44(62.0)	0.62(15.7)
-C6-S12	3/4" FD-LOK	3/4" FD-LOK	2.20	3.92(99.6)	2.19(55.6)	2.44(62.0)	0.62(15.7)
-C6-SM6	6 mm FD-LOK	6 mm FD-LOK	0.30	2.40(61.0)	1.01(25.7)	1.47(37.3)	0.39(9.9)
-C6-F2	1/8 Female NPT	1/8 Female NPT	0.30	2.00(50.8)	1.0(25.4)	1.47(37.3)	0.39(9.9)
-C6-F4	1/4 Female NPT	1/4 Female NPT	0.64	2.25 (57.2)	1.25(31.8)	1.85(47.0)	0.50(12.7)
-C6-F6	3/8 Female NPT	3/8 Female NPT	2.20	3.12(79.2)	1.86(47.2)	2.44(62.0)	0.62(15.7)
-C6-F8	1/2 Female NPT	1/2 Female NPT	2.20	3.12(79.2)	1.86(47.2)	2.44(62.0)	0.62(15.7)
-C6-SW4	1/4" Tube socket weld	1/4" Tube socket weld	0.30	1.81(46.0)	0.9(22.9)	1.47(37.3)	0.39(9.9)
-C6-SW6	3/8" Tube socket weld	3/8" Tube socket weld	0.64	2.25(57.2)	1.25(31.8)	1.85(47.0)	0.50(12.7)
-C6-SW8	1/2" Tube socket weld	1/2" Tube socket weld	2.20	3.13(79.5)	1.88(47.8)	2.44(47.0)	0.62(15.7)
-C6-PB4	1/4" Pipe butt weld	1/4" Pipe butt weld	0.30	1.81(46.0)	0.9(22.9)	1.47(37.3)	0.39(9.9)
-C6-PB6	3/8" Pipe butt weld	3/8" Pipe butt weld	0.64	2.25(57.2)	1.25(31.8)	1.85(47.0)	0.50(12.7)
-C6-PB8	1/2" Pipe butt weld	1/2" Pipe butt weld	2.20	3.13(79.5)	1.88(47.8)	2.44(62.0)	0.62(15.7)

Remarks:

a. FD-LOK means FD-LOK double ferrule tube fittings.

