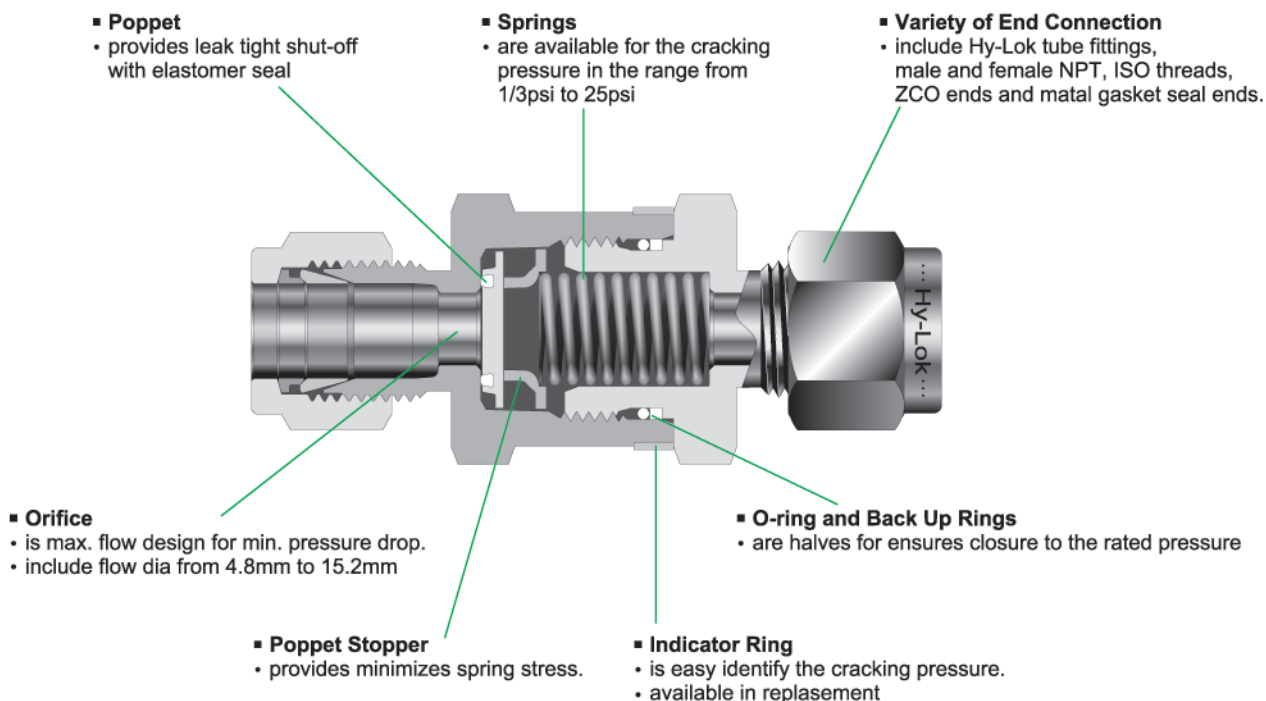


Hy-Lok 700H Series

High Pressure Compact Check Valves

Catalog No. H-700HCV
May, 2005



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.
- **SS316 body** material as standard.
- **100% factory tested**

Technical Data

Material	SS316		
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 and Back Pressure @70 °F (20 °C)	6000psig(413bar)		5000psig(344bar)
Flow Coefficient(Cv)	0.67max (see flow rate)	1.8max (see flow rate)	4.7max (see flow rate)
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)		

