

INTEGRAL-BONNET NEEDLE VALVES

H-300U SERIES

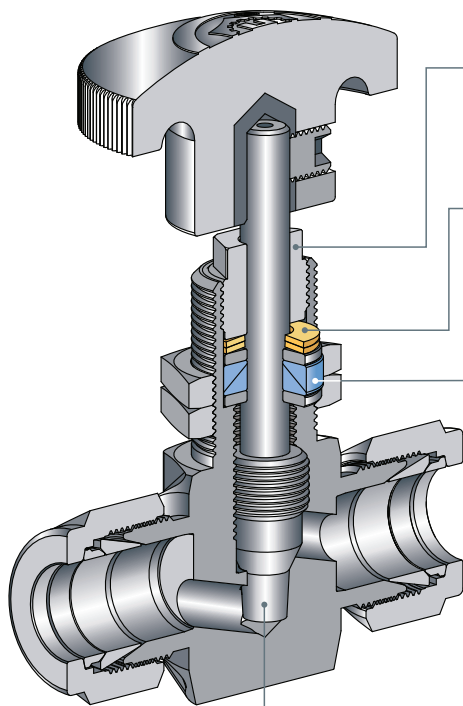


FEATURES

- Straight and angle pattern
- Stainless steel and brass 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 disassembling is required
- Chevron stem packing provides lowest operation torques
- Belleville washers to compensate packing wear
- Special synthetic, anti-seize stem lubricant for best resistance to hot media

MATERIAL OF CONSTRUCTION

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

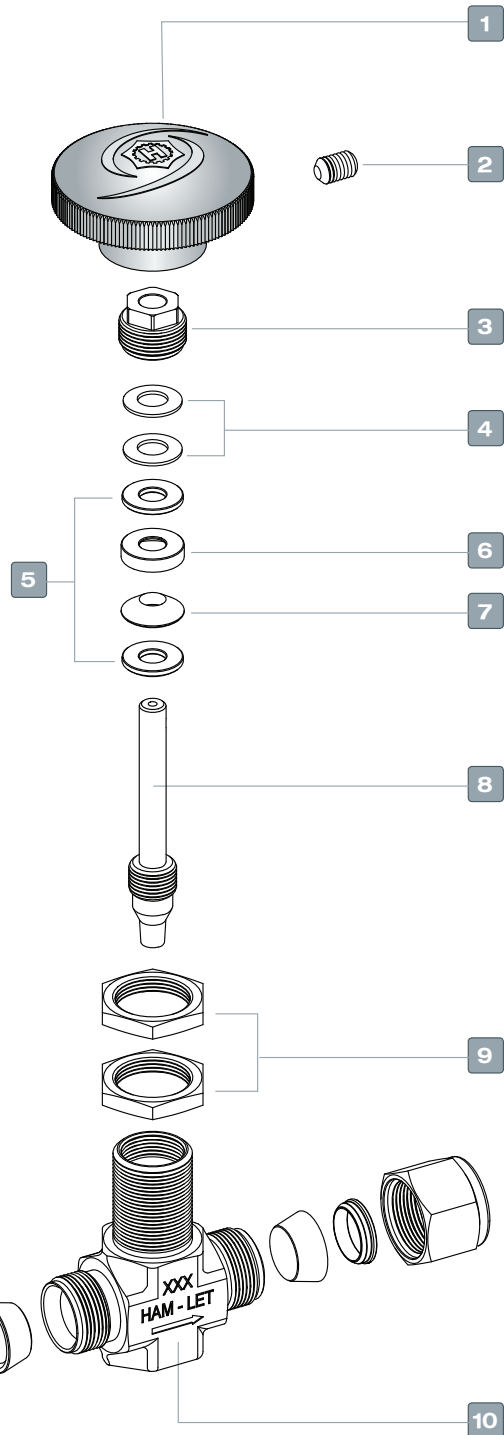


Packing bolt enables easy mounting with the packing remaining untouched

Belleville washers improve valve sealing, compensate for wear, and reduce the need for packing adjustment.

Chevron packing reduces packing bolt tightening torque, consequentially reducing the Valve operating torque.

Stem diffusion surface hardening provides the best galling resistance and protection from wear and corrosion.

