

# COMPACT ONE-PIECE BALL VALVES

## H-800 SERIES



**H-800 FEATURES**

- On/off-service, one-piece Ball Valve with 2-way pattern
- Encapsulated Ball Stem design
- Diverter and on/off-service, one-piece Ball Valve with 3-way pattern
- Stainless Steel construction
- Allows bidirectional flow in 2-way straight pattern
- Has virtually no dead space
- One-piece Ball Stem ensures alignment of stem and orifice
- MAWP 3000 psi (206 bar)
- MAWT 300°F (149°C)
- Panel mountable
- Vent options
- Variable end connection types and sizes from 1/16" to 1/2", 3mm to 12mm
- Operation with colored Nylon handles, metal handles

**H-800 GENERAL**

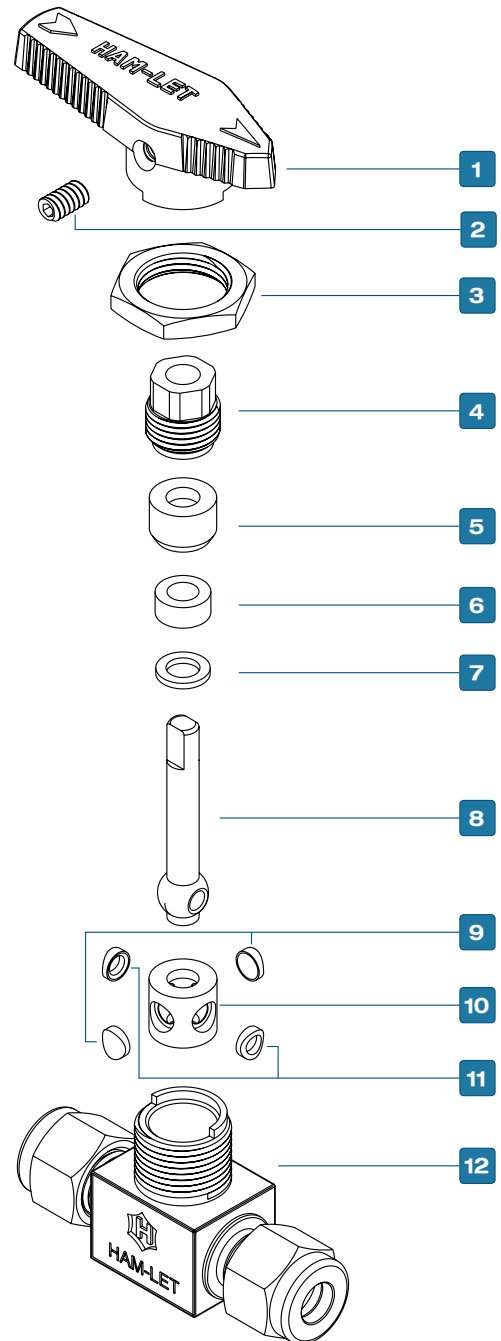
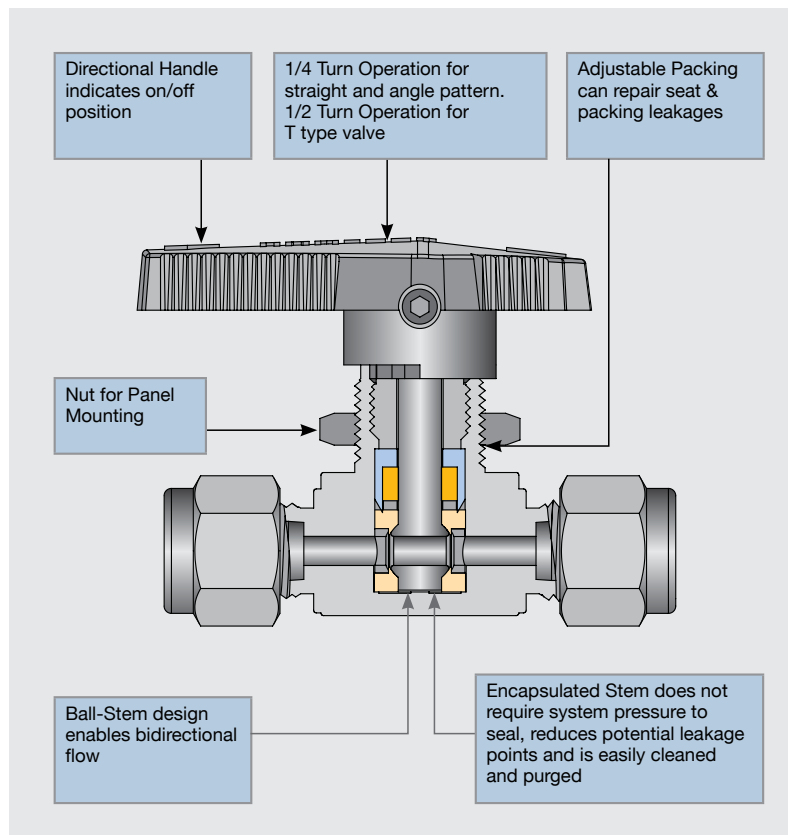
The H-800, one-piece Ball Valve series is designed for general service and instrumentation panels. Valve design enables low and high working pressure and accommodating a wide temperature range with high life cycle.