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



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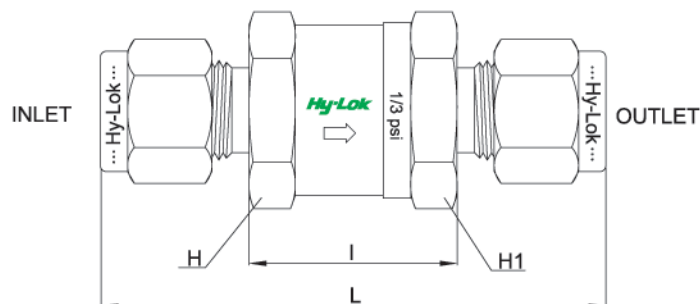
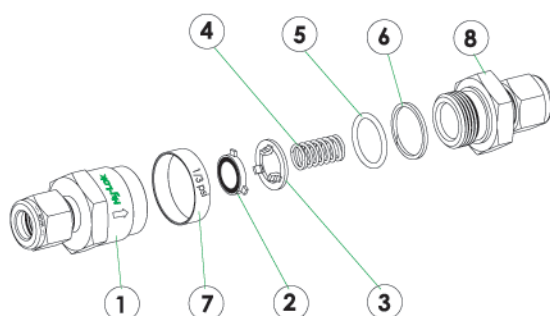


Table of Dimensions

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	
	1/4" Hy-Lok			61.7				14.2				
	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	-			
	- 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	31.2	-			
	- 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
- 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



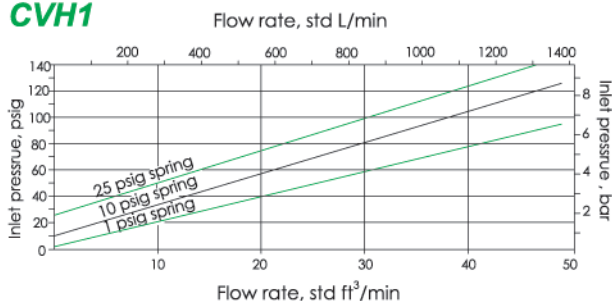
No.	Component	Valve Body Materials
		Material Grade / ASTM Specification
1	Inlet Body	SS316 / ASTM479
2	Poppet ^①	Viton - bonded SS316 / A479
3	Poppet Stopper	SS316 / ASTM479
4	Spring	SS302 / ASTM313
5	O-Ring ^①	Viton Standard
6	Back Up Ring	PTFE
7	Indicator Ring	Stainless Steel
8	Outlet Body ^②	SS316 / ASTM479

① Fluorocarbon-Based.

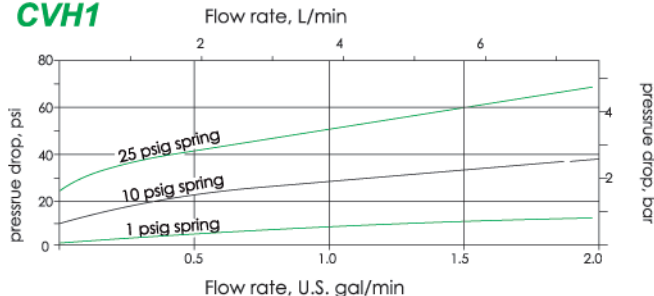
② Molybdenum dry film lubricant on thread.

