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**HN-LOK**  
Fittings & Valves

Catalog No. HV2-2022. February

# Integral Bonnet Needle Valves

HV2 Series 5000psig forged body  
HV26 Series 6000psig barstock body



**HN-LOK**  
Fittings & Valves

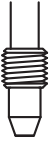

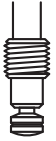
## Material of Construction

Item	Component	Material / ASTM Specification		
		Stainless Steel 316	Brass	Alloy 400
1a	Body (HV2)	SS316/A182	Brass/B283	
1b	Body (HV26)	SS316/A476	-	-
2a	Vee Stem	SS316/A276		Alloy R-405
2b	Regulating Stem			
2c	Soft Seat Stem	Kel-F (PCTFE)		
	Stem Tip			
3	Panel Nut	SS316/A276	Brass/B16	SS316/A276
4	Packing Ring	SS316/A276		Alloy R-405/b164
5	Inner Packing	Standard:PTFE, Optional:PEEK		
6	Out Packing			
7	Packing Gland	SS316/A276		Alloy R-405/b164
8	Packing Nut	SS316/A276	Brass/B16	Alloy R-405/b164
9a	Handle	Nylon with brass insert		
9b		SS316/A276		
		Black Color Aluminum Bar Handle		
10	set Screw	SS304/A276		

**Note**

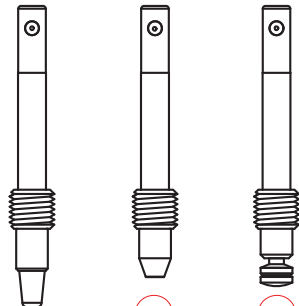
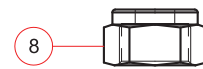
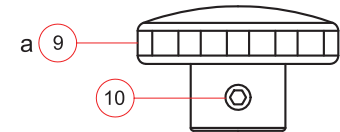
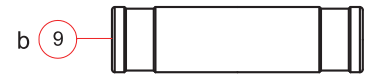
- HV26 Series: Standard Bar Handle with SS316

## Choice of Stem Tip

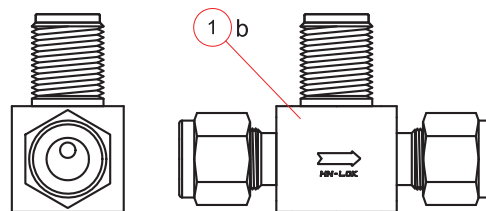
Vee Stem	Regulating Stem	Soft Stem
		
<ul style="list-style-type: none"> <li>• For pressure tightness even at elevated temperatures</li> <li>• Ordering: Standard Stem</li> </ul>	<ul style="list-style-type: none"> <li>• Regulating stem for flow rate control</li> <li>• Ordering: Optional Stem</li> </ul>	<ul style="list-style-type: none"> <li>• Non-rotating PCTFE soft seat for repetitive shut-off on gas</li> <li>• Ordering: Optional Stem</li> </ul>

## Safe Product Selection

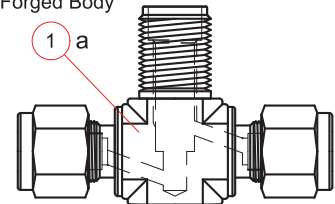
- When selecting a product, the total system design must be considered to ensure safe, trouble-free performance.
- Function, material compatibility, adequate ratings, proper installation, operation, and maintenance are the responsibilities of the system designer and user.



HV26 Bar stock Body



HV2 Forged Body

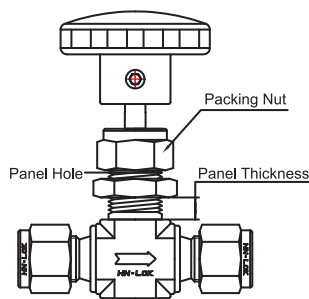




# HV2 Series 5000psig forged body

## Design Features

- Working pressure up to 5000psig (344bar) at 100°F (38°C)
- Temperature rating from -65°F (54°C) to 450°F (232°C) with Standard PTFE packing, and up to 600°F (315°C) with optional PEEK Packing.
- Reliable HN-Lok Tube Fitting Ends NPT&ISO Male&Female
- Metal to metal Vee & Regulating stems for elevated temperatures
- Hard chrome plated stem threads assures extended service life
- Allows panel installation
- Allows external adjustments of packing
- Choice of Round handle and Bar handle