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

HAM-LET H-800 Ball Valves are designed for fully open or fully closed operation only.

After a period of non-operation, valve's braking torque may rise.

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



**TESTING**

HAM-LET H-800 design has been tested for Burst and Proof. Standard testing for each H-800 valve includes testing with nitrogen at 1000psig. Each valve is tested for leakage through the shell, packing and ball seats. The maximum allowable leakage across the ball seat is 0.1 std cc/min.

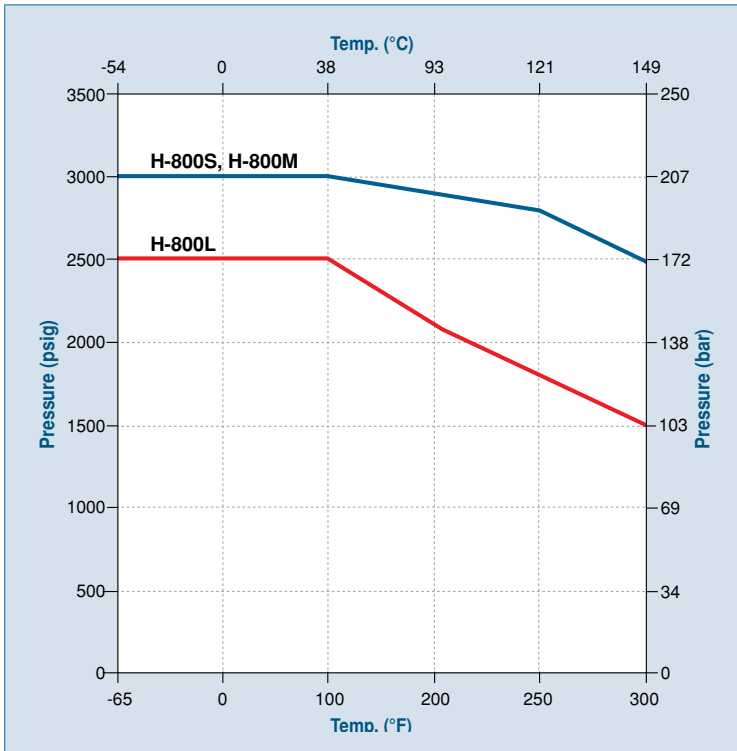
**CLEANING & PACKAGING**

The H-800 One Piece Ball Valve is treated with HAM-LET "Passivation Cleaning and Packaging (Procedure 8075)". HAM-LET Cleaning and packaging (procedures 8075 and 8055) are available for reference on HAM-LET website.

**PACKING ADJUSTMENT**

Due to the varied service applications of the valve, packing adjustment may be occasionally 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. HAM-LET Ball Valves are designed for operation in fully closed or fully open position only.

