Hy-Lok 700 Series

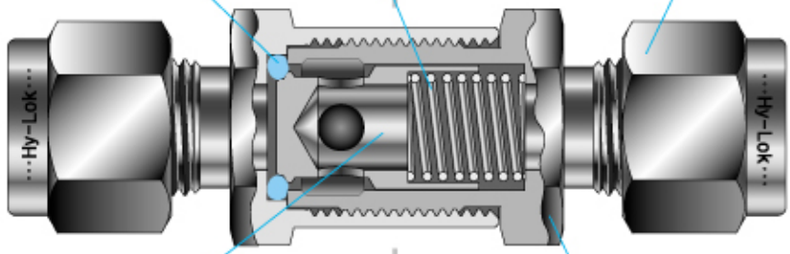
Check Valves

Catalog No. H-700CV
Apr. 2003

Variety of Springs
• are available for the cracking pressure in the range from 1/3 psi to 100psi.

Variety of End Connections
• include Hy-Lok tube fittings, male/female NPT threads, male/female ISO threads.

O-Ring
• provides leak tight shut-off.



Back Stopped Poppet
• prevents the spring from being overstressed.

Wide Range of Body Sizes
• allow Cv choices from 0.16 to 8.8

Features

- **Pressure rating** up to 3000psig (206bar) @ 70°F(21°C)
- **Temperature rating** up to 375°F (191°C) with standard Viton O-ring
- **Body materials** available in 316 stainless steel and brass
- **100% factory tested** for cracking and reseal

HY-LOK CORPORATION

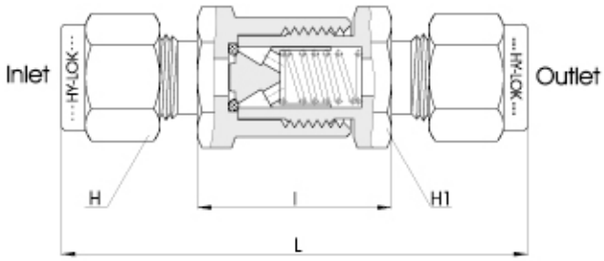


Table of Dimensions

Basic Part No.		Orifice	Cv	End Connections		Dimensions			
				Inlet	Outlet	L	I	H	H1
CV1	- H - 2T	4.8	0.16	1/8" Hy - Lok	1/8" Hy - Lok	55.60	25.00	11.11	15.88
	- M - 2N		0.47	1/8" Male NPT	1/8" Male NPT	44.40		–	
	- F - 2N			1/8" Female NPT	1/8" Female NPT	46.60	–	–	
	- H - 4T			1/4" Hy - Lok	1/4" Hy - Lok	60.00	25.00	14.29	
	- H - 6M			6mm Hy - Lok	6mm Hy - Lok			14.00	
	- MH - 4N4T			1/4" Male NPT	1/4" Hy-Lok	56.40		14.29	
	- M - 4N			1/4" Male NPT	1/4" Male NPT	53.40		–	
	- F - 4N			1/4" Female NPT	1/4" Female NPT	54.60		–	19.05
CV2	- H - 6T	7.1	1.48	3/8" Hy-Lok	3/8" Hy-Lok	74.80	36.20	17.46	22.22
	- H - 10M			10mm Hy-Lok	10mm Hy-Lok			19.00	
	- M - 6N			3/8" Male NPT	3/8" Male NPT	64.60		–	
CV3	- F - 6N	10.0	1.7	3/8" Female NPT	3/8" Female NPT	63.80	–	–	22.22
	- H - 8T			1/2" Hy - Lok	1/2" Hy - Lok	80.20	36.20	22.22	
	- H - 12M			12mm Hy - Lok	12mm Hy - Lok			22.00	
	- M - 8N			1/2" Male NPT	1/2" Male NPT	74.40		–	
CV4	- F - 8N	13.5	2.6	1/2" Female NPT	1/2" Female NPT	84.70	–	–	28.58
	- H - 10T			5/8" Hy - Lok	5/8" Hy - Lok	91.80	48.10	25.40	
CV5	- H - 12T	16.0	5.2	3/4" Hy - Lok	3/4" Hy - Lok	110.70	67.00	28.58	31.75
	- M - 12N			3/4" Male NPT	3/4" Male NPT	105.30		–	
	- F - 12N			3/4" Female NPT	3/4" Female NPT	103.00	–	–	
CV6	- H - 16T	18.0	8.0	1" Hy - Lok	1" Hy - Lok	121.20	68.40	38.1	34.93
	- M - 16N			1" Male NPT	1" Male NPT	116.20		–	
	- F - 16N			1" Female NPT	1" Female NPT	111.40		–	41.28

All dimensions in millimeters. Dimensions shown with Hy-Lok nuts in finger-tight position, where applicable.

