

# H400 SERIES

## HAM-LET CHECK VALVES



H-400	Ham-Let's fixed pressure check valve (up to 3000 psi)
H-400 HP	Small size fixed High pressure check valve (up to 6000 psi)
H-400 A	Adjustable pressure check valve (up to 3000 psi)
H-400 OPA	One piece Adjustable pressure check valve (up to 3000 psi)
H-400 OP	Small size One piece fixed pressure check valve (up to 3000 psi)

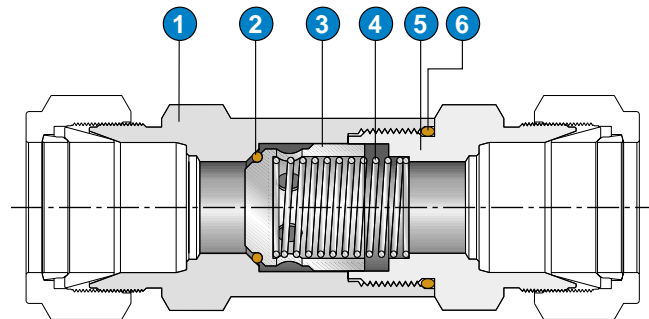
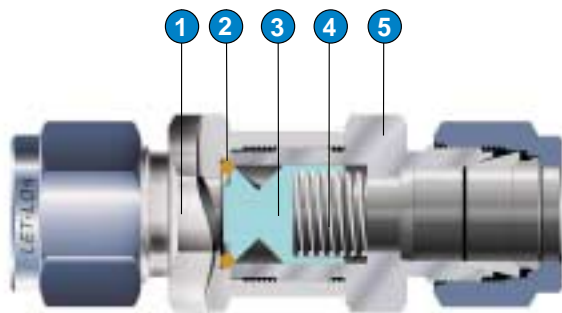
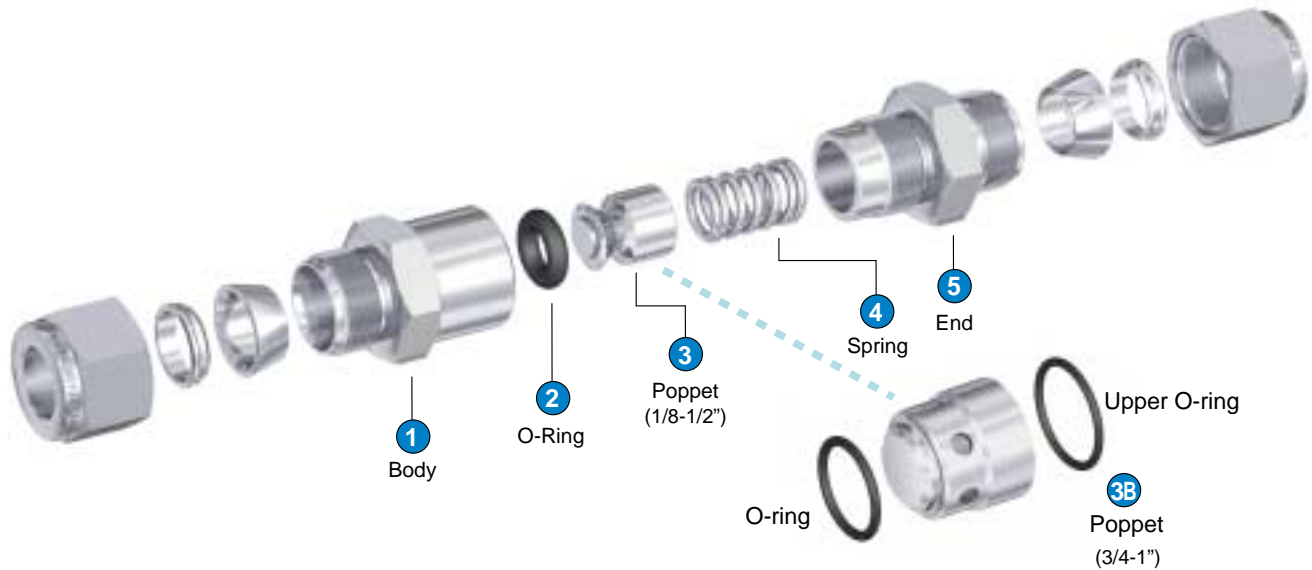
## H400 SERIES

### FEATURES:

- 316 St.St. End Brass Construction.
- Moderate Pressure Characteristics (up to 3000psi)
- Compact Design
- Interchangeable Parts
- Variable fixed cracking pressure springs
- Ham-Let Let-Lok, Male & Female NPT, and HTC Face Seal Bead Ends.

### GENERAL

The H400 Series is a compact design for instrumentation panels and systems. Provides an accurate operating point. H400 valves are normally closed. When differential pressure between inlet and outlet will be higher than the set pressure of the spring, the loaded poppet will move backwards and will provide a free passage of flow through the valve.



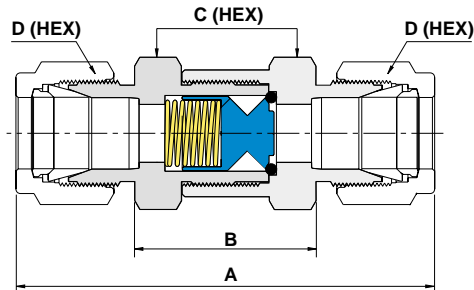
#### MATERIALS: SIZE 1/8''-1/2''

Item No.	Material	QTY.	Part No.
1	A.I.S.I 316	1	Body
2	Viton	1	O-Ring
3	A.I.S.I 316	1	Poppet
A	A.I.S.I 302	1	Spring 1/3 psi
B	A.I.S.I 302	1	Spring 3 psi
C	A.I.S.I 302	1	Spring 10 psi
D	A.I.S.I 302	1	Spring 25 psi
5	A.I.S.I 316	1	End

#### MATERIALS : SIZE 3/4''-1''

Item No.	Material	QTY.	Part No.
1	A.I.S.I 316	1	Body
2	Viton	1	O-Ring
3B	A.I.S.I 316	1	Poppet
A	A.I.S.I 302	1	Spring 1/3 psi
B	A.I.S.I 302	1	Spring 3 psi
C	A.I.S.I 302	1	Spring 10 psi
D	A.I.S.I 302	1	Spring 25 psi
5	A.I.S.I 316	1	End
6	Viton	1	Upper O-ring

