

H300 SERIES

NEEDLE VALVES

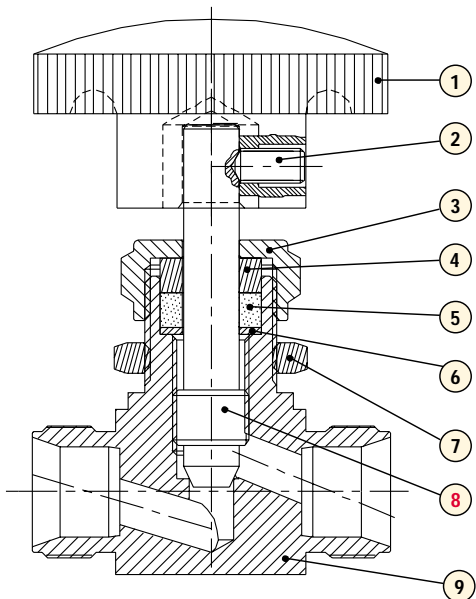


Straight and angle pattern. ■ Sizes: 1/8" through 3/4" (3mm-12mm) ■ Double Ferrule Let-Lok®, Single Ferrule, Female NPT, Male NPT, BSPT. ■ Electric actuation available. ■ 100% factory tested.

Materials of Construction

Item	Part No.	Quant.	Material
1	Handle	1	Phenolic
2	Set Screw	1	A.I.S.I. 316
3	Packing Nut	1	A.I.S.I. 316
4	Upper Gland	1	A.I.S.I. 316
5	A Packing Grafoil	1	Grafoil
	B Packing PTFE	1	PTFE
6	Lower Gland	1	A.I.S.I. 316
*7	Panel Nut	1	A.I.S.I. 316
8	A Stem Regulating	1	A.I.S.I. 316
	B Stem-Vee	1	A.I.S.I. 316
	C Stem- Non Rotating	1	A.I.S.I. 316
	D Stem Soft Seat	1	A.I.S.I. 316
9	Body	1	A.I.S.I. 316

* According to customer request see the bottom page "Alternative stems available"



Stem Packing kit

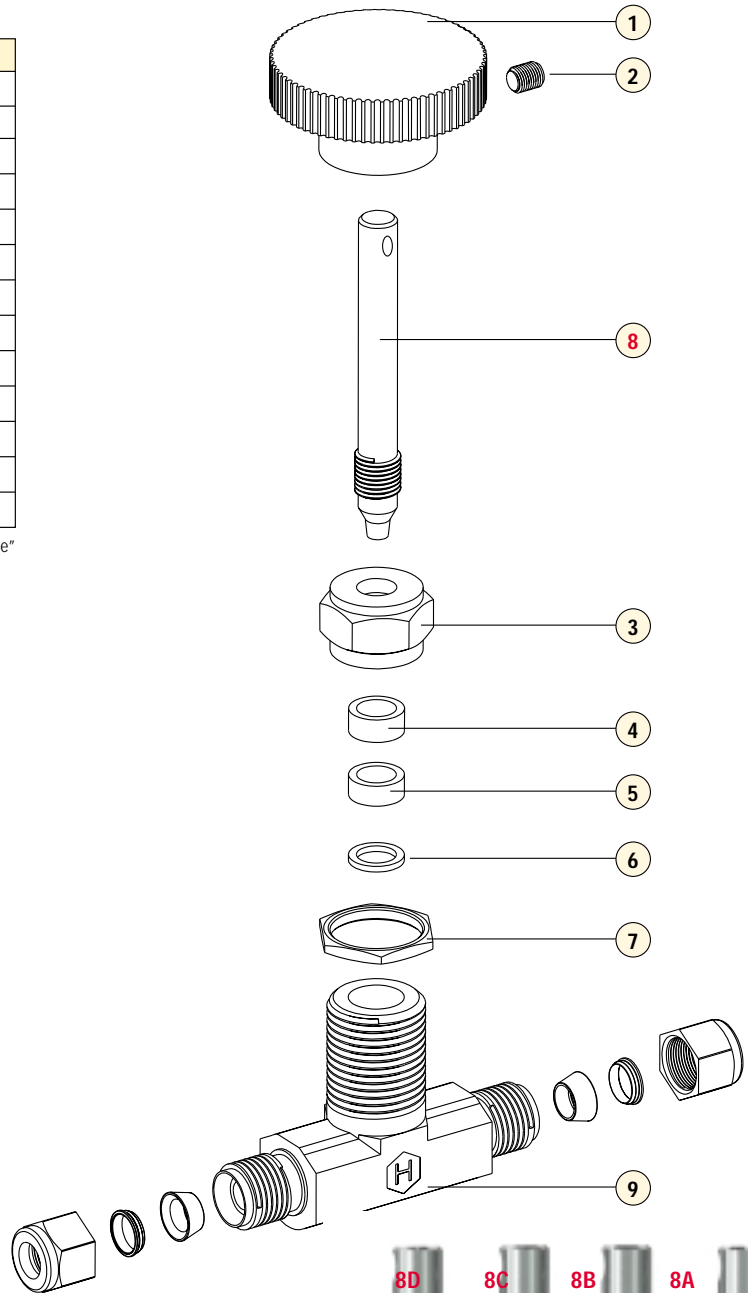
Packing kit are available.