Technical Data

End Connection Sizes	1 / 8", 1 / 4", 6mm	3 / 8", 1 / 2", 5 / 8", 10mm, 12mm	3 / 4", 1"
Max. Working Pressure @21°C (70°F)	3000 psig (206 bar)		Brass : 1500 psig (103 bar) 316SS : 2000 psig (137 bar)
Operating Temperature Range	Viton : -10°F to 375°F (-23°C to 191°C) Buna - N : -10°F to 250°F (-23°C to 121°C)		
Nominal Cracking Pressure	1 / 3, 1, 3, 10, 25, 100psi		1/3, 1, 3, 10, 25
Max Back Pressure	1000psi for 10psi or lower cracking pressure ; 3000psi for others	200psi	

Materials of Construction

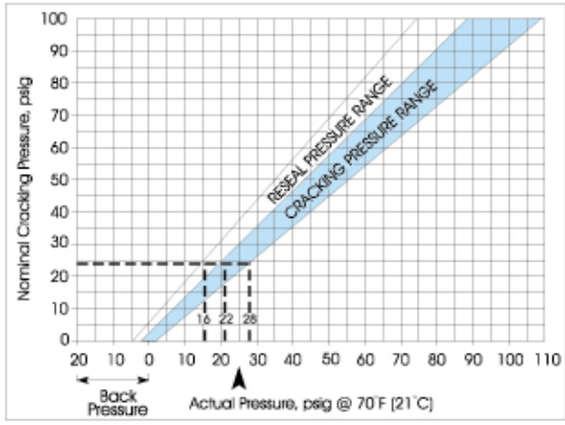
Body Materials Inlet & Outlet	316SS / A479	Brass
Poppet	316SS / A479	Brass
O - Ring	Viton	
Spring	302SS	302SS

Molybdenum dry film lubricant is used for outer body made of 316SS
Silicone based lubricant is used for poppet.

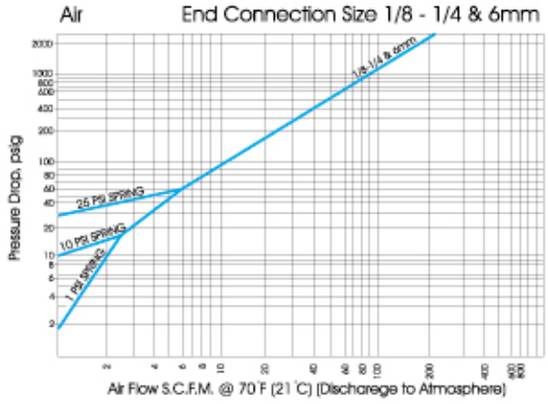
Cracking and Reseal Pressure

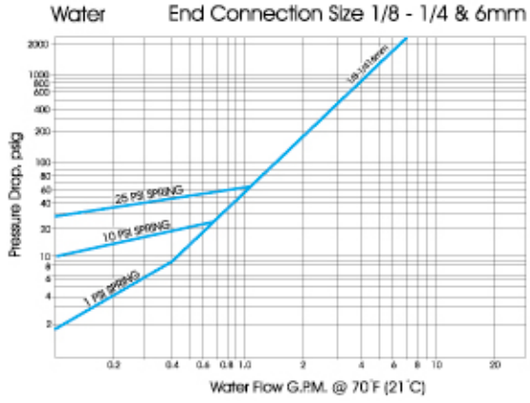
From the graph, the actual cracking pressure of nominal 25psi is shown to range between 22psi to 28psi, and the reseal pressure 16psi to 22psi.