## Mounting as standard

Dimensions mm (in)			
Valve Series	Panel Hole	Panel Thickness	
		Min.	Max.
HV2-1	13.5 (0.53)	3.17 (0.125)	6.35 (0.25)
HV2-2			
HV2-3	19.8 (0.78)		
HV2-3.5	22.8 (0.90)		
HV2-4	26.0 (1.02)		
HV2-5			

### Note

- Packing adjustments may be required the valve is mounted.

## Packing Nut Torque

Valve Series	Torque	
	lbf·ft	kgf·cm
HV2-1	4.3	60
HV2-2		
HV2-3	10.1	140
HV2-3.5	14.4	200
HV2-4	21.6	300
HV2-5		

## Technical Data

### 1. Pressure – Temperature Ratings for valves with standard PTFE packing HV2 Series

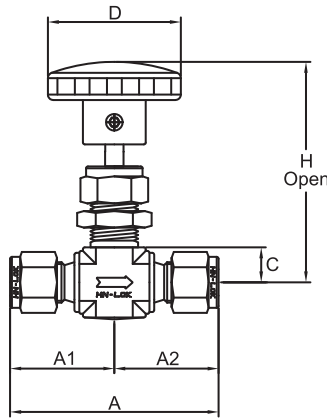
ASME Material Group	TABLE 2-2.2	N/A	TABLE 2-3.4
ASME Class Rating	2080	N/A	1500
Material Name	SS 316	Brass	Monel Alloy 400
Temperature, °F (°C)	Working Pressure, psig (bar)		
-65°F (-54°C) to	100 (38)	5000 (344)	3000 (206)
	200 (93)	4295 (295)	2350 (161)
	300 (148)	3875 (266)	2050 (141)
	350 (176)	3710 (255)	1470 (101)
	400 (204)	3560 (245)	390 (26)
	450 (232)	3435 (236)	-

### 2. Pressure – Temperature Ratings for valves with optional PEEK packing HV2 Series

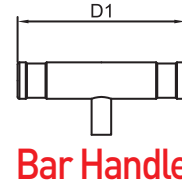
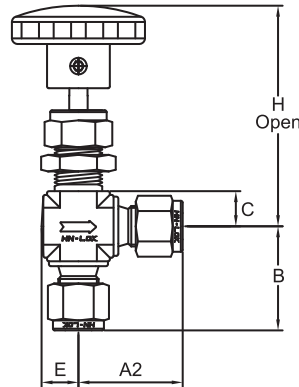
Valve Material	Stem	PEEK packing (Optional)	
		Temperature, °F (°C)	Working Pressure, psig (bar)
SS 316	Metal to metal (Vee & Regulating)	-65 to 600 (-54 to 315)	3130 (215)
	Soft Seat (Kee-F)	-65 to 200 (-54 to 93)	
Brass	Metal to metal (Vee & Regulating)	-65 to 400 (-54 to 204)	3000 (207)
	Soft Seat (Kee-F)	-65 to 200 (-54 to 93)	
Monel Alloy 400	Metal to metal (Vee & Regulating)	-65 to 500 (-54 to 260)	2370 (163)
	Soft Seat (Kee-F)	-65 to 200 (-54 to 93)	

- Note:** Pressure ratings of valves HN-Lok end connection are determined by the tubing material and wall thickness. Pressure ratings of valves is sometimes limited to the working pressure of pipe ends and the tubing connected.

