

CHECK VALVES | H400 SERIES



- H-400** General purpose fixed cracking pressure check valve (MAWP 3000 psig)
- H-400 HP** High-performance fixed cracking pressure check valve (MAWP 6000 psig)
- H-400 CNG** ECE R110 Approved for the CNG / NGV fixed cracking pressure check valve (MAWP 3770 psig)
- H-400 OP** Compact one-piece fixed cracking pressure check valve (MAWP 3000 psigs)
- H-400 OPA** One-piece adjustable cracking pressure check valve (MAWP 3000 psig)
- H-400 A** Adjustable cracking pressure check valve (MAWP 3000 psig)

GENERAL PURPOSE FIXED CRACKING PRESSURE CHECK VALVE **H-400 SERIES**

FEATURES

- 316 St.St. or brass body construction
- Moderate-Pressure Characteristics up to 3000 psi (206 bar)
- Compact design
- Varying fixed cracking-pressure springs
- HAM-LET LET-LOK®, Male & Female NPT, and HTC® Face-Seal Bead Ends.

GENERAL

The H-400 Series is a compact design for instrumentation panels and systems, which provides an accurate operating point. H-400 valves are normally closed. When differential pressure between the inlet and outlet is higher than the set pressure of the spring, the loaded poppet will move backwards and will enable a free passage of flow through the valve. For vacuum applications please select H-400HP series.

MATERIALS OF CONSTRUCTION
for sizes 1/8"-1/2"

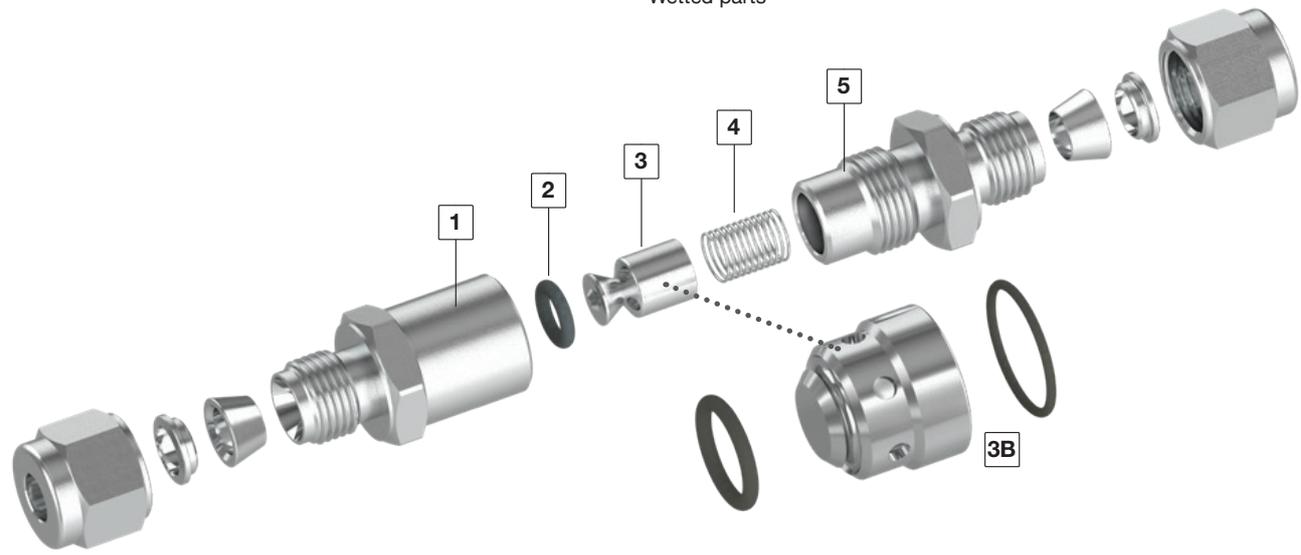
Item No.	Components	Qty.	Valve Body Material
1	*Body	1	St.St. 316
2	*O-ring	1	Fluorocarbon FKM
3	*Poppet	1	St.St. 316
4	A *Spring 1/3 psi	1	St.St. 304
	B *Spring 3 psi	1	St.St. 304
	C *Spring 10 psi	1	St.St. 304
	D *Spring 25 psi	1	St.St. 304
5	*End	1	St.St. 316
Lubricant		Silicone and PTFE based	

*Wetted parts

MATERIALS OF CONSTRUCTION
for sizes 3/4"-1"

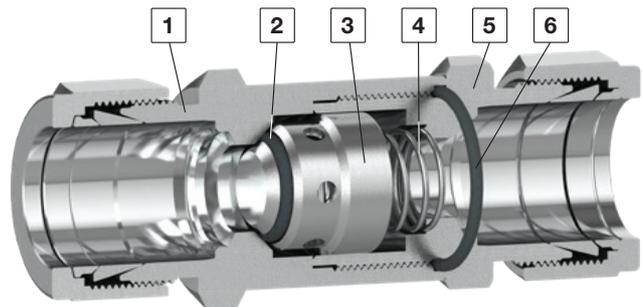
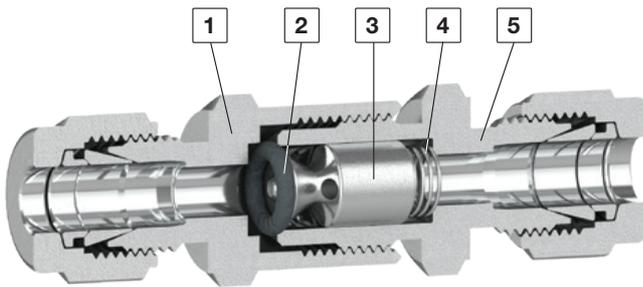
Item No.	Components	Qty.	Valve Body Material
1	*Body	1	St.St. 316
2	*O-ring	1	Fluorocarbon FKM
3B	*Poppet	1	St.St. 316
4	A *Spring 1/3 psi	1	St.St. 304
	B *Spring 3 psi	1	St.St. 304
	C *Spring 10 psi	1	St.St. 304
	D *Spring 25 psi	1	St.St. 304
5	*End	1	St.St. 316
6	*Upper O-ring	1	Fluorocarbon FKM
Lubricant		Silicone and PTFE based	

*Wetted parts

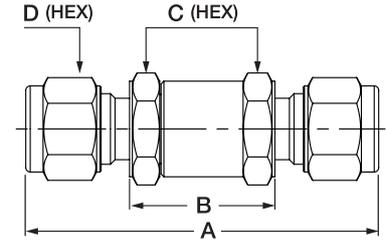


Sizes 1/8"-1/2"

Sizes 3/4"-1"



STANDARD CONFIGURATION DIMENSIONS



Valve Type	Connection / Size		Cv	A		B		C		D	
	Inlet	Outlet		mm	in	mm	in	mm	in	mm	in
H-400	1/8" LET-LOK®	1/8" LET-LOK®	0.1	56.0	2.20	25.3	1.00	15.88	5/8	11.11	7/16
H-400	1/4" LET-LOK®	1/4" LET-LOK®	0.47	60.5	2.38	25.0	0.98	15.88	5/8	14.28	9/16
H-400	6 MM LET-LOK®	6 MM LET-LOK®	0.47	60.5	2.38	25.0	0.98	15.88	5/8	14.00	
H-400	3/8" LET-LOK®	3/8" LET-LOK®	1.47	63.5	2.50	24.9	0.98	17.46	11/16	17.46	11/16
H-400	8 MM LET-LOK®	8 MM LET-LOK®	1.47	63.3	2.49	24.9	0.98	17.5	11/16	16.00	
H-400	10 MM LET-LOK®	10MM LET-LOK®	1.68	64.0	2.52	24.9	0.98	17.46	11/16	19.00	
H-400	1/2" LET-LOK®	1/2" LET-LOK®	1.68	77.0	3.03	32.6	1.28	23.8	15/16	22.23	7/8
H-400	12 MM LET-LOK®	12 MM LET-LOK®	1.68	77.0	3.03	32.8	1.28	23.8	15/16	22.00	
H-400	3/4" LET-LOK®	3/4" LET-LOK®	4.48	88.5	3.48	44.4	1.75	28.6	1-1/8	28.60	1-1/8
H-400	1" LET-LOK®	1" LET-LOK®	4.48	120	4.72	67.2	2.65	34.9	1-3/8	38.10	1-1/2
H-400	1" LET-LOK® High flow	1" LET-LOK® High flow	7.9	120	4.72	67.2	2.65	41.28	1-5/8	38.10	1-1/2
H-410	1/8" Female NPT	1/8" Female NPT	0.1	44.0	1.73	25.4	1.00	15.88	5/8		
H-410	1/4" Female NPT	1/4" Female NPT	0.47	52.5	2.07	28.0	1.10	19.05	3/4		
H-410	3/8" Female NPT	3/8" Female NPT	1.47	51.5	2.03	34.1	1.34	22.23	7/8		
H-410	1/2" Female NPT	1/2" Female NPT	1.68	76.5	3.01	43.4	1.71	28.6	1-1/8		
H-410	3/4" Female NPT	3/4" Female NPT	4.48	86.0	3.39	56.0	2.20	34.9	1-3/8		
H-410	1" Female NPT	1" Female NPT	4.48	107	4.21	73.0	2.87	41.28	1-5/8		
H-410	1" Female NPT High flow	1" Female NPT High flow	7.9	107	4.21	67.2	2.65	41.28	1-5/8		
H-480	1/8" Male NPT	1/8" Male NPT	0.1	44.3	1.74	24.9	0.98	15.88	5/8		
H-480	1/4" Male NPT	1/4" Male NPT	0.47	55.7	2.19	25.0	0.98	19.05	3/4		
H-480	3/8" Male NPT	3/8" Male NPT	1.47	53.1	2.09	24.9	0.98	17.46	11/16		
H-480	1/2" Male NPT	1/2" Male NPT	1.68	70.4	2.77	32.6	1.28	23.8	15/16		
H-480	1/4" Male Face Seal	1/4" Male Face Seal	0.47	56.4	2.22	24.9	0.98	15.88	5/8		
H-480	1/2" Male Face Seal	1/2" Male Face Seal	1.68	68.2	2.69	32.6	1.28	23.8	15/16		
H-485	1/8" Male NPT	1/8" Female NPT	0.1	44.3	1.74	25.4	1.0	15.88	5/8		
H-485	1/4" Male NPT	1/4" Female NPT	0.47	53.7	2.11	27.3	1.07	19.05	3/4		

Dimensions are for reference only and are subject to change.