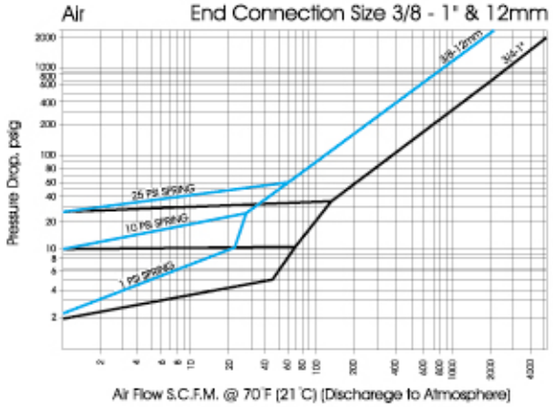
Back pressure may be required to reseal the valves with nominal cracking pressure of 5psi or lower.

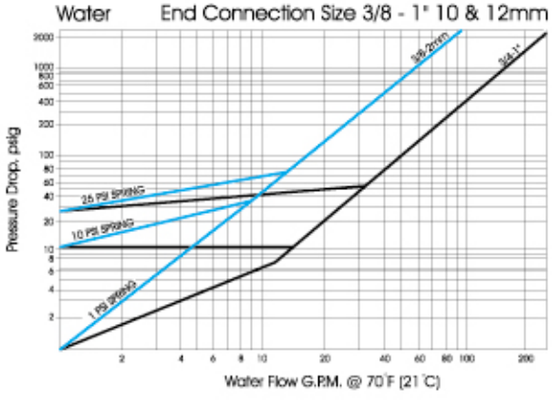


Flow Rate Curves









Cleaning

Each valve is cleaned and packaged according to the company standard cleaning procedures.

Testing

- Each valve is tested with nitrogen for cracking and reseal performance.
- Optional tests are available upon request.

O - Ring Materials

Available are various O-ring materials, whose temperature ratings are shown below.

Material	Temperature Rating
Viton	-23°C to 191°C (-10°F to 375°F)
Buna N	-23°C to 121°C (-10°F to 250°F)
Kalrez	-23°C to 315°C (-10°F to 600°F)
PTFE	-46°C to 232°C (-50°F to 450°F)
Neoprene	-40°C to 121°C (-40°F to 250°F)
Ethylene Propylene	-46°C to 149°C (-50°F to 300°F)

* High back pressure is required for PTFE to seal leak-tight.

Ordering Information

CV1 MH 4N 4T 1/3 KA S316

Series Designator by Orifice Size
- CV1: 4.8mm Orifice
- CV2: 7.1mm Orifice
- CV3: 10.0mm Orifice
- CV4: 13.5mm Orifice
- CV5: 16.0mm Orifice
- CV6: 18.5mm Orifice

End Connection Designator
- H : Both Ends Hy-Lok Tube Fitting
- M : Both Ends Male Pipe Thread
- F : Both Ends Female Pipe Thread
- MH : Male Pipe Thread & Hy-Lok Tube Fitting
- MF : Male Pipe Thread & Female Pipe Thread

Size Designator
Inlet / Outlet

Cracking Pressure Designator
- 1/3 : 1/3 psi
- 1 : 1 psi
- 3 : 3 psi
- 10 : 10 psi
- 25 : 25 psi
- 100 : 100 psi

O-Ring Material Designator *
- Nil : Viton (Standard)
- BU : Buna N
- KA : Kalrez
- PE : PTFE
- NE : Neoprene
- EP : Ethylene Propylene

Body Material Designator
- S316 : 316 Stainless Steel
- BRAS : Brass

- NPT (ISO/BSP)

Thread(In.)	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.(in.)	1/8	1/4	3/8	1/2	3/4	1
	Designator	2T	4T	6T	8T	12T	16
Metric Tube	O.D.(mm)	3	6	8	10	12	25
	Designator	3M	6M	8M	10M	12M	25M

Note * : No designator is required for standard, e.g. CV1MH-4N4T-1/3-S316.

SAFETY in VALVE SELECTION

Proper installation, materials 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.

■ QUALITY SYSTEM CERTIFICATES

ISO 9001
CERTIFICATE NO.GQC 212

ASME SECT III (MO)
CERTIFICATE NO. QSC 584

■ TYPE APPROVALS (for Hy-Lok Tube Fittings)

American Bureau Shipping
CERTIFICATE NO.00-BK50288-X

Lloyd's Register
CERTIFICATE NO.01/10075

GERMANISCHER LLOYD
CERTIFICATE NO.57798-91 HH

DET NORSKE VERITAS
CERTIFICATE NO.P-9100