**PRESSURE TEMPERATURE RATING**



**H-800 COLORED AND METAL HANDLES**

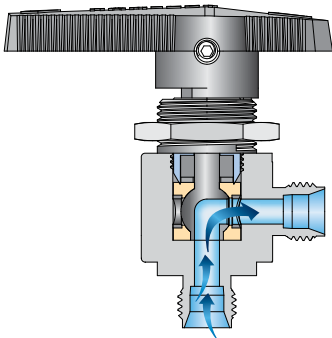


**MANUAL OPERATION**

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

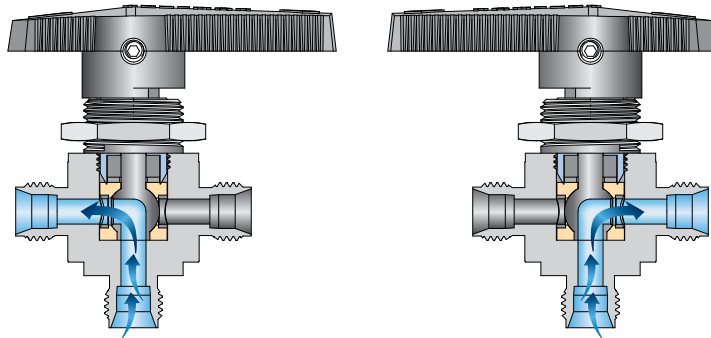
**FLOW DIRECTION**

**H-800 Angle-Type**



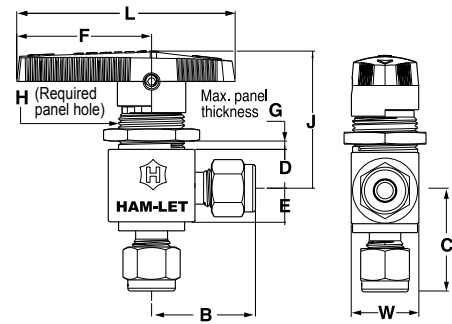
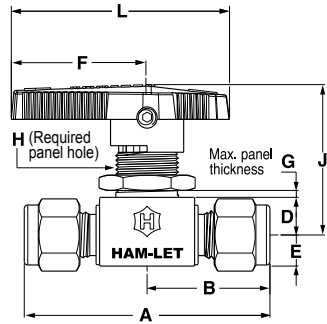
NOTE: Bottom Entry Only

**H-800 T-Type**



NOTE: Bottom Entry Only

STRAIGHT PORT VALVE & ANGLE PATTERN

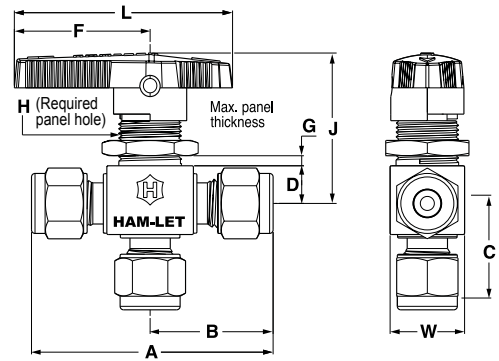


STANDARD CONFIGURATION DIMENSIONS

End connection	Type	Size	Body Size Designator	Orifice		CV straight	CV angle	Dimensions																																		
				mm	inch			A		B		C (Angle)		D		E		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	mm	inch													
Let-Lok Imperial	S	1/16	1.3	0.051	0.1	-	42.7	1.68	21.35	0.84	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														
		1/8	2.4	0.094	0.2	0.15	51.1	2.01	25.70	1.01	24.6	0.97																														
		1/4	3.2	0.126	0.6	0.35	56.1	2.21	27.90	1.10	27.2	1.07																														
	M	1/4	4.8	0.189	1.4	0.9	60.7	2.39	30.50	1.20	29.7	1.17	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														
		3/8	6	2	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	12	4.6	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	S	3mm	2.4	0.094	0.2	0.15	51.1	2.01	25.70	1.01	24.6	0.97	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														
		6mm	3.2	0.126	0.6	0.35	56.1	2.21	28.05	1.10	27.2	1.07																														
		8mm	4.8	0.189	1.4	0.9	60.7	2.39	30.35	1.20	29.7	1.17																														
	M	10mm	7.1	0.279	6	2	78.0	3.07	38.90	1.53	36.3	1.43	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														
		12mm	12	4.6	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
		12mm	12	4.6	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	S	1/8	3.2	0.126	0.5	0.3	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														
		1/4	1.2	0.7	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
	M	1/4	4.8	0.189	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	37.3	1.47	19.8	0.78														
		3/8	3	1.7	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			1.2	0.75	50.8	2.00	25.40	1.00	26.2																																
M-NPT to Let-Lok	1/4	M	4.8	0.189	1.6	0.75	55.9	2.20	30.5	1.20	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	37.3	1.47	19.8	0.78														
Female ISO 7-1 tapered	1/4			0.9	-	52.3	2.06	26.15	1.03	26.15																																
	3/8	L	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	9.7	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	0.9	47.8	1.88	23.90	0.94																			11.2	0.44												
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	9.7	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	0.9																							11.2	0.44												
	1/2	L	7.1	0.279	6	-	73.2	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	38.1	1.5														

