



# HAM-LET METERING VALVES

HAM-LET H-1300 SERIES



- ✓ Moderate-pressure instrumentation needle valve for flow regulation
- ✓ Five different series (H, HF, HXF, HP, UFMV) with different parameters and applications
- ✓ Easy paneling feature without packing bolt removal



## H, HF & HXF-1300 SERIES FEATURES

- Forged-body 316 SST or brass construction
- Straight and angle Patterns and Panel Mounting
- MAWP<sup>1</sup> 2000 psig - (137 Barg) for HXF
- MAWP<sup>1</sup> 1000 psig - (68 Barg) for H, HF
- MAWT<sup>2</sup> 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

<sup>1</sup>Maximum Allowed Working Pressure

<sup>2</sup>Maximum Allowed Working Temperature

## HXF-1300 MATERIALS OF CONSTRUCTION

Item No.	Components	Qty	Valve Body Material	
			316 SST	Brass
1	Handle set screw <sup>1</sup>	1	18-8 SST	
2	Flow fixing screw	1	18-8 SST	
3	Handle	1	SSR 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 <sup>1</sup>	1	SST 174PH/A564	
8	Stem ring <sup>1</sup>	1	Glass-filled TFE	
9	O-ring <sup>1</sup>	1	Fluorocarbon FKM	
10	Guide ring	1	Glass-filled TFE	
11	Orifice <sup>1</sup>	1	SST ASTM A-276	Brass ASTM B-16
12	Body <sup>1</sup>	1	SST ASTM A-182	Brass ASTM B-283
	Lubricants		Silicone based	