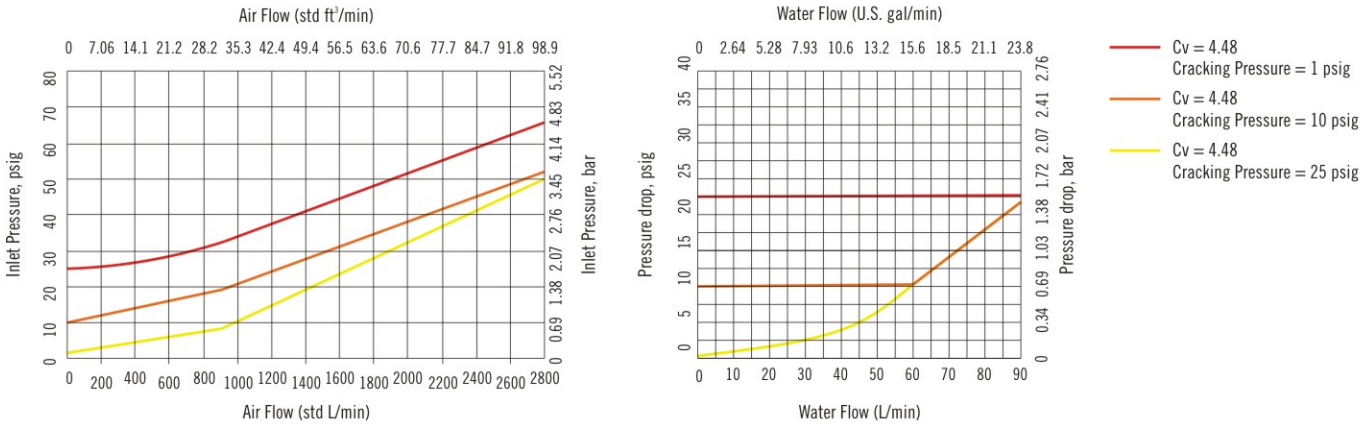
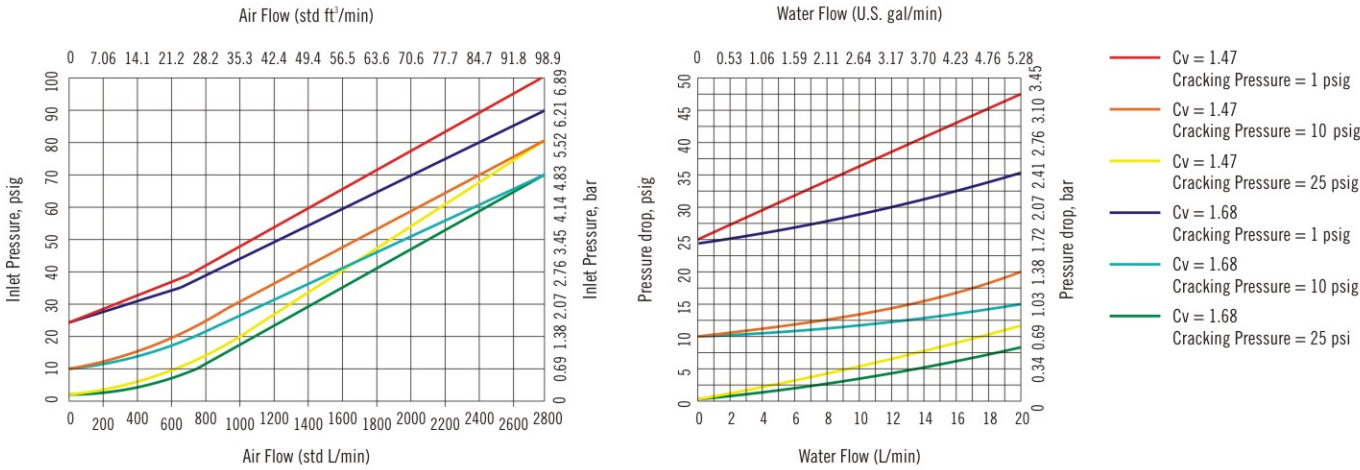
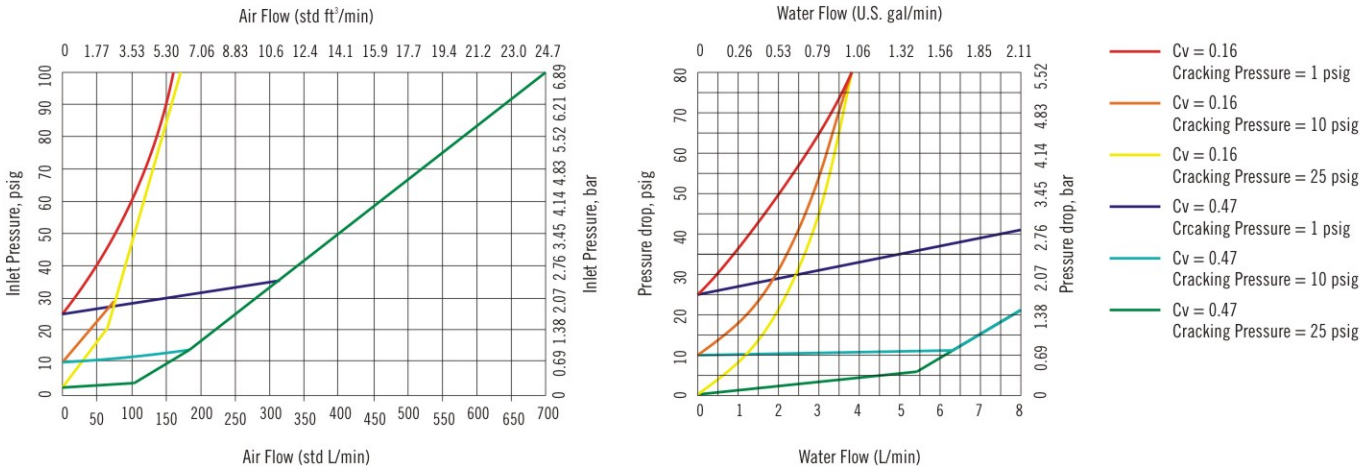
b. Dimensions shown with FD-LOK nuts finger-tight. All dimensions are for reference only, subject to change. For dimensions not shown above, consult the factory please.

