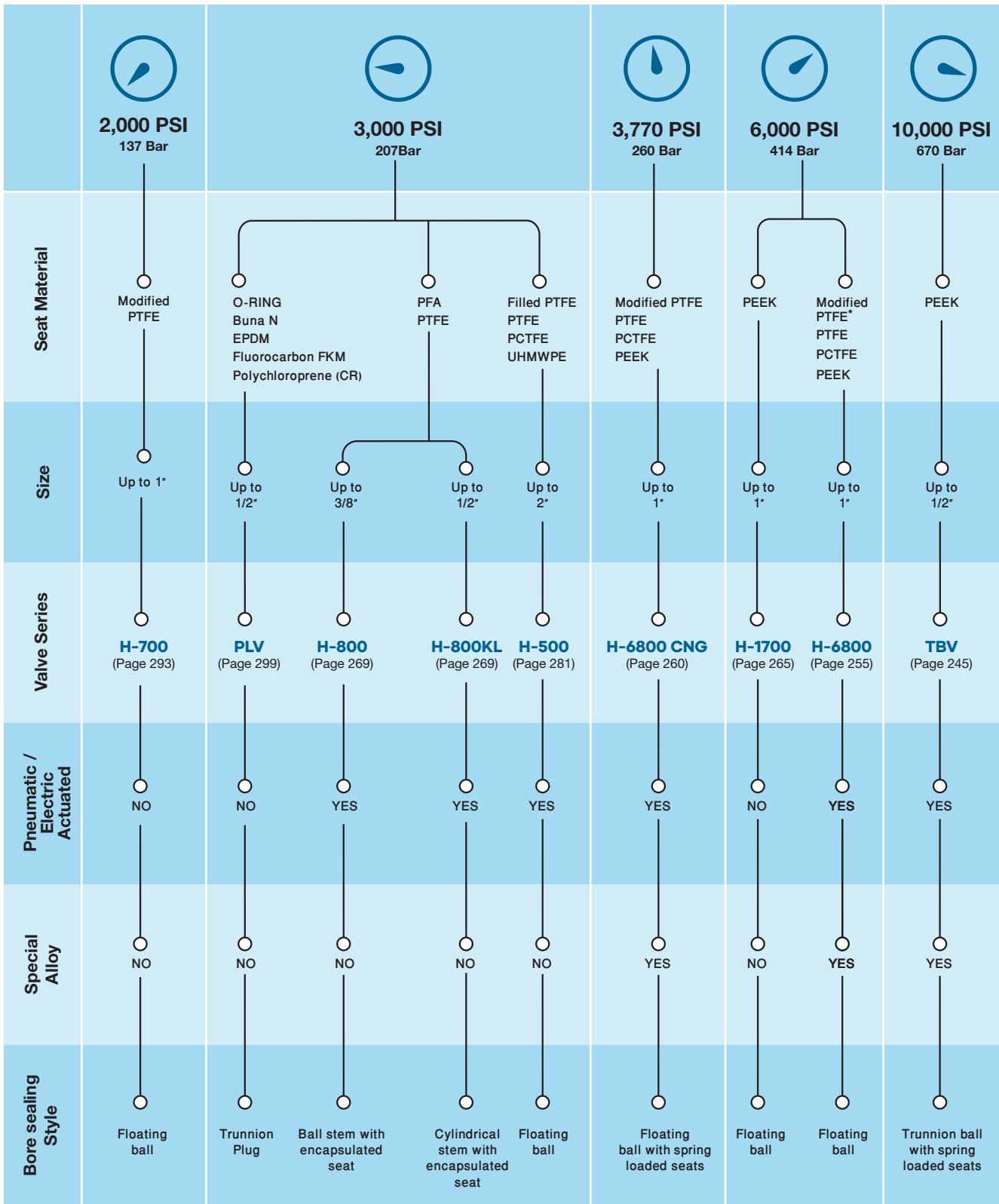
Platinum Natural Gas Solutions

Ham-Let® and UCT® Valve Table of Contents

IPV BALL VALVES SELECTION TOOL



*H6800 with modified PTFE is up to 3000 Psi.

SCREWED BONNET NEEDLE VALVES

HAM-LET H99 SERIES

Platinum Natural Gas Solutions
www.ptngs.com
info@ptngs.com 484.897.0345

FEATURES

- Blowout-proof stem
- MAWP* up to 10,000 psi (690 bar)
- MAWT** up to 648°C (1200°F)
- End connection size range: 1/4" to 1" or 6mm to 25mm
- Available in 4 body sizes (S, M, L, XL)
- Flow Coefficient (Cv) 0 to1.5
- Variety of stem types
- Packing bolt for easy panel mounting
- No packing disassembling is required

* Maximum Allowed Working Pressure
**Maximum Allowed Working Temperature

GENERAL

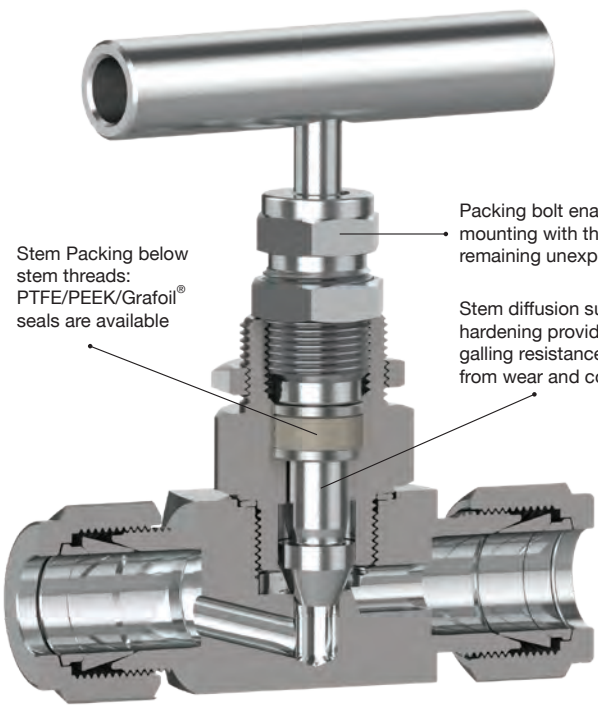
The H-99 Series offers a general service valve of rugged design and construction. It is available in stainless steel to suit a wide range of services. Capable of with standing high-pressure (10,000 psig max) and high temperature.

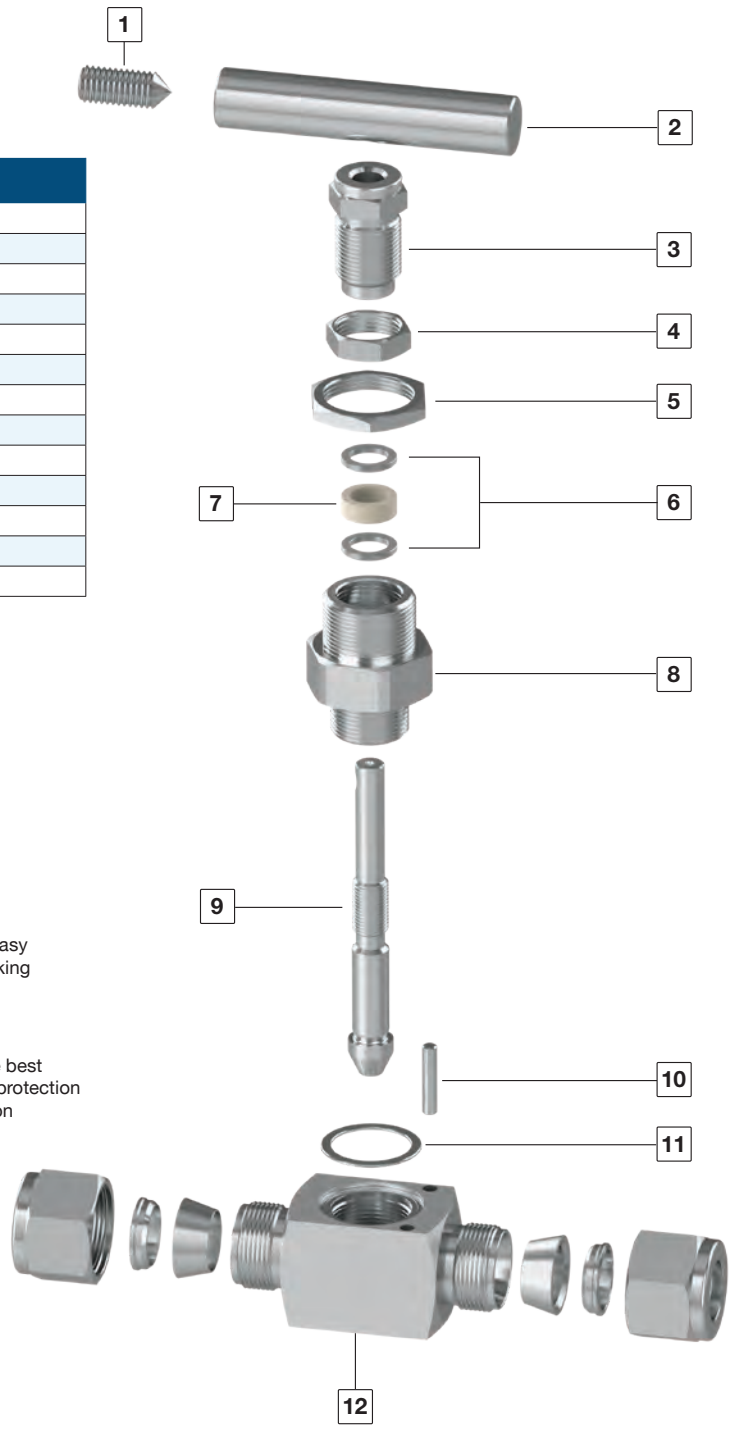
This valve is typically used in severe environments, high-pressure sampling systems, high-pressure shut-down systems and test stands.

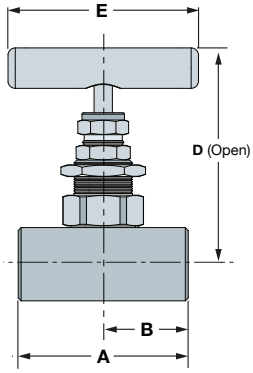
Materials of Construction

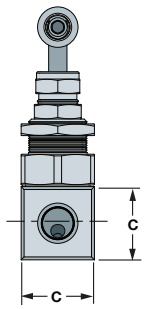
No.	Components	Qty	Material
1	Set Screw	1	SST 18-8
2	Handle	1	SST 316 ASTM A-276 / A-479
3	Packing Bolt	1	SST 316 ASTM A-276 / A-479
4	Locking Nut	1	SST 316 ASTM A-276 / A-479
5	Panel Nut	1	SST 316 ASTM A-276 / A-479
6	Stem Washer*	2	SST 316 ASTM A-276 / A-479
7	Packing	1	PTFE/PEEK/Grafoil®
8	Bonnet*	1	SST 316 ASTM A-276 / A-479
9	Stem*	1	SST 316 ASTM A-276 / A-479
10	Safety Pin	1	SST 304
11	Gasket*	1	SST 316
12	Body(1)*	1	SST 316 ASTM A-479
	Lubricant		Silicone Based

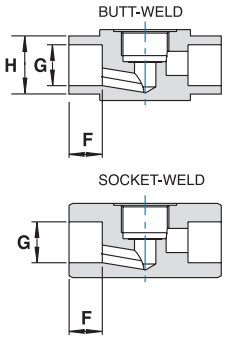
(1)For weld end valves, body is made of low carbon stainless steel
* Wetted parts











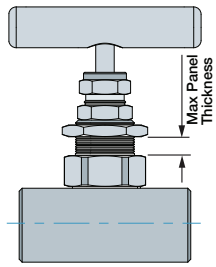
Standard Dimensions

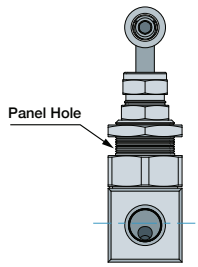
End		Body	Orifice		A		B		C		D		E		F		G		H	
Connection	Size	Size	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in
Let-Lok® Inch	1/4"	S	6.35	0.25	72.7	2.9	36.4	1.4	25.0	1.0	78.9	3.1	65.0	2.6	-	-	-	-	-	-
	3/8"				72.7	2.9	36.4	1.4												
	1/2"				78.3	3.1	39.2	1.5												
	3/4"	M	6.35	0.25	85.3	3.4	42.7	1.7	30.0	1.2	81.4	3.2	80.0	3.2						
Let-Lok® Metric	6mm	S	6.35	0.25	72.8	2.9	36.4	1.4	25.0	1.0	78.9	3.1	65.0	2.6	-	-	-	-	-	-
	8mm				73.0	2.9	36.5	1.4												
	10mm				73.2	2.9	36.6	1.4												
	12mm				78.2	3.1	39.1	1.5												
	14mm				78.2	3.1	39.1	1.5												
Female Thread (NPT/ISO)	1/8"	S	6.35	0.25	58.0	2.3	29.0	1.1	25.0	1.0	78.9	3.1	65.0	2.6	-	-	-	-	-	-
	1/4"																			
	3/8"																			
	1/2"	M	6.35	0.25	65.0	2.6	32.5	1.3	30.0	1.2	81.4	3.2	80.0	3.2						
	3/4"	L	9.50	0.375	70.0	2.8	35.0	1.4	35.0	1.4	92.5	3.6	80.0	3.2						
	1"	XL	9.50	0.375	80.0	3.1	40.0	1.6	45.0	1.8	99.6	3.9	80.0	3.2						
Tube Socket Weld Inch	1/4"	S	6.35	0.25	58.0	2.3	29.0	1.1	25.0	1.0	78.9	3.1	65.0	2.6	6.4	0.25	6.5	0.26	-	-
	3/8"														9.7	0.38	9.7	0.38		
	1/2"														12.7	0.50	12.9	0.51		
	3/4"	M	6.35	0.25	65.0	2.6	32.5	1.3	30.0	1.2	81.4	3.2	80.0	3.2	14.2	0.56	19.2	0.76		
	1"	L	9.50	0.375	70.0	2.8	35.0	1.4	35.0	1.4	92.5	3.6	80.0	3.2	19.2	0.76	25.6	1.01		
Tube Socket Weld Metric	6mm	S	6.35	0.25	58.0	2.3	29.0	1.1	25.0	1.0	78.9	3.1	60.0	2.6	6.0	0.24	6.2	0.24	-	-
	8mm														7.9	0.31	8.2	0.32		
	10mm														12.7	0.50	10.2	0.40		
	12mm														12.7	0.50	12.2	0.48		
	14mm	S	6.35	0.25	58.0	2.3	29.0	1.1	25.0	1.0	78.9	3.1	65.0	2.6	14.2	0.50	14.1	0.50		
	25mm	L	9.50	0.375	70.0	2.8	35.0	1.4	35.0	1.4	92.5	3.6	80.0	3.2	19.2	0.76	25.2	0.99		
Pipe Socket Weld	1/8"	S	6.35	0.25	58.0	2.3	29.0	1.1	25.0	1.0	78.9	3.1	60.0	2.6	9.0	0.35	10.8	0.43	-	-
	1/4"														14.0	0.55	14.0	0.55		
	3/8"														14.0	0.55	17.5	0.69		
	1/2"	M	6.35	0.25	65.0	2.6	32.5	1.3	30.0	1.2	81.4	3.2	80.0	3.2	16.5	0.65	22.0	0.87		
	3/4"	L	9.50	0.375	70.0	2.8	35.0	1.4	35.0	1.4	92.5	3.6	80.0	3.2	18.0	0.71	27.5	1.08		
	1"	XL	9.50	0.375	80.0	3.1	40.0	1.6	45.0	1.8	99.6	3.9	80.0	3.2	20.0	0.79	34.5	1.36		
Tube Butt Weld Inch	1/4"	S	6.35	0.25	58.0	2.3	29.0	1.1	25.0	1.0	78.9	3.1	60.0	2.6	6.4	0.25	3.1	0.12	6.4	0.25
	3/8"														6.0	0.24	6.2	0.24	9.5	0.37
	1/2"														6.0	0.24	8.5	0.33	12.7	0.50
	3/4"	M	6.35	0.25	65.0	2.6	32.5	1.3	30.0	1.2	81.4	3.2	80.0	3.2	8.0	0.31	13.5	0.53	19.1	0.75
	1"	L	9.50	0.375	70.0	2.8	35.0	1.4	35.0	1.4	92.5	3.6	80.0	3.2	10.0	0.39	19.3	0.76	25.4	1.00
Tube Butt Weld Metric	6mm	S	6.35	0.25	58.0	2.3	29.0	1.1	25.0	1.0	78.9	3.1	60.0	2.6	6.0	0.24	3.1	0.12	6.0	0.24
	8mm														7.9	0.31	4.8	0.19	8.0	0.31
	10mm														6.0	0.24	6.7	0.26	10.0	0.39
	12mm														6.0	0.24	7.8	0.31	12.0	0.47
	14mm	S	6.35	0.25	58.0	2.3	29.0	1.1	25.0	1.0	78.9	3.1	65.0	2.6	6.0	0.2	11.0	0.4	14.0	0.55
	25mm	L	9.50	0.375	70.0	2.8	35.0	1.4	35.0	1.4	92.5	3.6	80.0	3.2	10.0	0.39	18.9	0.74	25.0	0.98
Pipe (S40) Butt Weld	1/8"	S	6.35	0.25	58.0	2.3	29.0	1.1	25.0	1.0	78.9	3.1	60.0	2.6	6.0	0.24	7.1	0.28	10.5	0.41
	1/4"																9.2	0.36	13.7	0.54
	3/8"																12.5	0.49	17.1	0.67
	1/2"	M	6.35	0.25	65.0	2.6	32.5	1.3	30.0	1.2	81.4	3.2	80.0	3.2	8.0	0.31	15.8	0.62	21.3	0.84
	3/4"	L	9.50	0.375	70.0	2.8	35.0	1.4	35.0	1.4	92.5	3.6	80.0	3.2	10.0	0.39	21.0	0.83	26.7	1.05
	1"	XL	9.50	0.375	80.0	3.1	40.0	1.6	45.0	1.8	99.6	3.9	80.0	3.2	12.0	0.47	26.6	1.04	33.4	1.31
Male Thread to Female Thread (NPT/ISO)	1/4"	S	6.35	0.25	60.0	2.4	29.0	1.1	25.0	1.0	78.9	3.1	60.0	2.6	-	-	-	-	-	-
	3/8"																			
	1/2"	M	6.35	0.25	70.0	2.8	32.5	1.3	30.0	1.2	81.4	3.2	80.0	3.2						
	3/4"	L	9.50	0.375	75.0	3.0	35.0	1.4	35.0	1.4	92.5	3.6	80.0	3.2						
	1"	XL	9.50	0.375	85.0	3.3	40.0	1.6	45.0	1.8	99.6	3.9	80.0	3.2						

Body Dimensions: **S** - 25mm / **M** - 30mm / **L** - 35mm / **XL** - 45mm
Dimensions are for reference only and are subject to change. Face to face dimensions for LET-LOK® end connections (dimensions A and B) are finger tight.

SCREWED-BONNET NEEDLE VALVE FOR EASY MOUNTING

H-99 SERIES





Mounting Configuration Dimensions

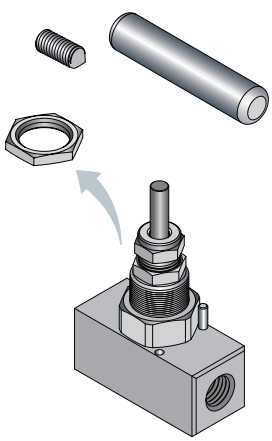
End		Body	Panel Hole		Max Panel Thickness	
Connection	Size	Size	mm	in	mm	in
Let-Lok® Inch	1/4"	S	22.0	0.87	6.35	0.25
	3/8"					
	1/2"					
	3/4"	M	25.0	0.98	6.35	0.25
Let-Lok® Metric	6mm	S	22.0	0.87	6.35	0.25
	8mm					
	10mm					
	12mm					
	25mm		24.0	0.94	6.5	0.25
Female Thread (NPT/ISO)	1/8"	S	22.0	0.87	6.35	0.25
	1/4"					
	3/8"					
	1/2"	M	25.0	0.98	6.35	0.25
	3/4"	L				
	1"	XL	27.0	1.06	6.35	0.25
Tube Socket Weld Inch	1/4"	S	22.0	0.87	6.35	0.25
	3/8"					
	1/2"					
	3/4"	M	25.0	0.98	6.35	0.25
	1"	L				
Tube Socket Weld Metric	6mm	S	22.0	0.87	6.35	0.25
	8mm					
	10mm					
	12mm					
	25mm	L	25.0	0.98	6.35	0.25

Body Dimensions: **S** - 25mm / **M** - 30mm / **L** - 35mm / **XL** - 45mm.

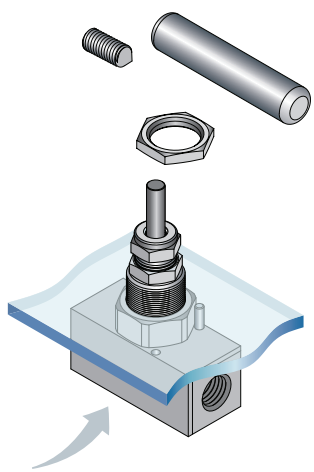
Mounting Configuration Dimensions

End		Body	Panel Hole		Max Panel Thickness	
Connection	Size	Size	mm	in	mm	in
Pipe Socket Weld	1/8"	S	22.0	0.87	6.35	0.25
	1/4"					
	3/8"					
	1/2"	M	25.0	0.98	6.35	0.25
	3/4"	L				
	1"	XL	27.0	1.06	6.35	0.25
Tube Butt Weld Inch	1/4"	S	22.0	0.87	6.35	0.25
	3/8"					
	1/2"					
	3/4"	M	25.0	0.98	6.35	0.25
	1"	L				
Tube Butt Weld Metric	6mm	S	22.0	0.87	6.35	0.25
	8mm					
	10mm					
	12mm					
	25mm	L	25.0	0.98	6.35	0.25
Pipe (S40) Butt Weld	1/8"	S	22.0	0.87	6.35	0.25
	1/4"					
	3/8"					
	1/2"	M	25.0	0.98	6.35	0.25
	3/4"	L				
	1"	XL	27.0	1.06	6.35	0.25
Male Thread to Female Thread (NPT/ISO)	1/4"	S	22.0	0.87	6.35	0.25
	3/8"					
	1/2"	M	25.0	0.98	6.35	0.25
	3/4"	L				
	1"	XL	27.0	1.06	6.35	0.25

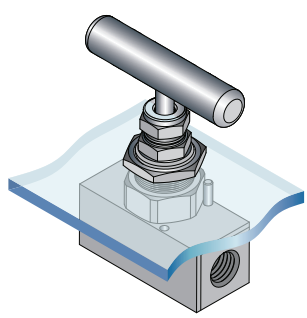
EASY MOUNTING PROCEDURE



1. Disassemble the handle, using an appropriate hex key. Take off the panel nut.



2. Insert the valve into the panel hole and reassemble the panel nut. Firmly tighten the nut.



3. Reassemble the handle. Firmly tighten the hex screw.

CLEANING & PACKAGING

Every H-99 Series Needle 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.

⚠ **Lubricant-free cleaned valves have significantly higher actuation torque.**

TESTING

The H-99 Series Needle Valve design has been tested for proof and burst.
Every H-99 Needle Valve is factory tested with nitrogen at 1,000 psi (69 bar) for leakage through the packing and seat.
The maximum allowable leakage across the seat is 0.1 std cc/min. No detectable leakage is allowed during shell test.

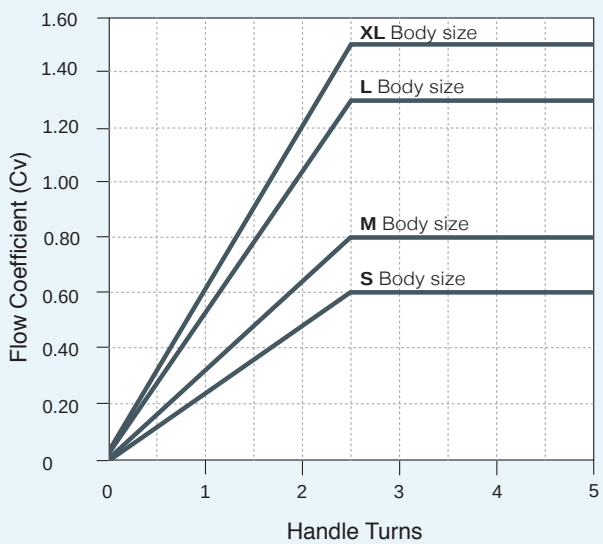
PACKING ADJUSTMENT

Due to the varied service applications of the valve, packing adjustment may be occasionally necessary.
Valve packing is factory preadjusted to 1000 psig service.

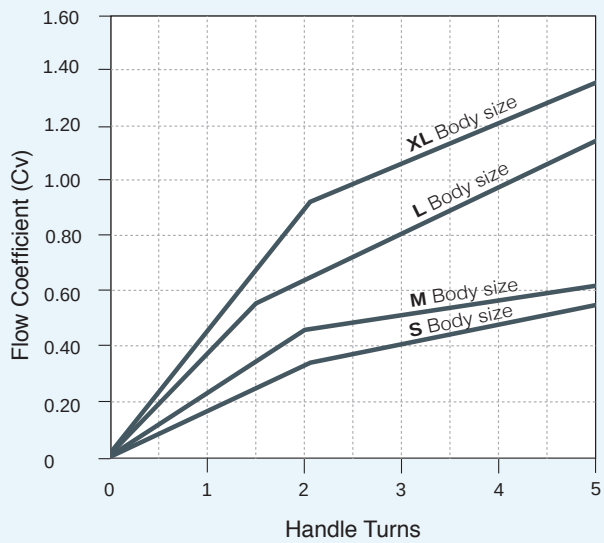
⚠ **Initial packing adjustment is recommended after installation and prior to start-up.**

Flow Data At 100°F (37°C)

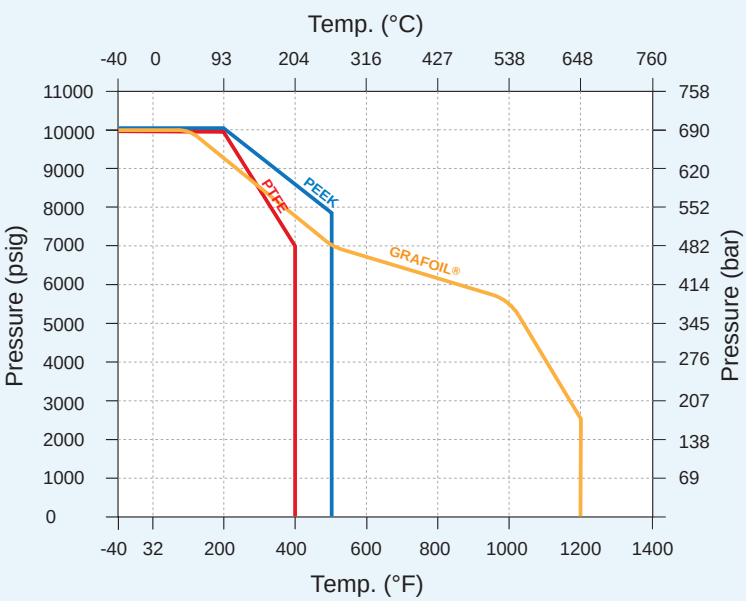
V-STEM / NR-STEM



R-STEM



Pressure Temperature Rating Threaded & Weld Connection



MAX. PRESSURE RATING AT 70°F (21°C)

Body Raw Material	Pressure	
	psi	bar
SST 316 ASTM A-479	10,000	690
Super Duplex (2507)	6,000	410
Alloy C-276	6,000	410
Alloy 400	6,000	410

MAX. ALLOWED WORKING TEMPERATURE

Packing Material	Max. Temperature	
	°C	°F
PTFE	204	400
PEEK	260	500
GRAFOIL®	648	1200

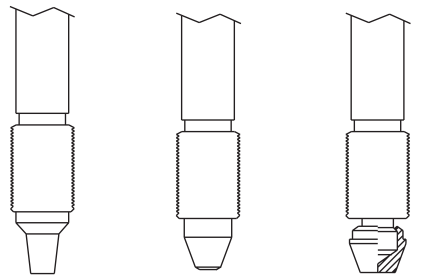
The maximum allowable pressure of welded connected valves is limited to the max. allowed working pressure of the tube.

Note: For lower temprature applications please contact your local representive.
Grafoil - TM GrafTech International Holdings, Inc.

ALTERNATIVE STEMS

Our Needle Valves are available with a choice of stem-tip options to allow greater flexibility.

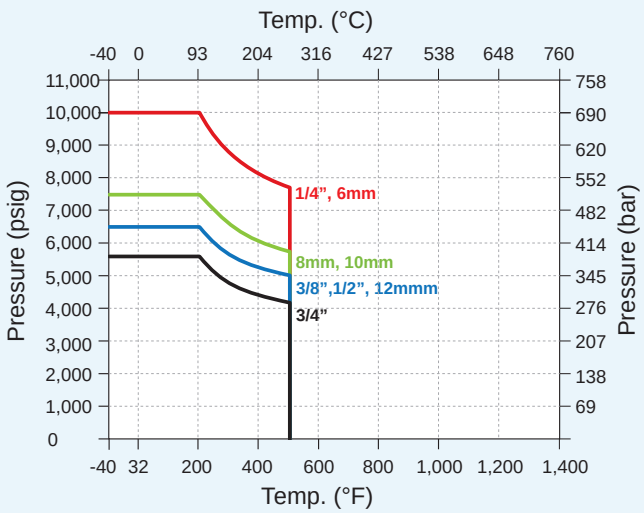
V-Stem: Standard stem tip used for the on/off operation in general-purpose liquids and gas service
R- Regulating: Used where some degree of flow control is required
NR- Non-Rotating: Typically used in high-cycle applications to extend valve life and prevent stem rotation inside the body tip; a suitable selection for gaseous high-pressure applications



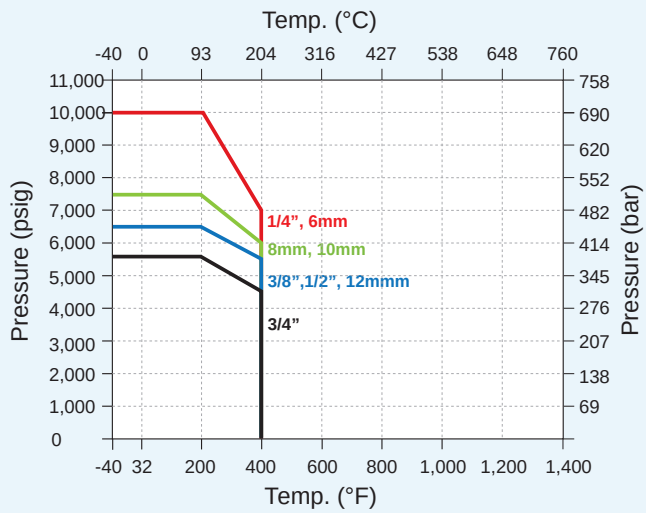
Regulating Stem | V-Stem | Non-Rotating Stem

Pressure Temperature Rating Let-Lok® Connection

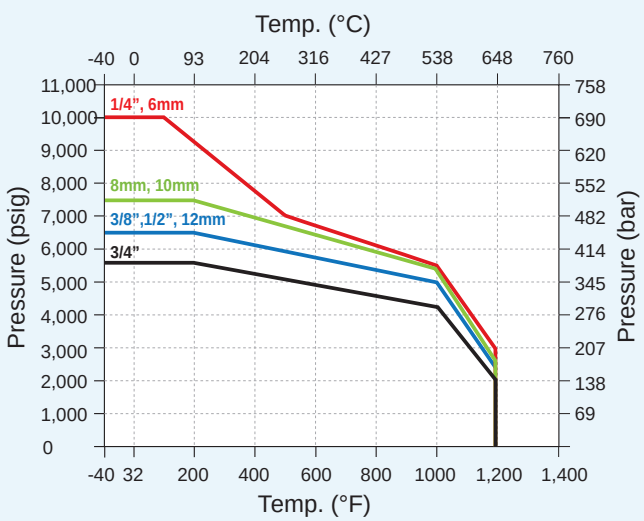
PEEK PACKING



PTFE PACKING



GRAFOIL® PACKING



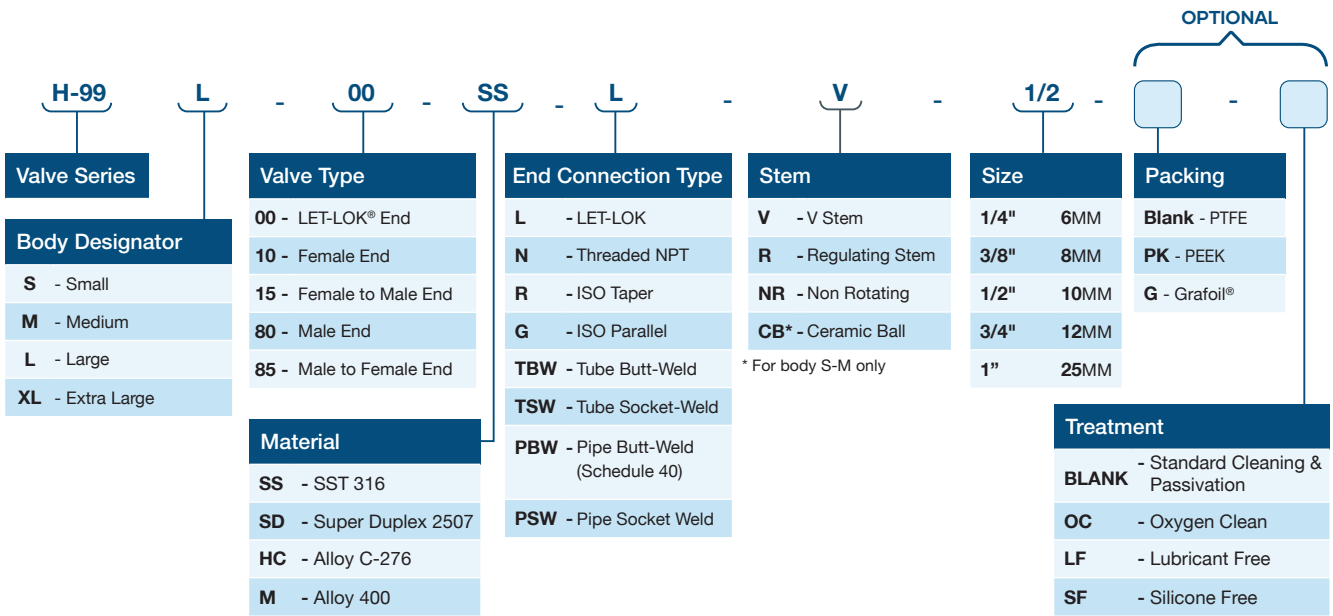
NOTE: Valves with Let-Lok ends, are always made of bar stock body.
For lower temprature applications please contact your local representive.

MAX. PRESSURE RATING AT 70°F (21°C)

Pressure per LET-LOK® Size			
in	Pressure	mm	Pressure
1/4"	10,000 psi	6	10000 psi
3/8"	6,500 psi	8	7500 psi
1/2"	6,500 psi	10	7500 psi
3/4"	5,650 psi	12	6500 psi
1"	4,000 psi	25	4700 psi

NOTE: The maximum allowed working pressure that is marked on the valve may be limited according to the pressure limitations that are recommended by the tubing/piping standards (Reference: Let-Lok tube fittings General Information).

H-99 SERIES ORDERING INFORMATION



SEAL KIT

Included: Packing & Label

Z - 99 - M - SK - PT

Body Size		
S	Small	(25mm)
M	Medium	(30mm)
L	Large	(35mm)
XL	Extra Large	(45mm)

Packing
PT - PTFE
PK - PEEK
G - Grafoil®

Grafoil - TM GrafTech International Holdings, Inc.

HANDLE KIT

Z - 99 - SS - HK - 65mm

Size	
65 mm	For S body size
80 mm	For M body size
90 mm	For L / XL body size

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.

INTEGRAL-BONNET NEEDLE VALVES

HAM-LET H-300U SERIES

FEATURES

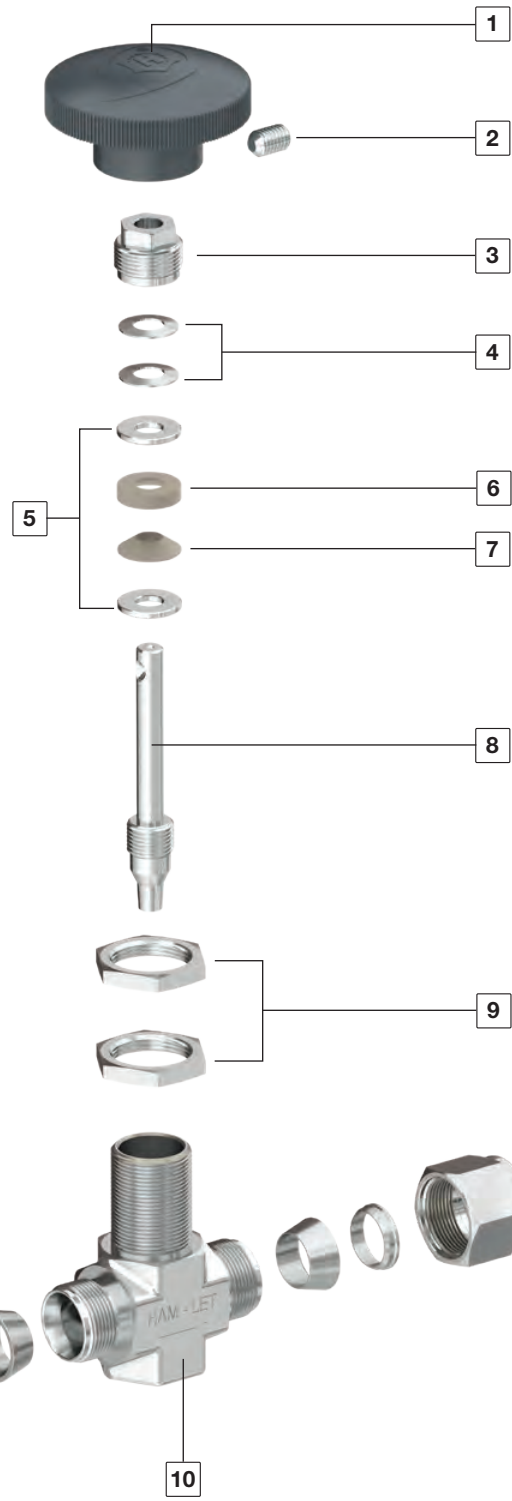
- Certified for ISO 15848-1:2006(E)
- Straight and angle pattern
- Stainless steel or brass body construction
- MAWP* 5000 psi (345 bar)
- MAWT** 446°F (230°C)
- Flow coefficient (Cv) 0.09 to 1.8
- Sizes: 1/8" to 3/4" (3mm-12mm)
- Round plastic, round aluminum, and metal bar handles
- Variety of stem types
- Packing bolt for easy panel mounting
- No packing disassembly is required
- Chevron stem packing provides low operation torques
- Belleville washers compensate packing wear
- Special synthetic, anti-seize stem lubricant for resistance to high temperature

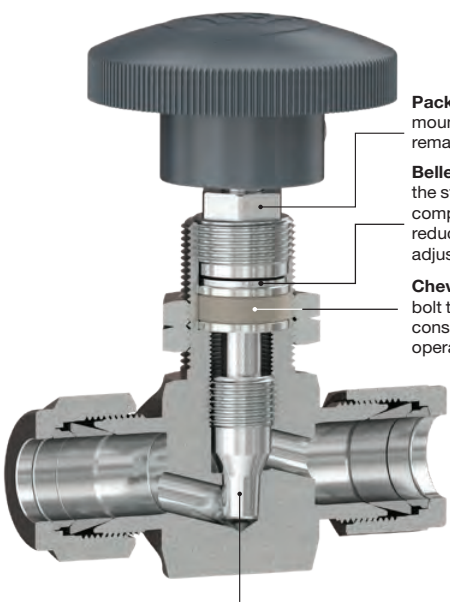
* Maximum allowed working pressure
** Maximum allowed working temperature

MATERIALS OF CONSTRUCTION

No.		Component	Qty.	Material
1		Handle	1	Phenolic
2		Set Screw	1	SST 316
3		Packing Bolt	1	SST 316
4		Belleville Washer	2	SST 302
5		*Gland	2	SST 316
6		Upper Packing	1	PTFE
7		Bottom Packing	1	PTFE
8	A	*Regulating Stem	1	SST 316 with surface treatment
	B	*V-Stem	1	SST 316 with surface treatment
	C	*Non-Rotating Stem	1	SST 316 with surface treatment
	D	*Soft Seat Stem	1	SST 316 with surface treatment
9		Panel Nut	2	SST 316
10		*Body	1	SST 316
		Lubricant		Silicone based

* Wetted parts





Packing Bolt enables easy mounting with the packing remaining unexposed

Belleville Washers spring-load the stem packing to thereby compensate for wear, and reduce the need for packing adjustments

Chevron Packing reduces packing bolt tightening torque, consequentially reducing valve operating torque

Stem Diffusion Surface Hardening provides the best galling resistance and protection from wear and corrosion

GENERAL

The H-300U Series is an advanced high-pressure instrumentation needle valve for regulating service. The packing bolt design, featuring easy mounting, provides the best solution for instrumentation panels.

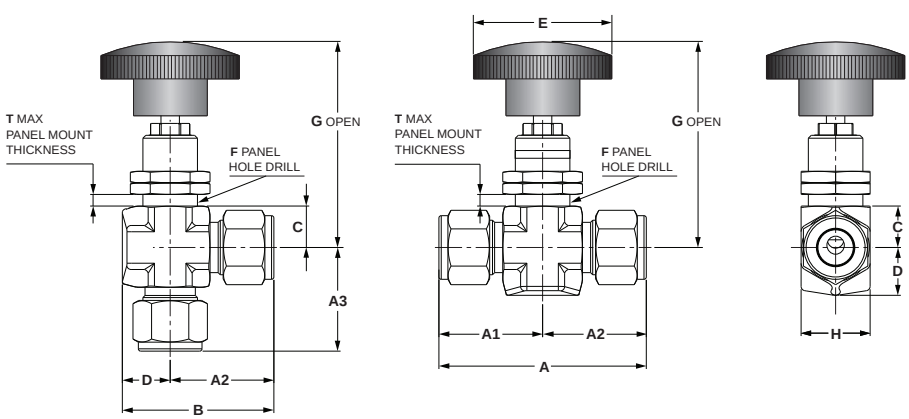
This compact valve enables a relatively high level of flow regulation and long-life service. Special stem surface treatment, based on low temperature carbon diffusion, enables higher surface hardness with improved wear resistance, resistance to system contaminants and low operational torque.

STANDARD CONFIGURATION DIMENSIONS

Basic Ordering Number	Orifice mm (in) S/A	Cv	Connection Size		A		A1		A2		A3		B		C	D	E	F	G	H	T max
			Inlet	Outlet	mm	in	mm	in	mm	in	mm	in	mm	in	mm (in)	mm (in)	mm (in)	mm (in)	mm (in)	mm (in)	mm (in)
H-300	2.0 (0.08)	0.09	3mm LET-LOK	3mm LET-LOK	50.8	2.00	25.4	1.00	25.4	1.00	25.4	1.00	33.4	1.31	10.0 (0.39")	7.95 (0.31")	35.1 (1.38") 50* (1.97")	13.0 (0.51")	63.5 (2.50") 56 * (2.20")	15.9 (5/8")	10.0 (0.39")
H-300			1/8" LET-LOK	1/8" LET-LOK	50.8	2.00	25.4	1.00	25.4	1.00	25.4	1.00	33.4	1.31							
H-395			1/8" MNPT	1/8" LET-LOK	45.3	1.78	19.9	0.78	25.4	1.00	19.9	0.78	33.4	1.31							
H-300	4.4 (0.172)	0.37	1/4" LET-LOK	1/4" LET-LOK	58.8	2.31	29.4	1.16	29.4	1.16	29.4	1.16	37.3	1.47							
H-300			6mm LET-LOK	6mm LET-LOK	58.8	2.31	29.4	1.16	29.4	1.16	29.4	1.16	37.3	1.47							
H-300			8mm LET-LOK	8mm LET-LOK	58.8	2.31	29.4	1.16	29.4	1.16	29.4	1.16	37.3	1.47							
H-310			1/8" FNPT	1/8" FNPT	41.2	1.62	20.6	0.81	20.6	0.81	20.6	0.81	28.5	1.12							
H-380			1/8" MNPT	1/8" MNPT	50.8	2.00	25.4	1.00	25.4	1.00	25.4	1.00	33.3	1.31							
H-380			1/4" MNPT	1/4" MNPT	50.8	2.00	25.4	1.00	25.4	1.00	25.4	1.00	33.3	1.31							
H-395			1/4" MNPT	1/4" LET-LOK	54.8	2.16	25.4	1.00	29.4	1.16	25.4	1.00	37.3	1.47							
H-300	6.4 (0.25)	0.73	3/8" LET-LOK	3/8" LET-LOK	66.0	2.60	33.0	1.30	33.0	1.30	33.0	1.30	49.5	1.95	14.3 (0.56")	16.5 (0.65")	47.8 (1.88") 65* (2.56")	20.0 (0.79")	78.4 (3.09") 66.8* (2.63")	23.8 (15/16")	12.0 (0.49")
H-300			10mm LET-LOK	10mm LET-LOK	66.4	2.62	33.2	1.31	33.2	1.31	33.2	1.31	49.7	1.96							
H-300			1/2" LET-LOK	1/2" LET-LOK	71.6	2.82	35.8	1.41	35.8	1.41	35.8	1.41	52.3	2.06							
H-300			12mm LET-LOK	12mm LET-LOK	71.6	2.82	35.8	1.41	35.8	1.41	35.8	1.41	52.3	2.06							
H-310			1/4" FNPT	1/4" FNPT	54.0	2.12	27.0	1.06	27.0	1.06	27.0	1.06	43.5	1.71							
H-380			3/8" MNPT	3/8" MNPT	57.0	2.24	28.5	1.12	28.5	1.12	28.5	1.12	45.0	1.77							
H-385			1/4" MNPT	1/4" FNPT	58.5	2.30	31.5	1.24	27.0	1.06	28.5	1.12	43.5	1.71							
H-385			3/8" MNPT	3/8" FNPT	56.5	2.22	28.5	1.12	28.0	1.10	28.5	1.12	44.5	1.75							
H-395			3/8" MNPT	3/8" LET-LOK	61.5	2.42	28.5	1.12	33.0	1.30	28.5	1.12	49.5	1.95							
H-300	9.5 (0.375)	1.8	3/4" LET-LOK	3/4" LET-LOK	97.0	3.82	48.5	1.91	48.5	1.91	48.5	1.91	68.5	2.70	19.5 (0.77")	20.0 (0.79")	47.8 (1.88") 65* (2.56")	26.0 (1.02")	105.6 (4.16") 94* (3.70")	30.2 (1-3/16")	22.0 (0.87")
H-310			3/8" FNPT	3/8" FNPT	76.2	3.00	38.1	1.50	38.1	1.50	38.1	1.50	58.1	2.29							
H-310			1/2" FNPT	1/2" FNPT	76.2	3.00	38.1	1.50	38.1	1.50	38.1	1.50	58.1	2.29							
H-310			3/4" FNPT	3/4" FNPT	36.0	3.78	48.0	1.89	48.0	1.89	-	-	-	-							
H-380			1/2" MNPT	1/2" MNPT	76.2	3.00	38.1	1.50	38.1	1.50	38.1	1.50	58.1	2.29							
H-380			3/4 MNPT	3/4 MNPT	76.2	3.00	38.1	1.50	38.1	1.50	-	-	-	-							
H-385			1/2" MNPT	1/2" FNPT	76.2	3.00	38.1	1.50	38.1	1.50	38.1	1.50	58.1	2.29							

Dimensions are for reference only and are subject to change without notice.

* Dimensions for metal handle option



STEM OPTIONS

H-300U needle valves are available with a choice of stem tips:

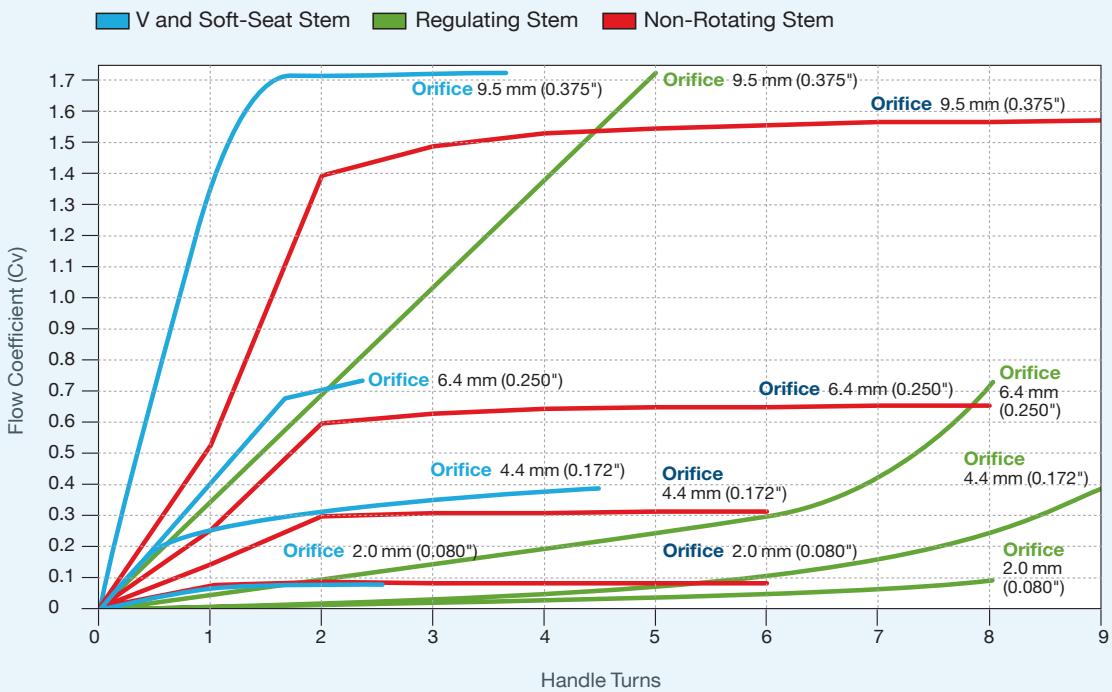
8A Regulating: Used where some degree of flow control is required.

8B V-Stem: Standard stem tip used for the on/off operation in general purpose liquids and gas service.

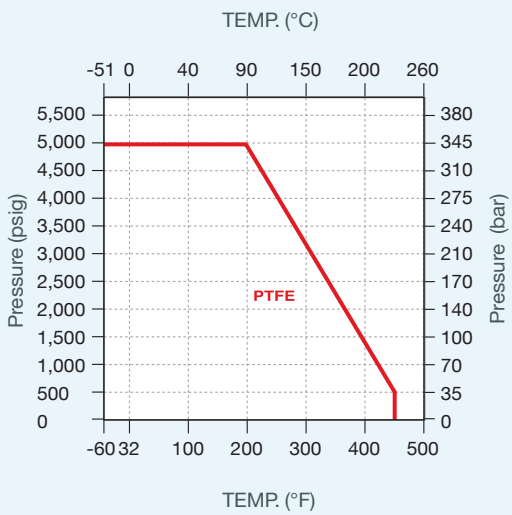
8C Non-Rotating Stem: Typically used in high-cycle applications to extend valve life and prevent stem rotation inside the body tip, a suitable selection for gaseous high-pressure applications.

Soft Seat Stem (PCTFE) A soft seat tip requires a lower sitting torque than a metal stem tip. The best choice for clean gaseous high pressure applications; MAWT is 200°F (93°C).

FLOW DATA: FLOW COEFFICIENT VS. HANDLE TURNS



PRESSURE TEMPERATURE RATING



TECHNICAL DATA

The following table contains the temperature and pressure ratings for a standard valve with PTFE packing.

Body Material	Stem Type	Rating	
		Temperature	Pressure
316 SST	All SST Stems	-51°C to 230°C (-60°F to 446°F)	5000 psi
	PCTFE	-46°C to 93°C (-51°F to 200°F)	5000 psi
Brass	Regulating & V-Stem	-46°C to 200°C (-51°F to 392°F)	3000 psi
	PCTFE	-46°C to 93°C (-51°F to 200°F)	3000 psi

* Extreme temperature fluctuations may require packing adjustment.

Notes:

- The H-300U was designed for high-pressure services where moderately uncontaminated media is used
- For steam applications, it is recommended to select one of Ham-Let's severe service needle valves
- For oxygen applications, select the oxygen clean treatment option
- For relatively high-pressure pure oxygen applications, assure that the se lectedvalve is tested and found to meet the specific application requirements

CLEANING & PACKAGING

Every H-300U series needle 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.

⚠ **Lubricant-free cleaned valves have significantly higher actuation torque.**

TESTING

The H-300U Series Needle Valve design has been tested for proof and burst. Every H-300U Needle Valve is factory tested with nitrogen at 1000 psi (69 bar) for leakage through the packing and seat.

The maximum allowable leakage across the seat is 0.1 std cc/min. No detectable leakage is allowed during shell test.

PACKING ADJUSTMENT

Due to the varied service applications of the valve, packing adjustment may occasionally be necessary. Packing is factory adjusted to 1000 psig service.

⚠ **Initial packing adjustment is recommended after installation and prior to start-up.**

H-300U SERIES ORDERING INFORMATION

H-3 00U - SS - L - V - 1/4 - RS - (OPTIONAL)

Valve Series

Valve Type

00 -	LET-LOK® End
10 -	Female End
15 -	Female to Male End
80 -	Male End
85 -	Male to Female End
95 -	Male to LET-LOK®

Body Material

SS	- 316SS
B	- Brass

End Connection

L	- LET-LOK®
N	- NPT
R	- ISO Tapered
NL	- NPT to LET-LOK®
HL	- Single Ferrule
G	- ISO Parallel
GL	- Face Seal Ends

Stem Designator

V	- V Stem
R	- Regulating Stem
K	- Soft Seat PCTFE Stem
NR	- Non-Rotating Stem

End Connection Size

1/8"	3MM
1/4"	6MM
3/8"	8 MM
1/2"	10MM
3/4"	12MM

Handle Type

RS	- Black Plastic
RAS	- Black Aluminum
RAR	- Red Aluminum
RAB	- Blue Aluminum
RAG	- Green Aluminum
RAY	- Yellow Aluminum
M	- Metal Bar SS316

Pattern Designator

Blank	- Straight
A	- Angle

Treatment

Blank	- Standard Cleaning & Passivation
OC	- Oxygen Clean
LF	- Lubricant Free
SF	- Silicone Free

Spare Round-Handle Kits are available for each valve.

SPARE KITS

Series	End Size	Seal Kit*	Handle Kit**
H-380U	1/8, 1/4"	Z-300U-SK-1/4-P	Z-300U-HK-1/4- ☐
	3/8"	Z-300U-SK-1/2-P	Z-300U-HK-1/2- ☐
	1/2", 3/4"	Z-300U-SK-3/4-P	Z-300U-HK-3/4- ☐
H-310U Female to Female	1/8"	Z-300U-SK-1/4-P	Z-300U-HK-1/4- ☐
	1/4"	Z-300U-SK-1/2-P	Z-300U-HK-1/2- ☐
	3/8", 1/2"	Z-300U-SK-3/4-P	Z-300U-HK-3/4- ☐
H-395U Male to LET-LOK®	1/"8, 1/4"	Z-300U-SK-1/4-P	Z-300U-HK-1/4- ☐
	3/8"	Z-300U-SK-1/2-P	Z-300U-HK-1/2- ☐
H-385U Male to Female	1/4"	Z-300U-SK-1/2-P	Z-300U-HK-1/2- ☐
	3/8"	Z-300U-SK-1/2-P	Z-300U-HK-1/2- ☐
	1/2"	Z-300U-SK-3/4-P	Z-300U-HK-3/4- ☐
H-300U LET-LOK®	1/8", 1/4", 3MM, 6MM, 8MM	Z-300U-SK-1/4-P	Z-300U-HK-1/4- ☐
	3/8", 1/2", 10MM, 12MM	Z-300U-SK-1/2-P	Z-300U-HK-1/2- ☐
	3/4"	Z-300U-SK-3/4-P	Z-300U-HK-3/4- ☐

*Seal Kit contains packing and packing instructions.
**Handle Kit contains handle and set screw.

☐ Handle type per "How to Order"

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.

CHECK VALVES

HAM-LET H-400 SERIES

H-400	General purpose fixed cracking pressure check valve (MAWP 3,000 psig)
H-400 HP	High-performance fixed cracking pressure check valve (MAWP 6,000 psig)
H-400 CNG	ECE R110 approved for CNG/NGV fixed cracking pressure check valve (MAWP 3,770 psig)
H-400 OP	Compact one-piece fixed cracking pressure check valve (MAWP 3,000 psig)
H-400 OPA	One-piece adjustable cracking pressure check valve (MAWP 3,000 psig)
H-400 A	Adjustable cracking pressure check valve (MAWP 3,000 psig)

GENERAL PURPOSE FIXED CRACKING PRESSURE CHECK VALVE H-400 SERIES

FEATURES

- 316 SST or brass body construction
- Moderate-pressure characteristics up to 3,000 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 check valve designed for instrumentation. H-400 valves are normally closed. When differential pressure between the inlet and outlet is higher than the set pressure of the spring, the poppet opens to enable a free passage of flow, through the valve.