GENERAL PURPOSE FIXED CRACKING PRESSURE CHECK VALVE **H-400 SERIES**

CRACKING PRESSURE

The differential pressure between the inlet and outlet, at which an initial flow is passing through the valve.

RESEAL PRESSURE

The differential pressure between the outlet and inlet, at which no flow is passing through the valve.

⚠ Lubricant-Free cleaned valves have higher re-seal pressure.

BACK PRESSURE

Maximum allowable back pressure is rated to 1000 psi (69 bar) for 1/4, 200 psi (14 bar) for 3/8 to 1".

In systems where pulses, pressure shock or pressure surges occur please select a valve from the H-400HP Series

O-RINGS*

O-ring Material	Temperature Rating °F (°C)
Buna N	-10 to 250 (-23 to 121)
EPDM	-50 to 300 (-45 to 148)
Fluorocarbon FKM	-10 to 375 (-23 to 190)
Perfluor	-15 to 500 (-26 to 260)
Polychloroprene (CR)	-40 to 250 (-40 to 121)

*Different materials are available for special applications.

MAWP PRESSURE AT 21°C (70°F)

SIZE	BRASS psi (bar)	ALSI 316 psi (bar)
1/8, 1/4, 3/8, 1/2, 5/8, 6mm, 8mm, 10mm, 12mm	3000 (207)	3000 (207)
3/4, 1", 16mm, 20mm, 22 mm	1500 (103)	2000 (138)**

**CRN approved 1" Female NPT is limited to 1500 psi (103 bar)

CRACKING AND RESEAL PRESSURE

Nominal Cracking Pressure	Cracking Pressure Range	Reseal Pressure
psi (bar)	psi (bar)	psi (bar)
1/3 (0.02)	Up to 3 (0.2)	Up to 6 (0.40) back pressure
1 (0.06)	Up to 4 (0.27)	Up to 6 (0.41) back pressure
5 (0.34)	3 to 9 (0.20 to 0.62)	Up to 2 (0.13) back pressure
10 (0.68)	7 to 15 (0.48 to 1.0)	3 (0.2) or more inlet pressure
25 (1.7)	20 to 30 (1.3 to 2.0)	17 (1.1) or more inlet pressure

PRESSURE - TEMPERATURE RATING FOR STANDARD CONFIGURATIONS

1/8 TO 1/2 INCH, 3MM TO 12 MM

Material	316St.St.	Brass
Temperature F° (C°)	Working Pressure, psi (bar)	
-10 (-23) to 100 (37)	3000 (206)	3000 (206)
200 (93)	2575 (177)	2600 (179)
250 (121)	2450 (168)	2405 (165)
300 (148)	2325 (160)	-
375 (190)	2185 (150)	-

3/4 TO 1 INCH, 18MM TO 25MM

Material	316St.St.	Brass
Temperature F° (C°)	Working Pressure, psi (bar)	
-10 (-23) to 100 (37)	2000 (137)	1500 (103)
200 (93)	1715 (118)	1300 (89.5)
250 (121)	1630 (112)	1200 (82.6)
300 (148)	1545 (106)	-
375 (190)	1450 (99.9)	-

Note: Ratings based on Fluorocarbon FKM O-ring.

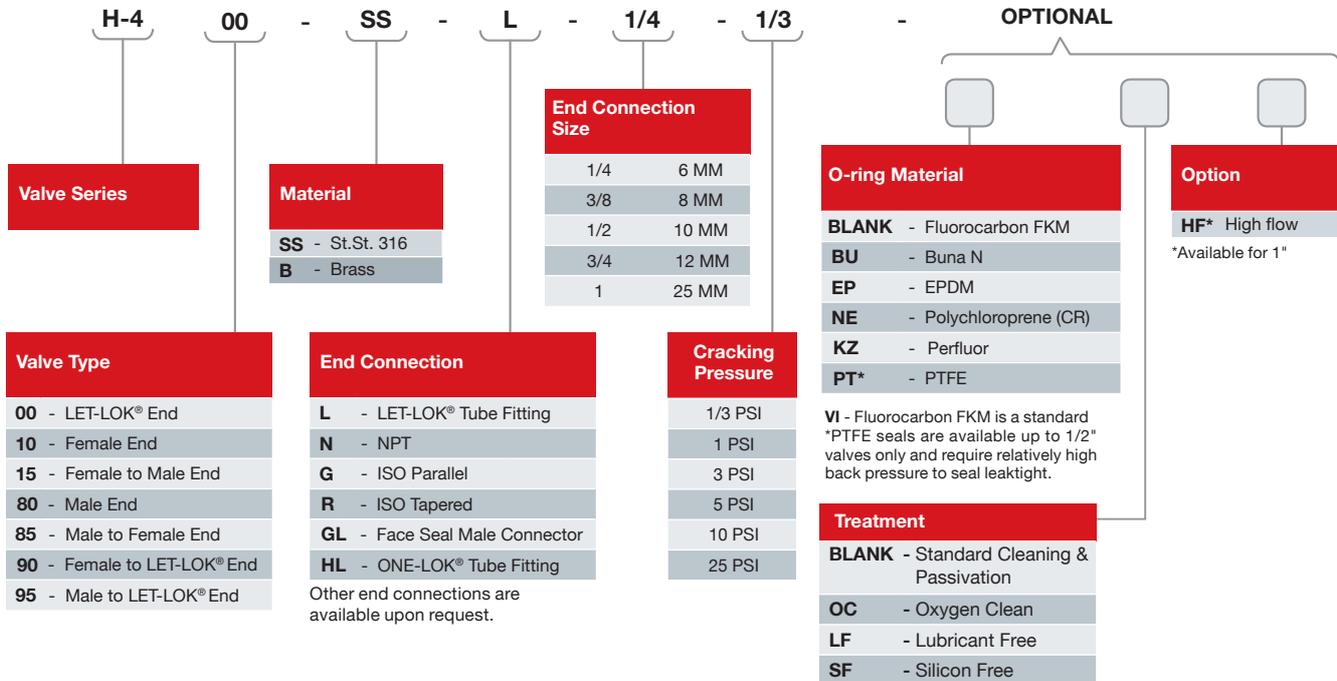
CLEANING & PACKAGING

Every H-400 series Check valve is cleaned in accordance with Standard Cleaning and Packaging (procedure 8184). Oxygen Clean & Lubricant-Free Cleaning and packaging, in accordance with Special Cleaning and Packaging (procedure 8185), is available as an option.

TESTING

The H-400 valve designs have been tested for proof and burst. Every H-400 valve is factory tested for proper assembly with Nitrogen at 1000 psig (68 bar) for 10 seconds. Every H-400 valve is factory tested for functionality at the relevant cracking pressure, 5 cycles each. No detectable leakage is allowed during shell test.

H-400 SERIES ORDERING INFORMATION



SPARE KITS

Series	End Size	Spring Kit*	O-Ring Kit**
H-410 Female Ends H-490 Female to Let-Lok®	1/8	Z-400-SPK-1/4- X PSI	Z-400-SK-1/4- □
	1/4 , 3/8	Z-400-SPK-3/8- X PSI	Z-400-SK-3/8- □
	1/2	Z-410-SPK-1/2- X PSI	Z-410-SK-1/2- □
	3/4	Z-410-SPK-3/4- X PSI	Z-410-SK-3/4- □
	1	Z-410-SPK-1"- X PSI	Z-410-SK-1"- □
H-485 Male to Female H-415 Female to Male	1/8	Z-400-SPK-1/4- X PSI	Z-400-SK-1/4- □
	1/4,3/8	Z-400-SPK-3/8- X PSI	Z-400-SK-3/8- □
	1/2	Z-410-SPK-1/2- X PSI	Z-410-SK-1/2- □
	3/4	Z-410-SPK-3/4- X PSI	Z-410-SK-3/4- □
H-400 Let-Lok® H-480 Male Ends H-495 Male to Let-Lok	1/8, 1/4, 6mm	Z-400-SPK-1/4- X PSI	Z-400-SK-1/4- □
	3/8 , 8mm, 10mm	Z-400-SPK-3/8- X PSI	Z-400-SK-3/8- □
	1/2, 12mm	Z-400-SPK-1/2- X PSI	Z-400-SK-1/2- □
	3/4	Z-400-SPK-3/4- X PSI	Z-400-SK-3/4- □
	1	Z-410-SPK-1- X PSI	Z-410-SK-1- □

* Spring Kit includes Spring and label
** O-ring Kit includes O-ring and label

X =spring type per "How To Order"
□ =O-Ring material per "How To Order"

HAM-LET Check Valves should never be used as safety relief devices. These valves are not designed for pressure release.