Kits contain:

Packing (#5 in material of construction table)

Upper gland (#4 in material of construction table)

Lower gland (#6 in material of construction table)

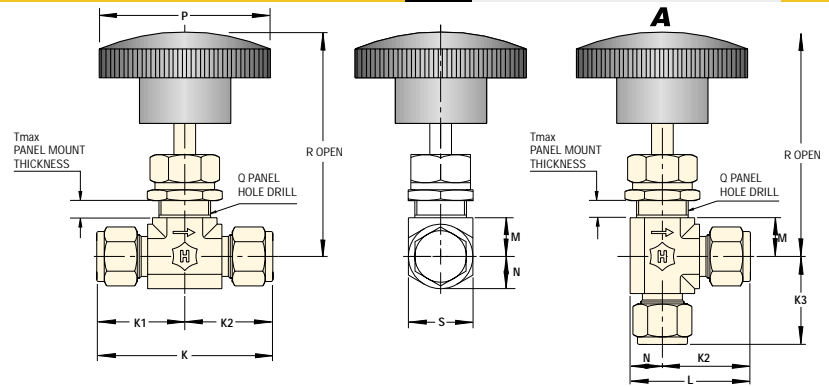


Alternative Stems Available

Ham-Let needle valves are offered with a choice of stem tip options to provide greater flexibility.

- A V-Stem:** The standard stem tip used for general purpose liquids and gases.
- B Non-Rotating:** Typically used in high cycle applications to extend valve life. It is designed to prevent galling between the seat and stem.
- C Soft Seat:** A soft seat requires a lower seating torque than a metal stem tip. The soft seat is replaceable. N.B., maximum temperature 250oF (121oC).
- D Regulating:** Used where some degree of flow control is desired.