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

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

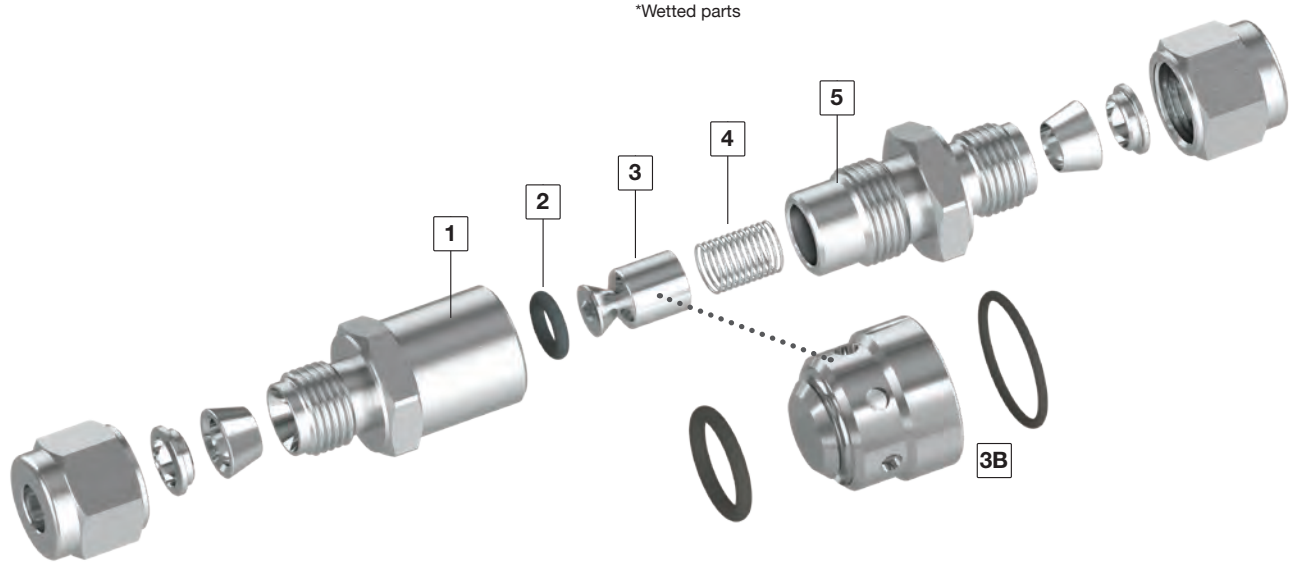
Item No.		Components	Qty.	Valve Body Material
1		Body*	1	SST 316
2		O-ring*	1	Fluorocarbon FKM
3		Poppet*	1	SST 316
4	A	Spring 1/3 psi*	1	SST 304
	B	Spring 3 psi*	1	SST 304
	C	Spring 10 psi*	1	SST 304
	D	Spring 25 psi*	1	SST 304
5		End*	1	SST 316
Lubricant			Silicone and PTFE based	

*Wetted parts

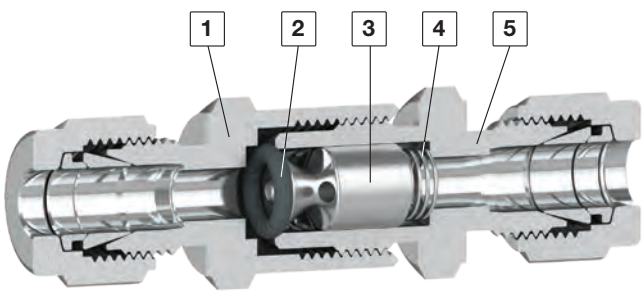
MATERIALS OF CONSTRUCTION
for sizes 3/4"-1"

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

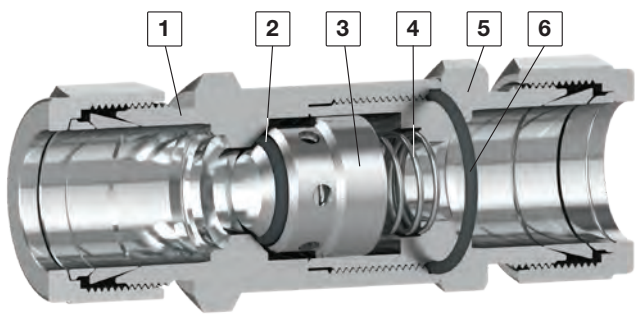
*Wetted parts



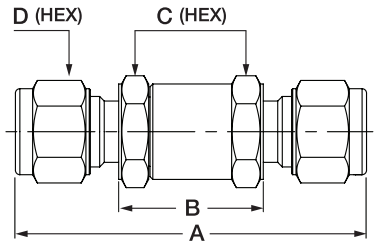
Sizes 1/8"-1/2"



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 passes through the valve.

RESEAL PRESSURE

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

⚠ **Lubricant-free cleaned valves have higher reseal pressure.**

BACK PRESSURE

The differential pressure between the inlet and outlet pressures. Maximum allowable back pressure is rated to 1,000 psi (69 bar) for 1/4, and 200 psi (14 bar) for 3/8 to 1".

In systems where pulses, pressure shock or pressure surges occur , please select the 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 375 (-23 to 190)
Perfluor	-15 to 500 (-26 to 260)
Polychloroprene (CR)	-40 to 250 (-40 to 121)

MAWP PRESSURE AT 21°C (70°F)

Size	Brass psi (bar)	AISI 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 1,500 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", 3MM TO 12 MM

Material	316 SST	Brass
Temperature F° (C°)	Working Pressure, psi (bar)	
-10 (-23) to 100 (37)	3,000 (206)	3,000 (206)
200 (93)	2,575 (177)	2,600 (179)
250 (121)	2,450 (168)	2,405 (165)
300 (148)	2,325 (160)	-
375 (190)	2,185 (150)	-

Note: Ratings based on Fluorocarbon FKM O-ring.

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

Material	316 SST	Brass
Temperature F° (C°)	Working Pressure, psi (bar)	
-10 (-23) to 100 (37)	2,000 (137)	1,500 (103)
200 (93)	1,715 (118)	1,300 (89.5)
250 (121)	1,630 (112)	1,200 (82.6)
300 (148)	1,545 (106)	-
375 (190)	1,450 (99.9)	-

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 pressure and burst.

Every H-400 valve is factory tested for proper assembly with nitrogen at 1,000 psig (68 bar) for 10 seconds. Every H-400 valve is factory tested for functionality at therelevant cracking pressure, each for five cycles.

No detectable leakage is allowed during shell test.

H-400 SERIES ORDERING INFORMATION

H-4 **00** - **SS** - **L** - **1/4** - **1/3** - **OPTIONAL**

Valve Series

Material

SS	- SST 316
B	- Brass

End Connection Size

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

O-ring Material

BLANK	- Fluorocarbon FKM
BU	- Buna N
EP	- EPDM
NE	- Polychloroprene (CR)
KZ	- Perfluor
PT*	- PTFE

*PTFE seals are available up to 1/2" valves and require relatively high back pressure to seal leaktight.

Option

HF* High Flow

*Available for 1"

Valve Type

00	- LET-LOK End
10	- Female End
15	- Female to Male End
80	- Male End
85	- Male to Female End
90	- Female to LET-LOK End
95	- Male to LET-LOK End

End Connection

L	- LET-LOK Tube Fitting
N	- NPT
G	- ISO Parallel
R	- ISO Tapered
GL	- Face Seal Male Connector
HL	- ONE-LOK Tube Fitting

Other end connections are available upon request.

Cracking Pressure

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

Treatment

BLANK	- Standard Cleaning & Passivation
OC	- Oxygen Clean
LF	- Lubricant Free
SF	- Silicon Free

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 SST construction
- High-pressure characteristics up to 6,000 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 CNG/NGV as an option

GENERAL

The H-400HP series is a compact, robust and heavy duty valve designed for high-pressure (up to 6,000 psi) instrumentation panels and systems.

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 poppet will open and allow free flow through the valve.

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

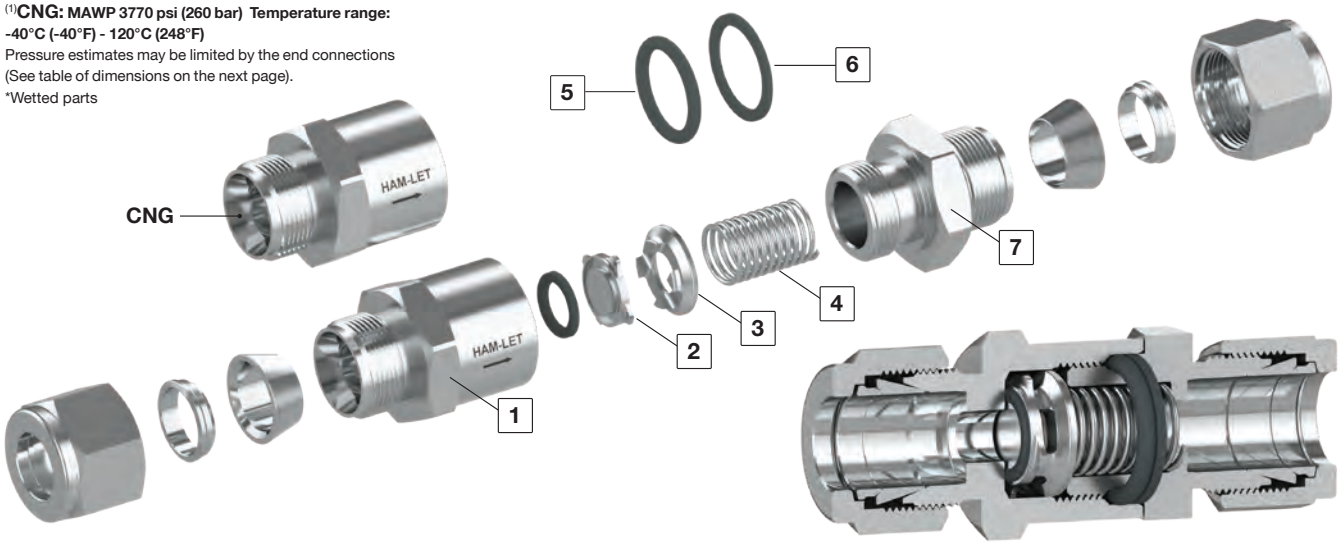
MATERIALS OF CONSTRUCTION

No.	Components	Qty.	Standard	CNG[1]
1	Body*	1	SST ASTM A-479	SST ASTM A-479
2	Bonded* Poppet	1	Fluorocarbon FKM Bonded on 316 SST	Low Temperature Fluorocarbon FKM Bonded on 316 SST
3	Pusher*	1	SST ASTM A-479	SST ASTM A-479
4	Spring*	1	SST 304	SST 304
5	O-ring*	1	Fluorocarbon FKM	Low Temperature Fluorocarbon FKM
6	Back Up*	1	Fluorocarbon FKM	Fluorocarbon FKM
7	End*	1	SST ASTM A-479	SST 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)	6,000 (413)	5,000 (344)
200 (93)	5,160 (355)	4,290 (296)
250 (121)	4,910 (338)	4,080 (281)
300 (148)	4,660 (321)	3,875 (267)
400 (204)	4,280 (295)	3,560 (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 passes 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

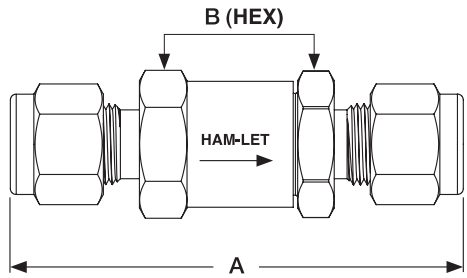
The differential pressure between the outlet and inlet, at which no flow passes through the valve.

⚠ Lubricant-free cleaned valves have higher reseal pressure.

⚠ If valves are not actuated for a long period of time, the initial cracking pressure may be higher than the set cracking 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	1
	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	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	2.72	
	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 design has been tested for pressure and burst. Every H-400HP valve is factory tested for proper assembly with nitrogen at 1,000 psig (68 bar) for 10 seconds. No detectable leakage is allowed during shell test.

Every H-400HP valve is factory tested for functionality at the relevant cracking pressure, five cycles each.
No detectable leakage is allowed during shell test.

H-400HP SERIES ORDERING INFORMATION

H-4 | 00HP | - | SS | - | L | - | 1/4 | - | 1/3 | OPTIONAL

Valve Series

Material

SS	- SST 316

End Connection Size

1/8"	6 MM
1/4"	8 MM
3/8"	10 MM
1/2"	12 MM
3/4"	22 MM
1"	25 MM

Approval

BLANK	- Standard
CNG	- ECE R110

Treatment

BLANK	- Standard Cleaning & Passivation
OC	- Oxygen Clean
LF	- Lubricant Free
SF	- Silicone Free

Valve Type

00HP	- LET-LOK End
10HP	- Female End
15HP	- Female to Male End
80HP	- Male End
85HP	- Male to Female End
90HP	- Female to LET-LOK End
95HP	- Male to LET-LOK End

End Connection Type

L	- LET-LOK Tube Fitting
N	- NPT
G	- ISO Parallel (BSPP)
R	- ISO Tapered (BSPT)
GL	- Metal Face Seal Male
HO	- O-Ring Face Seal Male
HL	- ONE-LOK
OB	- SAE/MS

Cracking Pressure

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

Seal Material

BLANK	- Fluorocarbon FKM Seals are standard
BU	- Buna N
EP	- EPDM
NE	- Polychloroprene (CR)
KZ	- Perfluor-FFKM

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

SEAL KIT

The kit includes o-ring, back-up and 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.

UCT check valves should never be used as safety relief devices.

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

GENERAL

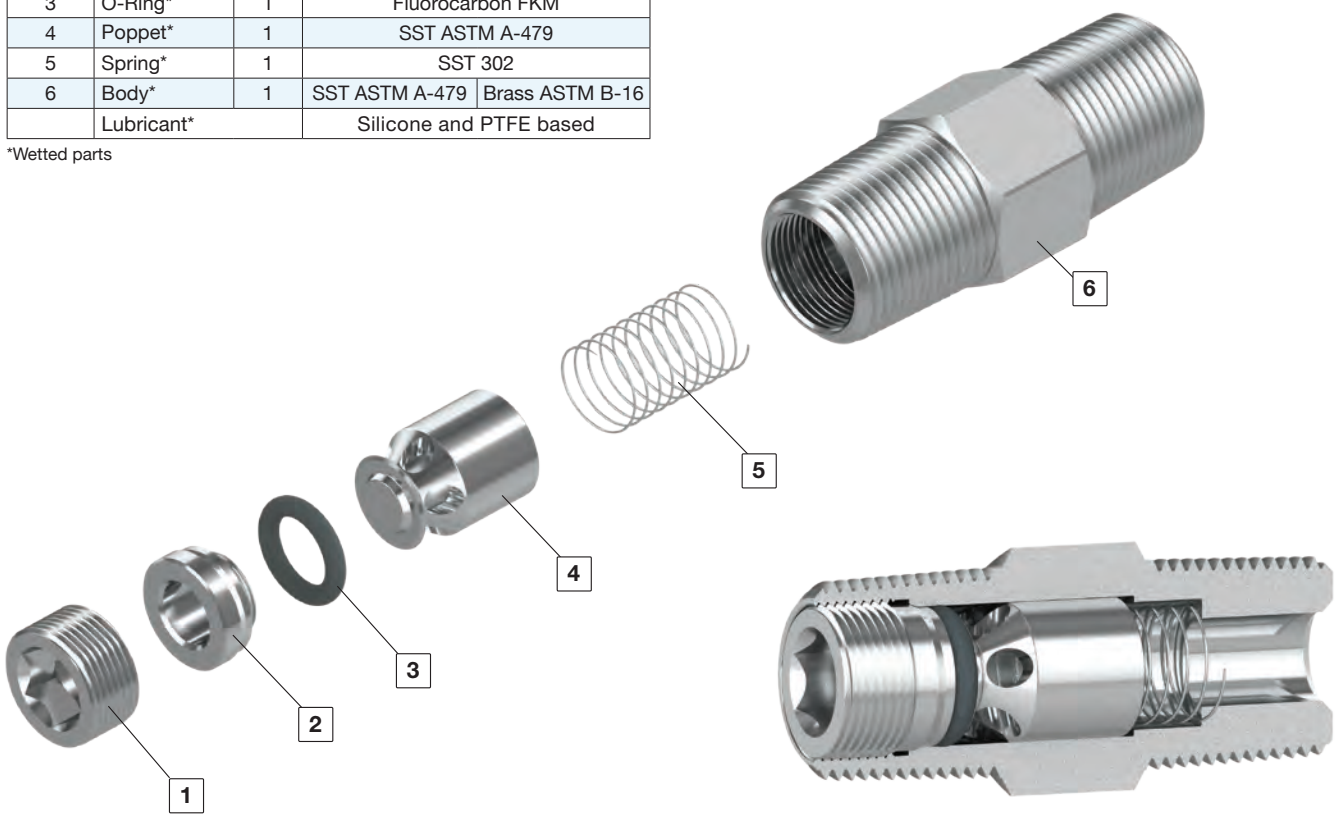
The H-400OP series is a compact one-piece check valve designed for moderate pressure (up to 3,000 psi) instrumentation panels and systems. H-400OP valves are normally closed. When the differential pressure between the inlet and the outlet is higher than the set pressure of the spring, the poppet will open and allow flow through the valve.

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

MATERIALS OF CONSTRUCTION

Item No.	Components	Qty.	Valve Body Material	
			316 SST	Brass
1	Lock Screw*	1	SST 304	Brass ASTM B-16
2	O-Ring*	1	SST ASTM A-479	
3	O-Ring*	1	Fluorocarbon FKM	
4	Poppet*	1	SST ASTM A-479	
5	Spring*	1	SST 302	
6	Body*	1	SST 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	3,000 (207)
1/2"	1.20	(0.02, 0.06, 0.68, and 7.1)	

⚠ If valves are not actuated for a long period of time, the initial cracking pressure may be higher than the set cracking pressure.

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

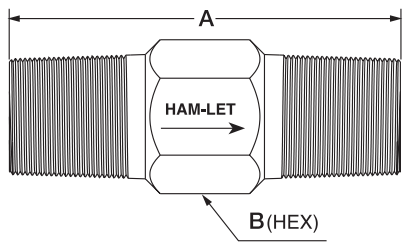
The H-400OP valve design has been tested for proof and burst. Every H-400OP valve is factory tested for proper assembly with nitrogen at 1,000 psig (68 bar) for 10 seconds.

Every H-400OP valve is factory tested for functionality at the relevant cracking pressure, five 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	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 / Female NPT	1/4"	44.5	1.75	3/4
	1/2"	72.0	2.83	11/16
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 SST	Brass
Temperature F° (C°)	Working Pressure, psi (bar)	
-10 (-23) to 100 (37)	3,000 (206)	3000 (206)
200 (93)	2,575 (177)	2600 (179)
250 (121)	2,450 (168)	2405 (165)
300 (148)	2,325 (160)	-
375 (190)	2,185 (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 passes through the valve.

RESEAL PRESSURE

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

H-400OP SERIES ORDERING INFORMATION

H-4 | **00OP** - **SS** - **N** - **1/4** - **1/3** - **OPTIONAL** - **OPTIONAL**

Valve Series

Material

SS	- SST 316
B	- Brass

End Connection Size

1/4"
1/2"

Treatment

BLANK	- Standard Cleaning & Passivation
OC	- Oxygen Clean
SF	- Silicone Free

LF treatment is available for H-400 and H-400HP series only

Valve Type

00	- Let-Lok
10	- Female End
80	- Male End
85	- Male to Female

End Connection

N	- NPT
R	- ISO Tapered

Cracking Pressure

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

Seal Material

BLANK	- Fluorocarbon FKM Seals are standard
BU	- Buna N
EP	- EPDM
NE	- Polychloroprene (CR)
KZ	- Perfluor

⚠ **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**

Body Designator per End Connection

1/4"
1/2"

Seal Material

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

SPRING KIT

The kit includes spring & label.

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

Body Designator per End Connection

1/4"
1/2"

Cracking Pressure

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

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 SST or brass construction
- Variable adjustable cracking pressure ranges
- Pressure characteristics: up to 3,000 psi
- HAM-LET male & female NPT, male BSPT

GENERAL

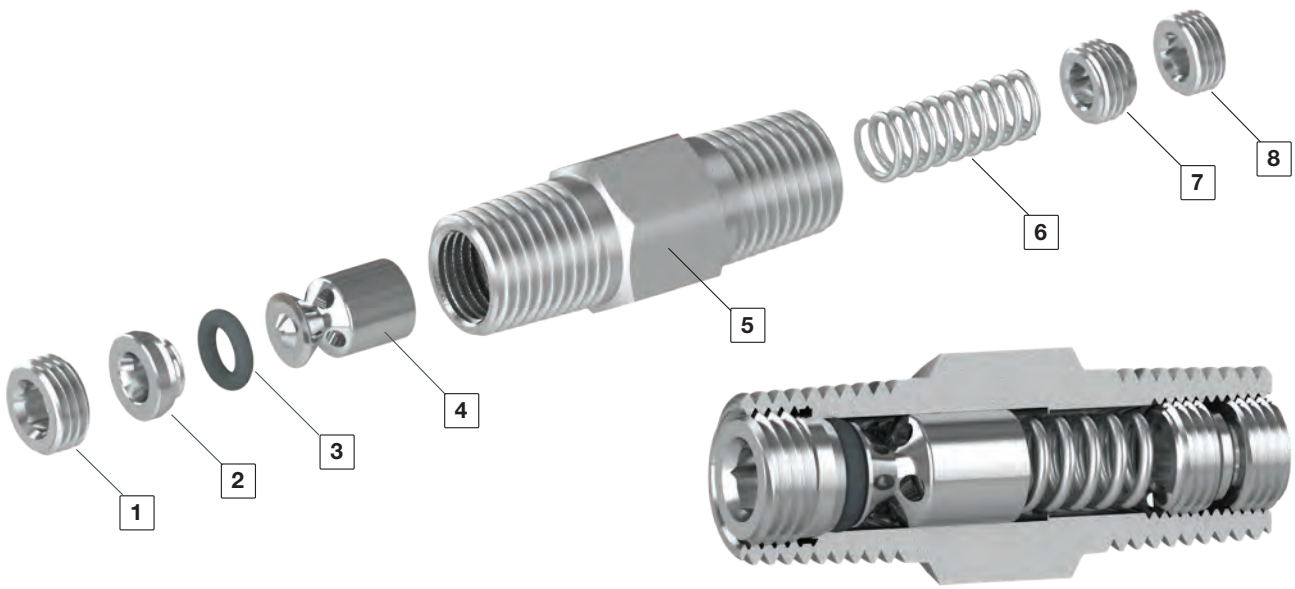
The H-400OPA series is a compact one-piece check valve designed for moderate-pressure up to 3,000 psi (206 bar) instrumentation panels and systems. H-400OPA valves are normally closed. When the differential pressure between the inlet and the outlet is higher than the set pressure of the spring, the poppet will open and allow 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 SST	Brass
1	Inlet Lock Screw*	1	SST 304	Brass ASTM B-16
2	O-ring Holder*	1	SST ASTM A-479	Brass ASTM B-16
3	O-ring*	1	Fluorocarbon FKM	
4	Poppet*	1	SST ASTM A-479	
5	Body*	1	SST ASTM A-479	Brass ASTM B-16
6	Spring*	1	SST 302	
7	Adjusting Screw*	1	SST 304	
8	Lock Screw*	1	SST 304	
	Lubricant*		Silicone and PTFE based	

*Wetted parts



PRESSURE TEMPERATURE RATING

Material Size	316 SST	Brass
Temperature F° (C°)	Working Pressure, psig (bar)	
-10 (-23) to 100 (37)	3,000 (206)	3000 (206)
200 (93)	2,575 (177)	2600 (179)
250 (121)	2,450 (168)	2405 (165)
300 (148)	2,325 (160)	-
375 (190)	2,185 (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)

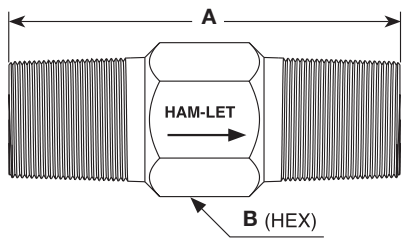
CLEANING & PACKAGING

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

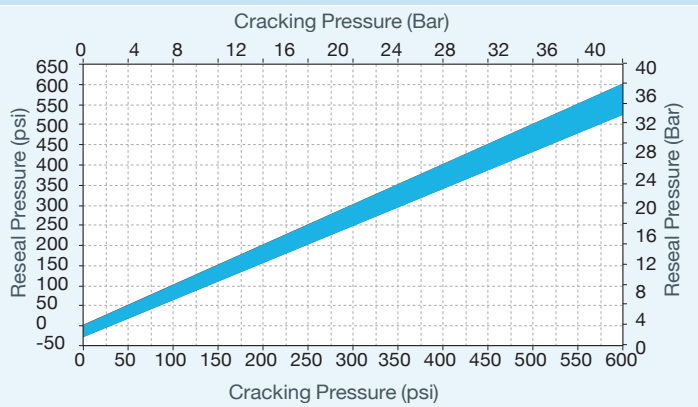
Dimensions are for reference only and are subject to change.



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)	3,000 (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



⚠ If valves are not actuated for a long period of time, the initial cracking pressure may be higher than the set cracking pressure.
There may be a slight change in cracking and resealing pressures from the catalog ranges.

H-400OPA SERIES ORDERING INFORMATION

OPTIONAL

H-4 | 10OPA | - | SS | - | N | - | 1/4 | - | 3 | - | | - | | - | |

Valve Series

Material

SS	- SST 316
B	- Brass

End Connection Size

1/4"
1/2"

Treatment

BLANK	- Standard Cleaning & Passivation
OC	- Oxygen Clean
SF	- Silicone Free

LF treatment is available for H-400 & H-400HP series only

Valve Type

00	- Let-Lok
10	- Female End
80	- Male End

End Connection

N	- NPT
R	- ISO Tapered

Cracking Pressure

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

O-Ring Material

BLANK	- Fluorocarbon FKM Seals are standard
BU	- Buna N
EP	- EPDM
NE	- Polychloroprene (CR)
KZ	- Perfluor

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

***Factory Calibration Designator**

3-600 Psi
Example: H-480OPA-SS-N-1/4-C100
Will be Calibrated to 100 Psi

ORDERING INFORMATION SPARE KITS

SEAL KIT

The kit includes o-ring and label

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

Body Designator per End Connection

1/4"
1/2"

Seal Material

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

SPRING KIT

The kit includes spring and label.

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

Body Designator per End Connection

1/4"
1/2"

Cracking Pressure

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

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.

ADJUSTABLE CRACKING PRESSURE CHECK VALVE **H-400A SERIES**

FEATURES

- 316 SST or brass construction
- Adjustable cracking pressure ranges
- Pressure characteristics: up to 3,000 psi
- HAM-LET Let-LoK® Fittings, Male NPT, and HTC® face seal and bead

GENERAL

The H-400A series is a compact check valve designed for moderate-pressure (up to 3,000 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 poppet will open and allow flow through the valve.

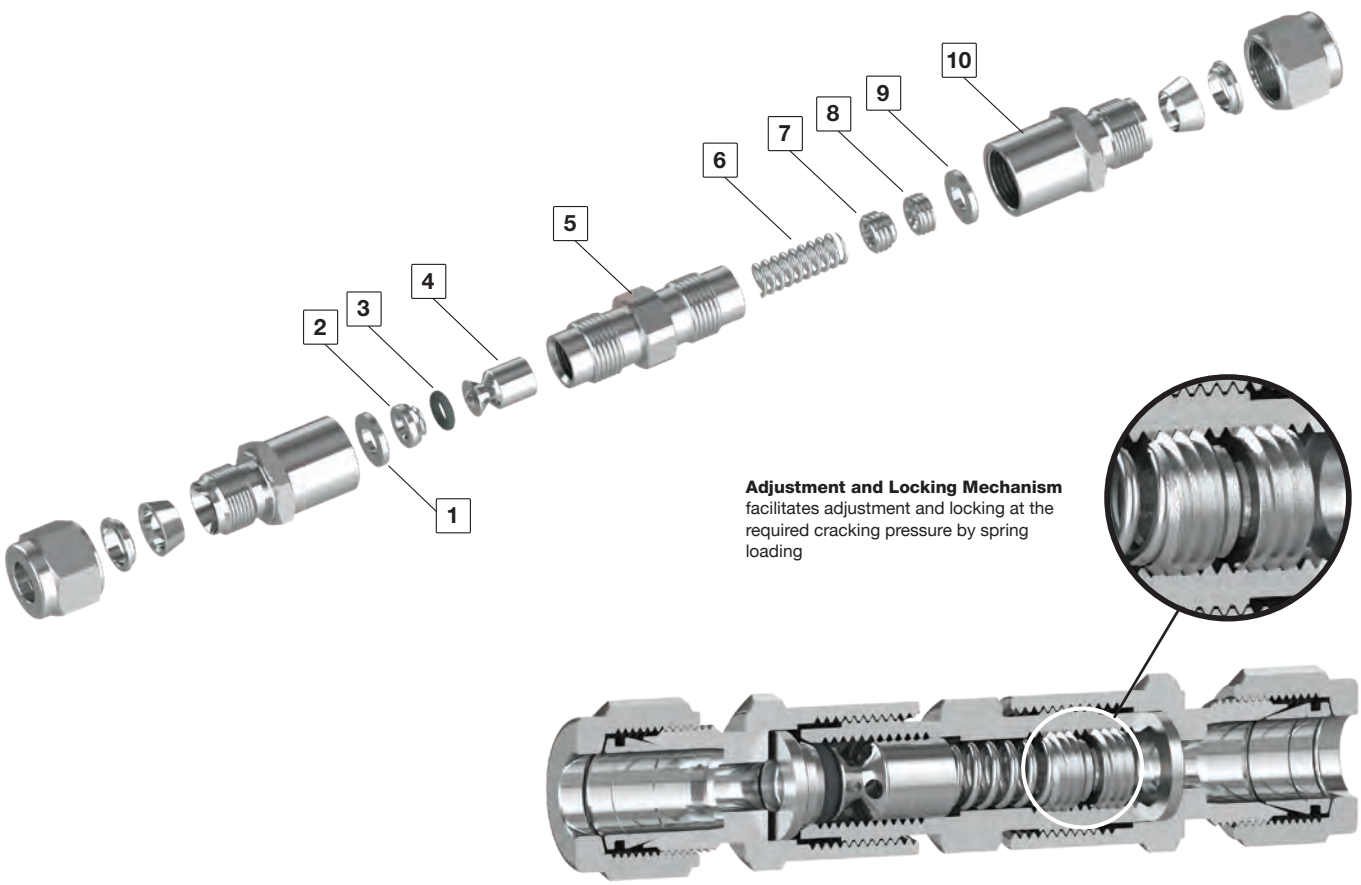
MATERIALS OF CONSTRUCTION

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

*Wetted parts

PRESSURE - TEMPERATURE RATING FOR STANDARD CONFIGURATIONS

Material Size	316 SST	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)	-



Adjustment and Locking Mechanism facilitates adjustment and locking at the required cracking pressure by spring loading

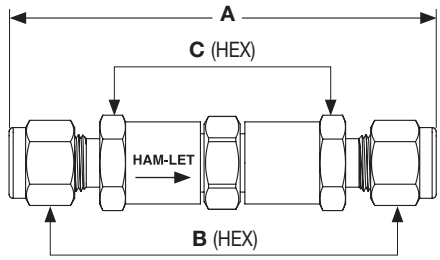
CLEANING & PACKAGING

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

Intlet	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

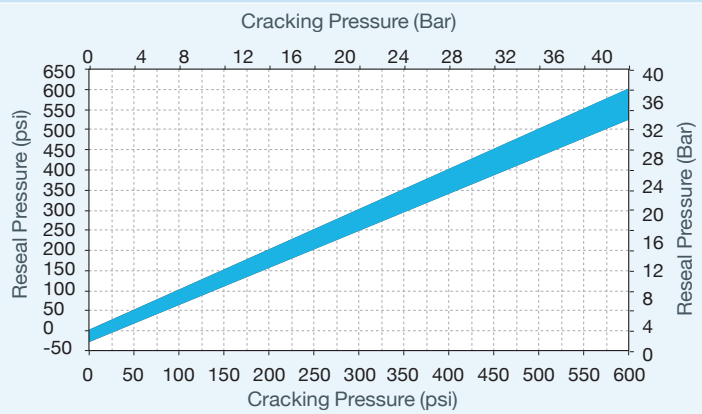
Connection Size	Max. Flow Coefficient (Cv)	Nominal Cracking Pressure psi (bar)	Back Pressure at 70°F (20°C) psi (bar)
1/4", 6mm, 8mm	0.37	3 to 50 (0.2 to 3.4)	3000 (413)
		50 to 150 (3.4 to 10.3)	
		150 to 350 (10.3 to 24.1)	
		350 to 600 (24.1 to 41.3)	

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



⚠ If valves are not actuated for a long period of time, the initial cracking pressure may be higher than the set cracking pressure.There may be a slight change in cracking and resealing pressures from the catalog ranges.

ADJUSTABLE CRACKING PRESSURE CHECK VALVE H-400A SERIES

TESTING

The H-400A valve design has been tested for pressure and burst. Every H-400A valve is factory tested for proper assembly with nitrogen at 1,000 psig (68 bar) for 10 seconds.

Every H-400A valve is factory tested for functionality at the relevant cracking pressure, five cycles each. No detectable leakage is allowed during shell test.

H-400A SERIES ORDERING INFORMATION

OPTIONAL

H-4 00A - SS - L - 1/4 - 50 - [ ] - [ ] - [ ]

Valve Series

Valve Type

00A	- LET-LOK® End
80A	- Male End

For other valve types please consult UCT Fluid Solutions.

Material

SS	- SST 316
B	- Brass

End Connection Size

L	- LET-LOK Tube Fitting
N	- NPT
R	- ISO Tapered
GL	- Face Seal Male Connector
HL	- ONE-LOK

Other end connections are available upon request.

End Connection Size

1/4"
6 MM
8 MM

Cracking Pressure

Designator	Values (psi)

***Factory Calibration Designator**

3-600 Psi
Example: H-400A-SS-L-1/4-C60
Will be calibrated to 60 psi

Treatment

BLANK	- Standard Cleaning & Passivation
OC	- Oxygen Clean
SF	- Silicone Free

LF treatment is available for H-400 & H-400HP series only

O-ring Material

BLANK	- Fluorocarbon FKM Seals are Standard
BU	- Buna N
EP	- EPDM
NE	- Polychloroprene (CR)
KZ	- Perfluor

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 - 400A - SK - 1/4 - VI

Body Designator per End Connection

1/4	For all dimensions

Seal Material

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

SPRING KIT

The kit includes spring and label.

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

Body Designator per End Connection

1/4	For all dimensions

Cracking Pressure

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

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.

H-400 check valves | June 2023

THREE-PIECE BALL VALVES

HAM-LET H-500 SERIES

Platinum Natural Gas Solutions
www.ptngs.com
info@ptngs.com 484.897.0345

H-500 FEATURES

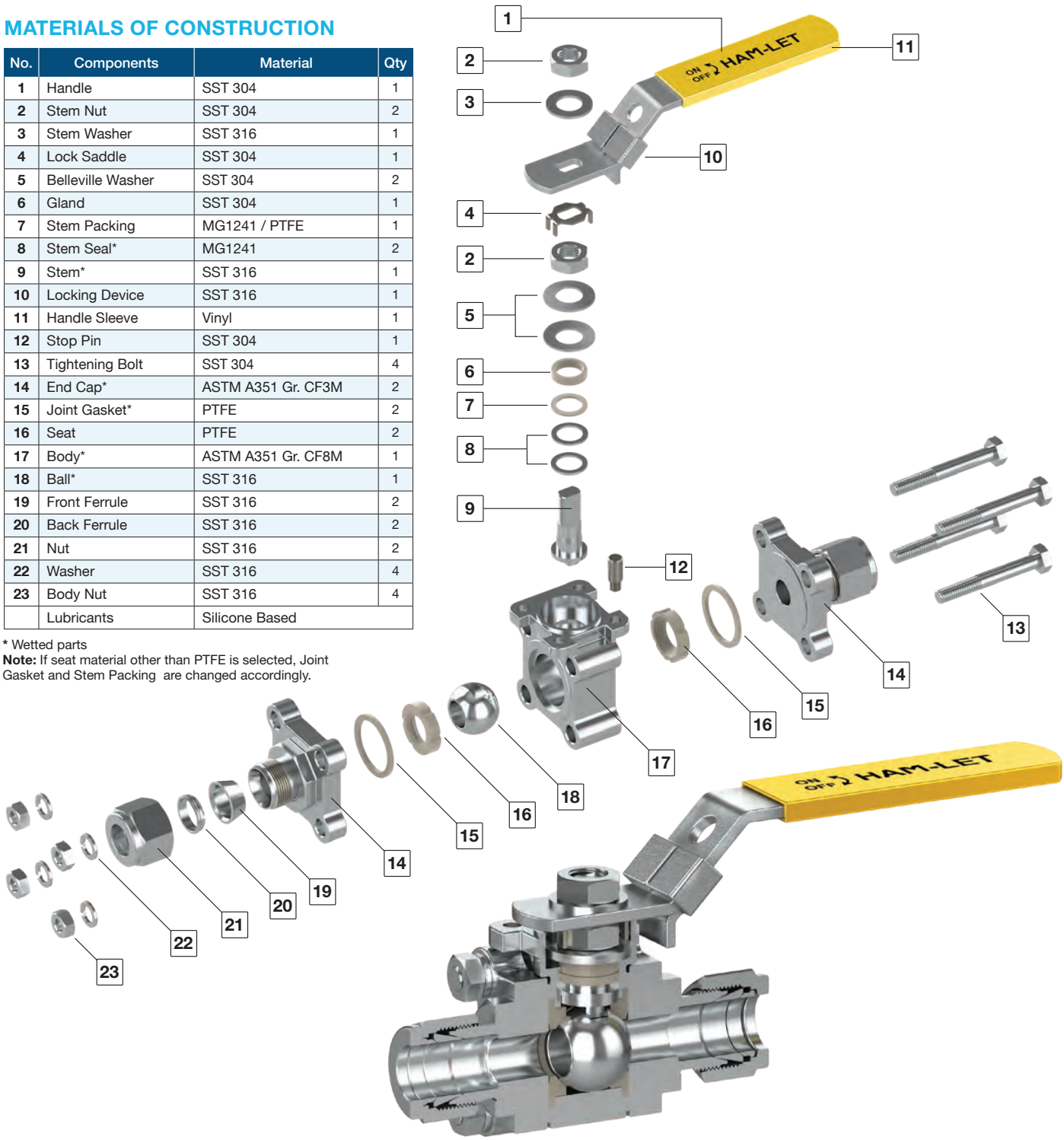
- Low fugitive emissions-Certified for ISO 15848-1:2006 (E)
- Precision investment cast body in CF8M stainless steel
- Precision Investment cast end caps in CF3M stainless steel
- Blow-out proof stem with Belleville washer design for long life stem sealing
- Integrated locking device
- Manual, pneumatic and electric operation
- Variable end connection types and sizes from 1/4" to 2" or 6mm to 50mm
- Stainless steel construction
- Flow coefficient (Cv) from 1.2 to 24.0
- MAWP* 3000 psig (206 barg), 2000 psig (137 barg) for "-FP" option
- MAWT** 450°F (232°C)
- H-500S seat material is modified PTFE as standard

*Maximum Allowed Working Pressure
** Maximum Allowed Working Temperature

MATERIALS OF CONSTRUCTION

No.	Components	Material	Qty
1	Handle	SST 304	1
2	Stem Nut	SST 304	2
3	Stem Washer	SST 316	1
4	Lock Saddle	SST 304	1
5	Belleville Washer	SST 304	2
6	Gland	SST 304	1
7	Stem Packing	MG1241 / PTFE	1
8	Stem Seal*	MG1241	2
9	Stem*	SST 316	1
10	Locking Device	SST 316	1
11	Handle Sleeve	Vinyl	1
12	Stop Pin	SST 304	1
13	Tightening Bolt	SST 304	4
14	End Cap*	ASTM A351 Gr. CF3M	2
15	Joint Gasket*	PTFE	2
16	Seat	PTFE	2
17	Body*	ASTM A351 Gr. CF8M	1
18	Ball*	SST 316	1
19	Front Ferrule	SST 316	2
20	Back Ferrule	SST 316	2
21	Nut	SST 316	2
22	Washer	SST 316	4
23	Body Nut	SST 316	4
	Lubricants	Silicone Based	

* Wetted parts
Note: If seat material other than PTFE is selected, Joint Gasket and Stem Packing are changed accordingly.



GENERAL

The H-500 series is a moderate-pressure instrumentation ball valve for general service and instrumentation panels.
The valves offer large ports for high flow, tight shutoff, long-life service and low operating torque.
The H-500 series can be used for bi-directional flow, is rated to maximum 3,000 psig (204 bar) and performs as on/off service.

PACKING ADJUSTMENT

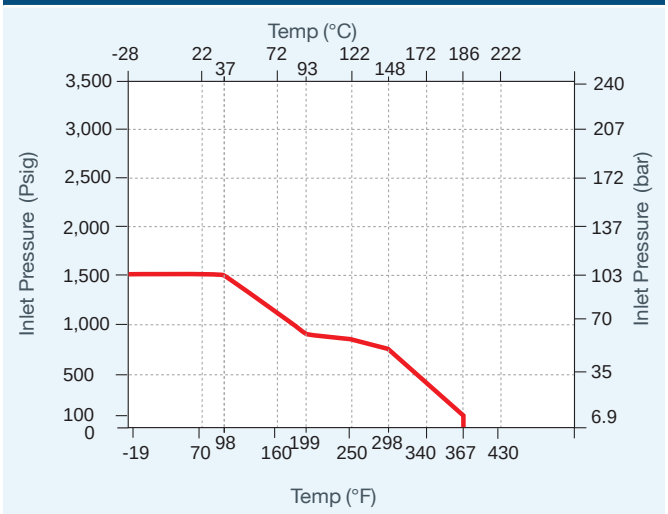
Due to the varied service applications of the valve, packing adjustment may occasionally be necessary. Packing is factory adjusted to 1,000 psig service. Please find more information on H-500 under Installation Instructions.

⚠ Initial packing adjustment is recommended after installation and prior to start-up.

⚠ Valves that have not been operated for a period of time will introduce a higher actuation torque.

PRESSURE TEMPERATURE RATING

VIRGIN PTFE SEAT

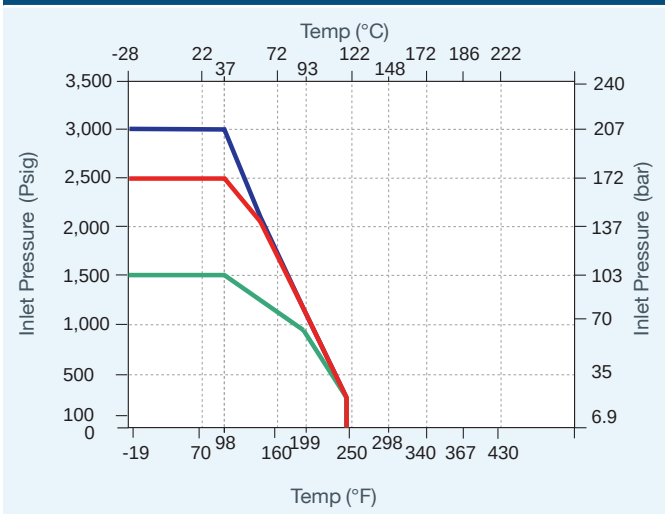


PTFE (Virgin PTFE) Color-White

PTFE is a good all around, general-purpose seat material. PTFE has outstanding resistance to chemical attacks by a broad range of organic chemicals, inorganic chemicals and solvents, and is generally considered chemically inert. PTFE is a self lubricating polymer with a very low coefficient of friction, which makes an excellent seat material.

For all sizes

UHMWPE SEAT

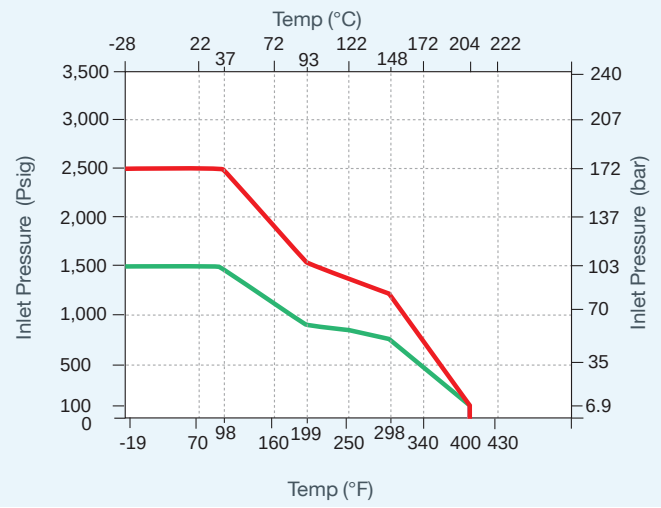


UHMWPE Ultra High Molecular Weight Polyethylene

UHMWPE is a very tough material, highly resistant to corrosive chemicals and suitable for low-radiation service. UHMWPE is self-lubricating, highly resistant to abrasion, has an extremely low moisture absorption and a very low coefficient of friction.

Up to 1/2" 3/4" to 1" 1-1/4" to 2"

MODIFIED PTFE SEATS



MODIFIED PTFE - (PFA and PTFE composite) Color-Bright White

MODIFIED PTFE is an excellent seat material for purity applications and has very low residual material during operation. It has a lower deformation ratio than PTFE, but a higher pressure and temperature rating than PTFE. Chemical resistance is equal to PTFE material.

1/4" to 1" 1-1/4" to 2"

TESTING

The H-500 design has been tested for burst and proof. Standard testing for each H-500 valve includes testing with nitrogen at 80 and 1,000 psig. Each valve is tested for leakage through the shell, packing and ball seats. The maximum allowable leakage across the ball seats is 0.1 std cc/min.

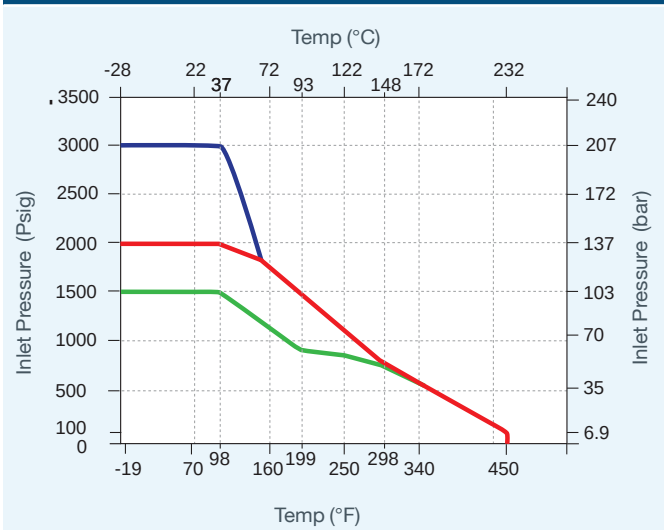
⚠ HAM-LET ball valves are designed for operation in the fully closed or fully open position.

CLEANING & PACKAGING

Every H-500 ball 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.

⚠ Lubricant-free cleaned valves have significantly higher actuation torque.

SST POWDER 50% FILLED PTFE SEATS

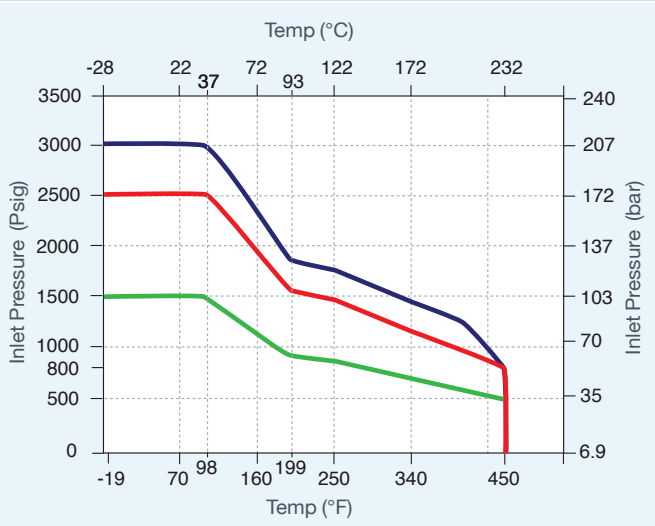


SST. Powder Filled PTFE Color - Gray

Excellent seat material for general applications to prevent over expansion and seat extrusion. It has a lower deformation ratio than PTFE, but a higher pressure and temperature rating. Chemical resistance is equal to PTFE material.

Up to 1/2" 3/4" to 1" 1-1/4" to 2"

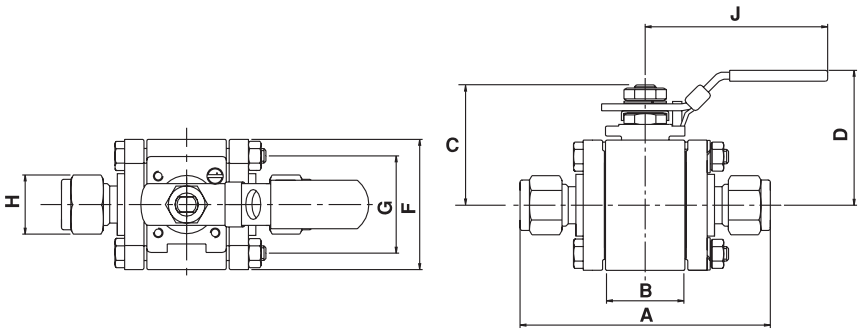
PEEK SEATS



PEEK (Poly Ether Ether Keton) Color-Offwhite

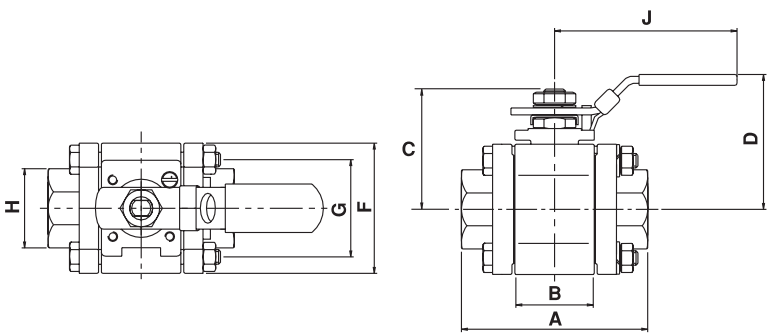
Excellent seat material for high-pressure and high-temperature applications, with excellent chemical resistance. Can be used continuously to 450°F (232°C) and in hot water or steam without permanent loss in physical properties.
High strength for hostile environment and high pressure.

Up to 1/2" 3/4" to 1" 1-1/4" to 2"



H-500 LET-LOK® CONFIGURATION DIMENSIONS

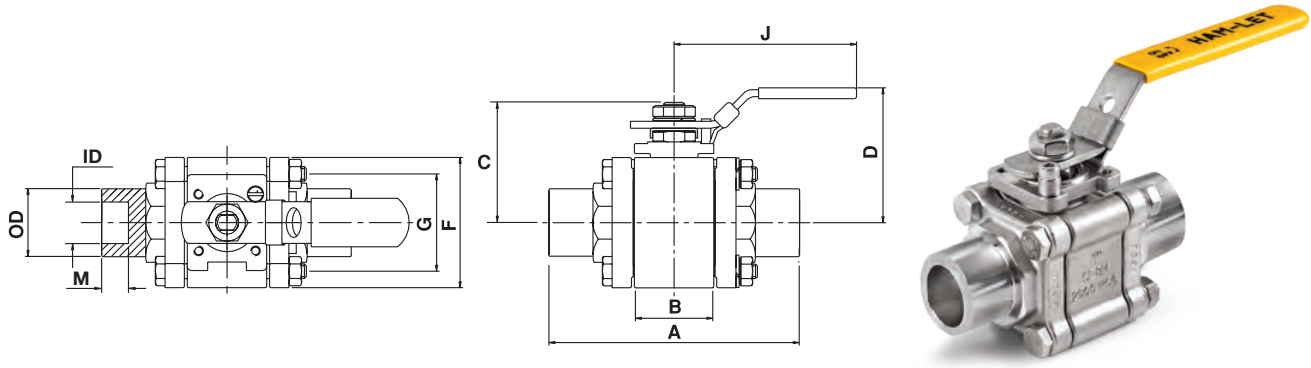
SERIES	End Connection		Orifice		Cv	Ball ID		A		B		F		C		D		H		J		G	
	mm	inch	mm	inch		mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
H-500S	6	1/4	4.8	0.19	1.2	4.8	0.19	80.5	3.17	15.1	0.59	38.5	1.52	33.2	1.31	48.0	1.89	14.3	0.56	61.0	2.40	25.5	1.00
	10	3/8	7.1	0.28	3.7	7.1	0.28	80.5	3.17	15.1	0.59	38.5	1.52	33.2	1.31	48.0	1.89	17.5	0.69	61.0	2.40	25.5	1.00
H-500	6	1/4	4.8	0.19	1.2	10.6	0.42	80.5	3.17	20.6	0.81	44.4	1.75	40.5	1.59	56.5	2.22	14.2	0.56	121.5	4.78	32	1.26
	8	3/8	7.2	0.29	3.7	10.6	0.42	83.3	3.28	20.6	0.81	44.4	1.75	40.5	1.59	56.5	2.22	17.46	0.68	121.5	4.78	32	1.26
	12	1/2	10.3	0.40	7.6	11.0	0.43	92.3	3.63	20.6	0.81	44.4	1.75	40.5	1.59	56.5	2.22	22.2	0.87	121.5	4.78	32.0	1.26
	20	3/4	13.0	0.51	13.6	14.1	0.56	92.7	3.65	24.6	0.97	50.8	2.00	44.0	1.73	60.0	2.36	28.6	1.13	121.5	4.78	38.2	1.50
	25	1	20.0	0.79	36.0	20.0	0.79	124.4	4.90	31.8	1.25	60.0	2.36	56.7	2.23	74.5	2.93	38.1	1.50	151	5.94	44.0	1.73



H-510 FEMALE NPT / BSPT STANDARD DIMENSIONS

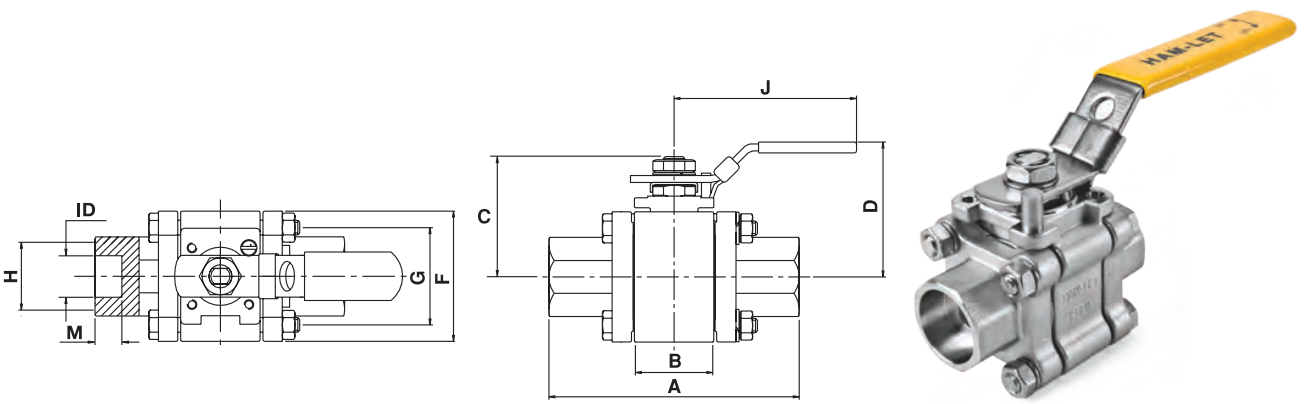
SERIES	End Connection	Orifice		Cv	Ball ID		A		B		F		C		D		H		J		G	
	inch	mm	inch		mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
H-510S	1/4	7.1	0.28	1.2	7.1	0.28	54.9	2.16	15.1	0.59	38.5	1.52	33.2	1.31	48.0	1.89	19.0	0.75	61.0	2.40	25.5	1.00
H-510	1/4	11	0.43	10	11	0.43	70	2.76	20.6	0.81	44	1.73	40.5	1.59	56.5	2.22	27	1.06	121.5	4.78	32	1.26
	3/8	11.0	0.43	10	11.0	0.43	70.0	2.76	20.6	0.81	44.4	1.75	40.5	1.59	56.5	2.22	27.0	1.06	121.5	4.78	32.0	1.26
	1/2	11.0	0.43	10	11.0	0.43	70.0	2.76	20.6	0.81	44.4	1.75	40.5	1.59	56.5	2.22	27.0	1.06	121.5	4.78	32.0	1.26
	3/4	14.1	0.56	12.0	14.1	0.56	74.0	2.91	24.6	0.97	50.8	2.00	44.0	1.73	60.0	2.36	33.0	1.30	121.5	4.78	38.2	1.50
	1	20.0	0.79	36.0	20.0	0.79	99.0	3.90	31.8	1.25	60.0	2.36	56.7	2.23	74.5	2.93	42.0	1.65	151	5.94	44.0	1.73

Dimensions are for reference only and are subject to change without notice.