c. The sizes and types listed are standard. Other sizes and types are available upon request.

Check Valves

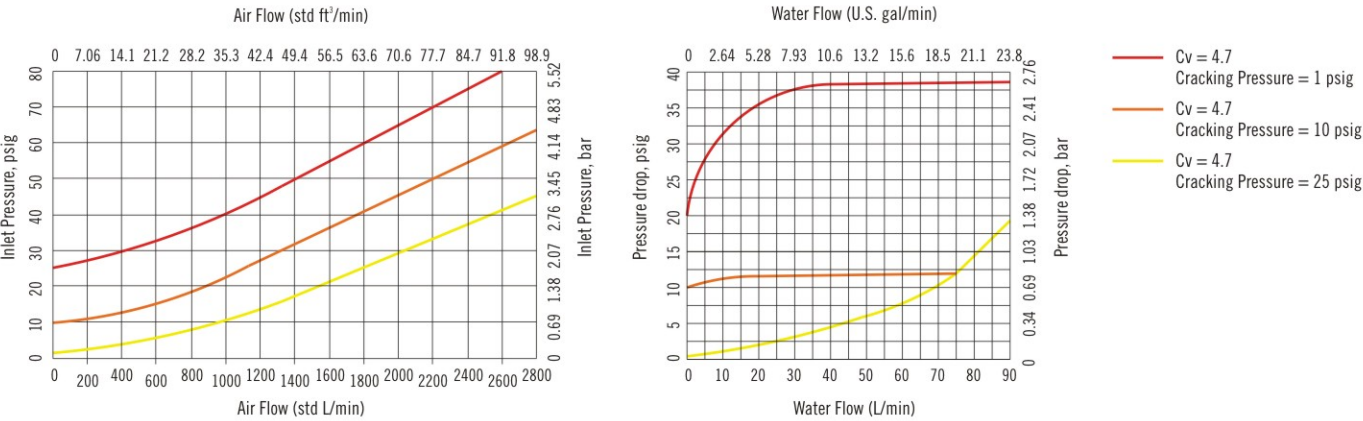
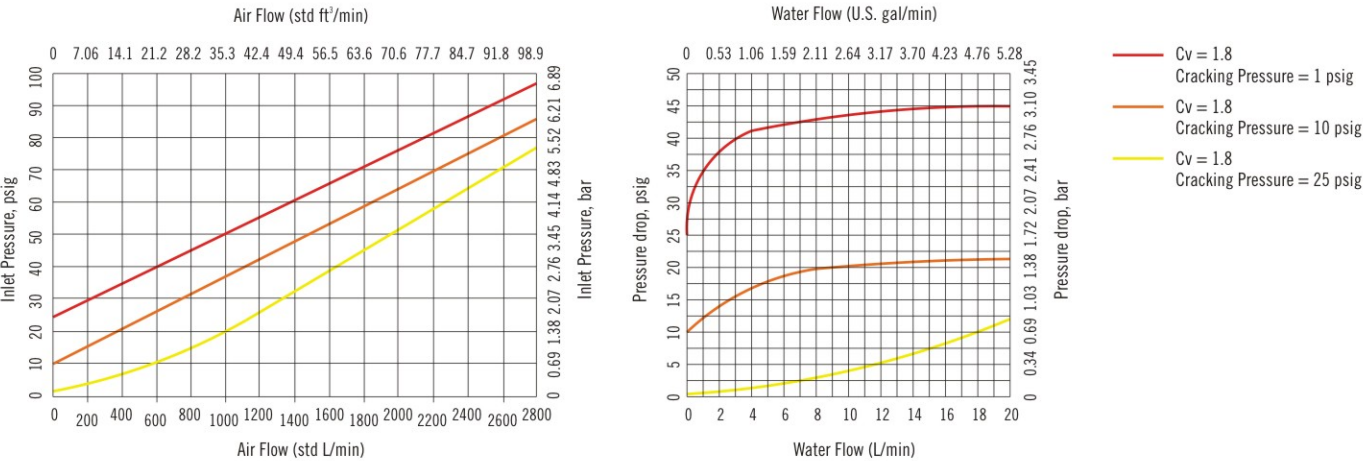
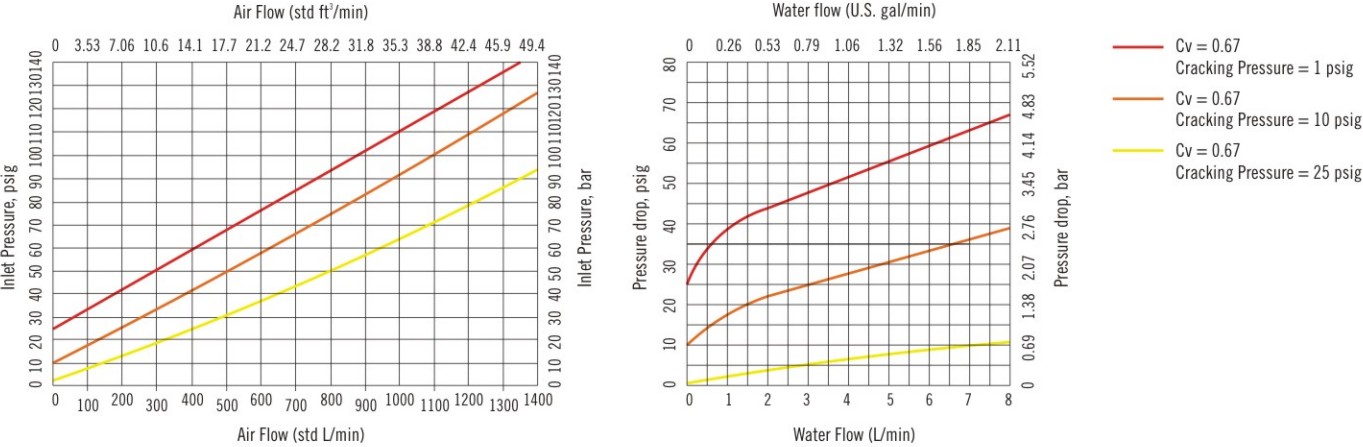
Flow data @ 70°F (20°C)