Dimensions are for reference only, and are subject to change.

3-WAY VALVE



STANDARD CONFIGURATION DIMENSIONS

End connection		Body Size Designator	Orifice		CV	Dimensions																			
Type	Size		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	8.6	0.34	31.0	1.22	50	1.97	6.4	0.25	15.1	0.59	34.5	1.36	17	0.67
	1/8		2.4	0.094	0.15	51.1	2.01	25.70	1.01	24.6	0.97														
	1/4	M	3.2	0.126	0.35	56.1	2.21	27.90	1.10	27.2	1.07	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
			4.8	0.189	0.9	60.7	2.39	30.50	1.20	29.7	1.17														
	3/8	L	7.1	0.279	2	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	L			4.6	88.4	3.48	44.20	1.64	44.2	1.74	17.5	0.69	76.2	3	82.3	3.24	9.5	0.38	38.1	1.5	61.7	2.43	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	8.6	0.34	31.0	1.22	50	1.97	6.4	0.25	15.1	0.59	34.5	1.36	17	0.67
	6mm		3.2	0.126	0.35	56.1	2.21	27.90	1.10	27.2	1.07														
	8mm	M	4.8	0.189	0.9	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
					0.8	62.5	2.46	31.25	1.23	30.5	1.2														
	10mm	L	7.1	0.279	2	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	L			4.6	88.4	3.48	44.20	1.63	44.2	1.74	17.5	0.69	76.2	3	82.3	3.24	9.5	0.38	38.1	1.5	61.7	2.43	28.4	1.12
F-NPT	1/8	S	3.2	0.126	0.3	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
					1.7	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	L	7.1	0.279	1.5	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	0.8	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
Female ISO 7-1 tapered	1/4		0.75	52.3			2.06	26.15	1.03	26.15															
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	0.9							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 are subject to change.

**H-800 - PNEUMATIC ACTUATED VALVES**

**FEATURES**

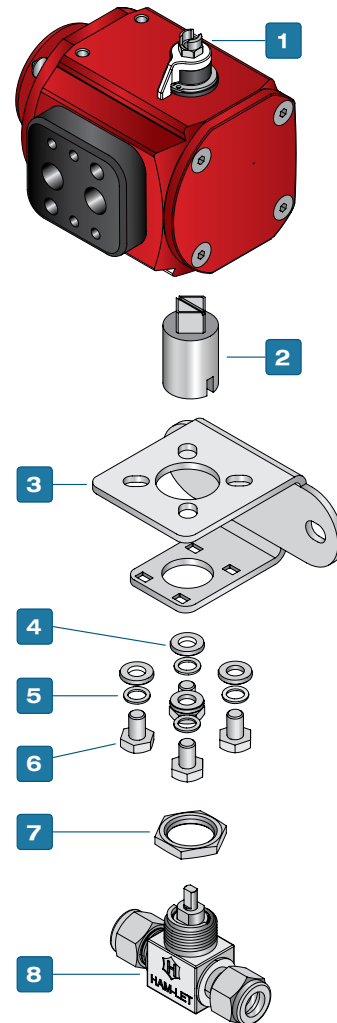
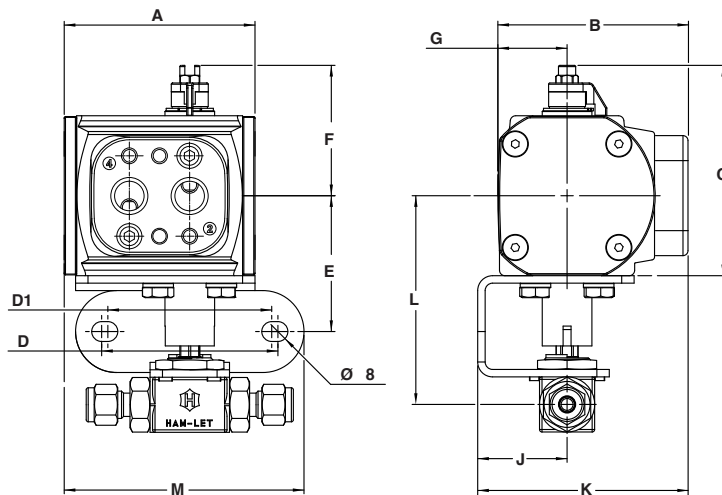
- 90° Actuation for 2-way valves (Straight & Angle)
- Actuators comply with industry standards for interface with ISO 5211, NAMUR and VDI/VDE 3845
- Actuated valves are available factory assembled or separately, actuator and mounting kits
- Limit switches, proximity sensors, position indicators, pilot 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 on request at the time of order quotation.