H-510 TUBE SOCKET WELD STANDARD DIMENSIONS

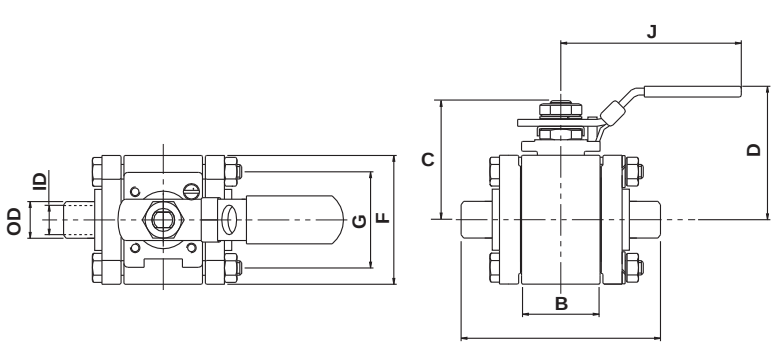
SERIES	End Connection		Orifice		Cv	Ball ID		A		B		F		C		D		OD		J		G		ID		M	
	mm	inch	mm	inch		mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
H-510S	6	1/4	4.8	0.19	1.2	4.8	0.19	54.9	2.16	15.1	0.59	38.5	1.52	33.2	1.31	48.0	1.89	19.0	0.75	61.0	2.40	25.5	1.00	4.80	0.19	7.10	0.28
	10	3/8	7.1	0.28	3.7	7.1	0.28	54.9	2.16	15.1	0.59	38.5	1.52	33.2	1.31	48.0	1.89	19.0	0.75	61.0	2.40	25.5	1.00	7.10	0.28	7.90	0.31
H-510	12	1/2	10.3	0.40	7.5	11.0	0.43	70.0	2.76	20.6	0.81	44.4	1.75	40.5	1.59	56.5	2.22	20.5	0.81	121.5	4.78	32.0	1.26	12.85	0.51	12.7	0.50
	20	3/4	14.1	0.56	12.0	14.1	0.56	74.0	2.91	24.6	0.97	50.8	2.00	44.0	1.73	60.0	2.362	27.0	1.06	121.5	4.78	38.2	1.50	19.2	0.76	14.2	0.56
	25	1	22.35	0.88	38.0	22.35	0.88	99.0	3.90	31.8	1.25	60.0	2.36	56.7	2.23	74.5	2.93	34.0	1.34	151.0	5.94	44.0	1.73	25.55	1.08	19.2	0.76



H-510 PIPE SOCKET WELD STANDARD DIMENSIONS

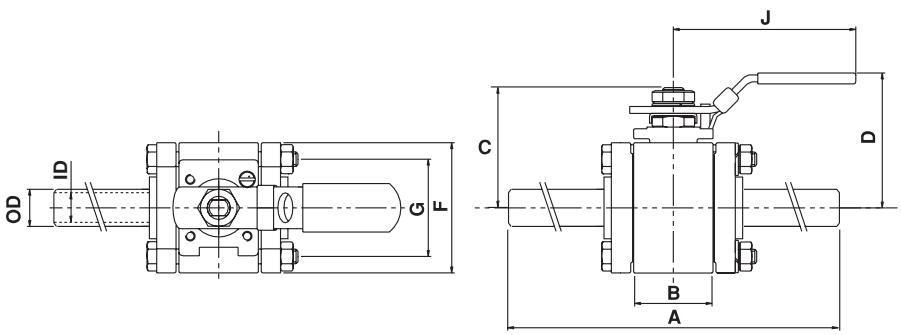
SERIES	End Connection	Orifice		Cv	Ball ID		A		B		F		C		D		H		J		G		ID		M	
	inch	mm	inch		mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
H-510	1/4	11.0	0.43	10	11.0	0.43	70.0	2.76	20.6	0.81	44.4	1.75	40.5	1.59	56.5	2.22	27.0	1.06	121.5	4.78	32.0	1.26	14.1	0.56	9.70	0.38
	3/8	11.0	0.43	10	11.0	0.43	70.0	2.76	20.6	0.81	44.4	1.75	40.5	1.59	56.5	2.22	27.0	1.06	121.5	4.78	32.0	1.26	17.5	0.69	11.0	0.43
	1/2	11.0	0.43	10	11.0	0.43	70.0	2.76	20.6	0.81	44.4	1.75	40.5	1.59	56.5	2.22	27.0	1.06	121.5	4.78	32.0	1.26	22.2	0.87	9.50	0.37
	3/4	14.1	0.56	12.0	14.1	0.56	74.0	2.91	24.6	0.97	50.8	2.00	44.0	1.73	60.0	2.36	33.0	1.30	121.5	4.78	38.2	1.50	27.4	1.08	14.3	0.56
	1	20.0	0.79	36.0	20.0	0.79	99.0	3.90	31.8	1.25	60.0	2.36	56.7	2.23	74.5	2.93	42.0	1.65	151	5.94	44.0	1.73	34.2	1.35	15.9	0.63

Dimensions are for reference only and are subject to change without notice.



H-580 PIPE BUTTWELD STANDARD DIMENSIONS

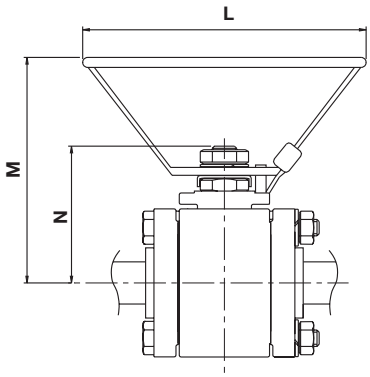
SERIES	End Connection	Orifice		Cv	Ball ID		A		B		F		C		D		OD		ID		J		G	
	inch	mm	inch		mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
H-580S	1/4	7.1	0.28	3.7	7.1	0.28	52.8	2.08	15.1	0.59	38.5	1.52	33.2	1.31	48.0	1.89	13.7	0.54	9.20	0.36	61.0	2.40	25.5	1.00
	3/8	7.1	0.28	3.7	7.1	0.28	52.8	2.08	15.1	0.59	38.5	1.52	33.2	1.31	48.0	1.89	17.1	0.67	10.7	0.42	61.0	2.40	25.5	1.00
H-580	1/2	11	0.43	10	11.0	0.43	71.6	2.82	20.6	0.81	44.4	1.75	40.5	1.59	56.5	2.22	21.3	0.84	15.8	0.62	121.5	4.78	32.0	1.26
	3/4	14.1	0.56	12	14.1	0.56	72.0	2.83	24.6	0.97	50.8	2.00	44.0	1.73	60.0	2.36	27.1	1.07	21.0	0.83	121.5	4.78	38.2	1.50
	1	20	0.79	36	20.0	0.79	97.0	3.82	31.8	1.25	60.0	2.36	56.7	2.23	74.5	2.93	33.4	1.32	26.6	1.05	151	5.94	44.0	1.73



H-580 EXTENDED AND SHORT TUBE BUTTWELD STANDARD DIMENSIONS

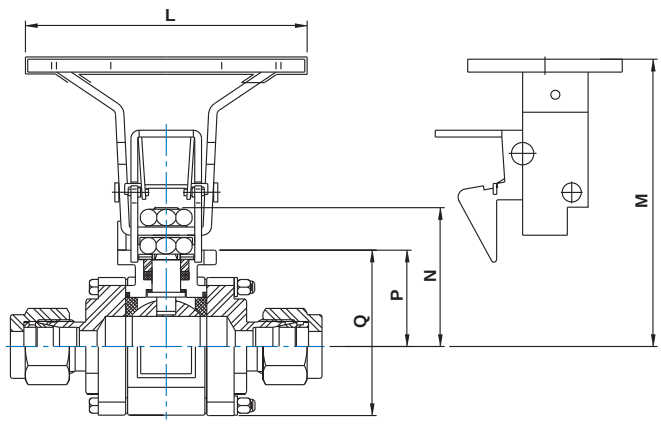
SERIES	End Connection		Orifice		Cv	Ball ID		A extended		A short		B		F		C		D		OD		J		G		ID	
	mm	inch	mm	inch		mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
H-580	6	1/4	4.4	0.17	1	9.4	0.37	-	-	71.5	2.81	20.6	0.81	44.4	1.75	40.5	1.59	56.5	2.22	6.4	0.25	121.5	4.78	32.0	1.26	4.40	0.17
	10	3/8	7.7	0.3	3.8	9.4	0.37	-	-	71.5	2.81	20.6	0.81	44.4	1.75	40.5	1.59	56.5	2.22	9.57	0.38	121.5	4.78	32.0	1.26	7.70	0.30
	12	1/2	9.4	0.37	7	9.4	0.37	140	5.5	64.6	2.54	20.6	0.81	44.4	1.75	40.5	1.59	56.5	2.22	12.7	0.5	121.5	4.78	32.0	1.26	9.40	0.37
	20	3/4	15.75	0.62	18	15.8	0.87	150	5.9	-	-	24.6	0.97	50.8	2.00	44.0	1.73	60.0	2.36	19.05	0.75	121.5	4.78	38.2	1.50	15.75	0.62
	25	1	20.0	0.79	38	22.35	0.88	161.2	6.35	-	-	31.8	1.25	60.0	2.36	56.7	2.23	74.5	2.93	25.4	1	151	5.94	44.0	1.73	21.4	0.84

Dimensions are for reference only and are subject to change without notice.



H-500 OVAL HANDLE

End Connection	N		L		M	
	mm	inch	mm	inch	mm	inch
1/4'', 3/8", 1/2" 6mm, 10mm, 12mm	40.5	1.6	105.0	4.13	66.0	2.60
3/4" 20mm	44.0	1.73	105.0	4.13	70.0	2.75
1" 25mm	56.7	2.23	105.0	4.13	88.7	3.49



H-500 GRIP HANDLE (OVAL)

End Connection	L		M		N		P		Q	
	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
1/4'', 3/8", 1/2" 6mm, 10mm, 12mm	104	4.09	94.5	3.72	40.5	1.59	27.5	1.08	49.5	1.95
3/4" 20mm	104	4.09	98.0	3.86	44.0	1.73	30.5	1.20	56.0	2.20

Dimensions are for reference only and are subject to change without notice.

H-500 - PNEUMATIC ACTUATED VALVES

FEATURES

- 90° actuation for two-way valves
- Actuators comply with industry standards for interface with ISO 5211, NAMUR and VDI/VDE 3845
- Actuated valves are available factory assembled or seperately
- Actuator and mounting kits
- Limit switches, proximity sensors, position indicators, solenoid valves and other accessories are available upon request
- Standard temperature range: -32°C to 90°C (-25.6°F to 194°F)
  Optional: high temperature, low temperature

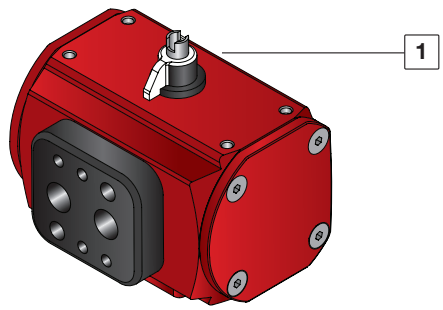
GENERAL

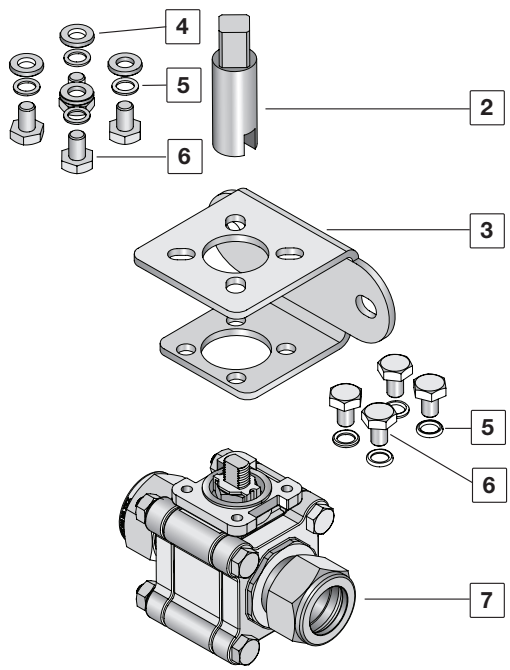
Four standard actuator sizes are available upon request:
Mini (designator “A1”), Small (designator “A2”), Medium (designator “A3”), and Large (designator “A4”).
Improved operational speed enables better valve opening and closing control.
ATEX certification of valves-actuators’ assemblies are available upon request at the time of order.

MATERIALS OF CONSTRUCTION

No.	Part	Qty	Material
1	Actuator	1	AL 356-T5
2	Coupling	1	SST 316
3	Bracket	1	SST 304
4	Washer Flat	4	SST 304
5	Washer Spring	8	SST 304
6	Screw	8	SST 304
7	H500	1	SST 316

Note: In cases where the valve will be cycled less frequently than once per day or more frequently than once per hour, please contact your UCT representative.





HAM-LET PNEUMATIC ACTUATORS

ACTUATED H-500 SERIES

The selection of valve-actuator assemblies provided herein is based on:

- Valve maximum allowable working pressure
- Ambient temperature (50 to 100°F / 10 to 37°C)
- Actuator fits to valve based on operating pressure of six bar, in accordance with table A.

To order H-500 ball valve factory assembled with an actuator, the actuator designator shall be added to the valve part number/description per the below table.

Example:
H-500-SS-L-3/4-T with standard Double Acting Aluminum Actuator
H-500-SS-L-3/4-T-A2

To order an actuator and mounting kit for field assembly:
Double Acting Actuator ordering number: **Z-A2**
Corresponding mounting kit: **Z-500-MK-3/4 -F03-F04-A2**

Lubricant-Free Valves:
For Spring Return Actuator-select one size bigger then offered in the table below.
Example: If the offered actuator in the table is A2C, select A3C
For Double Acting Actuator - please contact your local representative

TABLE A: ORDERING INFORMATION FOR ACTUATED VALVES

Series	Ends Size	Seats	Minimum Actuator Operating Pressure Bar (Psi)	Actuator Designators (Factory Assembled)			Actuator Ordering Code		Mounting Kit Ordering Info
				Spring Return		Double Acting	Spring Return	Double Acting	
				NO	NC				
H-500S	**1/4", 3/8" (6 mm, 10 mm)**	Modified PTFE	5 (72.5)	A1O	A1C	A1	Z-A1S	Z-A1	Z-500-MK-1/4"-F03-F04-A1
H-500	**1/4"-1/2" (6 mm-12 mm)**	PTFE Modified PTFE	5 (72.5)	A2O	A2C	A1	Z-A2S	Z-A1	SR: Z-500-MK-1/2"-F03-F04-A2 DA: Z-500-MK-1/2"-F03-F04-A1
		SST PTFE	5 (72.5)	A2O	A2C	A2	Z-A2S	Z-A2	Z-500-MK-1/2"-F03-F04-A2
		PEEK	5 (72.5)	A4O	A4C	A3	Z-A4S	Z-A3	SR: Z-500-MK-1/2"-F05-F07-A4 DA: Z-500-MK-1/2"-F04-F05-A3
	3/4" (20 mm)	PTFE Modified PTFE	5 (72.5)	A2O	A2C	A2	Z-A2S	Z-A2	Z-500-MK-3/4"-F03-F04-A2
		SST PTFE	5 (72.5)	A3O	A3C	A2	Z-A3S	Z-A2	SR: Z-500-MK-3/4"-F04-F05-A3 DA: Z-500-MK-3/4"-F03-F04-A2
		PEEK	5 (72.5)	A4O	A4C	A4	Z-A4S	Z-A4	Z-500-MK-3/4"-F05-F07-A4
	1" (25 mm)	PTFE Modified PTFE SST PTFE	5 (72.5)	A4O	A4C	A3	Z-A4S	Z-A3	SR: Z-500-MK-1"-F05-F07-A4 DA: Z-500-MK-1"-F04-F05-A3
		PEEK	5 (72.5)	A5O	A5C	A4	Z-A5S	Z-A4	SR: Z-500-MK-1"-F05 F07-A5 DA: Z-500-MK-1"-F05-F07-A4

Note: For dimensions of actuators assembled on the H-500 series, please refer to the HPA section.

H-500 SERIES ORDERING INFORMATION

OPTIONAL

H-5 | 00 | S | - | SS | - | L | - | 1/4 | -

Valve Series

Valve Type

00 -	LET-LOK® Ends
10 -	Female Ends
80 -	Male Ends
85 -	Male to Female Ends
90 -	Female to LET-LOK Ends
95 -	Male to LET-LOK Ends

Valve Body Size

Blank	- Standard
S	- Small

Structure Material

SS	- SST316
End Cups	- ASTM A351 Gr. CF3M
Body	- ASTM A351 Gr. CF8M

End Connection Type

L	LET-LOK
HL	ONE-LOK
N	NPT
R	ISO Tapered
TSW	Tube Socket Weld
TBW	Tube Buttweld
XTBW	Extended Tube Buttweld
PSW	Pipe Socket Weld
PBW	Pipe Buttweld Sch 40

End Connection Size

1/4”		6 mm
3/8”		10 mm
1/2”		12 mm
3/4”		20 mm
1”		25 mm
1 1/4”	-FP*	32 mm
1 1/2”	-FP*	38 mm
2”	-FP*	50 mm

* Full bore for 1 1/4”, 1 1/2”, 2” as standard with threaded ends only

Handle

BLANK	Lever Handle
OH	Oval Handle
GH	Grip Handle

* All handles are with locking device as standard

Actuator Type

Select Per Table A	**Aluminum Actuator***

*See notes below

Seat Material

BLANK	PTFE
T -	Modified PTFE*
E -	SST Filled PTFE
PK-	PEEK
U -	UHMWPE

*Standard for H-500S

Treatment

BLANK	- Standard Cleaning & Passivation
OC	- Oxygen Clean
LF	- Lubricant Free
SF	- Silicone Free

Actuated Valve

- If special cleaning is required, LF/OC will be added in the end and will refer to the valve only. For example:
- H-500-SS-L-3/4-T-A2-OC.
- For ordering information of actuators for high temperature please refer to HAM-LET Pneumatic Actuator Catalog.
- For double mounting actuators, please contact your local representative.
- For actuators accessories (limit switch, solenoid valve), please refer to HAM-LET Pneumatic Actuator Catalog.
- For Stainless Steel Actuator or Electric Actuator please contact your local representative.

ORDERING INFORMATION FOR SEAL KITS

The kit includes gaskets, seats, stem packing and stem seal.

Z - 500 - SK - 1/4 - P

Body Designator Per End Connections

1/2”	For 1/4”, 1/2”, 3/8”, 6mm, 10mmM, 12mm
C	For 3/4”, 20mm
1”	For 1”, 25mm

Seal Material

P -	PTFE
T -	Modified PTFE
E -	SST Filled PTFE
PK-	PEEK
U -	UHMWPE

ORDERING INFORMATION FOR HANDLE KITS

Z - 500 - HK - 1/4 - LH

Body Designator per End Connections

1/2”	For 1/4”, 1/2”, 3/8”, 6mm, 10mm, 12mm
1/2”	For 3/4”, 20mm
1”	For 1”, 25mm

Handle

LH	Lever Handle
OH	Oval Handle
GH	Grip Handle

* All handles are with locking device standard

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.

UCT

TWO-PIECE BALL VALVES

HAM-LET H-700 SERIES

Platinum Natural Gas Solutions
www.ptngs.com
info@ptngs.com 484.897.0345

FEATURES

- Certified for ISO 15848-1 :2006(E)
- Blow-out Proof Stem
- Stainless Steel construction
- Locking Handle in On and Off positions
- MAWP 2000 psi (137 Barg)
- MAWT 400°F (204°C)
- Flow coefficient (Cv) 1.25 to 17.35
- Size range: 1/4” to 1” or 6mm to 25mm

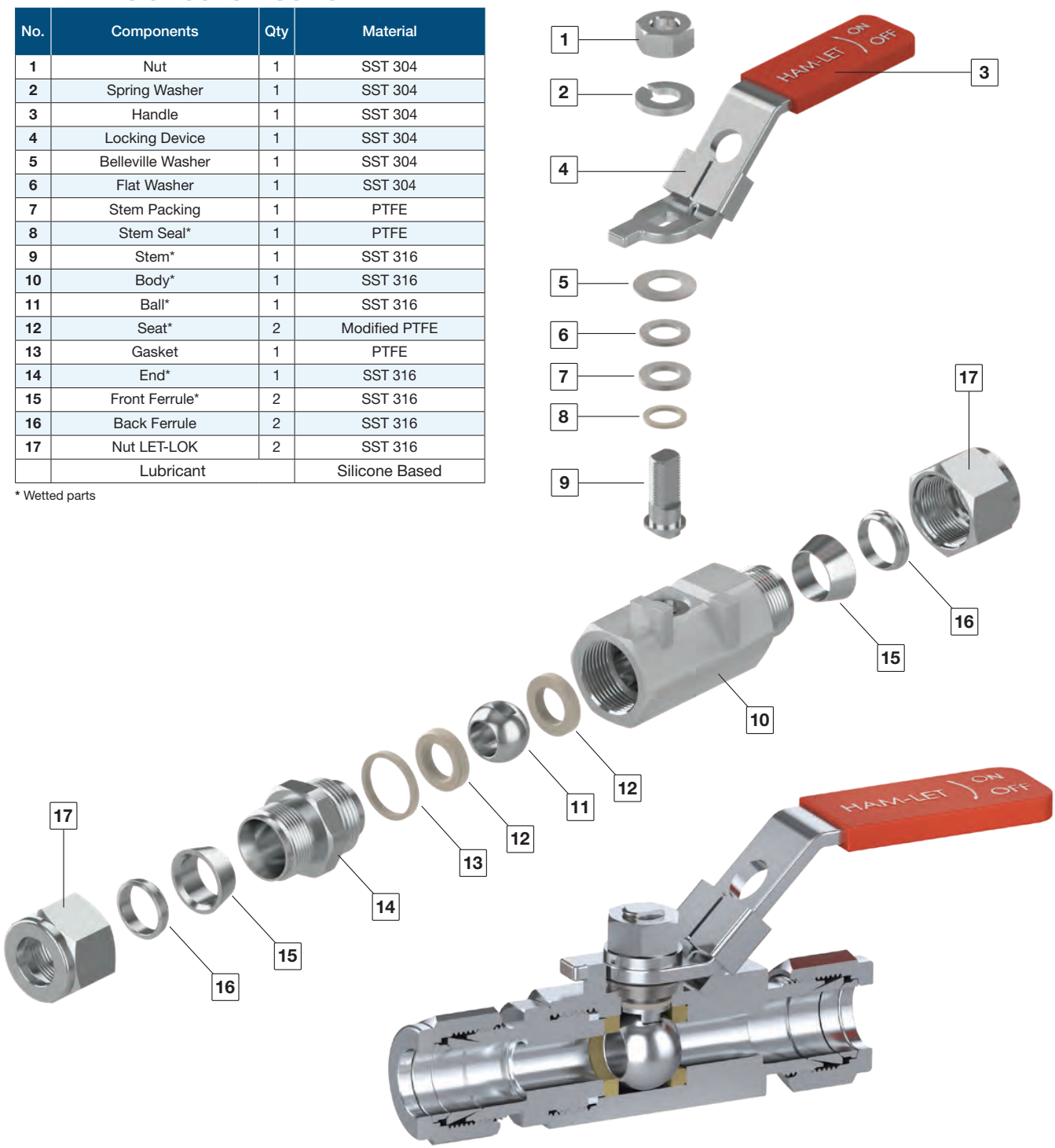
GENERAL

The H-700 Series is a moderate-pressure ball valve for general purpose.
These valves are compact in size and structure.
They have relatively large ports for a high flow, tight shut-off, a long service life, and a low operating torque.
The H-700 Series can be used for bidirectional flow in a fully open or fully closed position only. The series is rated at max pressure of 2000 psig (135 bar) and performs as on/off valve.

MATERIALS OF CONSTRUCTION

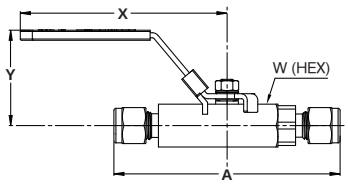
No.	Components	Qty	Material
1	Nut	1	SST 304
2	Spring Washer	1	SST 304
3	Handle	1	SST 304
4	Locking Device	1	SST 304
5	Belleville Washer	1	SST 304
6	Flat Washer	1	SST 304
7	Stem Packing	1	PTFE
8	Stem Seal*	1	PTFE
9	Stem*	1	SST 316
10	Body*	1	SST 316
11	Ball*	1	SST 316
12	Seat*	2	Modified PTFE
13	Gasket	1	PTFE
14	End*	1	SST 316
15	Front Ferrule*	2	SST 316
16	Back Ferrule	2	SST 316
17	Nut LET-LOK	2	SST 316
	Lubricant		Silicone Based

* Wetted parts

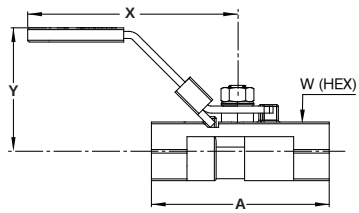


STANDARD CONFIGURATION DIMENSIONS

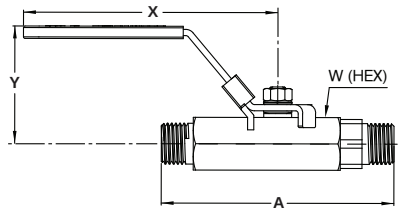
H-700



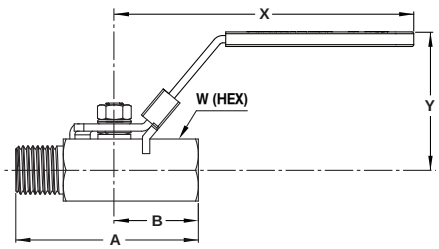
H-710



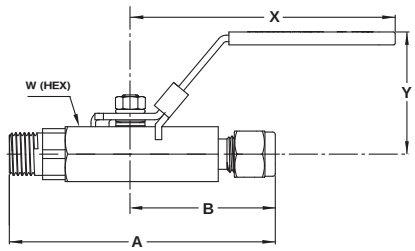
H-780



H-785



H-795



Drawings are for referance only.

End Connection		Valve Type	Body Material	Cv	Oriffice		A		B		X		Y		W (HEX)	
Type	Size				mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
Fractional Let-Lok® Tube Fittings	1/4	H-700	SST ASTM A-479	1.25	4.8	0.19	90	3.54	-	-	82	3.23	38	1.5	17	-
	3/8			2.5	7.2	0.28	90	3.54	-	-	82	3.23	40	1.57	21	-
	1/2		ASTM A351 Gr.CF8M	9.25	9.2	0.36	95.3	3.75	-	-	82	3.23	40.7	1.6	25	-
	3/4			12.65	12.5	0.49	113.4	4.46	-	-	82	3.23	44.5	1.75	32	-
	1			17.35	15	0.59	129.6	5.1	-	-	102	4.02	50	1.97	38	-
Metric Let-Lok Tube Fittings	6MM		SST ASTM A-479	1.25	4.8	0.19	90	3.54	-	-	82	3.23	38	1.5	17	-
	8MM			1.35	4.8	0.19	90	3.54	-	-	82	3.23	40	1.57	17	-
	10MM			2.6	7.2	0.28	90	3.54	-	-	82	3.23	40	1.57	-	13/16
	12MM		ASTM A351 Gr.CF8M	9.25	9.2	0.36	95.3	3.75	-	-	82	3.23	40.7	1.6	25	-
	25MM			17.35	15	0.59	129.6	5.1	-	-	102	4.02	50	1.97	38	-
Female NPT	1/4	H-710	ASTM A351 Gr.CF8M	1.35	5	0.2	50	1.97	-	-	60	2.64	47	1.85	16.5	-
	3/8			2.6	7	0.28	60	2.36	-	-	82	2.64	49	1.93	-	13/16
	1/2			9.25	9	0.35	75	2.95	-	-	82.5	3.25	42.9	1.69	25	-
	3/4			12.65	12.5	0.49	59	2.32	-	-	85	3.35	44	1.73	32	-
	1			17.35	15	0.59	71	2.8	-	-	102	4.02	50	1.97	41	-
Male NPT	1/4	H-780	SST ASTM A-479	1.35	5	0.2	75.0	2.95	-	-	82	3.23	38	1.5	17	-
	3/8			2.5	7	0.28	75.0	2.95	-	-	82	3.23	40	1.57	21	-
	1/2		ASTM A351 Gr.CF8M	9.25	9.2	0.36	90.9	3.56	-	-	82	3.23	40.7	1.6	25	-
Male to Female NPT	1/4	H-785	SST ASTM A-479	1.35	5	0.2	50	1.97	24.85	0.98	82	3.23	38	1.5	17	-
	1/2		ASTM A351 Gr.CF8M	9.25	9	0.35	82.95	3.26	37.5	1.47	82	3.23	56.6	2.23	27	-
	1			17.35	15	0.59	115.20	4.53	4.53	1.79	102	4.02	53	2.09	-	1-3/4
Male NPT to Let-Lok Tube Fittings	1/4	H-795	ASTM A351 Gr.CF8M	1.25	5	0.2	77.56	3.05	45.0	1.77	82	3.23	38	1.5	17	-
	3/8			2.5	7	0.28	79.46	3.13	45.0	1.77	82	3.23	40	1.57	21	-
	1/2			9.25	9.2	0.36	93.16	3.67	47.7	1.88	82	3.23	40.7	1.6	25	-
	3/4			12.65	12.5	0.49	110.63	4.35	56.7	2.23	82	3.23	44.5	1.75	32	-
	1			17.35	15	0.59	127.4	50.01	64.8	2.55	102	4.02	50	1.97	38	-

Dimensions are for reference only and are subject to change without notice.

CLEANING & PACKAGING

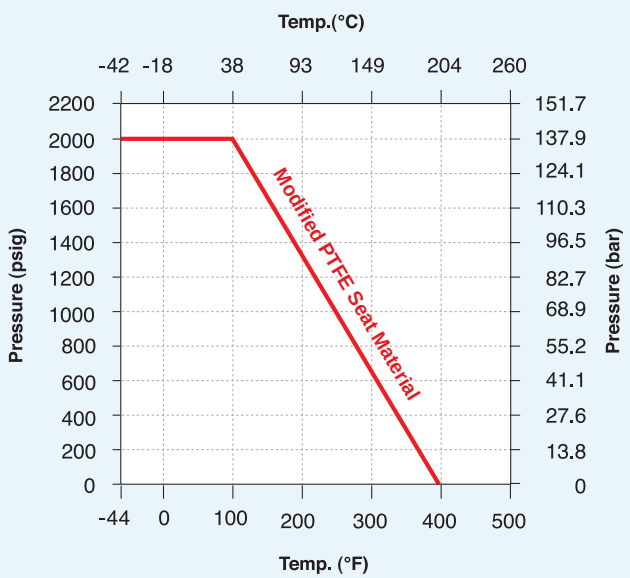
Every H-700 series ball valve is cleaned in accordance with Standard Cleaning and Packaging (procedure 8184). Oxygen Clean & Lubricant-Free Cleaning and Packaging, in accordance with Special Cleaning and Packaging (procedure 8185), is available as an option.

⚠ **Lubricant-free cleaned valves have significantly higher actuation torque.**

TESTING

The H-700 design is tested for burst and pressure. Standard testing for each H-700 valve includes testing with Nitrogen at 80 &1000 psig. Each valve is tested for leakage through the shell, packing and ball seats. The maximum allowable leakage across the ball seats is 0.1 std cc/min.

H-700 PRESSURE TEMPERATURE RATING



SEAT MATERIAL CHARACTERISTICS

Modified PTFE-(PFA and PTFE composite)-Color: Bright white.

Modified PTFE is an excellent seat material for purity applications and has a very low residual material during operation. It has a lower deformation ratio than PTFE, but a higher pressure and temperature rating. Chemical resistance is equal to PTFE material.

PACKING ADJUSTMENT

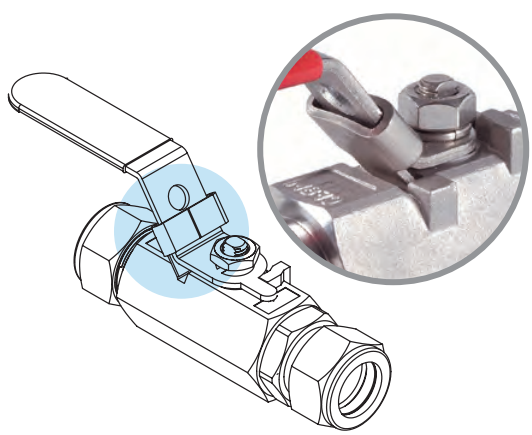
Due to the varied service applications of the valve, packing adjustment may occasionally be necessary. Packing is factory adjusted to 1000 psig service. Please find more information on H-700 under the installation instructions.

⚠ **Initial packing adjustment is recommended after installation and prior to start-up**

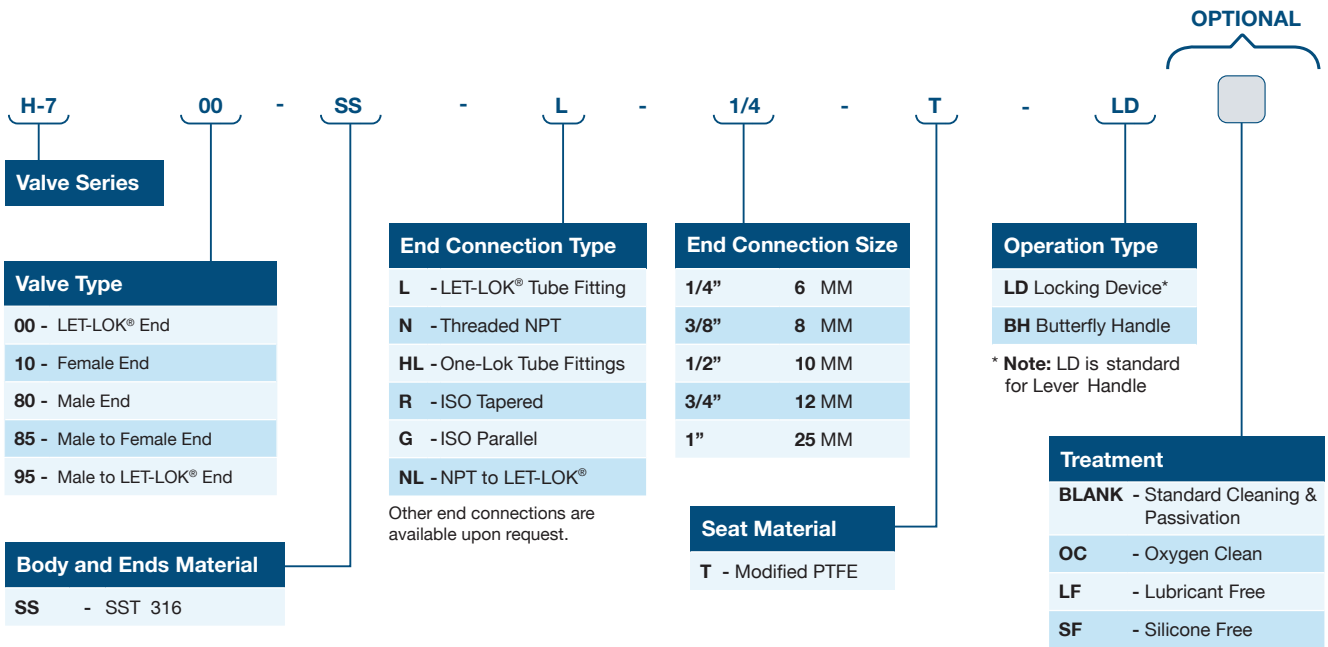
⚠ **HAM-LET Ball Valves are designed to be operated in the fully closed or fully open position**

⚠ **Valves that have not been operated for a period of time will introduce a higher actuation torque**

LOCKING DEVICE MECHANISM



H-700 SERIES ORDERING INFORMATION



UCT

COMPACT ONE PIECE BALL VALVES & CYLINDRICAL VALVES

HAM-LET H-800 SERIES

H-800 FEATURES

- Low Fugitive Emissions- Certified for ISO 15848-1:2006(E)
- Encapsulated Ball Stem design
- On/off-service, one-piece Ball Valve with 2-way pattern
- Diverter and on/off–service, one-piece Ball Valve with 3-way pattern
- Stainless Steel construction
- Variable end connection types and sizes from 1/16" to 1/2" or 3mm to 12mm
- Allows bi-directional flow in 2-way straight pattern
- Virtually no dead volume
- One-piece Ball Stem ensures alignment of stem and orifice
- MAWP* 3000 psi (206 bar);
- MAWP** 300°F (149°C)
- Easy to use- low operating torque, panel mounting
- Variable vent options
- Operation with metal handles, colored nylon handles, and ISLT Lockable handle
- Manual and pneumatic actuation

*Maximum Allowed Working Pressure
**Maximum Allowed Working Temperature

H-800 GENERAL

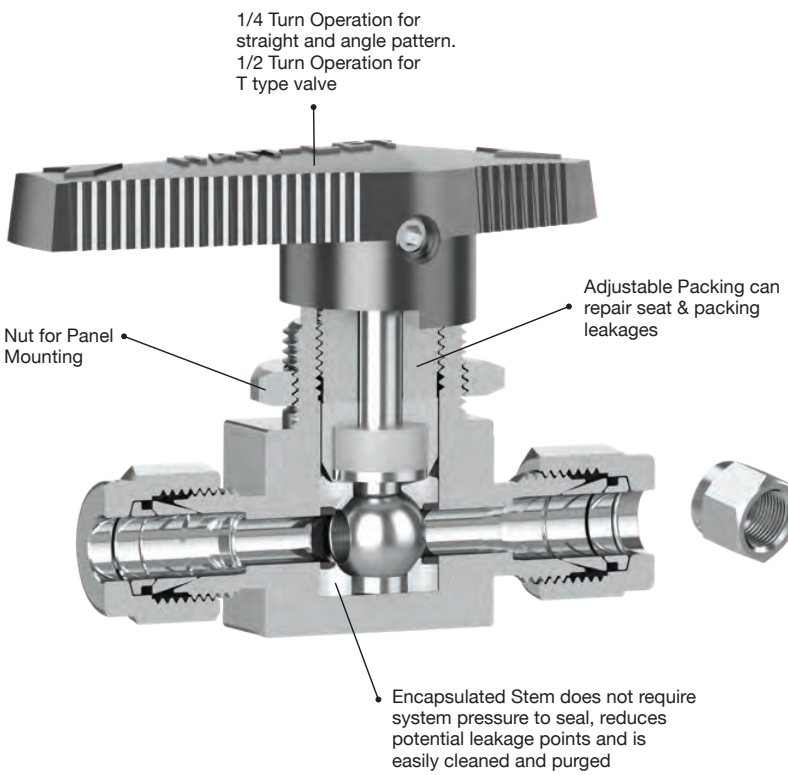
The H-800, one-piece Ball Valve series is designed for general service and instrumentation panels. Valve design enables low and high working pressure and accommodates a wide temperature range with high life cycle.
One-piece body design reduces possibility of shell leakage.
The valves offer tight shut-off, long-life service and low operating torque.

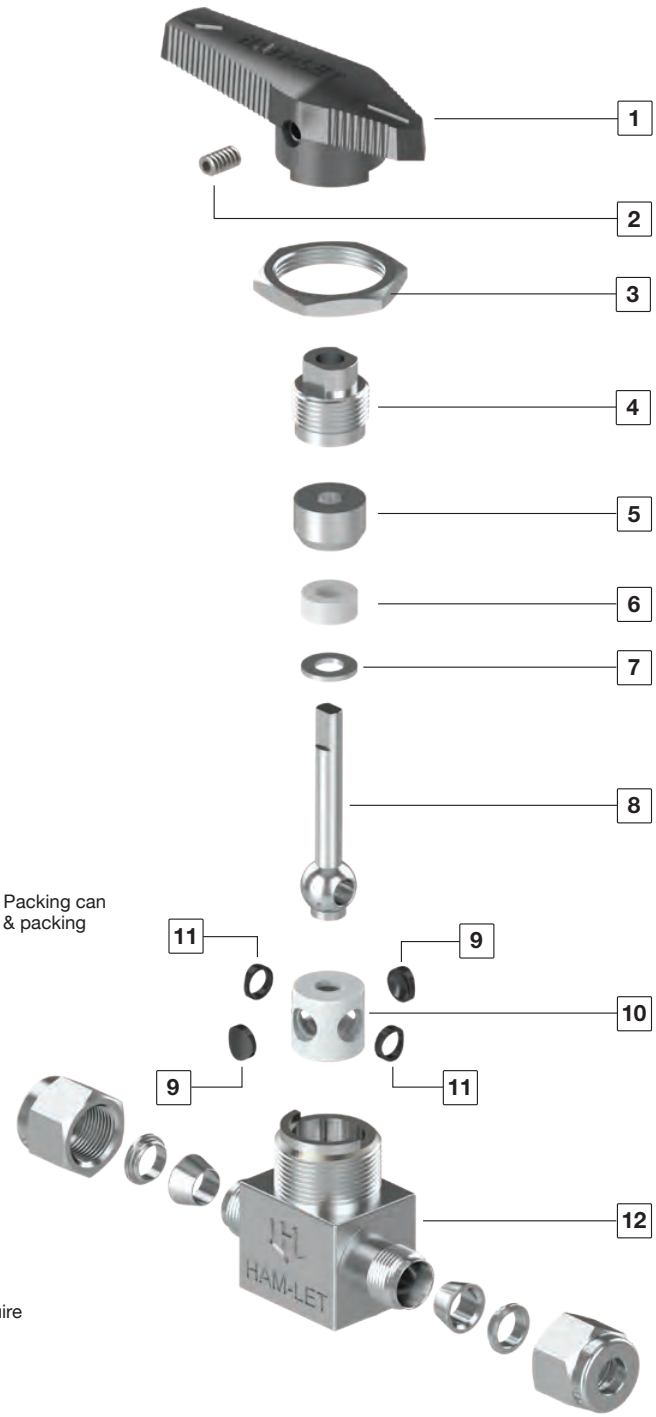
⚠ **H-800 Ball Valves are designed for fully open or fully closed operations only. If the valve is not operated for a long period of time, its braking torque may rise.**

MATERIALS OF CONSTRUCTION

No.	Components	Qty	Material
1	Handle	1	Nylon + Glass Fiber
2	Set Screw	1	SST 304
3	Panel Nut	1	SST 304
4	Packing Bolt*	1	SST 316
5	Gland*	1	SST 304
6	Stem Packing*	1	Virgin PTFE
7	Washer*	1	SST 304
8	Ball Stem*	1	SST 316
9	Seat Disc*	2	SST 304 (PTFE coated)
10	Seat*	1	PFA
11	Seat Ring*	2	SST 304 (PTFE coated)
12	Body*	1	SST ASTM A351 Gr. CF8M
	Lubricant		Silicone Based

* Wetted parts





H-800KL CYLINDRICAL VALVE FEATURES

- Encapsulated Cylindrical Stem design
- On/off-service, one-piece Cylindrical Valve with 2-way pattern
- Diverter and on/off–service, one-piece Cylindrical Valve with 3-way pattern
- Stainless Steel construction
- Allows bi-directional flow in 2-way straight pattern
- Variable end connection types and sizes from 1/4" to 1/2" or 10mm to 12mm
- Has virtually no dead volume
- One-piece Cylindrical Stem ensures alignment of stem and orifice
- MAWP* 2500 psi (206 bar);
- MAWT** 300ºF (149ºC)
- Easy to use- low operating torque, panel mounting
- Vent options
- Operation with colored Nylon handles, metal handle and pneumatically actuated
- Operation with metal handles, colored nylon handles, and ISLT Lockable handle
- Manual and pneumatic actuation

*Maximum Allowed Working Pressure
**Maximum Allowed Working Temperature

H-800KL GENERAL

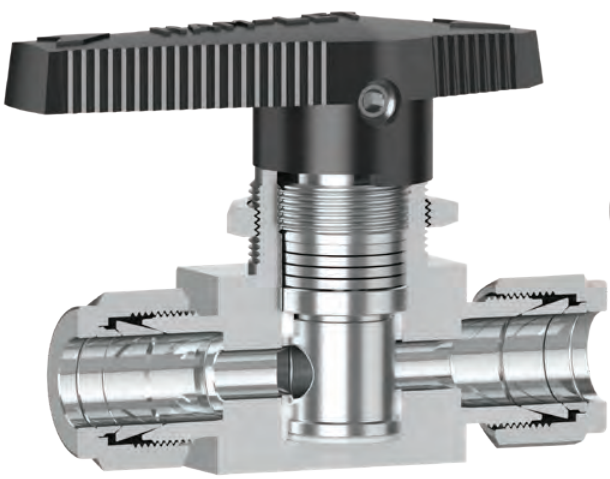
The H-800KL one-piece Cylindrical Valve series is designed for general service and instrumentation panels. Valve design enables low and high working pressure and accommodates a wide temperature range with high life cycle.

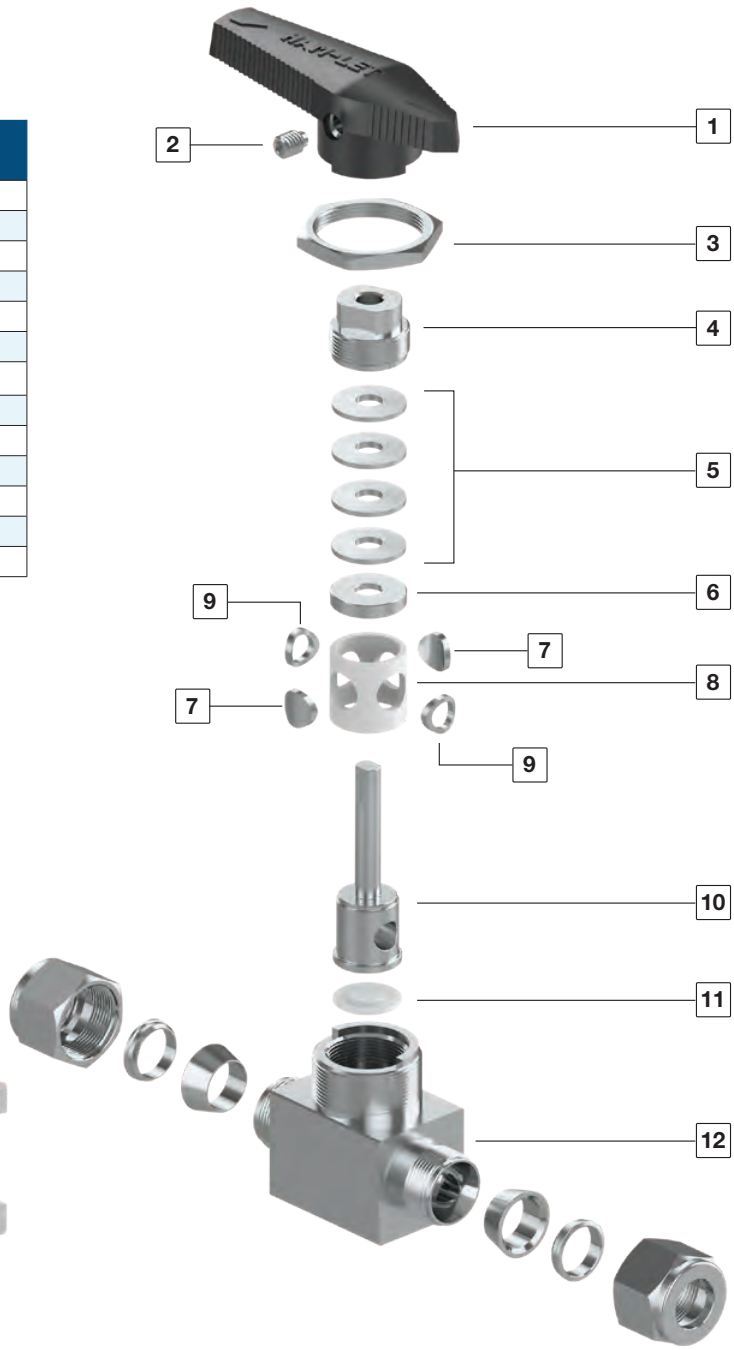
One-piece body design reduces possibility of shell leakage. The valves offer tight shut-off, long-life service and low operating torque.

MATERIALS OF CONSTRUCTION

No.	Components	Qty	Material
1	Handle	1	Nylon + Glass Fiber
2	Set Screw	1	SST 304
3	Panel Nut	1	SST 304
4	Packing Bolt*	1	SST 316
5	Belleville washer*	4	coated S17700SS/A693
6	Cap ring*	1	SST 304
7	Seat Disc*	2	SST 304 (PTFE coated)
8	Seat*	1	PTFE
9	Seat Ring*	2	SST 304 (PTFE coated)
10	Cylindrical Stem*	1	SST 316
11	Base Disc*	1	PCTFE
12	Body *	1	SST ASTM A351 Gr. CF8M
	Lubricant		Silicone Based

* Wetted parts





TESTING

The H-800 design has been tested for burst and proof. Standard testing for each H-800 valve includes testing with Nitrogen at 80 &1000 psig. Each valve is tested for leakage through the shell, packing and ball seats. The maximum allowable leakage across the ball seats is 0.1 std cc/min.

CLEANING & PACKAGING

Every H-800 series ball 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.

⚠ **Lubricant-Free cleaned valves have significantly higher actuation torque.**

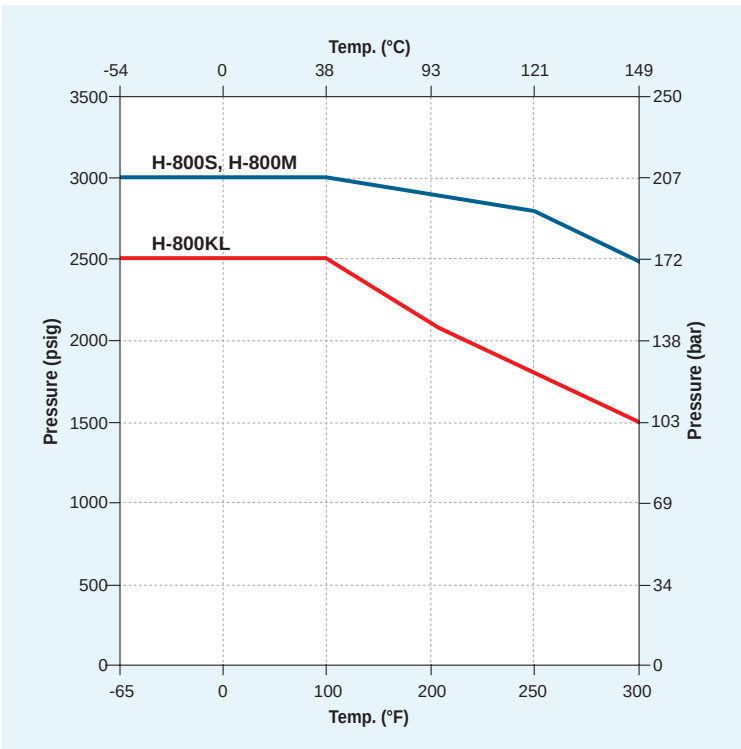
PACKING ADJUSTMENT

Due to the varied service applications of the valve, packing adjustment may occasionally be necessary.
Packing adjustment for this valve can fix not only leakage through stem but also leakage through the seats.
Packing is factory adjusted to 1000 psig service. Initial adjustment is recommended after installation and prior to start-up.
Our Ball Valves are designed for operation in fully closed or fully open position only.

⚠ **Initial packing adjustment is recommended after installation and prior to start-up**

⚠ **Valves that have not been operated for a period of time will introduce a higher actuation torque**

PRESSURE TEMPERATURE RATING



For **LF** Services MAWP: Body size Large→500psi
Body size Small and Medium →1000psi

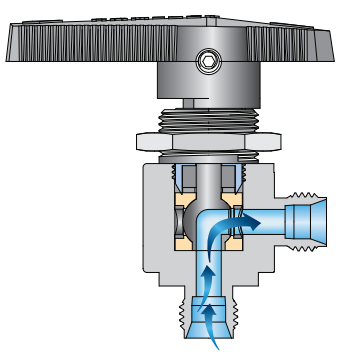
H-800 COLORED AND METAL HANDLES

MANUAL OPERATION

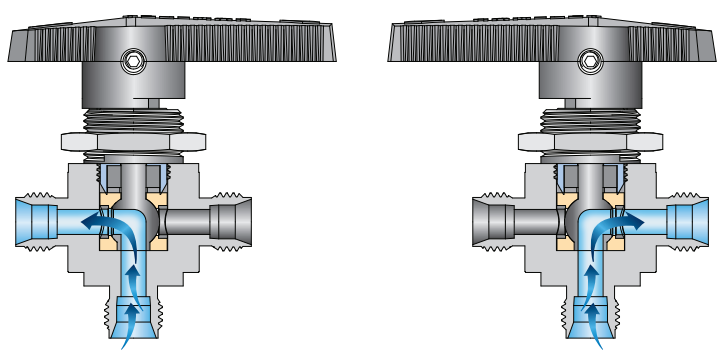
S - Black Handle*
B - Blue Handle
R - Red Handle
G - Green Handle
Y - Yellow Handle
M- Metal Handle
* Black Nylon handle is standard.