## H400 SERIES



### DIMENSIONS

Catalog Number	Connection/Size		Cv	A		B		C		D	
	Inlet	Outlet		mm	inch	mm	inch	mm	inch	mm	inch
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	6mm LET-LOK	6mm 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	10mm 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	12mm LET-LOK	12mm 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	11/8	28.60	11/8
H-400	1" LET-LOK	1" LET-LOK	4.48	120	4.72	67.2	2.65	34.9	13/8	38.10	11/2
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	11/8		
H-410	3/4" FEMALE NPT	3/4" FEMALE NPT	4.48	86.0	3.39	56.0	2.20	34.9	13/8		
H-410	1" FEMALE NPT	1" FEMALE NPT	4.48	107	4.21	73.0	2.87	41.28	15/8		
H-480	1/4" MALE NPT	1/4" MALE NPT	0.47	53.3	2.10	25.0	0.98	19.05	3/4		
H-485	1/4" MALE NPT	1/4" FEMALE NPT	0.47	53.7	2.11	27.3	1.07	19.05	3/4		

### CRACKING PRESSURE:

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

### RESEAL PRESSURE:

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

### MAWP PRESSURE AT 21°C (70°F)

SIZE	PRESSURE	BRASS	AISI 316
	PSI		
1/8, 1/4, 6mm	3000	3000	3000
	210	210	210
3/8, 1/2, 5/8, 10mm, 12mm	3000	3000	3000
	210	210	210
3/4, 1", 16, 20, 22 mm	1500	1500	2000
	102	102	140

### O-RINGS

Different materials are available for special applications.

O-Ring Material	Temperature Rating °F (°C)
Buna N	-30 to 250 (-34 to 121)
Ethylene Propylene	-70 to 250 (-57 to 121)
Viton (Fluorocarbon)	-15 to 400 (-26 to 204)
Kalrez	-15 to 500 (-26 to 260)
Neoprene	-35 to 225 (-37 to 107)

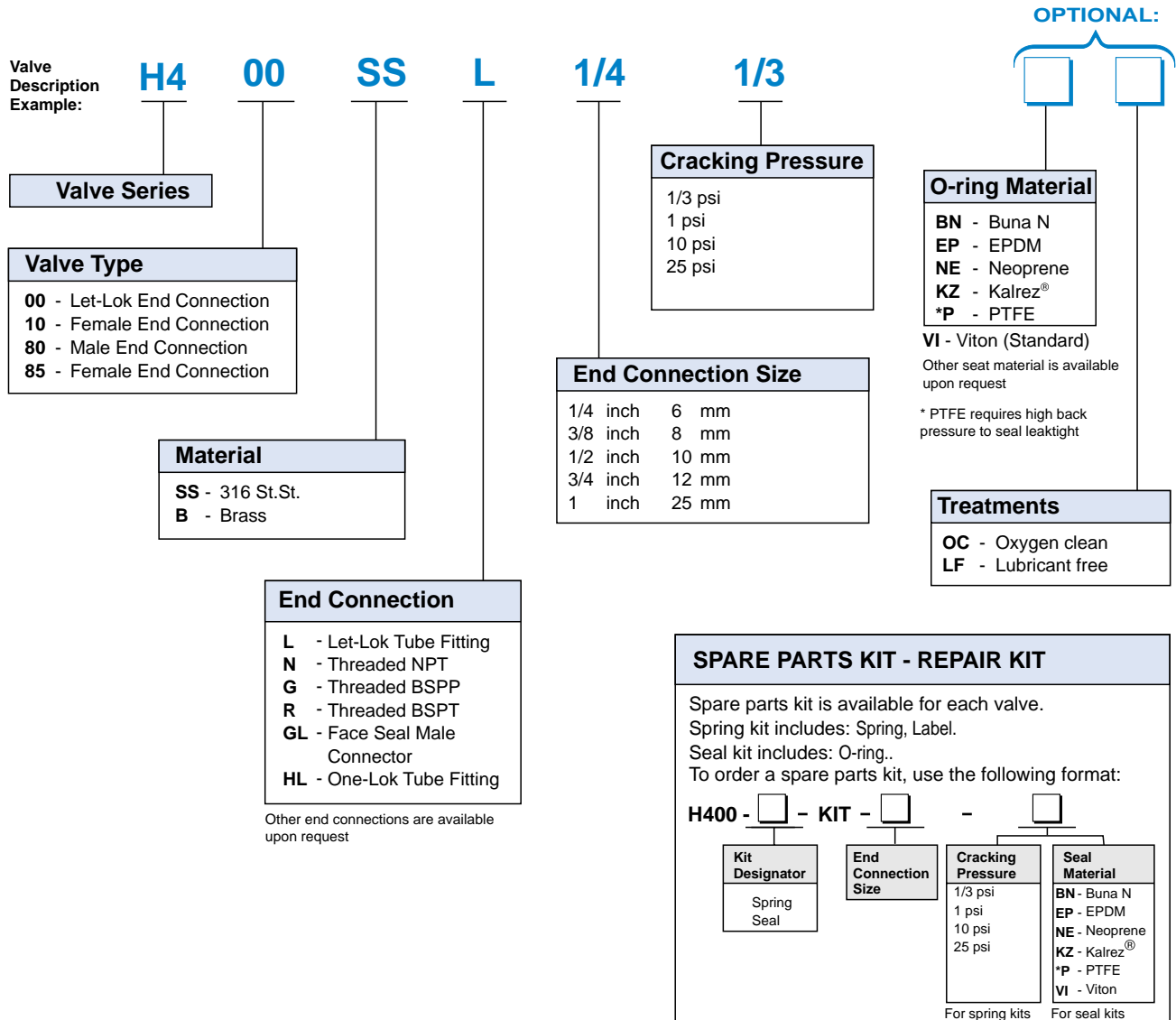
### CRACKING AND RESEAL PRESSURE

Nominal Cracking Pressure Psi (Bar)	Cracking Pressure Range Psi (Bar)	Reseal Pressure Psi (Bar)	
			Up / Back Pressure
1/3 (0.02)	Up to 3 (0.02)	Up to 6 (0.40)	Back
1 (0.06)	Up to 4 (0.27)	Up to 6 (0.27)	Back
10 (0.68)	7 to 15 (0.48 to 1.0)	3 (0.2) or more	Up
25 (1.7)	20 to 30 (1.3 to 2.0)	17 (1.1) or more	Up

## H400 SERIES

### H400 ORDERING INFORMATION

Your safety is important to us, please ensure proper reference to our latest catalog



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

### CLEANING / PACKAGING

Ham-Let H400 valves are treated with Ham-Let Passivation, Cleaning and Packaging (Procedure 8075).

Ham-Let H400 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.

### TESTING:

The H400 valve designs have been tested for Proof, Burst and Leakage.

Every H400 valve is factory tested for proper assembly, by leakage detection at 1000psig (68 bar) for 10sec.