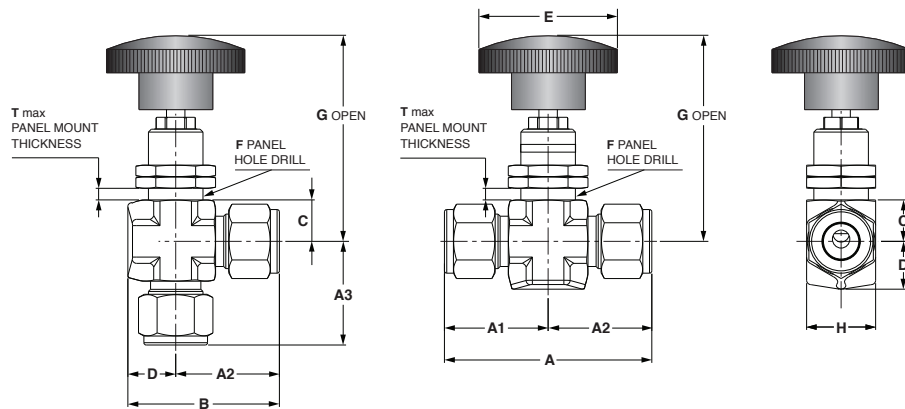


GENERAL

The H-300U Series is an advanced high pressure instrumentation needle valve for shut-off service, its packing bolt design for easy mounting being the best solution for instrumentation panels.

This compact valve enables 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 contaminations and optimal 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")	13.0 (0.51")	63.5 (2.50")	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	10.0 (0.39")	7.95 (0.31")	35.1 (1.38")	13.0 (0.51")	63.5 (2.50")	15.9 (5/8")	10.0 (0.39")
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			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							
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	14.3 (0.56")	16.5 (0.65")	47.8 (1.88")	20.0 (0.79")	78.4 (3.09")	23.8 (15/16")	12.0 (0.49")		
H-310	1/4" FBSPT	1/4" FBSPT	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	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									
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-380	1/2" MNPT	1/2" 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													



STEM OPTIONS

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



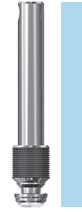
8A Regulating:
Used where some degree of flow control is required.



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

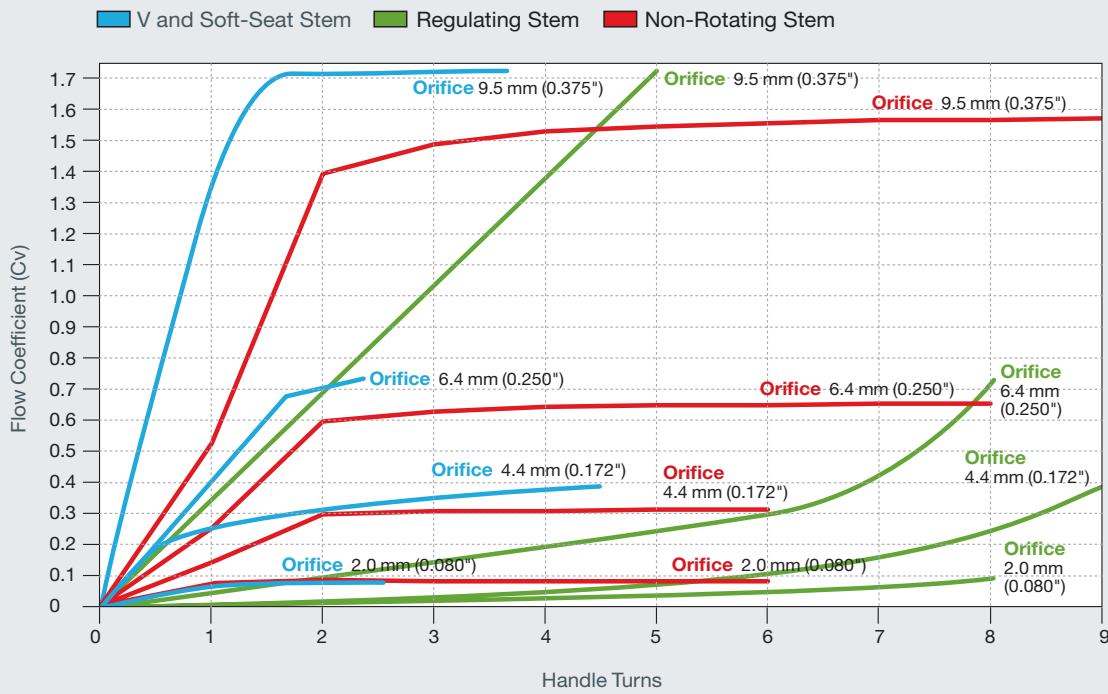


8C Non-Rotating Stem:
Typically used in high-cycle applications to extend valve life and prevent stem rotation inside the body tip, a suitable selection for gaseous high pressure applications.