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

**STANDARD CONFIGURATION DIMENSIONS**



Series	Body Designator	Ends Size	Seats Material	Actuator Model	Units	A	B	C	D	D1	E	F	G	J	K	L	M	
H-800	S	1/16"-1/4" (3mm-6mm)	PFA	SR	A1S	mm	96.5	76.1	84.1	71	66	59.7	51.8	27.9	35	83.2	85.8	116.2
					inch	3.8	3.0	3.31	2.8	2.6	2.35	2.04	1.1	1.38	3.27	3.48	4.57	
				DA	A1	mm	76.8	76.1	84.1	71	66	54.7	51.8	27.9	35	83.2	85.8	96.6
					inch	3.02	3.0	3.31	2.8	2.6	2.15	2.04	1.1	1.38	3.27	3.48	3.8	
	M	1/4"-3/8" (6mm-8mm)		SR	A1S	mm	96.5	76.1	84.1	71	66	59.7	51.8	27.9	35	83.2	88.4	116.2
					inch	3.8	3.0	3.31	2.8	2.6	2.35	2.04	1.1	1.38	3.27	3.48	4.57	
				DA	A1	mm	76.8	76.1	84.1	71	66	54.7	51.8	27.9	35	83.2	88.4	96.6
					inch	3.02	3.0	3.31	2.8	2.6	2.15	2.04	1.1	1.38	3.27	3.48	3.8	
	L	3/8"-1/2" (10mm-12mm)		SR	A2S	mm	140.2	76.1	88.6	71	66	59.7	51.8	27.9	35	83.2	95.9	x
					inch	5.52	3.0	3.49	2.8	2.6	2.35	2.04	1.1	1.38	3.27	3.77	x	
				DA	A1	mm	76.8	76.1	84.1	71	66	54.7	51.8	27.9	35	83.2	91.4	96.6
					inch	3.02	3.0	3.31	2.8	2.6	2.15	2.04	1.1	1.38	3.27	3.6	3.8	

**ACTUATED H-800 SERIES**



**H-800 One Piece Ball Valves features, materials of construction, and technical data, are available in Ham-Let valves catalog.**

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.

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. For 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**