HIGH PERFORMANCE FIXED CRACKING PRESSURE CHECK VALVE **H-400HP SERIES**

FEATURES

- 316 St.St. construction
- High-Pressure Characteristics up to 6000 psi (413 bar)
- Small Size
- Variable Fixed Cracking Pressure
- HAM-LET LET-LOK®, Male & Female NPT, and HTC Face Seal Bead Ends
- Suitable for vacuum applications
- ECE R110 approved for the CNG/NGV as an option

GENERAL

The H-400HP Series is a compact, robust and heavy duty design for high-pressure (up to 6000 psi) instrumentation panels and systems, which provides an accurate operating point. H-400HP valves are normally closed. When the differential pressure between the inlet and the outlet is higher than the set pressure of the spring, the loaded poppet will move backwards and provide a free passage of flow through the valve.

H-400HP CNG is specially designed for the CNG/NGV

MATERIALS OF CONSTRUCTION

No.	Components	Qty.	Standard	CNG ⁽¹⁾
1	*Body	1	St.St. ASTM A-479	St.St. ASTM A-479
2	*Bonded Poppet	1	Fluorocarbon FKM Bonded on 316 St.St.	Low temperature Fluorocarbon FKM Bonded on 316 St.St.
3	*Pusher	1	St.St. ASTM A-479	St.St. ASTM A-479
4	*Spring	1	St.St. 304	St.St. 304
5	*O-ring	1	Fluorocarbon FKM	Low temperature Fluorocarbon FKM
6	*Back Up	1	Fluorocarbon FKM	Fluorocarbon FKM
7	*End	1	St.St. ASTM A-479	St.St. ASTM A-479
Lubricant		Silicone and PTFE based		

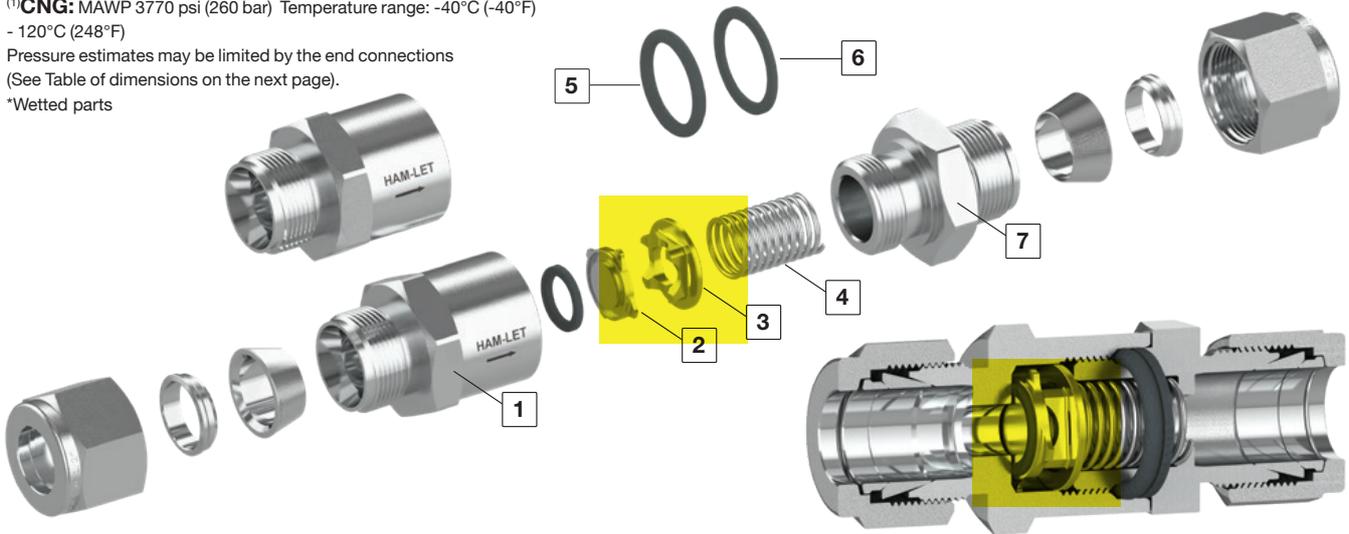
⁽¹⁾**CNG:** MAWP 3770 psi (260 bar) Temperature range: -40°C (-40°F) - 120°C (248°F)

Pressure estimates may be limited by the end connections (See Table of dimensions on the next page).

*Wetted parts

PRESSURE TEMPERATURE RATING*

Material Size	316SS	
	1/8, 1/4, 3/8, 1/2", 6,8,10,12mm	22&25mm, 3/4&1"
Temperature F° (C°)	Working-Pressure, psi (bar)	
-10 (-23) to 100 (37)	6000 (413)	5000 (344)
200 (93)	5160 (355)	4290 (296)
250 (121)	4910 (338)	4080 (281)
300 (148)	4660 (321)	3875 (267)
400 (204)	4280 (295)	3560 (245)



CRACKING AND RESEAL PRESSURE

Nominal Cracking Pressure	Cracking Pressure Range	Reseal Pressure
psi (bar)	psi (bar)	psi (bar)
1/3 (0.02)	Up to 3 (0.2)	Up to 6 (0.40) back pressure
1 (0.06)	Up to 4 (0.27)	Up to 4 (0.27) back pressure
5 (0.34)	3 to 9 (0.20 to 0.62)	Up to 2 (0.13) back pressure
10 (0.68)	7 to 15 (0.48 to 1.0)	3 (0.2) or more inlet pressure
25 (1.7)	20 to 30 (1.3 to 2.0)	17 (1.1) or more inlet pressure

CRACKING PRESSURE

The differential pressure between the inlet and outlet, at which an initial flow is passing through the valve.

TECHNICAL DATA

Connection Sizes	Max. Flow Coefficient (Cv)	Nominal Cracking Pressure psi (bar)	Back Pressure at 70°F (20°C) psi (bar)
1/8, 1/4, 6mm	0.67	1/3, 1, 5, 10 & 25	6000 (413)
3/8, 1/2, 8-12 mm	1.80	(0.02, 0.06, 0.34,	
3/4, 1, 22mm, 25mm	4.7	0.68, and 7.1)	5000 (344)

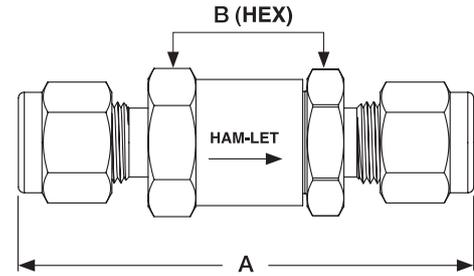
RESEAL PRESSURE

The differential pressure between the outlet and inlet, at which no flow is passing through the valve.

⚠ **Lubricant-Free cleaned valves have higher re-seal pressure.**

CLEANING & PACKAGING

Every H-400HP series Check valve is cleaned in accordance with Standard Cleaning and Packaging (procedure 8184). Oxygen Clean & Lubricant-Free Cleaning and packaging, in accordance with Special Cleaning and Packaging (procedure 8185), is available as an option.