C1 Series

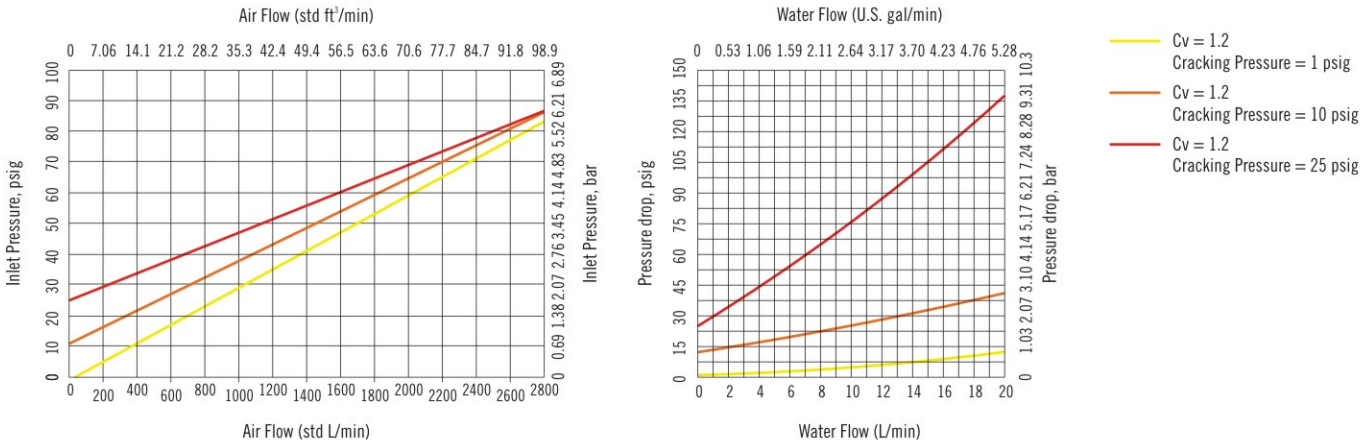
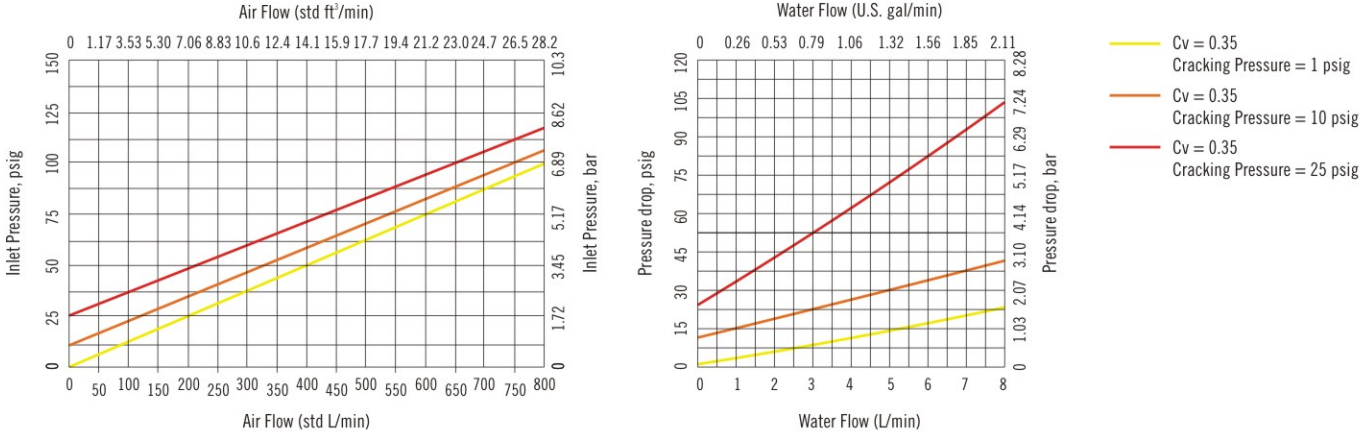


