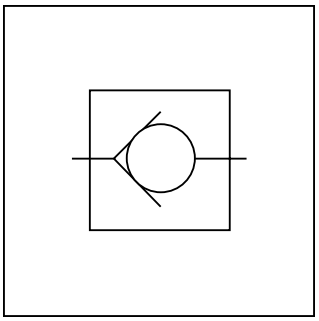
General Description

Series VCL check valves operate at free flow in one direction. Reverse flow is blocked.

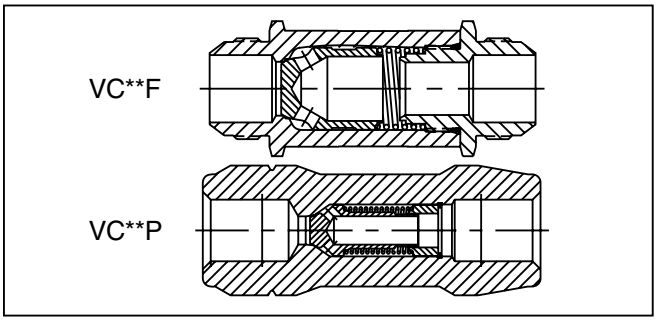


Operation

The spring keeps the poppet closed until the valve reaches the preset pressure. The valve stays open until the pressure goes below the spring setting.

Features

- Available in a wide variety of crack pressures.
- Poppet spring is isolated from liquid flow stream minimizing turbulence.
- Close tolerance fit between poppet and poppet retainer creates a cushion that protects valve from surge shock damage.



Specifications

Models VCL*P (female pipe to female pipe)

Valve Model	Max. Oper. Press. Bar (PSI)	Material	Rated Flow LPM (GPM)	Cracking Press. ΔP Bar (PSI)	Total ΔP Bar (PSI)	Port Size
VCL4P5	207 (3000)	Steel†	23 (5)	0.3 (5)	0.6 (8.3)	1/4 NPSF
VCL4P65	207 (3000)	Steel†	23 (5)	4.5 (65)	5.0 (72.5)	1/4 NPSF
VCL6P5	207 (3000)	Steel†	30 (8)	0.3 (5)	0.4 (6.0)	3/8 NPSF
VCL6P65	207 (3000)	Steel†	30 (8)	4.5 (65)	4.6 (66.0)	3/8 NPSF
VCL8P5	207 (3000)	Steel†	45 (15)	0.3 (5)	0.5 (7.2)	1/2 NPSF
VCL8P65	207 (3000)	Steel†	45 (15)	4.5 (65)	4.6 (66.0)	1/2 NPSF
VCL12P5	207 (3000)	Steel†	100 (25)	0.3 (5)	0.8 (11.0)	3/4 NPSF
VCL12P65	207 (3000)	Steel†	100 (25)	4.5 (65)	4.6 (67.0)	3/4 NPSF
VCL16P5	207 (3000)	Steel†	133 (35)	0.3 (5)	0.4 (5.3)	1 NPSF
VCL16P65	207 (3000)	Steel†	133 (35)	4.5 (65)	4.6 (66.0)	1 NPSF
VCL20P5	207 (3000)	Steel†	189 (50)	0.3 (5)	1.1 (15.9)	1-1/4 NPSF
VCL20P65	207 (3000)	Steel†	189 (50)	4.5 (65)	5.4 (78.0)	1-1/4 NPSF

* Available in “L” or “R” Style.
† All steel construction with zinc chromate plating.