Every H400 valve is factory tested for functionality at the relevant cracking pressure, 5 cycles each.

### Warning - for your safety:

Select the right component for safety's sake: The total design of the system must be taken into consideration when selecting components in order to ensure that your Ham-Let products provide safe, trouble-free operation. It is the responsibility of the system designer and the user to consider the compatibility of the materials, of the components and system, the function of the component, appropriate ratings and to ensure proper installation, operation and maintenance.

Improper selection or use of products can cause property damage or personal injury, in respect of which the system designer and/or the user shall be solely liable and responsible.

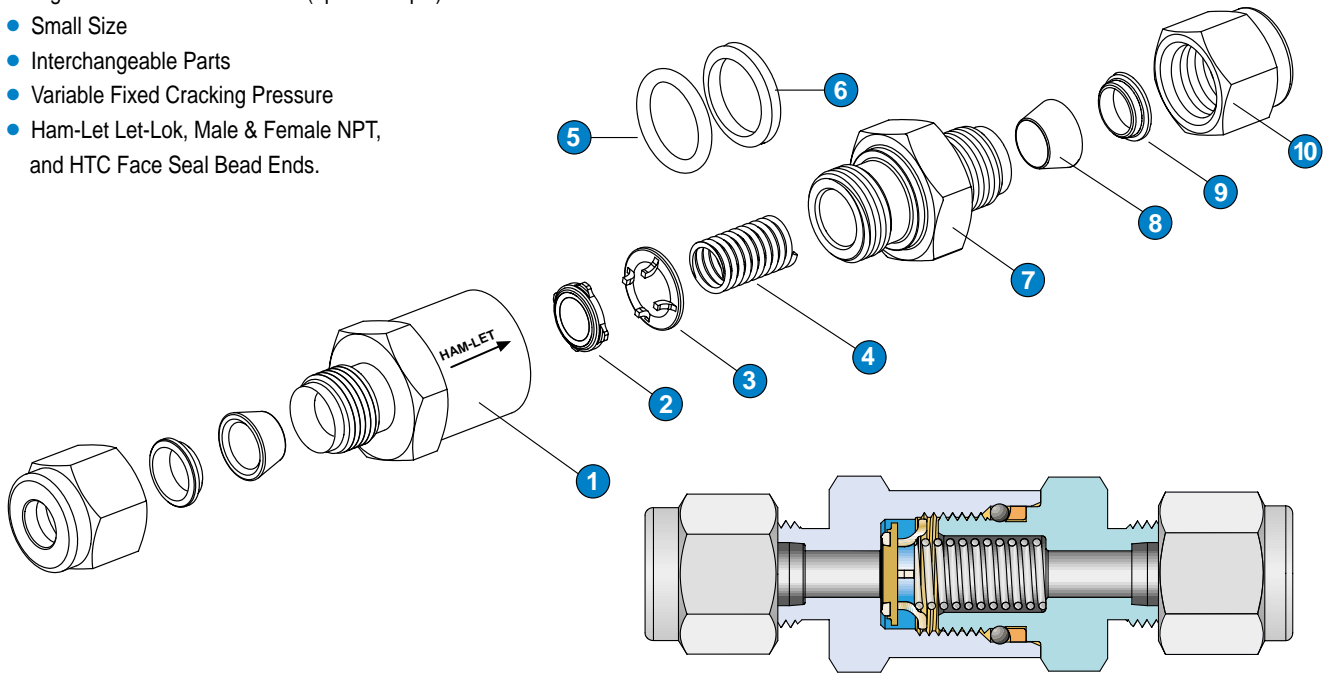
## H400-HP FIXED CRACKING PRESSURE

### GENERAL

The H400-HP Series is a compact robust and heavy duty design for high pressure (up to 6000psi) instrumentation panels and systems. Provides an accurate operating point. H400-HP 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.

### FEATURES:

- 316 St.St. construction.
- High Pressure Characteristics (up to 6000psi)
- Small Size
- Interchangeable Parts
- Variable Fixed Cracking Pressure
- Ham-Let Let-Lok, Male & Female NPT, and HTC Face Seal Bead Ends.



### H400-HP - MATERIALS

Item No.	Components	QTY.	Material
1	Body	1	St.St. ASTM A-276
2	Poppet	1	Viton Bonded on 316 St.St.
3	Pusher	1	St.St. ASTM A-276
4	Spring	1	St.St. 304
5	O-ring	1	Viton
6	Back Up	1	Viton
7	End	1	St.St. ASTM A-276
8	Front Ferrule	1	St.St. ASTM A-276
9	Back Ferrule	2	St.St. ASTM A-276
10	Nut	2	St.St. ASTM A-276

### PRESSURE - TEMPERATURE RATING

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

Pressure estimates may be limited by the end connections.  
(See table of dimensions attached).

### RESEAL PRESSURE:

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

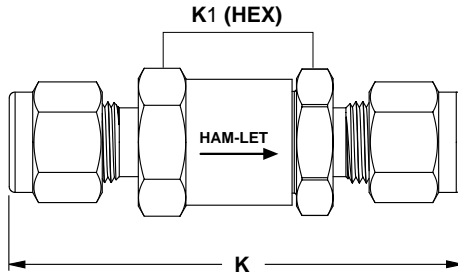
### CRACKING AND RESEAL PRESSURE

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

### CRACKING PRESSURE:

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

## H400-HP FIXED CRACKING PRESSURE



### TECHNICAL DATA

Connection sizes	Maximum Flow Coefficient (Cv)	Nominal Cracking Pressure Psi (Bar)	Downstream 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)

