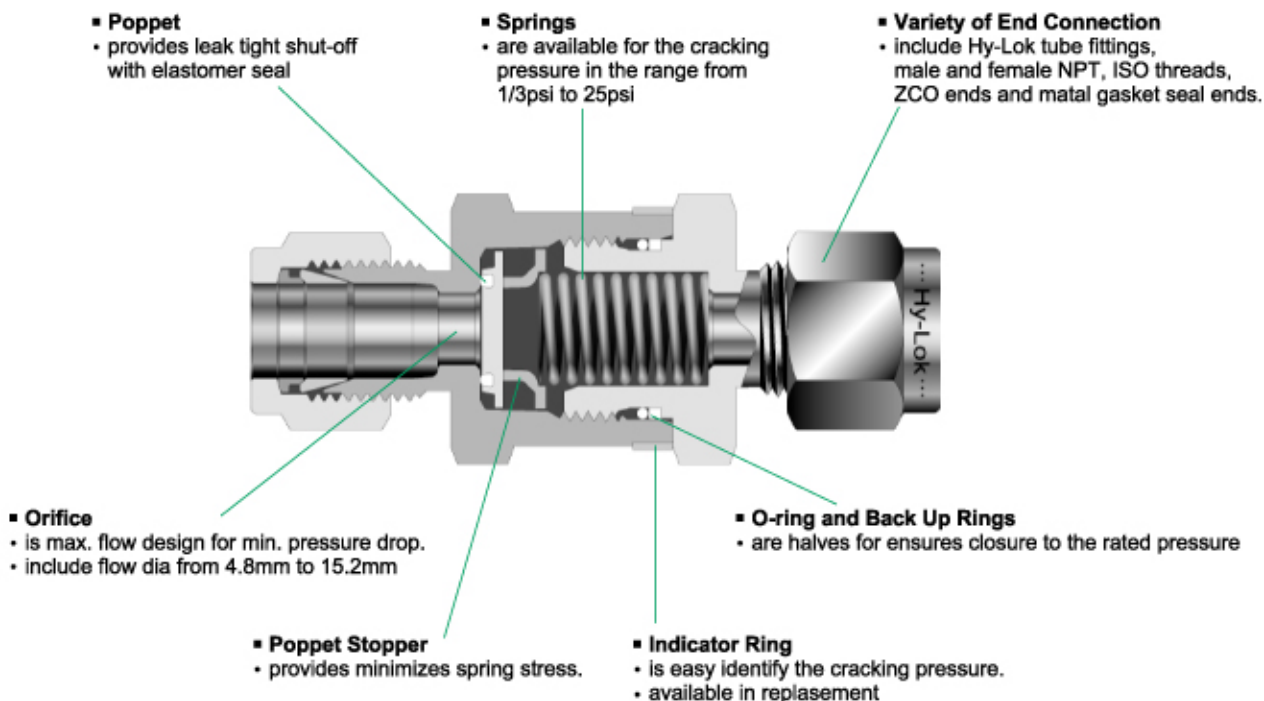


Hy-Lok 700H Series

High Pressure Compact Check Valves

Catalog No. H-700HCV
Mar. 2003



Features

- **Pressure rating** up to 6,000psig(413 bar) at 70°F(20°C)
- **Temperature rating** up to 375°F(190°C) with viton seal standard.
- **Suitable** for gas and liquids.
- **Blow-out resistant** and stop reversing flow design.
- **Body materials** available in 316 stainless steel and carbon steel, alloy 400.
- **100% factory tested**

Technical Data

Series	CVH1	CVH2	CVH3
End Connection Sizes	1/8", 1/4", and 6mm	3/8", 1/2", 5/8", 10mm, and 12mm	3/4", 1", 22mm, and 25mm
Working Pressure ^① and Back Pressure @70 °F (20 °C)	316SS		
	6000psig(413bar)		5000psig(344bar)
	Alloy 400		
	5000psig(344bar)		4700psig(323bar)
	Carbon Steel		
Flow Coefficient(Cv)	-		6000psig(413bar)
	0.67max (see flow rate)		5000psig(344bar)
Operating Temperature Range	Viton :-10° to 375 °F (-23° to 190 °C)		
Nominal Cracking Pressure	1/3, 1, 5, 10, 25psig (0.02, 0.06, 0.34, 068, and 1.7bar)		

^① Valve with female pipe and other ends have reduced pressure rating. See Table of Dimensions, page 2.