Models VCL*F (male 37° flare to male 37°)

Valve Model	Max. Oper. Press. Bar (PSI)	Material	Seals	Rated Flow LPM (GPM)	Cracking Press. ΔP Bar (PSI)	Total ΔP Bar (PSI)	Port Size
VCL6F5	207 (3000)	Steel†	Nitrile O-Rings	23 (5)	0.3 (5)	0.6 (8.3)	9/16-18 UNF
VCL6F65	207 (3000)	Steel†	Nitrile O-Rings	23 (5)	4.5 (65)	5.0 (72.5)	(SAE 6)
VCL8F5	207 (3000)	Steel†	Nitrile O-Rings	30 (8)	0.3 (5)	0.4 (6.0)	3/4-16 UNF
VCL8F65	207 (3000)	Steel†	Nitrile O-Rings	30 (8)	4.5 (65)	4.6 (66.0)	(SAE 8)
VCL10F5	207 (3000)	Steel†	Nitrile O-Rings	45 (15)	0.3 (5)	0.5 (7.2)	7/8-14 UNF
VCL10F65	207 (3000)	Steel†	Nitrile O-Rings	45 (15)	4.5 (65)	4.6 (66.0)	(SAE 10)
VCL12F5	207 (3000)	Steel†	Nitrile O-Rings	100 (25)	0.3 (5)	0.8 (11.0)	1 1/16-12 UN
VCL12F65	207 (3000)	Steel†	Nitrile O-Rings	100 (25)	4.5 (65)	4.6 (67.0)	(SAE 12)
VCL16F5	207 (3000)	Steel†	Nitrile O-Rings	133 (35)	0.3 (5)	0.4 (5.3)	1 5/16-12 UN
VCL16F65	207 (3000)	Steel†	Nitrile O-Rings	133 (35)	4.5 (65)	4.6 (66.0)	(SAE 16)
VCL20F5	207 (3000)	Steel†	Nitrile O-Rings	189 (50)	0.3 (5)	1.1 (15.9)	1 5/8-12 UN
VCL20F65	207 (3000)	Steel†	Nitrile O-Rings	189 (50)	4.5 (65)	5.4 (78.0)	(SAE 20)

* Available in “L” or “R” Style.
† All steel construction with zinc chromate plating.

2502-F1.p65, dd

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Hydraulic Valve Division
Elyria, Ohio, USA

VCL — Series VCL

☐ — Size

Code	Description
4*	1/4"
6	3/8"
8	1/2"
10†	5/8"
12	3/4"
16	1"
20	1 1/4"

* 37° flare not available in size 4.
† NPTF not available in size 10.

☐ — Port Style

Code	Description
F	37° Flare Tube Both Ends
P	NPTF Female Both Ends

☐ — Cracking Pressure

Code	Description
05	0.3 Bar (5 PSI)
65	4.5 Bar (65 PSI)

A

☐ — Seal Compound*

Code	Description
Omit	Nitrile (Standard)
V	Fluorocarbon

* Only available with "F" port style.

[ ] — Design Series
NOTE: Not required when ordering.

F

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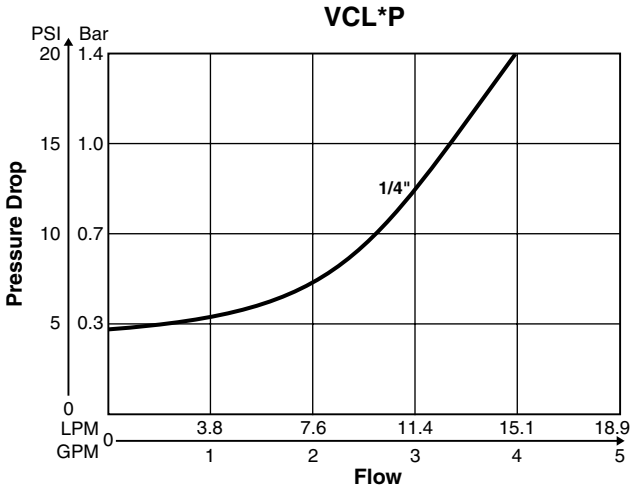