FLOW DIRECTION

H-800 Angle-Type

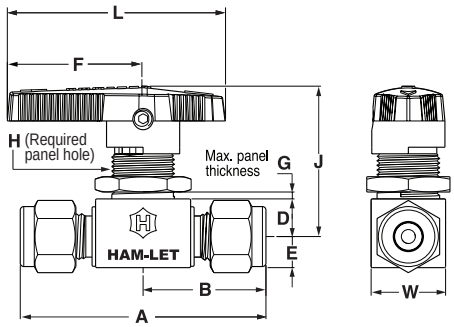


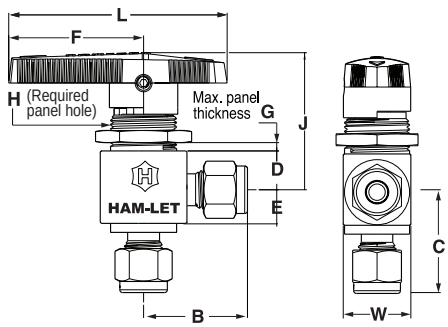
H-800 T-Type



NOTE: Side entry is allowed and limted to 1500 psi for all sizes

STRAIGHT PORT VALVE & ANGLE PATTERN



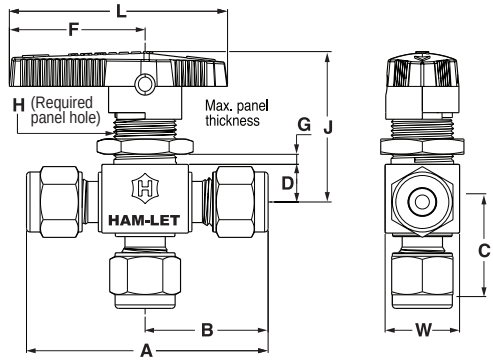


STANDARD CONFIGURATION DIMENSIONS

End Connection		Body Size Designator	Orifice		Cv Straight	Cv Angle	DIMENSIONS																					
							A		B		C (Angle)		D		E		F		L		G		H (Diameter)		J		W	
Type	Size inch		mm	inch			mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
Let-Lok® Imperial	1/16	S	1.3	0.051	0.1	-	42.7	1.68	21.35	0.84	20.6	0.81	8.60	0.34	7.10	0.28	31.0	1.22	50	1.97	6.4	0.25	15.1	0.59	34.5	1.36	17	0.67
	1/8		2.4	0.094	0.2	0.15	51.1	2.01	25.70	1.01	24.6	0.97																
			3.2	0.126	0.6	0.35	56.1	2.21	28.05	1.10	27.2	1.07																
	1/4	M	4.8	0.189	1.4	0.90	60.7	2.39	30.50	1.20	29.7	1.17	11.2	0.44	9.70	0.38	38.9	1.53	63	2.48	4.8	0.19	19.8	0.78	37.3	1.47	19.8	0.78
	3/8				1.5	0.90	65.5	2.58	32.75	1.29	32.8	1.29																
		KL	7.1	0.279	6.0	2.00	77.5	3.05	38.60	1.52	36.3	1.43	14.2	0.56	14.2	0.56	50.8	2	82.3	3.24	9.5	0.38	28.6	1.13	52.6	2.07	28.4	1.12
	1/2				6.0	4.60	83.12	3.27	41.56	1.63	39.16	1.54	14.2	0.56	14.2	0.56	50.8	2	82.3	3.24	9.5	0.38	28.6	1.13	52.6	2.07	28.4	1.12
Let-Lok Metric	3mm	S	2.4	0.094	0.2	0.15	51.1	2.01	25.70	1.01	24.6	0.97	8.60	0.34	7.10	0.28	31.0	1.22	50	1.97	6.4	0.25	15.1	0.59	34.5	1.36	17	0.67
	6mm		3.2	0.126	0.6	0.35	56.1	2.21	28.05	1.10	27.2	1.07																
		M	4.8	0.189	1.4	0.90	60.7	2.39	30.35	1.20	29.7	1.17	11.2	0.44	9.70	0.38	38.9	1.53	63	2.48	4.8	0.19	19.8	0.78	37.3	1.47	19.8	0.78
	8mm				1.5	0.90	62.5	2.46	31.25	1.23	30.5	1.20																
	10mm	KL	7.1	0.279	6.0	2.00	78.0	3.07	38.90	1.53	36.3	1.43	14.2	0.56	14.2	0.56	50.8	2	82.3	3.24	9.5	0.38	28.6	1.13	52.6	2.07	28.4	1.12
	12mm				6.0	4.60	83.12	3.27	41.56	1.63	39.16	1.54	14.2	0.56	14.2	0.56	50.8	2	82.3	3.24	9.5	0.38	28.6	1.13	52.6	2.07	28.4	1.12
F-NPT	1/8	S	3.2	0.126	0.5	0.30	41.4	1.63	20.60	0.81	20.6	0.81	8.6	0.34	7.1	0.28	31.0	1.22	50	1.97	6.4	0.25	15.1	0.59	34.5	1.36	17	0.67
		M	4.8	0.189	1.2	0.70	50.8	2.00	25.40	1.00	25.4	1.00	11.2	0.44	9.7	0.38	38.9	1.53	63	2.48	4.8	0.19	19.8	0.78	37.3	1.47	19.8	0.78
	1/4				0.9	0.75	52.3	2.06	26.20	1.03	26.2	1.03	11.2	0.44	9.7	0.38	38.9	1.53	63	2.48	4.8	0.19	19.8	0.78			19.8	0.78
		KL	7.1	0.279	3.0	1.70	63.5	2.50	31.75	1.25	31.75	1.25	14.2	0.56	14.2	0.56	50.8	2	82.3	3.24	9.5	0.38	28.6	1.13	52.6	2.07	28.4	1.12
	3/8				2.6	1.50	63.5	2.50	31.75	1.25	31.75	1.25	14.2	0.56	14.2	0.56	50.8	2	82.3	3.24	9.5	0.38	28.6	1.13	52.6	2.07	28.4	1.12
M-NPT	1/4	M	4.8	0.189	1.2	0.75	50.8	2.00	25.40	1.00	26.2	1.03	11.2	0.44	9.70	0.38	38.9	1.53	63	2.48	4.8	0.19	19.8	0.78	37.3	1.47	19.8	0.78
M-NPT to Let-Lok	1/4				1.6	0.75	55.9	2.20	30.5	1.20	26.2																	
Female ISO 7-1 tapered	1/4				0.9	-	52.3	2.06	26.15	1.03	26.15																	
	3/8	KL	7.1	0.279	2.6	-	63.5	2.50	31.75	1.25	31.75	1.25	14.2	0.56	14.2	0.56	50.8	2	82.3	3.24	9.5	0.38	28.6	1.13	52.6	2.07	28.4	1.12
O-Ring Face Seal	1/4	S	3.2	0.126	0.6	0.35	44.4	1.75	22.40	0.88	23.9	0.94	11.2	0.44	9.07	0.38	31.0	1.22	50	1.97	3.2	0.13	15.1	0.59	34.5	1.36	19.8	0.78
		M	4.8	0.189	2.4	0.90	47.8	1.88	23.90	0.94			11.2	0.44			38.9	1.53	63	2.48	4.8	0.19	19.8	0.78	37.3	1.47	19.8	0.78
Face Seal Male	1/4	S	3.2	0.126	0.6	0.35	54.1	2.13	27.05	1.06	27.7	1.09	11.2	0.44			31.0	1.22	50	1.97	3.2	0.13	15.1	0.59	34.5	1.36	19.8	0.78
		M	4.8	0.189	2.4	0.90							11.2	0.44			38.9	1.53	63	2.48	4.8	0.19	19.8	0.78	37.3	1.47	19.8	0.78
	1/2	KL	7.1	0.279	6.0	-	74.7	2.88	36.60	1.44	-	-	14.2	0.56	14.2	0.56	50.8	2	82.3	3.24	9.5	0.38	28.6	1.13	52.6	2.07	28.4	1.5

Dimensions are for reference only and subject to change.

3-WAY VALVE



STANDARD CONFIGURATION DIMENSIONS

End Connection		Body Size Designator	Orifice		CV	DIMENSIONS																			
Type	Size inch		mm	inch		A		B		C		D		F		L		G		H (Diameter)		J		W	
						mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
Let-Lok Imperial	1/16	S	1.3	0.051	0.08	42.7	1.68	21.35	0.84	20.6	0.81	8.60	0.34	31.0	1.22	50	1.97	6.4	0.25	15.1	0.59	34.5	1.36	17	0.67
	1/8		2.4	0.094	0.15	51.1	2.01	25.70	1.01	24.6	0.97														
	1/4		3.2	0.126	0.35	56.1	2.21	28.05	1.10	27.2	1.07														
		M	4.8	0.189	0.90	60.7	2.39	30.50	1.20	29.7	1.17	11.2	0.44	38.9	1.53	63	2.48	4.8	0.19	19.8	0.78	37.3	1.47	19.8	0.78
	3/8	M				65.5	2.58	32.75	1.29	33.0	1.30														
		KL	7.1	0.279	2.00	73.4	2.89	36.80	1.45	36.3	1.43	14.2	0.56	50.8	2	82.3	3.24	9.5	0.38	28.6	1.13	52.6	2.07	28.4	1.12
	1/2	KL			4.60	79.0	3.11	39.5	1.55	39.1	1.54	14.2	0.56	50.8	2.0	82.3	3.24	9.5	0.38	28.6	1.13	52.6	2.07	28.4	1.12
Let-Lok Metric	3mm	S	2.4	0.094	0.15	51.1	2.01	25.70	1.01	24.6	0.97	8.60	0.34	31.0	1.22	50	1.97	6.4	0.25	15.1	0.59	34.5	1.36	17	0.67
	6mm		3.2	0.126	0.35	56.1	2.21	27.90	1.10	27.2	1.07														
		M	4.8	0.189	0.90	60.7	2.39	30.50	1.20	29.7	1.17	11.2	0.44	38.9	1.53	63	2.48	4.8	0.19	19.8	0.78	37.3	1.47	19.8	0.78
	8mm				0.80	62.5	2.46	31.25	1.23	30.5	1.20														
	10mm	KL	7.1	0.279	2.00	73.4	2.89	36.80	1.45	36.3	1.43	14.2	0.56	50.8	2	82.3	3.24	9.5	0.38	28.6	1.13	52.6	2.07	28.4	1.12
	12mm	KL			4.60	79.0	3.11	39.5	1.55	39.1	1.54	14.2	0.56	50.8	2.0	82.3	3.24	9.5	0.38	28.6	1.13	52.6	2.07	28.4	1.12
F-NPT	1/8	S	3.2	0.126	0.30	41.4	1.63	20.60	0.81	20.6	0.81	8.6	0.34	31.0	1.22	50	1.97	6.4	0.25	15.1	0.59	34.5	1.36	17	0.67
	1/4	M	4.8	0.189	0.75	52.3	2.06	26.20	1.03	26.2	1.03	11.2	0.44	38.9	1.53	63	2.48	4.8	0.19	19.8	0.78	37.3	1.47	19.8	0.78
		KL	7.1	0.279	1.70	63.5	2.50	31.75	1.25	31.75	1.25	14.2	0.56	50.8	2	82.3	3.24	9.5	0.38	28.6	1.13	52.6	2.07	28.4	1.12
	3/8	KL			1.50	63.5	2.50	31.75	1.25	31.75	1.25	14.2	0.56	50.8	2	82.3	3.24	9.5	0.38	28.6	1.13	52.6	2.07	28.4	1.12
M-NPT to Let-Lok	1/4	M	4.8	0.189	0.80	60.7	2.39	30.50	1.20	26.2	1.03	11.2	0.44	38.9	1.53	63	2.48	4.8	0.19	19.8	0.78	37.3	1.47	19.8	0.78
Female ISO 7-1 tapered	1/4				0.75	52.3	2.06	26.15	1.03	26.15															
	3/8	KL	7.1	0.279	1.50	63.5	2.50	31.75	1.25	31.75	1.25	14.2	0.56	50.8	2	82.3	3.24	9.5	0.38	28.6	1.13	52.6	2.07	28.4	1.12
Face Seal Male	1/4	S	3.2	0.126	0.35	54.1	2.13	27.05	1.06	27.7	1.09	11.2	0.44	31.0	1.22	50	1.97	3.2	0.13	15.1	0.59	34.5	1.36	19.8	0.78
		M	4.8	0.189	0.90							11.2	0.44	38.9	1.53	63	2.48	4.8	0.19	19.8	0.78	37.3	1.47	19.8	0.78

Dimensions are for reference only and subject to change.

H-800 - PNEUMATIC ACTUATED VALVES

FEATURES

- 90° Actuation for 2-way valves (Straight & Angle)
- 180° Actuation for T-type valves
- Actuators comply with industry standards for interface with ISO 5211, NAMUR and VDI/VDE 3845
- Actuated valves are available factory assembled or separately, actuator and mounting kits
- Limit switches, proximity sensors, position indicators, solenoid valves, and other accessories are available upon request
- Standard Temperature range: -32°C to 90°C (-25.6°F to 194°F)
- Optional: High Temperature, Low Temperature

GENERAL

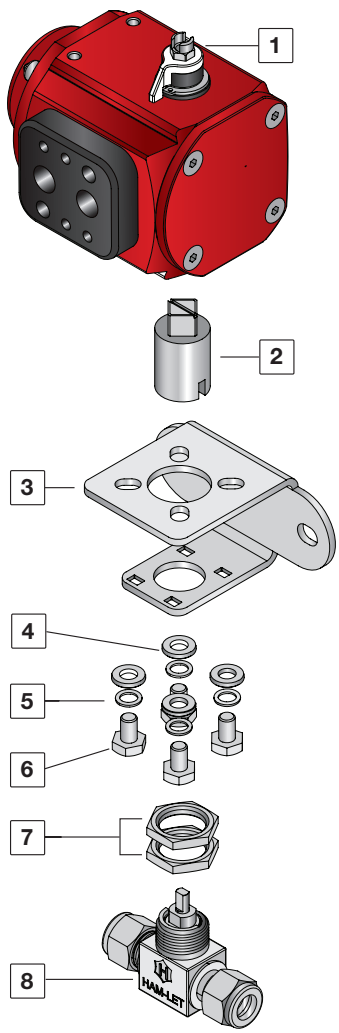
Four standard actuator sizes are available upon request: Mini (designator “A1”), Small (designator “A2”), Medium (designator “A3”), Large (designator “A4”) and 180° actuator (designator “A2T”). Improved operational speed enables better valve opening and closing control.

ATEX certification of Valves-Actuators assemblies are available on request at the time of order quotation.

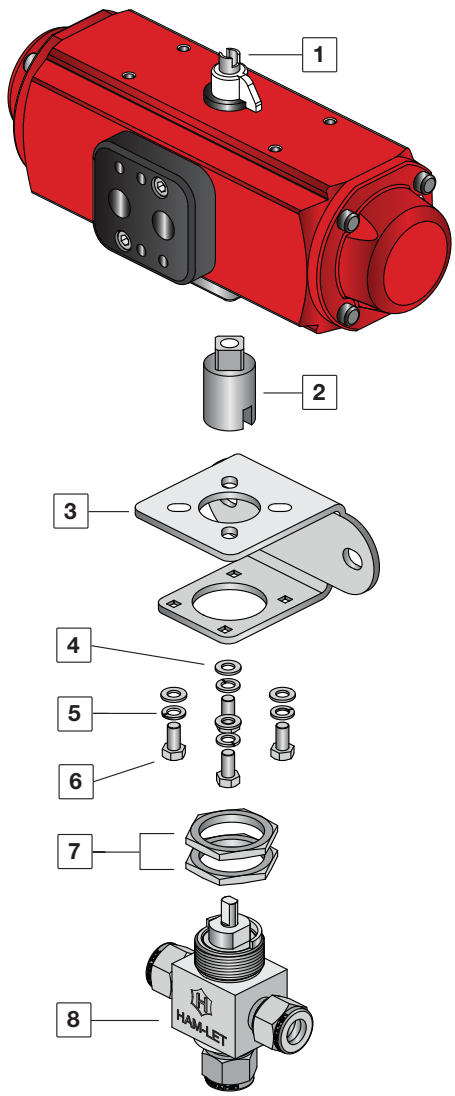
MATERIALS OF CONSTRUCTION

No.	Part	Qty	Material
1	Actuator	1	AL 356-T5
2	Coupling	1	SST 316
3	Bracket	1	SST 304
4	Washer Flat	4	SST 304
5	Washer Spring	4	SST 304
6	Screw	4	SST 304
7	Panel Nut	2	SST 316
8	H-800	1	SST 316

90° Actuator on 2-way valve



180° Actuator on T-type valve



HAM-LET PNEUMATIC ACTUATORS

The selection of Valve-Actuator assemblies provided herein is based on:

- Valve maximum allowable working pressure
- Ambient temperature (50 to 100°F / 10 to 37°C)
- Actuator fits to valve based on operating pressure of 6 bar, as per table A.

To order H-800 ball valve factory assembled with an actuator, the actuator designator shall be added to the valve part number / description per the below table.

Example:
H-800S-SS-L-1/4 with standard Spring Return Aluminum Actuator Normally Closed
H-800S-SS-L-1/4-A1C
To order an actuator and mounting bracket kit for field assembly: Spring Return Actuator ordering number: **Z-A1S** Corresponding mounting bracket kit:
Z-800S-MK-F03-F04-A1

Lubricant-free valves:
For spring return actuator - select one size bigger than offered in the table below.
Example: If the offered actuator in the table is A2C, select A3C
For double acting actuator - Please contact your local representative.

Table A: Ordering Information for Actuated Valves

Series	Ends Size	Seats	Minimum Actuator Operating Pressure Bar (Psi)	Actuator Designators (Factory Assembled)			Actuator Ordering Code		Mounting Kit Ordering info
				Spring Return		Double Acting	Spring Return	Double Acting	
				NO	NC				
H-800	S	PFA / PTFE	5 (72.5)	A1O	A1C	A1	Z-A1S	Z-A1	Z-800S-MK-F03-F04-A1
	M			A1O	A1C		Z-A1S		Z-800M-MK-F03-F04-A1
	KL			A2O	A2C		Z-A2S		SR: Z-800L-MK-F03-F04-A2 DA: Z-800L-MK-F03-F04-A1
H-800 T-Type	S	PFA / PTFE	5 (72.5)	A2TS	A2TS	A2T	Z-A2TS	Z-A2T	Z-800S-MK-F03-F04-A2
	M								Z-800M-MK-F03-F04-A2
	KL								Z-800L-MK-F03-F04-A2

Note: For dimensions of Actuators assembled on the H-800 series, please refer to the HPA section.

Actuated valves- in cases the valve will be cycled less frequently than once per 3 days or more frequently than once per hour, please contact your Ham-Let representative.

H-800 SERIES ORDERING INFORMATION

OPTIONAL

H-8 | 00 | S - SS - L - 1/4 - T - [ ] - [ ] - [ ] - [ ]

Valve Series

Valve Type

00 -	LET-LOK® Ends
10 -	Female Ends
80 -	Male Ends
85 -	Male to Female Ends

Body Designator

S	- Small
M	- Medium
KL	- Large

Body and End Material

SS	- SST 316

End Connection Type

L	- LET-LOK®
N	- NPT
G	- ISO parallel
R	- ISO Tapered
GL	- Metal Face seal
HL	- One Lok

End Connection Size

1/8	3 MM
1/4	6 MM
	8 MM
3/8	10 MM
1/2	12 MM

Valve Pattern Type

BLANK	- Straight
A	- Angle
T	- 3-Port

Vent Option

DV	- Down Stream Vent*

*MAWP = 500 psi

Actuator Type

Select Per Table A	**Aluminum Actuator***

*See Notes below

Handle

BLANK	Black Nylon Handle*
RH	Red Nylon Handle
BH	Blue Nylon Handle
YH	Yellow Nylon Handle
GH	Green Nylon Handle
M	Metal (SST) Handle
ISLTS	ISLT Black Handle
ISLTR	ISLT Red Handle
ISLTB	ISLT Blue Handle
ISLTY	ISLT Yellow Handle
ISLTG	ISLT Green Handle

* Black Nylon handle is standard.

Treatment

BLANK	- Standard Cleaning & Passivation
OC	- Oxygen Clean
LF	- Lubricant Free
SF	- Silicone Free

For Actuated Valves

- If special cleaning is required, LF / OC will be added in the end, and be applicable for the Valve only. Example: H - 800S - SS - L- 1/4 - A1 - OC
- For ordering information of actuators for high tempuratures, please refer to HAM-LET Pneumatic Actuator Catalog
- For double mounting actuators, please contact your local representative
- Actuators Accessories (Limit Switch, Solenoid Valve please refer to HAM-LET Pneumatic Actuator Catalog
- For Stainless Steel Actuators or Electric Actuators please contact your local representative

HANDLE KIT

Handle kit contains handle and set screw

Z-800 | S - HK - S

H-800 Valve Series

Body Designator

S	Small
M	Medium
KL	Large

Handle Kit

Handle Type

S	Black Nylon Handle
R	Red Nylon Handle
B	Blue Nylon Handle
Y	Yellow Nylon Handle
G	Green Nylon Handle
M	Metal (SST) Handle
ISLTS	ISLT Black Handle
ISLTR	ISLT Red Handle
ISLTB	ISLT Blue Handle
ISLTY	ISLT Yellow Handle
ISLTG	ISLT Green Handle

* Black Nylon handle is standard.

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 foreach selected product.
Improper selection, installation or use of products can cause property damage or personal injury.

H-840/H850 FEATURES

- On/off-service ball valve
- Stainless Steel Constructions
- MAWP 3000 psi (207 bar)
- MAWT 300°F (149°C)
- Variable end connection sizes: Male Let-Lok 1/8”; FNPT1/8”; FNPT1/4”
- Operation with colored ISLT handle

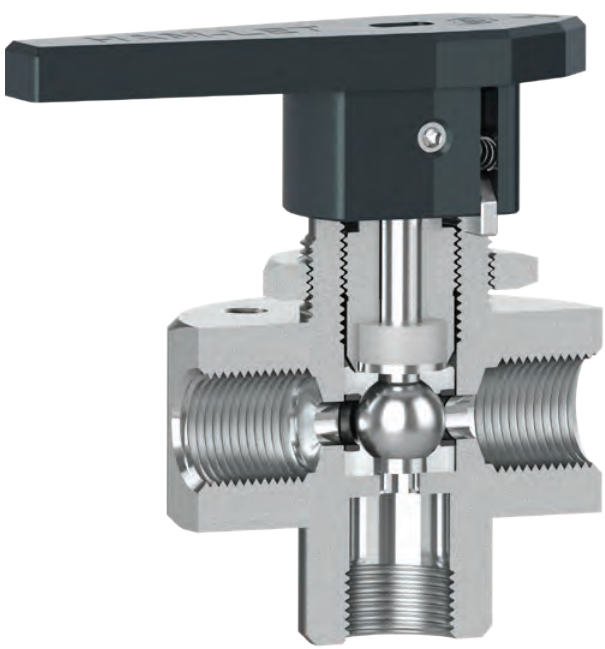
H-850 GENERAL

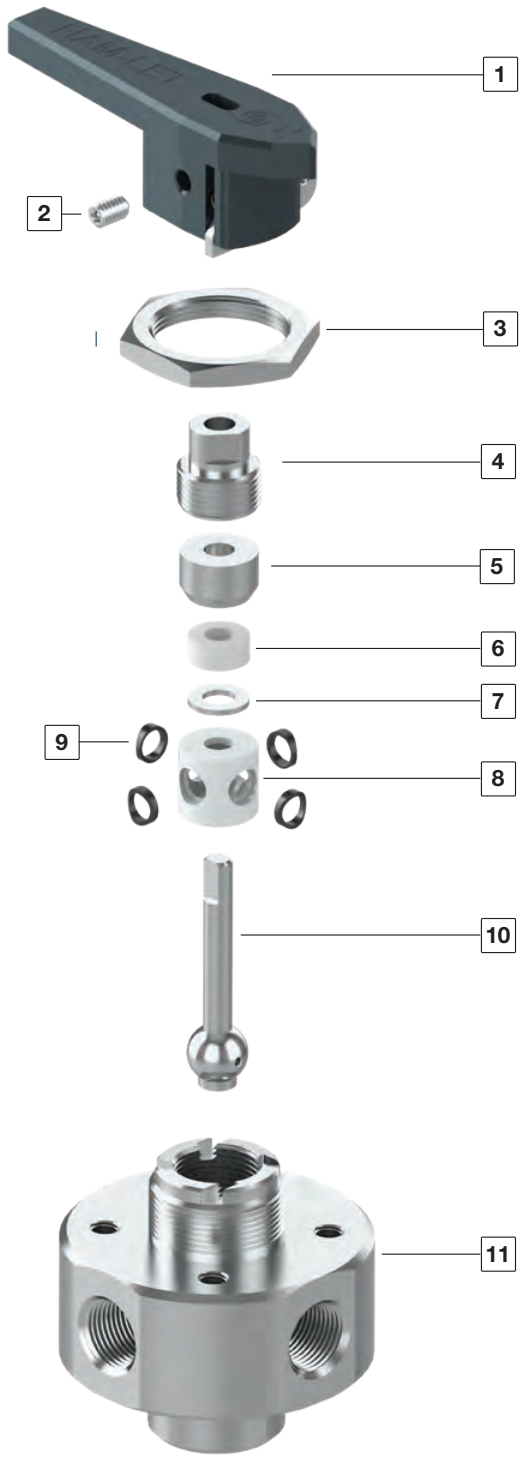
The H-84/50 one-piece Ball Valve series is designed for flow switched from multiple outlets and vice versa.

MATERIALS OF CONSTRUCTION

No.	Components	Qty	Material
1	Handle	1	Nylon + Glass Fiber
2	Set Screw	1	SST 304
3	Panel Nut	1	SST 304
4	Packing Bolt*	1	SST 316
5	Gland*	1	SST 304
6	Stem Packing*	1	Virgin PTFE
7	Washer*	1	SST 304
8	Seat*	1	PFA
9	Seat Ring*	2	SST 304 (PTFE coated)
10	Ball Stem*	1	SST 316
11	Body	1	SST ASTM A351 Gr. CF8M
	Lubricant		Silicone Based

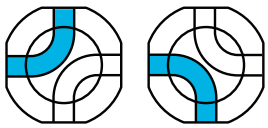
* Wetted parts

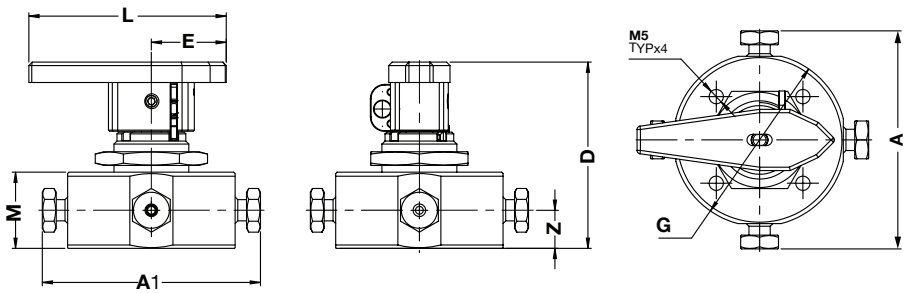




H840 4 WAY

Flow Pattern



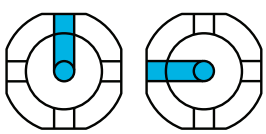


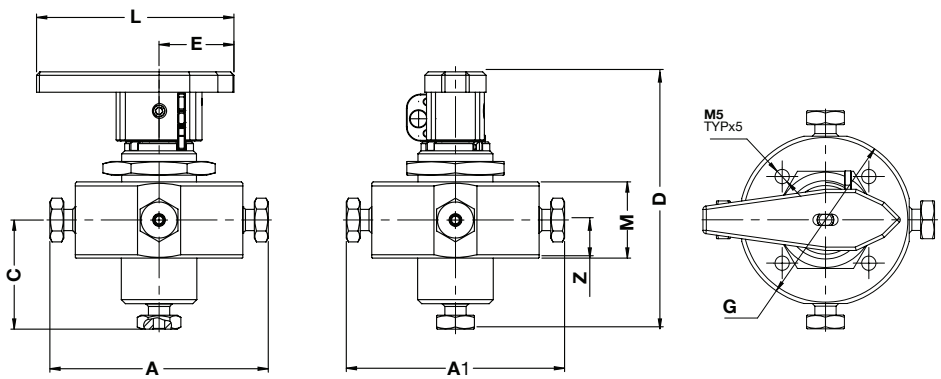
STANDARD CONFIGURATION DIMENSIONS

SIZE	End connection	Orifice	A/A1		B		D		F		L		M		N		G	
In		mm	mm	In	mm	In	mm	In	mm	In	mm	In	mm	In	mm	In	mm	In
1/8	Let-Lok	2.30	64.10	2.52	32.05	1.26	54.80	2.16	36.00	1.42	58.00	2.28	22.40	0.88	11.20	0.44	50.80	2.00
1/8	FNPT	4.80	48.40	1.90	24.20	0.95	54.80	2.16	36.00	1.42	58.00	2.28	22.40	0.88	11.20	0.44	50.80	2.00
1/4	FNPT	4.80	48.40	1.90	24.20	0.95	54.80	2.16	36.00	1.42	58.00	2.28	22.40	0.88	11.20	0.44	50.80	2.00

H850 5 WAY

Flow Pattern

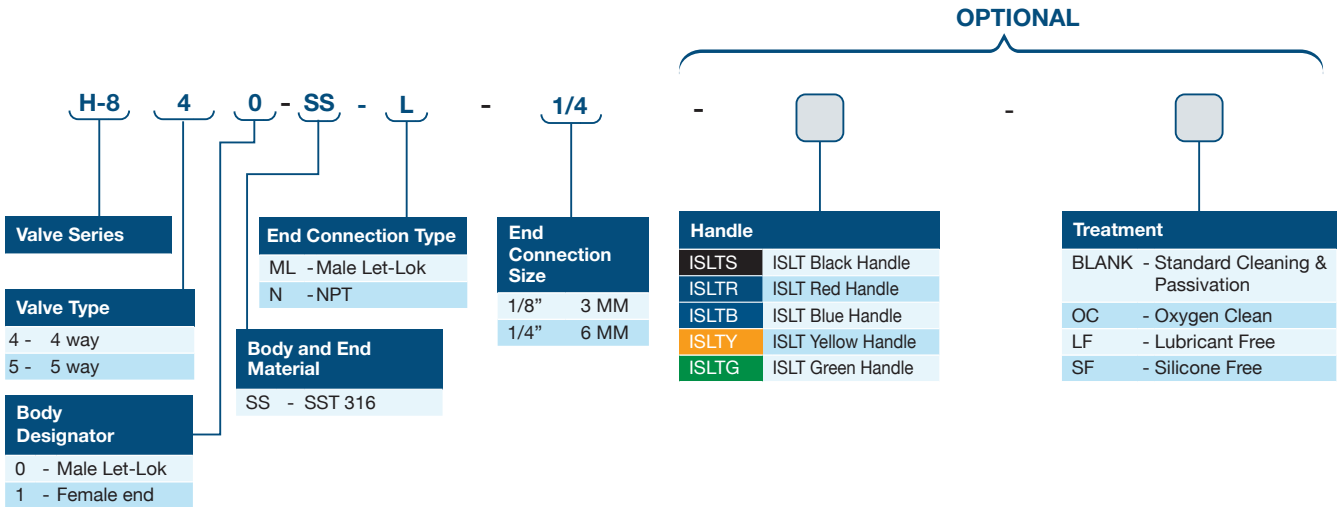




STANDARD CONFIGURATION DIMENSIONS

SIZE	End connection	Orifice	A/A1		B		C		D		F		L		M		N		G	
In		mm	mm	In	mm	In	mm	In	mm	In	mm	In	mm	In	mm	In	mm	In	mm	In
1/8	Let-Lok	2.30	64.10	2.52	32.05	1.26	32.10	1.26	75.60	2.97	36.00	1.42	58.00	2.28	22.40	0.88	11.20	0.44	50.80	2.00
1/8	FNPT	4.80	48.40	1.90	24.20	0.95	24.20	0.95	75.60	2.97	36.00	1.42	58.00	2.28	22.40	0.88	11.20	0.44	50.80	2.00
1/4	FNPT	4.80	48.40	1.90	24.20	0.95	24.20	0.95	75.60	2.97	36.00	1.42	58.00	2.28	22.40	0.88	11.20	0.44	50.80	2.00

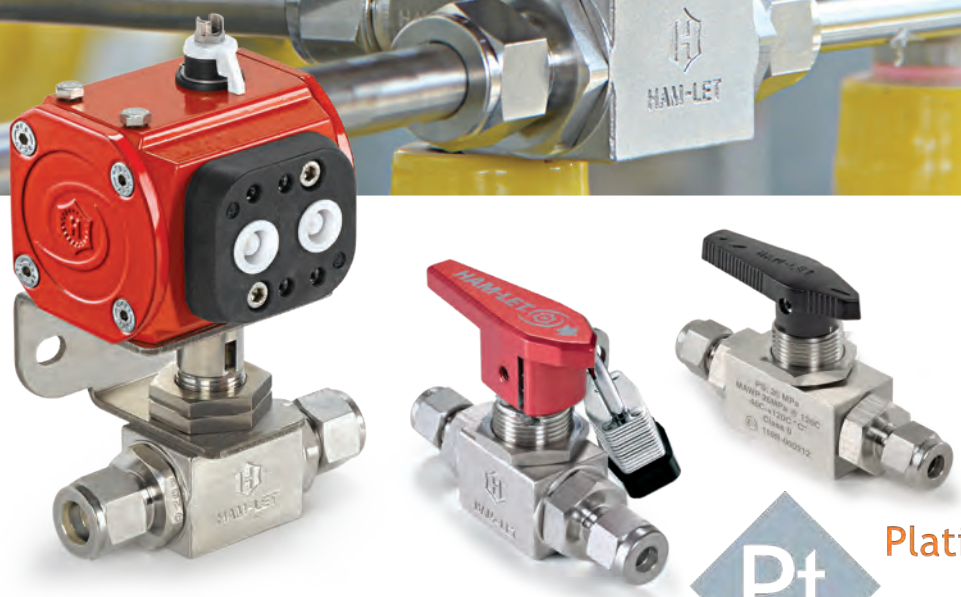
H-840/H850 ORDERING INFORMATION



UCT

HAM-LET HIGH PERFORMANCE BALL VALVES

H6800 SERIES | H6800 CNG SERIES



Pt

Platinum Natural Gas Solutions
www.ptngs.com
info@ptngs.com 484.897.0345

H6800 FEATURES

- Certified for ISO 15848-1:2006(E)
- On/off-service ball valve with 2-way pattern
- Diverter-service ball valve with 3-way pattern
- Stainless Steel and Brass construction
- MAWP* 6000 psi (413 bar)
- MAWT* 500ºF (260ºC)
- Variable end connection types and sizes from 1/16" to 3/4" (3mm to 18mm)
- Operation with colored Nylon handles, metal handle, color
- Anodized aluminum ISLT** (locking device) handles and pneumatically actuated

*Maximum Allowed Working Pressure, Maximum Allowed Working Temperature
**ISLT – Integral Safety Lock-out Tag-out Patent pending

GENERAL

The H6800 Series is a high-performance instrumentation ball valve for general service and instrumentation panels. The valves offer a tight shut-off*, long-life service and a low operating torque. The H6800 Series is rated to max. 6000psig and performs on/off or as a diverter service.

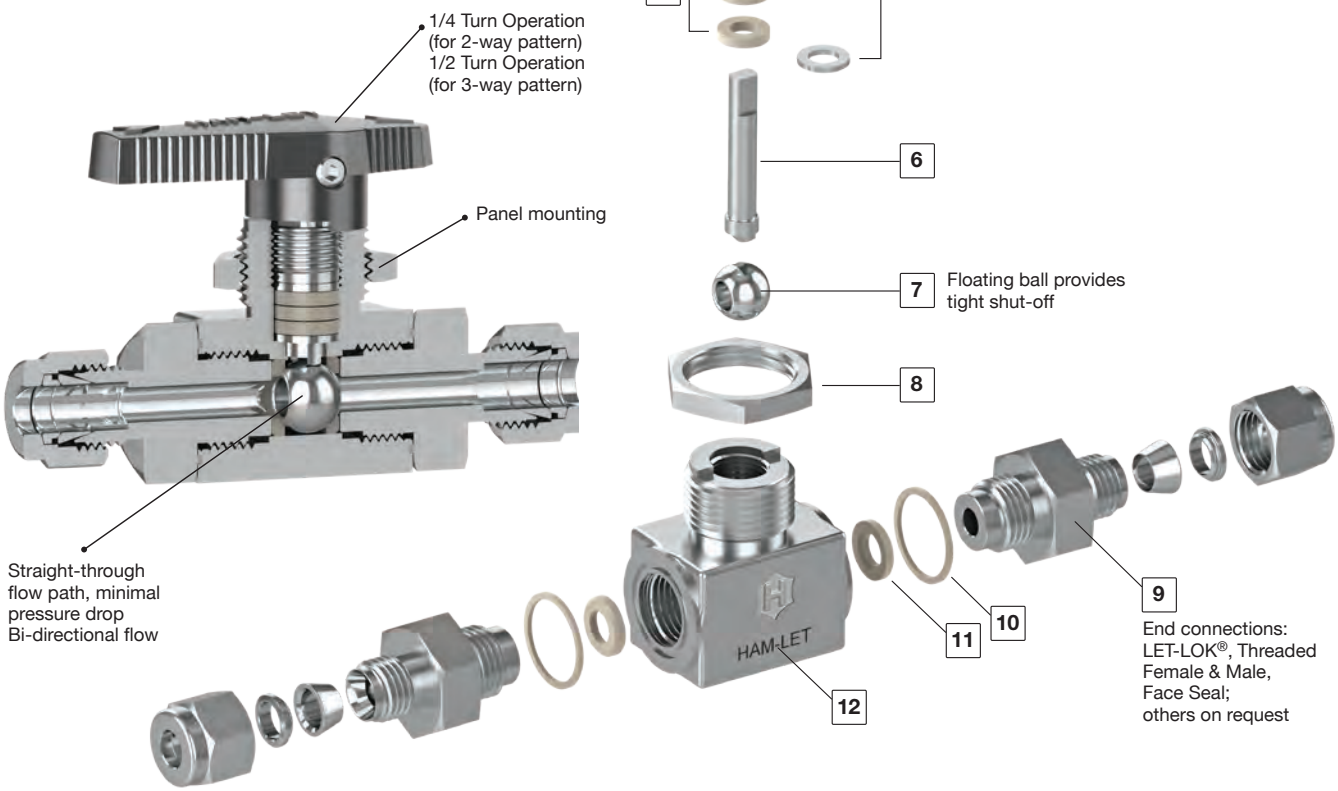
*3-Way H6800 is designed for diverting only and not for shut-off service. Inlet is from the bottom only. 3-Way H6800 is designed to be fully opened to any of the side ports.

⚠ **HAM-LET Ball Valves are designed for operation in the fully closed or fully open position.**

MATERIALS OF CONSTRUCTION

No.	Part	Qty	Maximum allowed working pressure	
			Up to 3000 psig	Up to 6000 psig
1	Handle	1	Nylon / Metal / ISLT	Nylon / Metal / ISLT
2	Handle Set Screw	1	SST 304	SST 304
3	Packing Bolt	1	SST 316	SST 316
4	Packing	3	Modified PTFE	PCTFE/ PEEK
5	Gland*	2	SST 304	SST 304
6	Stem*	1	SST 316	SST 316
7	Ball*	1	SST 316	SST 316
8	Panel Nut*	1	SST 303 / Brass	SST 303
9	End Cap*	2	SST 316 / Brass	SST 316
10	Body Seal*	2	Virgin PTFE	PTFE / PEEK
11	Seat*	2	Modified PTFE	PCTFE / PEEK
12	Body*	1	SST ASTM A351 Gr.CF8M Brass ASTM B-16	SST ASTM A-276
	Lubricants		Silicone based and PTFE based	

* Wetted parts



TESTING

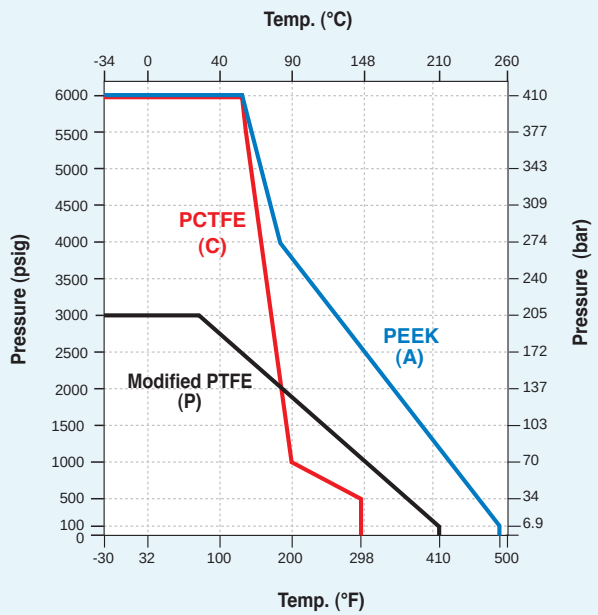
The H6800 design has been tested for burst and proof. Standard testing for each H6800 valve includes testing with nitrogen at 80 &1000 psig. Each valve is tested for leakage through the shell, packing and ball seats. The maximum allowable leakage across the ball seats is 0.1 std cc/min.

CLEANING & PACKAGING

Every H6800 series ball 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.

⚠ **Lubricant-Free cleaned valves have significantly higher actuation torque.**

PRESSURE TEMPERATURE RATINGS



Note: The maximum allowed working pressure that is marked on the valve may be limited according to the pressure limitations that are recommended by the tubing /piping standards (Reference: Let-Lok tube fittings General Information).

PACKING ADJUSTMENT

Due to the varied service applications of the valve, packing adjustment may be occasionally necessary. Packing is factory adjusted to 1000 psig service. Please find more information in the installation instruction chapter.

⚠ **Initial packing adjustment is recommended after installation and prior to start-up**

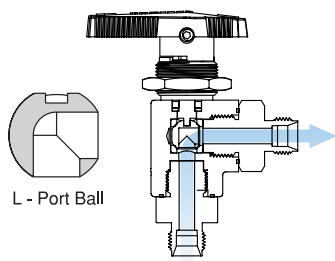
⚠ **Valves that have not been operated for a period of time will introduce a higher actuation torque**

BODY & SEAT MATERIAL COMBINATIONS

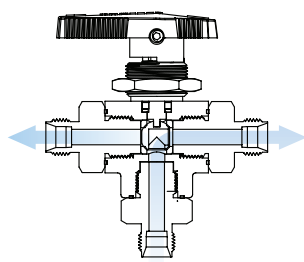
Body Material	MAWP*	MAWT**	Seat Material
SST ASTM A351 Gr. CF8M	3000psi (206bar)	410°F (210°C)	Modified PTFE
SST ASTM A-479	6000psi (413 bar)	500°F (260°C)	PEEK***
SST ASTM A-479	6000psi (413 bar)	298°F (148°C)	PCTFE
Brass ASTM B-16	3000psi (206 bar)	410°F (210°C)	Modified PTFE
Super duplex	6000psi (413 bar)	410°F (210°C)	Modified PTFE
Super duplex	6000psi (413 bar)	500°F (260°C)	PEEK***
Super duplex	6000psi (413 bar)	298°F (148°C)	PCTFE
Alloy C-276	3000psi (206 bar)	410°F (210°C)	Modified PTFE
Alloy C-276	3000psi (206 bar)	500°F (260°C)	PEEK***
Alloy C-276	3000psi (206 bar)	298°F (148°C)	PCTFE
Alloy 400	3000psi (206 bar)	410°F (210°C)	Modified PTFE
Alloy 400	3000psi (206 bar)	500°F (260°C)	PEEK***
Alloy 400	3000psi (206 bar)	298°F (148°C)	PCTFE

For other body and seat combinations, please contact our cutomer service.
*Maximum Allowed Working Pressure.
**Maximum Allowed Working Temperature.
***Lubricant-Free cleaned valves with PEEK seats, MAWP is 3000 (260 bar) psi.

ANGLE AND T-TYPE VALVE



NOTE: Bottom entry only



NOTE: - Bottom entry only
- Not suitable for shut-off application

SEAT MATERIAL CHARACTERISTICS

MODIFIED PTFE
Excellent seat material for purity applications. Very low residual material during operation. Lower deformation ratio than PTFE, but higher pressure and temperature ratings than PTFE. Rated up to 410°F (210°C).
Chemical resistance equal to PTFE material.

PCTFE
Excellent seat material for low temperature applications such as Oxygen and Nitrogen. Suitable for low temperature applications down to -40ºC (-40ºF).

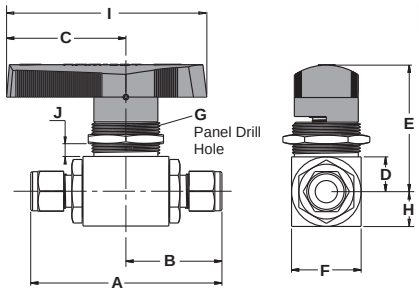
PEEK (PolyEtherEtherKeton)
Excellent seat material for high-pressure and high-temperature applications. Excellent chemical resistance. Can be used continuosly up to 500ºF (260ºC) and in hot water or steam without permanent loss in physical properties. High strength for harsh enviroments and high pressure.

Warning: Combination of PEEK seats and hot water may be critical for valve operating torque.

MANUAL OPERATION

*Black nylon handle with brass insert is standard Add ISLT handle

STRAIGHT PORT VALVE

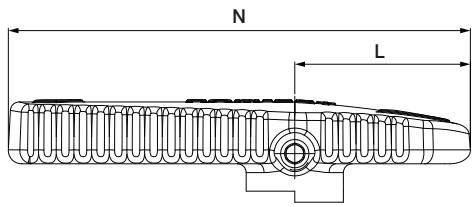


STRAIGHT PORT, STANDARD CONFIGURATION DIMENSIONS

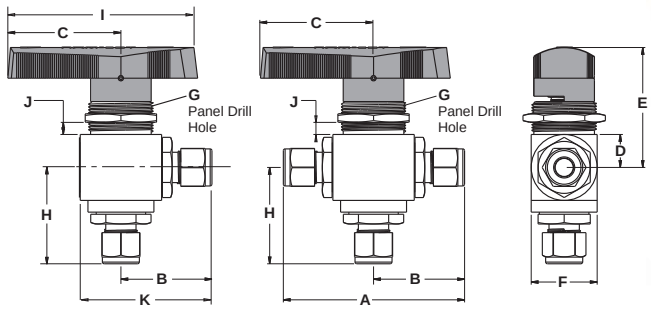
Size	End Connection		Orifice		Cv	A		B		C		D		E		F		G		H		I*		J**	
	mm	inch	mm	inch		mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in
1/16"	LET-LOK® Inch		1.3	0.051	0.1	70.2	2.76	35.1	1.38	31.0	1.22	11.1	0.44	38.85	1.53	22.2	0.87	19.3	0.76	11.1	0.44	50.0	1.96	6.5	0.255
1/8"			2.4	0.094	0.2	78.6	3.09	39.3	1.55	31.0	1.22	11.1	0.44	38.85	1.53	22.2	0.87	19.3	0.76	11.1	0.44	50.0	1.96	6.5	0.255
1/4"			4.8	0.189	1.5	83.6	3.29	41.8	1.65	31.0	1.22	11.1	0.44	38.85	1.53	22.2	0.87	19.3	0.76	11.1	0.44	50.0	1.96	6.5	0.255
3/8"			4.8	0.189	1.5	86.3	3.40	43.15	1.70	31.0	1.22	11.1	0.44	38.85	1.53	22.2	0.87	19.3	0.76	11.1	0.44	50.0	1.96	6.5	0.255
1/2"			10.3	0.409	12	102.5	4.04	51.25	2.02	50.0	1.97	16.0	0.63	50.0	1.97	32.0	1.26	20.8	0.82	16.0	0.63	80.0	3.15	6.5	0.255
3/4"			10.3	0.409	6.5	102.5	4.04	51.25	2.02	50.0	1.97	16.0	0.63	50.0	1.97	32.0	1.26	20.8	0.82	16.0	0.63	80.0	3.15	6.5	0.255
3mm	LET-LOK Metric		2.4	0.094	0.2	78.6	3.09	39.3	1.55	31.0	1.22	11.1	0.44	38.85	1.53	22.2	0.87	19.3	0.76	11.1	0.44	50.0	1.96	6.5	0.255
6mm			4.8	0.189	1.5	83.6	3.29	41.8	1.65	31.0	1.22	11.1	0.44	38.85	1.53	22.2	0.87	19.3	0.76	11.1	0.44	50.0	1.96	6.5	0.255
8mm			4.8	0.189	1.5	84.8	3.34	42.4	1.67	31.0	1.22	11.1	0.44	38.85	1.53	22.2	0.87	19.3	0.76	11.1	0.44	50.0	1.96	6.5	0.255
10mm			4.8	0.189	1.5	86.4	3.40	43.2	1.70	31.0	1.22	11.1	0.44	38.85	1.53	22.2	0.87	19.3	0.76	11.1	0.44	50.0	1.96	6.5	0.255
12mm			10.3	0.409	12	102.5	4.04	51.25	2.02	50.0	1.97	16.0	0.63	50.0	1.97	32.0	1.26	20.8	0.82	16.0	0.63	80.0	3.15	6.5	0.255
18mm			10.3	0.409	6.5	102.5	4.04	51.25	2.02	50.0	1.97	16.0	0.63	50.0	1.97	32.0	1.26	20.8	0.82	16.0	0.63	80.0	3.15	6.5	0.255
1/8"	Female NPT/ BSPT		4.8	0.189	1.2	63.6	2.50	31.8	1.25	31.0	1.22	11.1	0.44	38.85	1.53	22.2	0.87	19.3	0.76	11.1	0.44	50.0	1.96	6.5	0.255
1/4"			4.8	0.189	0.9	64.0	2.52	32.0	1.26	31.0	1.22	11.1	0.44	38.85	1.53	22.2	0.87	19.3	0.76	11.1	0.44	50.0	1.96	6.5	0.255
3/8"			4.8	0.189	0.6	69.6	2.74	34.8	1.37	31.0	1.22	11.1	0.44	38.85	1.53	22.2	0.87	19.3	0.76	11.1	0.44	50.0	1.96	6.5	0.255
1/2"			10.3	0.409	6.3	87.4	3.44	43.7	1.72	50.0	1.97	16.0	0.63	50.0	1.97	32.0	1.26	20.8	0.82	16.0	0.63	80.0	3.15	6.5	0.255
3/4"			10.3	0.409	6.1	91.0	3.58	45.5	1.79	50.0	1.97	16.0	0.63	50.0	1.97	32.0	1.26	20.8	0.82	16.0	0.63	80.0	3.15	6.5	0.255
1/8"	Female BSPP		4.8	0.189	1.2	63.6	2.50	31.8	1.25	31.0	1.22	11.1	0.44	38.85	1.53	22.2	0.87	19.3	0.76	11.1	0.44	50.0	1.96	6.5	0.255
1/4"			4.8	0.189	0.9	64.0	2.52	32.0	1.26	31.0	1.22	11.1	0.44	38.85	1.53	22.2	0.87	19.3	0.76	11.1	0.44	50.0	1.96	6.5	0.255
3/8"			4.8	0.189	0.6	69.6	2.74	34.8	1.37	31.0	1.22	11.1	0.44	38.85	1.53	22.2	0.87	19.3	0.76	11.1	0.44	50.0	1.96	6.5	0.255
1/2"			10.3	0.409	6.3	87.4	3.44	43.7	1.72	50.0	1.97	16.0	0.63	50.0	1.97	32.0	1.26	20.8	0.82	16.0	0.63	80.0	3.15	6.5	0.255
3/4"			7.1	0.409	6.1	91.0	3.58	45.5	1.79	50.0	1.97	16.0	0.63	50.0	1.97	32.0	1.26	20.8	0.82	16.0	0.63	80.0	3.15	6.5	0.255
1/8"	Male NPT/ BSPT		4.8	0.189	1.5	67.6	2.66	33.8	1.33	31.0	1.22	11.1	0.44	38.85	1.53	22.2	0.87	19.3	0.76	11.1	0.44	50.0	1.96	6.5	0.255
1/4"			4.8	0.189	1.2	76.6	3.02	38.3	1.51	31.0	1.22	11.1	0.44	38.85	1.53	22.2	0.87	19.3	0.76	11.1	0.44	50.0	1.96	6.5	0.255
3/8"			4.8	0.189	0.9	76.6	3.02	38.3	1.51	31.0	1.22	11.1	0.44	38.85	1.53	22.2	0.87	19.3	0.76	11.1	0.44	50.0	1.96	6.5	0.255
1/2"			10.3	0.409	8.2	92.4	3.64	46.2	1.82	50.0	1.97	16.0	0.63	50.0	1.97	32.0	1.26	20.8	0.82	16.0	0.63	80.0	3.15	6.5	0.255
3/4"			10.3	0.409	4.5	94.4	3.71	47.2	1.86	50.0	1.97	16.0	0.63	50.0	1.97	32.0	1.26	20.8	0.82	16.0	0.63	80.0	3.15	6.5	0.255
1/8"	Male BSPP		4.8	0.189	1.5	65.4	2.57	32.7	1.29	31.0	1.22	11.1	0.44	38.85	1.53	22.2	0.87	19.3	0.76	11.1	0.44	50.0	1.96	6.5	0.255
1/4"			4.8	0.189	1.2	76.6	3.02	38.3	1.51	31.0	1.22	11.1	0.44	38.85	1.53	22.2	0.87	19.3	0.76	11.1	0.44	50.0	1.96	6.5	0.255
3/8"			4.8	0.189	0.9	76.6	3.02	38.3	1.51	31.0	1.22	11.1	0.44	38.85	1.53	22.2	0.87	19.3	0.76	11.1	0.44	50.0	1.96	6.5	0.255
1/2"			10.3	0.409	8.2	92.4	3.64	46.2	1.82	50.0	1.97	16.0	0.63	50.0	1.97	32.0	1.26	20.8	0.82	16.0	0.63	80.0	3.15	6.5	0.255
3/4"			10.3	0.409	4.5	94.4	3.71	47.2	1.86	50.0	1.97	16.0	0.63	50.0	1.97	32.0	1.26	20.8	0.82	16.0	0.63	80.0	3.15	6.5	0.255
1/4"	Face Seal Male		4.5	0.18	2.4	75.0	2.95	37.5	1.47	31.0	1.22	11.1	0.44	38.85	1.53	22.2	0.87	19.3	0.76	11.1	0.44	50.0	1.96	6.5	0.255
1/2"			10.3	0.409	12	93.8	3.69	46.9	1.85	50.0	1.97	16.0	0.63	50.0	1.97	32.0	1.26	20.8	0.82	16.0	0.63	80.0	3.15	6.5	0.255

Face to face dimensions for LET-LOK® end connections (dimensions A and B) are finger tight.
* Refers to standard nylon handle.
** Maximum panel thickness.
Dimensions are for reference only and are subject to change.

VALVE END CONNECTIONS	Handle Designator	N	L
From 2/1 to 1"	LH	104.3 MM	39.5 MM



ANGLE & 3-PORT VALVE



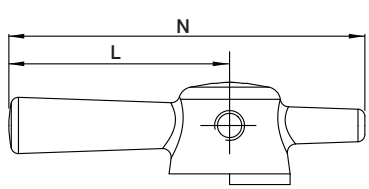
ANGLE & 3-PORT, STANDARD CONFIGURATION DIMENSIONS

Size	End Connection		Orifice		Cv	A		K		B		C		D		E		F		G		H		I*		J**	
	mm	inch	mm	inch		mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in
1/16''	LET-LOK Inch		1.3	0.051	0.08	70.2	2.76	46.2	1.82	35.1	1.38	31.0	1.22	11.1	0.44	38.85	1.53	22.2	0.87	19.3	0.76	37.9	1.49	50.0	1.96	6.5	0.255
1/8''			2.4	0.094	0.15	78.6	3.09	50.4	1.95	39.3	1.55	31.0	1.22	11.1	0.44	38.85	1.53	22.2	0.87	19.3	0.76	42.1	1.66	50.0	1.96	6.5	0.255
1/4''			4.8	0.189	0.90	83.6	3.29	52.9	2.08	41.8	1.65	31.0	1.22	11.1	0.44	38.85	1.53	22.2	0.87	19.3	0.76	44.6	1.76	50.0	1.96	6.5	0.255
3/8''			4.8	0.189	0.60	86.3	3.40	54.25	2.13	43.15	1.70	31.0	1.22	11.1	0.44	38.85	1.53	22.2	0.87	19.3	0.76	46.0	1.81	50.0	1.96	6.5	0.255
1/2''			10.3	0.40	4.6	102.5	4.04	67.3	2.65	51.25	2.02	50.0	1.97	16.0	0.63	50.0	1.97	32.0	1.26	20.8	0.82	57.5	2.26	80.0	3.15	6.5	0.255
3/4''			10.3	0.40	3.8	102.5	4.04	67.3	2.65	51.25	2.02	50.0	1.97	16.0	0.63	50.0	1.97	32.0	1.26	20.8	0.82	57.5	2.26	80.0	3.15	6.5	0.255
3mm	LET-LOK Metric		2.4	0.094	0.15	78.6	3.09	52.0	2.05	39.3	1.55	31.0	1.22	11.1	0.44	38.85	1.53	22.2	0.87	19.3	0.76	42.1	1.66	50.0	1.96	6.5	0.255
6mm			4.8	0.189	0.90	83.6	3.29	52.8	2.08	41.8	1.65	31.0	1.22	11.1	0.44	38.85	1.53	22.2	0.87	19.3	0.76	44.6	1.76	50.0	1.96	6.5	0.255
8mm			4.8	0.189	0.80	84.8	3.34	53.5	2.1	42.4	1.67	31.0	1.22	11.1	0.44	38.85	1.53	22.2	0.87	19.3	0.76	45.2	1.78	50.0	1.96	6.5	0.255
10mm			4.8	0.189	0.60	86.4	3.40	54.3	2.14	43.2	1.70	31.0	1.22	11.1	0.44	38.85	1.53	22.2	0.87	19.3	0.76	46.0	1.81	50.0	1.96	6.5	0.255
12mm			10.3	0.40	4.6	102.5	4.04	67.3	2.65	51.25	2.02	50.0	1.97	16.0	0.63	50.0	1.97	32.0	1.26	20.8	0.82	57.5	2.11	80.0	3.15	6.5	0.255
18mm			10.3	0.40	2.5	102.5	4.04	67.3	2.65	51.25	2.02	50.0	1.97	16.0	0.63	50.0	1.97	32.0	1.26	20.8	0.82	57.5	1.19	80.0	3.15	6.5	0.255
1/8''	Female NPT/ BSPT		4.8	0.189	0.3	63.6	2.50	42.9	1.7	32.0	1.26	31.0	1.22	11.1	0.44	38.85	1.53	22.2	0.87	19.3	0.76	34.6	1.36	50.0	1.96	6.5	0.255
1/4''			4.8	0.189	0.75	64.0	2.52	43.1	1.69	31.8	1.25	31.0	1.22	11.1	0.44	38.85	1.53	22.2	0.87	19.3	0.76	34.8	1.37	50.0	1.96	6.5	0.255
3/8''			4.8	0.189	0.5	69.6	2.74	45.9	1.8	34.8	1.37	31.0	1.22	11.1	0.44	38.85	1.53	22.2	0.87	19.3	0.76	37.6	1.48	50.0	1.96	6.5	0.255
1/2''			10.3	0.40	3.5	87.4	3.44	59.7	2.35	43.7	1.72	50.0	1.97	16.0	0.63	50.0	1.97	32.0	1.26	20.8	0.82	50.0	1.97	80.0	3.15	6.5	0.255
3/4''			10.3	0.40	2.5	91.0	3.58	61.5	2.42	45.5	1.79	50.0	1.97	16.0	0.63	50.0	1.97	32.0	1.26	20.8	0.82	50.0	1.97	80.0	3.15	6.5	0.255
1/8''	Female BSPP		4.8	0.189	0.3	63.6	2.50	42.9	1.7	32.0	1.26	31.0	1.22	11.1	0.44	38.85	1.53	22.2	0.87	19.3	0.76	34.6	1.36	50.0	1.96	6.5	0.255
1/4''			4.8	0.189	0.75	64.0	2.52	43.1	1.69	31.8	1.25	31.0	1.22	11.1	0.44	38.85	1.53	22.2	0.87	19.3	0.76	34.8	1.37	50.0	1.96	6.5	0.255
3/8''			4.8	0.189	0.5	69.6	2.74	45.9	1.8	34.8	1.37	31.0	1.22	11.1	0.44	38.85	1.53	22.2	0.87	19.3	0.76	37.6	1.48	50.0	1.96	6.5	0.255
1/2''			10.3	0.40	3.5	87.4	3.44	59.7	2.35	43.7	1.72	50.0	1.97	16.0	0.63	50.0	1.97	32.0	1.26	20.8	0.82	50.0	1.97	80.0	3.15	6.5	0.255
3/4''			7.1	0.40	2.5	91.0	3.58	61.5	2.42	45.5	1.79	50.0	1.97	16.0	0.63	50.0	1.97	32.0	1.26	20.8	0.82	50.0	1.97	80.0	3.15	6.5	0.255
1/8''	Male NPT/ BSPT		4.8	0.189	0.9	67.6	2.66	44.9	1.76	33.8	1.33	31.0	1.22	11.1	0.44	38.85	1.53	22.2	0.87	19.3	0.76	36.6	1.44	50.0	1.96	6.5	0.255
1/4''			4.8	0.189	0.6	76.6	3.02	49.4	1.94	38.3	1.51	31.0	1.22	11.1	0.44	38.85	1.53	22.2	0.87	19.3	0.76	41.1	1.62	50.0	1.96	6.5	0.255
3/8''			4.8	0.189	0.35	76.6	3.02	49.4	1.94	38.3	1.51	31.0	1.22	11.1	0.44	38.85	1.53	22.2	0.87	19.3	0.76	41.1	1.62	50.0	1.96	6.5	0.255
1/2''			10.3	0.40	3.0	92.4	3.64	62.2	2.45	46.2	1.82	50.0	1.97	16.0	0.63	50.0	1.97	32.0	1.26	20.8	0.82	52.5	2.07	80.0	3.15	6.5	0.255
3/4''			10.3	0.40	2.0	94.4	3.71	63.2	2.49	47.2	1.86	50.0	1.97	16.0	0.63	50.0	1.97	32.0	1.26	20.8	0.82	53.5	2.1	80.0	3.15	6.5	0.255
1/8''	Male BSPP		4.8	0.189	0.9	65.4	2.57	43.8	1.72	32.7	1.29	31.0	1.22	11.1	0.44	38.85	1.53	22.2	0.87	19.3	0.76	36.6	1.44	50.0	1.96	6.5	0.255
1/4''			4.8	0.189	0.6	76.6	3.02	49.4	1.94	38.3	1.51	31.0	1.22	11.1	0.44	38.85	1.53	22.2	0.87	19.3	0.76	41.1	1.62	50.0	1.96	6.5	0.255
3/8''			4.8	0.189	0.35	76.6	3.02	49.4	1.94	38.3	1.51	31.0	1.22	11.1	0.44	38.85	1.53	22.2	0.87	19.3	0.76	41.1	1.62	50.0	1.96	6.5	0.255
1/2''			10.3	0.40	3.0	92.4	3.64	62.2	2.45	46.2	1.82	50.0	1.97	16.0	0.63	50.0	1.97	32.0	1.26	20.8	0.82	52.5	2.07	80.0	3.15	6.5	0.255
3/4''			10.3	0.40	2.0	94.4	3.71	63.2	2.49	47.2	1.86	50.0	1.97	16.0	0.63	50.0	1.97	32.0	1.26	20.8	0.82	53.5	2.1	80.0	3.15	6.5	0.255
1/4''	Face Seal Male		4.5	0.18	0.9	75.0	2.95	48.6	1.91	37.5	1.47	31.0	1.22	11.1	0.44	38.85	1.53	22.2	0.87	19.3	0.76	40.3	1.58	50.0	1.96	6.5	0.255
1/2''			10.3	0.40	4.6	93.8	3.69	62.9	2.47	46.9	1.85	50.0	1.97	16.0	0.63	50.0	1.97	32.0	1.26	20.8	0.82	53.2	2.09	80.0	3.15	6.5	0.255

Dimensions are for reference only and are subject to change without notice.
* Refers to standard nylon handle.
** Maximum panel thickness.