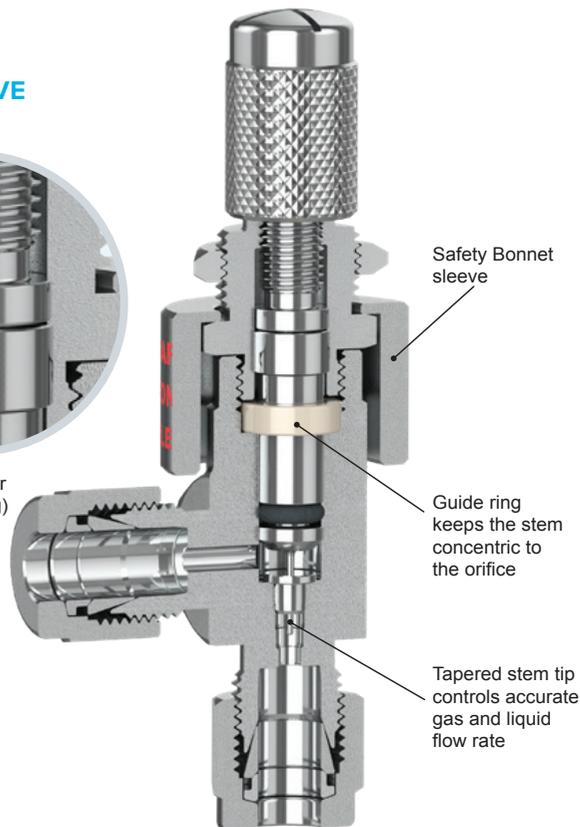
<sup>1</sup>Wetted parts

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

## HXF SERIES ANGLED VALVE



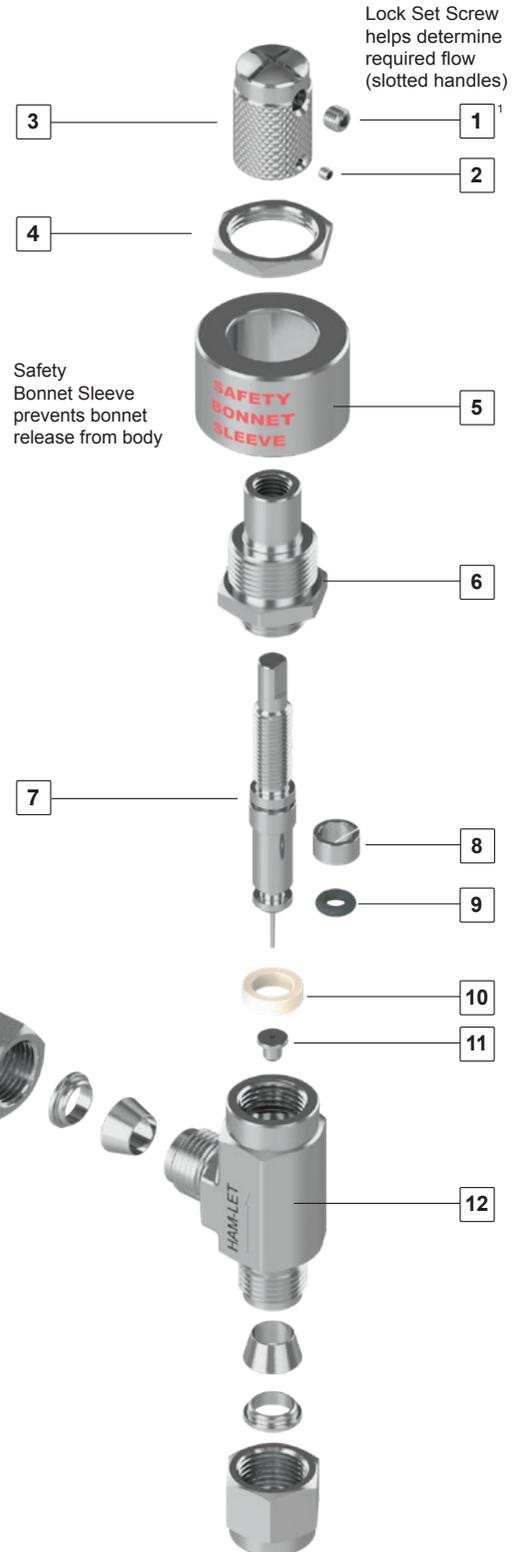
Stem upper shoulder (for safe full opening) prevents locking between stem and bonnet



## 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.



## 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<sup>1</sup> 1000 psi.

<sup>1</sup>Maximum Allowed Working Pressure.

