

# COMPACT ONE PIECE BALL VALVES AND CYLINDRICAL VALVES

H800  
SERIES



## H-800 FEATURES

- 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
- Allows bi-directional flow in 2-way straight pattern
- Has virtually no dead volume
- 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 handle and pneumatically actuated

## 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.

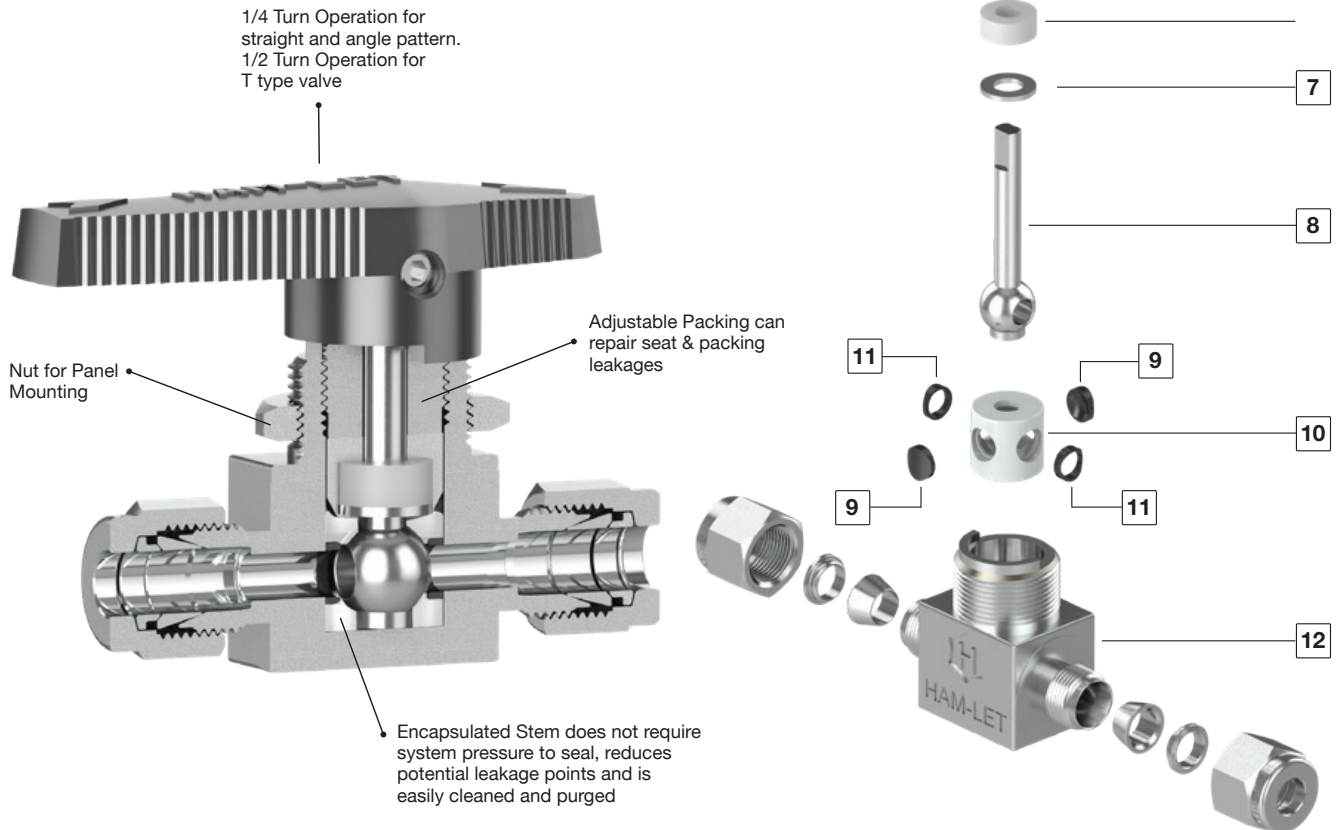
One-piece body design reduces possibility of shell leakage. The valves offer tight shut-off, long-life service and low operating torque.

HAM-LET H-800 Ball Valves are designed for fully open or fully closed operations only. After a period of non-operation, the valve's braking torque may rise.