### DIMENSIONS

Basic Ordering Number H400-HP

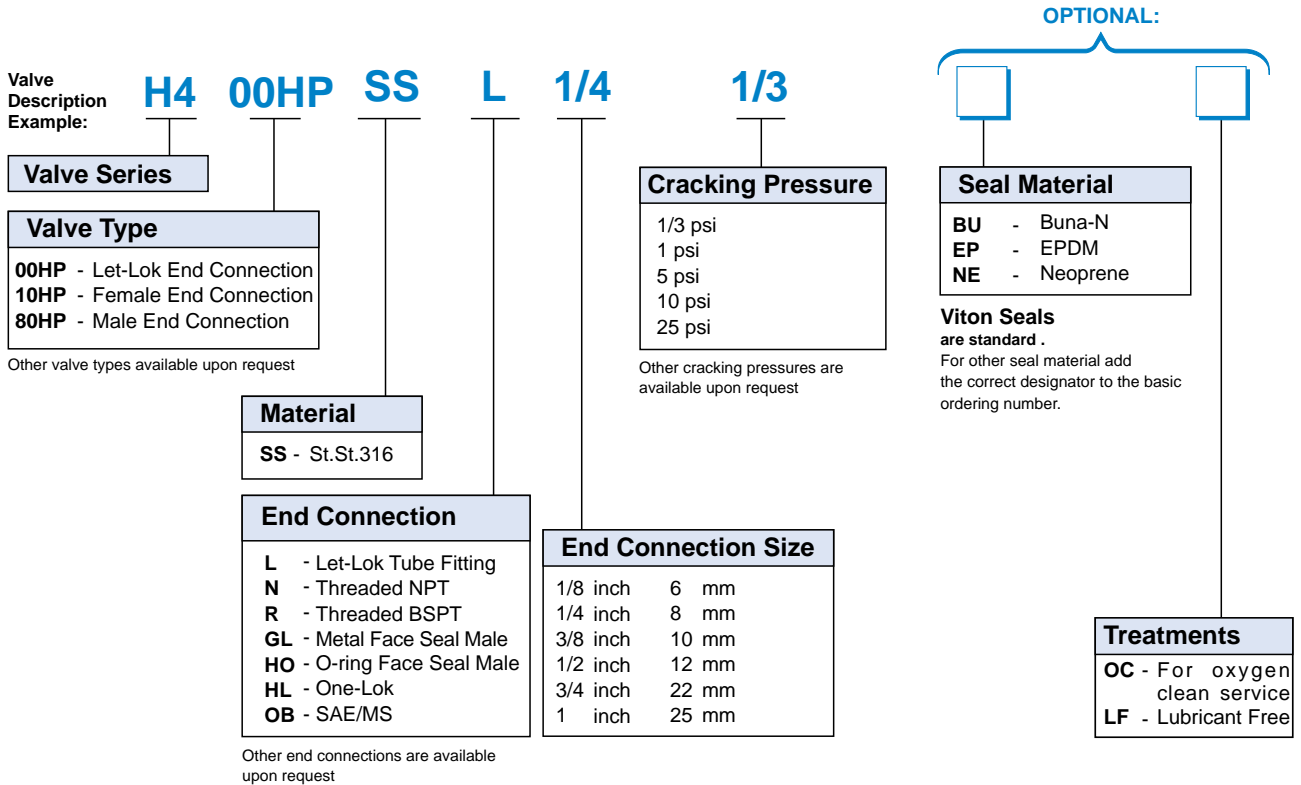
Inlet	Outlet	Pressure Rating at 100°F/37°C		Dimensions		K1 inch
		Psig	Bar	K		
				mm	inch	
1/8" Let-Lok	1/8" Let-Lok	6000	413	57.8	2.28	11/16"
1/4" Let-Lok	1/4" Let-Lok			61.8	2.43	
3/8" Let-Lok	3/8" Let-Lok			70.0	2.76	
1/2" Let-Lok	1/2" Let-Lok			75.3	2.96	
3/4" Let-Lok	3/4" Let-Lok	5000	344	89.5	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	
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			98.5	3.88	
1/4" Female NPT	1/4" Female NPT	6000	413	54.1	2.13	11/16"
3/8" Female NPT	3/8" Female NPT	5000	344	64.8	2.55	1"
1/2" Female NPT	1/2" Female NPT	4600	316	77.0	3.03	1 1/16"
3/4" Female NPT	3/4" Female NPT	4300	296	82.0	3.23	1 5/8"
1" Female NPT	1" Female NPT	4100	282	97.3	3.83	
1/8" Male NPT	1/8" Male NPT	6000	413	45.6	1.80	11/16"
1/4" Male NPT	1/4" Male NPT			55.0	2.17	
3/8" Male NPT	3/8" Male NPT			60.0	2.36	
1/2" Male NPT	1/2" Male NPT			69.2	2.72	
3/4" Male NPT	3/4" Male NPT	5000	344	83.5	3.29	1 5/8"
1" Male NPT	1" Male NPT			93.3	3.67	
1/4" Female BSPT	1/4" Female BSPT	6000	413	58.0	2.28	11/16"
1/2" Female BSPT	1/2" Female BSPT	4600	316	83.5	3.29	1 1/16"
3/4" Female BSPT	3/4" Female BSPT	4300	296	90.1	3.55	1 5/8"
1" Female BSPT	1" Female BSPT	4100	282	97.4	3.83	
1/4" Male BSPT	1/4" Male BSPT	6000	413	55.0	2.17	11/16"
1/2" Male BSPT	1/2" Male BSPT			69.2	2.72	1"
3/4" Male BSPT	3/4" Male BSPT	5000	344	85.2	3.35	1 5/8"
1" Male BSPT	1" Male BSPT			93.3	3.67	
1/2" Female SAE/MS	1/2" Female SAE/MS	4600	316	69.5	2.74	1"
1/2" Male SAE/MS	1/2" Male SAE/MS	6000	413	63.0	2.48	
1/4" Male HO Fitting	1/4" Male HO Fitting	6000	413	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			73.6	2.90	1 5/8"
1" Male HO Fitting	1" Male HO Fitting					
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

## H400-HP FIXED CRACKING PRESSURE

### H400-HP ORDERING INFORMATION

Your safety is important to us, please ensure proper reference to our latest catalog



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

### O-RINGS

Different materials are available for special applications.

O-Ring Material	Temperature rating °F (°C)
Buna N	-30 to 250 (-34 to 121)
Ethylene Propylene	-70 to 250 (-57 to 121)
Viton (Fluorocarbon)	-15 to 400 (-26 to 204)
Neoprene	-35 to 225 (-37 to 107)

### CLEANING / PACKAGING

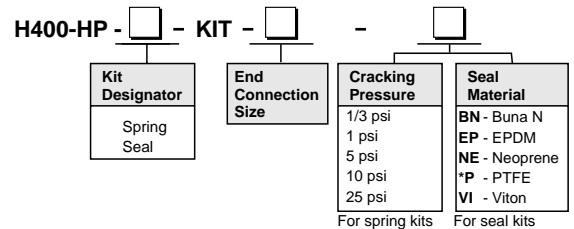
Ham-Let H400-HP valves are treated with Ham-Let Passivation, Cleaning and Packaging (Procedure 8075). Ham-Let H400-HP Valves with face seal end connections are treated with Ham-Let Oxygen Cleaning and Packaging (Procedure 8055). Oxygen cleaning and packaging for other end connections are available as an option.

### Warning - for your safety:

Select the right component for safety's sake: The total design of the system must be taken into consideration when selecting components in order to ensure that your Ham-Let products provide safe, trouble-free operation. It is the responsibility of the system designer and the user to consider the compatibility of the materials, of the components and system, the function of the component, appropriate ratings and to ensure proper installation, operation and maintenance. Improper selection or use of products can cause property damage or personal injury, in respect of which the system designer and/or the user shall be solely liable and responsible.