**Inline Pattern**



**Angle Pattern**



**Ordering Information and Table of Dimensions**

Basic Part NO.	Orifice mm(in)	Cv	End Connection		Dimensions mm (in)									
			Inlet	Outlet	A	A1	A2	B	C	H	E	D	D1	
HV2-1-	F-2N-	2 (0.08)	0.09	1/8"Female NPT		42 (1.65)	21 (0.83)		21 (0.83)	11 (0.43)	60 (2.36)	9.5 (0.37)	36 (1.42)	45 (1.77)
	M-2N-			1/8"Male NPT			21 (0.83)	21 (0.83)						
	MH-2N2-			1/8"Male NPT	1/8" HN-Lok	47 (1.85)		26 (1.02)						
	H-2-			1/8" HN-Lok		52 (2.05)	26 (1.02)		26 (1.02)					
	H-3M-			3mm HN-Lok										
HV2-2-	F-2N-	4.3 (0.17)	0.37	1/8"Female NPT		42 (1.65)	21 (0.83)		21 (0.83)	11 (0.43)	60 (2.36)	9.5 (0.37)	36 (1.42)	45 (1.77)
	M-2N-			1/8"Male NPT			50 (1.97)	25 (0.98)						
	M-4N-			1/4"Male NPT		54 (2.13)			28.8 (1.13)					
	MH-4N4-			1/4"Male NPT	1/4" HN-Lok		57.6 (2.27)	29 (1.14)						
	H-6M-			6mm HN-Lok		59.2 (2.33)	29.6 (1.16)		30 (1.18)					
	H-4-			1/4" HN-Lok										
	H-8M-			8mm HN-Lok										
HV2-3-	F-4N-	6.4 (0.25)	0.73	1/4"Female NPT		56 (2.20)	28 (1.10)	28 (1.10)	28 (1.10)	13.5 (0.53)	71 (2.80)	13 (0.51)	47 (1.85)	56 (2.20)
	F-4R-			1/4"Female ISO Tapered										
	MF-4N-			1/4"Male NPT	1/4"Female NPT	61.2 (2.41)	29 (1.14)	33.2 (1.31)						
	MH-4N6-			1/4"Male NPT	3/8" HN-Lok			29 (1.14)						
	M-6N-			3/8"Male NPT		62.2 (2.45)	36 (1.42)	33.2 (1.31)						
	MH-6N6-			3/8"Male NPT	3/8" HN-Lok			29 (1.14)						
	MH-6N8-			3/8"Male NPT	1/2" HN-Lok	65 (2.56)	36 (1.42)							
	H-10M-			10mm HN-Lok		66 (2.60)	33.2 (1.31)		33 (1.30)					
	H-6-			3/8" HN-Lok										
	H-12M-			12mm HN-Lok		72 (2.83)	36 (1.42)		36 (1.42)					
H-8-	1/2" HN-Lok													
HV2-3.5-	F-6N-			3/8"Female NPT		60 (2.36)	30 (1.18)		30 (1.18)	14.5 (0.57)	88 (3.46)	16 (0.62)	55 (2.16)	62 (2.44)
	F-6R-			3/8"Female ISO Tapered										
HV2-4-	F-6N-	9.5 (0.37)	1.80	3/8"Female NPT		76 (2.99)	38 (1.50)	38 (1.50)	19 (0.75)	98 (3.85)	19 (0.75)	65 (2.55)	76.2 (3.00)	
	F-6R-			3/8"Female ISO Tapered										
	F-8N-			1/2"Female NPT										
	F-8R-			1/2"Female ISO Tapered										
	M-8N-			1/2"Male NPT		97 (3.82)	48.5 (1.91)	49 (1.93)						
	MF-8N-			1/2"Male NPT	1/2"Female NPT									
	H-8-			1/2" HN-Lok										
	H-12-			3/4" HN-Lok										
HV2-5-	F-12N-			3/4"Female NPT		78 (3.07)	49 (1.53)	49 (1.93)	21.2 (0.83)	101 (3.97)	24 (0.94)	65 (2.55)	76.2 (3.00)	
	F-16N-			1"Female NPT										
	H-16-			1" HN-Lok		102 (4.02)	51 (2.00)	51 (2.00)						

All dimensions in millimeters. Dimensions shown with HN-Lok nuts in finger-tight position, where applicable.