## MATERIALS OF

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
	Lubricant		Silicone based

\* Wetted parts



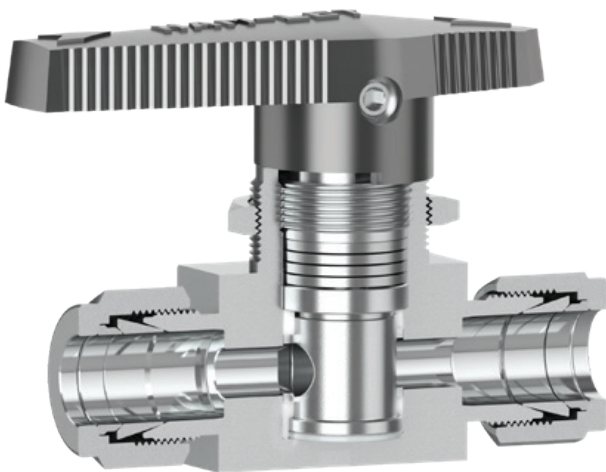
## H-800KL CYLINDRICAL VALVE FEATURES

- Certified for ISO 15848-1:2006(E)
- 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
- Has virtually no dead volume
- One-piece Cylindrical 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 handle and pneumatically actuated

## MATERIALS OF CONSTRUCTION

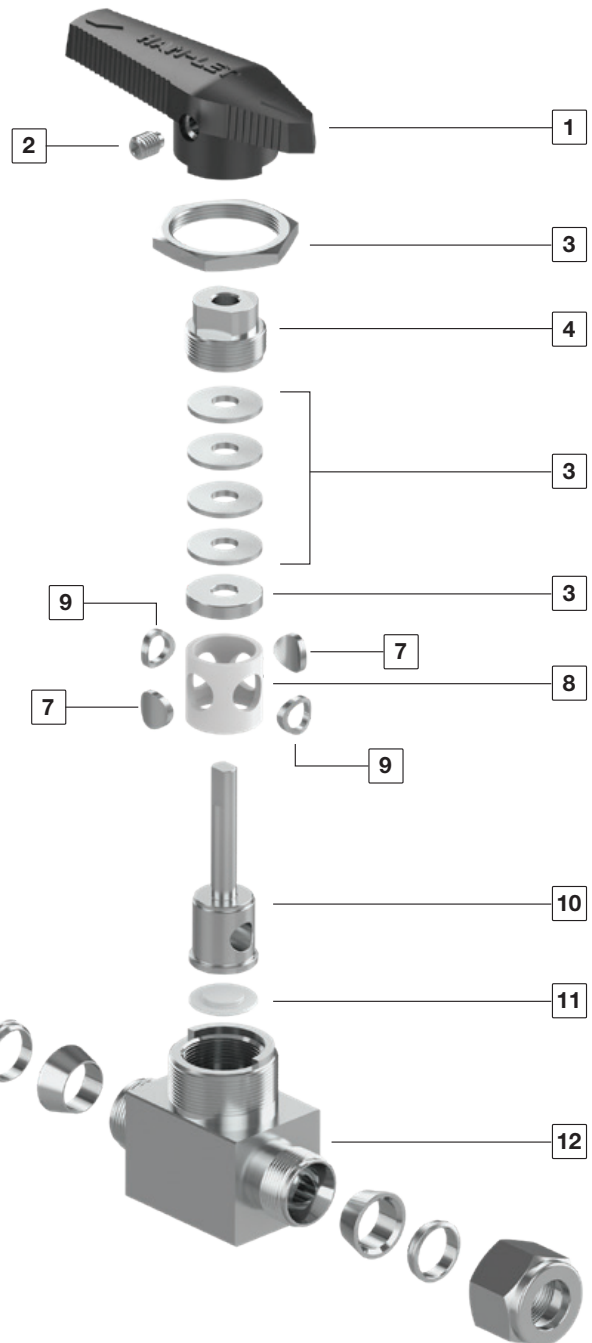
No.	Components	Qty	Material
1	Handle	1	Nylon + Glass Fiber
2	Set Screw	1	St.St.304
3	Panel Nut	1	St.St.304
4	*Packing Bolt	1	St.St.316
5	*Belleville washer	4	coated S17700SS/A693
6	*Cap ring	1	St.St.304
7	*Seat Disc	2	St.St.304 (PTFE coated)
8	*Seat	1	PTFE
9	*Seat Ring	2	St.St.304 (PTFE coated)
10	*Cylindrical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