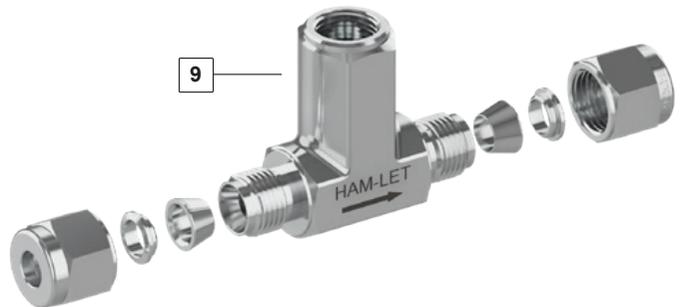
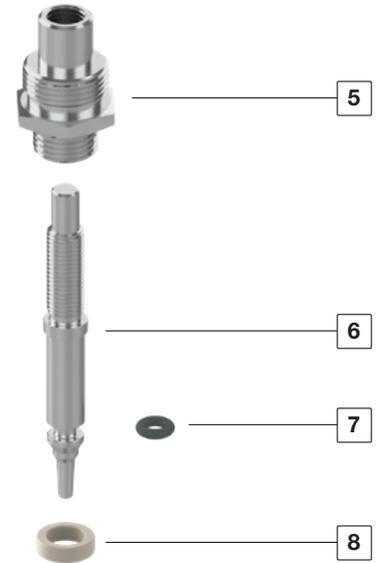
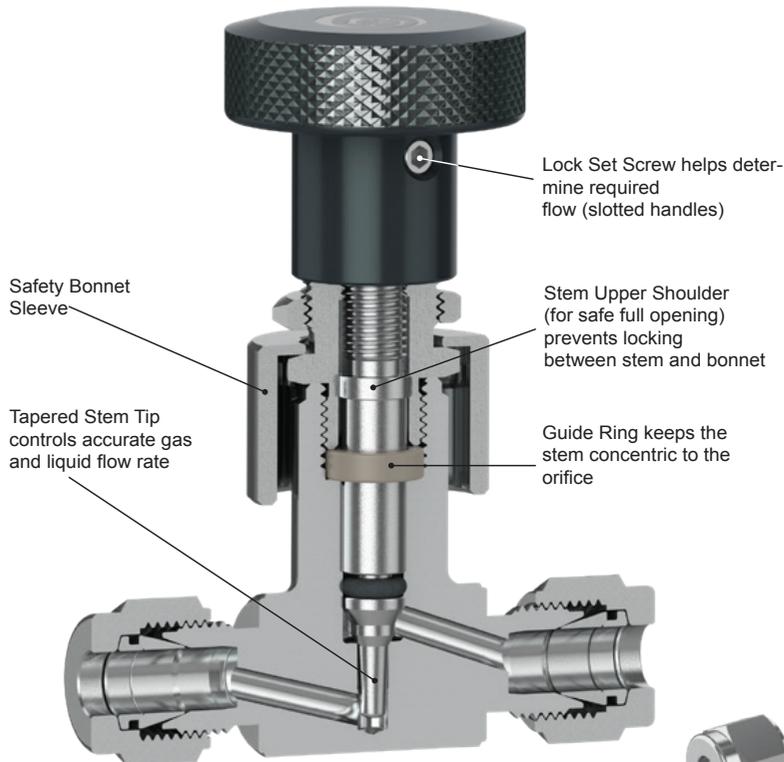
## H&HF-1300 MATERIALS OF CONSTRUCTION

Item No.	Components	Qty	Valve Body Material	
			316 SST	Brass
1	Handle	1	SST ASTM A-276	
2	Handle set screw <sup>1</sup>	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 <sup>1</sup>	1	SST 174PH/A564	
7	O-ring <sup>1</sup>	1	Fluorocarbon FKM	
8	Guide ring	1	Glass-filled TFE	
9	Body <sup>1</sup>	1	SST ASTM A-182	Brass ASTM B-283
	Lubricants		Silicone based	