### SPARE PARTS KIT - REPAIR KIT

Spare parts kit is available for each valve.  
 Spring kit includes: Spring, Label.  
 Seal kit includes: O-ring, Back-up, Bonded poppet.  
 To order a spare parts kit, use the following format:



### TESTING:

The H400-HP valve designs have been tested for Proof, Burst and Leakage.  
 Every H400-HP valve is factory tested for proper assembly, by leakage detection at 1000psig (68 bar) for 10sec.  
 Every H400-HP valve is factory tested for functionality at the relevant cracking pressure, 5 cycles each.

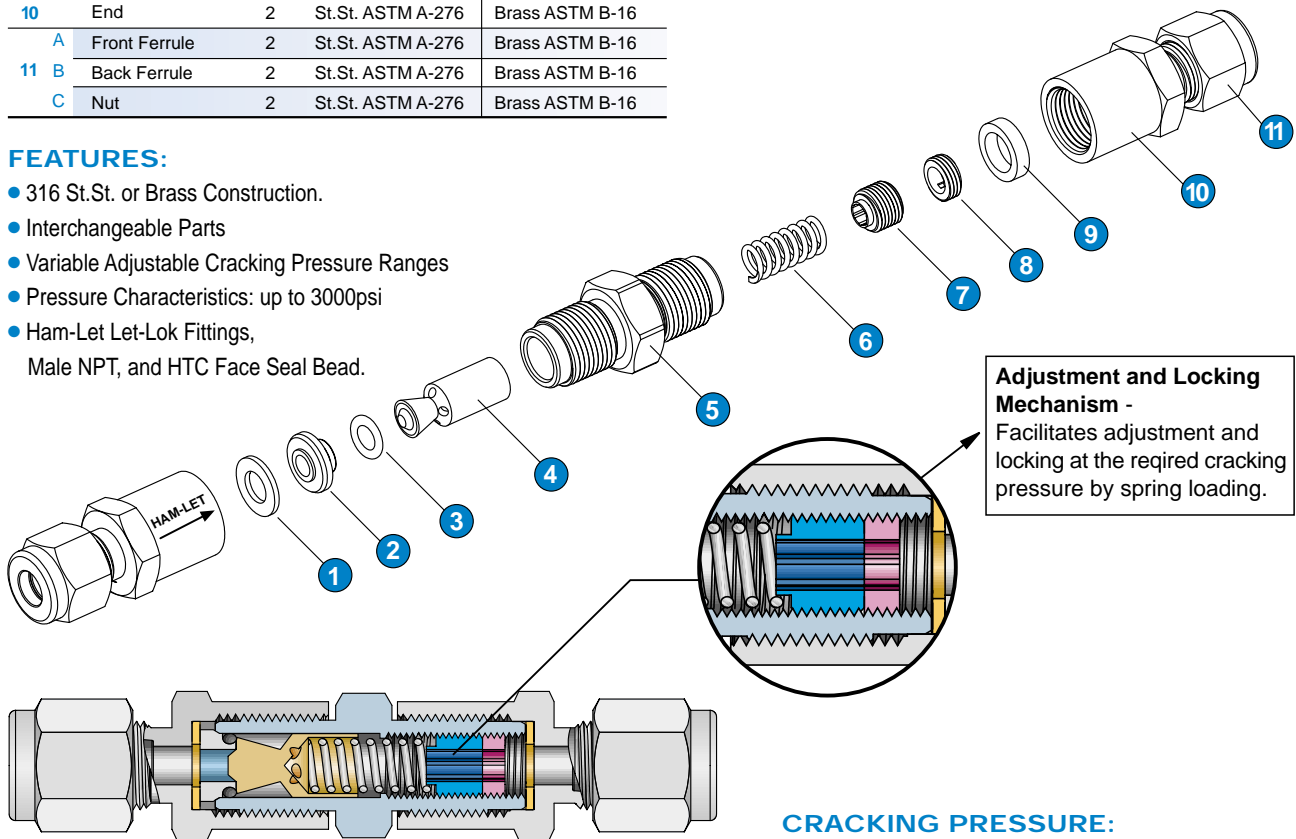
## H400-A ADJUSTABLE CRACKING PRESSURE

### H400-A - MATERIALS

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-276	Brass ASTM B-16
3	O-ring	1	Viton (Fluorocarbon)	
4	Poppet	1	St.St. ASTM A-276	Brass ASTM B-16
5	Body	1	St.St. ASTM A-276	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-276	Brass ASTM B-16
A	Front Ferrule	2	St.St. ASTM A-276	Brass ASTM B-16
11 B	Back Ferrule	2	St.St. ASTM A-276	Brass ASTM B-16
C	Nut	2	St.St. ASTM A-276	Brass ASTM B-16

### FEATURES:

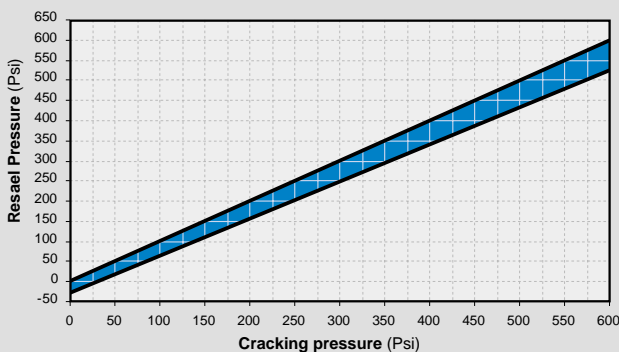
- 316 St.St. or Brass Construction.
- Interchangeable Parts
- Variable Adjustable Cracking Pressure Ranges
- Pressure Characteristics: up to 3000psi
- Ham-Let Let-Lok Fittings, Male NPT, and HTC Face Seal Bead.



### GENERAL

The H400-A Series is a compact design for moderate pressure (up to 3000psi) instrumentation panels and systems. Provides an accurate and adjustable operating point. H400-A 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.