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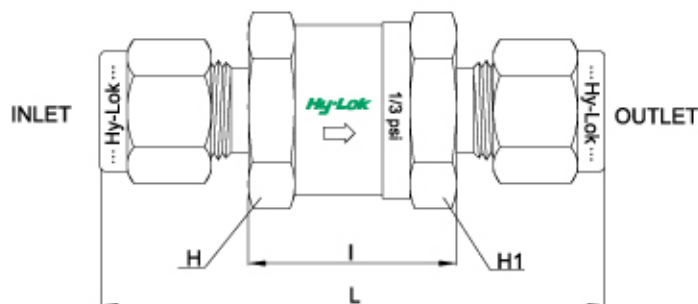


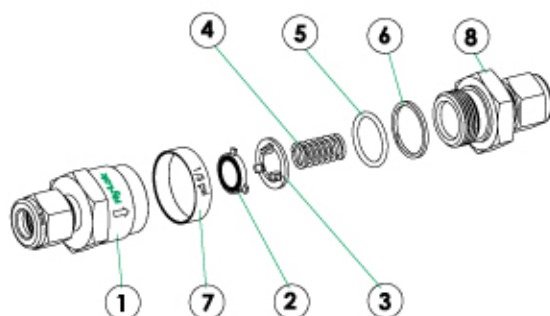
Table of Dimensions

Basic Part No.	Flow Dia.	Cv max.	End Connection		Pressure Rating psig (bar)			Dimensions			
			Inlet	Outlet	SS316	Carbon Steel	Alloy 400	L	I	H (Nut Hex)	H1 (Body Hex)
CVH1	- H - 2T	4.8	0.67	1/8" Hy-Lok	6000 (413)	-	5000 (345)	57.7	26.4	11.1	17.46
	- H - 4T			1/4" Hy-Lok				61.7		14.2	
	- H - 6M			6mm Male NPT				54.1		14.0	
	- F - 4N			1/4" Female NPT				45.5	26.4	-	
	- M - 2N			1/8" Male NPT				55.1		-	
	- M - 4N			1/4" Male NPT				57.9		-	
	- V - 4			1/4" Metal Gasket Seal				50.3		-	
	- ZCO - 4			1/4" O-Ring Face Seal				-		-	
CVH2	- H - 6T	7.8	1.8	3/8" Hy-Lok	6000 (413)	-	5000 (345)	69.9	31.2	17.46	25.4
	- H - 8T			1/2" Hy-Lok				75.2		22.22	
	- H - 8M			8mm Hy-Lok				68.6		16.0	
	- H - 10M			10mm Hy-Lok				71.1		19.0	
	- H - 12M			12mm Hy-Lok				75.2		22.00	
	- F - 6N			3/8" Female NPT	5000(345)	5300(365)	5000(345)	64.8	31.2	-	26.9
	- F - 8N			1/2" Female NPT	4600(316)	4900(337)	4600(316)	77.0		-	
	- M - 6N			3/8" Male NPT	6000 (413)	-	5000 (345)	59.9		-	25.4
	- M - 8N			1/2" Male NPT	-	-	-	69.3		-	
	- V - 8			1/2" Metal Gasket Seal	3500(241)	-	-	69.3		-	
	- ZCO - 8			1/2" O-Ring Face Seal	6000(413)	-	-	59.7		-	
CVH3	- H - 12T	15.0	4.7	3/4" Hy-Lok	5000 (345)	-	4700 (323)	89.4	45.2	28.58	41.28
	- H - 16T			1" Hy-Lok				98.6	45.5	38.1	
	- H - 22M			22mm Hy-Lok				88.4		32.0	
	- H - 25M			25mm Hy-Lok				98.6		40.0	
	- F - 12N			3/4" Female NPT	4300 (296)	-	-	82.0	-	-	
	- F - 16N			1" Female NPT	4100 (282)	-	-	97.3		-	
	- M - 12N			3/4" Male NPT	5000 (345)	-	4700 (323)	83.6		45.5	
	- M - 16N			1" Male NPT	-	-	-	93.2		45.7	
	- V - 12			3/4" Metal Gasket Seal	3000(206)	-	-	96.0		45.5	
	- ZCO - 12			3/4" O-Ring Face Seal	5000 (345)	-	-	73.7	45.0	-	
	- ZCO - 16			1" O-Ring Face Seal	-	-	-	-	45.2	-	