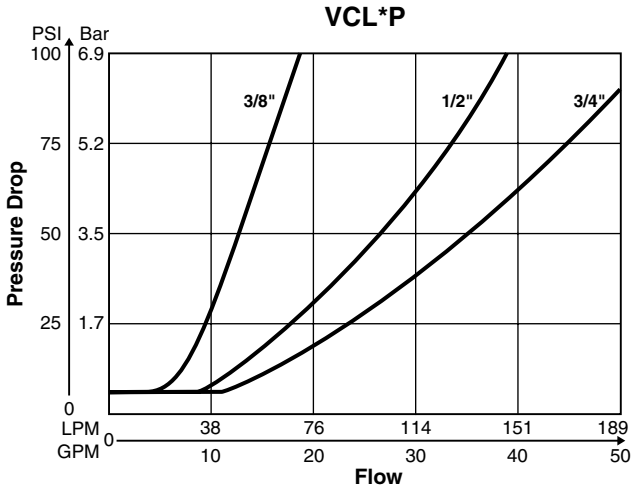

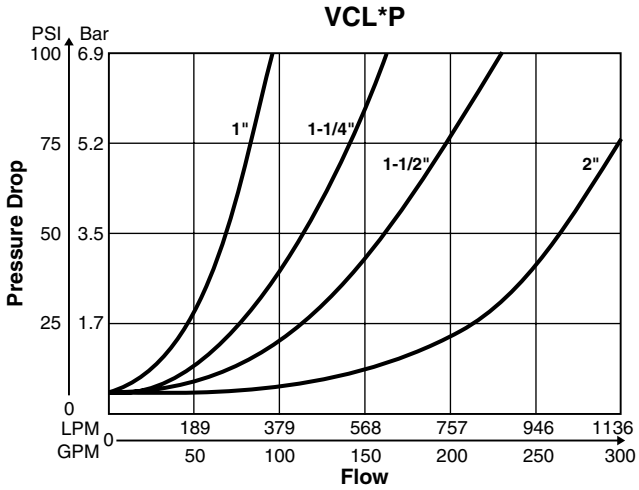

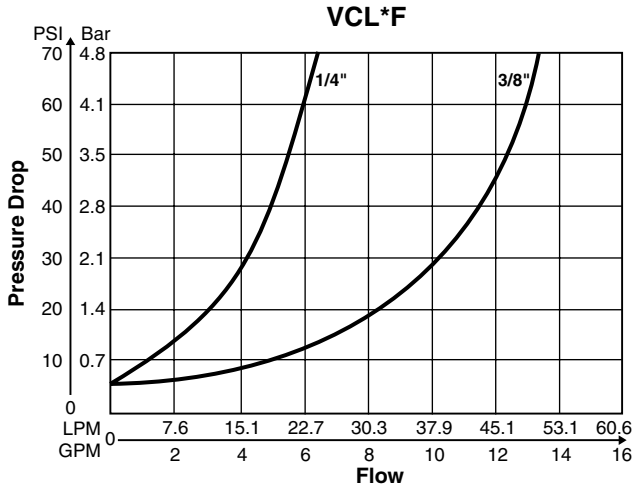

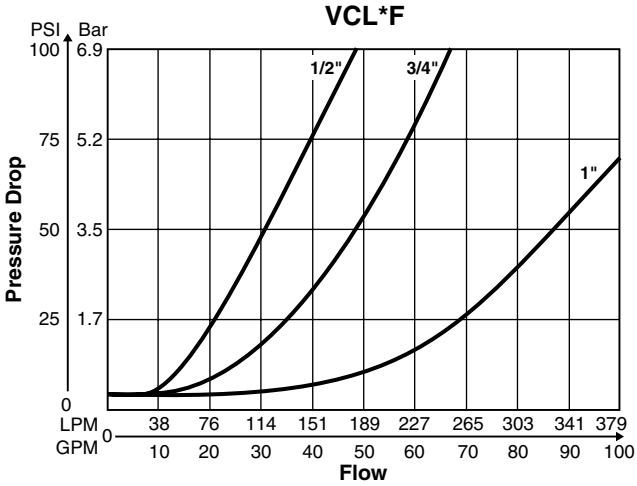

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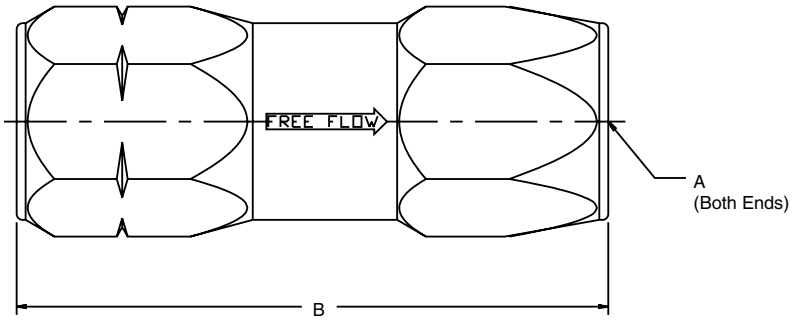
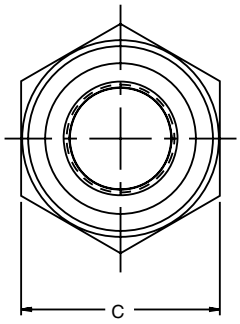
Inch equivalents for millimeter dimensions are shown in (**)

Models VCL*P

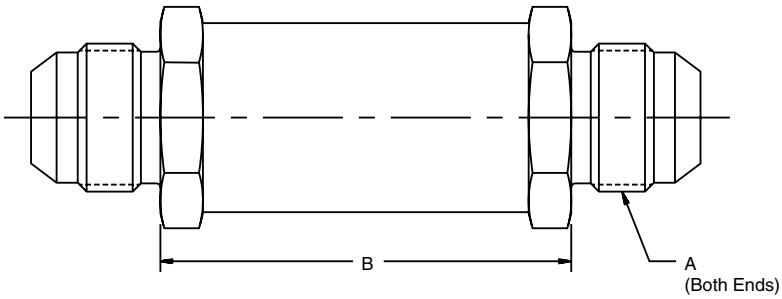


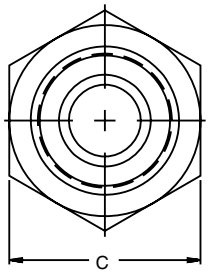


Valve Model	Weight kg (lbs.)	A	B	C
VC*4PA**	0.2 (0.4)	1/4-1/8 NPSF	62.0 (2.44)	20.6 (0.81)
VC*6PA**	0.3 (0.7)	3/8-18 NPSF	69.9 (2.75)	22.4 (0.88)
VC*8PA**	0.4 (0.9)	1/2-14 NPSF	88.9 (3.50)	26.9 (1.06)