DIMENSIONS FOR METAL HANDLE

VALVE END CONNECTIONS	Handle Designator	N	L
Up to 3/8 ends	M	50 MM	31 MM
Up to 3/8 ends	M7	70 MM	45 MM
From 1/2 to 3/4 ends	M	110 MM	80 MM



See Ordering Information

H6800 CNG FOR THE CNG / NGV

FEATURES

- ECE R110, Class 0 approved for the CNG / NGV
- MAWP* 3770 psig (260 barg)
- Temperature range: -40°C (-40°F) to 120°C (248°F)
- Variable LET-LOK end connection sizes: 1/4", 3/8", 6mm, 8mm,10mm
- Stainless Steel construction with spring loaded seats
- ECE Approved for 20,000 cycles

* Maximum Allowed Working Pressure.

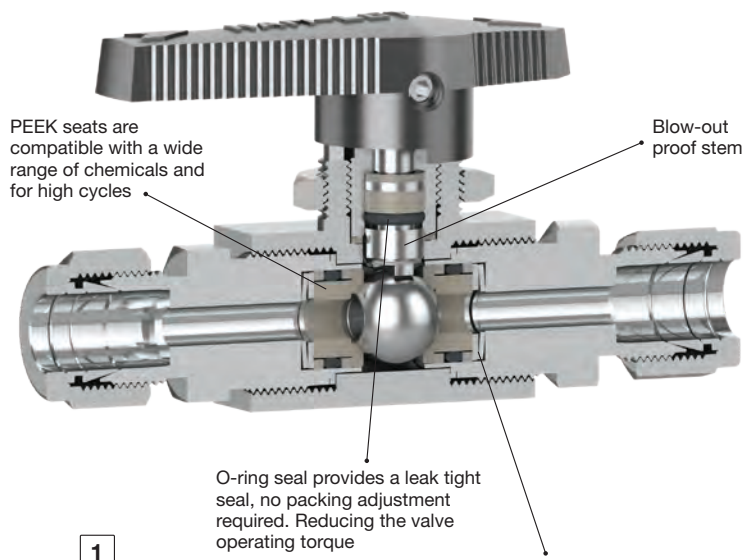
GENERAL

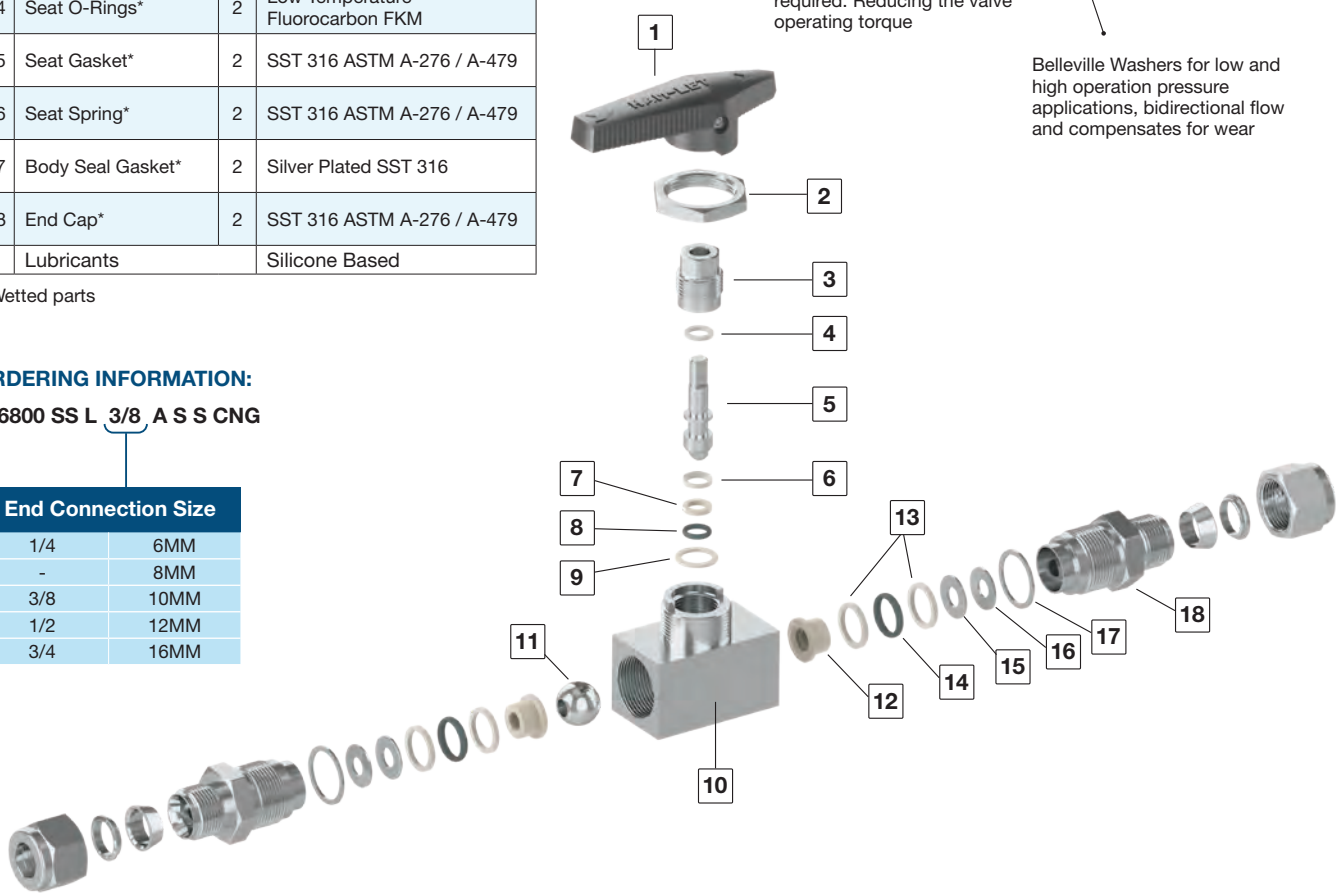
The H6800 CNG Series is a high-performance instrumentation manual ball valve for the CNG / NGV with ECE R110-type approval. The valves offer a tight shut-off, long-life service and low operating torque.
The H6800 CNG Series ball valve is rated to max. 3770 psig and performs as a manual on/off service.

MATERIALS OF CONSTRUCTION

No.	Part	Qty	Material
1	Handle	1	Nylon
2	Panel Nut	1	SST 316 ASTM A-276 / A-479
3	Packing Bolt	1	SST 316 ASTM A-276 / A-479
4	Stem Washer	1	PEEK
5	Stem*	1	SST 316 ASTM A-276 / A-479
6	Stem Upper Packing	1	PEEK
7	Stem Lower packing	1	PTFE
8	Stem O-Ring	1	Low Temperature Fluorocarbon FKM
9	Packing Bolt Gasket*	1	Silver Plated SST 316
10	Body*	1	SST ASTM A-479
11	Ball*	1	SST 316 ASTM A-276 / A-479
12	Seats*	2	PEEK
13	Seat Back Up Sealing	4	PTFE
14	Seat O-Rings*	2	Low Temperature Fluorocarbon FKM
15	Seat Gasket*	2	SST 316 ASTM A-276 / A-479
16	Seat Spring*	2	SST 316 ASTM A-276 / A-479
17	Body Seal Gasket*	2	Silver Plated SST 316
18	End Cap*	2	SST 316 ASTM A-276 / A-479
	Lubricants		Silicone Based

* Wetted parts





ORDERING INFORMATION:

H 6800 SS L 3/8 A S S CNG

End Connection Size	
1/4	6MM
-	8MM
3/8	10MM
1/2	12MM
3/4	16MM

H6800 - PNEUMATIC ACTUATED VALVES

FEATURES

- 90° Actuation for 2-way valves (Straight & Angle)
- 180° Actuation for T-type valves
- Actuators comply with industry standards for interface with ISO 5211, NAMUR and VDI/VDE 3845
- Actuated valves are available factory assembled or seperately, actuator and mounting kits
- Limit switches, proximity sensors, position indicators, solenoid valves, and other accessories are available upon request
- Standard temperature range: -32°C to 90°C (-25.6°F to 194°F)
- Optional: High Temperature, Low Temperature

GENERAL

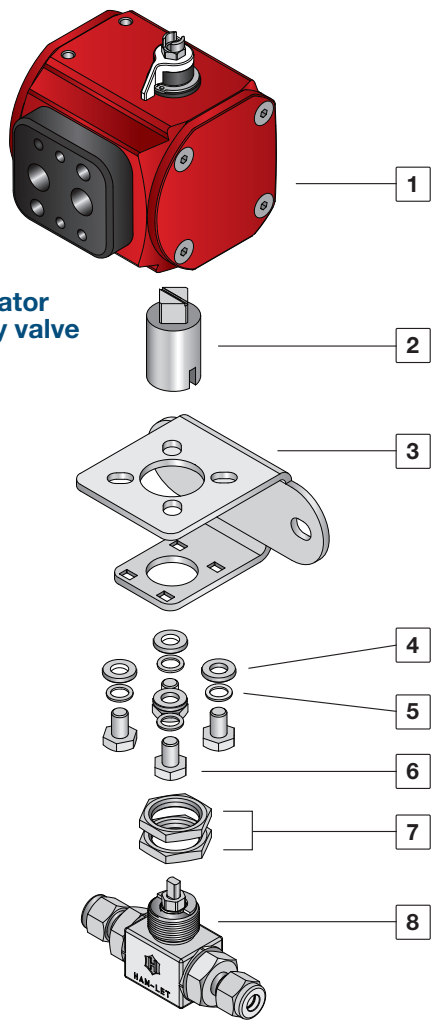
Four standard actuator sizes are available upon request: Mini (designator “A1”), Small (designator “A2”), Medium (designator “A3”), Large (designator “A4”) and 180° Actuator (designator “A2T”). Improved operational speed enables better valve opening and closing control.
ATEX certification of Valve-Actuators assemblies are available on request at the time of order quotation.

MATERIALS OF CONSTRUCTION

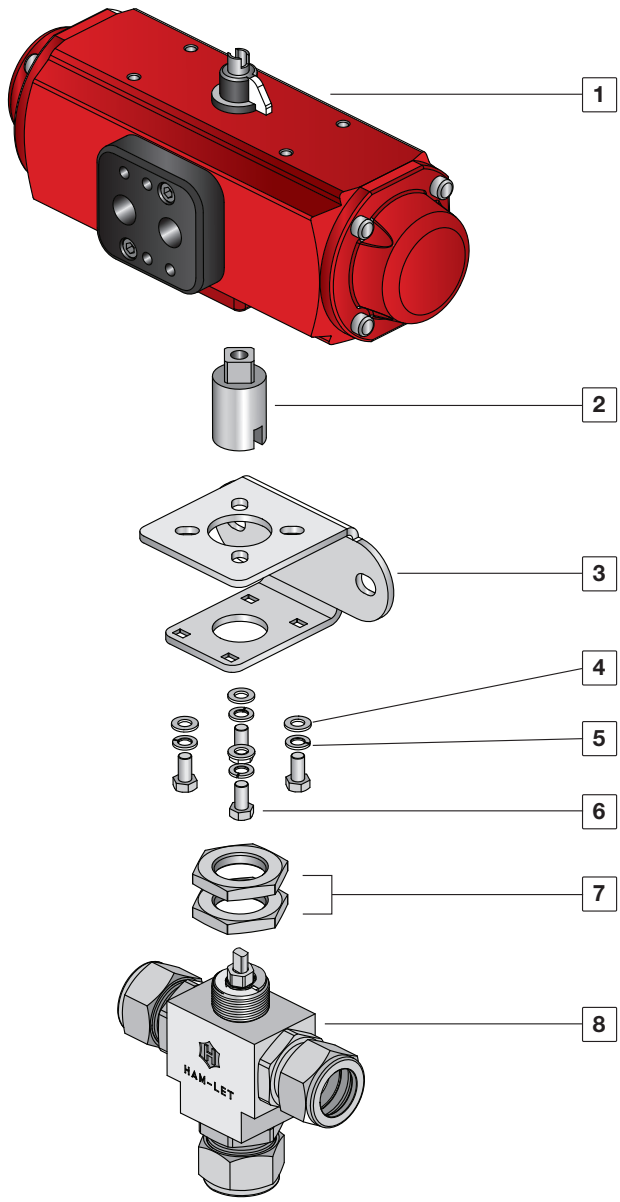
No.	Part	Qty	Material
1	Actuator	1	AL 356-T5
2	Coupling	1	SST 316
3	Bracket	1	SST 304
4	Washer Flat	4	SST 304
5	Washer Spring	4	SST 304
6	Screw	4	SST 304
7	Panel Nut	2	SST 316
8	H6800	1	SST 316 / Brass *

* Body material: SST ASTM A-276;
SST ASTM A351 Gr. CF8M; Brass ASTM B-16

90° Actuator on 2-way valve



180° Actuator on T-type valve



HAM-LET PNEUMATIC ACTUATORS

ACTUATED H6800 SERIES

The selection of Valve-Actuator assemblies provided herein is based on:

- Valve maximum allowable working pressure
- Ambient temperature (50 to 100°F /10 to 37°C)
- Actuator fits to valve based on operating pressure of 6 bar, as per table A.

To order H6800 ball valve factory assembled with an actuator, add the actuator designator to the valve part number / description per the below table.

Example:

H6800SSL1/4PSS with standard Double Acting Aluminum Actuator

H6800SSL1/4PS-A1

To order an actuator and mounting kit for field assembly:

Double acting Actuator ordering number: Z-A1

Corresponding mounting kit: Z-6800-MK-1/4-F03-F04-A1

Lubricant Free Valves:

For Spring Return Actuator - select one size bigger then offered in the table below. Example:

If the offered actuator in the table is A2C, select A3C

For Double Acting Actuator - please contact your local representative

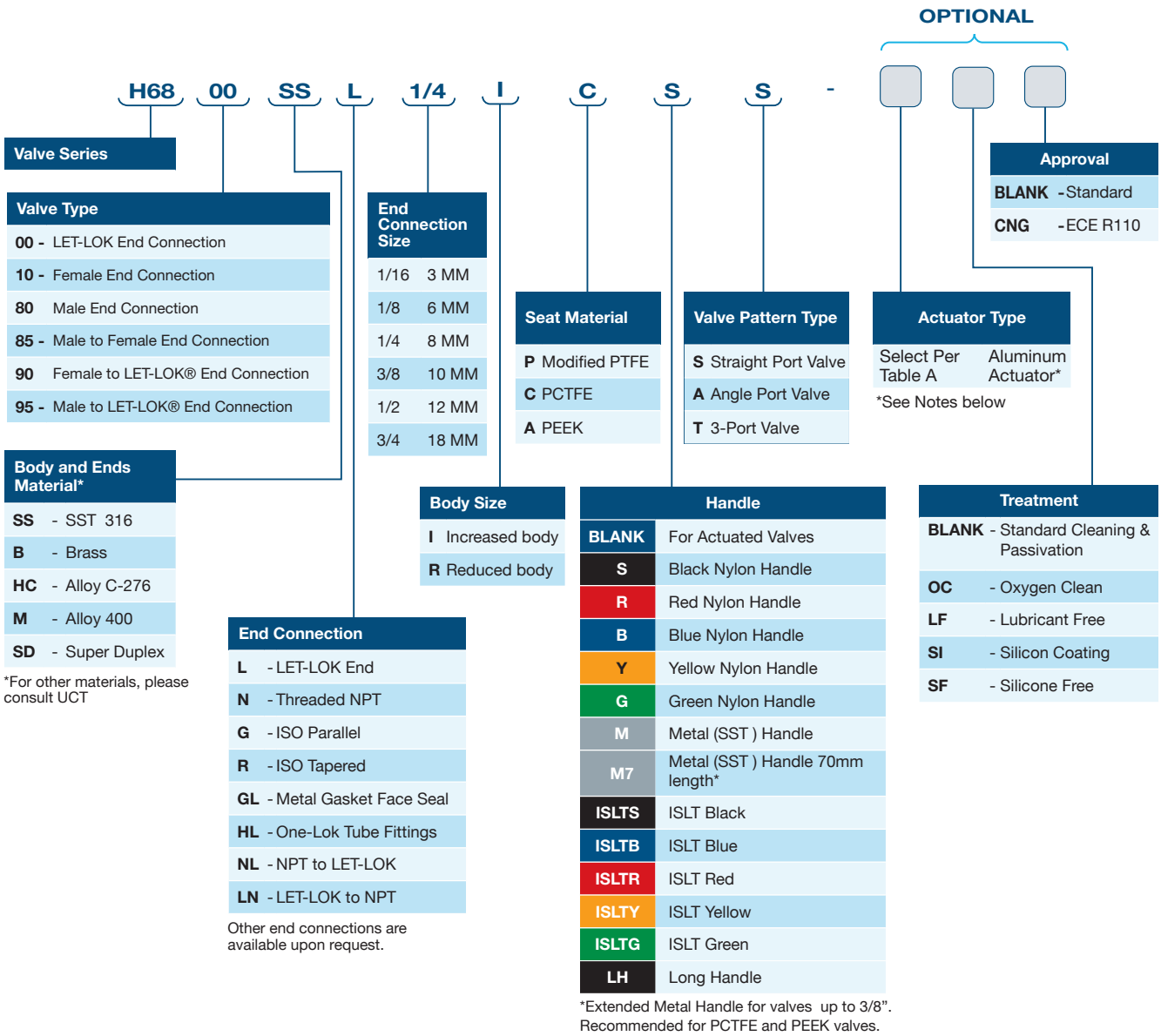
Table A: Ordering information for Actuated Valves

Series	Ends Size	Seats	Minimum Actuator Operating Pressure Bar (Psi)	Actuator Designators (Factory assembled)			Actuator Ordering Code		Mounting Kit Ordering Info
				Spring Return		Double Acting	Spring Return	Double Acting	
				NO	NC				
H6800	1/16”-3/8” (3mm-10mm)	Modified PTFE PCTFE	5 (72.5)	A1O	A1C	A1	Z-A1S	Z-A1	Z-6800-MK-1/4”-F03-F04-A1
		PEEK	5 (72.5)	A2O	A2C		Z-A2S		Z-6800-MK-1/4”-F03-F04-A2
	1/2”-3/4” (12mm-18mm)	Modified PTFE	5 (72.5)	A1O	A1C	A1	Z-A1S	Z-A1	Z-6800-MK-1/2”-F03-F04-A1
		PCTFE	5 (72.5)	A2O	A2C	A2	Z-A2S	Z-A2	Z-6800-MK-1/2”-F03-F04-A2
		PEEK	5 (72.5)	A3O	A3C		NC: Z-A3S		Z-6800-MK-1/2”-F03-F04-A3
							NO: Z-A3S		
H6800 T-type	1/16”-3/8” (3mm-10mm)	Modified PTFE PCTFE PEEK	5 (72.5)	A2TS	A2TS	A2T	Z-A2TS	Z-A2T	Z-6800-MK- 1/4”-F03-F04-A2
	1/2”-3/4” (12mm-18mm)								Z-6800-MK-1/2”-F03-F04-A2

Note: For dimensions of Actuators assembled on the H6800 series, please refer to the HPA section.

Actuated valves- in cases the valve will be cycled less frequently than once per day or more frequently than once per hour, please contact your UCT representative.

ORDERING INFORMATION H6800-HIGH PERFORMANCE BALL VALVES



ORDERING INFORMATION FOR SPARE KITS

SEAL KIT

Seal Kit includes seats, stem packings, body seals and label.

Z - 6800 - SK - 1/4 - A - 2 WAY

Kit Type	
SK	- Seal Kit

Body Designator per End Connection	
1/4	1/16 to 3/8 3MM to 10MM
1/2	1/2 to 3/4 12MM to18MM

Seat Material	
P	Modified PTFE
C	PCTFE
A	PEEK

Valve Pattern	
2 Way	For straight and angle Valves
3 Way	For T Port Valves

NOTE:
For Seal kits for "Old Design" valves, please contact a UCT representative.

HANDLE KIT

Handle kit includes handle and set screw. To order a spare-parts kit, use the following format:

Z - 6800 - HK - 1/4 - S

Kit Type	
HK	-Handle Kit

Body Designator Per End Connection	
1/4	1/16 to 3/8 3MM to 10MM
1/2	1/2 to 3/4 12MM to18MM

Handle Type	
S	Black Nylon Handle
R	Red Nylon Handle
B	Blue Nylon Handle
Y	Yellow Nylon Handle
G	Green Nylon Handle
M	Metal (SST) Handle
M7	Metal St.St Handle 70 mm*
ISLTS	ISLT Black**
ISLTB	ISLT Blue**
ISLTR	ISLT Red**
ISLTY	ISLT Yellow**
ISLTG	ISLT Green**
LH	Long Handle

*Extended Metal Handle for valves up to 3/8".
Recommended for PCTFE and PEEK valves.
** Does not fit the standard valve.

INTEGRAL SAFETY LOCK-OUT TAG-OUT DEVICE

The integral locking mechanism enables safe and easy use for valve position locking and tagging. The design prevents undesirable valve position changes, without the requirement for additional locking equipment.
Available for 2-way straight pattern; locked-open and locked-close positions.
For 3-way pattern valves, the ISLT handle can lock in the left, center and right position.

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 RELIEF VALVES

H-900 SERIES

Platinum Natural Gas Solutions
www.ptngs.com
info@ptngs.com 484.897.0345

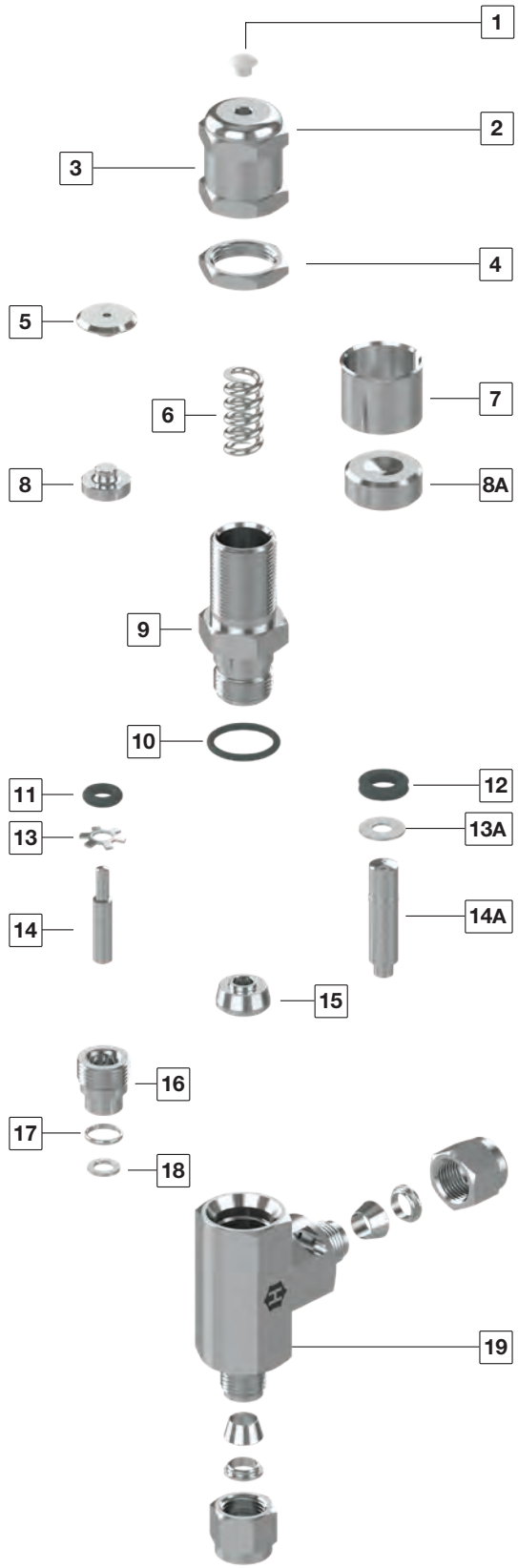
FEATURES

- SST 316 construction
- Service 10-225 psi
- MAWP* 300 psi
- One spring for all set pressure ranges
- Available in all pipe threads and LET-LOK® connections
- Option to comply with standards CE/PED
- End connections: 1/4",1/2", 6mm and 12mm

Maximum Allowable Working Pressure

GENERAL

The H-900 series is a relief valve designed for low pressure services. It is most suited for use where changes in pressure can cause process issues, system damage or personal injury.



MATERIALS OF CONSTRUCTION

Item No.	Components	Qty.	1/4" Body Size	1/2" Body Size
1	Cap Plug	1	Polypropylene	Polypropylene
2	Adjustment Cap	1	SST 316	SST 316
3	Cap Lable	1	Polyester	Polyester
4	Locking Nut	1	SST 316	SST 316
5	Upper Spring Button	1	SST 316	-
6	Spring	1	SST 302	SST 302
7	Spring Sleeve	1	-	SST 302
8	Lower Spring Button	1	SST 316	-
8A	Lower Spring Button	1	-	SST 316
9	Bonnet	1	SST 316	SST 316
10	O-Ring	1	Fluorocarbon FKM	Fluorocarbon FKM
11	O-Ring	1	Fluorocarbon FKM	-
12	Quad Ring	1	-	Fluorocarbon FKM
13	Retaining Ring	1	PH15-7 Mo	-
13A	Location Ring	1	-	SST 316
14	Stem*	1	SST 316	-
14A	Stem*	1	-	SST 316
15	*Bonded Poppet	1	SST 316 bonded with Fluorocarbon FKM	SST 316 bonded with Fluorocarbon FKM
16	Insert*	1	SST 316	-
17	Packing*	1	PTFE	-
18	Ring*	1	SST 316	-
19	Body*	1	SST 316	SST 316
	Lubricant*		Silicone based and PTFE based	

Wetted parts

PRESSURE TEMPERATURE RATING

Series	H-900 Body Size: 1/4" & 1/2"			
Seal Material	Fluorocarbon FKM	Buna N	Polychloroprene (CR)	EPDM
TEMP °C (°F)	MAX SET PRESSURE psig (bar)			
-40 (-40)	-	-	-	225 (15.5)
-34 (-30)	-	-	225 (15.5)	
-23 (-10)	-	225 (15.5)		
-18 (0)	-			
-12 (10)	225 (15.5)			
-4 (25)				
-1 (30)				
10 (50)				
65 (150)				
93 (200)				
121 (250)				
135 (275)				
148 (300)	-			

CLEANING & PACKAGING

Every H-900 series relief valve is cleaned in accordance with Standard Cleaning and Packaging Procedure 8184. Oxygen Clean & Lubricant-Free cleaning and Packaging is conducted in accordance with Special Cleaning and Packaging Procedure 8185.

TESTING

The H-900 relief valve design has been tested for proof and burst. Every H-900 relief valve is factory tested for proper assembly, set and resealing performance. No detectable leakage is allowed during the shell test.

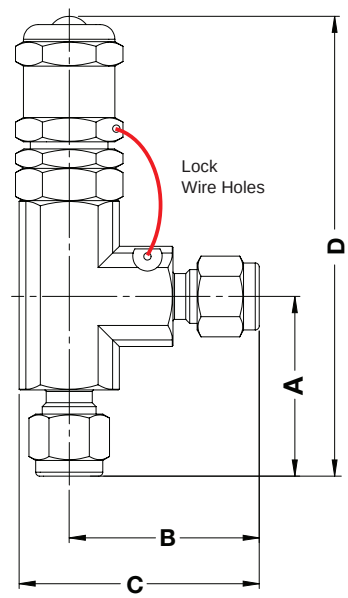
SETTING AND RESEALING PRESSURE

- Upstream set pressure is the first indicator of flow process.
  Every pressure relief after the first indication is repeatable within a deviation of 5% at room temperature.
- Blocked upstream set pressure is the first indicator of a stopped flow process and is always lower than the set pressure.
- Calculation of set pressure valve design demands
  back pressure consideration as the system back pressure increases the set pressure. To balance the system, the back pressure must be multiplied by 0.8 and the result shall be subtracted from the required set pressure.
- Lubricant-free cleaned valves have higher reseal pressure.

STANDARD CONFIGURATION DIMENSIONS

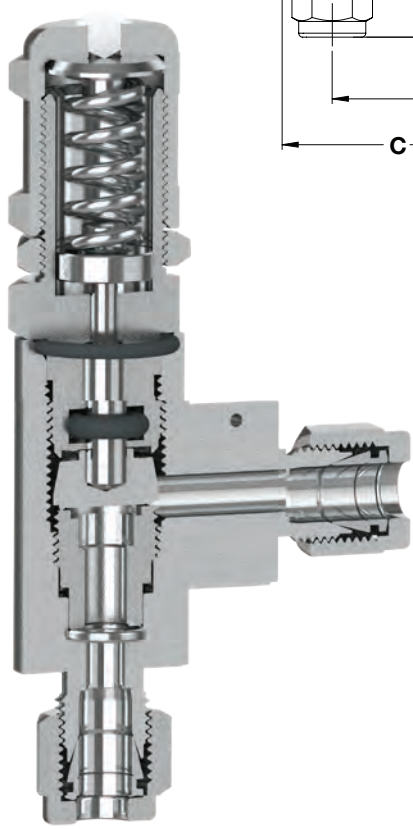
Description	Connection / size		Orifice*		Dimensions							
					A		B		C		D	
	Inlet	Outlet	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
H-900	1/4 LET-LOK	1/4 LET-LOK	4.8	0.19	37	1.45	39	1.53	50	1.97	96	3.78
H-900	6MM LET-LOK	6MM LET-LOK			37	1.45	39	1.53	50	1.97	96	3.78
H-985	1/4 Male NPT	1/4 Female NPT			32	1.26	30	1.18	40	1.57	88.6	3.49
H-995	1/4 Male NPT	1/4 LET-LOK			32	1.26	39	1.53	50	1.97	88.6	3.49
H-900	½ LET-LOK	½ LET-LOK	6.4	0.25	46.5	1.83	46.5	1.83	59.2	2.33	150	5.92
H-900	12MM LET-LOK	12MM LET-LOK			46.5	1.83	46.5	1.83	59.2	2.33	150	5.92
H-985	½ Male NPT	½ Female NPT			36.3	1.43	36.3	1.43	49	1.93	140	5.52
H-995	½ Male NPT	½ LET-LOK			36.3	1.43	46.5	1.83	59.2	2.33	140	5.52

* Orifice in fully open position



H900 RE-SEAL PRESSURE

Series	Test Set Pressure psig (bar)	Min Resealing Pressure as a Percentage of Set pressure, %
H-900	10 - 20 (0.68 to 1.3)	50
	175 - 225 (12.0 to 15.5)	90



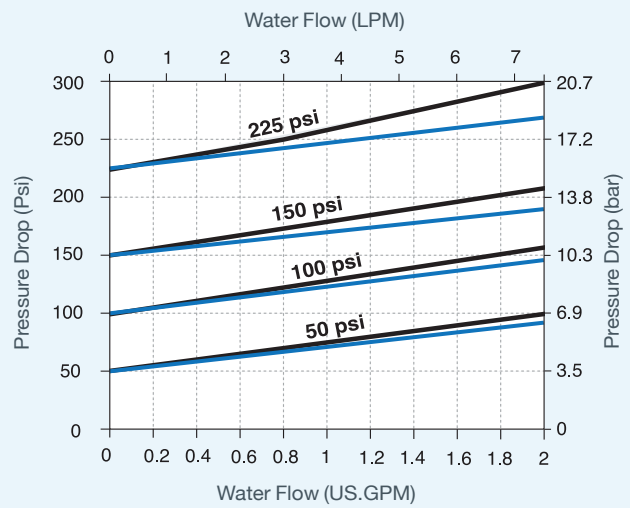
OPERATION

H-900 relief valves open when the system pressure reaches the set pressure and closes when the system pressure drops below the set pressure.

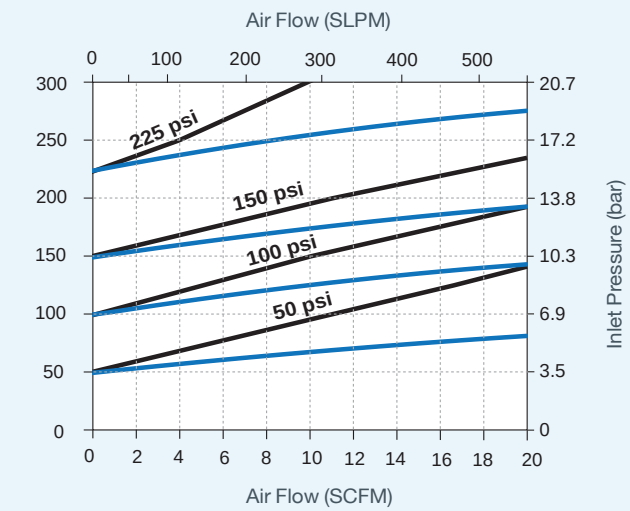
⚠ Valves that have not been actuated for some time may contain initial relief pressure higher than the set pressure.

FLOW DATA AT 70°F (20°C) SPRING 10-225PSIG

WATER FLOW

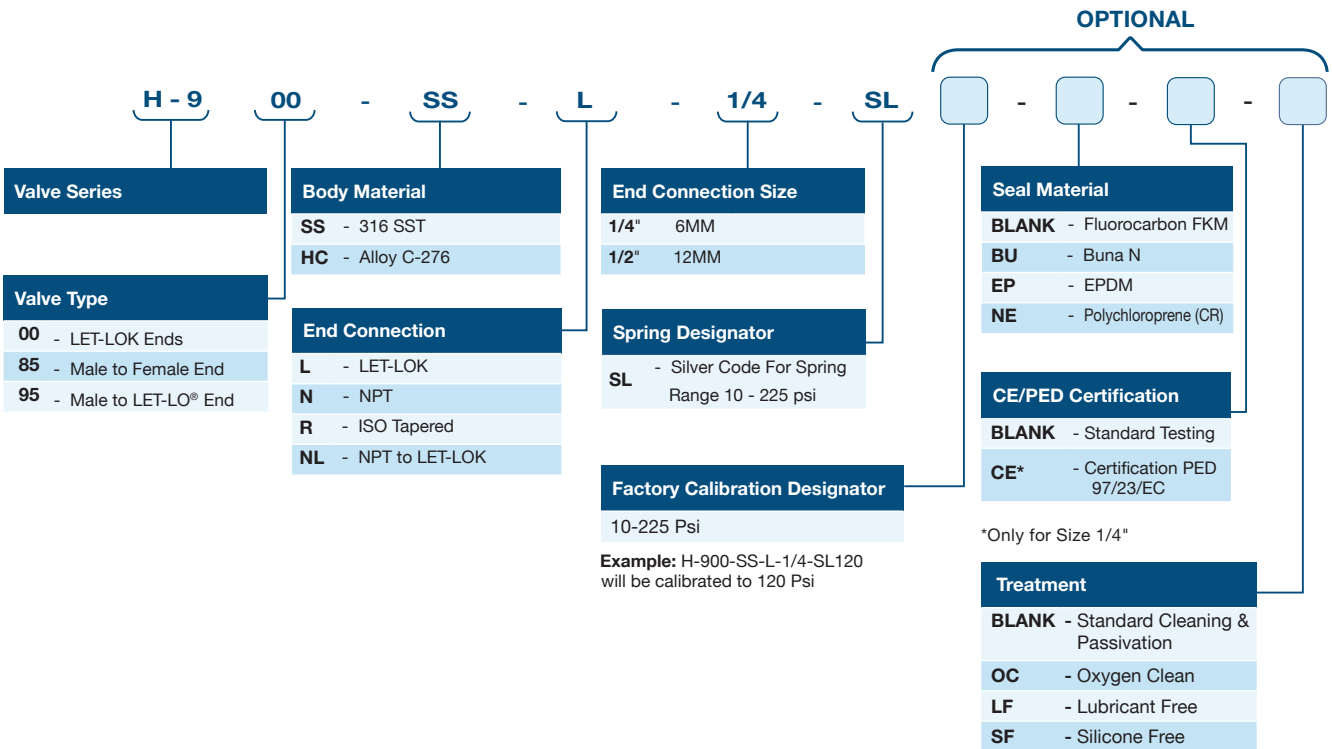


AIR FLOW



1/4" Body Size 1/2" Body Size

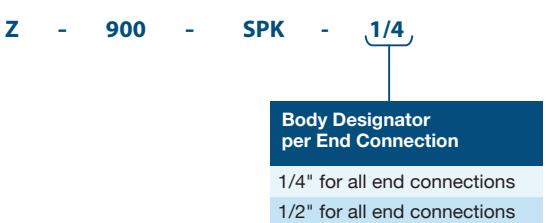
H-900 SERIES ORDERING INFORMATION



ORDERING INFORMATION FOR SPARE KITS

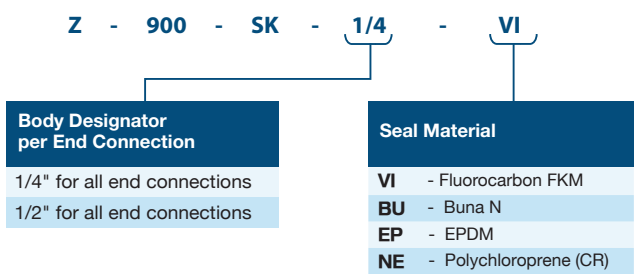
SPRING KIT

Includes: Spring, Label, wire and lock



SEAL KIT

Includes: O-rings, Bonded poppet and label



Oxygen applications work shall be carried out according to procedures for working with oxygen. In case spare kits are ordered for oxygen clean valves, such kits must be ordered as oxygen clean by adding "-OC" designator.
Example: Z-900-SK-1/4-VI-OC

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.

UCT

HIGH PRESSURE RELIEF VALVES

HAM-LET H-900HP SERIES

Platinum Natural Gas Solutions
www.ptngs.com
info@ptngs.com 484.897.0345

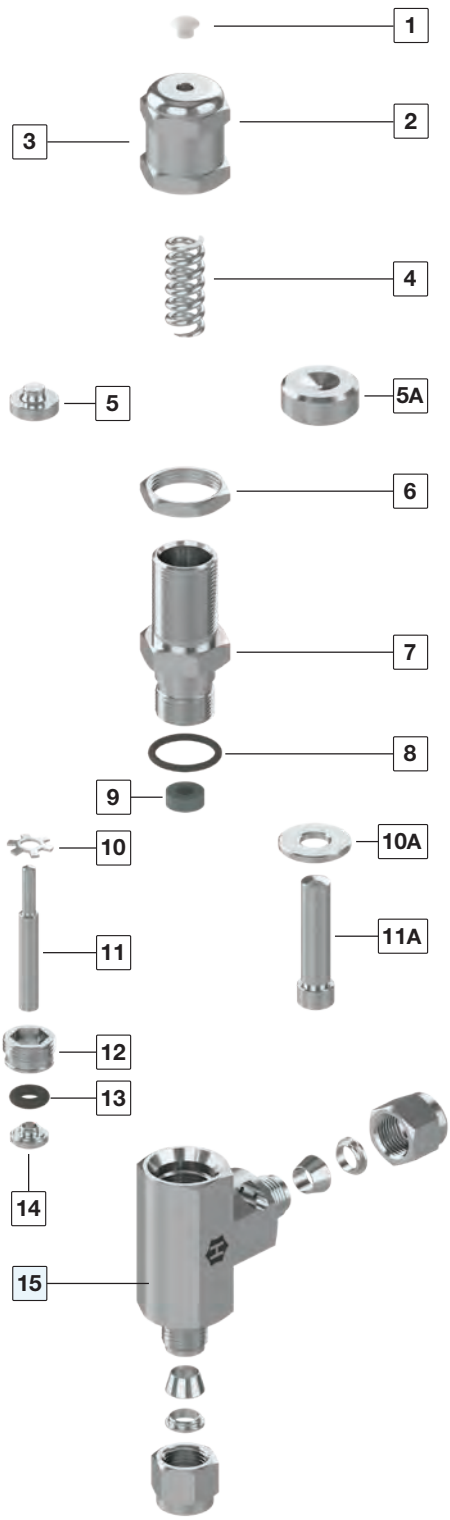
FEATURES

- SST 316 construction
- MAWT* up to 6000 psi
- Set Pressure from 50 psig to 6000 psig (3.50 to 414 bar)
- Identifying colored springs for each pressure range
- Replaceable springs for variable pressure ranges
- Available in all pipe threads and LET-LOK® connections
- Option to comply with standards CE/PED
- Sizes range: 1/4",1/2", 6mm and 12mm

*Maximum Allowed Working Pressure

GENERAL

The H-900 HP Series is a relief valve designed for high-pressure services. It is most suited for use where changes in pressure can cause process issues, system damage or personal injury.



MATERIALS OF CONSTRUCTION

Item No.	Components	Qty.	1/4" Body Size	1/2" Body Size
1	Cap Plug	1	Polypropylene	Polypropylene
2	Label	1	Polyester	Polyester
3	Adjustment Cap	1	SST 316	SST 316
4	Spring	1	SST 302,17-7PH	SST 302,17-7PH
5	Lower Spring Button	1	SST 316	-
5A	Lower Spring Button	1	-	SST 316
6	Locking Nut	1	SST 316	SST 316
7	Bonnet	1	SST 316	SST 316
8	O-Ring	1	Fluorocarbon FKM	Fluorocarbon FKM
9	Quad Ring	1	Fluorocarbon FKM	Fluorocarbon FKM
10	Retaining Ring	1	PH15-7 Mo	-
10A	Location Ring	1	-	SST 316
11	Stem*	1	SST 316	-
11A	Stem*	1	-	SST 316 bonded with Fluorocarbon FKM
12	Clamps Screw*	1	SST 316	-
13	O-Ring*	1	Fluorocarbon FKM	-
14	Insert*	1	SST 316	-
15	Body*	1	SST 316	SST 316
	Lubricant*		Silicone based and PTFE based	

* Wetted parts

PRESSURE TEMPERATURE RATING

Series	H-900HP Body Size: 1/4" & 1/2"			
Seal Material	Fluorocarbon FKM	Buna N	Polychloroprene (CR)	EPDM
TEMP °C (°F)	MAX SET PRESSURE psig (bar)			
-40 (-40)	-	-	-	-
-34 (-30)				
-23 (-10)			6000 (413)	
-18 (0)		6000 (413)		
-12 (10)				
-4 (25)	6000 (413)			
-1 (30)				6000 (413)
10 (50)				
65 (150)	5600 (386)	5600 (386)	5600 (386)	5600 (386)
93 (200)	5200 (358)	5200 (358)	5200 (358)	5200 (358)
121 (250)	4900 (338)	4900 (338)	4900 (338)	4900 (338)
135 (275)	-	-	4700 (324)	-
148 (300)				

CLEANING & PACKAGING

Every H-900HP series relief valve is cleaned in accordance with Standard Cleaning and Packaging Procedure 8184.
Oxygen Clean & Lubricant-Free Cleaning and packaging is conducted in accordance with Special Cleaning and Packaging Procedure 8185.

TESTING

The H-900HP Relief Valve design has been tested for proof and burst. Every H-900HP Relief Valve is factory tested for proper assembly, set and resealing performance.
No detectable leakage is allowed during the shell test.

NOMINAL CRACKING PRESSURE RANGE FOR 1/4"

psig	Bar	Spring Designator	Color
50-350	3.4 - 24	A	White
350-750	24 - 51.5	B	Blue
750-1500	51.5 - 103	C	Gold
1500-2250	103 - 155	D	Turquoise
2250-3000	155 - 206	E	Green
3000-4000	206 - 275	F	Red
4000-5000	275 - 344	G	Silver
5000-6000	344 - 413	H	Black

NOMINAL CRACKING PRESSURE RANGE FOR 1/2"

psig	Bar	Spring Designator	Color
50-350	3.4 - 24	A	White
350-750	24 - 51.5	B	Blue
750-1500	51.5 - 103	C	Gold

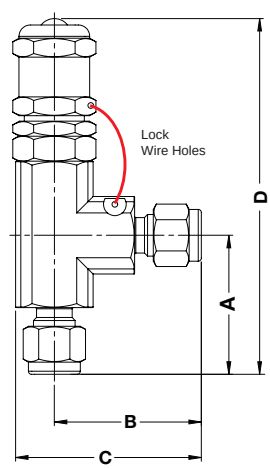
STANDARD CONFIGURATION DIMENSIONS

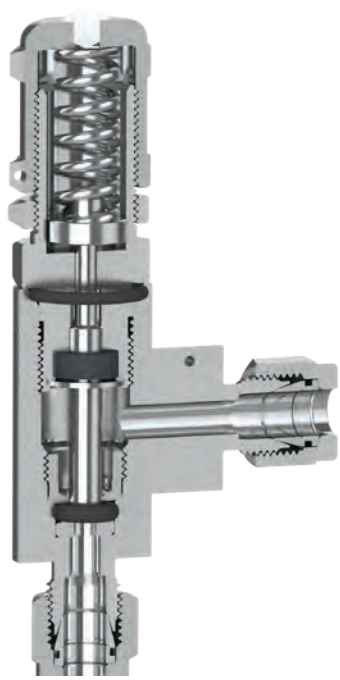
Description	Connection / size		Orifice*		Dimensions							
					A		B		C		D	
	Inlet	Outlet	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
H-900HP	1/4 LET-LOK	1/4 LET-LOK	3.6	0.14	37	1.45	39	1.53	50	1.97	96.0	3.78
H-900HP	6MM LET-LOK	6MM LET-LOK			37	1.45	39	1.53	50	1.97	96.0	3.78
H-985HP	1/4 Male NPT	1/4 Female NPT			32	1.26	30	1.18	40	1.57	88.6	3.49
H-995HP	1/4 Male NPT	1/4 LET-LOK			32	1.26	39	1.53	50	1.97	88.6	3.49
H-900HP	1/2 LET-LOK	1/2 LET-LOK	6.4	0.25	46.5	1.83	46.5	1.8	59.2	2.33	150	5.92
H-900HP	12MM LET-LOK	12MM LET-LOK			46.5	1.83	46.5	1.83	59.2	2.33	150	5.92
H-985HP	1/2 Male NPT	1/2 Female NPT			36.3	1.43	36.3	1.43	49	1.93	140	5.52
H-995HP	1/2 Male NPT	1/2 LET-LOK			36.3	1.43	46.5	1.83	59.2	2.33	140	5.52

* Orifice in fully open position

SETTING AND RE-SEALING PRESSURE

- Upstream set pressure is the first indicator of flow process. Every pressure relief after the first is repeatable within a deviation of 5% at room temperature.
- Blocked upstream set pressure is the first indicator of a stopped flow process and is always lower than the set pressure.
- Lubricant-Free cleaned valves have higher reseal pressure.