\* Wetted parts



## 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.



## 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.

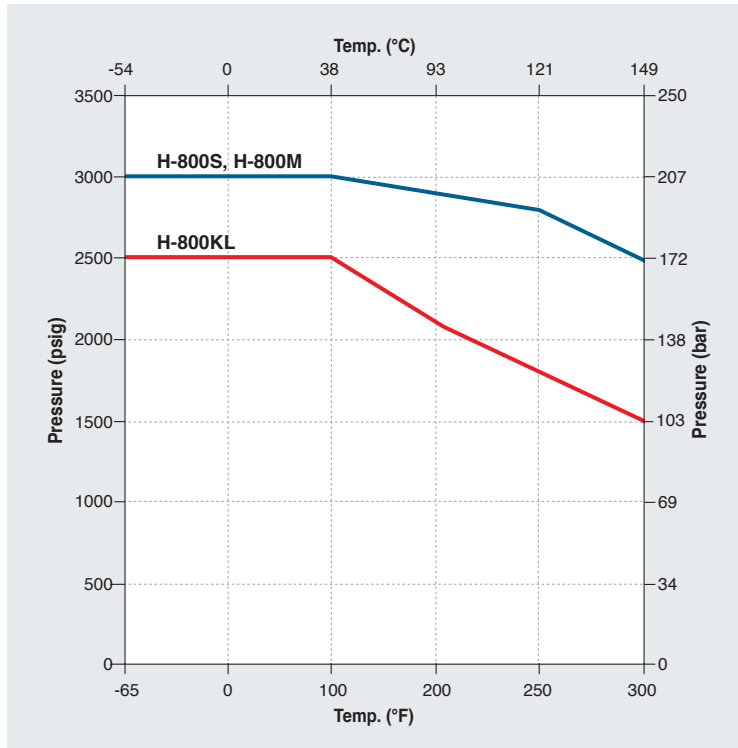
Packing is factory adjusted to 1000 psig service. Initial adjustment is recommended after installation and prior to start-up.

HAM-LET 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**

⚠ **Valve 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

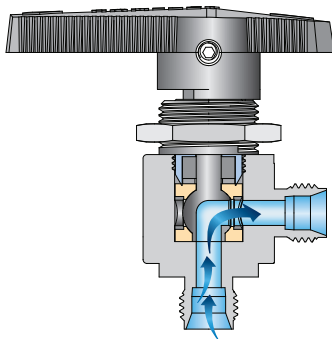


### MANUAL OPERATION

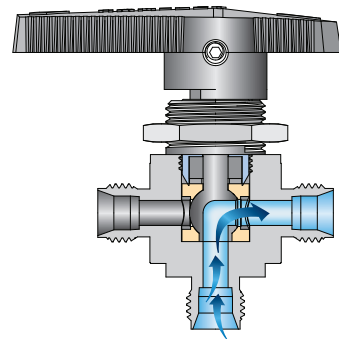
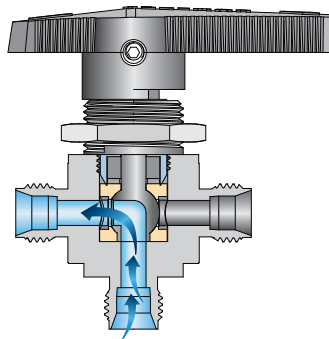
- S - Black Handle\*
- B - Blue Handle
- R - Red Handle
- G - Green Handle
- Y - Yellow Handle
- M - Metal Handle
- \* Black Nylon handle is standard.

## FLOW DIRECTION

### H-800 Angle-Type



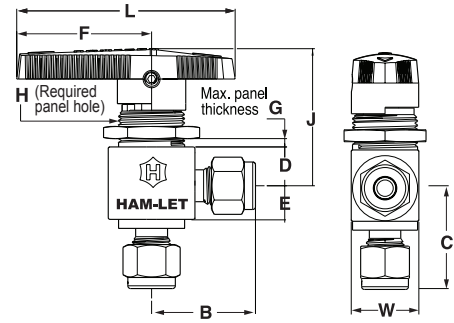
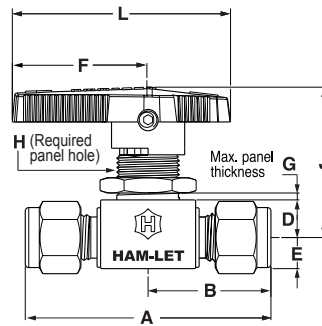
### H-800 T-Type