H300 Series Table of Dimensions

Basic Ordering Number	Orifice mm/in	C _v	Connection Size		Dimensions																									
			inlet	outlet	K		K1		K2		K3		L		M	N	P	Q	R Open	S	Tmax									
					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								
H300	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"	41.0 1.61"	13.0 0.51"	72.0 2.83"	15.9 5/8"	7.0 0.27"									
H300			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																
H395			1/8" MALE NPT	1/8" LET-LOK	44.4	1.75	19.0	0.75	25.4	1.00	19.0	0.75	33.4	1.31																
H300	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	37.4	1.47	10.0 0.39"	7.95 0.31"	41.0 1.61"	13.0 0.51"	72.0 2.83"	15.9 5/8"	7.0 0.27"									
H300			6mm LET-LOK	6mm LET-LOK	58.8	2.31	29.4	1.16	29.4	1.16	29.4	1.16	37.4	1.47																
H300			8mm LET-LOK	8mm LET-LOK	58.8	2.31	29.4	1.16	29.4	1.16	29.4	1.16	37.4	1.47																
H310			1/8" Female NPT	1/8" Female NPT	41.2	1.62	20.6	0.81	20.6	0.81	20.6	0.81	28.6	1.12																
H380			1/8" Male NPT	1/8" Male NPT	50.8	2.00	25.4	1.00	25.4	1.00	25.4	1.00	33.4	1.31																
H380			1/4" Male NPT	1/4" Male NPT	50.8	2.00	25.4	1.00	25.4	1.00	25.4	1.00	33.4	1.31																
H395			1/4" Male NPT	1/4" LET-LOK	54.8	2.16	25.4	1.00	29.4	1.16	25.4	1.00	37.4	1.47																
H300			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								45.0	1.77	14.3 0.56"	11.9 0.47"	50.0 1.97"	20.0 0.79"	82.6 3.25"	23.8 15/16	7.0 0.27"
H300	10mm LET-LOK	10mm LET-LOK			66.4	2.62	33.2	1.31	33.2	1.31	33.2	1.31	45.2	1.78																
H300	1/2" LET-LOK	1/2" LET-LOK			71.6	2.82	35.8	1.41	35.8	1.41	35.8	1.41	47.7	1.88																
H300	12mm LET-LOK	12mm LET-LOK			71.6	2.82	35.8	1.41	35.8	1.41	35.8	1.41	47.7	1.88																
H310	1/4" Female NPT	1/4" Female NPT			54.0	2.12	27.0	1.06	27.0	1.06	27.0	1.06	38.9	1.53																
H310R	1/4" Female BSPT	1/4" Female BSPT			54.0	2.12	27.0	1.06	27.0	1.06	27.0	1.06	38.9	1.53																
H380	3/8" Male NPT	3/8" Male NPT			57.0	2.24	28.5	1.12	28.5	1.12	28.5	1.12	40.4	1.59																
H385	1/4" Male NPT	1/4" Female NPT			55.5	2.18	28.5	1.12	27.0	1.06	28.5	1.12	38.9	1.53																
H385	3/8" Male NPT	3/8" Female NPT			56.5	2.22	28.5	1.12	28.0	1.10	28.5	1.12	39.9	1.57																
H395	1/4" Male NPT	3/8" LET-LOK			61.5	2.42	28.5	1.12	33.0	1.30	28.5	1.12	45.0	1.77																
H395	3/8" Male NPT	3/8" LET-LOK			61.5	2.42	28.5	1.12	33.0	1.30	28.5	1.12	45.0	1.77																
H395	3/8" Male NPT	1/2" LET-LOK			64.3	2.53	28.5	1.12	35.8	1.41	28.5	1.12	47.7	1.88																
H300	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	63.6	2.50	19.0 0.75"	15.1 0.59"	64.0 2.52"	26.0 1.02"	103.3 4.06"	30.2 1-3/16	6.5 0.26"							
H310					3/8" Female NPT	3/8" Female NPT	76.2	3.00	38.1	1.50	38.1	1.50	38.1	1.50	53.2	2.09														
H310					1/2" Female NPT	1/2" Female NPT	76.2	3.00	38.1	1.50	38.1	1.50	38.1	1.50	53.2	2.09														
H380			1/2" Male NPT	1/2" Male NPT	76.2	3.00	38.1	1.50	38.1	1.50	38.1	1.50	53.2	2.09																
H385			1/2" Male NPT	1/2" Female NPT	76.2	3.00	38.1	1.50	38.1	1.50	38.1	1.50	53.2	2.09																

Technical Data

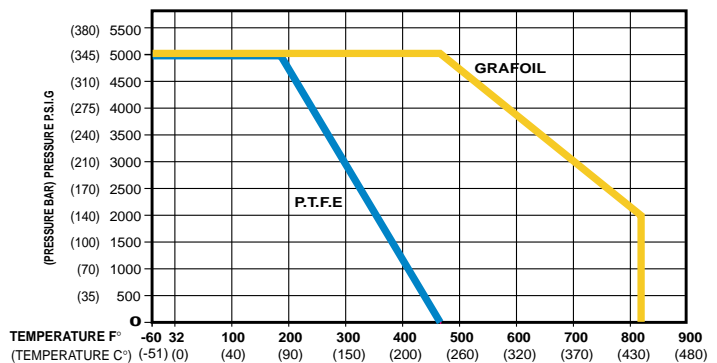
The following table depicts the temperature and pressure ratings for a standard valve with PTFE packing

Body Material	Stem Type	Rating	
		Temperature	Pressure
316 st.st.	All St.Still Stems	-46°C to 230°C (-51°F to 446°F)	5000 PSI (34,450kPa)
	Kel-F	-46°C to 90°C (-51°F to 194°F)	
Brass	Regulating & Vee	-46°C to 206°C (-51°F to 392°F)	3000 PSI (20,600kPa)
	Kel-F	-46°C to 90°C (-51°F to 194°F)	