### CRACKING AND RESEAL PRESSURE



### CRACKING PRESSURE:

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

### RESEAL PRESSURE:

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

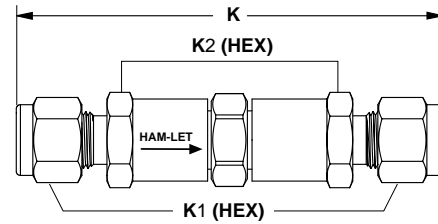
### PRESSURE - TEMPERATURE RATING

Material	316SS	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)	-

## H400-A ADJUSTABLE CRACKING PRESSURE

DIMENSIONS						
Basic Ordering Number H400-A						
Inlet	Outlet	K		Dimensions		
		mm	inch	K1 Hex	K2 Hex	
1/4"	1/4"	82.5	3.25	9/16	5/8	
6 mm	6 mm	82.5	3.25	14.0 mm	5/8	
8 mm	8 mm	84.4	3.32	16.0 mm	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	

Dimensions are for reference only, and are subject to change



O-RINGS	
Different materials are available for special applications.	
O-Ring Material	Temperature Rating °F (°C)
Buna N	-30 to 250 (-34 to 121)
Ethylene Propylene	-70 to 250 (-57 to 121)
Viton (Fluorocarbon)	-15 to 400 (-26 to 204)
Kalrez	-15 to 500 (-26 to 260)
Neoprene	-35 to 225 (-37 to 107)

TECHNICAL DATA			
Connection Sizes	Maximum Flow Coefficient (Cv)	Nominal Cracking Pressure Psi (Bar)	Downstream 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)	

### H400-A ORDERING INFORMATION

Your safety is important to us, please ensure proper reference to our latest catalog

OPTIONAL:

Valve Description Example: **H4 00A SS L 1/4 3**

**Valve Series**

**Valve Type**

00A - Let-Lok End Connection  
80A - Male End Connection

For other valve types please consult Ham-Let.

**Material**

SS - 316 St.St.  
B - Brass

**Cracking Pressure**

Designator	Values (psi)
3	3-50
50	50-150
150	150-350
350	350-600

**End Connection Size**

1/4 inch  
6 mm  
8 mm

**End Connection**

L - Let-Lok Tube Fitting  
N - Threaded NPT  
GL - Face Seal Male Connector  
HL - One-Lok

Other end connections are available upon request

**O-ring Material**

EP - EPDM  
NE - Neoprene  
KZ - Kalrez  
P - PTFE  
PTFE requires high back pressure for leak tight sealing

**Viton O-rings** are standard for St.St. body construction.

**Tretments**

OC - Oxygen Clean  
LF - Lubrucant Free

#### REPAIR KIT

Please see H400-OPA how to order.

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

#### CLEANING / PACKAGING:

Ham-Let H400-A valves are treated with Ham-Let Passivation, Cleaning and Packaging (Procedure 8075).

Ham-Let H400-A 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.

#### TESTING:

The H400-A valve designs have been tested for Proof, Burst and Leakage.

Every H400-A valve is factory tested for proper assembly, by leak detection at 1000psig (68bar) for 10sec.

Every H400-A valve is factory tested for functionality at the relevant cracking pressure, 5 cycles each.

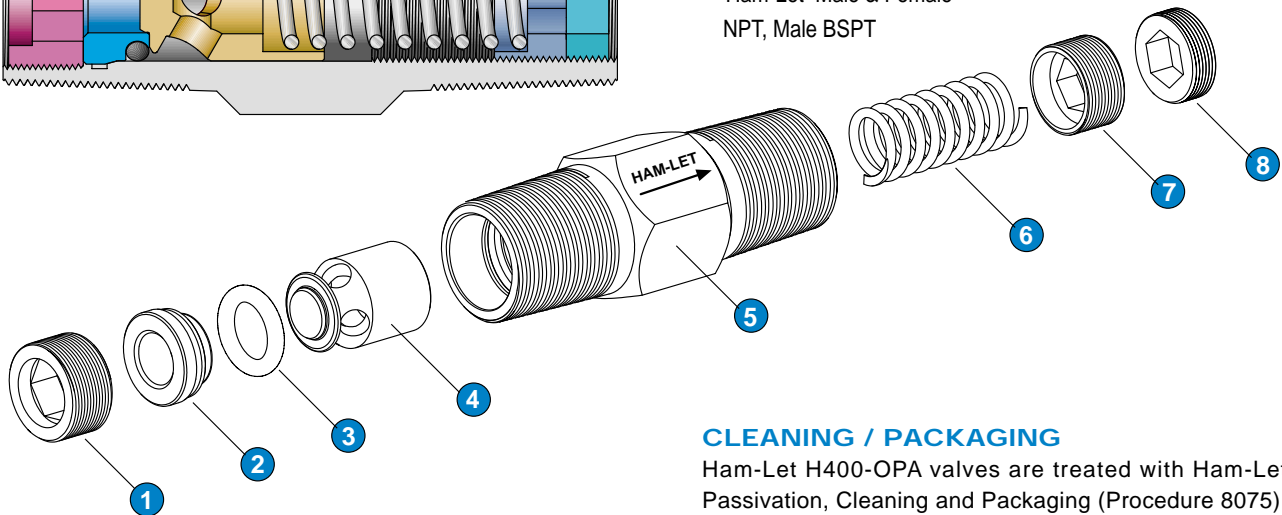
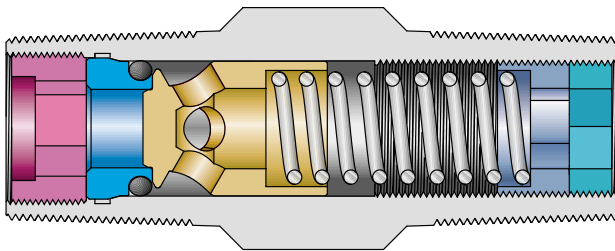
#### Warning - for your safety:

Select the right component for safety's sake: The total design of the system must be taken into consideration when selecting components in order to ensure that your Ham-Let products provide safe, trouble-free operation. It is the responsibility of the system designer and the user to consider the compatibility of the materials, of the components and system, the function of the component, appropriate ratings and to ensure proper installation, operation and maintenance.

Improper selection or use of products can cause property damage or personal injury, in respect of which the system designer and/or the user shall be solely liable and responsible.

## H400-OPA ONE-PIECE ADJUSTABLE CRACKING PRESSURE

H400-OPA - MATERIALS				
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-276	Brass ASTM B-16
3	O-ring	1	Viton (Fluorocarbon)	
4	Poppet	1	St.St. ASTM A-276	Brass ASTM B-16
5	Body	1	St.St. ASTM A-276	Brass ASTM B-16
6	Spring	1	St.St. 302	
7	Adjusting Screw	1	St.St. 304	
8	Lock Screw	1	St.St. 304	



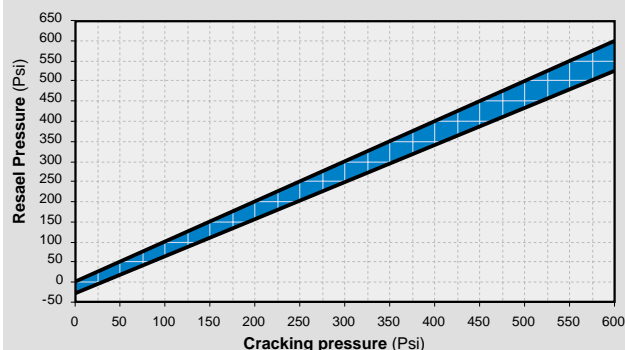
### CRACKING PRESSURE:

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

### RESEAL PRESSURE:

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

### CRACKING AND RESEAL PRESSURE



### GENERAL

The H400-OPA Series is a compact one-piece design for moderate pressure (up to 3000psi) instrumentation panels and systems. Provides an accurate and adjustable operating point. H400-OPA 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.