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



## STRAIGHT PORT VALVE & ANGLE PATTERN

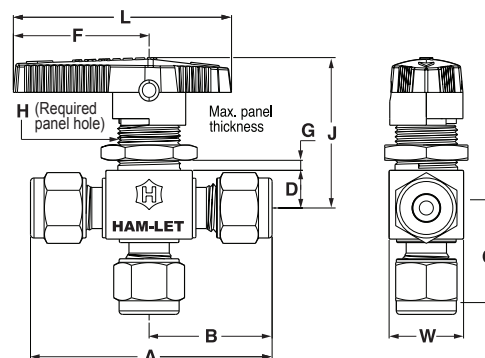


### STANDARD CONFIGURATION DIMENSIONS

End Connection		Body Size Designator	Orifice		CV straight	CV angle	DIMENSIONS																							
Type	Size		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	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	8.6	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																		
			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	0.9	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		
					1.5	0.9	65.5	2.58	32.75	1.29	32.8	1.29																		
		3/8	KL	7.1	0.279	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	6				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	3mm	S	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		
			3.2	0.126	0.6	0.35	56.1	2.21	28.05	1.10	27.2	1.07																		
	6mm	M	4.8	0.189	1.4	0.9	60.7	2.39	30.35	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		
					1.5	0.9	62.5	2.46	31.25	1.23	30.5	1.2																		
		10mm	KL	7.1	0.279	6	2	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				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	1/8	S	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		
						1.2	0.7	50.8	2.00	25.40	1.00	25.4																	1.00	11.2
	1/4	M	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	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
		3/8	KL	7.1	0.279	2.6	1.5	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	9.7	0.38	38.9	1.53	63	2.48	4.8	0.19	19.8	0.78	37.3	1.47	19.8
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	9.7	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			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	0.9							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		
	1/2	KL	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														
	3/2		0.126	0.35	56.1	2.21	28.05	1.10	27.2	1.07															
	1/4	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
	3/8					65.5	2.58	32.75	1.29	33.0	1.3														
			KL	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
1/2	KL	4.6	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	8.6	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
	10mm				KL	2	73.4	2.89	36.80	1.45	36.3														
	12mm	KL	7.1	0.279	4.6	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	0.3	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
		KL	7.1	0.279	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
	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	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	1.5	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
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)
- 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

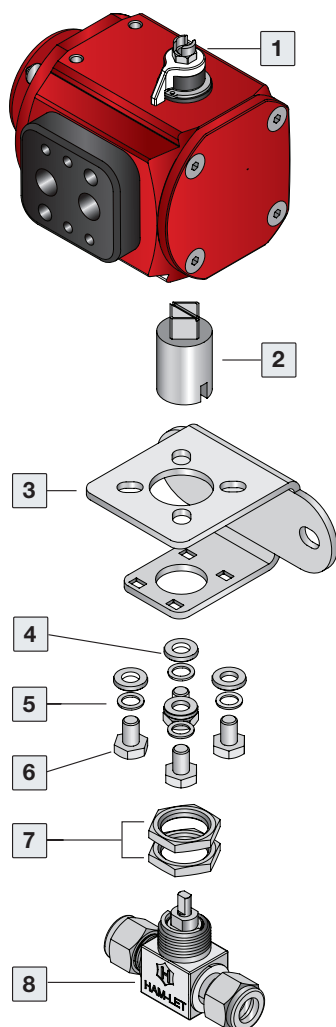
### GENERAL

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.