STANDARD CONFIGURATION DIMENSIONS

Valve Type	Inlet	Outlet	Pressure Ratings at 100F° / 37C° psig (bar)	Dimensions		
				A		B
				mm	in	in
H-400HP	1/8" LET-LOK®	1/8" LET-LOK®	6000 (413)	57.8	2.28	11/16
	1/4" LET-LOK®	1/4" LET-LOK®		61.8	2.43	
	3/8" LET-LOK®	3/8" LET-LOK®		70.0	2.76	1
	1/2" LET-LOK®	1/2" LET-LOK®		75.3	2.96	
	3/4" LET-LOK®	3/4" LET-LOK®	5000 (344)	89.5	3.52	1 5/8
	1" LET-LOK®	1" LET-LOK®	4700 (323)	98.5	3.88	
	6MM LET-LOK®	6MM LET-LOK®	6000 (413)	61.8	2.43	11/16
	8MM LET-LOK®	8MM LET-LOK®		68.5	2.70	
	10MM LET-LOK®	10MM LET-LOK®		71.1	2.80	1
	12MM LET-LOK®	12MM LET-LOK®		75.3	2.96	
22MM LET-LOK®	22MM LET-LOK®	5000 (344)	88.5	3.48	1 5/8	
25MM LET-LOK®	25MM LET-LOK®	4700 (323)	98.5	3.88		
H-410HP	1/4" Female NPT/BSPT	1/4" Female NPT/BSPT	6000 (413)	54.1	2.13	11/16
	3/8" Female NPT/BSPT	3/8" Female NPT/BSPT	5000 (344)	64.8	2.55	1
	1/2" Female NPT/BSPT	1/2" Female NPT/BSPT	4600 (316)	83.6	3.03	1
	3/4" Female NPT/BSPT	3/4" Female NPT/BSPT	4300 (296)	90.1	3.23	1 5/8
	1" Female NPT/BSPT	1" Female NPT/BSPT	4100 (282)	97.3	3.83	
	1/4" Female BSPP	1/4" Female BSPP	6000 (413)	58.0	2.28	11/16
	1/2" Female BSPP	1/2" Female BSPP	4600 (316)	83.5	3.29	1
	3/4" Female BSPP	3/4" Female BSPP	4300 (296)	90.1	3.55	1 5/8
	1" Female BSPP	1" Female BSPP	4100 (282)	97.4	3.83	
	1/2" Female SAE/MS	1/2" Female SAE/MS	4600 (316)	69.5	2.74	1
H-480HP	1/8" Male NPT/BSPT	1/8" Male NPT/BSPT	6000 (413)	45.6	1.80	11/16
	1/4" Male NPT/BSPT	1/4" Male NPT/BSPT	6000 (413)	55.0	2.17	
	3/8" Male NPT/BSPT	3/8" Male NPT/BSPT		60.0	2.36	1
	1/2" Male NPT/BSPT	1/2" Male NPT/BSPT		6000 (413)	69.2	
	3/4" Male NPT/BSPT	3/4" Male NPT/BSPT	5000 (344)	83.5	3.29	1 5/8
	1" Male NPT/BSPT	1" Male NPT/BSPT		93.3	3.67	
	1/4" Male BSPP	1/4" Male BSPP	6000 (413)	55.0	2.17	3/4
	1/2" Male BSPP	1/2" Male BSPP		69.2	2.72	1
	3/4" Male BSPP	3/4" Male BSPP	5000 (344)	85.2	3.35	1 5/8
	1" Male BSPP	1" Male BSPP		93.3	3.67	
	1/2" Male SAE/MS	1/2" Male SAE/MS	6000 (413)	63.0	2.48	1
	1/4" Male HO Fitting	1/4" Male HO Fitting		50.4	1.98	11/16
	1/2" Male HO Fitting	1/2" Male HO Fitting		59.8	2.35	1
	3/4" Male HO Fitting	3/4" Male HO Fitting	5000 (344)	73.6	2.90	1 5/8
	1" Male HO Fitting	1" Male HO Fitting		73.6	2.90	
	1/4" Male Face Seal	1/4" Male Face Seal	6000 (413)	58.0	2.28	11/16
	1/2" Male Face Seal	1/2" Male Face Seal	3500 (241)	69.2	2.72	1
	3/4" Male Face Seal	3/4" Male Face Seal	3000 (206)	96.1	3.78	1 5/8

Dimensions are for reference only and are subject to change.

HIGH PERFORMANCE FIXED CRACKING PRESSURE CHECK VALVE **H-400HP SERIES**



O-RINGS

Different materials are available for special applications.

O-ring Material	Temperature Rating °F (°C)
Buna N	-10 to 250 (-23 to 121)
EPDM	-50 to 300 (-45 to 148)
Fluorocarbon FKM	-10 to 400 (-23 to 204)
Polychloroprene (CR)	-40 to 250 (-40 to 121)

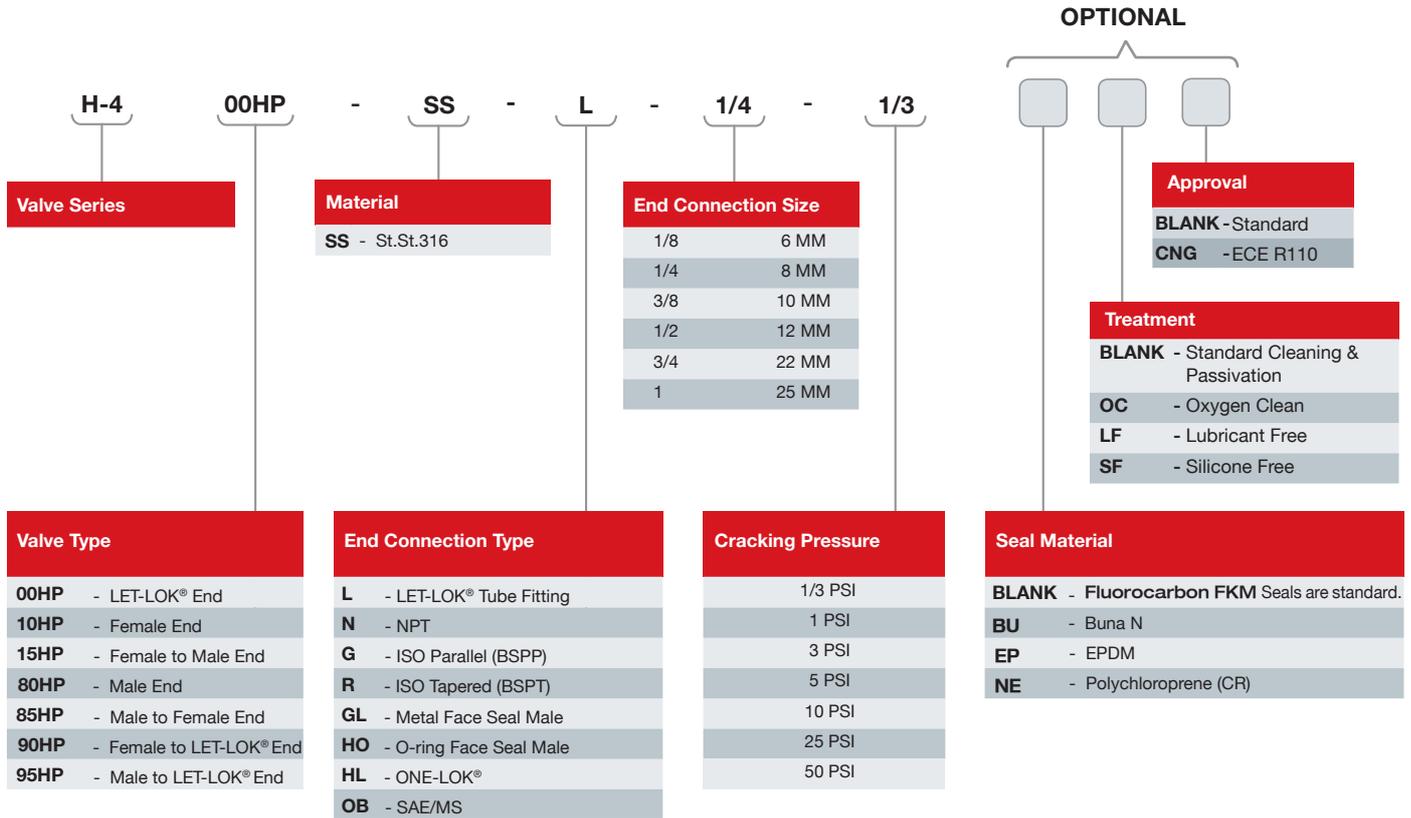
TESTING

The H-400HP valve designs have been tested for proof and burst. Every H-400HP valve is factory tested for proper assembly with Nitrogen at 1000 psig (68 bar) for 10 seconds.

Every H-400HP valve is factory tested for functionality at the relevant cracking pressure, 5 cycles each.

No detectable leakage is allowed during shell test.

H-400HP SERIES ORDERING INFORMATION



Note: Check valves are designed and suitable for direct flow control only. These valves are not meant for pressure release.

ORDERING INFORMATION SPARE PARTS KIT / REPAIR KIT

SEAL KIT

The kit includes O-ring, Back-up & Bonded Poppet and Label.

Z - 400HP - SK - 1/4 - VI

Body Designator per End Connection

1/4	For	1/8, 1/4, 6MM
1/2	For	3/8, 1/2, 10MM, 12MM
3/4	For	3/4, 1", 25MM

Seal Material

VI	-	Fluorocarbon FKM
BU	-	Buna N
NE	-	Polychloroprene (CR)
EP	-	EPDM

SPRING KIT

The kit includes Spring & Label.

Z - 400HP - SPK - 1/4 - 1/3

Body Designator per End Connection

1/4	For	1/8, 1/4, 6MM
1/2	For	3/8, 1/2, 10MM, 12MM
3/4	For	3/4, 1", 25MM

Cracking Pressure

1/3 PSI
1 PSI
3 PSI
5 PSI
10 PSI
25 PSI
50 PSI

Warning!

The system designer and user have the sole responsibility for selecting products suitable for their special application requirements, ensuring their safe and trouble-free installation, operation, and maintenance. Application details, material compatibility and product ratings should all be considered for each selected product. Improper selection, installation or use of products can cause property damage or personal injury.

HAM-LET Check Valves should never be used as safety relief devices.