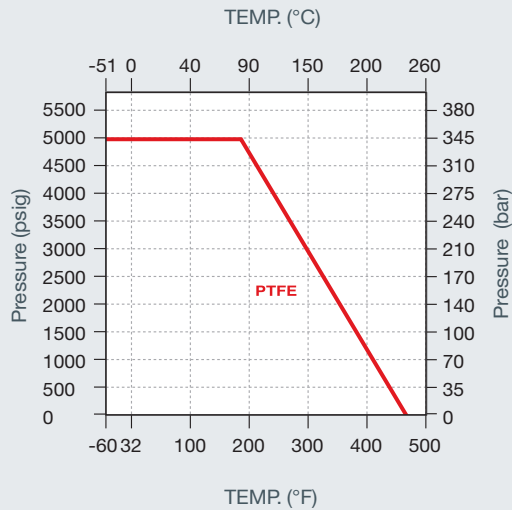


8D Soft Seat:
A soft seat tip requires lower seating torque than a metal stem tip; the best choice for clean gaseous high pressure applications; MAWT is 200°F (93°C).

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 St.St.	All St.St. Stems	-46°C to 230°C (-51°F to 446°F)	5000 psi
	Kel-F	-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
	Kel-F	-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 severe service needle valves.
- For oxygen applications, select the oxygen clean treatment option. For relatively high pressure pure oxygen applications, assure that the selected valve is tested and found to meet the specific application requirements.

CLEANING & PACKAGING

HAM-LET H-300U Needle Valve is treated with Passivation Cleaning and Packaging (Procedure 8075). Oxygen Cleaning and Packaging (Procedure 8055) is available as an option.

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). The maximum allowable leakage across seat is 0.1 std cc/min.

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. Initial packing adjustment is recommended after installation and prior to start-up. See packing adjustment procedure No.3901882 on the website.

H-300U SERIES ORDERING INFORMATION

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

Valve Series	End Connection	Stem Designator	End Connection Size	Handle Type	Pattern Designator
Valve Type	L - LET-LOK®	V		RS -Black Plastic	
00 - LET-LOK® End	N - NPT	R - Regulating Stem	1/8 3MM	RAS -Black Aluminum	
10 - Female End	R - ISO Tapered	K - Soft Seat Kel-F Stem	1/4 6MM	RAR -Red Aluminum	
80 - Male End	NL - NPT to LET-LOK®	NR - Non-Rotating Stem	3/8 8 MM	RAB -Blue Aluminum	
85 - Male to Female End	HL - Single Ferrule		1/2 10MM	RAG -Green Aluminum	
95 - Male to LET-LOK®	G -ISO Parallel		3/4 12MM	RAY -Yellow Aluminum	Blank - Straight
Body Material	GL - Face Seal Ends			M -Metal Bar SS316L	A - Angle
SS - 316SS					
B - Brass					

Spare Round-Handle Kits are available for each valve.



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

SPARE KITS

Series	End Size	Seal Kit*	Handle Kit**
H-380U Male to Male	1/8, 1/4	Z-300U-SK-1/4-P	Z-300U-HK-1/4- <input type="checkbox"/>
	3/8	Z-300U-SK-1/2-P	Z-300U-HK-1/2- <input type="checkbox"/>
	1/2, 3/4	Z-300U-SK-3/4-P	Z-300U-HK-3/4- <input type="checkbox"/>
H-310U Female to Female	1/8	Z-300U-SK-1/4-P	Z-300U-HK-1/4- <input type="checkbox"/>
	1/4	Z-300U-SK-1/2-P	Z-300U-HK-1/2- <input type="checkbox"/>
	3/8, 1/2	Z-300U-SK-3/4-P	Z-300U-HK-3/4- <input type="checkbox"/>
H-395U Male to Let-Lok	1/8, 1/4	Z-300U-SK-1/4-P	Z-300U-HK-1/4- <input type="checkbox"/>
	3/8	Z-300U-SK-1/2-P	Z-300U-HK-1/2- <input type="checkbox"/>
H-385U Male to Female	1/4	Z-300U-SK-1/2-P	Z-300U-HK-1/2- <input type="checkbox"/>
	3/8	Z-300U-SK-1/2-P	Z-300U-HK-1/2- <input type="checkbox"/>
	1/2	Z-300U-SK-3/4-P	Z-300U-HK-3/4- <input type="checkbox"/>
H-300U Let-Lok	1/8, 1/4, 3MM, 6MM, 8MM	Z-300U-SK-1/4-P	Z-300U-HK-1/4- <input type="checkbox"/>
	3/8, 1/2, 10MM, 12MM	Z-300U-SK-1/2-P	Z-300U-HK-1/2- <input type="checkbox"/>
	3/4	Z-300U-SK-3/4-P	Z-300U-HK-3/4- <input type="checkbox"/>

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

Handle type per "How to Order"

Warning! For your safety

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-300U, Rev.00, July 2011

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