H-900HP RE-SEAL PRESSURE

Series	Test Set Pressure psig (bar)	Min Resealing Pressure as a Percentage of Set Pressure, %
H-900HP	100 - 200 (6.8 to 13.7)	50
	850 - 1000 (58.5 to 68.9)	84

FLOW DATA AT 70°F (20°C) FOR 1/4" BODY SIZE

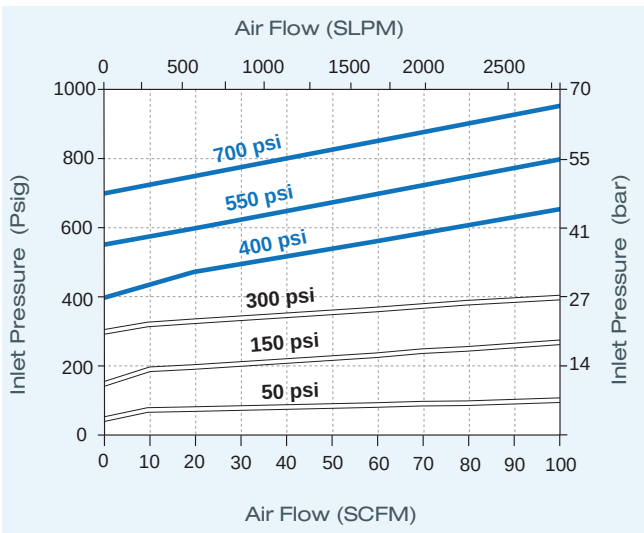
A

SPRING 50-350psig

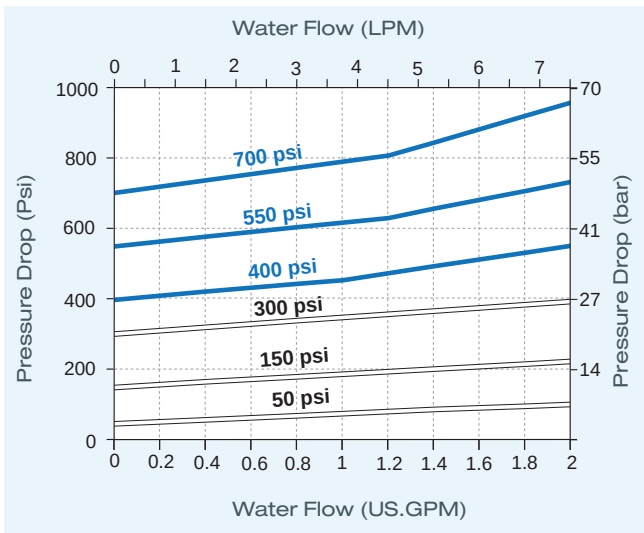
B

SPRING 350-750psig

AIR FLOW



WATER FLOW



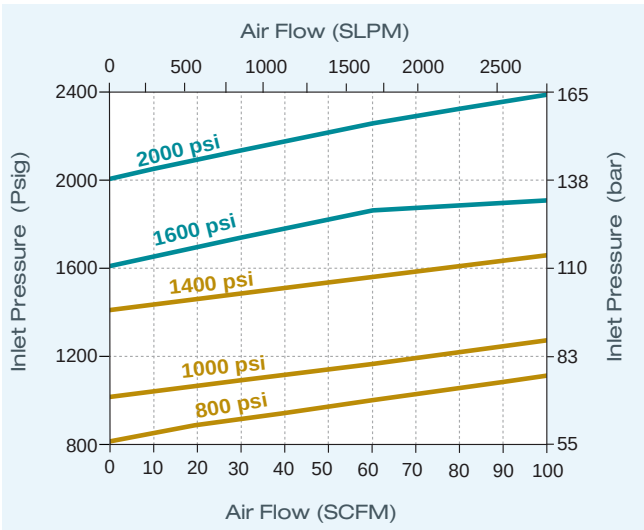
C D

SPRING 750-1500psig

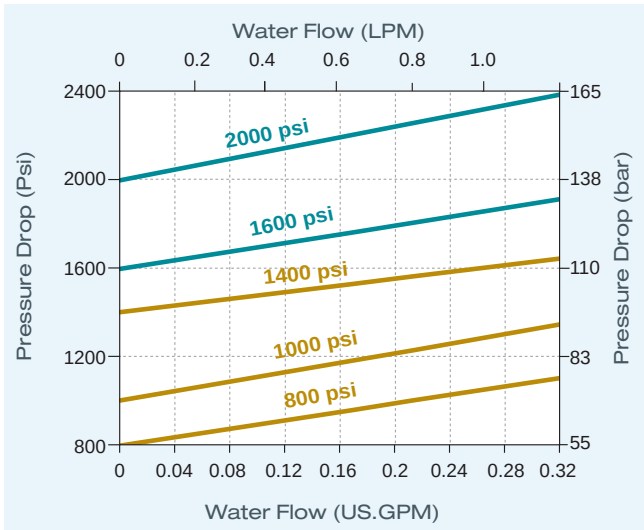
D

SPRING 1500-2250psig

AIR FLOW



WATER FLOW

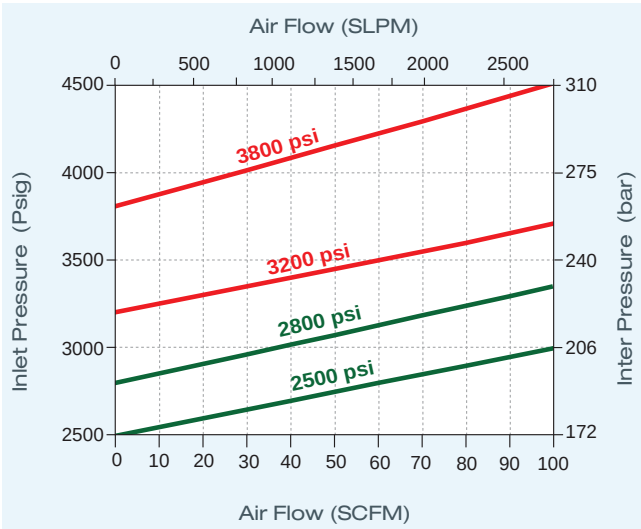


FLOW DATA AT 70°F (20°C) FOR 1/4" BODY SIZE

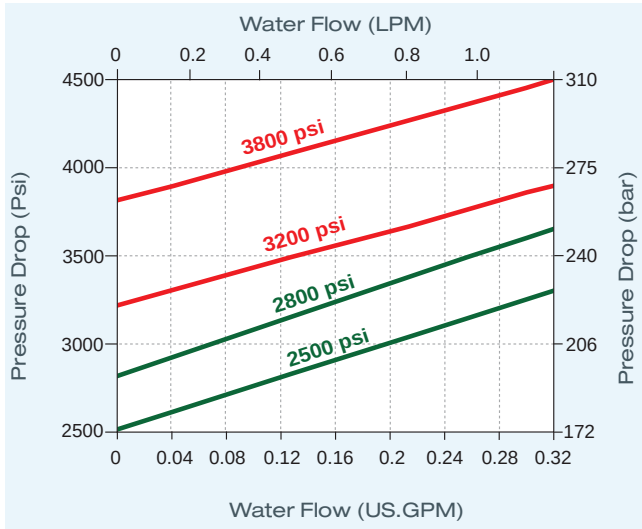
E
SPRING 2250-3000psig

F
SPRING 3000-4000psig

AIR FLOW



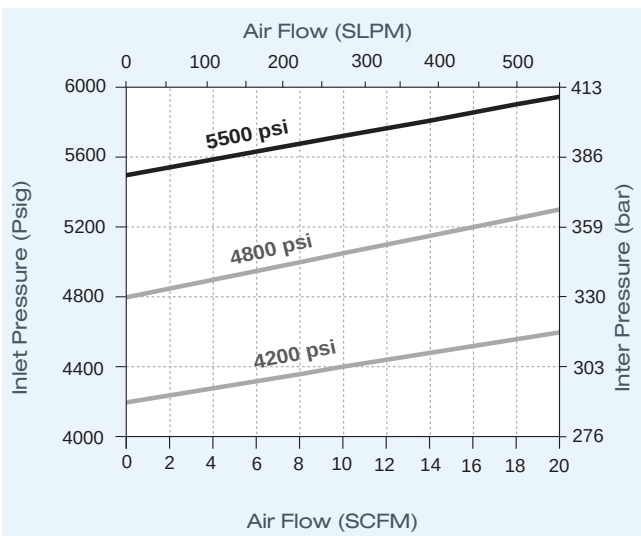
WATER FLOW



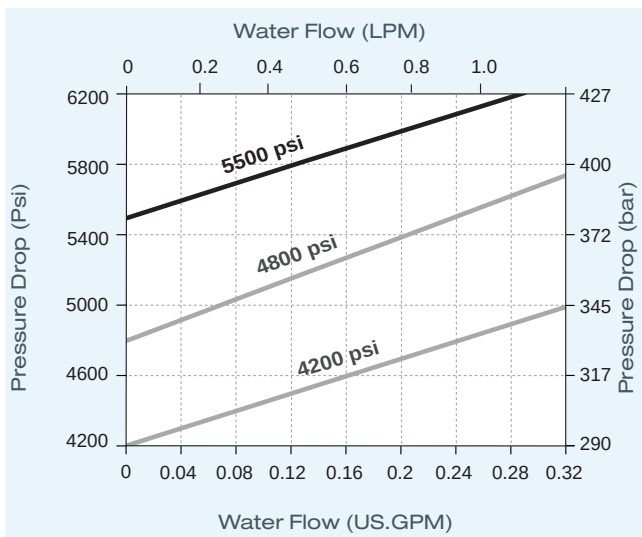
G
SPRING 4000-5000psig

H
SPRING 5000-6000psig

AIR FLOW



WATER FLOW



FLOW DATA AT 70°F (20°C) FOR 1/2" BODY SIZE

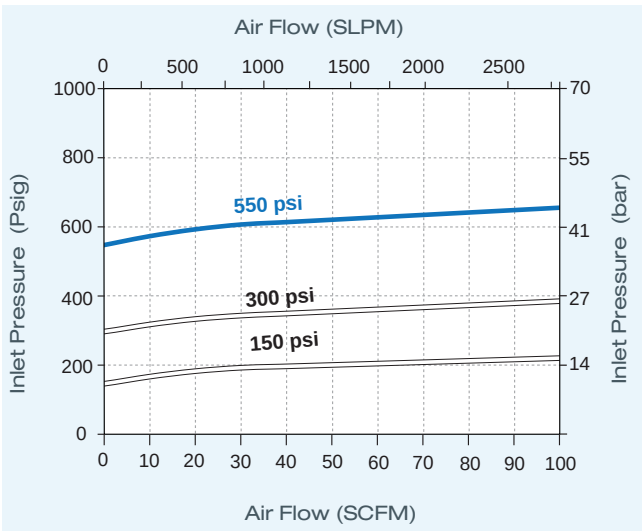
A

SPRING 50-350psig

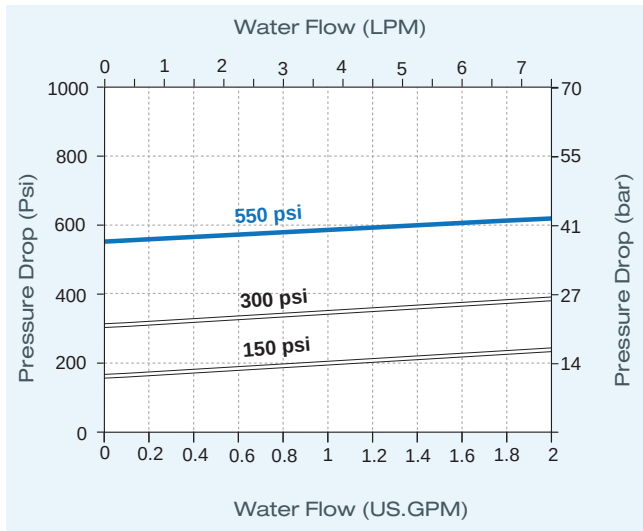
B

SPRING 350-750psig

AIR FLOW



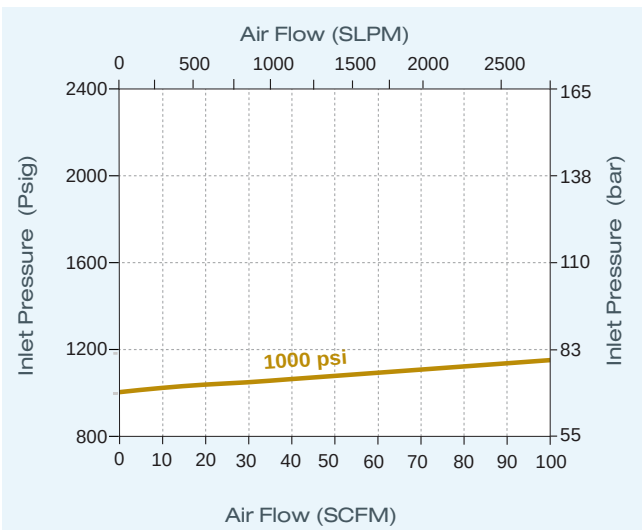
WATER FLOW



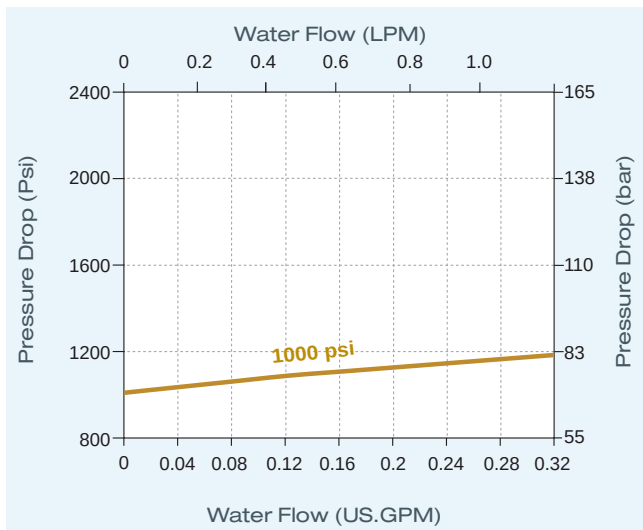
C

SPRING 750-1500psig

AIR FLOW



WATER FLOW

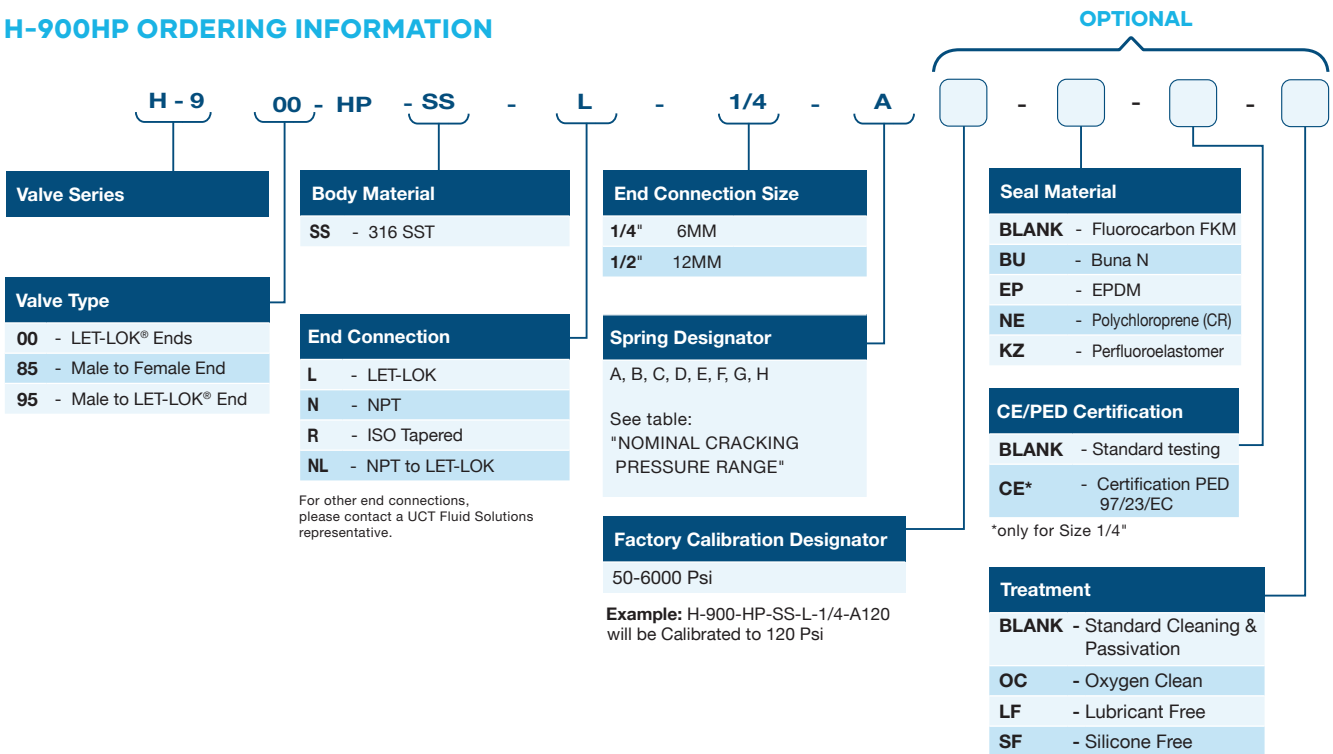


OPERATION

H-900HP relief valves open when the system pressure reaches the set pressure and closes when the system pressure drops below the set pressure.

⚠ Valves that have not been actuated for some time may contain initial relief pressure higher than the set pressure.

H-900HP ORDERING INFORMATION



ORDERING INFORMATION FOR SPARE KITS

SPRING KIT

Includes:
Spring (specific to desired set pressure range) and label.

Z - 900 - HP - SPK - 1/4 - A

Body Designator per End Connection	Spring Designator
1/4" for all end connections	A, B, C, D, E, F, G, H
1/2" for all end connections	See table above

SEAL KIT

Includes: O-Rings and label

Z - 900 - HP - SK - 1/4 - VI

Body Designator per End Connection	Seal Material
1/4" for all end connections	VI - Fluorocarbon FKM
1/2" for all end connections	BU - Buna N
	EP - EPDM
	NE - Polychloroprene (CR)
	KZ - Perfluoroelastomer

For oxygen applications work shall be carried out according to procedures for working with oxygen. In case spare kits are ordered for oxygen clean valves, such kits must be ordered as oxygen clean by adding "-OC" designator.
Example: Z-900-HP-SK-1/4-VI-OC

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.

UCT

INDUSTRIAL EXCESS FLOW VALVES

HAM-LET H-911 SERIES

FEATURES

- Stainless Steel construction
- MAWP* 6000 psi (413 bar)
- MAWT** 400°F (204°C)
- Variable connection sizes 1/8 to 1/2'' & 6mm to 12 mm
- Flow coefficient (Cv) 0.5 To 1.1
- Safety System Shut-off Device

* Maximum Allowed Working Pressure
**Maximum Allowed Working Temperature

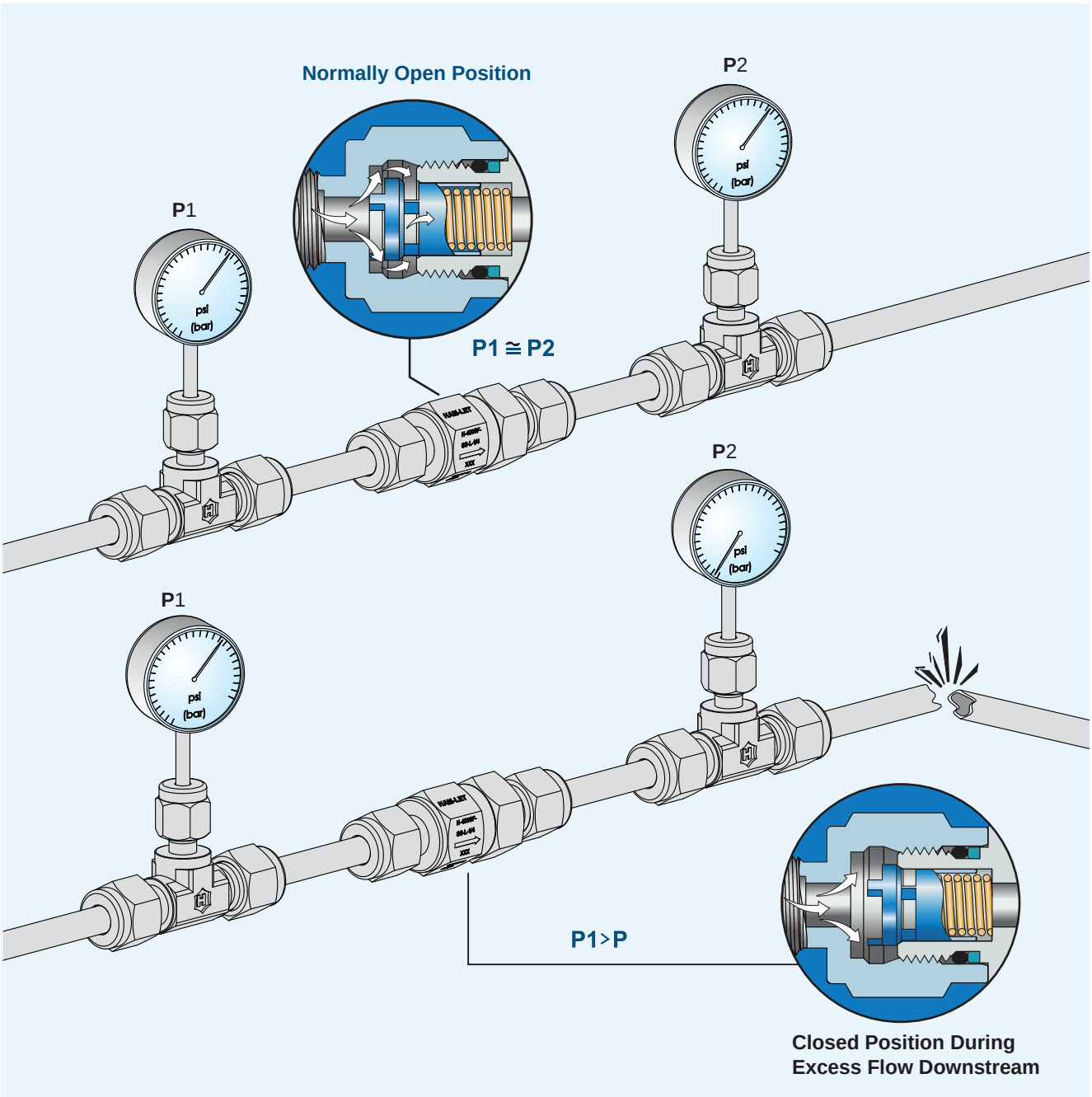
GENERAL

The poppet is loaded by a spring in a normally open position, as long as the system is balanced. If the system becomes unbalanced and the downstream pressure drops, the poppet moves towards the sealing area and prevents free, uncontrolled excess flow from the line.
If the downstream pressure increases, the ventilation outlet ("bleeding") enables the system to balance the pressures (with the help of the spring) and reset the system. In this situation, the poppet reverts back to Normally Open.

Excellent for Automatic Safety Shutoff in a wide range of areas:

- Fuel systems
- Toxic media systems
- Gas systems
- Valued media systems
- Hydraulic & Pneumatic systems.

OPERATING PRINCIPLE



CLEANING & PACKAGING

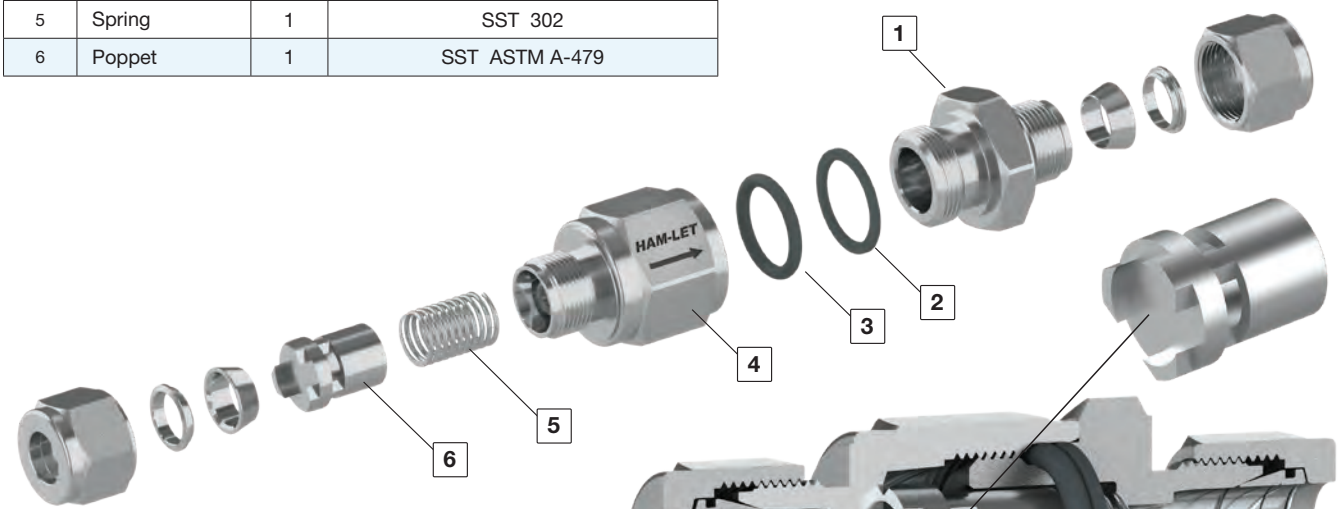
Every H-911 series excess flow valve is cleaned in accordance with Standard Cleaning and Packaging (procedure 8184). Oxygen Clean & Lubricant-Free Cleaning and Packaging, in accordance with Special Cleaning and Packaging (procedure 8185), is available as an option.

TESTING

The design of the H-911 Valves has been tested for proof and burst. Every H-911 valve is factory tested for proper assembly with Nitrogen at 1000 psig (68 bar).
No detectable leakage is allowed during shell test.

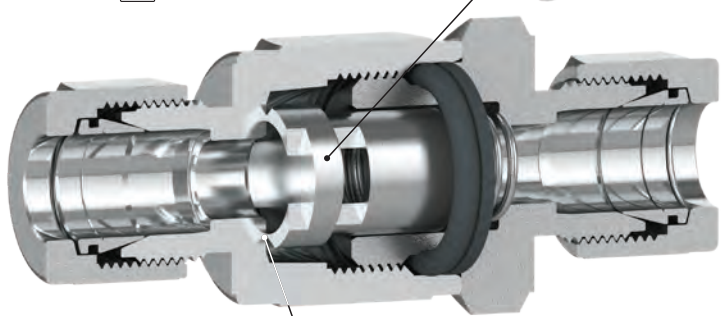
MATERIALS OF CONSTRUCTION

Item.	Components	Qty.	Valve Body Material
1	Cap	1	SST ASTM A-479
2	O-ring	1	Fluorocarbon FKM
3	O-ring	1	Fluorocarbon FKM
4	Body	1	SST ASTM A-479
5	Spring	1	SST 302
6	Poppet	1	SST ASTM A-479



5 Spring
Resets the system back to the normally open position when the downstream pressure equalizes the upstream pressure.

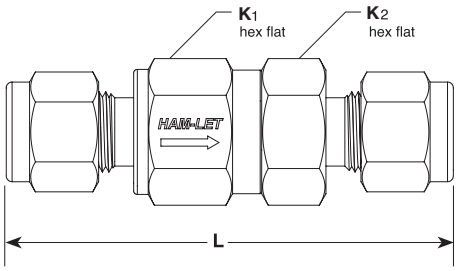
6 Poppet
- Produced from stainless steel.
- Enables high flow rates.
- Improves reliability and performance.



Closed Postion

Metal Sealing
Improves stability and repeatability.
Does not require maintenance.

STANDARD CONFIGURATION DIMENSIONS



End Connection		Dimensions: inch (mm)		
Type	Size	L	K1	K2
LET-LOK® Tube Fittings	1/4''	2.43 (61.7)	11/16	11/16
	3/8''	2.75 (69.9)	1	1
	1/2''	2.97 (75.4)		
	6 mm	2.43 (61.7)	11/16	11/16
	8 mm	2.70 (68.6)	1	1
	10 mm	2.80 (71.1)	1	1
	12 mm	2.96 (75.2)		
Female NPT	1/8''	1.87 (47.5)	11/16	11/16
	1/4''	2.12 (53.8)	11/16	11/16
	3/8''	2.55 (64.8)	1	1
	1/2''	3.03 (77.0)	1	1
Male NPT	1/8''	1.79 (45.5)	11/16	11/16
	1/4''	2.17 (55.1)		
	3/8''	2.36 (59.9)	1	1
	1/2''	2.73 (69.3)		
Male NPT to LET-LOK® Tube Fittings	1/4''	2.30 (58.4)	11/16	11/16
	3/8''	2.56 (65.0)	1	1
	1/2''	2.85 (72.4)		
Male to Female NPT	1/4''	2.13 (54.1)	11/16	11/16
	3/8''	2.46 (62.5)	1	1
	1/2''	2.89 (73.4)	1	1
Male Face Seal	1/4''	2.28 (57.9)	11/16	11/16
	1/2''	2.73 (69.3)	1	1

Dimensions are for reference only and are subject to change.

PRESSURE TEMPERATURE RANGES FOR 316 St.St

Temperature F° (C°)	Working Pressure, psi (bar)
-10 (-23) to 100 (37)	6000 (413)
200 (93)	5160 (355)
250 (121)	4910 (338)
300 (148)	4660 (321)
400 (204)	4280 (294)

PRESSURE TEMPERATURE RANGES

O-ring Material	Temperature Rating F° (C°)
Fluorocarbon FKM	-15° to 400 (-26 to 204)
Buna-N	-40° to 250 (-40 to 121)
Ethylene Propylene	-50° to 300 (-45 to 148)
Perfluor	-10° to 400 (-23 to 204)
Polychloroprene (CR)	-40° to 250 (-40 to 121)

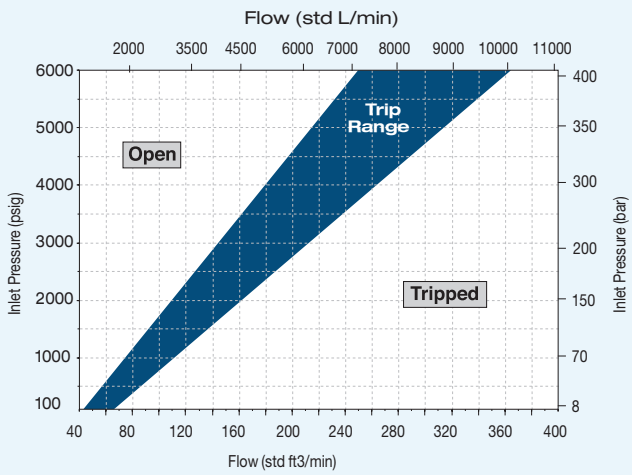
Fluorocarbon FKM O-Rings are standard.
For other O-Ring materials, see ordering information.
For O-Ring materials that are not in this table, please consult a UCT representative.

- 5000 psi (344 bar) for the H-911 Series with end connection 3/8 NPT female.
- 4600 psi (316 bar) for the H-911 Series with end connection 1/2 NPT female.

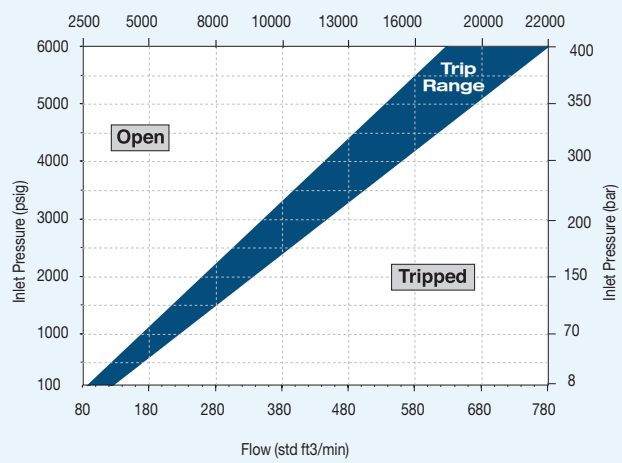
FLOW DATA AT 70°F (20°C)

For springs with other trip ranges, consult a UCT FLUID SOLUTIONS representative.

AIR FLOW - CONNECTION
SIZES: 1/4", 6MM



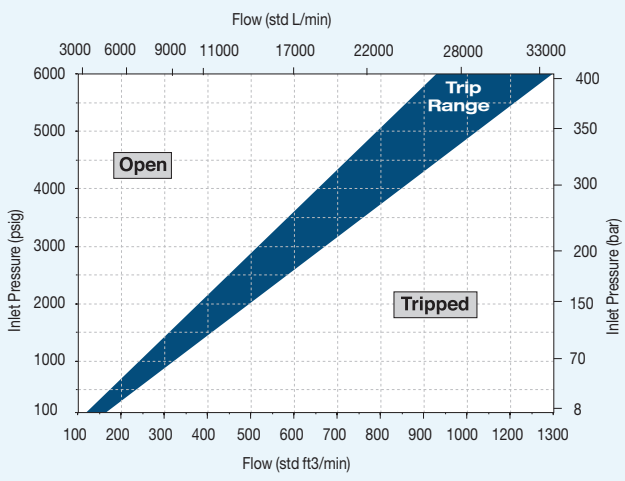
AIR FLOW - CONNECTION
SIZES: 3/8", 10MM



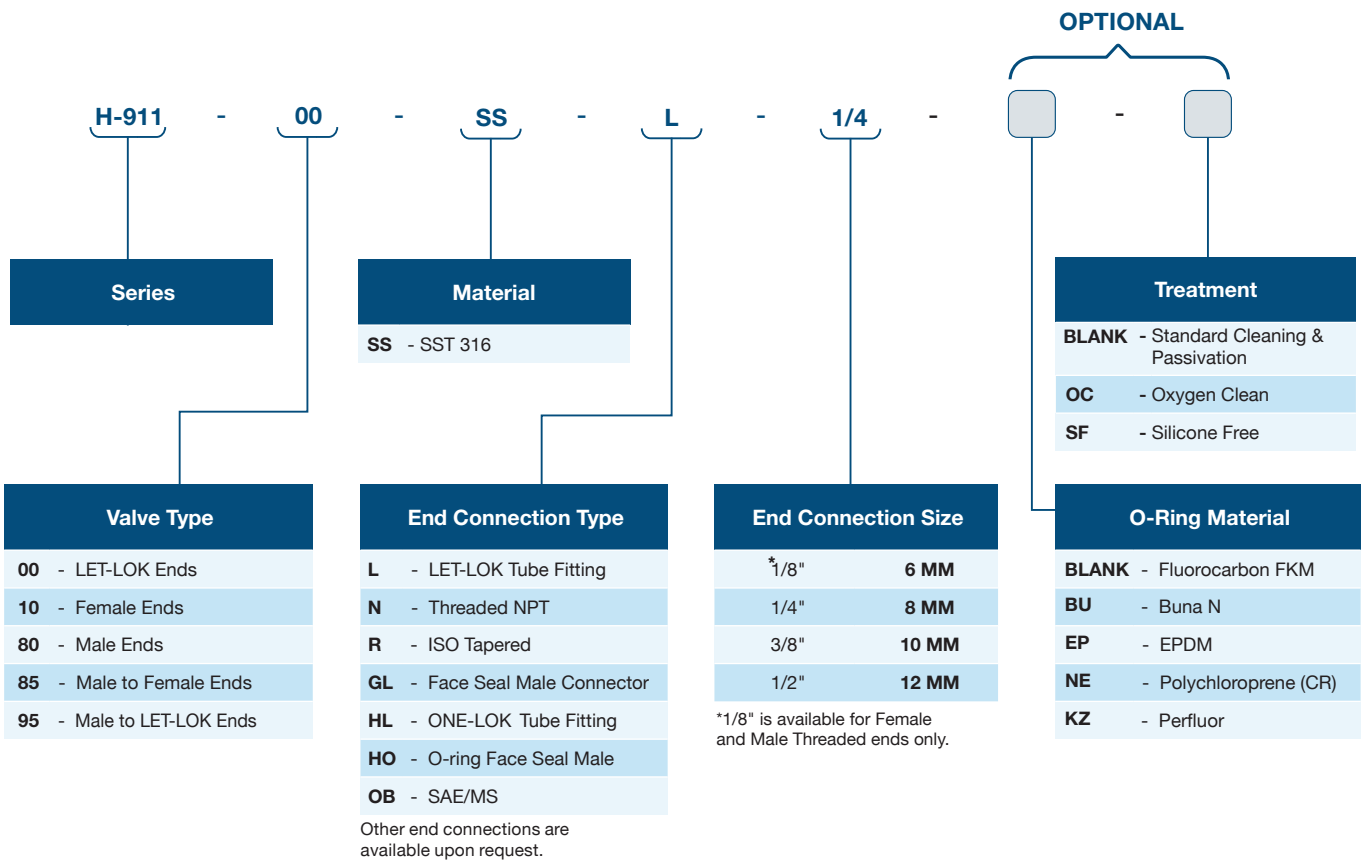
WATER FLOW

Connection Size	CV	Trip Range U.S. gal/min (L/min)
1/8", 1/4", 6mm	0.5	3.9 to 5.8 (14.7 to 21.9)
3/8", 8mm", 10mm	1.1	8.2 to 10.0 (31.0 to 37.9)
1/2", 12mm		11.2 to 14.9 (42.4 to 56.4)

AIR FLOW - CONNECTION
SIZES: 1/2", 12MM



H-911 SERIES ORDERING INFORMATION



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.

TOGGLE VALVES

HAM-LET H-1200 SERIES

Platinum Natural Gas Solutions
www.ptngs.com
info@ptngs.com 484.897.0345

FEATURES

- Compact rugged design
- Stainless Steel and Brass construction
- Panel mountable
- Quick On/Off service
- Straight and angle patterns available
- Sizes: 1/8" & 1/4"
- LET-LOK®, male and female NPT ends
- Pressure rating up to 300 psig (20 Bar) at 20°C (70°F)
- Temperature rating: -20°F to 200°F (-28°C to 93°C)
- Flow coefficient (Cv) 0.11 to 0.2
- Colored nylon handles

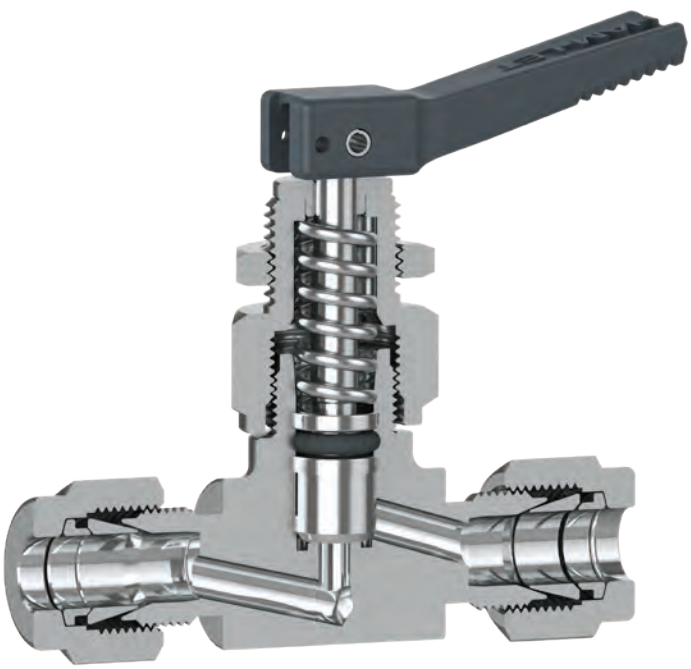
GENERAL

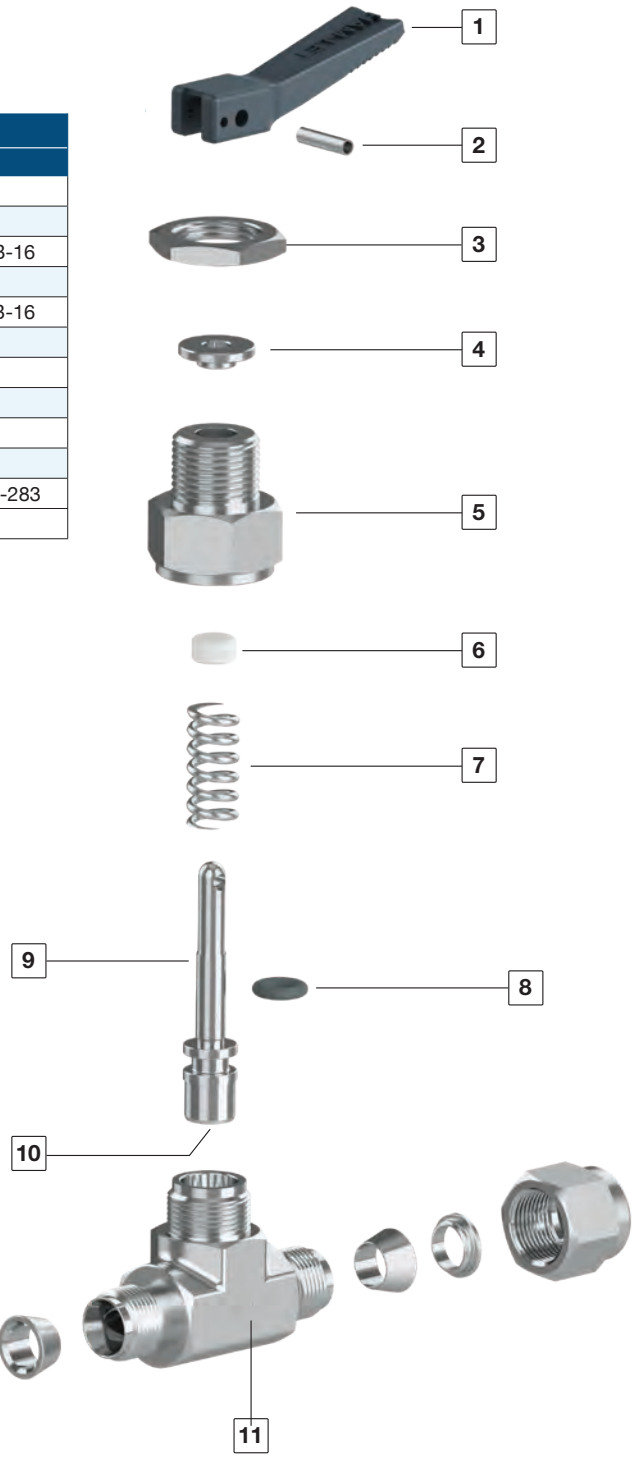
The H-1200 Series standard toggle valve is a compact design for normally closed and quick on/off service. Moving the handle 90 degrees upwards opens the valve to full flow and stops it firmly in the open position. Shifting the handle position downwards shuts off the valve by spring return. The PTFE soft seat at the tip of the stem provides a positive repetitive seal.

MATERIALS OF CONSTRUCTION

Item	Components	Qty.	Valve Body Material	
			316 St.St.	Brass
1	Handle	1	Nylon	
2	Roll Pin	1	St.St. 420 SS	
3	Panel Nut	1	St.St. ASTM A-276	Brass ASTM B-16
4	Washer	1	Nylon	
5	Packing Nut	1	St.St. ASTM A-276	Brass ASTM B-16
6	Thrust Washer	1	N/A	Nylon
7	Spring	1	302SS / A313	
8	*O-ring	1	Fluorocarbon FKM	
9	*Stem	1	St.St. ASTM A-276	
10	*Stem Seat	1	PTFE	
11	*Body	1	St.St. ASTM A-182	Brass ASTM B-283
	Lubricant		Silicone based and PTFE based	

* Wetted parts



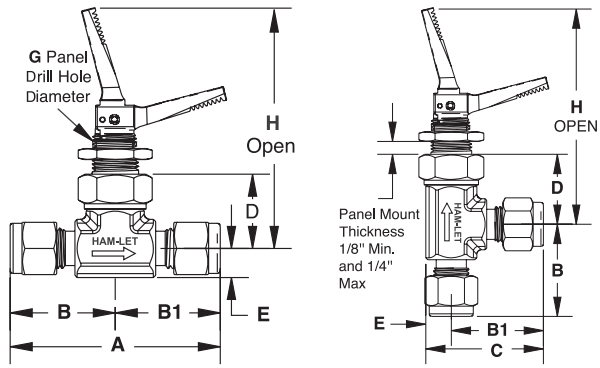


TESTING

All H-1200 Series designs have been tested and approved for burst and pressure. All valves are factory tested with Nitrogen pressure at 300 psig (20.7 bar) for shell, stem and across-the-seat leak detection. Each valve is tested for leak tight performance.

CLEANING & PACKAGING

Every H-1200 series needle 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

End connection		Cv	Orifice		A		B		B1		C		D		E		G		H (Open)	
Type	Size		mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in
Female NPT	1/8"	0.20	3.28	0.13	41.2	1.66	20.6	0.81	20.6	0.81	N/A	N/A	21.8	0.85	7.95	0.31	13.5	0.53	65.5	2.57
Male NPT	1/8"	0.11	2.50	0.10	43.7	1.72	21.8	0.86	21.9	0.86	29.7	1.17								
Male NPT	1/4"	0.20	3.28	0.13	49.8	1.96	24.9	0.98	24.9	0.98	32.8	1.29								
Let-Lok®	1/8"	0.11	2.30	0.09	49.8	1.96	24.9	0.98	24.9	0.98	32.8	1.29								
Let-Lok®	1/4"	0.20	3.28	0.13	57.4	2.26	28.7	1.13	28.7	1.13	36.5	1.44								
Male to Let-Lok®	1/4"	0.20	3.28	0.13	53.6	2.11	24.9	0.98	28.7	1.13	32.8	1.29								

Dimensions are for reference only and are subject to change without notice.

H-1200 SERIES ORDERING INFORMATION

H - 12 00 - SS - N - 1/8" - A - RH - - (OPTIONAL)

Valve Series

Valve Type

00	- LET-LOK® Ends
80	- Male NPT Ends
95	- Male to LET-LOK® Ends

Body Material

SS	- SST 316
B	- Brass

End Connection

L	- LET-LOK®
N	- NPT

Size Designator

3 mm	1/8"
6 mm	1/4"

Pattern Designator

BLANK	- Straight
A	- Angle

Handle Type

BLANK	Black Nylon Handle
RH	Red Nylon Handle
BH	Blue Nylon Handle
YH	Yellow Nylon Handle
GH	Green Nylon Handle
OH	Orange Nylon Handle

O-ring Material

BU	- Buna N
EP	- EPDM
NE	- Polychloroprene (CR)
KZ	- Perfluor

Fluorocarbon FKM O-ring is standard

Treatment

BLANK	- Standard Cleaning & Passivation
OC	- Oxygen Clean
LF	- Lubricant Free
SF	- Silicone Free

SEAL KIT

Z - 1200 - SK - 1/4 - VI

Body Designator per End Connection

1/4 for all end connections

O-ring Material

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

HANDLE KIT

Z - 1200 - HK - 1/4 - S

Body Designator per End Connection

1/4 for all end connections

Handle Type

S	Black Nylon Handle
R	Red Nylon Handle
B	Blue Nylon Handle
Y	Yellow Nylon Handle
G	Green Nylon Handle
O	Orange Nylon Handle

METERING VALVES

H-1300 SERIES

Platinum Natural Gas Solutions
www.ptngs.com
info@ptngs.com 484.897.0345

H, HF & HXF-1300 SERIES FEATURES

- Forged-body 316 SST or brass construction
- Straight and angle Patterns and Panel Mounting
- MAWP* 2000 psig - (137 Barg) For HXF
- MAWP* 1000 psig - (68 Barg) For H, HF
- MAWT** 400°F (204°C)
- Flow coefficients (Cv) from 0.004 to 0.15
- Round and slotted handles with screwdriver slots
- Different end-connection types: LET-LOK® ends , male & female NPT, HTC®, face seal bead.
- 1°, 3° and 5° stem taper for required flow control
- Stem with stopper shoulder for maximum life service

* Maximum Allowed Working Pressure, **Maximum Allowed Working Temperature.

GENERAL

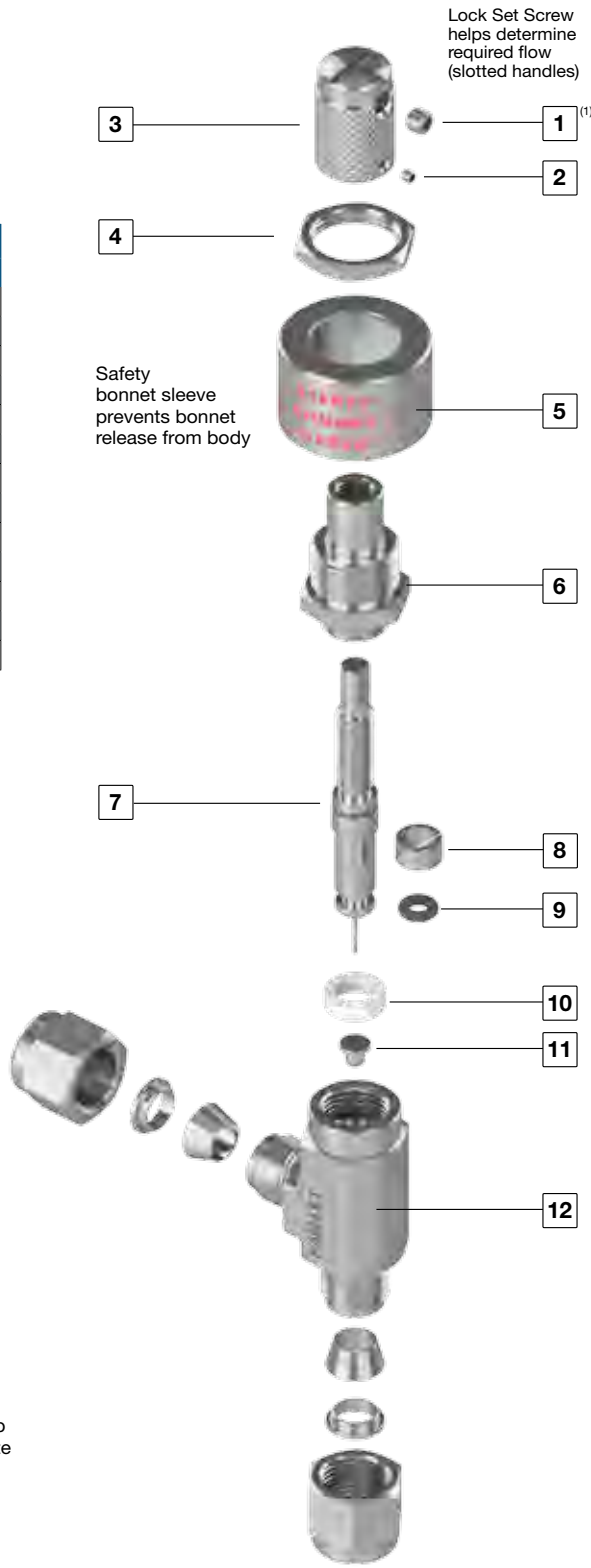
The H-1300 Series is a moderate-pressure instrumentation flow-regulating needle valve. It is generally used for instrumentation panels, sampling systems and others. The valves are compact in size and structure and offer reliable low and moderate flow regulation with long service life.

HXF-1300 MATERIALS OF CONSTRUCTION

Item No.	Components	Qty	Valve Body Material	
			316 St.St.	Brass
1	Handle set screw(1)	1	18-8 Stainless Steel	
2	Flow fixing screw	1	18-8 Stainless Steel	
3	Handle	1	SST ASTM A-276	Brass ASTM B-16
4	Panel Nut	1	SST ASTM A-276	Brass ASTM B-16
5	Safety bonnet sleeve	1	SST ASTM A-276	Brass ASTM B-16
6	Bonnet	1	SST ASTM A-276	Brass ASTM B-16
7	Stem*	1	SST 174PH/A564	
8	Stem Ring	1	Glass-filled TFE	
9	O-ring*	1	Fluorocarbon FKM	
10	Guide Ring	1	Glass-filled TFE	
11	Orifice*	1	SST ASTM A-276	Brass ASTM B-16
12	Body*	1	SST ASTM A-182	Brass ASTM B-283
	Lubricants		Silicone based	

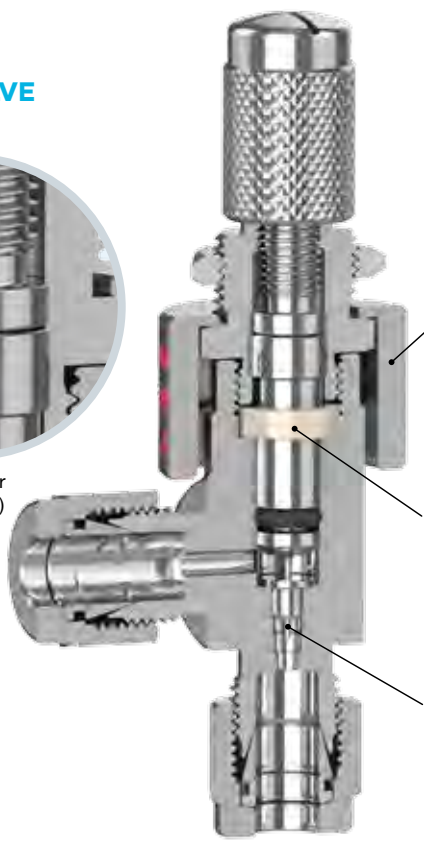
* Wetted parts

(1)Warning: handle set screw is factory calibrated and should not be adjusted in order to defend the HF and HXF stem from being harmed



HXF SERIES ANGLED VALVE

Stem upper shoulder (for safe full opening) prevents locking between stem and bonnet



CLEANING & PACKAGING

Every H-1300 series needle 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. Lubricant-Free cleaned valves have significantly higher actuation torque and MAWP* 1000 psi.

* Maximum Allowed Working Pressure.

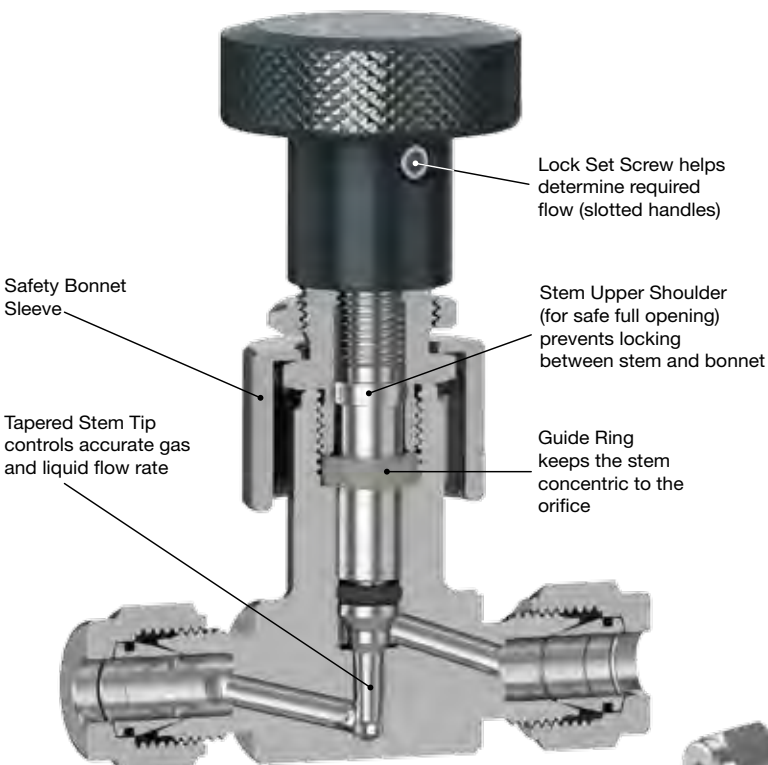
H&HF-1300 MATERIALS OF CONSTRUCTION

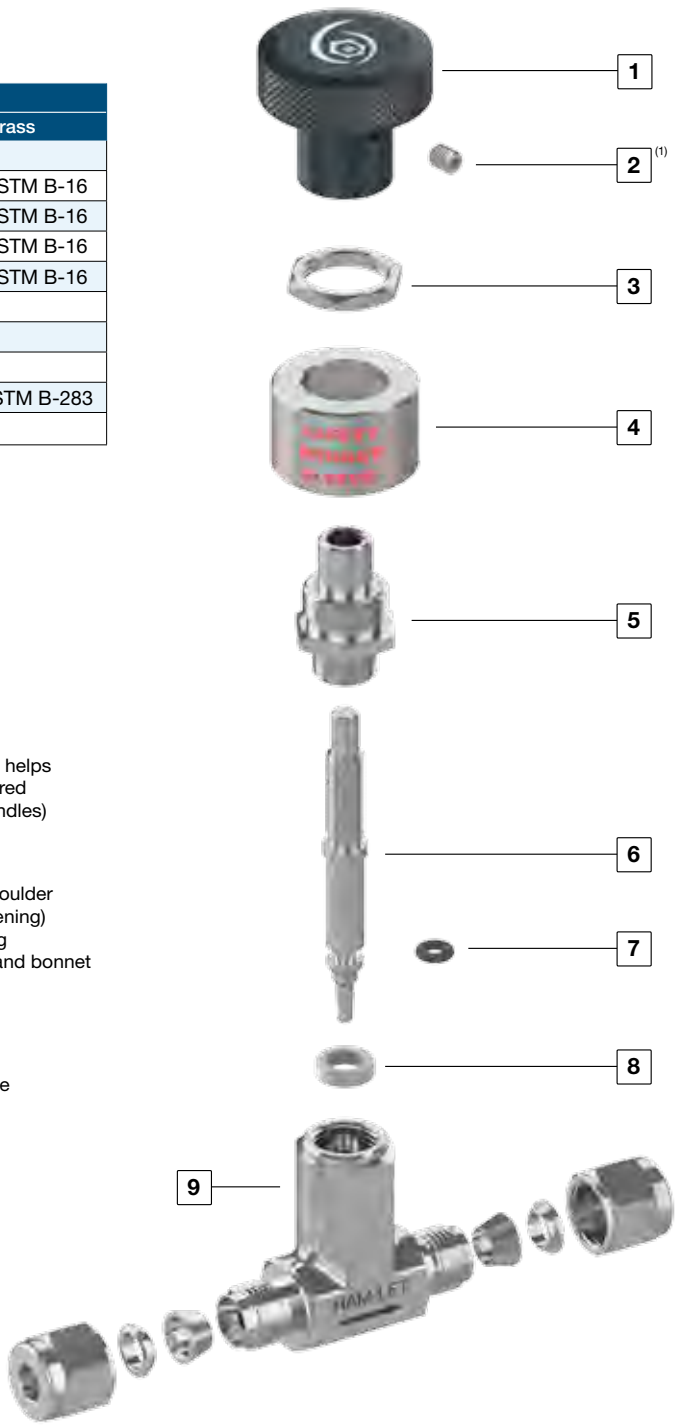
Item No.	Components	Qty	Valve Body Material	
			316 St.St.	Brass
1	Handle	1	SST ASTM A-276	
2	Handle set screw(1)	1	SST ASTM A-276	Brass ASTM B-16
3	Panel Nut	1	SST ASTM A-276	Brass ASTM B-16
4	Safety bonnet sleeve	1	SST ASTM A-276	Brass ASTM B-16
5	Bonnet	1	SST ASTM A-276	Brass ASTM B-16
6	Stem*	1	SST 174PH/A564	
7	O-ring*	1	Fluorocarbon FKM	
8	Guide Ring	1	Glass-filled TFE	
9	Body*	1	SST ASTM A-182	Brass ASTM B-283
	Lubricants		Silicone Based	

* Wetted parts

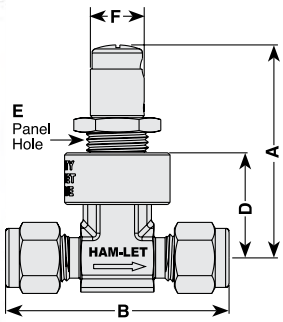
Warning: Handle set screw is factory calibrated and should not be adjusted in order to defend the HF and HXF stem from being harmed

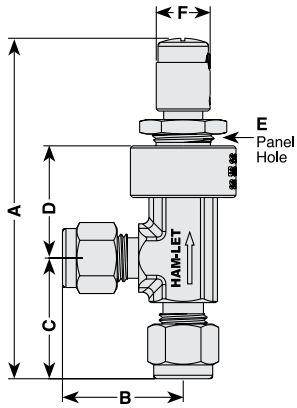
HF SERIES ANGLE VALVE

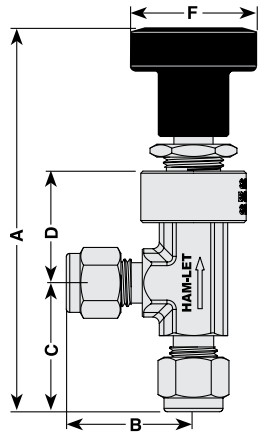




STANDARD CONFIGURATION DIMENSIONS







Basic Ordering Number	Stem Taper Angle	Orifice mm/in	Cv	Inlet	Outlet	A-Open		B		C		D		E		F
						mm	in	mm	in	mm	in	mm	in	mm	in	
H-1300 Angle	**5°**	3.3mm 0.13"	0.13 Max	1/4'' LET-LOK®	1/4'' LET-LOK	95.7	3.77	29.6	1.17	30.0	1.18	26.0	1.02	14.8	0.58	29 mm 1.14''
				6MM LET-LOK	6MM LET-LOK	95.7	3.77	29.6	1.17	30.0	1.18	26.0	1.02	14.8	0.58	
H-1300 Straight				1/4'' LET-LOK	1/4'' LET-LOK	71.5	2.81	59.5	2.34	-	-	32.0	1.26	14.8	0.58	
				3/8'' LET-LOK	3/8'' LET-LOK	71.5	2.81	62.4	2.46	-	-	32.0	1.26	14.8	0.58	
				6MM LET-LOK	6MM LET-LOK	71.5	2.81	59.5	2.34	-	-	32.0	1.26	14.8	0.58	
				1/4'' Male NPT	1/4'' Male NPT	71.5	2.81	50.8	2.00	-	-	32.0	1.26	14.8	0.58	
HF-1300 Angle	**3°**	1.4mm 0.055"	0.03 Max	1/8'' LET-LOK	1/8'' LET-LOK	83.5	3.29	25.8	1.02	25.8	1.02	27.0	1.06	14.8	0.58	12.5 mm 0.5''
				1/4'' LET-LOK	1/4'' LET-LOK	85.0	3.35	28.0	1.10	28.0	1.10	27.0	1.06	14.8	0.58	
				3MM LET-LOK	3MM LET-LOK	83.5	3.29	25.8	1.02	25.8	1.02	27.0	1.06	14.8	0.58	
				6MM LET-LOK	6MM LET-LOK	85.0	3.35	28.0	1.10	28.0	1.10	27.0	1.06	14.8	0.58	
				1/8'' Male NPT	1/8'' Male NPT	77.0	3.03	19.0	0.75	19.0	0.75	27.0	1.06	14.8	0.58	
				1/4'' Male NPT	1/4'' Male NPT	83.0	3.27	25.0	0.98	26.0	1.02	27.0	1.06	14.8	0.58	
				1/8'' Male NPT	1/8'' LET-LOK	77.0	3.03	25.8	1.02	19.0	0.75	27.0	1.06	14.8	0.58	
				1/4'' Male NPT	1/4'' LET-LOK	81.5	3.2	28.3	1.11	23.5	0.92	27.0	1.06	14.8	0.58	
				1/8'' Female NPT	1/8'' Female NPT	82.5	3.25	24.9	0.98	24.9	0.98	27.0	1.06	14.8	0.58	
HF-1300 Straight				1/8'' LET-LOK	1/8'' LET-LOK	70.6	2.78	51.3	2.02	-	-	27.0	1.06	14.8	0.58	12.5 mm 0.5''
				3MM LET-LOK	3MM LET-LOK	70.6	2.78	51.3	2.02	-	-	27.0	1.06	14.8	0.58	
				6MM LET-LOK	6MM LET-LOK	70.6	2.78	55.9	2.20	-	-	27.0	1.06	14.8	0.58	
				1/4" LET-LOK	1/4" LET-LOK	70.6	2.78	55.9	2.20	-	-	27.0	1.06	14.8	0.58	
				1/8'' Male NPT	1/8'' Male NPT	70.6	2.78	38.1	1.50	-	-	27.0	1.06	14.8	0.58	
				1/4'' Male NPT	1/4'' Male NPT	70.6	2.78	49.8	1.96	-	-	27.0	1.06	14.8	0.58	
				1/8'' Female NPT	1/8'' Female NPT	70.6	2.78	49.3	1.94	-	-	27.0	1.06	14.8	0.58	
				1/4"' Male Face Seal	1/4'' Male Face Seal	70.6	2.78	52.3	2.06	-	-	27.0	1.06	14.8	0.58	
HXF-1300 Angle	**1°**	0.8 mm 0.03''	0.004 Max	1/8'' LET-LOK	1/8'' LET-LOK	84.4	3.23	24.8	0.98	24.8	0.98	23.4	0.92	14.8	0.58	12.5 mm 0.5''
				1/4'' LET-LOK	1/4'' LET-LOK	85.0	3.35	26.0	1.02	26.0	1.02	23.4	0.92	14.8	0.58	
				3MM LET-LOK	3MM LET-LOK	84.4	3.32	24.8	0.98	24.8	0.98	23.4	0.92	14.8	0.58	
				1/8'' Male NPT	1/8'' LET-LOK	77.5	3.05	24.8	0.98	24.8	0.98	23.4	0.92	14.8	0.58	
				1/4'' Male NPT	1/4'' LET-LOK	82	3.22	27.3	1.07	24.8	0.98	23.4	0.92	14.8	0.58	
				1/8'' Male NPT	1/8'' Male NPT	84.4	3.32	24.9	0.98	24.9	0.98	23.4	0.92	14.8	0.58	
				1/4'' Male NPT	1/4'' Male NPT	84.4	3.32	24.9	0.98	24.9	0.98	23.4	0.92	14.8	0.58	
HXF-1300 Straight				1/8'' LET-LOK	1/8'' LET-LOK	59.6	2.34	48.0	1.89	-	-	24.4	0.96	14.8	0.58	12.5 mm 0.5''
				1/4'' LET-LOK	1/4'' LET-LOK	59.6	2.34	51.9	2.04	-	-	24.4	0.96	14.8	0.58	
				3MM LET-LOK	3MM LET-LOK	59.6	2.34	48.0	1.89	-	-	24.4	0.96	14.8	0.58	
				6MM LET-LOK	6MM LET-LOK	59.6	2.34	51.9	2.04	-	-	24.4	0.96	14.8	0.58	
				1/4'' Male NPT	1/4'' Male NPT	59.6	2.34	48.0	1.89	-	-	24.4	0.96	14.8	0.58	
				1/4'' Male Face Seal	1/4'' Male Face Seal	59.6	2.34	52.0	2.05	-	-	24.4	0.96	14.8	0.58	

Dimensions are for reference only and are subject to change.