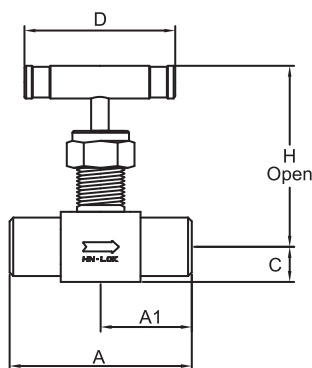


# HV26 Series 6000psig barstock body

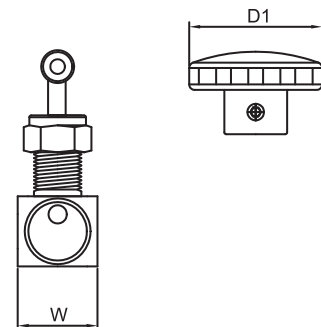
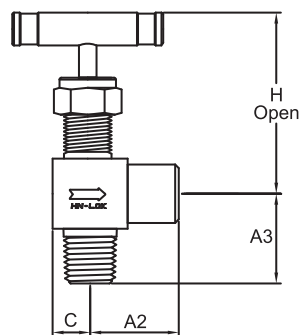
## Design Features

- Working pressure up to 6000psig (344bar) at 100°F (38°C)
- Temperature rating from -65°F (54°C) to 450°F (232°C) with Standard PTFE packing, and up to 600°F (315°C) with optional PEEK Packing.
- Metal to metal Vee & Regulating stems for elevated temperatures
- Packing nut enables easy external adjustments to ensure leak-free stem seal.
- Every valve is 100% factor tested with the Nitrogen @1000psig (69bar)
- Reliable HN-Lok Tube Fitting Ends NPT&ISO Male&Female
- Orifice sizes: from 0.12in(3.2mm) to 0.25in(6.4mm)
- Bar stock body with straight and angle patterns.
- Stem threads are hard chrome-plated for maximum service life.

### Inline Pattern



### Angle Pattern



## Ordering Information and Table of Dimensions

Basic Part NO.	Orifice mm (in)	Cv	End Connection		Dimensions mm (in)									
			Inlet	Outlet	A	A1	A2	A3	H	C	W	D	D1	
HV26-1	F-4N-	3.2 (0.12)	0.21	1/4"Female NPT		47.8 (1.88)	23.9 (0.94)	25.4 (1.00)	25.4 (1.00)	42.2 (1.66)	11.2 (0.44)	21.6 (0.85)	45 (1.77)	36 (1.42)
	F-4R-			1/4"Female ISO Tapered					26.2 (1.03)					
	MF-4N-			1/4"Male NPT	1/4"Female NPT	48.5 (1.91)	31.2 (1.22)	28.7 (1.13)	29.5 (1.16)					
	MH-4N4-			1/4"Male NPT	1/4" HN-Lok									
	H-4-			1/4" HN-Lok		62.4 (2.46)	-	-						
	M-4N-			1/4"Male NPT		49.2 (1.94)	24.6 (0.96)	-	-					
HV26-2	F-6N-	6.4 (0.25)	0.37	3/8"Female NPT		63.6 (2.50)	31.8 (1.25)	-	-	58.7 (2.31)	16.8 (0.66)	32 (1.26)	56 (2.20)	47 (1.85)
	F-8N-			1/2"Female NPT				35.8 (1.41)						
	F-8R-			1/2"Female ISO Tapered		31.0 (1.22)								
	MF-6N-			3/8"Male NPT	3/8"Female NPT	64.8 (2.55)	-	-						
	MF-8N-			1/2"Male NPT	1/2"Female NPT				35.8 (1.41)					
	MF-12N8N			3/4"Male NPT	1/2"Female NPT	63.6 (2.50)	-	-						
	H-6-			3/8" HN-Lok		78.2 (3.08)	39.1 (1.54)	-	-					
	H-8-			1/2" HN-Lok		83.8 (3.30)	41.9 (1.65)	-	-					

All dimensions in millimeters. Dimensions shown with HN-Lok nuts in finger-tight position, where applicable.