Flow Rate

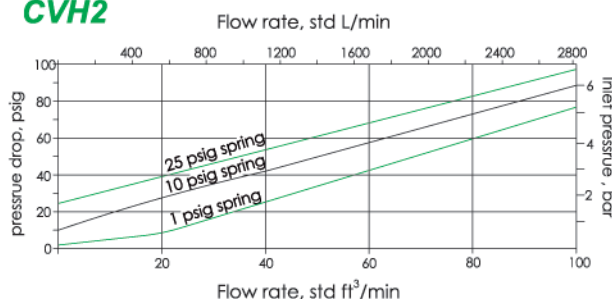
Air CVH1



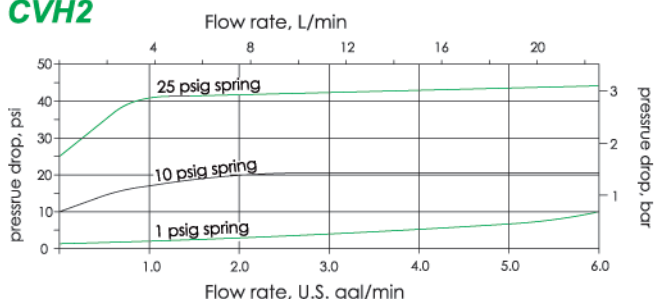
Water CVH1



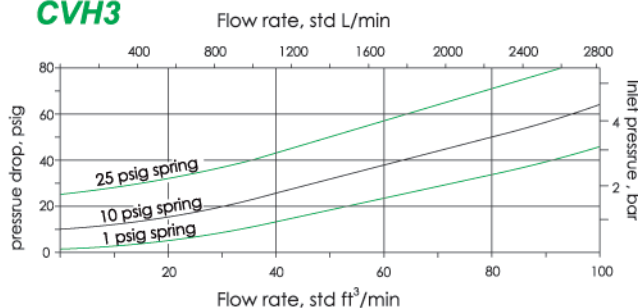
Air CVH2



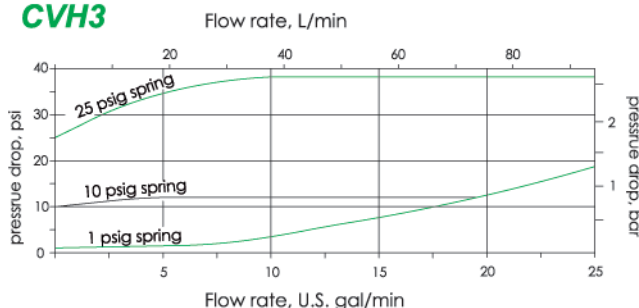
Water CVH2



Air CVH3



Water CVH3



Seal Materials

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

Material	Temperature Rating
NBR	-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)

Normal 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

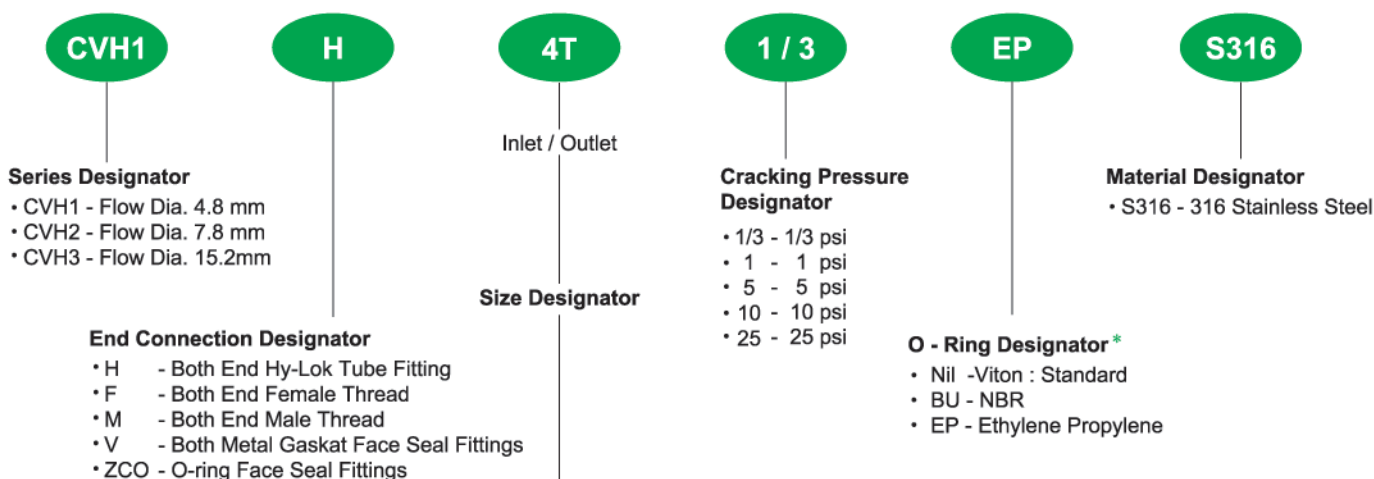
Body - 316SS/A479, Alloy 400/B164, Carbon Steel
Poppet - 316SS/A479, Alloy 400/B164
Poppet stopper - 316SS/A479
Seals - ethylene propylene
Spring - 302SS, Alloy 400
Back Up Ring - PEEK
Indicator Ring - stainless steel
Labricant - hydrocarbon basd

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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