### FEATURES:

- One-piece Body
- 316 St.St. or Brass Construction.
- Repair Kits
- Variable Adjustable Cracking Pressure Ranges
- Pressure Characteristics: up to 3000psi
- Ham-Let Male & Female NPT, Male BSPT

### CLEANING / PACKAGING

Ham-Let H400-OPA valves are treated with Ham-Let Passivation, Cleaning and Packaging (Procedure 8075). Ham-Let H400-OPA 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.

### TESTING:

The H400-OPA valve designs have been tested for Proof, Burst and Leakage.

Every H400-OPA valve is factory tested for proper assembly, by leakage detection at 1000psig (68bar) for 10sec.

Every H400-OPA valve is factory tested for functionality at the

relevant cracking pressure, 5 cycles each.

### TECHNICAL DATA

Connection Sizes	Maximum Flow Coefficient (Cv)	Nominal Cracking Pressure Psi (Bar)	Downstream 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)	3000 (207)
		350 to 600 (24.1 to 41.3)	

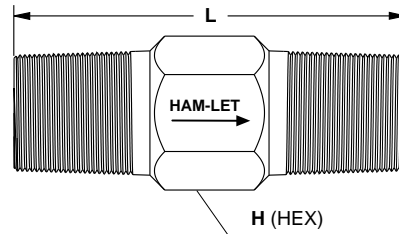
## H400-OPA ONE-PIECE ADJUSTABLE CRACKING PRESSURE

DIMENSIONS				
Basic Ordering Number H400-OPA				
End Connection	Size	Dimensions		
		Inlet / Outlet	L	H
		mm	inch	inch
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

PRESSURE - TEMPERATURE RATING		
Material	316SS	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	-30 to 250 (-34 to 121)
Ethylene Propylene	-70 to 250 (-57 to 121)
Viton (Fluorocarbon)	-15 to 400 (-26 to 204)
Kalrez	-15 to 500 (-26 to 260)
Neoprene	-35 to 225 (-37 to 107)



### H400-OPA ORDERING INFORMATION

Your safety is important to us, please ensure proper reference to our latest catalog

Valve Description Example: **H4 00-OPA SS N 1/4 3**

**Valve Series**

**Valve Type**

10 - Female End Connection  
80 - Male End Connection

**Material**

SS - 316 St.St.  
B - Brass

**End Connection**

N - Threaded NPT  
R - Threaded BSPT

For other valve types please consult Ham-Let.

For other end connections Please consult Ham-Let

**Cracking Pressure**

Designator	Values (psi)
3	3-50
50	50-150
150	150-350
350	350-600

**End Connection Size**

1/4"  
1/2"

**O-ring Material**

EP - EPDM  
NE - Neoprene  
KZ - Kalrez  
P - PTFE  
PTFE requires high back pressure for leak tight sealing

**Viton O-rings** are standard for St.St. body construction.

**Treatments**

OC - Oxygen Clean  
LF - Lubricant Free

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

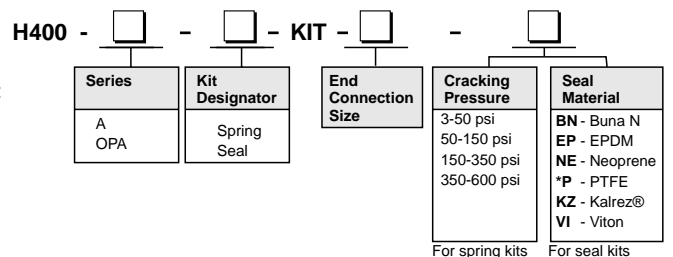
**OPTIONAL:**

### Warning - for your safety:

Select the right component for safety's sake: The total design of the system must be taken into consideration when selecting components in order to ensure that your Ham-Let products provide safe, trouble-free operation. It is the responsibility of the system designer and the user to consider the compatibility of the materials, of the components and system, the function of the component, appropriate ratings and to ensure proper installation, operation and maintenance. Improper selection or use of products can cause property damage or personal injury, in respect of which the system designer and/or the user shall be solely liable and responsible.

### Spare Parts Kit - Repair Kit

Spare parts kit is available for each valve.  
Spring kit includes: Spring, Label.  
Seal kit includes: O-ring.  
To order a spare parts kit, use the following format:



## H400-OP ONE-PIECE FIXED CRACKING PRESSURE

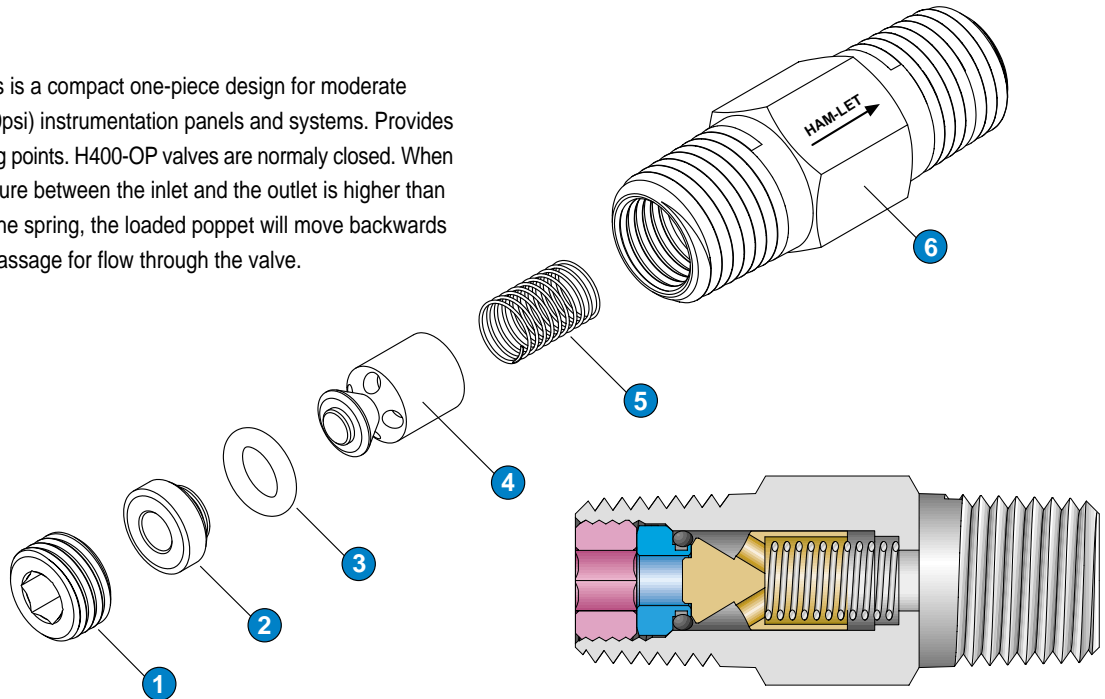
H400-OP - MATERIALS					
Item No.	Components	QTY.	Valve Body Material		
			316 St.St.	Brass	
1	Lock Screw	1	St.St. 304	Brass ASTM B-16	
2	O-ring Holder	1	St.St. ASTM A-276		
3	O-ring	1	Viton (Fluorocarbon)		
4	Poppet	1	St.St. ASTM A-276	Brass ASTM B-16	
5	Spring	1	St.St. 302		
6	Body	1	St.St. ASTM A-276	Brass ASTM B-16	