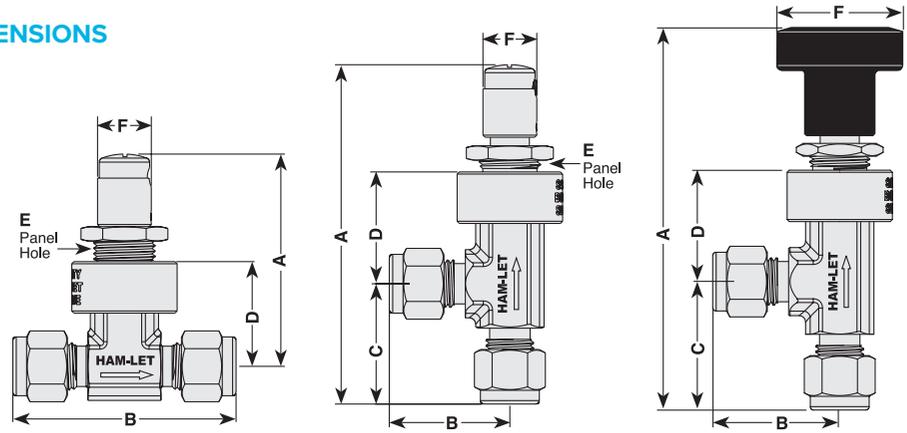
<sup>1</sup>Wetted parts

**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	5°	3.3mm 0.13"	0.13 Max	1/4" LET-LOK	1/4" LET-LOK	71.5	2.81	59.5	2.34	-	-	32.0	1.26	14.8	0.58	29 mm 1.14"
				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	
HF-1300 straight	3°	1.4mm 0.055"	0.03 Max	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	12.5 mm 0.5"
				1/8" LET-LOK	1/8" LET-LOK	70.6	2.78	51.3	2.02	-	-	27.0	1.06	14.8	0.58	
				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	
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	
				1/8" LET-LOK	1/8" LET-LOK	59.6	2.34	48.0	1.89	-	-	24.4	0.96	14.8	0.58	
HXF-1300 straight	1°	0.8 mm 0.03"	0.004 Max	1/4" LET-LOK	1/4" LET-LOK	59.6	2.34	51.9	2.04	-	-	24.4	0.96	14.8	0.58	12.5 mm 0.5"
				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	
				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

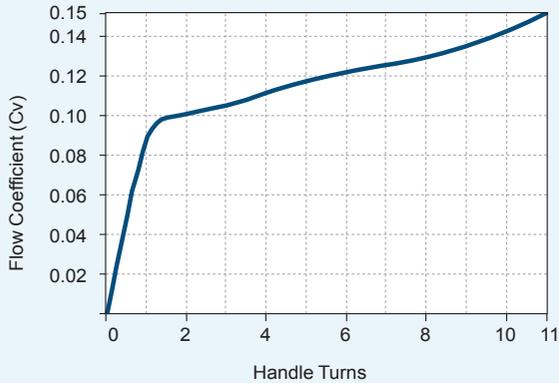
**H-1300** series metering valve is tested for bubble tight shut-off.

**HF-1300** series metering valve handle dead stop is set at 4 to 10 std cm<sup>3</sup>/min with 5 psig (0.34 bar) inlet pressure.

**HXF-1300** series metering valve handle dead stop is set at 4 to 10 std cm<sup>3</sup>/min with 15 psig (1.0 bar) inlet pressure.

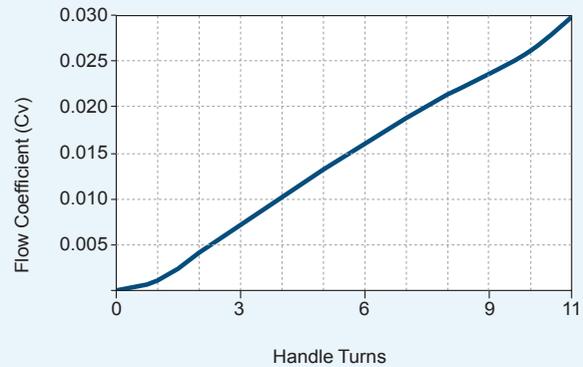
## FLOW DATA AT 70°F (20°C)

### H-1300 METERING VALVE 5° STEM



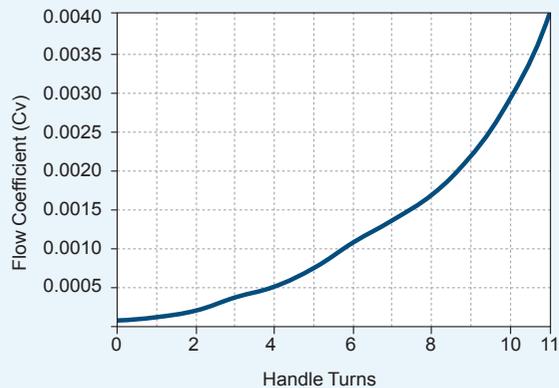
	Pressure Drop to Atmosphere psi (bar)	Water Flow U.S gal/min (L/min)	Air Flow std ft <sup>3</sup> / min (std L / min)
Maximum Flow Coefficient (Cv) 0.13	10 (0.68)	0.47 (1.7)	1.6 (45.3)
	50 (3.4)	1.0 (3.7)	4.5 (127)
	100 (6.8)	1.5 (5.6)	7.9 (223)