Check Valves

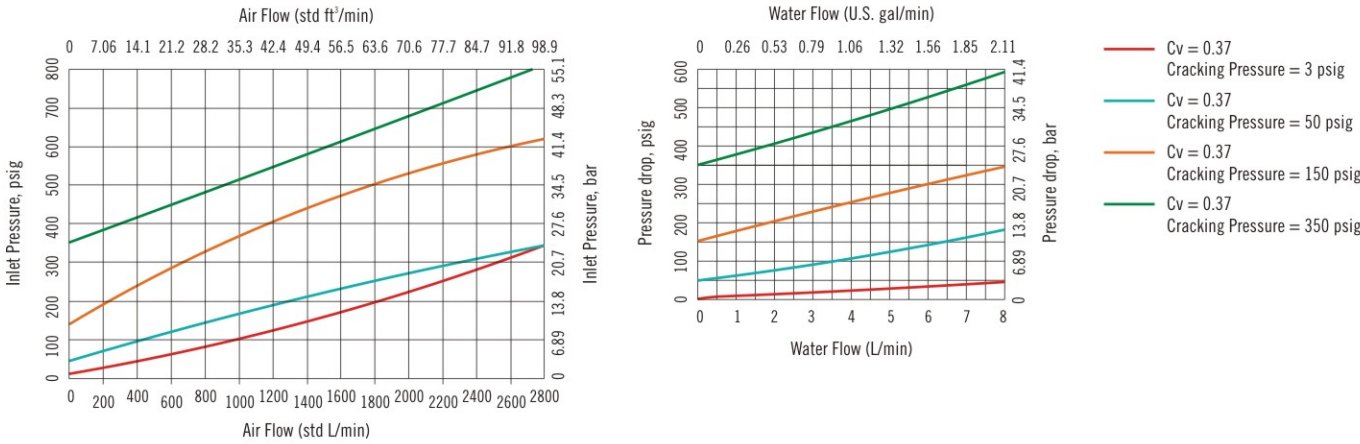
C2 Series



C3 Series

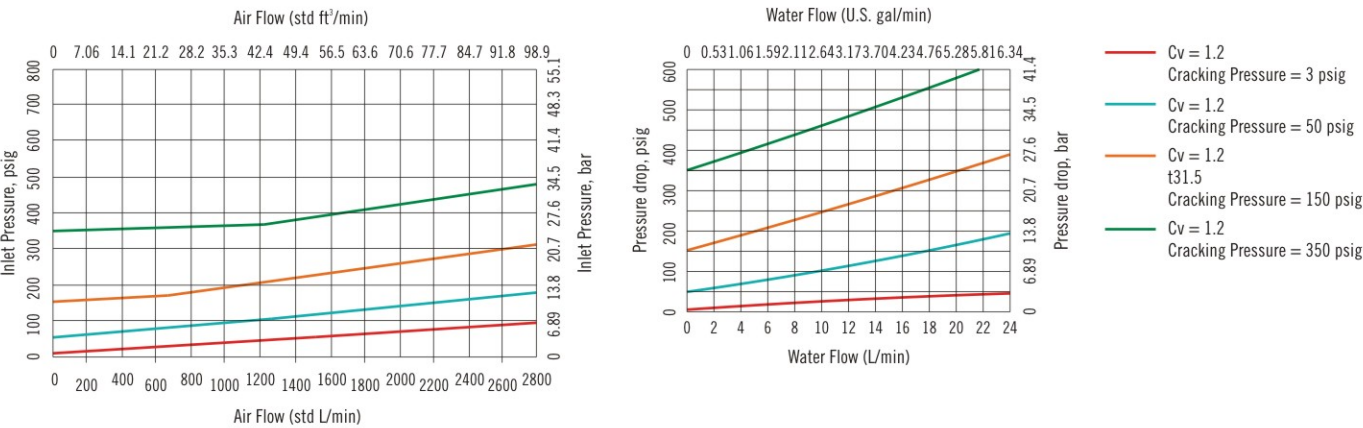
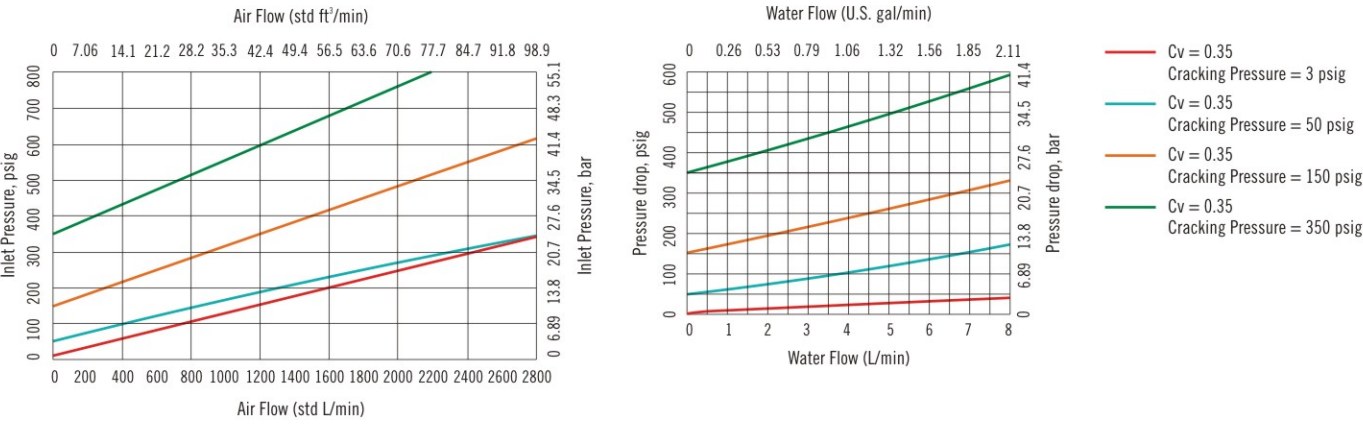