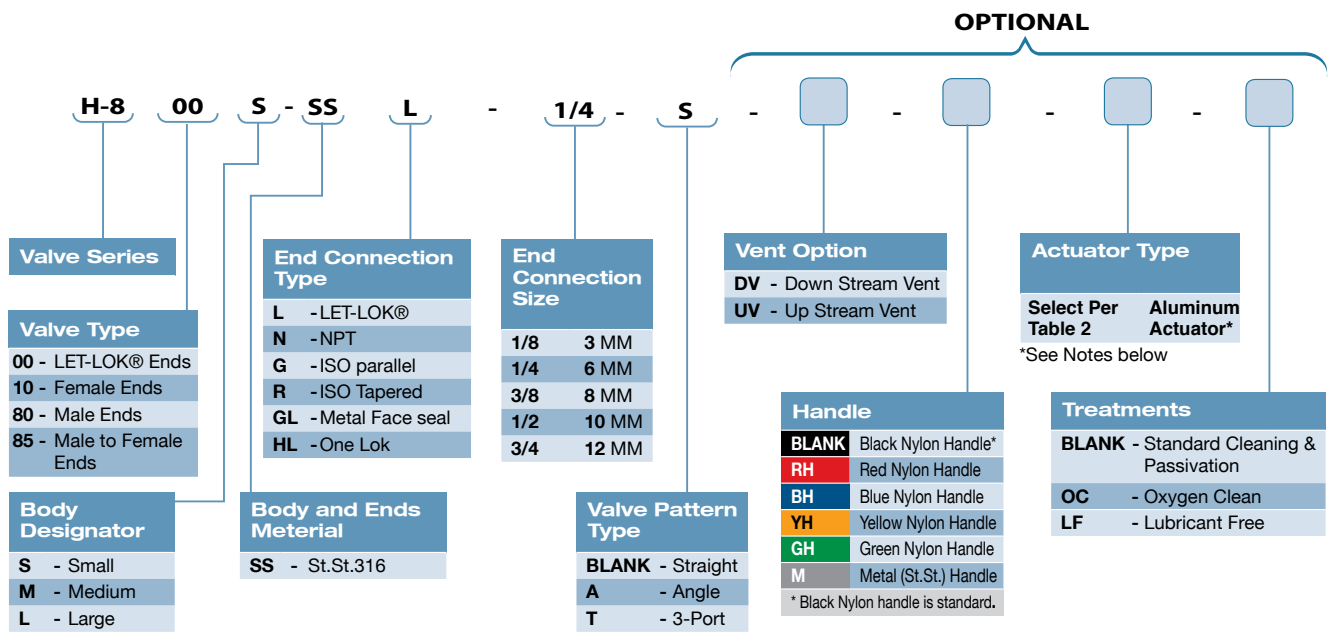
Table 2: Ordering information for Actuated Valves

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				
<b>H-800</b>	S	PFA	5 (72.5)	A1O	A1C	A1	Z-A1S	Z-A1	Z-800S-MK-F03-F04
	M		5 (72.5)	A1O	A1C	A1	Z-A1S	Z-A1	Z-800M-MK-F03-F04
	L		5 (72.5)	A2O	A2C	A1	Z-A2S	Z-A1	Z-800L-MK-F03-F04

**Ham-Let ISO 5211 mounting kits for H-800 Series contain:**

<p><b>Note:</b> Mounting Kit ordering Information describes interface per ISO 5211. for example: Z-800S-MK-F03-F04 complies with: ISO 5211 flange types F03-F04</p>	Part	Qty	Material
	Coupling	1	St.St 316
	Bracket	1	St.St 304
	Screw	4	St.St 304
	Washer spring	4	St.St 304
	Washer flat	4	St.St 304
	Panel nut	1	St.St 316
	Mounting instructions	-	-

**H-800 SERIES ORDERING INFORMATION**

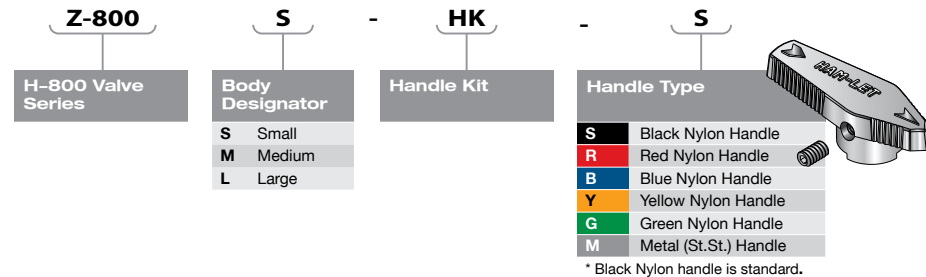


**For Actuated Valves**

- If special cleaning is required, LF / OC will be added in the end, and will refer to the Valve only.  
For example: **H - 800S - SS - L - 1/4 - A1 - 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.
- 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.

**HANDLE KIT**

Handle kit contains handle and set screw



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