### HF-1300 METERING VALVE 3° STEM

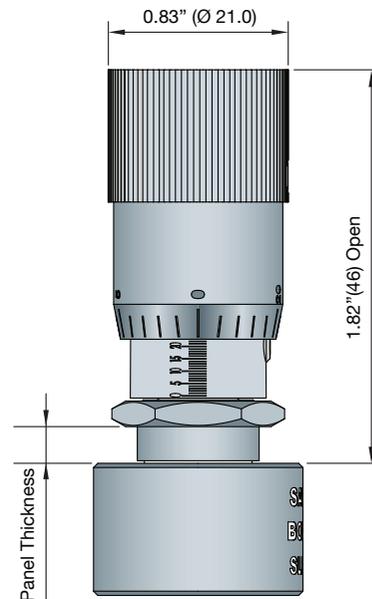


	Pressure Drop to Atmosphere psi (bar)	Water Flow U.S gal/min (L/min)	Air Flow std ft <sup>3</sup> / min (std L / min)
Maximum Flow Coefficient (Cv) 0.03	10 (0.68)	0.09 (0.34)	0.33 (9.3)
	50 (3.4)	0.21 (0.79)	0.9 (25.4)
	100 (6.8)	0.3 (1.1)	1.5 (42.4)

### HXF-1300 METERING VALVE 1° STEM



	Pressure Drop to Atmosphere psi (bar)	Water Flow U.S gal/min (L/min)	Air Flow std ft <sup>3</sup> / 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.

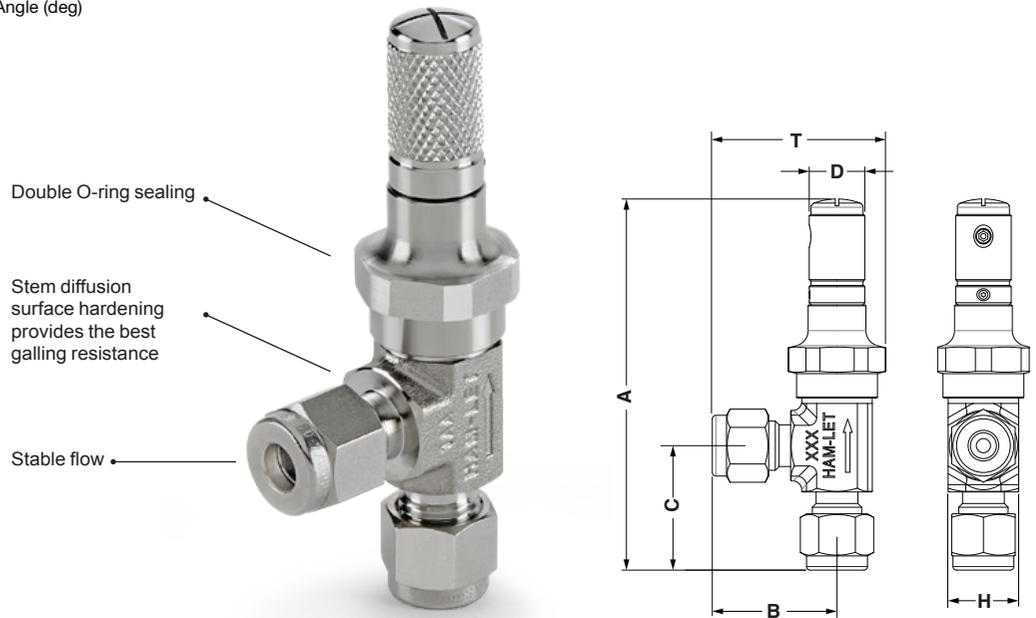
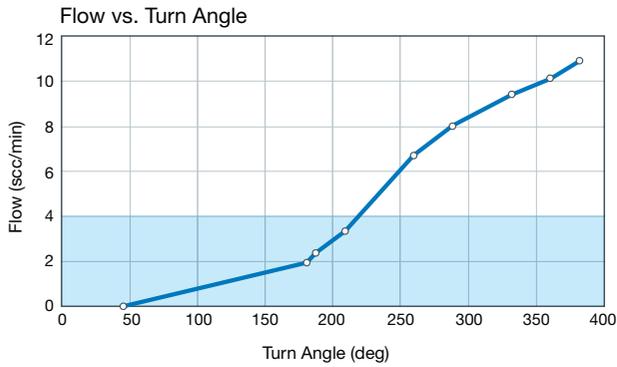
### FEATURES & BENEFITS:

- 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

Our 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 mm/in	Inlet	Outlet	A-Open		B		C		T		H		D
				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

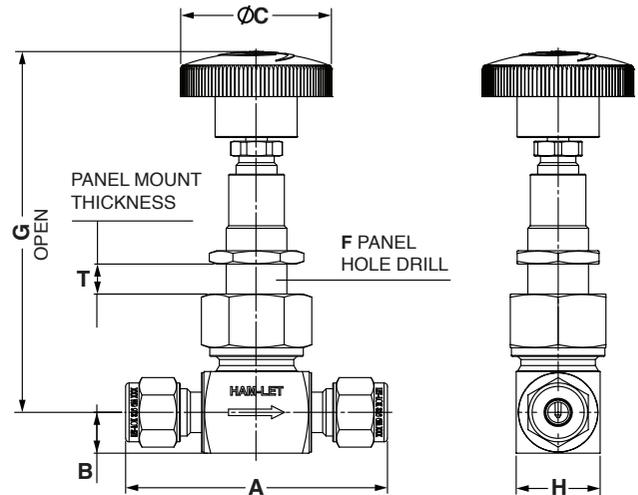
High Pressure Metering Valve H-1300 Series

### FEATURES & BENEFITS:

- Construction material: SST 316
- 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 & 1/4" body sizes
- High corrosion resistance of wet components
- Easy paneling feature without packing nut removal

### GENERAL

High pressure metering valve - control accurate measured flow under high-pressure conditions up to



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 <sup>1</sup>	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°

<sup>1</sup>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<sup>1</sup>



Standard for H

<sup>1</sup>Black is Standard.  
Colored Handles are available upon request, see "Ordering Information"