### GENERAL

The H400-OP Series is a compact one-piece design for moderate pressure (up to 3000psi) instrumentation panels and systems. Provides an accurate operating points. H400-OP 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.

### FEATURES:

- One-piece Body
- 316 St.St. or Brass Construction.
- Interchangeable Parts
- Variable Adjustable Cracking Pressure
- Pressure Characteristics: up to 3000psi
- Ham-Let Male & Female NPT, Male & Female BSPT



TECHNICAL DATA			
Connection Sizes	Maximum Flow Coefficient (Cv)	Nominal Cracking Pressure (Psi (Bar))	Downstream 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)	

PRESSURE - TEMPERATURE RATING			
Material	316SS	Brass	
Size	Working Pressure, psig (bar)		
Temperature, °F (°C)			
-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 RESEAL PRESSURE			
Nominal Cracking Pressure (Psi (Bar))	Cracking Pressure Range (Psi (Bar))	Reseal Pressure (Psi (Bar))	Up / Back Pressure
1/3 (0.02)	Up to 3 (0.02)	6 to 20 (0.41 to 1.3)	Back
1 (0.06)	Up to 4 (0.27)	5 to 20 (0.34 to 1.3)	Back
10 (0.68)	7 to 13 (0.48 to 0.89)	3 to 10 (0.2 to 0.68)	Back
25 (1.7)	21 to 29 (1.4 to 1.9)	5 (0.34) or more	Up

### CRACKING PRESSURE:

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

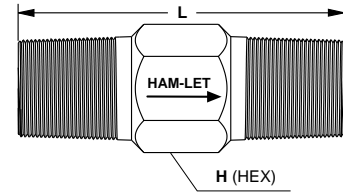
### RESEAL PRESSURE:

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

## H400-OP ONE-PIECE FIXED CRACKING PRESSURE

DIMENSIONS				
Basic Ordering Number H400-OP				
End Connection	Size	Dimensions		
		L	H	
Inlet / Outlet		mm	inch	inch
Female NPT	1/4"	61.0	2.4	3/4
	1/2"	94.0	3.7	11/16
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 /	1/4"	44.5	1.75	3/4
Female NPT	1/2"	72.0	2.83	11/16
Female BSPT	1/4"	64.5	2.54	3/4
Male BSPT	1/2"	41.0	1.61	9/16

Dimensions are for reference only, and are subject to change



O-RINGS	
Different materials are available for special applications.	
O-Ring Material	Temperature rating °F (°C)
Buna N	-30 to 250 (-34 to 121)
Ethylene Propylene	-70 to 250 (-57 to 121)
Viton (Fluorocarbon)	-15 to 400 (-26 to 204)
Kalrez	-15 to 500 (-26 to 260)
Neoprene	-35 to 225 (-37 to 107)

### H400-OPA ORDERING INFORMATION

Your safety is important to us, please ensure proper reference to our latest catalog

**Valve Description Example:** **H4 00-OP SS N 1/4 1/3**

- Valve Series:** H4
- Valve Type:** 00-OP (10 - Female End Connection, 80 - Male End Connection)
- Material:** SS (316 St.St.), B (Brass)
- Cracking Pressure:** 1/3 (1/3 psi, 1 psi, 10 psi, 25 psi)
- End Connection Size:** 1/4", 1/2"
- End Connection:** N (Threaded NPT), R (Threaded BSPT)
- O-ring Material:** BN (Buna N), EP (EPDM, EPM®), NE (Neoprene), KZ (Kalrez), P (PTFE)
- Tretments:** OC (Oxygen Clean), LF (Lubrucant Free)

*Note: For other valve types please consult Ham-Let. For other end connections Please consult Ham-Let.*

### CLEANING / PACKAGING:

Ham-Let H400-OP valves are treated with Ham-Let Passivation, Cleaning and Packaging (Procedure 8075).

Ham-Let H400-OP valve 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.

### TESTING:

The H400-OP Valves designs have been tested for Proof, Burst and Leakage.

Every H400-OP valve is factory tested for proper assembly, by leakage detection at 100psig (6.8bar) for 10sec.

Every H400-OP Valve is factory tested for functionality at the relevant cracking pressure, 5 cycles each.

### Warning - for your safety:

Select the right component for safety's sake: The total design of the system must be taken into consideration when selecting components in order to ensure that your Ham-Let products provide safe, trouble-free operation. It is the responsibility of the system designer and the user to consider the compatibility of the materials, of the components and system, the function of the component, appropriate ratings and to ensure proper installation, operation and maintenance.

Improper selection or use of products can cause property damage or personal injury, in respect of which the system designer and/or the user shall be solely liable and responsible.

**For more information and local representatives - please check our web site. at [www.ham-let.com](http://www.ham-let.com)**

### Spare Parts Kit - Repair Kit

Spare parts kit is available for each valve.  
 Spring kit includes: Spring, Label.  
 Seal kit includes: O-ring.  
 To order a spare parts kit, use the following format:

**H400-OP - [ ] - KIT - [ ] - [ ]**

Kit Designator	End Connection Size	Cracking Pressure	Seal Material
Spring Seal		1/3 psi 1 psi 10 psi 25 psi	BN - Buna N EP - EPDM NE - Neoprene *P - PTFE KZ - Kalrez® VI - Viton

*For spring kits For seal kits*