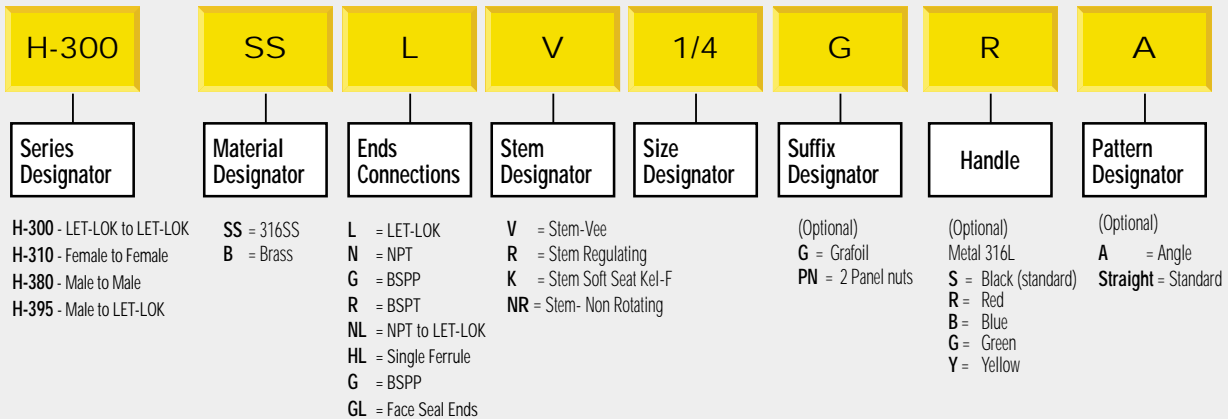
* Extreme temperature fluctuations may require packing nut adjustment

Pressure Temperature Curve

Applicable only to metallic stem tips in 316 St. St. Body.



How to Order



For other materials and end connections consult factory engineering dept.
For more technical information and data see our catalog T-3300 Corrosion Data.

Warning! For Your Safety The system designer and user have the sole responsibility to select products suitable for their special application requirements to ensure the proper installation, operation and maintenance of the product. Application details, material compatibility and product ratings should all be considered in the individual selection. Improper selection or use of products can cause property damage or personal injury.

Sizing Equations

The Cv factor is a flow coefficient expressing the rate of flow in U.S. gallons per minute of water at 60°F (16°C) with a pressure drop of 1 psi across the valve. The flow depends on the inlet and outlet pressures, temperature, specific gravity and the Cv coefficient.

For Liquids at 60°F

$$Cv = \frac{USGPM}{\sqrt{\frac{(\Delta P)}{(SG)}}} \text{ OR } USGPM = Cv \sqrt{\frac{(\Delta P)}{(SG)}}$$

Where:

- ΔP = P₁ - P₂ in PSI
- P₁ = Inlet pressure in PSIA
- P₂ = Outlet pressure in PSIA
- USGPM = Flow in US gallons per minute
- SG = Specific gravity of liquid (water = 1at 60°F)

For Gas at 70°F

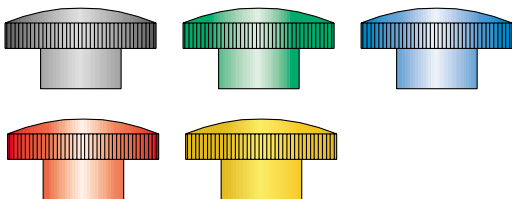
$$Cv = \frac{SCFH}{1360 \sqrt{\frac{(\Delta P)(P_1)}{(460+T)(SG)}}} \text{ OR } SCFH = 1360Cv \sqrt{\frac{(\Delta P)(P_1)}{(460+T)(SG)}}$$

Where:

- ΔP = P₁ - P₂ in PSI
- P₁ = Inlet pressure in PSIA
- P₂ = Outlet pressure in PSIA
- SCFH = Flow in standard cubic feet per hour
- SG = Specific gravity of gas (air = 1at 70°F (21°C) and 14.7 PSIA (1 ATM.))
- T = Temperature in °F

Note: Maximum ΔP for compressible fluids is $\frac{(P_1)}{2}$

Color Handle Available:



Spare Round Handle Kit

Spare round Handle Kit is available for each valves. The spare Round Handle Kit includes: Round Handle and seat screw.