■ All dimensions in millimeters, reference only subject to change. Dimensions shown with Hy-Lok nuts in finger-tight position, where applicable.

■ (-) blank is not applicable

Materials of Construction



No.	Component	Valve Body Materials		
		316 Stainless Steel	Carbon Steel ^①	Alloy 400
		Grade/ASTM Specification		
1	Inlet Body	316SS/A479	Carbon Steel	Alloy 400/B164
2	Poppet ^①	Viton inserted	316SS/A479	Viton inserted Alloy 400/B164
3	Poppet Stopper	316SS/A479		
4	Spring	302SS/A313		Alloy 400/B164
5	O-Ring ^①	Viton Standard		
6	Back Up Ring	PTFE		
7	Indicator Ring	Stainless Steel		
8	Outlet Body ^③	316SS/A479	Carbon Steel	Alloy 400/B164

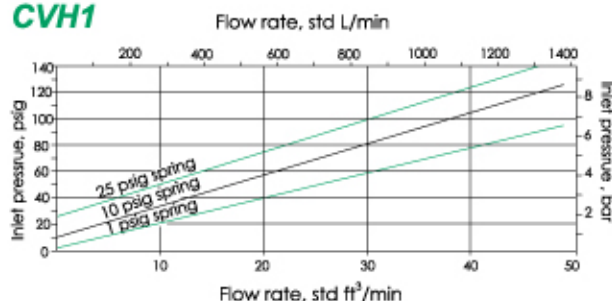
① Silicon based lubricant standard

② Molybdenum dry film lubricant on thread

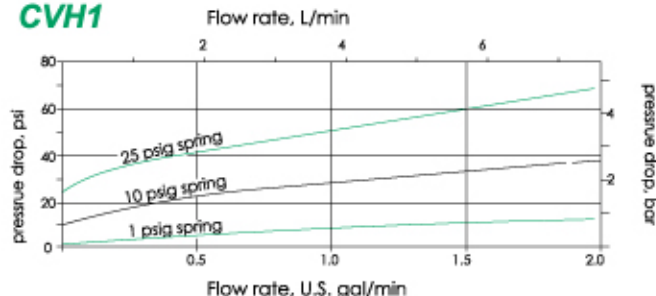
③ Yellow Zinc plated for corrosion resistance