COMPACT ONE-PIECE FIXED CRACKING PRESSURE CHECK VALVE **H-400OP SERIES**

GENERAL

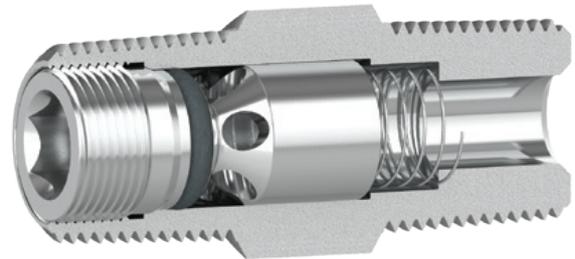
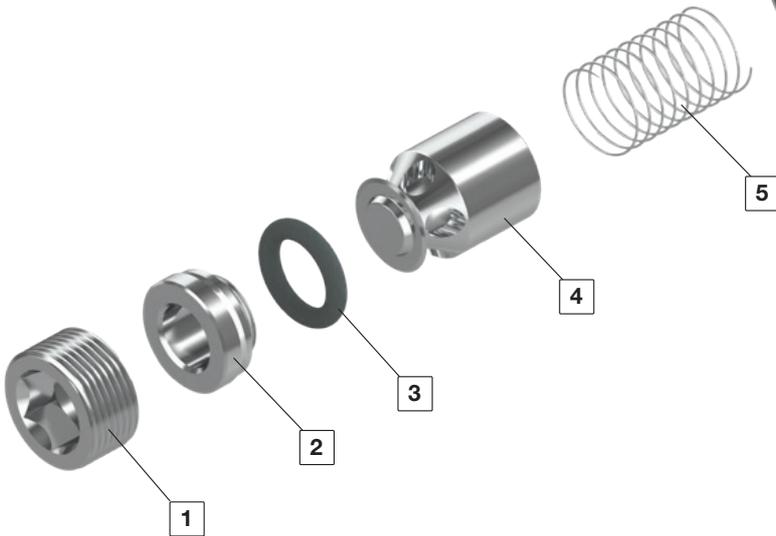
The H-400OP Series is a compact one-piece design for moderate pressure (up to 3000 psi) instrumentation panels and systems, which provides a fixed operating point. H-400OP valves are normally closed. When the differential pressure between the inlet and the outlet is higher than the set pressure of the spring, the loaded poppet will move backwards and provide a free passage for flow through the valve.
For vacuum applications, please select the H-400HP series.



MATERIALS OF CONSTRUCTION

Item No.	Components	Qty.	Valve Body Material	
			316 St.St.	Brass
1	*Lock Screw	1	St.St. 304	Brass ASTM B-16
2	*O-ring Holder	1	St.St. ASTM A-479	
3	*O-ring	1	Fluorocarbon FKM	
4	*Poppet	1	St.St. ASTM A-479	
5	*Spring	1	St.St. 302	
6	*Body	1	St.St. ASTM A-479	Brass ASTM B-16
	*Lubricant		Silicone and PTFE based	

*Wetted parts



O-RINGS

Different materials are available for special applications.

O-ring Material	Temperature Rating °F (°C)
Buna N	-10 to 250 (-23 to 121)
Ethylene Propylene (EPDM)	-50 to 300 (-45 to 148)
Fluorocarbon FKM	-10 to 375 (-23 to 190)
Perfluor	-15 to 500 (-26 to 260)
Polychloroprene (CR)	-40 to 250 (-40 to 121)

TECHNICAL DATA

Connection Sizes	Max. Flow Coefficient (Cv)	Nominal Cracking Pressure psi (bar)	Back Pressure at 70°F (20°C) psi (bar)
1/4	0.35	1/3, 1, 10 & 25	3000 (207)
1/2	1.20	(0.02, 0.06, 0.68, and 7.1)	

CLEANING & PACKAGING

Every H-400OP series Check valve is cleaned in accordance with Standard Cleaning and Packaging (procedure 8184). Oxygen Clean & Lubricant-Free Cleaning and packaging, in accordance with Special Cleaning and Packaging (procedure 8185), is available as an option.

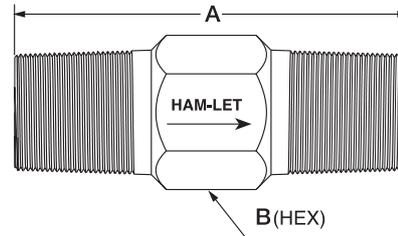
TESTING

The H-400OP valve designs have been tested for proof and burst. Every H-400OP valve is factory tested for proper assembly with Nitrogen at 1000 psig (68 bar) for 10 seconds. Every H-400OP valve is factory tested for functionality at the relevant cracking pressure, 5 cycles each. No detectable leakage is allowed during shell test.

STANDARD CONFIGURATION DIMENSIONS

End Connection Inlet / Outlet	Size	Dimensions		
		A		B
		mm	in	in
Female NPT	1/4	61.0	2.4	3/4
	1/2	94.0	3.7	1 1/16
Male NPT	1/4	41.0	1.61	9/16
	1/2	58.0	2.28	7/8
Female / Male NPT	1/4	58.0	2.28	3/4
Male / Female NPT	1/4	44.5	1.75	3/4
	1/2	72.0	2.83	1 1/16
Female BSPT	1/4	61.0	2.54	3/4
Male BSPT	1/2	41.0	1.61	9/16

Dimensions are for reference only and are subject to change.



PRESSURE TEMPERATURE RATING

Material	316 St.St.	Brass
Temperature F° (C°)	Working Pressure, psi (bar)	
-10 (-23) to 100 (37)	3000 (206)	3000 (206)
200 (93)	2575 (177)	2600 (179)
250 (121)	2450 (168)	2405 (165)
300 (148)	2325 (160)	-
375 (190)	2185 (150)	-

CRACKING AND RE-SEAL PRESSURE

Nominal Cracking Pressure	Cracking Pressure Range	Reseal Pressure
psi (bar)	psi (bar)	psi (bar)
1/3 (0.02)	Up to 3 (0.2)	6 to 20 (0.41 to 1.3) back pressure
1 (0.06)	Up to 4 (0.27)	5 to 20 (0.34 to 1.3) back pressure
10 (0.68)	7 to 13 (0.48 to 0.89)	3 to 10 (0.2 to 0.68) back pressure
25 (1.7)	21 to 29 (1.4 to 1.9)	5 (0.34) or more inlet pressure

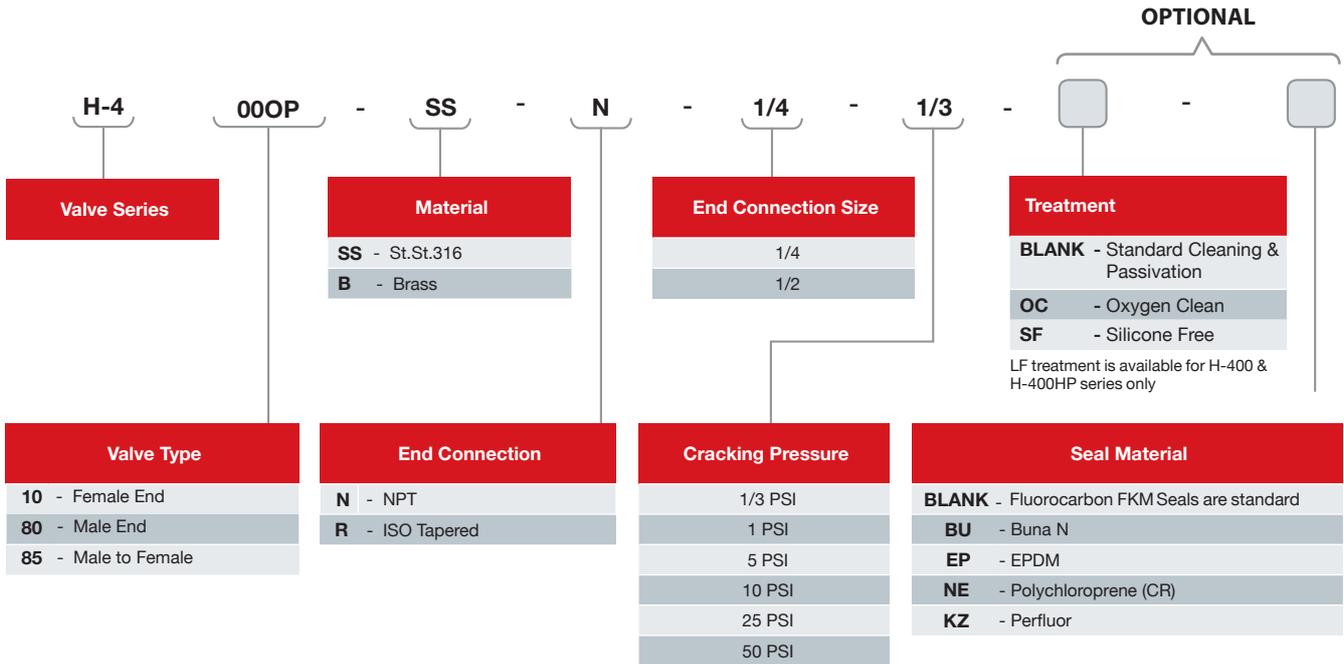
CRACKING PRESSURE

The differential pressure between the inlet and outlet, at which an initial flow is passing through the valve.

RESEAL PRESSURE

The differential pressure between the outlet and inlet, at which no flow is passing through the valve.

H-400P SERIES ORDERING INFORMATION



Note: Check valves are designed and suitable for direct flow control only. These valves are not meant for pressure release.