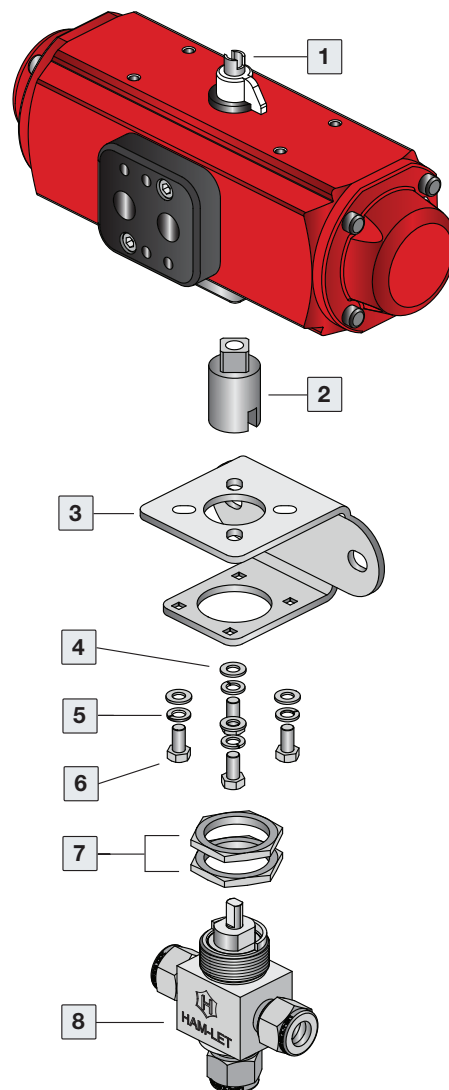
### MATERIAL OF CONSTRUCTION

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
6	Screw	4	St.St.304
7	Panel Nut	2	St.St.316
8	H-800	1	St.St.316

#### 90° Actuator on 2-way valve



#### 180° Actuator on T-type valve



## ACTUATED H-800 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 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**

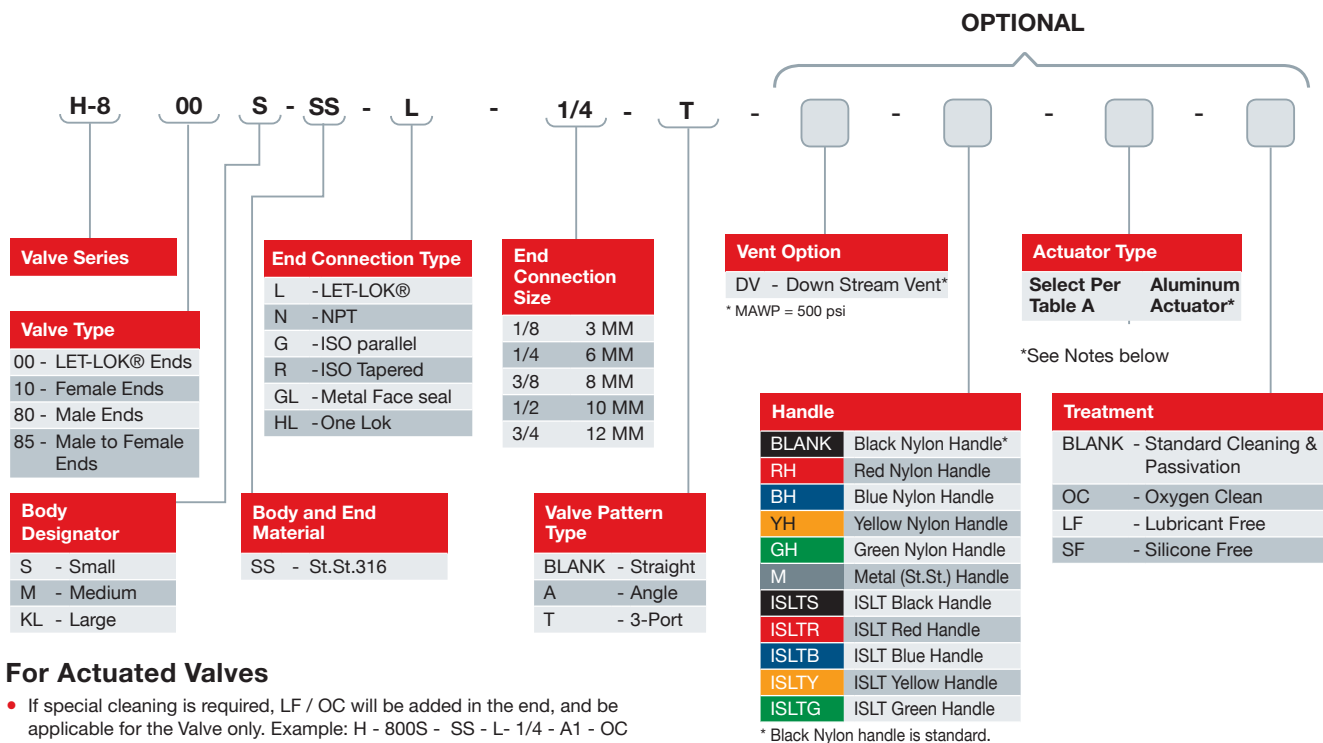
Series	Ends Size	Seats	Minimum Actuator Operating Pressure Bar (Psi)	Actuator Designators (Factory Assembled)			Actuator Ordering Code		Mounting Kit Ordering info
				Spring Return		Double Acting	Spring Return	Double Acting	
				NO	NC				
H-800	S	PFA / PTFE	5 (72.5)	A1O	A1C	A1	Z-A1S	Z-A1	Z-800S-MK-F03-F04-A1
	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