C4 Series

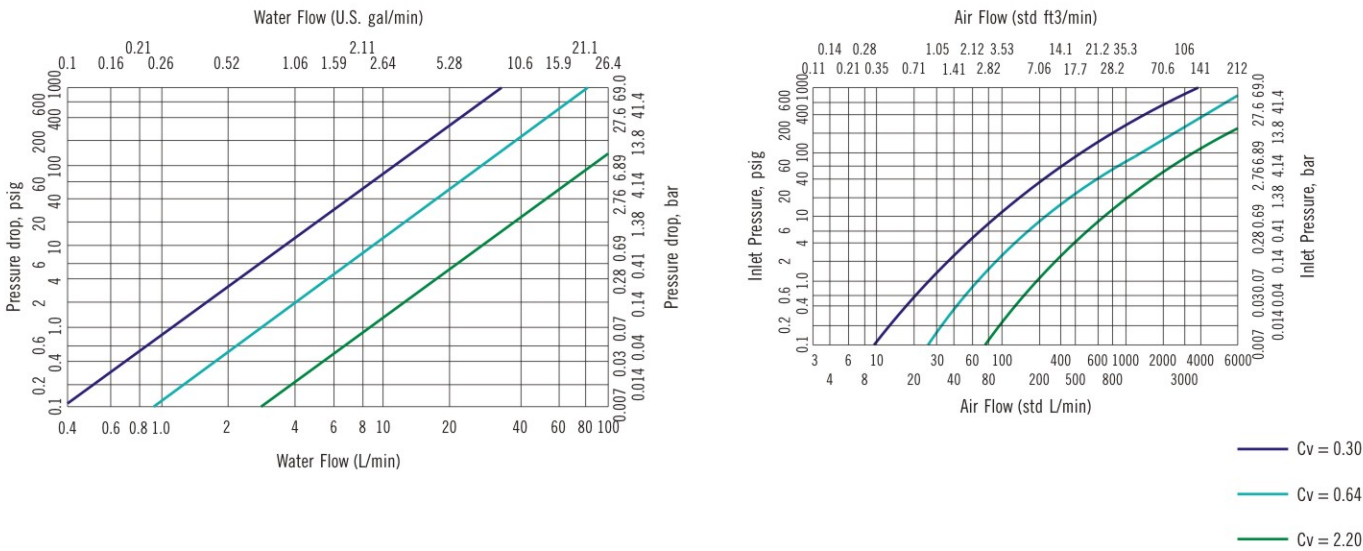


Check Valves

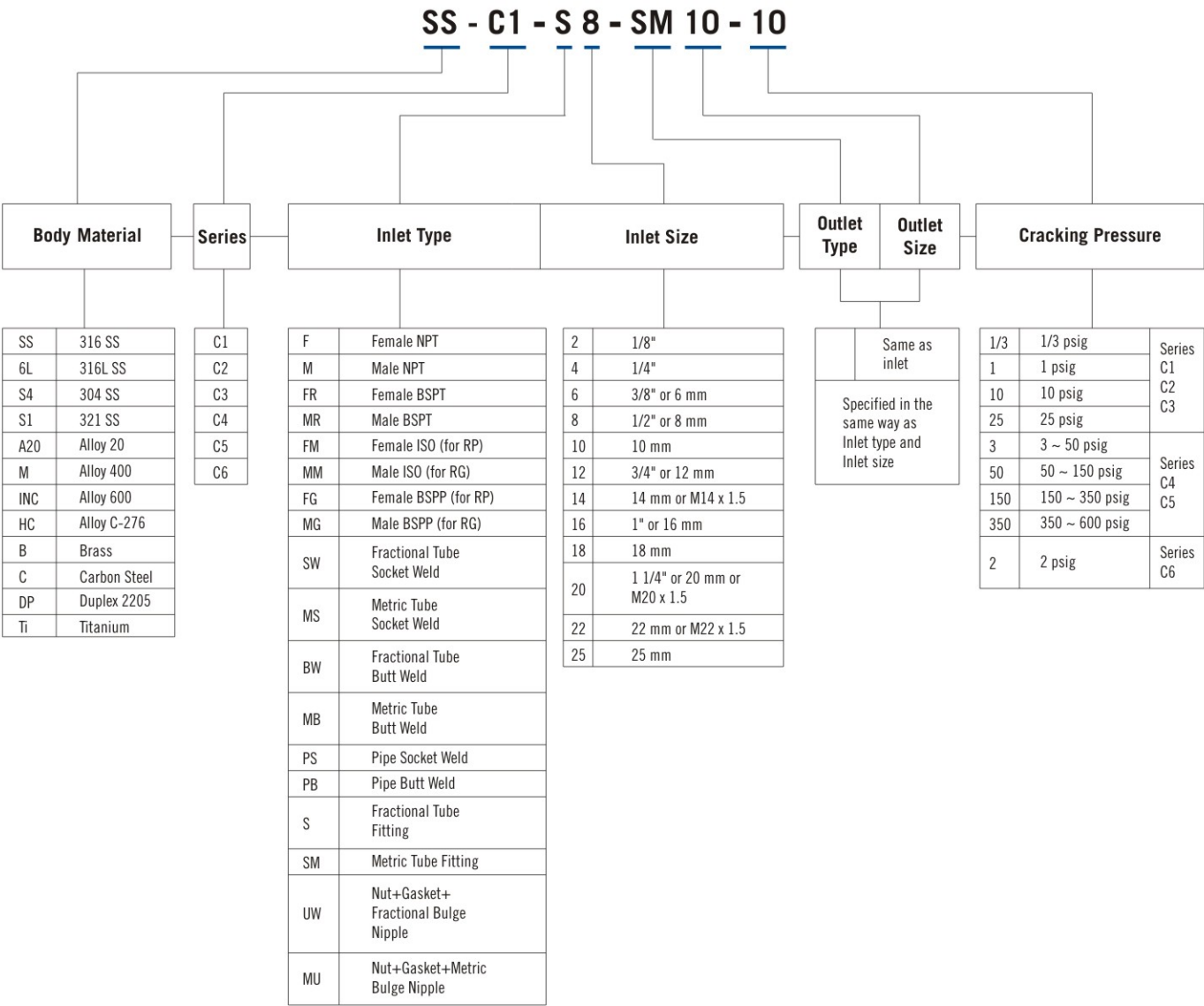
C5 Series



C6 Series



Ordering Information



Remark:
*Standard thread pitch for metric threads are as follows:
M10 and below: 1 mm,
M12 ~ M24: 1.5 mm,
M27 and above: 2 mm,
Standard thread pitch should be ignored in the ordering number, others should be specified.