Flow Rate

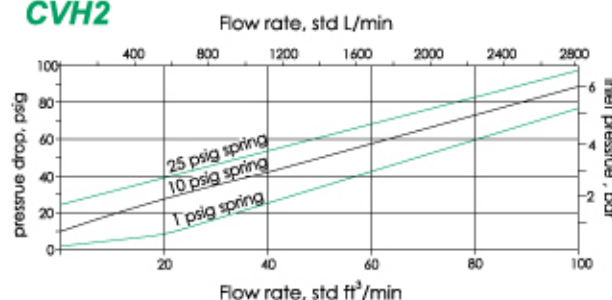
Air CVH1



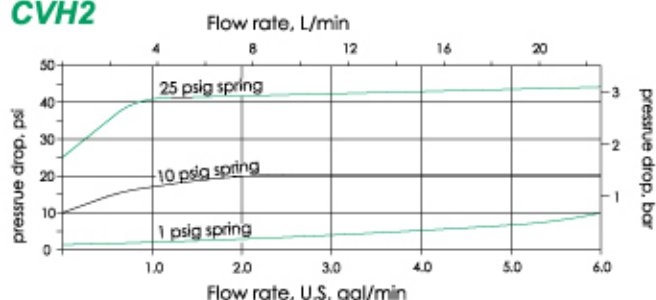
Water CVH1



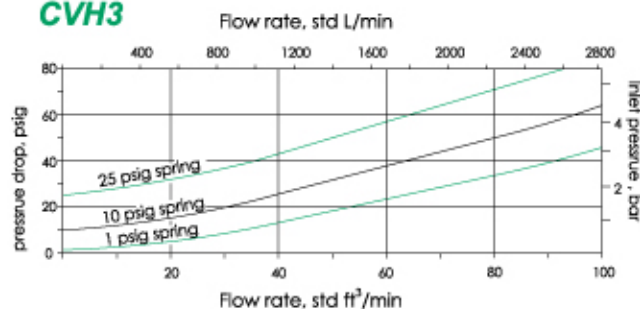
Air CVH2



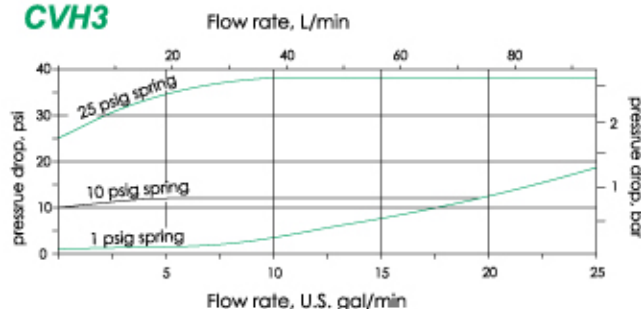
Water CVH2



Air CVH3



Water CVH3



Seal Materials

Viton seal materials are standard.
Other elastomer seals are available as following.

Material	Temperature Rating
Buna - N	-23 °C to 121 °C (-10 °F to 250 °F)
Ethylene Propylene	-46 °C to 149 °C (-50 °F to 300 °F)

Cleaning

- All valves are cleaned and packaged according to the standard specification of company cleaning procedure

Testing

- All valves are factory tested for cracking pressure and reseal performance.

Cracking Pressure and Reseal Pressure at 70 °F(20 °C)

Nominal Spring Range psig(bar)	Cracking Pressure Range, psig (bar)	Min. Reseal Pressure psig (bar)
1/3 (0.02)	0-3 (0-0.20)	6 (0.41) back pressure
1 (0.068)	0-4 (0-0.27)	5 (0.34) back pressure
5 (0.34)	3-9 (0.20-0.62)	1 (0.068) back pressure
10 (0.68)	7-15 (0.48-1.0)	3 (0.20)
25 (1.7)	20-30 (1.3-2.0)	17 (1.1)

Maintenance Kits

- Seal kits and spring kits are available for retrofit or maintenance.
- For more information, contact your local authorized Hy-Lok Sales and Service Representative.

Special Applications

Sour Gas Valves

- for sour gas applications.
- Materials for wetted components are meet the guidelines of the National Association of Corrosion Engineers Specification (NACE MR 01-75)