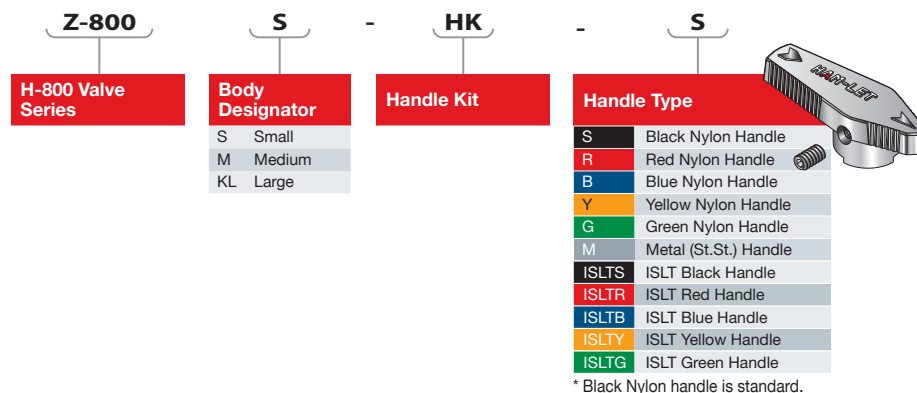


### For Actuated Valves

- 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 temperatures, 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



### 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.

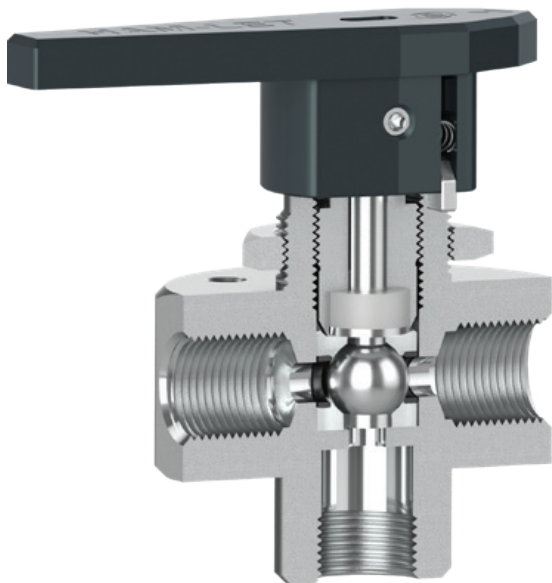
## H-840/H850 FEATURES

- On/off-service ball valve
- Stainless Steel Constructions
- MAWP 2500 psi (172 bar)
- MAWT 300°F (149°C)
- Variable end connection sizes: Male Let-Lok 1/8; FNPT1/8; FNPT1/4
- Operation with colored ISLT handle