ORDERING INFORMATION SPARE KITS

SEAL KIT

The kit includes O-Ring and label

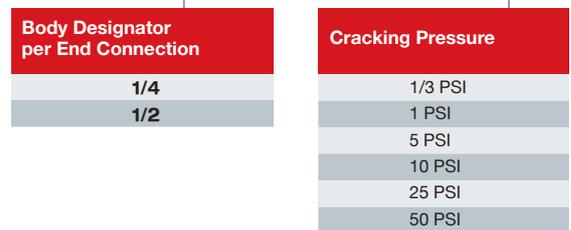
Z - **400OP** - **SK** - **1/4** - **VI**



SPRING KIT

The kit includes Spring & label

Z - **400OP** - **SPK** - **1/4** - **1/3**



Springs for other cracking pressures are available upon request.

Warning!

The system designer and user have the sole responsibility for selecting products suitable for their special application requirements, ensuring their safe and trouble-free installation, operation, and maintenance. Application details, material compatibility and product ratings should all be considered for each selected product. Improper selection, installation or use of products can cause property damage or personal injury.

ONE-PIECE ADJUSTABLE CRACKING PRESSURE CHECK VALVE **H-400OPA SERIES**

FEATURES

- One-piece body
- 316 St.St. or Brass construction
- Variable Adjustable Cracking Pressure Ranges
- Pressure Characteristics: up to 3000 psi
- HAM-LET Male & Female NPT, Male BSPT

GENERAL

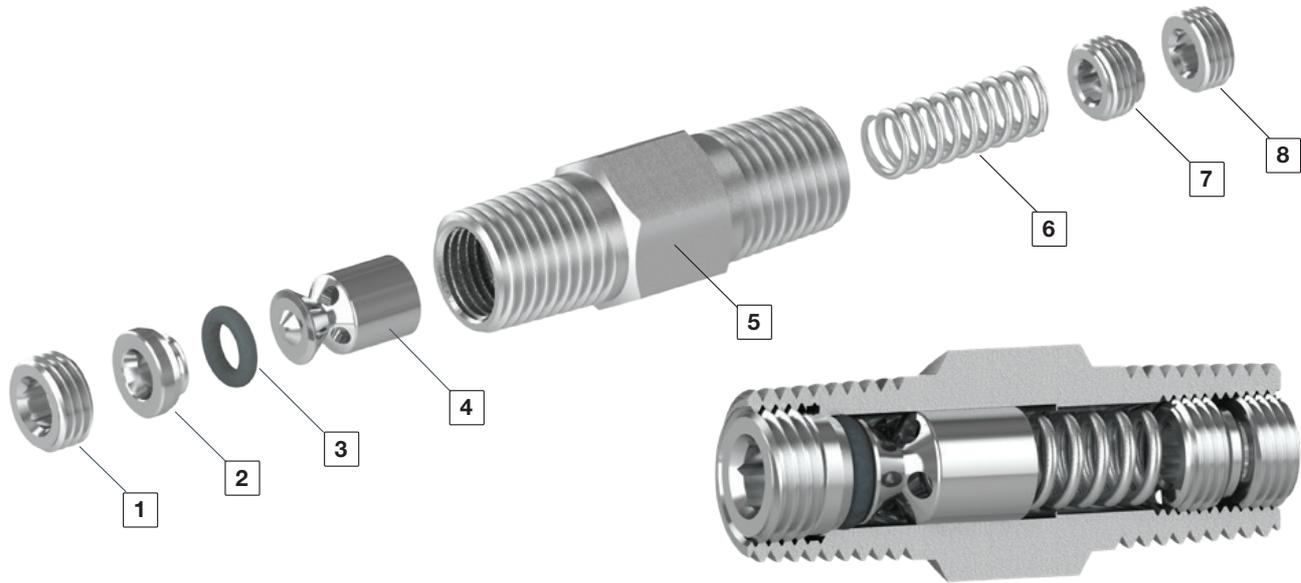
The H-400OPA Series is a compact one-piece design for moderate-pressure up to 3000 psi (206 bar) instrumentation panels and systems, which provides an accurate and adjustable operating point. H-400OPA valves are normally closed. When the differential pressure between the inlet and the outlet is higher than the set pressure of the spring, the loaded poppet will move backwards and provide a free passage for flow through the valve.

For vacuum applications, please select the H-400HP series.

MATERIALS OF CONSTRUCTION

Item No.	Components	Qty.	Valve Body Material	
			316 St.St.	Brass
1	*Inlet Lock Screw	1	St.St. 304	Brass ASTM B-16
2	*O-ring Holder	1	St.St. ASTM A-479	Brass ASTM B-16
3	*O-ring	1	Fluorocarbon FKM	
4	*Poppet	1	St.St. ASTM A-479	
5	*Body	1	St.St. ASTM A-479	Brass ASTM B-16
6	*Spring	1	St.St. 302	
7	*Adjusting Screw	1	St.St. 304	
8	*Lock Screw	1	St.St. 304	
	Lubricant		Silicone and PTFE based	

*Wetted parts



PRESSURE TEMPERATURE RATING

Material Size	316St.St.	Brass
Temperature F° (C°)	Working Pressure, psig (bar)	
-10 (-23) to 100 (37)	3000 (206)	3000 (206)
200 (93)	2575 (177)	2600 (179)
250 (121)	2450 (168)	2405 (165)
300 (148)	2325 (160)	-
375 (190)	2185 (150)	-

O-RINGS

Different materials are available for special applications.

O-ring Material	Temperature Rating °F (°C)
Buna N	-10 to 250 (-23 to 121)
EPDM	-50 to 300 (-45 to 148)
Fluorocarbon FKM	-10 to 375 (-23 to 190)
Perfluor	-15 to 500 (-26 to 260)
Polychloroprene (CR)	-40 to 250 (-40 to 121)

ONE-PIECE ADJUSTABLE CRACKING PRESSURE CHECK VALVE **H-400OPA SERIES**

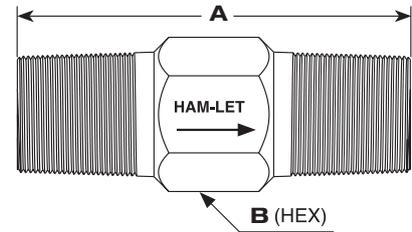
CLEANING & PACKAGING

HAM-LET H-400OPA valves are treated with HAM-LET Passivation, Cleaning and Packaging (Procedure 8075).

HAM-LET H-400OPA valves with face-seal end connections are treated with HAM-LET Oxygen Cleaning and Packaging (Procedure 8055). Oxygen Cleaning and Packaging for other end connections are available as an option.

STANDARD CONFIGURATION DIMENSIONS

End Connection	Size Inlet / Outlet	Dimensions		
		A		B
		mm	in	in
Female NPT	1/4	75.5	2.97	3/4
Male NPT	1/4	41	1.61	9/16
	1/2	65	2.55	7/8
Male BSPT	1/4	41	1.61	9/16
	1/2	65	2.55	7/8

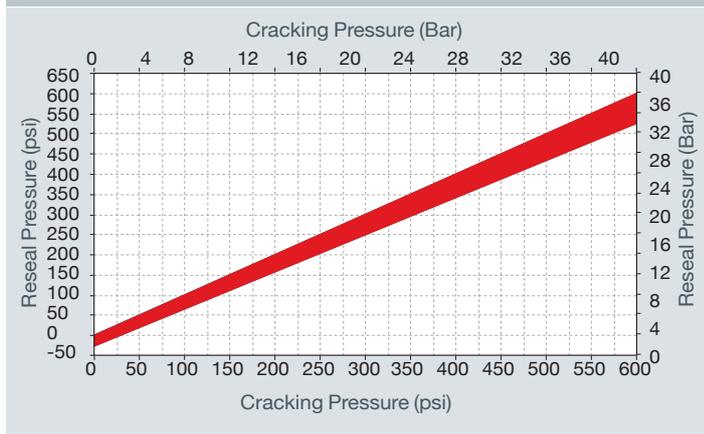


Dimensions are for reference only and are subject to change.