MAX PANEL THICKNESS

"HXF" Series - 4.3 mm (0.17'')
"H" and "HF" - 3.3 mm (0.13'')

TESTING

The H, HF and HXF Series metering valve designs have been tested for proof and burst.

Every H,HF & HXF-1300 metering valve is factory tested with Nitrogen at 1000 psig (69 bar) for leakage through the seat.

No detectable leakage is allowed during shell test.

FLOW SETTING

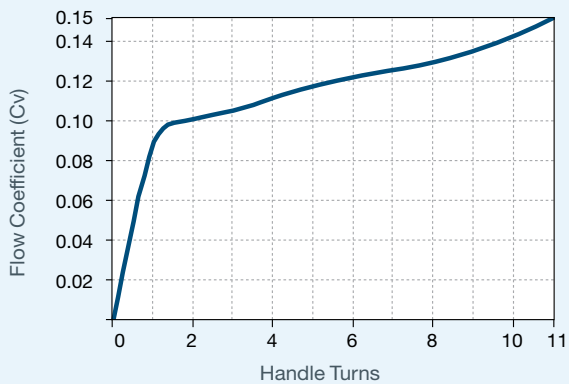
H-1300 series metering valve is tested for bubble tight shut-off.

HF-1300 series metering valve handle dead stop is set at 4 to 10 std cm3/min with 5 psig (0.34 bar) inlet pressure.

HXF-1300 series metering valve handle dead stop is set at 4 to 10 std cm3/min with 15 psig (1.0 bar) inlet pressure.

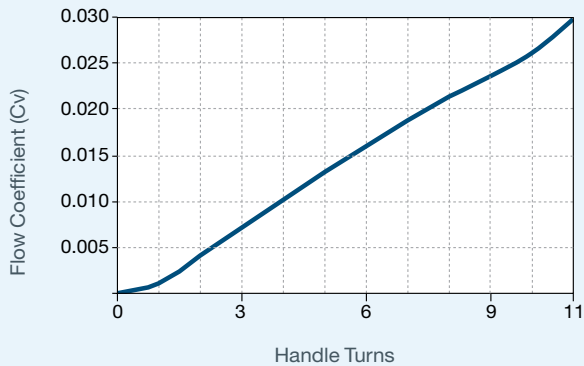
FLOW DATA AT 70°F (20°C)

H-1300 METERING VALVE 5° STEM



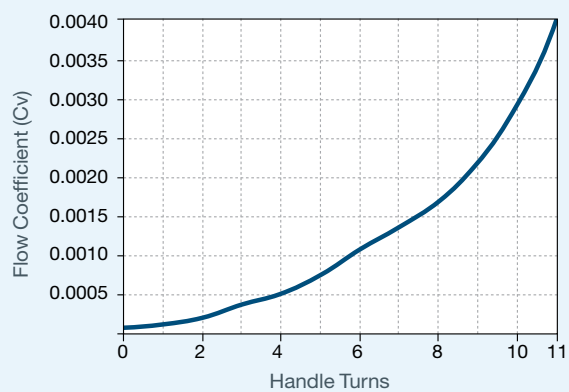
	Pressure Drop to Atmosphere psi (bar)	Water Flow U.S gal/min (L/min)	Air Flow std ft3 / min (std L / min)
Maximum Flow Coefficient (Cv) 0.13	10 (0.68)	0.47 (1.7)	1.6 (45.3)
	50 (3.4)	1.0 (3.7)	4.5 (127)
	100 (6.8)	1.5 (5.6)	7.9 (223)

HF-1300 METERING VALVE 3° STEM

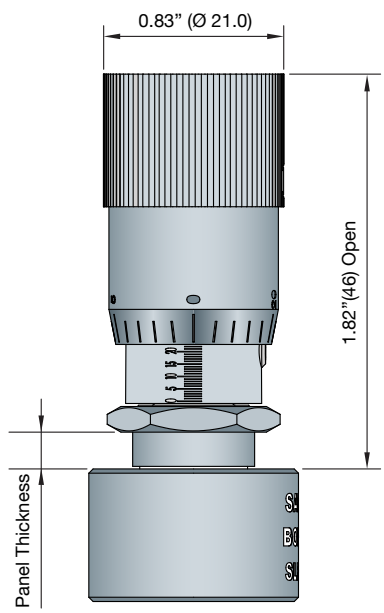


	Pressure Drop to Atmosphere psi (bar)	Water Flow U.S gal/min (L/min)	Air Flow std ft3 / min (std L / min)
Maximum Flow Coefficient (Cv) 0.03	10 (0.68)	0.09 (0.34)	0.33 (9.3)
	50 (3.4)	0.21 (0.79)	0.9 (25.4)
	100 (6.8)	0.3 (1.1)	1.5 (42.4)

HXF-1300 METERING VALVE 1° STEM



	Pressure Drop to Atmosphere psi (bar)	Water Flow U.S gal/min (L/min)	Air Flow std ft3 / min (std L / min)
Maximum Flow Coefficient (Cv) 0.004	10 (0.68)	0.01 (0.03)	0.04 (1.1)
	50 (3.4)	0.02 (0.07)	0.1 (2.8)
	100 (6.8)	0.04 (0.15)	0.2 (5.5)



H-1300UFMV ULTRA FINE METERING VALVE

Precise metering starting from the 1st handle turn.

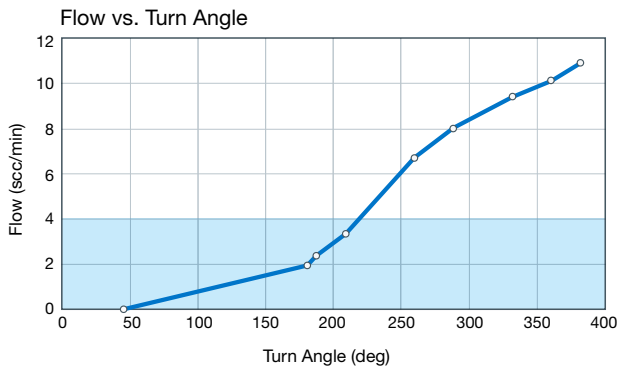
FEATURES & BENEFITS:

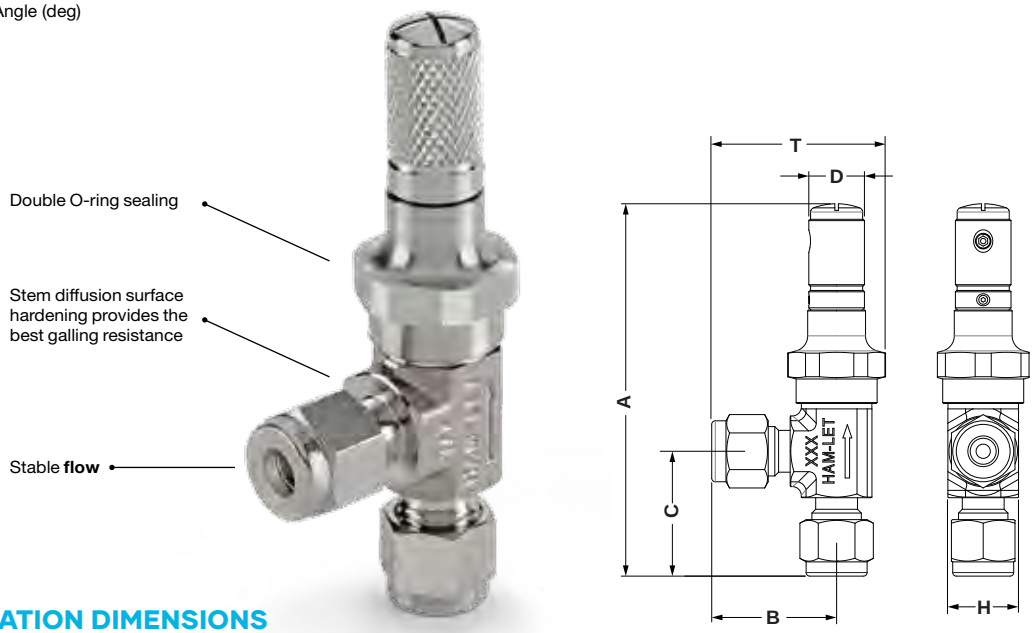
- Forged-body 316 SST design
- Stem SST 17-4ph, 45 HRC
- MAWP 2,000 psig - (138 bar)
- MAWT 300°F (150°C)
- Round & slotted handle with screw driver slot
- Body orifice: Ø 0.8 mm
- Cv 0.004 - Max
- Position indicator

GENERAL

Ham-Let new Ultra Fine Metering Valve allows precise metering at the first turn. Range of flow rates or Cv value at particular handle turns. Typical applications include Analytical, Research, and Instrumentation panels.

Precise flow control starting 0 scc/min





STANDARD CONFIGURATION DIMENSIONS

Description	Orifice	Inlet	Outlet	A-Open		B		C		T		H		D
	mm/in			mm	in	mm	in	mm	in	mm	in	mm	in	
UFMV-1300-SS-L-1/4-A	0.8mm 0.031"	1/4'' LET-LOK®	1/4'' LET-LOK®	94.0	3.70	28.1	1.1	28.1	1.1	39.0	1.54	16.0	5/8	12.5 mm 0.5''
UFMV-1300-SS-L-6mm-A		6MM LET-LOK®	6MM LET-LOK®	94.0	3.70	28.1	1.1	28.1	1.1	39.0	1.54	16.0	5/8	

H-1300HP

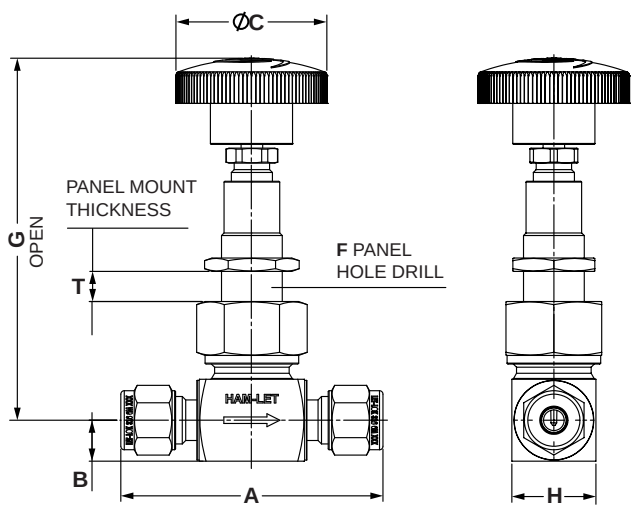
High Pressure Metering Valve H-1300 Series

FEATURES & BENEFITS:

- Construction material: SS316
- Pressure: 5,000 psig
- Orifice: 1.6mm ; Max Cv: 0.04
- Angle and straight patterns
- Stem taper: 2°
- Metal-to-metal shutoff
- Packing: PTFE + Grafoil
- MAWT: PTFE 232°C | Grafoil 454°C
- 6 mm & ¼" Body sizes
- High corrosion resistance of wet components
- Easy paneling feature without packing nut removal

GENERAL

High pressure metering valve - controls accurate measured flow under high-pressure conditions up to 5000 psi.



Description	Orifice	Cv	Inlet	Outlet	G-Open		A		B		C		T		H		F
	mm/in				mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	
H-1300HP-SS-1/4-S	1.6mm 0.062"	0.04 Max	1/4'' LET-LOK®	1/4'' LET-LOK®	94.0	3.70	60.8	2.39	9.50	0.37	35.1	1.38	12.0	0.47	19.5	0.77	15 mm 0.59''
H-1300HP-SS-L-6MM-S			6MM LET-LOK®	6MM LET-LOK®	94.0	3.70	60.8	2.39	9.50	0.37	35.1	1.38	12.0	0.47	19.5	0.77	

TECHNICAL DATA

Series	Pressure - Temperature Ratings			Orifice		Shutoff Service	Angle
	O-ring Material	Temperature Rating °F (°C)	Pressure psig (bar)	inch	mm		
H	Buna N	-10 to 300 (-23 to 149)	1000 (68.9)	0.13	3.3	*Yes	5°
HF	Ethylene Propylene	-10 to 300 (-23 to 149)	1000 (68.9)	0.055	1.4	No	3°
HXF	Fluorocarbon FKM	-15 to 400 (-26 to 204)	2000 (138)	0.03	0.8	No	1°
UFMV	Perfluor	-0 to 300 (-18 to 149)	2000 (138)	0.031	0.8	No	1°
HP	Polychloroprene (CR)	-10 to 250 (-23 to 121)	5000 (345)	0.062	1.6	*Yes	2°

*Shut-off service: In stainless steel constructions only. H-1300 series valves are not recommended for shut-off in vacuum or gas service or for repetitive shut-off in liquid service.

HANDLE OPTIONS

Vernier handle

Optional for H, HF & HXF

Round aluminum handle*

Standard for H

* Black is Standard.
Colored Handles are available upon request, see "Ordering Information"

Metal slotted handle

Standard for HF Optional for H

Metal slotted handle

Standard for HXF

H-1300 ORDERING INFORMATION

OPTIONAL

H-13 - 00 - SS - L - 1/4 - S - [ ] - [ ] - [ ]

Valve Series

H-13	- 5° stem taper
HF-13	- 3° stem taper*
HXF-13	- 1° stem taper*
UFMV-13	- 1° stem taper*
HP	- 2° stem taper

* Not suitable for shut-off application

Valve Type

00	- LET-LOK® Ends
10	- Female Ends
80	- Male Ends
95	- Male to LET-LOK® Ends

Body and Ends Material

SS	- St.St. 316
B	- Brass

End Connection

L	- LET-LOK®
N	- Threaded NPT
GL	- Male Face Seal
HL	- ONE-LOK®

End Connection Size

1/8"	3 MM
1/4"	6 MM
3/8"	10 MM

Pattern Valve Type

S	- Straight Port Valve
A	- Angle Port Valve

O-ring Material

Blank	- Fluorocarbon FKM
EP	- EPDM
NE	- Polychloroprene (CR)
KZ	- Perfluor
BU	- Buna-N

Handle Options

VER	- Vernier Handle
RH	- Red Aluminum Handle*
YH	- Yellow Aluminum Handle*
GH	- Green Aluminum Handle*
BH	- Blue Aluminum Handle*

* for H-1300 only

Treatment

BLANK	- Standard Cleaning & Passivation
OC	- Oxygen Clean
LF	- Lubricant Free
SF	- Silicone Free

SEAL KIT

Seal Kit contains O-ring

Z - 1300 - SK - 1/4 - VI

Body Designator Per End Connection

1/4"	for all end connections

O-Ring Material

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

HANDLE KIT

Handle Kit contains handle + set screw.

Z - 1300 - HK - 1/4 - VER

Handle Options

1/4"	For all end connections

Handle Options

VER	- Vernier Handle
RH	- Red Aluminum Handle*
YH	- Yellow Aluminum Handle*
GH	- Green Aluminum Handle*
BH	- Blue Aluminum Handle*
MF	- Metal slotted Handle**
MXF	- Metal slotted Handle***

* For H-1300 only
**For HF-1300 only
***For HXF-1300 only

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.

UCT

HEAVY DUTY BALL VALVES

HAM-LET H-1700 SERIES

Platinum Natural Gas Solutions
www.ptngs.com
info@ptngs.com 484.897.0345

H-1700 FEATURES

- On/off-service ball valve with 2-way pattern
- Blow-out proof stem
- Stainless steel construction
- MAWP* 6000 psi (413 bar)
- MAWT** 500°F (260°C)
- Variable end connection types and sizes from 1/8" to 1" (3mm to 25mm)

*Maximum Allowed Working Pressure
**Maximum Allowed Working Temperature

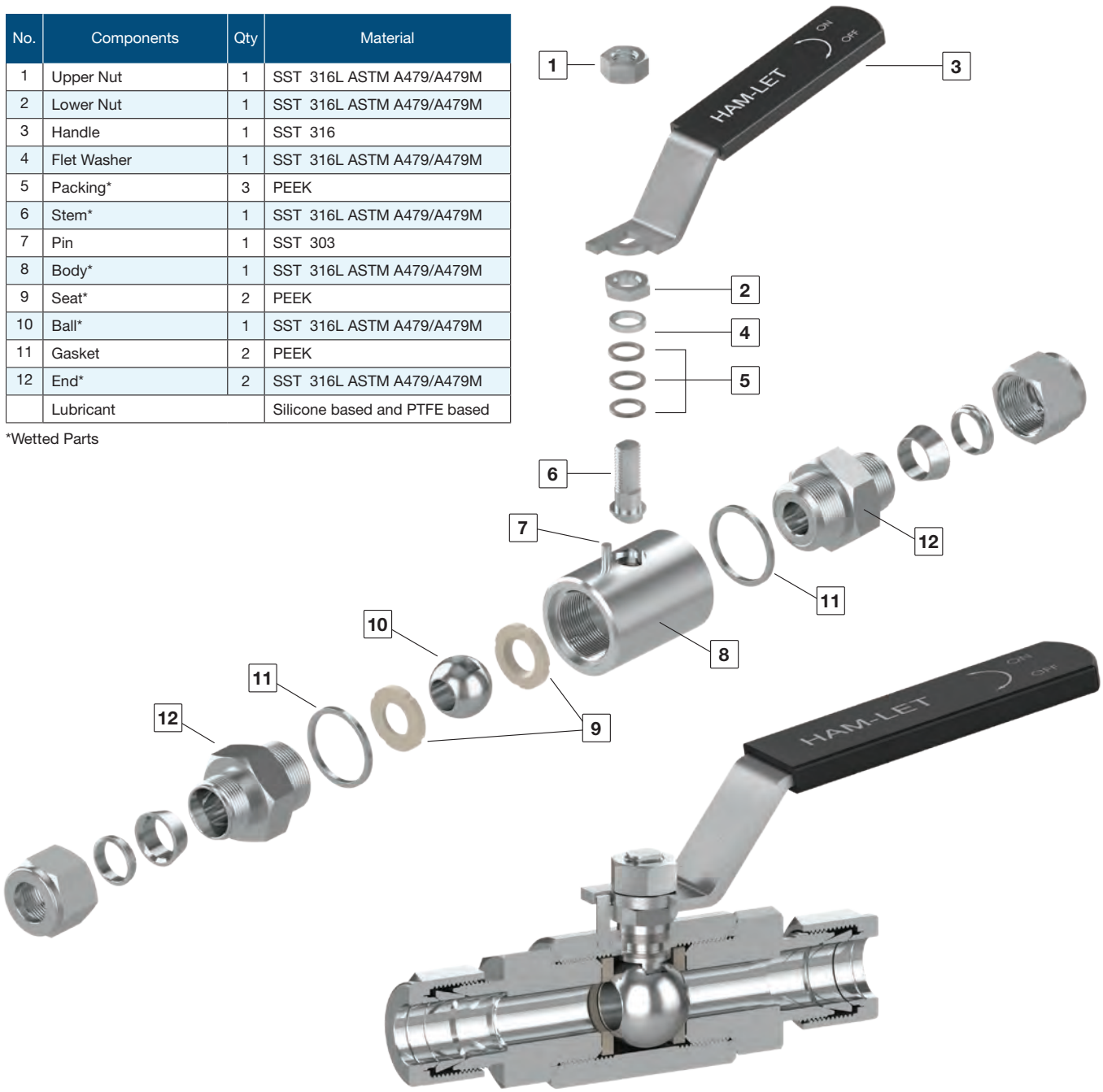
H-1700 GENERAL

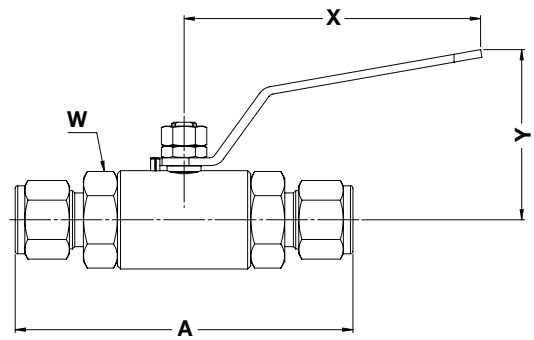
The H-1700 Series is a high-pressure and high-temperature instrumentation ball valve for general service.
The H-1700 series is designed for heavy duty service due to its low operation torque, large and ergonomic handle for better grip and high cycle and thermal cyclic durability.

MATERIALS OF CONSTRUCTION

No.	Components	Qty	Material
1	Upper Nut	1	SST 316L ASTM A479/A479M
2	Lower Nut	1	SST 316L ASTM A479/A479M
3	Handle	1	SST 316
4	Flet Washer	1	SST 316L ASTM A479/A479M
5	Packing*	3	PEEK
6	Stem*	1	SST 316L ASTM A479/A479M
7	Pin	1	SST 303
8	Body*	1	SST 316L ASTM A479/A479M
9	Seat*	2	PEEK
10	Ball*	1	SST 316L ASTM A479/A479M
11	Gasket	2	PEEK
12	End*	2	SST 316L ASTM A479/A479M
	Lubricant		Silicone based and PTFE based

*Wetted Parts





H-1700 CONFIGURATION DIMENSIONS

Size	End Connection	Orifice		A		X		Y		W
		mm	inch	mm	inch	mm	inch	mm	inch	mm
1/8"	LET-LOK®	2.3	0.09	95.5	3.76	96	3.78	54.9	2.16	27
1/4"		4.8	0.19	100.3	3.95	96	3.78	54.9	2.16	27
3/8"		7.1	0.28	103.4	4.07	96	3.78	54.9	2.16	27
1/2"		10	0.39	109.0	4.29	96	3.78	54.9	2.16	27
3/4"		15.8	0.62	162.6	6.40	149.1	5.87	86.4	3.40	46
1"		19	0.75	171.5	6.75	149.1	5.87	86.4	3.40	46
3mm	LET-LOK	2.3	0.09	95.5	3.76	96	3.78	54.9	2.16	27
6mm		4.8	0.19	100.3	3.95	96	3.78	54.9	2.16	27
8mm		6.4	0.25	102.1	4.02	96	3.78	54.9	2.16	27
10mm		7.9	0.31	103.9	4.09	96	3.78	54.9	2.16	27
12mm		10	0.39	109.0	4.29	96	3.78	54.9	2.16	27
25mm		19	0.75	171.5	6.75	149.1	5.87	86.4	3.40	46
1/8"	Female NPT/BSPT	7.8	0.31	77.7	3.06	96	3.78	54.9	2.16	27
1/4"		10	0.39	77.7	3.06	96	3.78	54.9	2.16	27
3/8"		10	0.39	77.7	3.06	96	3.78	54.9	2.16	27
1/2"		10	0.39	77.7	3.06	96	3.78	54.9	2.16	27
3/4"		19	0.75	118.6	4.67	149.1	5.87	86.4	3.40	46
1"		19	0.75	118.6	4.67	149.1	5.87	86.4	3.40	46
1/8"	Male NPT/BSPT	4.8	0.19	88.4	3.48	96	3.78	54.9	2.16	27
1/4"		7.1	0.28	97.3	3.83	96	3.78	54.9	2.16	27
3/8"		9.6	0.38	97.3	3.83	96	3.78	54.9	2.16	27
1/2"		10	0.39	106.9	4.21	96	3.78	54.9	2.16	27
3/4"		15.8	0.62	144.8	5.70	149.1	5.87	86.4	3.40	46
1"		19	0.75	154.4	6.08	149.1	5.87	86.4	3.40	46

CLEANING & PACKAGING

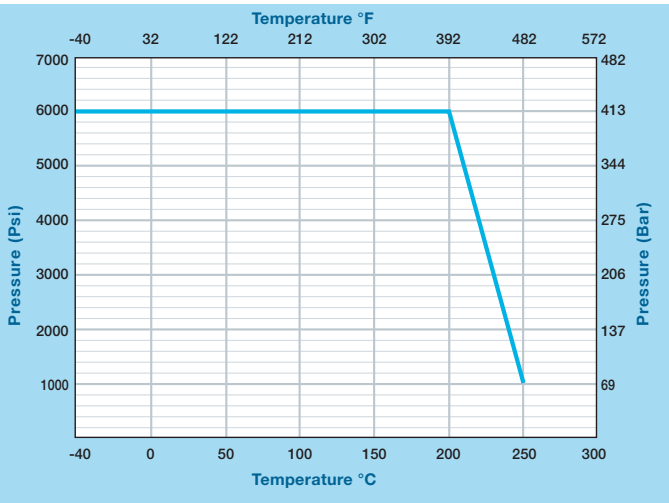
Every H-1700 series ball valve is cleaned in accordance with Standard Cleaning and Packaging (procedure 8184). Oxygen Clean Cleaning and packaging is in accordance with Special Cleaning and Packaging (procedure 8185) and is available as an option.

TESTING

The H-1700 design is tested for Burst and Presssure. Standard testing for each H-1700 valve includes testing with nitrogen at 80 &1000 psig. Each valve is tested for leakage through the shell, packing and ball seats. The maximum allowable leakage across the ball seats is 0.1 std cc/min.

⚠ **Ball Valves are designed for operation in the fully closed or fully open position.**

H-1700 PRESSURE TEMPERATURE RANGES



SEAT MATERIAL CHARACTERISTICS PEEK (PolyEtherEtherKeton)

Excellent seat material for high-pressure and high-temperature applications. Excellent chemical resistance. Can be used continuosly up to 500°F (260°C) and in hot water or steam without permanent loss in physical properties. High strength for hostile enviroments and high pressure.

PACKING ADJUSTMENT

Due to the varied service applications of the valve, packing adjustment may occasionally be necessary. Packing is factory adjusted to 1000 psig service.

Please find more information on H-1700 under the installation instructions.

⚠ **Initial packing adjustment is recommended after installation and prior to start-up.**

H-1700 SERIES ORDERING INFORMATION

H-17 - 00 - SS - L - 1/4 - [OPTIONAL]

Valve Series

Material

SS	- SST 316

Valve Type

00	- LET-LOK End
10	- Female End
80	- Male End
85	- Male to Female End
95	- Male to LET-LOK End

End Connection Type

L	- LET-LOK Tube Fitting
N	- Threaded NPT
R	- ISO Tapered
NL	- NPT to LET-LOK
LN	- LET-LOK to NPT

Other end connections available upon request.

End Connection Size

1/4"	**6 MM**
3/8"	**10 MM**
1/2"	**12 MM**
3/4"	**-**
1"	**25 MM**

Treatment

BLANK	- Standard Cleaning & Passivation
OC	- Oxygen Clean
SF	- Silicone Free

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.

UCT

HAM-LET FUGITIVE EMISSIONS-FREE

SHUT-OFF VALVE | EF SERIES

Platinum Natural Gas Solutions
www.ptngs.com
info@ptngs.com 484.897.0345

EF FEATURES

- Fugitive Emission-Free Valve
- Encapsulated cylindrical stem design
- On/off-service, one-piece cylindrical valve with 2-way pattern
- Stainless steel construction
- Allows bi-directional flow in 2-way straight pattern
- One-piece cylindrical stem ensures alignment of stem and orifice
- Max working pressure 2500 psi (206 bar)
- Max working temperature 140°F (60°C)
- Variety of end connection and sizes available

EF GENERAL

Fugitive emissions are emissions of gases or vapors from pressurized equipment due to leaks and other unintended or irregular release of gases.

Fugitive emissions from industrial activities impact our environment, our communities, and the costs of monitoring and compliance.

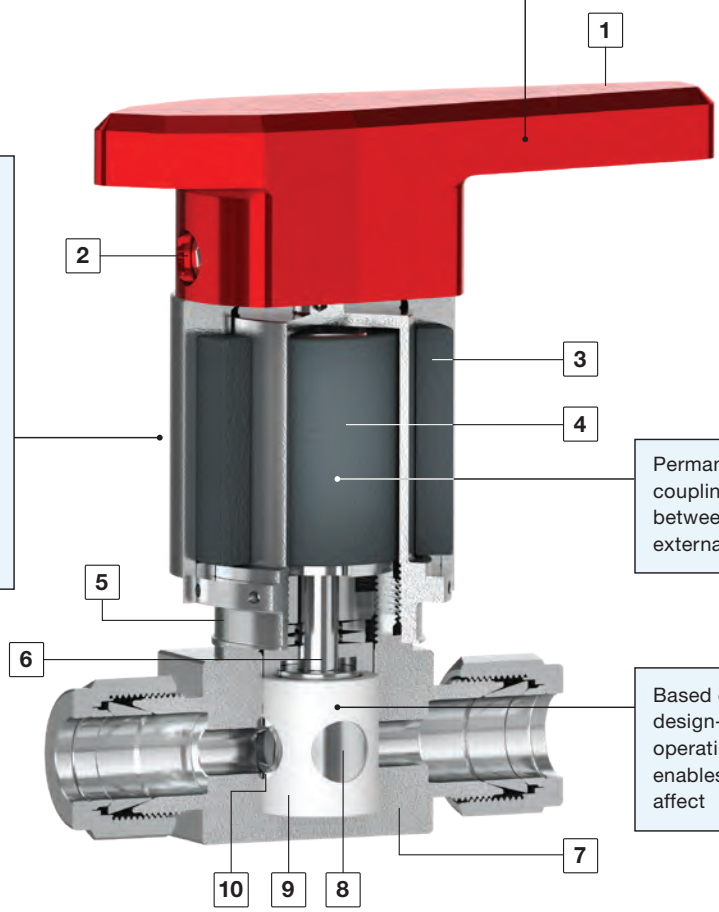
UCT Fluid Solutions' solution prevents fugitive emissions from valves, which account for almost 60% of total fugitive emissions, by eliminating possible leaks from the valve stem.

MATERIALS OF CONSTRUCTION

No.	Description	Qty.	Material
1	Handle	1	AL-6061
2	Set Screw	1	SST 304
3	External Rotor	1	Neodymium magnet
4	Internal Rotor	1	Neodymium magnet
5	Body Cap	1	SST 316L
6	Stem*	1	SST 316L
7	Body*	1	SST 316L
8	Seat.disc*	2	SST 304
9	Seat*	1	PTFE
10	Seat Ring*	2	SST 304
	Lubricants	Silicone based and PTFE based	

* Wetted parts

Ergonomically aluminum-formed handle



Unique encapsulated design over the stem, gives no leak path to the atmosphere.

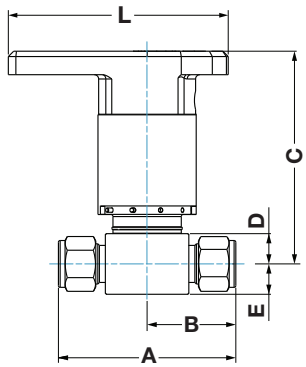
- Eliminates environment pollution fines
- Maximizes safety
- Eliminates material loss to atmosphere
- Reduce cost of inspection and maintenance
- Eliminates hazardous releases
- Ideal for process and instrumentation lines where releases must be minimized to protect health, safety and the environment

Permanent magnetic couplings transmit torque between the internal and external rotors

Based on the H-800KL design-features low operating torque and enables minimal thermal affect

ISO FE AH CO3 SSA0 t(RT, 60 °C)-(2500PSI)

EMISSION FREE SHUT-OFF VALVE
EF SERIES

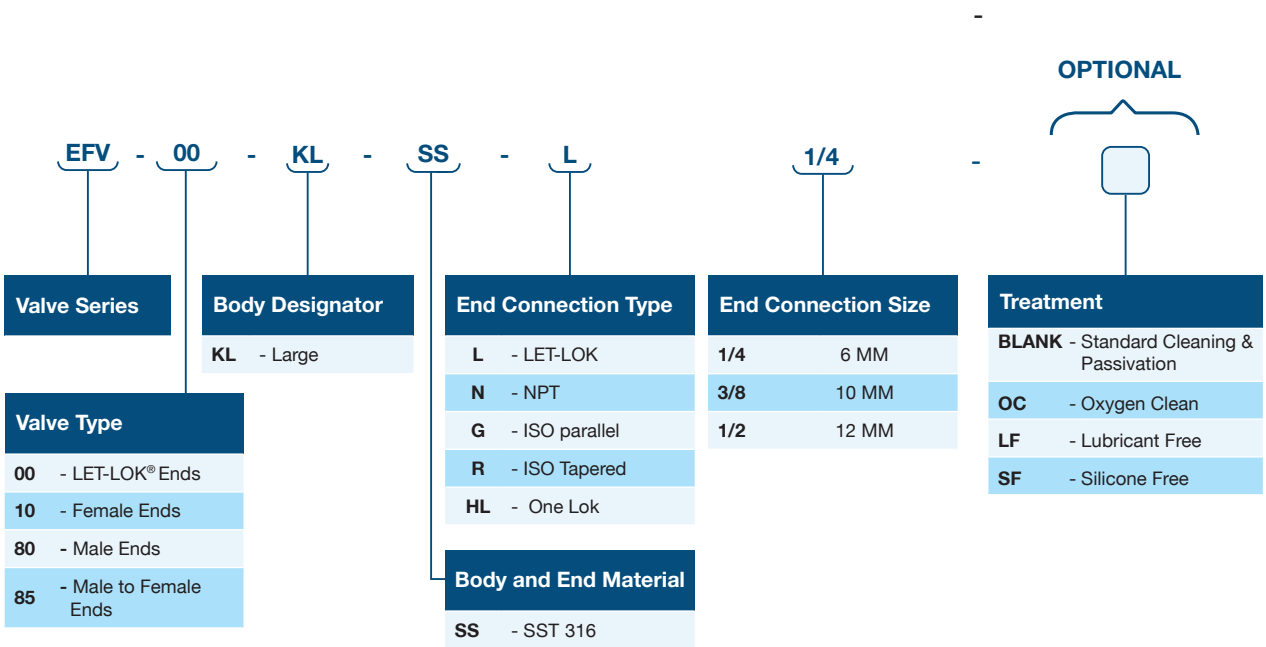


STANDARD CONFIGURATION DIMENSIONS

End Connection		Body Size Designator	Orifice		CV straight	DIMENSIONS															
Type	Size		mm	inch		A		B		C		D		E		L		W		Ø	
						mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
Let-Lok® Imperial	3/8	KL	7.1	0.279	6	77.5	3.05	38.60	1.52	100	3.94	14.2	0.56	14.2	0.56	103	4.06	34.0	1.34	46.0	1.81
	1/2				6	83.12	3.27	41.56	1.63	100	3.94	14.2	0.56	14.2	0.56	103	4.06	34.0	1.34	46.0	1.81
Let-Lok® Metric	10mm	KL	7.1	0.279	6	78.0	3.07	38.90	1.53	100	3.94	14.2	0.56	14.2	0.56	103	4.06	34.0	1.34	46.0	1.81
	12mm				6	83.12	3.27	41.56	1.63	100	3.94	14.2	0.56	14.2	0.56	103	4.06	34.0	1.34	46.0	1.81
F-NPT	1/4	KL	7.1	0.279	3	63.5	2.50	31.75	1.25	100	3.94	14.2	0.56	14.2	0.56	103	4.06	34.0	1.34	46.0	1.81
	3/8				2.6	63.5	2.50	31.75	1.25	100	3.94	14.2	0.56	14.2	0.56	103	4.06	28.4	1.34	46.0	1.81
Female ISO 7/1 Tapered	3/8	KL	7.1	0.279	2.6	63.5	2.50	31.75	1.25	100	3.94	14.2	0.56	14.2	0.56	103	4.06	34.0	1.34	46.0	1.81
Face Seal Male	1/2	KL	7.1	0.279	6	73.2	2.88	36.60	1.44	100	3.94	14.2	0.56	14.2	0.56	103	4.06	34.0	1.34	46.0	1.81

Dimensions are for reference only and are subject to change.

FUGITIVE EMISSIONS FREE ORDERING INFORMATION



HAM-LET METERING BALL VALVES

MBV SERIES

Platinum Natural Gas Solutions
www.ptngs.com
info@ptngs.com 484.897.0345

METERING BALL VALVE (MBV) SERIES

FEATURES

- On/Off and metering service
- PFA Encapsulated ball stem design
- Panel Mounting as standard
- MAWP 2000 psi (137 Barg)
- MAWT 300°F (150°C)
- Size Range from 1/8" to 3/8" & 3mm to 6mm
- Variable end connections: LET-LOK® ; FNPT ; MNPT ; Male Face Seal
- 1°, 3° and 5° Stem Taper for required flow control
- Stopper shoulder stem for long life service

GENERAL

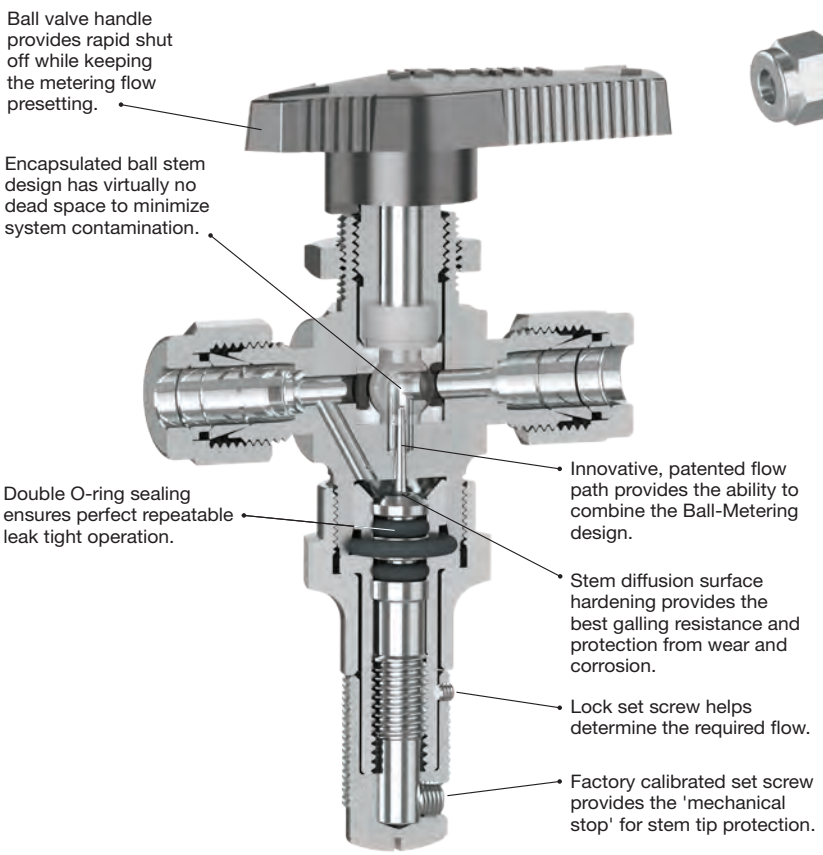
The Shut-off Metering Ball Valve Series provides the highest degree of precision metering for moderate pressure applications.
This series features innovative and unique shut-off capability and allows full control of the process from complete shut-off to extra fine regulation.

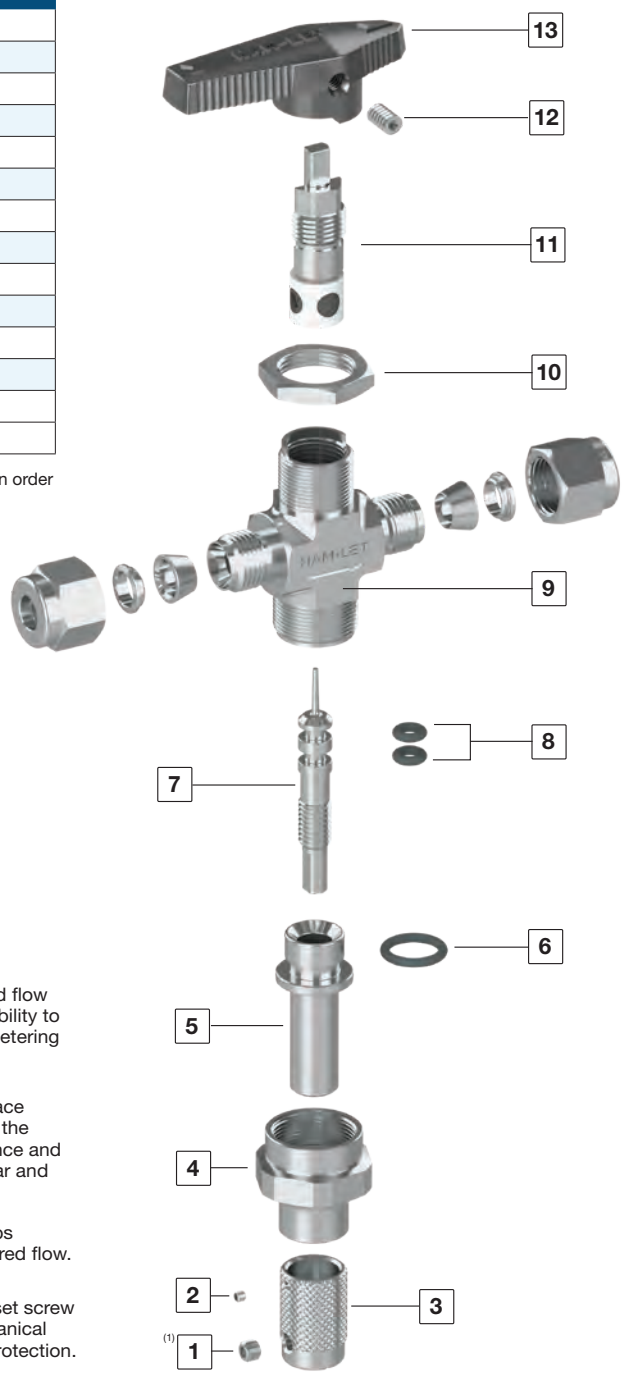
A choice of three precision stem tapers enables metering at flow capacities as low as CV= 0.001 with up to 11 handle turns.
This valve is the ultimate solution for precision flow control.

Materials Of Construction

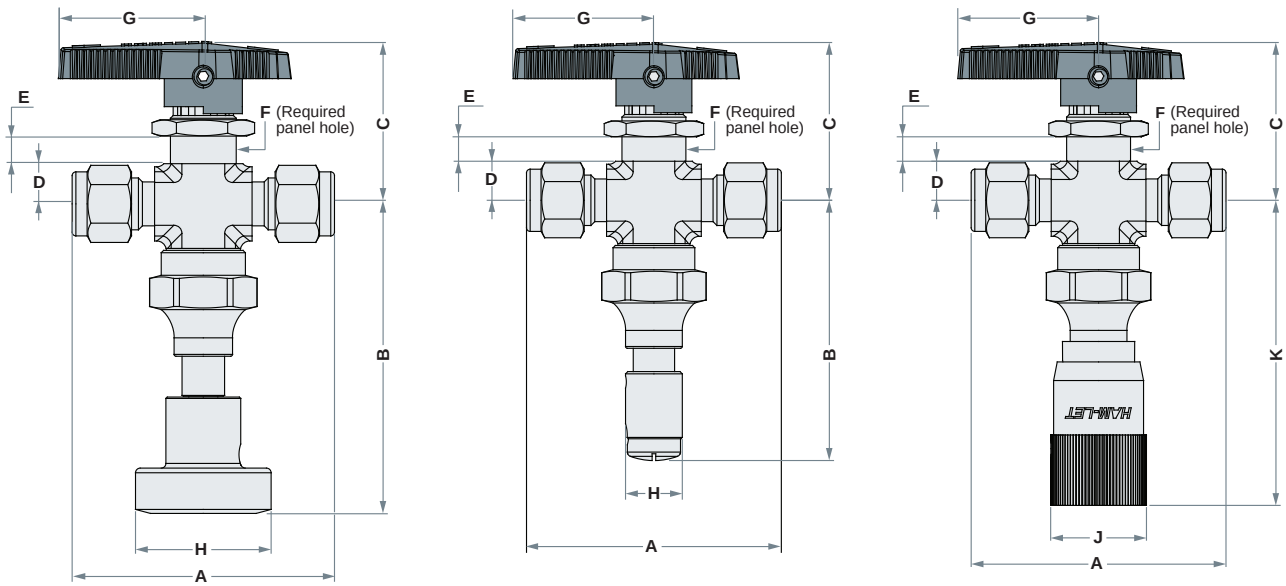
No.	Component	Qty.	Material
1	Handle Set Screw	1	18-8 Stainless Steel
2	Flow Fixing Screw	1	18-8 Stainless Steel
3	Handle	1	SST ASTM A-276
4	Bonnet Nut	1	SST ASTM A-276
5	Bonnet	1	SST ASTM A-276
6	O-Ring	1	Fluorocarbon FKM
7	Stem*	1	SST 174PH/A564
8	O-Ring*	2	Fluorocarbon FKM
9	Body*	1	SST ASTM A-182
10	Panel Nut	1	SST ASTM A-276
11	Ball Stem assembly*	1	SST ASTM A-276 + PFA
12	Set Screw	1	SST 304
13	Handle	1	Nylon + Glass Fiber
	Lubricants		Silicone based and PTFE

* Wetted parts **NOTE:** Handle Set Screw is factory calibrated and should not be adjusted in order to defend the F and X stem from being harmed.





METERING BALL VALVE DIMENSIONS



Basic Ordering Number	Stem Taper Angle	Orifice		Cv	End Connections	A		B		C		D		E		F		G		H		J		K	
		mm	in			mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in
MBV-H	5°	3.3	0.13	0.13 max	1/8" LET-LOK	54.6	2.15	65.7	2.59	34.8	1.37	8.6	0.34	5.9	0.23	15.1	0.59	31	1.22	29	1.14	21.1	0.83	72	2.83
					1/4" LET-LOK	56.1	2.21	65.7	2.59	34.8	1.37	8.6	0.34	5.9	0.23	15.1	0.59	31	1.22	29	1.14	21.1	0.83	72	2.83
					3MM LET-LOK	54.6	2.15	65.7	2.59	34.8	1.37	8.6	0.34	5.9	0.23	15.1	0.59	31	1.22	29	1.14	21.1	0.83	72	2.83
					6MM LET-LOK	56.1	2.21	65.7	2.59	34.8	1.37	8.6	0.34	5.9	0.23	15.1	0.59	31	1.22	29	1.14	21.1	0.83	72	2.83
					1/8" Female NPT	41.4	1.63	65.7	2.59	34.8	1.37	8.6	0.34	5.9	0.23	15.1	0.59	31	1.22	29	1.14	21.1	0.83	72	2.83
					1/4"' Male Face Seal	54.1	2.13	65.7	2.59	34.8	1.37	8.6	0.34	5.9	0.23	15.1	0.59	31	1.22	29	1.14	21.1	0.83	72	2.83
					3/8" LET-LOK	64.92	2.55	65.7	2.59	34.8	1.37	8.6	0.34	5.9	0.23	15.1	0.59	31	1.22	29	1.14	21.1	0.83	72	2.83
					1/8" Male NPT	41.8	1.64	65.7	2.59	34.8	1.37	8.6	0.34	5.9	0.23	15.1	0.59	31	1.22	29	1.14	21.1	0.83	72	2.83
MBV-F	3°	1.4	0.055	0.03 max	1/8" LET-LOK	54.6	2.15	60	2.36	34.8	1.37	8.6	0.34	5.9	0.23	15.1	0.59	31	1.22	12.5	0.49	21.1	0.83	72	2.83
					1/4" LET-LOK	56.1	2.21	60	2.36	34.8	1.37	8.6	0.34	5.9	0.23	15.1	0.59	31	1.22	12.5	0.49	21.1	0.83	72	2.83
					3MM LET-LOK	54.6	2.15	60	2.36	34.8	1.37	8.6	0.34	5.9	0.23	15.1	0.59	31	1.22	12.5	0.49	21.1	0.83	72	2.83
					6MM LET-LOK	56.1	2.21	60	2.36	34.8	1.37	8.6	0.34	5.9	0.23	15.1	0.59	31	1.22	12.5	0.49	21.1	0.83	72	2.83
					1/8" Female NPT	41.4	1.63	60	2.36	34.8	1.37	8.6	0.34	5.9	0.23	15.1	0.59	31	1.22	12.5	0.49	21.1	0.83	72	2.83
					1/4"' Male Face Seal	54.1	2.13	60	2.36	34.8	1.37	8.6	0.34	5.9	0.23	15.1	0.59	31	1.22	12.5	0.49	21.1	0.83	72	2.83
					3/8" LET-LOK	64.92	2.55	60	2.36	34.8	1.37	8.6	0.34	5.9	0.23	15.1	0.59	31	1.22	12.5	0.49	21.1	0.83	72	2.83
					1/8" Male NPT	41.8	1.64	60	2.36	34.8	1.37	8.6	0.34	5.9	0.23	15.1	0.59	31	1.22	12.5	0.49	21.1	0.83	72	2.83
MBV-X	1°	0.8	0.03	0.004 max	1/8" LET-LOK	54.6	2.15	60	2.36	34.8	1.37	8.6	0.34	5.9	0.23	15.1	0.59	31	1.22	12.5	0.49	21.1	0.83	72	2.83
					1/4" LET-LOK	56.1	2.21	60	2.36	34.8	1.37	8.6	0.34	5.9	0.23	15.1	0.59	31	1.22	12.5	0.49	21.1	0.83	72	2.83
					3MM LET-LOK	54.6	2.15	60	2.36	34.8	1.37	8.6	0.34	5.9	0.23	15.1	0.59	31	1.22	12.5	0.49	21.1	0.83	72	2.83
					6MM LET-LOK	56.1	2.21	60	2.36	34.8	1.37	8.6	0.34	5.9	0.23	15.1	0.59	31	1.22	12.5	0.49	21.1	0.83	72	2.83
					1/8" Female NPT	41.4	1.63	60	2.36	34.8	1.37	8.6	0.34	5.9	0.23	15.1	0.59	31	1.22	12.5	0.49	21.1	0.83	72	2.83
					1/4"' Male Face Seal	54.1	2.13	60	2.36	34.8	1.37	8.6	0.34	5.9	0.23	15.1	0.59	31	1.22	12.5	0.49	21.1	0.83	72	2.83
					3/8" LET-LOK	64.92	2.55	60	2.36	34.8	1.37	8.6	0.34	5.9	0.23	15.1	0.59	31	1.22	12.5	0.49	21.1	0.83	72	2.83
					1/8" Male NPT	41.8	1.64	60	2.36	34.8	1.37	8.6	0.34	5.9	0.23	15.1	0.59	31	1.22	12.5	0.49	21.1	0.83	72	2.83

Dimensions are for reference only and subject to change.

TESTING

The H, F and X Series metering ball valve designs were tested for proof and burst.

Every MBV - H, F & X metering valve is factory tested with Nitrogen at 1000 psig (69 bar) for leakage through the seat. No detectable leakage is allowed during shell test.

FLOW SETTING

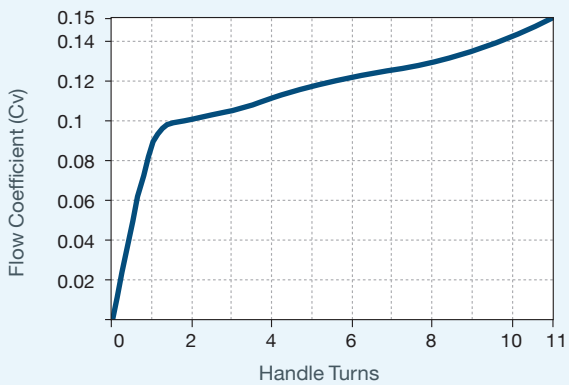
MBV-H series metering valve is tested for bubble tight shut-off at 100 psig (6.8 bar) differential pressure.

MBV-F series metering valve handle dead stop is set at 4 to 10 std cm3/min with 5 psig (0.34 bar) inlet pressure.

MBV-X series metering valve handle dead stop is set at 4 to 10 std cm3/min with 15 psig (1.0 bar) inlet pressure.

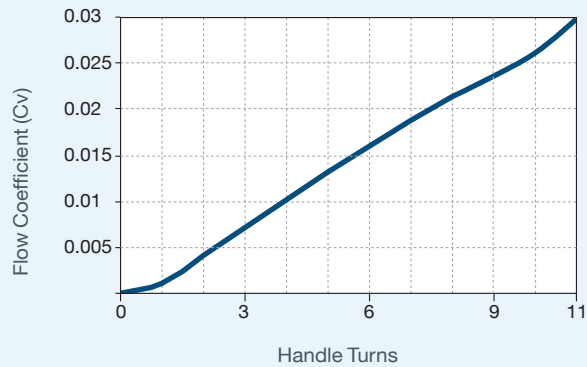
FLOW DATA AT 70ºF (20ºC)

MBV-H METERING BALL VALVE 5° STEM



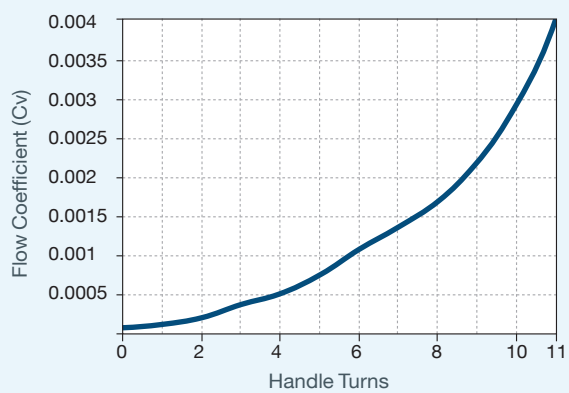
	Pressure Drop to Atmosphere psi (bar)	Water Flow U.S. gaL/min (L/min)	Air Flow std ft3/min (std L/min)
Maximum Flow Coefficient (Cv) 0.13	10 (0.68)	0.47 (1.7)	1.6 (45.3)
	50 (3.4)	1.0 (3.7)	4.5 (127)
	100 (6.8)	1.5 (5.6)	7.9 (223)

MBV-F METERING BALL VALVE 3° STEM

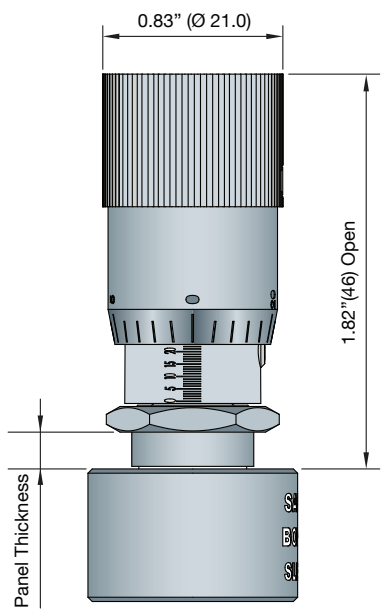


	Pressure Drop to Atmosphere psi (bar)	Water Flow U.S. gaL/min (L/min)	Air Flow std ft3/min (std L/min)
Maximum Flow Coefficient (Cv) 0.15	10 (0.68)	0.09 (0.34)	0.33 (9.3)
	50 (3.4)	0.21 (0.79)	0.9 (25.4)
	100 (6.8)	0.3 (1.1)	1.5 (42.4)

MBV-X METERING BALL VALVE 1° STEM



	Pressure Drop to Atmosphere psi (bar)	Water Flow U.S. gaL/min (L/min)	Air Flow std ft3/min (std L/min)
Maximum Flow Coefficient (Cv) 0.004	10 (0.68)	0.01 (0.03)	0.04 (1.1)
	50 (3.4)	0.02 (0.07)	0.1 (2.8)
	100 (6.8)	0.04 (0.15)	0.2 (5.5)



CLEANING & PACKAGING

Every MBV series Metering ball 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.