## MATERIALS OF CONSTRUCTION

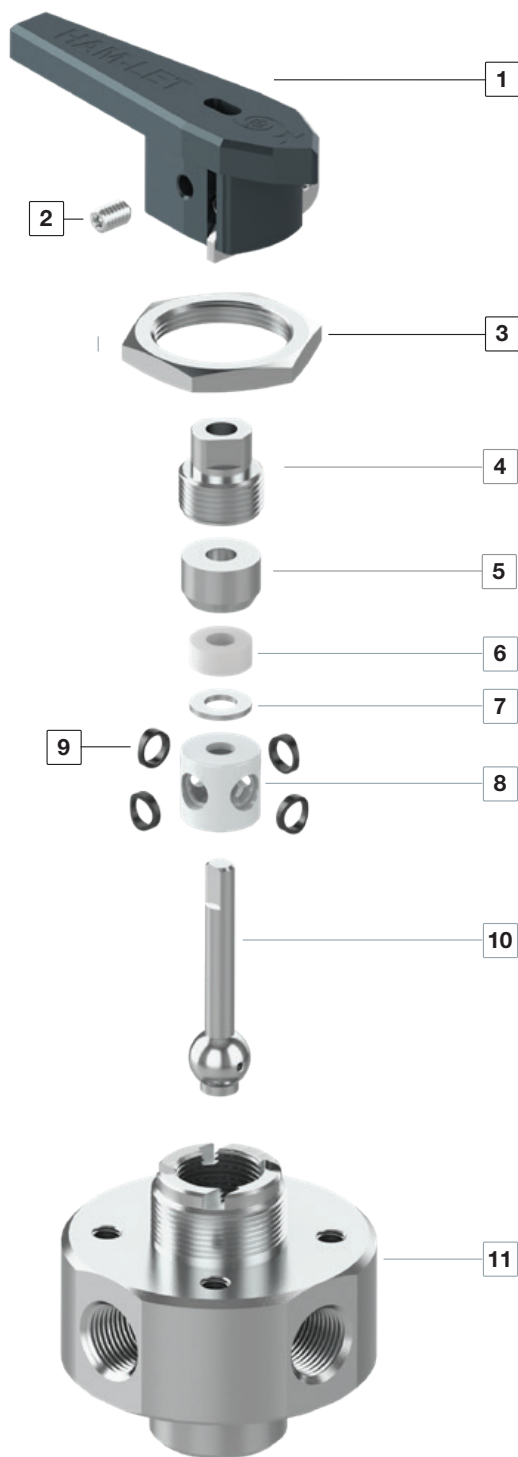
No.	Components	Qty	Material
1	Handle	1	Nylon + Glass Fiber
2	Set Screw	1	St.St.304
3	Panel Nut	1	St.St.304
4	*Packing Bolt	1	St.St.316
5	*Gland	1	St.St.304
6	*Stem Packing	1	Virgin PTFE
7	*Washer	1	St.St.304
8	*Seat	1	PFA
9	*Seat Ring	2	St.St.304 (PTFE coated)
10	*Ball Stem	1	St.St.316
11	Body	1	St.St.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

\* Wetted parts

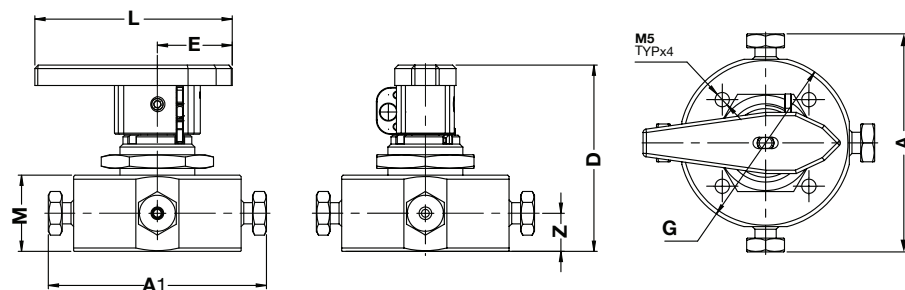


## H-850 GENERAL

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



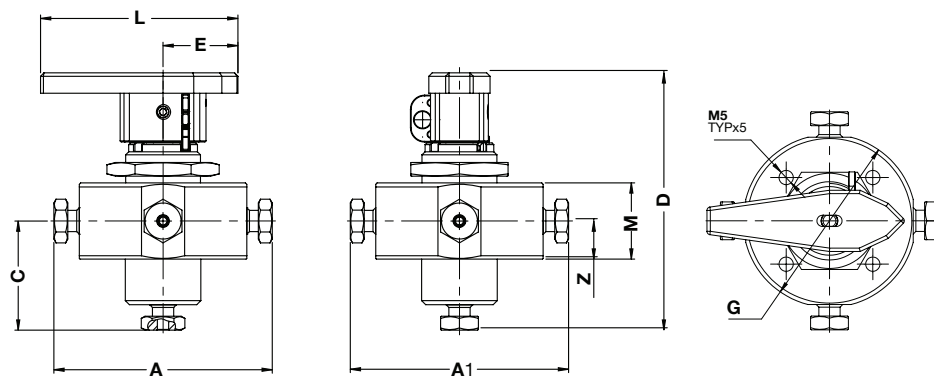
## H840 4 WAY



### STANDARD CONFIGURATION DIMENSIONS

SIZE	End connection	Orifice	A/A1		B		D		F		L		M		N		G	
			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



### STANDARD CONFIGURATION DIMENSIONS

SIZE	End connection	Orifice	A/A1		B		C		D		F		L		M		N		G	
			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