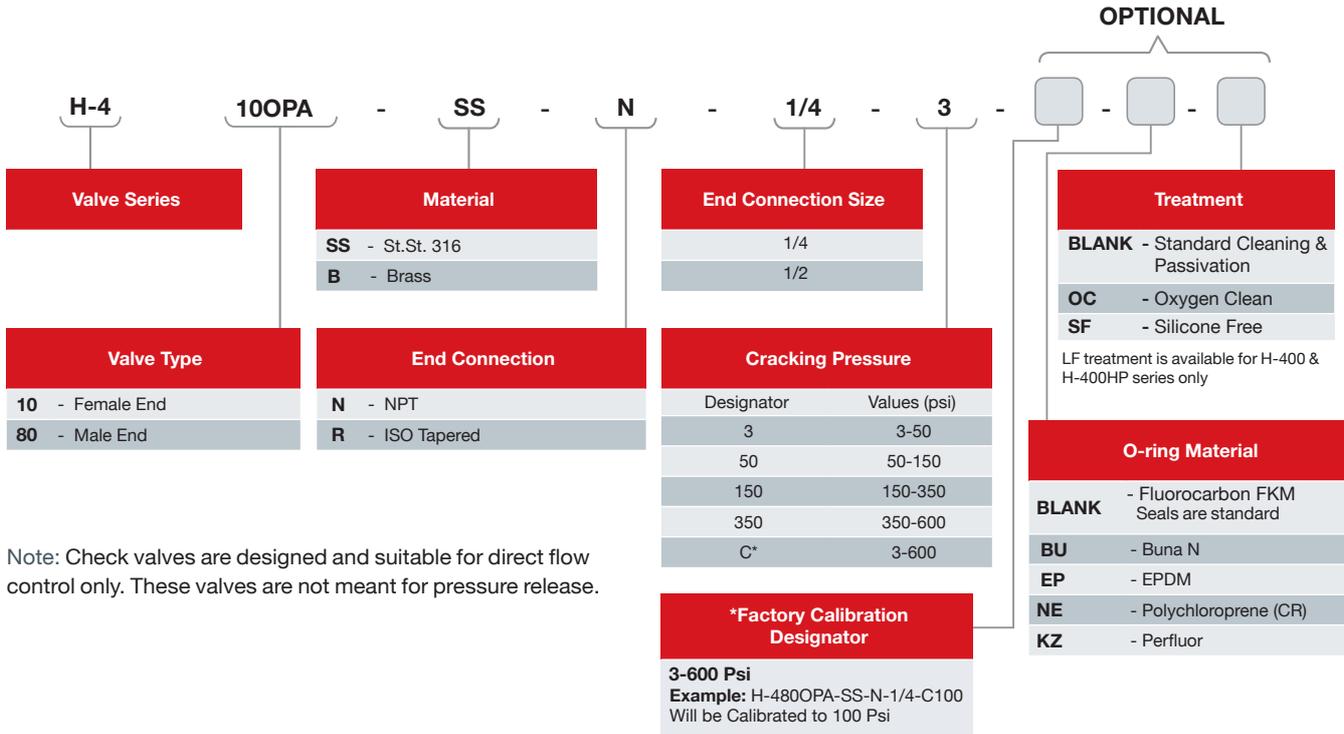
TECHNICAL DATA

End Connection Size	Max. Flow Coefficient (Cv)	Nominal Cracking Pressure psi (bar)	Back Pressure at 70°F (20°C) psi (bar)
1/4	0.35	3 to 50 (0.2 to 3.4)	3000 (207)
		50 to 150 (3.4 to 10.3)	
1/2	1.20	150 to 350 (10.3 to 24.1)	
		350 to 600 (24.1 to 41.3)	

CRACKING AND RESEAL PRESSURE



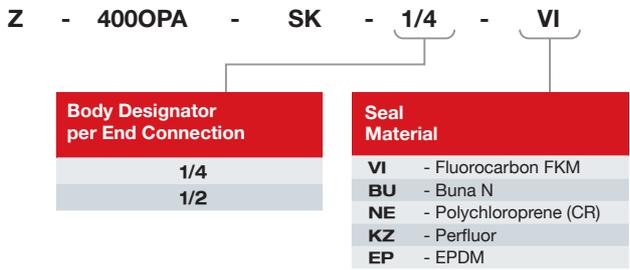
H-400OPA SERIES ORDERING INFORMATION



ORDERING INFORMATION SPARE KITS

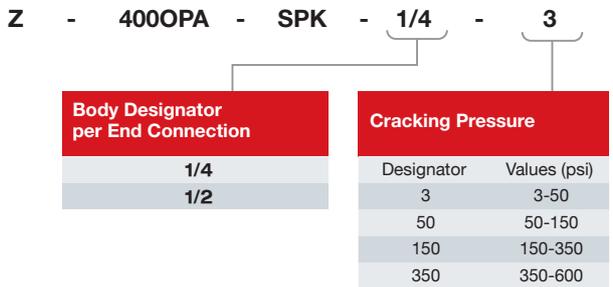
SEAL KIT

The kit includes O-Ring & label



SPRING KIT

The kit includes Spring & label.



Warning!

The system designer and user have the sole responsibility for selecting products suitable for their special application requirements, ensuring their safe and trouble-free installation, operation, and maintenance. Application details, material compatibility and product ratings should all be considered for each selected product. Improper selection, installation or use of products can cause property damage or personal injury.

FEATURES

- 316 St.St. or Brass construction
- Variable adjustable cracking pressure ranges
- Pressure Characteristics: up to 3000 psi
- HAM-LET LET-LOK® Fittings, Male NPT, and HTC® Face Seal Bead

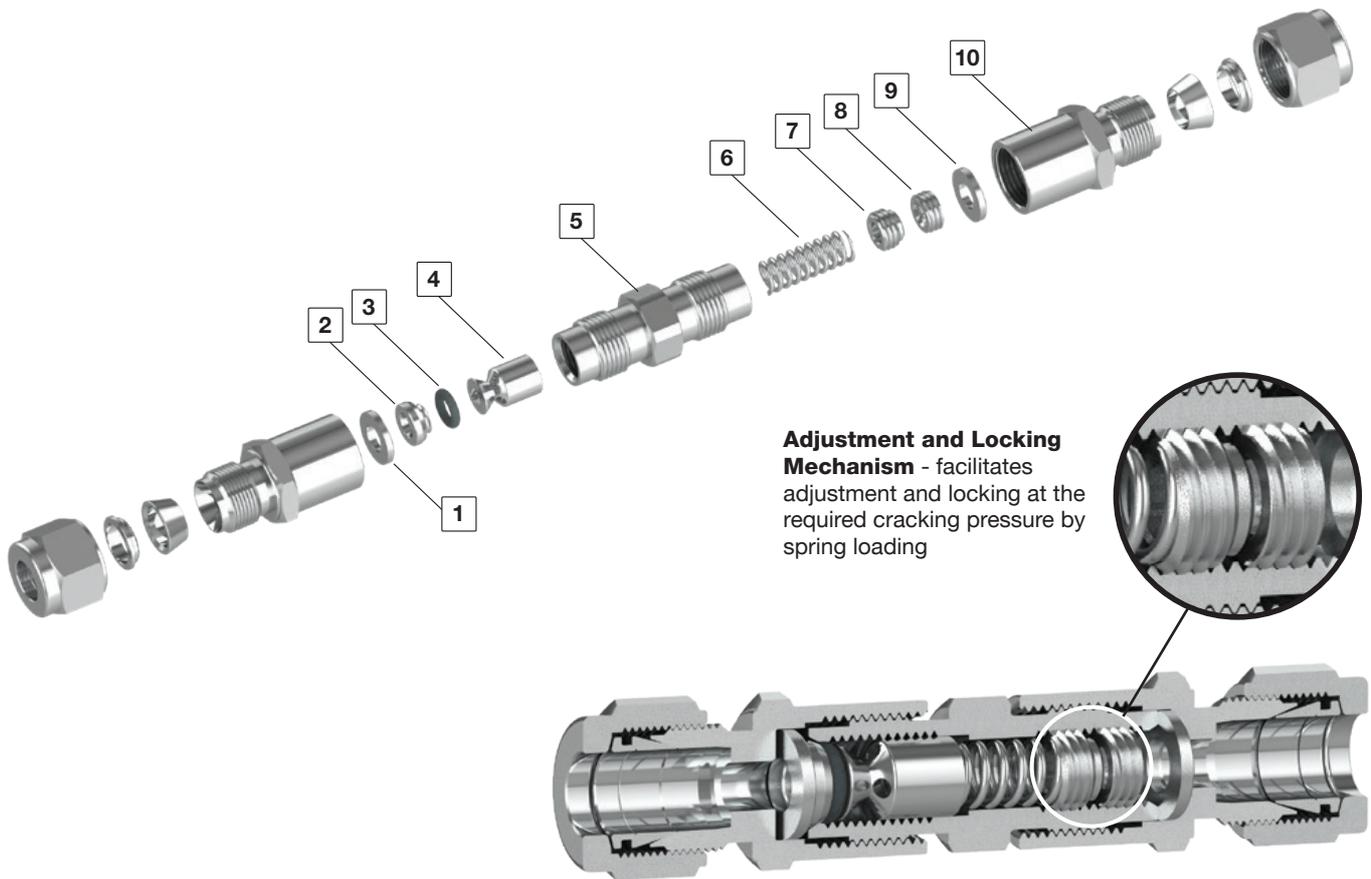
GENERAL

The H-400A Series is a compact design for moderate-pressure (up to 3000 psi) instrumentation panels and systems, which provides an accurate and adjustable operating point. H-400A valves are normally closed. When the differential pressure between the inlet and the outlet is higher than the set pressure of the spring, the loaded poppet will move backwards and provide a free passage for flow through the valve.