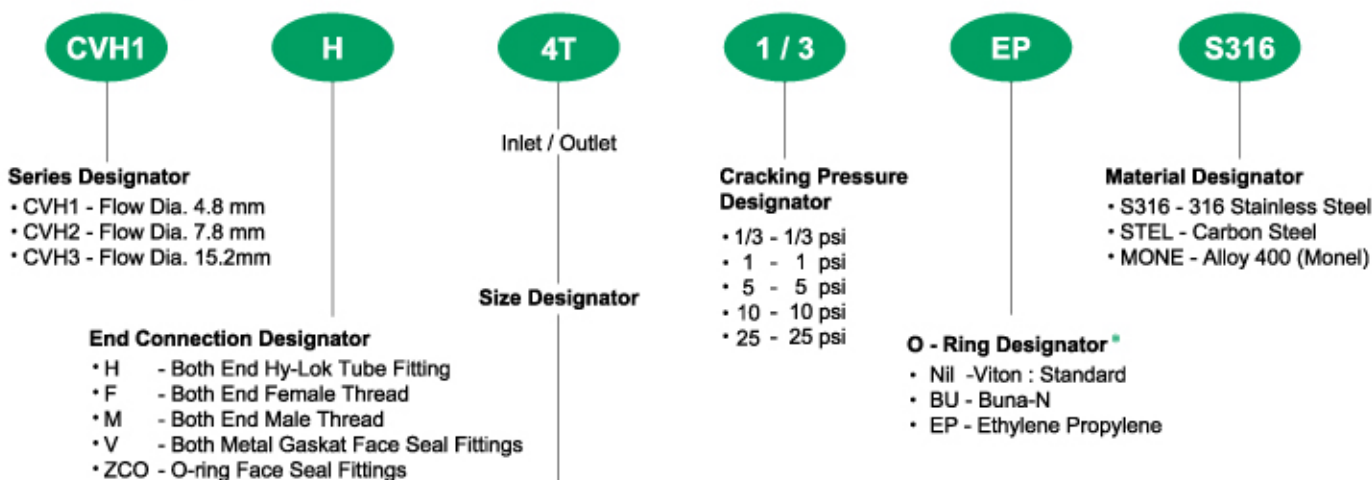
- Pressure Rating at 70 °F (20 °C)**
CVH1 and CVH2 Series:5000psig(343bar)
CVH3 Series:4700 psig(323bar)
- Temperature Rating**
-50° to 300 °F (-45 °C to 148 °C)
- Normal Cracking Pressure**
1/3,1,and 5psig (0.022,0.068,0.34bar)
- End Connections**
1/4,3/8,1/2,3/4, and 1 in. Hy-Lok Tube Fittings
- Material of Construction**
Body, Poppet - Alloy 400/B164
Poppet stopper - 316SS/A479
Seals - ethylene propylene
Spring - Alloy X - 750
Back Up Ring - PTFE
Indicator Ring - stainless steel
- How To Order**
To order, add designator-SG as a suffix to the basic part number with cracking pressure.
Example : CVH2 - H - 8T - 5 - SG

Fluorocarbon-Free Valves

- for system where, PTFE and fluorinated compounds can not be tolerated.

- Pressure Rating at 70 °F (20 °C)**
Same as standard product. See standard technical data and table of dimensions.
- Temperature Rating**
-50° to 300 °F (-45 °C to 148 °C)
- Normal Cracking Pressure**
Same as standard product. See technical data.
- End Connections**
All end connection type and sizes. See table of dimensions.
- Material of Construction**
Body - 316SS/A479, Alloy 400/B164, Carbon Steel
Poppet - 316SS/A479, Alloy 400/B164
Poppet stopper - 316SS/A479
Seals - ethylene propylene
Spring - 302SS, Alloy 400
Back Up Ring - PEEK
Indicator Ring - stainless steel
Labricant - hydrocarbon basd
- How To Order**
To order, add designator - FF as a suffix to the basic part number with cracking pressure.
Example : CVH1 - F - 4N - 1/3 - FF - S316

Ordering Information



Pipe Thread NPT (ISO / BSP)

Nom. Size	1/8"	1/4"	3/8"	1/2"	3/4"	1"
Designator	2N(R)	4N(R)	6N(R)	8N(R)	12N(R)	16N(R)

Tube

Fractional Tube	O.D.	1 / 8"	1 / 4"	3 / 8"	1 / 2"	3 / 4"	1"
Designator		2T	4T	6T	8T	12T	16T
Metric Tube	O.D.	3mm	6mm	10mm	12mm	20mm	25mm
Designator		3M	6M	10M	12M	20M	25M

Note * : No designator is required for standard.
e.g CVH1H - 4T - 1/3 - S316

SAFETY in VALVE SELECTION

Proper installation, material compatibility, operation and maintenance of these valves are the responsibility of the user. The total system design must be taken into consideration to ensure optimal performance and safety.



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