VC*12PA**	0.5 (1.2)	3/4-14 NPSF	98.6 (3.88)	34.8 (1.37)
VC*16PA**	0.8 (1.8)	1-11 1/2 NPSF	124.0 (4.88)	40.6 (1.60)
VC*20PA**	2.0 (4.3)	1 1/4-11 1/2 NPSF	125.0 (4.94)	50.8 (2.00)

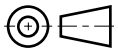
F

Models VCL*F





Valve Model	Weight kg (lbs.)	A	B	C
VC*6FA**	0.2 (0.4)	9/16-18 UNF (SAE 6)	44.5 (1.75)	20.6 (0.81)
VC*8FA**	0.3 (0.7)	3/4-16 UNF (SAE 8)	56.4 (2.22)	25.4 (1.00)
VC*10FA**	0.4 (0.9)	7/8-14 UNF (SAE 10)	61.2 (2.41)	28.4 (1.12)
VC*12FA**	0.5 (1.2)	1 1/16-12 UN (SAE 12)	69.9 (2.75)	35.1 (1.38)
VC*16FA**	0.8 (1.8)	1 15/16-12 UN (SAE 16)	84.1 (3.31)	44.1 (1.62)
VC*20FA**	2.0 (4.3)	1 5/8-12 UN (SAE 20)	84.1 (3.31)	47.8 (1.88)



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