MATERIALS OF CONSTRUCTION				
Item No.	Components	Qty.	Valve Body Material	
			316 St.St.	Brass
1	*Gasket	1	316 St.St. Silver plated	Al-6061 Silver plated
2	*O-ring Holder	1	St.St. ASTM A-479	Brass ASTM B-16
3	*O-ring	1	Fluorocarbon FKM	
4	*Poppet	1	St.St. ASTM A-479	
5	*Body	1	St.St. ASTM A-479	Brass ASTM B-16
6	*Spring	1	St.St. 302	
7	*Adjusting Screw	1	St.St. 304	
8	*Lock Screw	1	St.St. 304	
9	*Gasket	1	316 St.St. Silver plated	Al-6061 Silver plated
10	*End	2	St.St. ASTM A-479	Brass ASTM B-16
	Lubricant		Silicone and PTFE based	

*Wetted parts

PRESSURE - TEMPERATURE RATING FOR STANDARD CONFIGURATIONS		
Material Size	316St.St.	Brass
Temperature F° (C°)	Working Pressure, psi (bar)	
-10 (-23) to 100 (37)	3000 (206)	3000 (206)
200 (93)	2575 (177)	2600 (179)
250 (121)	2450 (168)	2405 (165)
300 (148)	2325 (160)	-
375 (190)	2185 (150)	-



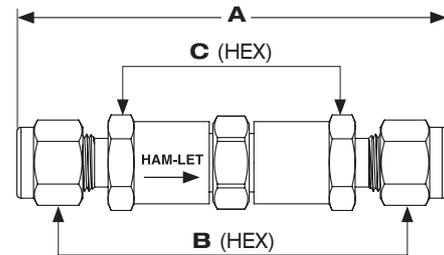
CLEANING & PACKAGING

Every H-400OA series Check valve is cleaned in accordance with Standard Cleaning and Packaging (procedure 8184). Oxygen Clean & Lubricant-Free Cleaning and packaging, in accordance with Special Cleaning and Packaging (procedure 8185), is available as an option.

DIMENSIONS

Inlet	Outlet	A		B	C
		mm	in	Hex	Hex
1/4 Let-Lok®	1/4 Let-Lok®	82.5	3.25	9/16	5/8
6MM Let-Lok®	6MM Let-Lok®	82.5	3.25	14MM	5/8
8MM Let-Lok®	8MM Let-Lok®	84.4	3.32	16MM	5/8
1/4 Male NPT	1/4 Let-Lok®	79.3	3.12	9/16	5/8
1/4 Male Face Seal	1/4 Male Face Seal	78.4	3.09	-	5/8
1/4 Male NPT	1/4 Male NPT	75.7	2.98	-	5/8

Dimensions are for reference only and are subject to change.



TECHNICAL DATA

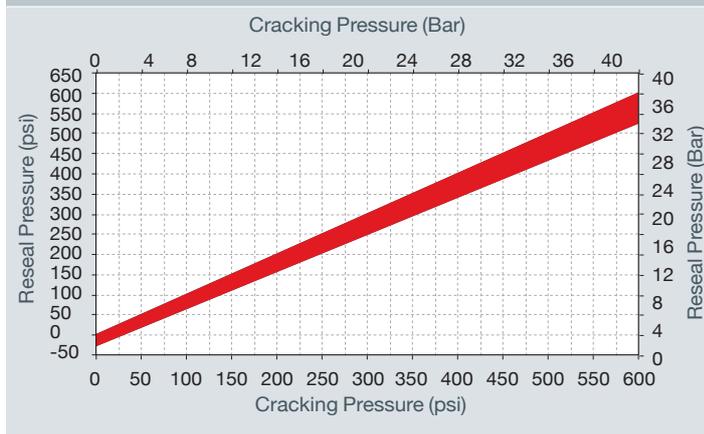
Connection Size	Max. Flow Coefficient (Cv)	Nominal Cracking Pressure psi (bar)	Back Pressure at 70°F (20°C) psi (bar)
1/4, 6mm, 8mm	0.37	3 to 50 (0.2 to 3.4)	3000 (413)
		50 to 150 (3.4 to 10.3)	
		150 to 350 (10.3 to 24.1)	
		350 to 600 (24.1 to 41.3)	

O-RINGS

Different materials are available for special applications.

O-ring Material	Temperature Rating °F (°C)
Buna N	-10 to 250 (-23 to 121)
EPDM	-50 to 300 (-45 to 148)
Fluorocarbon FKM	-10 to 375 (-23 to 190)
Perfluor	-15 to 500 (-26 to 260)
Polychloroprene (CR)	-40 to 250 (-40 to 121)

CRACKING AND RESEAL PRESSURE



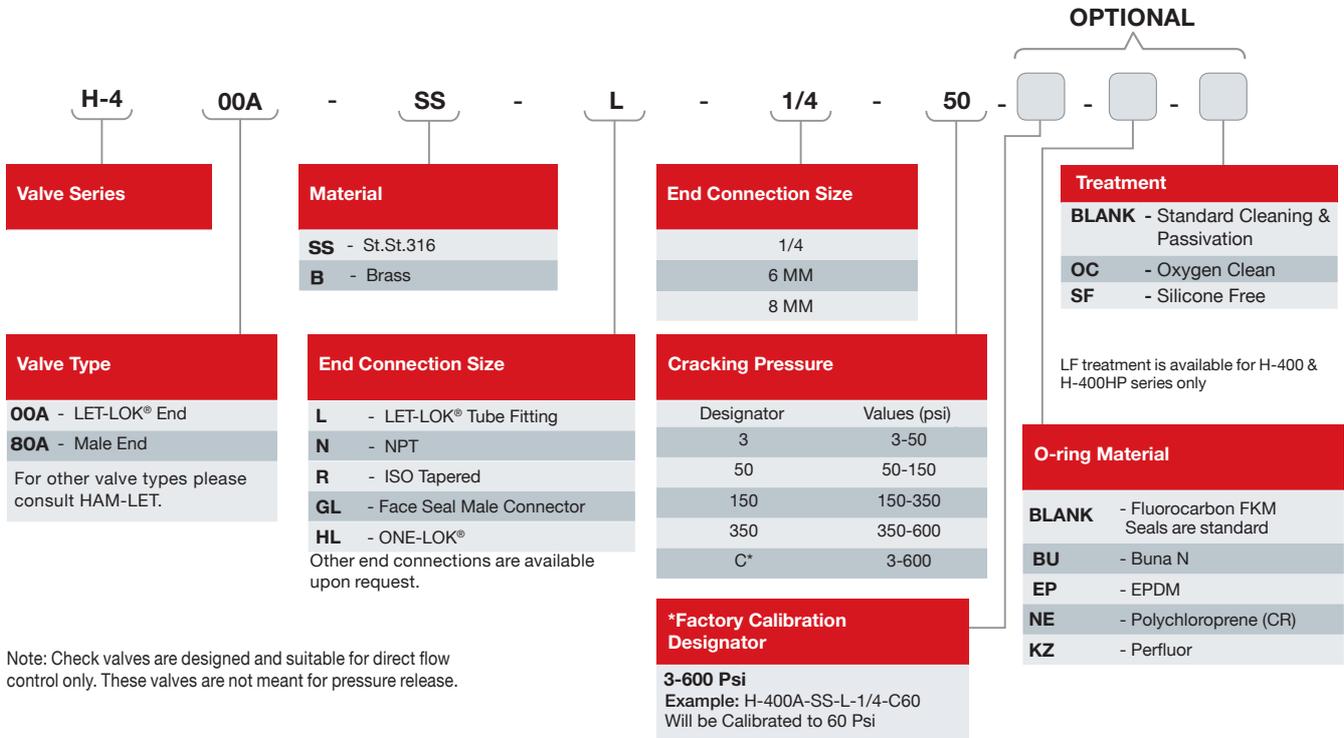
TESTING

The H-400A valve designs have been tested for proof and burst. Every H-400A valve is factory tested for proper assembly with Nitrogen at 1000 psig (68 bar) for 10 seconds.

Every H-400A valve is factory tested for functionality at the relevant cracking pressure, 5 cycles each.

No detectable leakage is allowed during shell test.

H-400A SERIES ORDERING INFORMATION

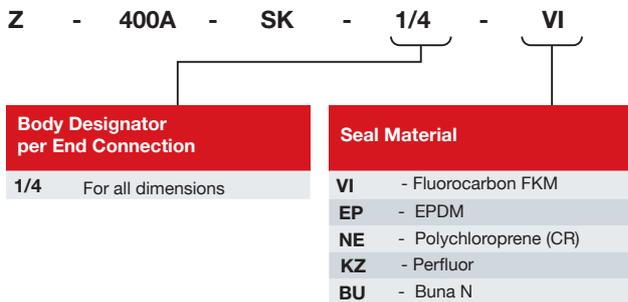


Note: Check valves are designed and suitable for direct flow control only. These valves are not meant for pressure release.

ORDERING INFORMATION SPARE KITS

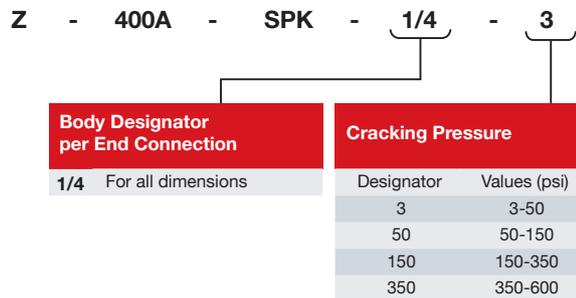
SEAL KIT

The kit includes O-ring & Label.



SPRING KIT

The kit includes Spring & Label.



Warning!

The system designer and user have the sole responsibility for selecting products suitable for their special application requirements, ensuring their safe and trouble-free installation, operation, and maintenance. Application details, material compatibility and product ratings should all be considered for each selected product. Improper selection, installation or use of products can cause property damage or personal injury. HAM-LET Check Valves should never be used as safety relief devices.