⚠ **Lubricant-Free cleaned valves have significantly higher actuation torque.**

⚠ **Ball Valves are designed for operation in the fully closed or fully open position.**

⚠ **Initial packing adjustment is recommended after installation and prior to start-up**

TECHNICAL DATA

Series	Pressure - Temperature Ratings			Orifice		Shut-off Service	Angle
	O-ring Material*	Temperature Rating °F (°C)	Pressure psig (bar)	inch	mm		
H	Buna N	-10 to 300 (-23 to 149)	2000 (137)	0.13	3.3	Yes	5°
	Ethylene Propylene	-10 to 300 (-23 to 149)					
F	Fluorocarbon FKM	-15 to 300 (-26 to149)	2000 (137)	0.055	1.4	Yes	3°
X	Perfluor	-0 to 300 (-18 to 149)	2000 (137)	0.03	0.8	Yes	1°
	Polychloroprene (CR)	-10 to 250 (-23 to 121)					

Fluorocarbon FKM is a standard O-ring for MBV-H, F, X

METERING HANDLE OPTIONS

Vernier Handle

Optional for H, F & X

Round Aluminum Handle*

Standard for H

Black is standard.
Colored handles are available upon request.
See "Ordering Information"

Metal Slotted Handle

Standard for F. Optional for H.

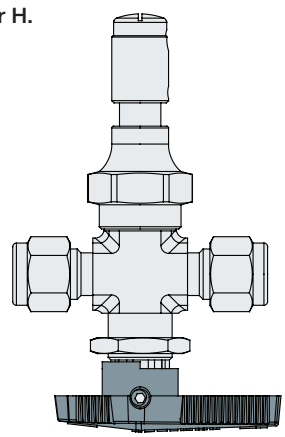
Metal Slotted Handle

Standard for X.

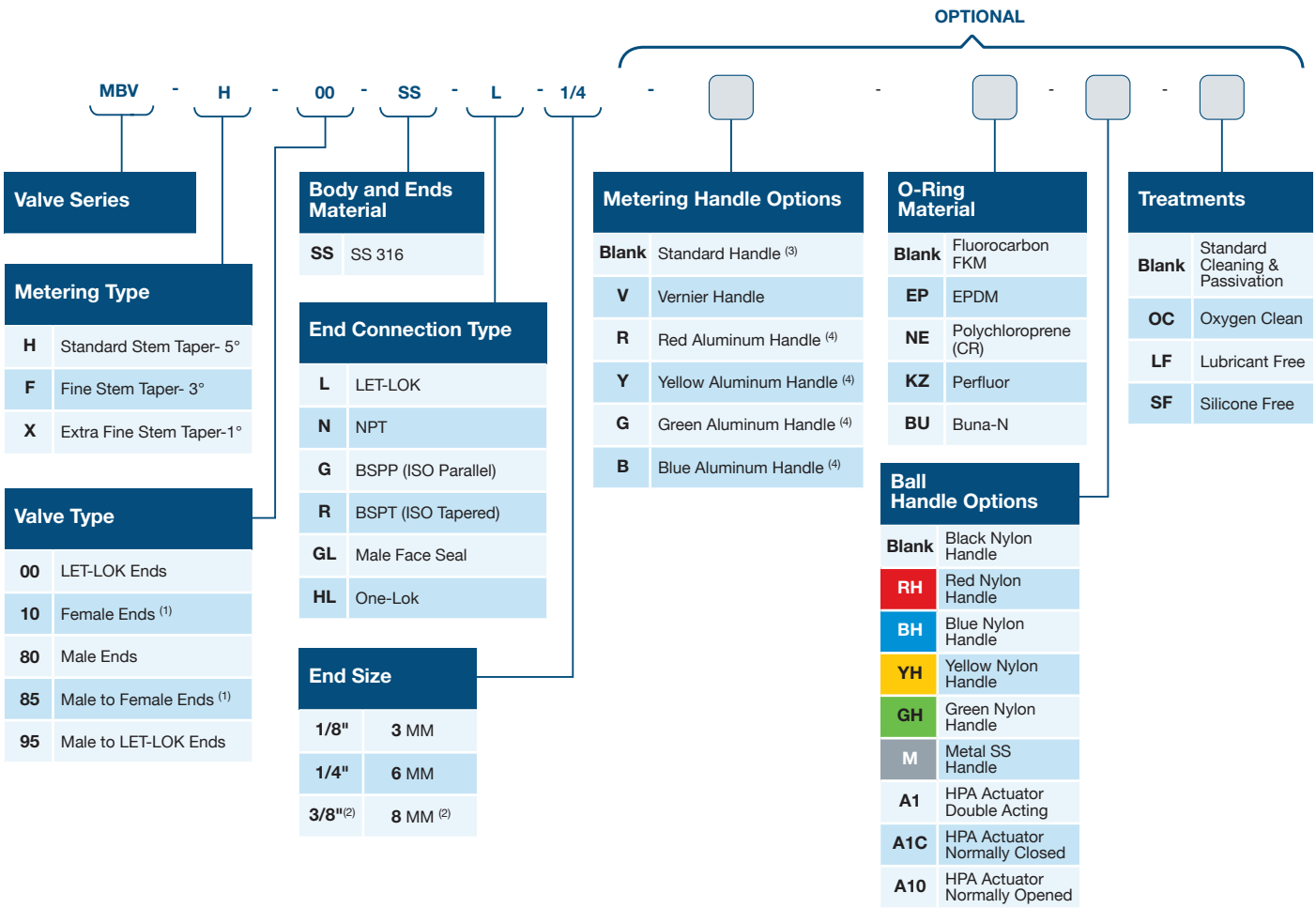
BALL HANDLE OPTIONS

MANUAL OPERATION

S - Black Handle*
B - Blue Handle
R - Red Handle
G - Green Handle
Y - Yellow Handle
M- Metal Handle
Black nylon handle is standard.



METERING BALL VALVE ORDERING INFORMATION



(1) Female threaded end connections available up to size 1/8".
(2) 3/8" and 8MM size available only for Let-Lok and One-Lok end connections types.
(3) Black Aluminum Handle is standard for H type metering ball valve.
Metal slotted handle is standard for F & X type metering ball valve.
(4) Colored Aluminum handles available for H type metering ball valves only.

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 PLUG VALVES

PLV SERIES

Platinum Natural Gas Solutions
www.ptngs.com
info@ptngs.com 484.897.0345

PLV FEATURES

- Tight shut-off with throttling capability
- One piece body design
- Replaceable plug assembly
- Stainless steel and brass construction
- MAWP 3000 psi (206 bar)
- MAWT 400ºF (204ºC)
- Variable end connection types & sizes from 1/8" to 1/2" (6mm to 12mm)
- Colored nylon handles
- Low-operating torque
- Easy to maintain & clean
- Choice of o-rings for chemical compatibility
- Passivated body

GENERAL

The PLV series offers a manually operated plug valve that features tight shut-off with high-pressure throttling capability, long life cycle service and low-operating torque.

The plug valve is rated to 3000 psig making it an optimal choice for a variety of instrumentation systems such as sampling, analytical purging and cleaning applications.

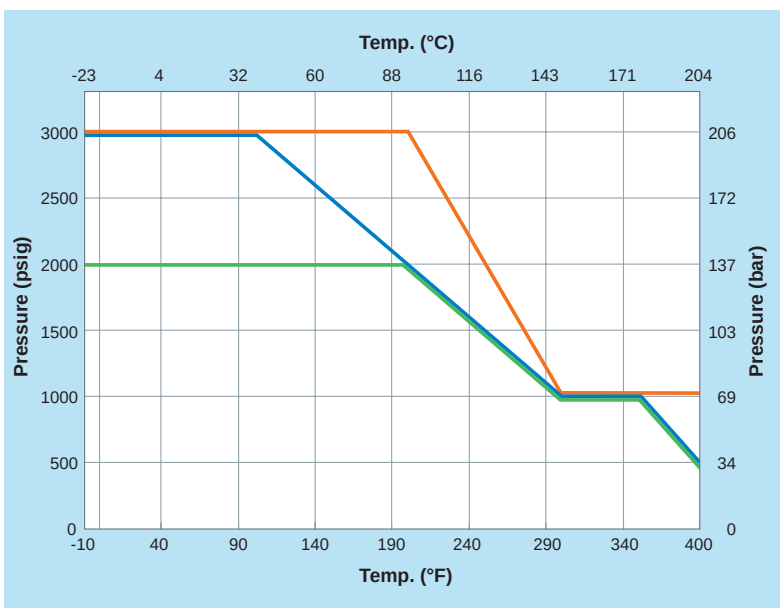
MATERIALS OF CONSTRUCTION

No.	Part	Qty	Material	
			Stainless Steel	Brass
1	Handle	1	Polythermide	
2	Pin	1	SST 316	
3	Plug*	1	PTFE Coated SST 316 A479	PTFE Coated Brass ASTM B-16
4	O-rings*	2	PTFE Coated Fluorocarbon FKM	
5	O-ring*	1	PTFE Coated Fluorocarbon FKM	
6	Pin	1	St.St.316	
7	Body*	1	SST 316 A479	Brass ASTM B-16
8	Retaining Ring	1	PH 15-7 Mo SST	
	Lubricant		Silicone Based	

*Wetted Parts

PRESSURE TEMPERATURE RATING

Based on PTFE Coated Fluorocarbon FKM O-rings.



O-RINGS

Different materials available for special applications.

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

TESTING

The plug valve design is burst and proof tested. Standard testing for each plug valve includes testing with nitrogen at 1000 & 80 psig. Each valve is tested for leakage through the shell and plug O-Rings. The maximum allowable leakage across the ball seats is 0.1 std cc/min.

CLEANING & PACKAGING

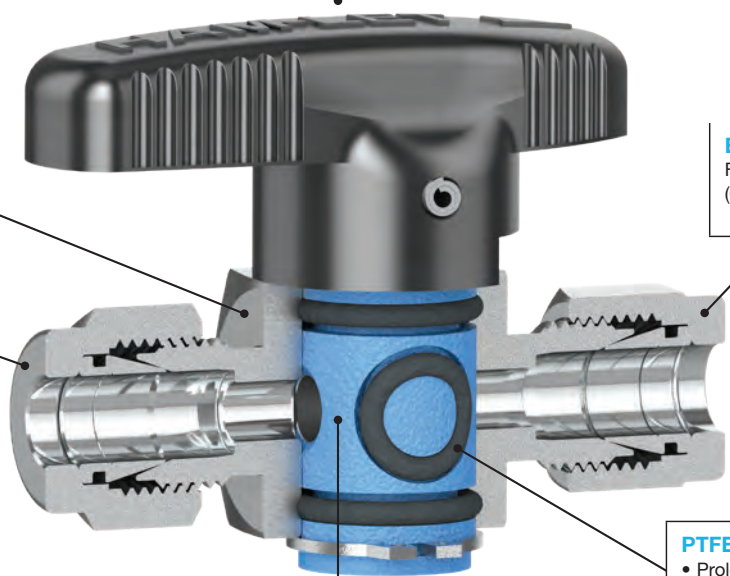
Every Plug valve is cleaned in accordance with standard cleaning and packaging (procedure 8184). Oxygen Clean & Lubricant-Free cleaning and packaging, in accordance with special cleaning and packaging (procedure 8185), is an option.
Lubricant-free cleaned valves have significantly higher actuation torque.

Replaceable Handle:
- Indicates direction of flow
- Nylon handle available in a variety of colors
- Designed for easy operation and low torque

Body:
- Bar stock construction
- Treated with passivation
- Available in 2 sizes for optimize flow rate (1/4" and 3/8")

End Connection Sizes:
From 1/8 to 1/2 (6mm to 12mm)

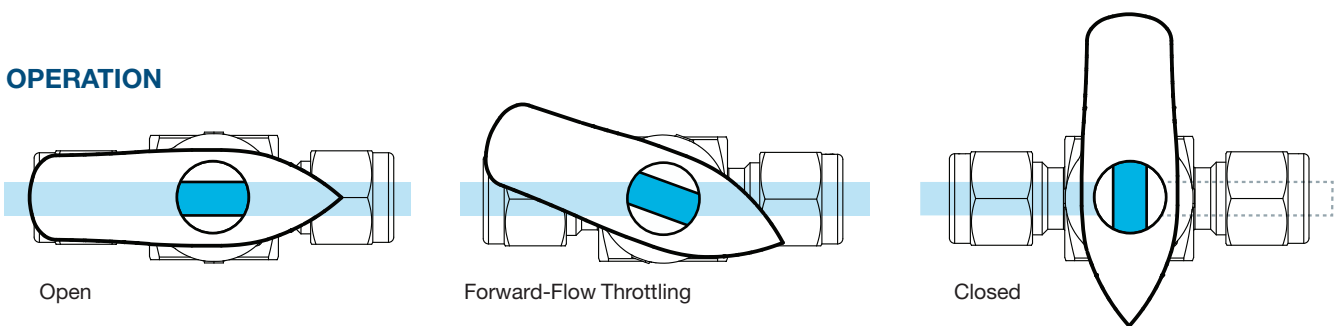
End Connection Types:
- Let-Lok, NPT, BSPT, BSPP



PTFE Coated O-rings:
- Prolongs product life
- Available in PTFE coated FKM, EPDM, Buna N and polychloroprene

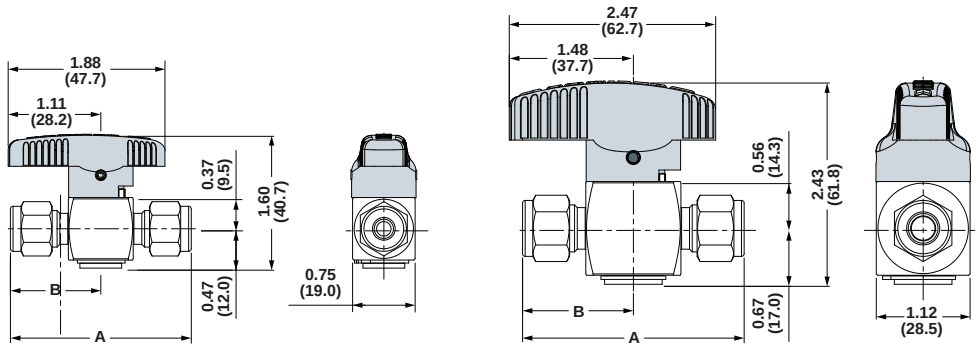
PTFE Coated Plug:
- Provides flow throttling option
- Easily replaceable
- Reduces operating torque

OPERATION



Open | Forward-Flow Throttling | Closed

- Valve is capable of bi-directional flow (please note maximum differential pressure is limited to 150 psig when flow is reversed).
- Reverse-flow throttling may damage O-ring.

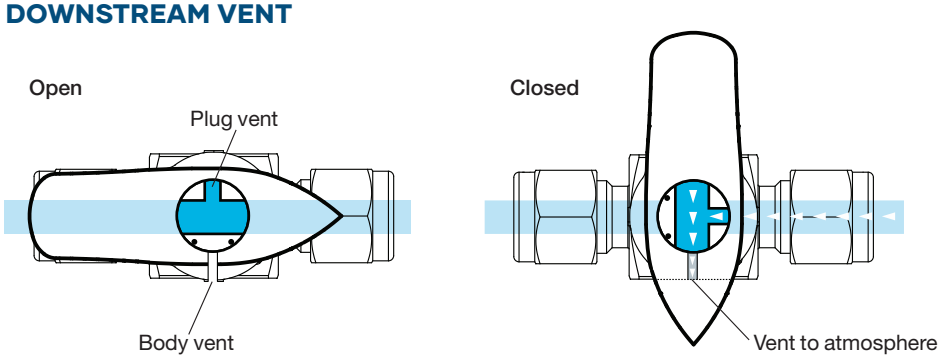


PLV STANDARD CONFIGURATION DIMENSIONS

Series	End Connection	Size	CV	Orifice		Dimensions			
						A		B	
	Type	inch		mm	inch	mm	inch	mm	inch
PLV4	Let-Lok® Imperial	1/8	0.1	2.3	0.093	50.5	1.99	25.3	0.99
PLV4		1/4	1.6	4.4	0.172	55.1	2.17	27.6	1.08
PLV4		3/8	1.1	4.4	0.172	58.2	2.29	29.1	1.14
PLV6			6.4	7.2	0.283	67.6	2.66	33.8	1.33
PLV6		1/2	4.4	7.2	0.283	73.2	2.88	36.6	1.44
PLV4	Let-Lok Metric	6mm	1.6	4.4	0.172	55.1	2.17	27.6	1.08
PLV6		8mm	6.4	7.2	0.283	67.6	2.66	33.8	1.33
PLV6		10mm	6.4	7.2	0.283	68.1	2.68	34	1.34
PLV6		12mm	4.8	7.2	0.283	75.2	2.96	37.6	1.48
PLV4	Female NPT/BSPT	1/8	1.2	4.4	0.172	45.2	1.78	22.6	0.89
PLV4		1/4	0.9	4.4	0.172	53.1	2.09	26.6	1.05
PLV6			4.3	7.2	0.283	60.5	2.38	30.3	1.19
PLV6		1/2	2.7	7.2	0.283	73.2	2.88	36.6	1.44
PLV4	Male NPT/BSPT	1/8	1	4.4	0.172	38.9	1.53	19.5	0.76
PLV4		1/4	1	4.4	0.172	48.3	1.9	24.2	0.95
PLV6		1/2	2.4	7.2	0.283	67.1	2.64	33.5	1.32
PLV4	Male NPT to Let-Lok	1/4	0.9	4.4	0.172	51.2	2.03	25.6	1.01
PLV4	Male to Female NPT	1/4	1	4.4	0.172	50.8	2	25.4	1.00

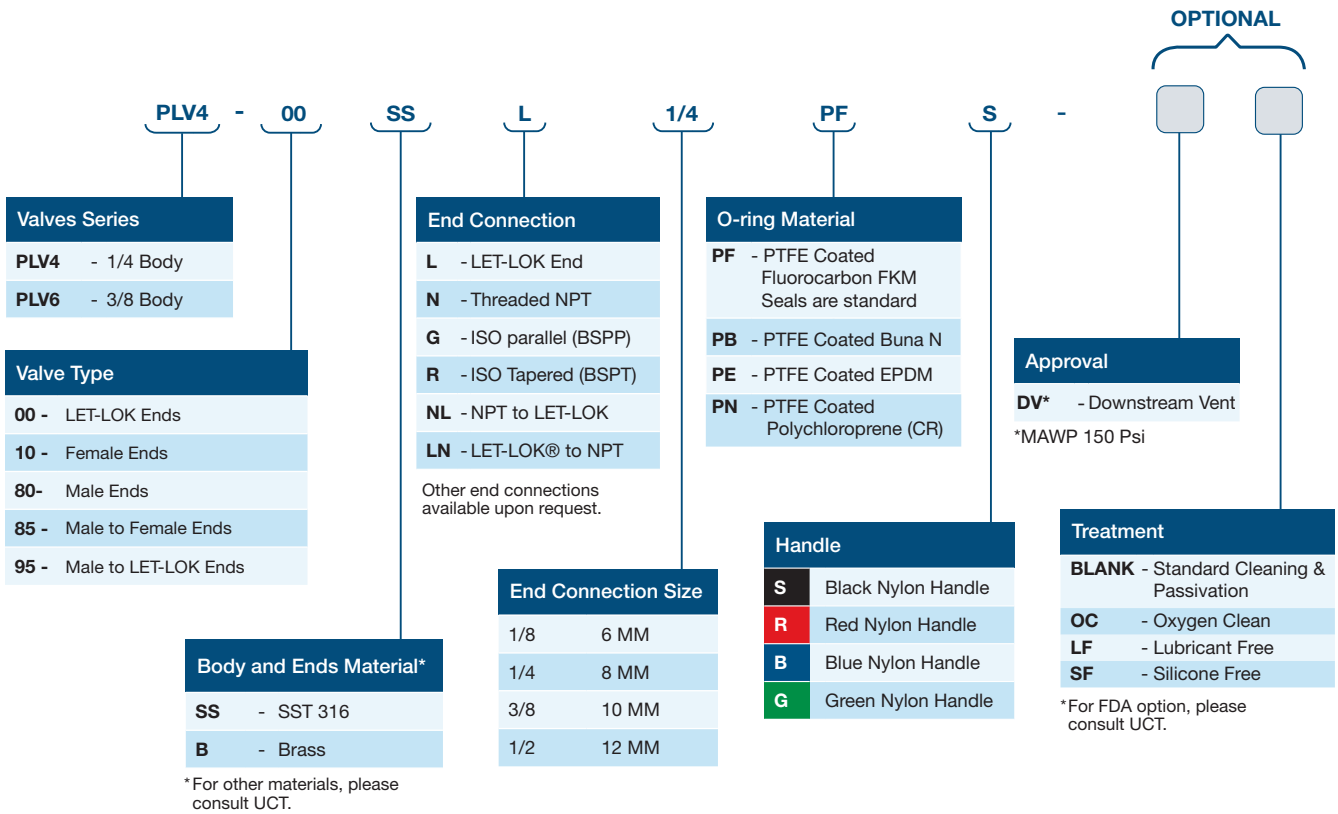
Dimensions are for reference only and subject to change.

DOWNSTREAM VENT



- In the closed position the plug valve allows the release of pressure to the atmosphere.
- The maximum working pressure for downstream vents is 150 psig.

PLV SERIES ORDERING INFORMATION



ORDERING INFORMATION FOR SPARE KIT

HANDLE KIT

Handle Kit includes handle and pin. To order a spare-parts kit, use the following format:

PLV4	-	HK	S

Body Designator Pre-Series

PLV4	- 1/4 Body
PLV6	- 3/8 Body

Kit Type

HK	- Handle KIT
PLV6	- 3/8 Body

Handle

S	Black Nylon Handle
R	Red Nylon Handle
B	Blue Nylon Handle
G	Green Nylon Handle

SEAL KIT

Sale Kit includes 3 O-rings. To order a spare parts kit, use the following format:

PLV4	-	SK	S

Body Designator Pre-Series

PLV4	- 1/4 Body
PLV6	- 3/8 Body

Kit Type Series

SK	- Seal Kit

O-ring Material

PF-	PTFE Coated Fluorocarbon FKM
FB-	PTFE Coated Buna N
PE-	PTFE Coated EPDM
PN-	PTFE Coated Polychloroprene (CR)

PLUG KIT

Plug Kit includes handle, plug and 3 O-rings. To order a spare -parts kit, use the following format:

PLV4	-	SS	PK	PF	S

Body Designator Pre-Series

PLV4	- 1/4 Body
PLV6	- 3/8 Body

Body and Ends Material

SS	SST 316
B	Brass

Kit Type

PK	- Plug Kit

O-ring Material

PF-	PTFE Coated Fluorocarbon FKM
FB-	PTFE Coated Buna N
PE-	PTFE Coated EPDM
PN-	PTFE Coated Polychloroprene (CR)

Handle

S	Black Nylon Handle
R	Red Nylon Handle
B	Blue Nylon Handle
G	Green Nylon Handle

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.

UCT

PURGE VALVES

Platinum Natural Gas Solutions
www.ptngs.com
info@ptngs.com 484.897.0345

PURGE VALVE

Purge valves are manual bleed, vent or drain valves that are pivotal in ensuring the optimal functioning of CNG-powered vehicles and industrial applications. Proper use of Purge valve efficiently expels any lingering gas, facilitating a safer and more reliable operation.

A simple one-quarter turn with a wrench, starting from finger-tight, achieves a leak-tight seal during the initial installation. The knurled cap is securely attached to the valve body enhanced safety. This mechanism provides a fail-safe solution to prevent gas build-up and ensure the system is ready for optimal performance.

PURGE VALVES FEATURES

- MAWT 4000 psig (275 bar)
- MAWT 600°F (315°C)
- 316 stainless steel material
- Integrated vent hole for liquid or gas excess
- Verity of end connections
- Metal slotted handle
- Permanently knurled cap for safety
- Compact for convenient installation

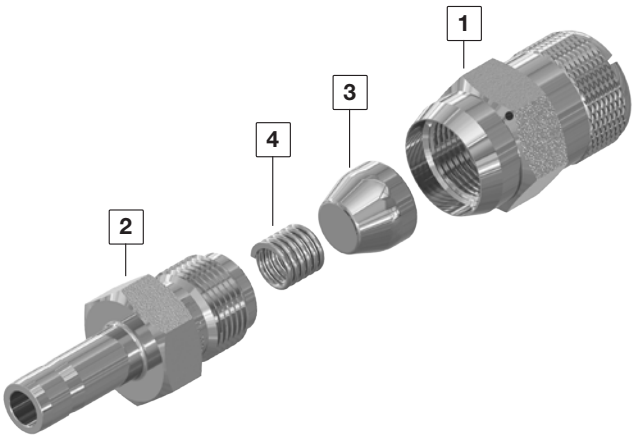
CLEANING & PACKAGING

Every Purge valve series is cleaned in accordance with Standard Cleaning and Packaging (procedure 8184). Oxygen Cleaning and Packaging is in accordance with special Cleaning and Packaging (Procedure 8185) and is available as an option.

MATERIALS OF CONSTRUCTION

No.	Part	Qty	Material
1	Cap*	1	316 SST
2	Body*	1	316 SST
3	Poppet*	1	316 SST
4	Spring*	1	304 SST
5	Lubricant		Silicone-based

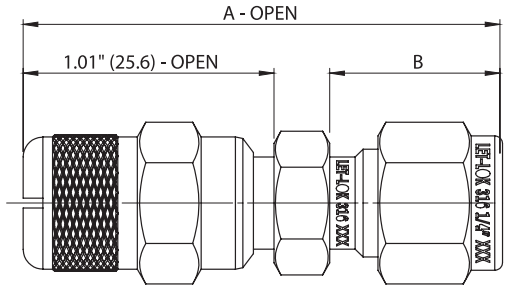
* Wetted parts
* Male SAE body has fluorocarbon FKM O-ring



PRESSURE -TEMPERATURE RATINGS

Material – 316 SST			
Temperature		Working Pressure	
°F	°C	psig	bar
–67	(–55)	4000	275
100	37	4000	275
150	65	3720	256
212	100	3450	237
302	150	3110	214
356	180	2980	205
392	200	2850	196
446	230	2750	189
500	260	2650	182
600	315	2500	172

PURGE VALVES CONFIGURATION DIMENSIONS



Inlet End Connection		Dimensions			
Type	Size	A		B	
		in.	mm	in.	mm
Female NPT	1/8"	1.54	39.2	-	-
	1/4"	1.72	43.8	-	-
	3/8"	1.79	45.5	-	-
	1/2"	1.98	50.3	-	-
Male NPT	1/8"	1.60	40.7	0.38	9.7
	1/4"	1.80	45.8	0.60	14.2
	3/8"	1.82	46.3	0.60	14.2
	1/2"	2.07	52.6	0.75	19
Male SAE / LOB	1/4"x 7/16-20	1.65	42	0.36	9.1
Let-Lok	1/8"	1.83	46.5	0.60	15.3
	1/4"	1.92	48.9	0.69	17.6
	3/8"	2.01	51.2	0.75	19.2
	1/2"	2.16	55	0.86	22
	3mm	1.83	46.5	0.60	15.3
	6mm	1.92	48.9	0.70	17.7
	8mm	1.98	50.2	0.74	19
	12mm	2.16	54.9	0.93	23.7
Tube Adaptor	1/4"	1.85	47.1	0.62	15.8
	3/8"	1.91	48.6	0.68	17.4
	1/2"	2.13	54.2	0.91	23.1

PURGE VALVES ORDERING INFORMATION

PV - 80 - SS - TS - 1/4 - (OPTIONAL)

Purge Valve

Valve Type	
80	- Male End
10	- Female
00	- Let Lok

Material	
SS	- 316

End Connection Type	
TS	- Tube Fittings
LOB	- Male SAE
N	- NPT
L	- Let Lok

End Connection Size	
1/8"	**3MM**
1/4"	**6MM**
3/8"	**8MM**
1/2"	**12MM**

Treatment	
BLANK	- Standard Cleaning & Passivation
OC	- Oxygen Clean
LF	- Lubricant Free
SF	- Silicone Free

⚠

CAUTION: During the installation of a Purge Valve, it is crucial to position the vent hole to direct system fluid away from operating personnel. The vent hole is designed to rotate with the cap, enabling a change in the discharge direction as the cap is turned.
To prevent fluid leakage, exercise caution and open the purge valves slowly. Remember that these valves do not incorporate packing, resulting in fluid leakage upon opening. Consequently, operating personnel must implement appropriate measures to safeguard themselves against potential exposure to system fluids.

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 HIGH PRESSURE TRUNNION BALL VALVES

TBV SERIES

TBV FEATURES

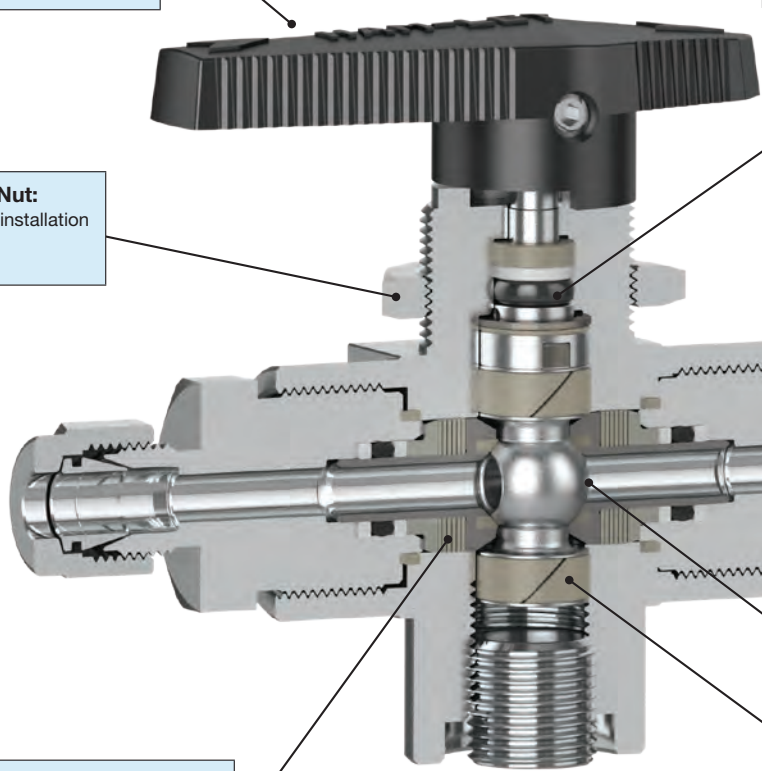
- On/Off-service ball valve with 2-way pattern
- Diverter, selector and on/off-service ball valve with 3-way pattern
- MAWP* 10,000 psi (689 bar) with PEEK seats
- MAWT** 446ºF (230ºC) with PEEK seats
- Variable end connection types and sizes from 1/4" to 1/2" or 6mm to 12mm
- Operation with colored nylon handles, metal handles, color anodized aluminum ISLT*** (locking device) handles
- Low-operating torque
- Easy panel mounting
- Electric and pneumatic actuators available

*Maximum Allowed Working Pressure
**Maximum Allowed Working Temperature
***ISLT – Integral Safety Lock-out Tag-out patented pending

GENERAL

The TBV series provides a reliable shut-off or switching function ball valve for high-pressure services. All ports are rated to the full operating pressure allowing for flexibility in application. Spring-loaded seats provide high-cycle life and low-operating torque for pressures up to 10,000 psig (689 bar).

⚠ **Ball Valves are designed for operation in the fully closed or fully open position.**



Replaceable Handle:
- Indicates flow direction
- Nylon handles available in a variety of colors
- Designed for easy operation and low torque

Enhanced FKM O-ring:
- Rated up to MAWT 230 °C
- Reduces operating torque and allows for the use of a smaller actuator
- Does not require packing adjustment
- Provides longer life-cycle

Panel Mounting Nut:
- Allows easy panel installation

Trunnion-Style Ball:
- MAWP 10,000 psi
- Blowout proof design
- Reduces operating torque

Spring-Loaded Seats:
- Provides leak-tight integrity in both low and high-pressure systems
- Reduces operating torque
- Stable performance in fluctuating temperature cycles

1/4 NPT Plug:
- Maintenance port

PEEK Radial Bearing:
- Prevents galling
- Low friction bearings prolong product life

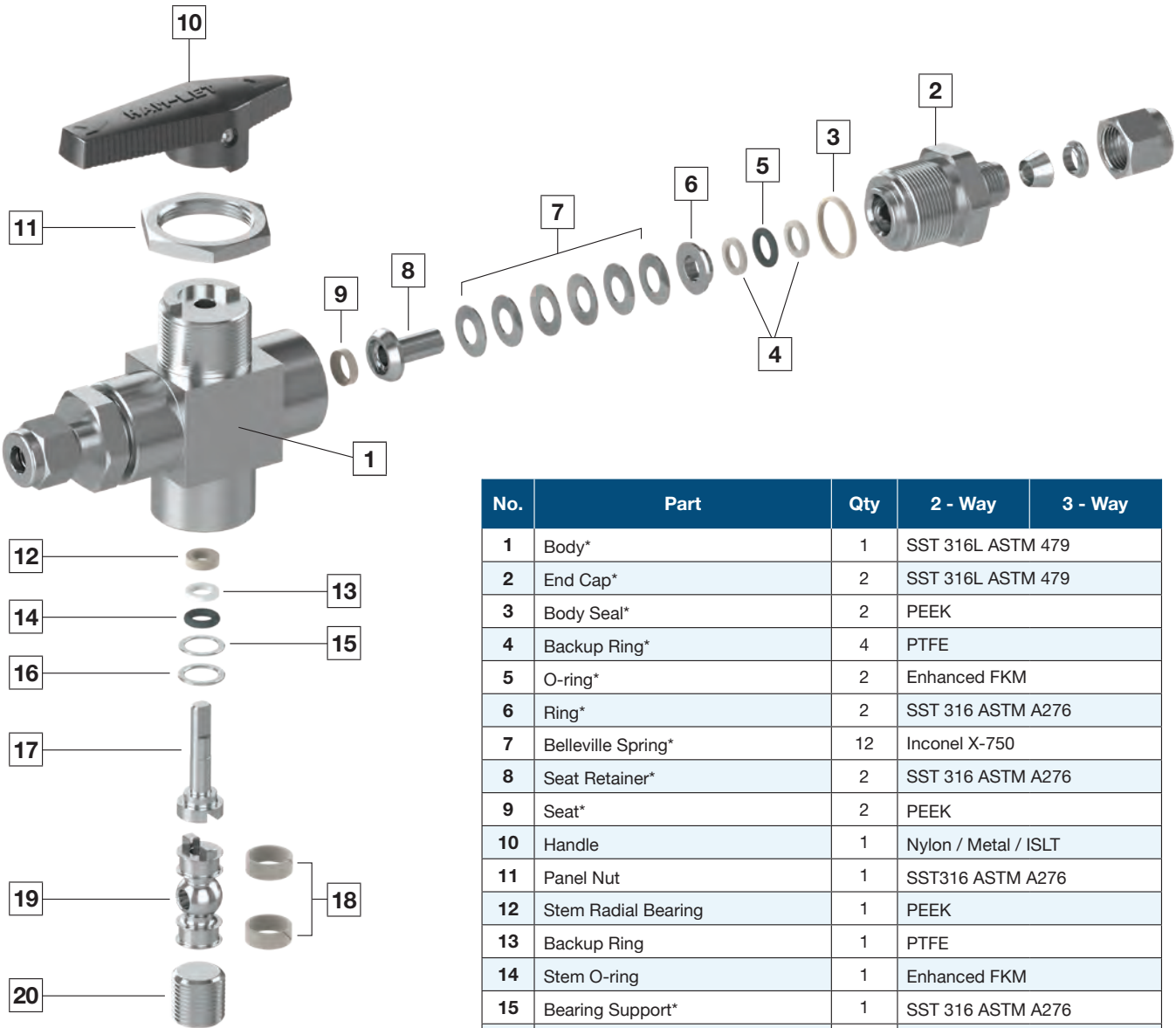
TESTING

The Trunnion ball valve design is burst and proof tested. Standard testing for each trunnion ball valve includes testing with nitrogen at 80 & 1000 psig. Each valve is tested for leakage through the shell and ball seats. The maximum allowable leakage across the ball seats is 0.1 std cc/min.

CLEANING & PACKAGING

Every Trunnion ball valve is cleaned in accordance with standard cleaning and packaging (procedure 8184). Oxygen clean cleaning and packaging, in accordance with special cleaning and packaging (procedure 8185), is available as an option.

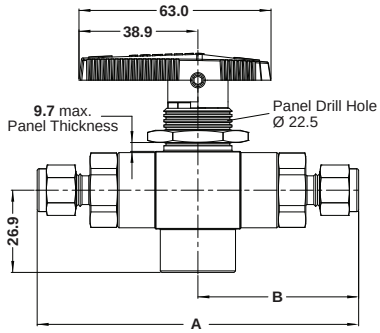
⚠ **Lubricant-free cleaned valves have significantly higher actuation torque.**

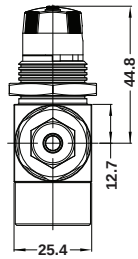


No.	Part	Qty	2 - Way	3 - Way
1	Body*	1	SST 316L ASTM 479	
2	End Cap*	2	SST 316L ASTM 479	
3	Body Seal*	2	PEEK	
4	Backup Ring*	4	PTFE	
5	O-ring*	2	Enhanced FKM	
6	Ring*	2	SST 316 ASTM A276	
7	Belleville Spring*	12	Inconel X-750	
8	Seat Retainer*	2	SST 316 ASTM A276	
9	Seat*	2	PEEK	
10	Handle	1	Nylon / Metal / ISLT	
11	Panel Nut	1	SST316 ASTM A276	
12	Stem Radial Bearing	1	PEEK	
13	Backup Ring	1	PTFE	
14	Stem O-ring	1	Enhanced FKM	
15	Bearing Support*	1	SST 316 ASTM A276	
16	Thrust Bearing*	1	PEEK	
17	Stem*	1	SST 316 ASTM A276	
18	Trunnion Radial Bearing*	2	PEEK	
19	Ball*	1	SST 316 ASTM A276	
20	Plug	1	SST 316 ASTM A276	-
	Lubricants		Silicone Based	

*Wetted parts

STRAIGHT PORT VALVE



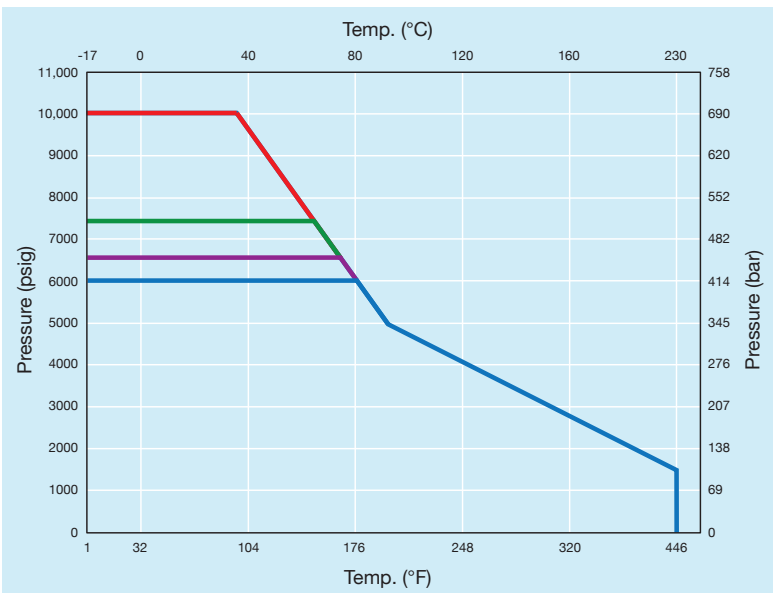


STANDARD CONFIGURATION DIMENSIONS FOR 2 & 3-WAY VALVE
Orifice 4.75 mm (0.187 in.)

End		Cv		A		B	
Connection	Size	2 Way	3 Way	mm	in	mm	in
LET-LOK® Inch	1/4”	1.6	0.75	105.0	4.14	52.5	2.07
	3/8”	1.4		112.0	4.39	55.5	2.19
	1/2”	1		117.0	4.60	58.5	2.3
LET-LOK Metric	6 mm	1.6		105.0	4.14	52.5	2.07
	8 mm	1.5		105.0	4.14	52.5	2.07
	10 mm	1.3		112.0	4.41	56.0	2.2
	12 mm	1		117.0	4.60	58.5	2.3
Female NPT	1/8”	1.2		74.7	2.94	37.5	1.47
	1/4”	1		99.8	3.93	49.9	1.97
	3/8”	0.9		96.5	3.80	48.25	1.90

Dimensions are for reference only and subject to change.

PRESSURE TEMPERATURE RATING



- LET-LOK 1/4”, Let-Lok 6mm, FNPT 1/8”
- LET-LOK 8mm, Let-Lok 10mm
- LET-LOK 3/8”, Let-Lok 1/2”, Let-Lok
- FNPT 3/8”

MAX. PRESSURE RATING AT 70°F (21°C)

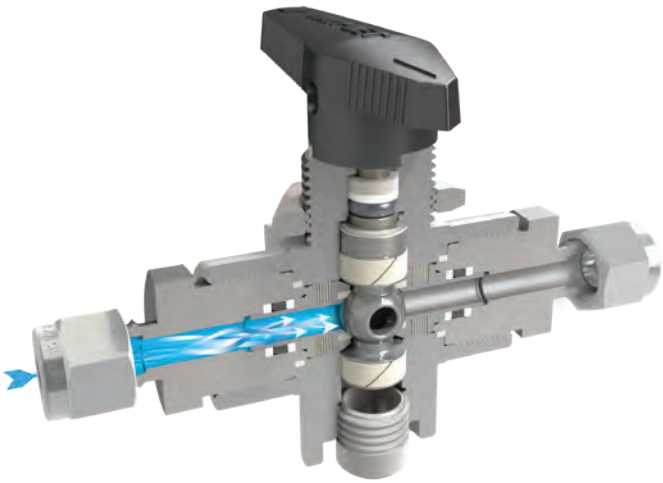
Pressure per LET-LOK Size

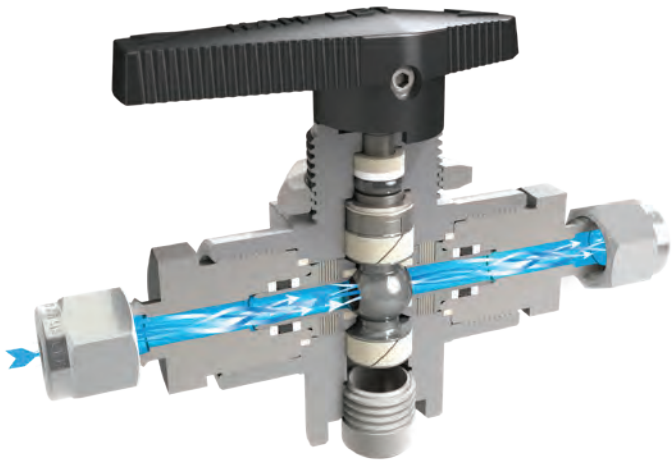
in	Pressure	mm	Pressure
1/4”	10000 psi	6	10000 psi
3/8”	6500 psi	8,10	7500 psi
1/2”	6500 psi	12	6500 psi

NOTE: The maximum allowed working pressure that is marked on the valve may be limited according to the pressure limitations that are recommended by the tubing/piping standards (Reference: LET-LOK tube fittings General Information).

TRUNNION BALL VALVES - FLOW DIRECTION

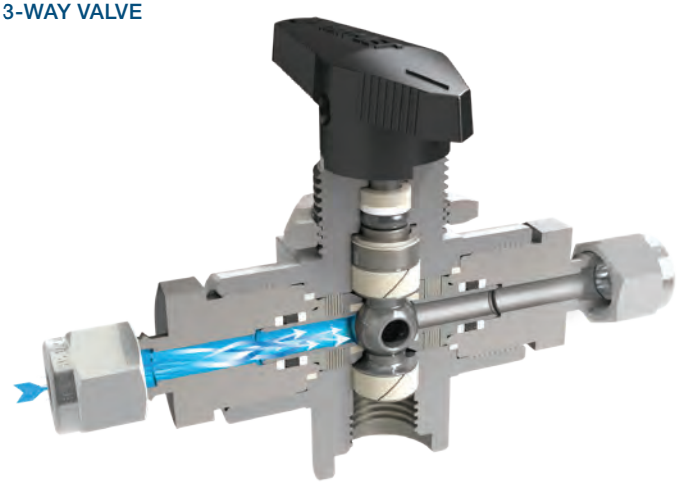
2-WAY VALVE

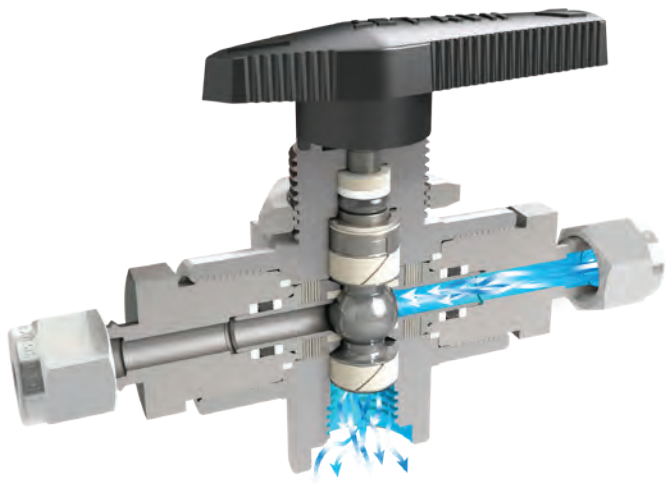




Bi-directional flow

3-WAY VALVE





Bi-directional flow

Bi-directional flow

Straight Port Valve
Capable of bi-directional flow at full operational pressure

3 - Port Valve
Capable of either side entry or bottom entry with bi-directional flow at full operational pressure

TRUNNION BALL VALVE - PNEUMATICALLY ACTUATED VALVES

FEATURES

- 90° Actuation for 2-way valves
- 180° Actuation for T-type valves
- Actuators comply with industry standards for interface with ISO 5211, NAMUR and VDI/VDE 3845
- Actuated valves available factory assembled or separately as actuator and mounting kits
- Limit switches, proximity sensors, position indicators, solenoid valves and other accessories available upon request
- Standard temperature range: -32°C to 90°C (-25.6°F to 194°F)
- Optional: High Temperature, Low Temperature

ACTUATION

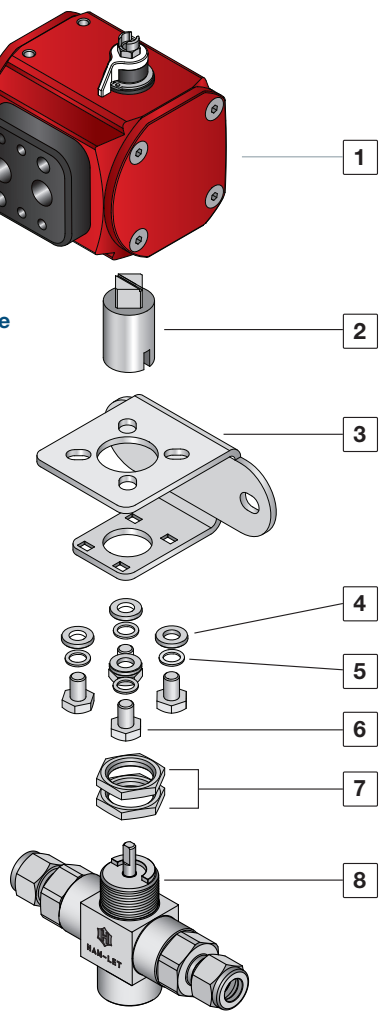
Standard actuator sizes available upon request:
Mini (designator “A1”), Small (designator “A2”) and 180° Actuator (designator “A2T”).
Improved operational speed enables better valve opening and closing control.
ATEX certification of valve-actuator assemblies available on request at the time of order quotation.

MATERIALS OF CONSTRUCTION

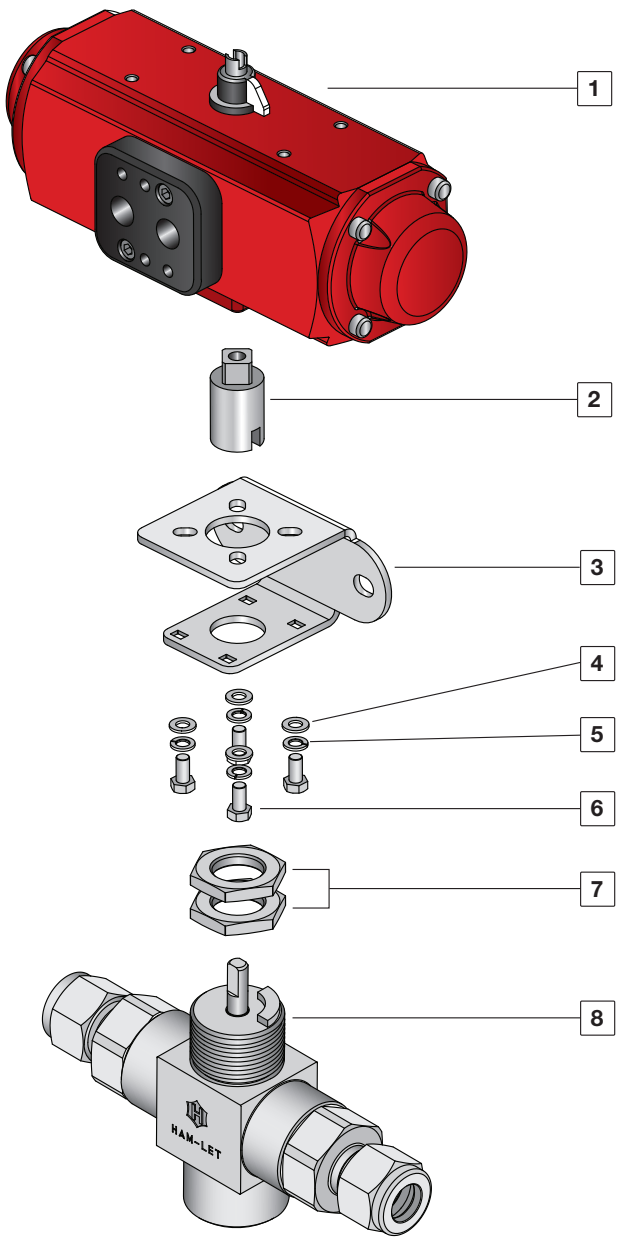
No.	Part	Qty	Material
1	Actuator	1	AL 356-T5
2	Coupling	1	SST 316
3	Bracket	1	SST 304
4	Washer Flat	4	SST 304
5	Washer Spring	4	SST 304
6	Screw	4	SST 304
7	Panel Nut	2	SST 316
8	TBV	1	SST 316 / Brass*

*Body material: SST ASTM A-276

90° Actuator on 2-way valve



180° Actuator on T-type valve



TRUNNION BALL VALVE - PNEUMATICALLY ACTUATED VALVES

HAM-LET PNEUMATIC ACTUATORS

The selection of Valve-Actuator assemblies provided here is based on:

- Valve maximum allowable working pressure
- Ambient temperature (50 to 100°F /10 to 37°C)
- Actuator fits valve based on operating pressure of 6 bar, as per table A.

To order TBV ball valve factory assembled with an actuator, add the actuator designator to the valve part number / description per the table below.

Example:

TBV-00SSL1/4ASS with standard Double Acting Aluminum Actuator

TBV-00SSL1/4AS-A1

To order an actuator and mounting kit for field assembly:

Double acting Actuator ordering number: Z-A1

Corresponding mounting kit: Z-TBV-MK-1/4-F03-F04-A1

TABLE A: ORDERING INFORMATION FOR ACTUATED VALVES

Series	Ends Size	Seats	Minimum Actuator Operating Pressure Bar (Psi)	Actuator Designators (Factory Assembled)			Actuator Ordering Code		Mounting Kit Ordering Info
				Spring Return		Double Acting	Spring Return	Double Acting	
				NO	NC				
TBV	1/8”-1/2” (6mm-12mm)	PEEK	5 (72.5)	A2O	A2C	A1	Z-A2S	Z-A1	Z-TBV-MK-1/4”-F03-F04-A1
									Z-TBV-MK-1/4”-F03-F04-A2
TBV T-type	1/8”-1/2” (6mm-12mm)	PEEK	5 (72.5)	A2TS	A2TS	A2T	Z-A2TS	Z-A2T	Z-TBV-MK- 1/4”-F03-F04-A2

NOTE: For dimensions of actuators assembled on the TBV series, please refer to the HPA section.

For actuated valves, in cases where the valve will be cycled more frequently than once per hour, please contact your UCT representative.

TRUNNION BALL VALVE - SERIES ORDERING INFORMATION

OPTIONAL

TBV - 00 SS L 1/4 A S S HT - [ ] [ ]

Valves Series

Valve Type

00 -	LET-LOK® End Connection
10 -	Female End Connection

Body and Ends Material*

SS	- SST 316

*For other materials, please consult UCT.

End Connection

L	- LET-LOK End
N	- Threaded NPT
R	- ISO Tapered (BSPT)

Other end connections available upon request.

End Connection Size

1/8”	6 MM
1/4”	8 MM
3/8”	10 MM
1/2”	12 MM

Seat Material

A	PEEK

Handle

S	Black Nylon Handle
R	Red Nylon Handle
B	Blue Nylon Handle
Y	Yellow Nylon Handle
G	Green Nylon Handle
M	Metal (St.St.) Handle
ISLTS	ISLT Black
ISLTB	ISLT Blue
ISLTR	ISLT Red
ISLTY	ISLT Yellow
ISLTG	ISLT Green

Valve Pattern Type

S	Straight Port Valve
T	3-Port Valve

Temperature Configuration

HT	High temp. range

Actuator Type

*See notes below

Treatment

BLANK	- Standard Cleaning & Passivation
OC	- Oxygen Clean
SI	- Silicone Coating
SF	- Silicone free

***For Actuated Valves**

- If special cleaning is required, OC will be added at the end and applicable for the valve only
- Example: TBV-00SSL1/4AS - A1 OC
- For ordering information of actuators for high temperature, please refer to the Pneumatic Actuator Catalog
- For double mounting actuators, please contact your local representative.
- For actuators accessories (Limit Switch, Solenoid Valve), please refer to the Pneumatic Actuator Catalog
- For Stainless Steel Actuator or Electric Actuator, please contact your local representative

ORDERING INFORMATION FOR SPARE KITS

SEAL KIT

Seal Kit includes body seals, backup rings, O-rings, rings, belleville springs, retainer seats, seats, stem, radial bearing, support bearing and thrust bearing.

Z - TBV - SK - A - S

Kit Type	
SK -	Seal Kit

Seat Material	
A -	PEEK

Valve Pattern	
S	For Straight
T	For T Port Valves

HANDLE KIT

Handle kit includes handle and set screw. To order a spare-parts kit, use the following format:

Z - TBV - HK - S

Kit Type	
HK	Handle Kit

Handle Type	
S	Black Nylon Handle
R	Red Nylon Handle
B	Blue Nylon Handle
Y	Yellow Nylon Handle
G	Green Nylon Handle
M	Metal (St.St.) Handle
ISLTS	ISLT Black
ISLTB	ISLT Blue
ISLTR	ISLT Red
ISLTY	ISLT Yellow
ISLTG	ISLT Green

ISLT

Integral Safety Lock-Out Tag-Out Device

The integral locking mechanism enables safe and easy use for valve position locking and tagging. The design prevents undesirable valve position changes without the requirement for additional locking equipment.
Available for 2-way straight pattern, locked-open and locked-close positions.
For 3-way pattern valves, the ISLT handle can lock in the left, center and right positions.

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.