### Metal Slotted Handle



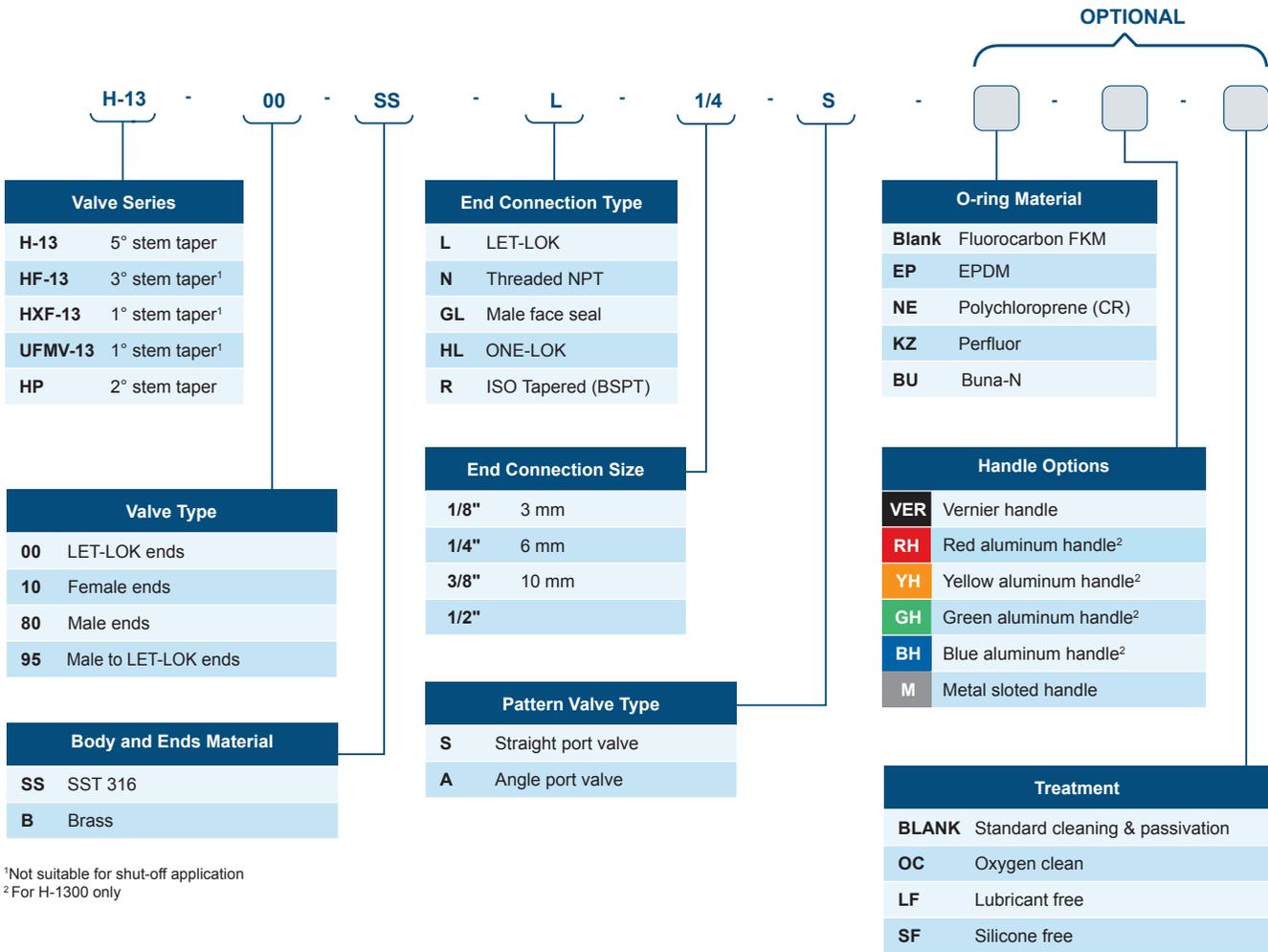
Standard for HF. Optional for H

### Metal Slotted Handle



Standard for HXF

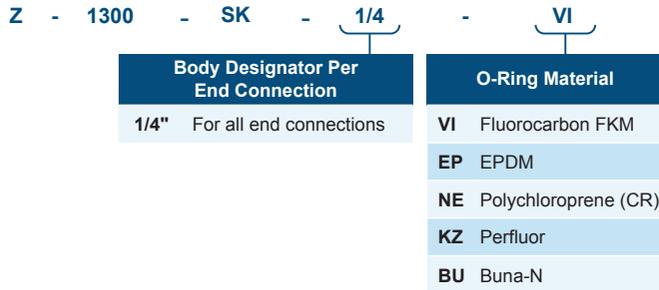
# ORDERING INFORMATION H-1300



<sup>1</sup>Not suitable for shut-off application  
<sup>2</sup>For H-1300 only

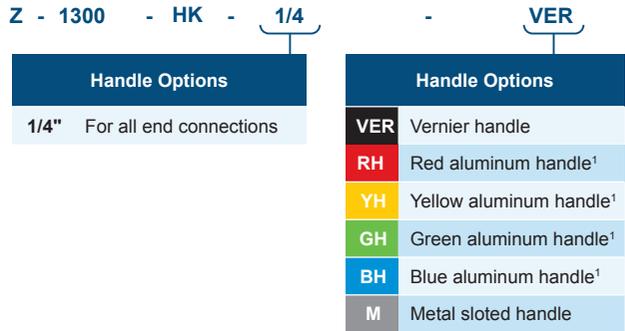
## SEAL KIT

Seal Kit contains O-ring



## HANDLE KIT

Handle Kit contains handle + 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.