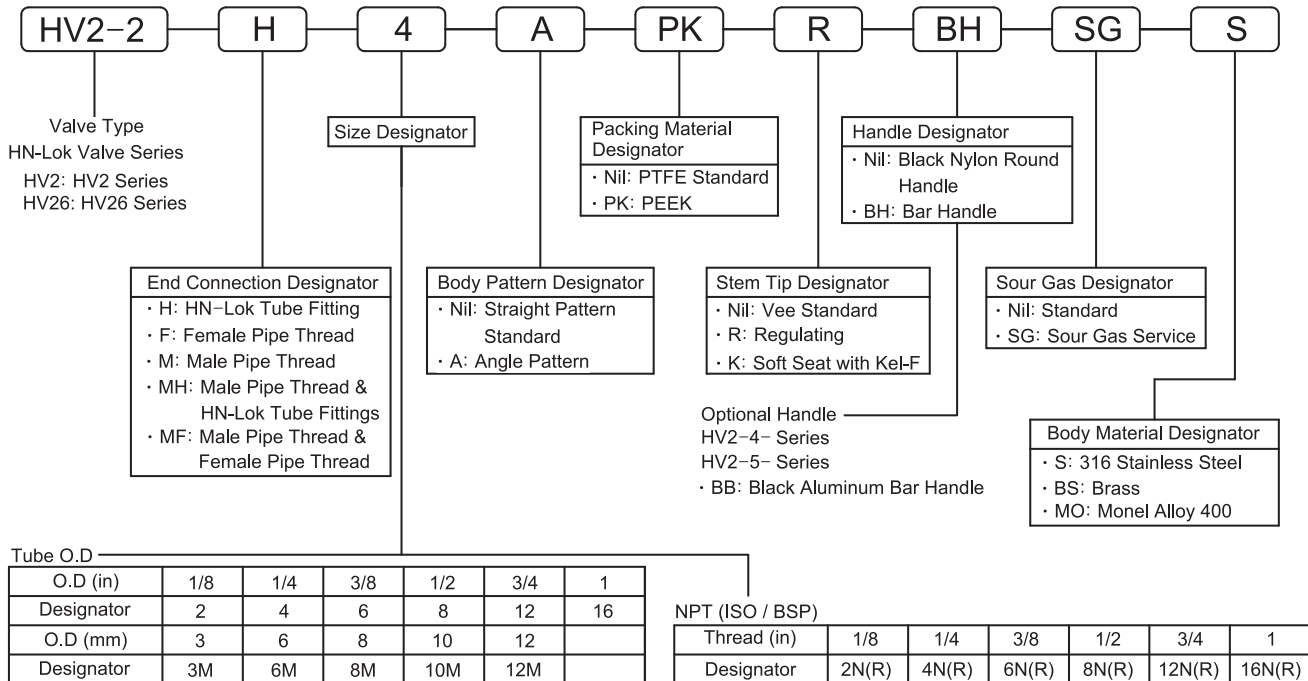
### Handle

- Stainless Steel bar handle is standard all body valves.
- Black phenolic knob is standard for soft seat stem valves.

### Sour Gas Service

- Sour Gas Service is provided to meet NACE Standard MR 0175.

## Ordering Information



## Technical Data

### Temperature-Working Pressure HV26 Series

ASME Material Group	TABLE 2-2.2	
ASME Class Rating	2500	
Material Name	SS 316	
Temperature, °F (°C)	Working Pressure, psig (bar)	
-65°F (-54°C) to	100 (38)	6000 (413)
	200 (93)	5160 (355)
	250 (121)	4910 (338)
	300 (148)	4660 (321)
	350 (176)	4470 (307)
	400 (204)	4280 (294)
	450 (232)	4130 (284)
	500 (260)	3980 (274)
600 (315)	3760 (259)	

## Factory Test

- Every valve is factory tested with nitrogen 1000psig (68bar) for leakage at the seat to a maximum allowable leak of 0.1 sccm.
- The packing is tested with nitrogen for no detectable leakage.

## Caution

- To increase service life, ensure proper valve performance, and prevent leakage, apply only as much torque as is required to achieve positive shutoff.
- Valves that have not been cycled for a period of time may have a higher initial actuation torque.
- Packing adjustment may be required periodically to increase service life and to prevent leakage.
- Do not mix or interchange parts with those of other manufacturers.

### Temperature-Pressure Packing, Body HV26 Series

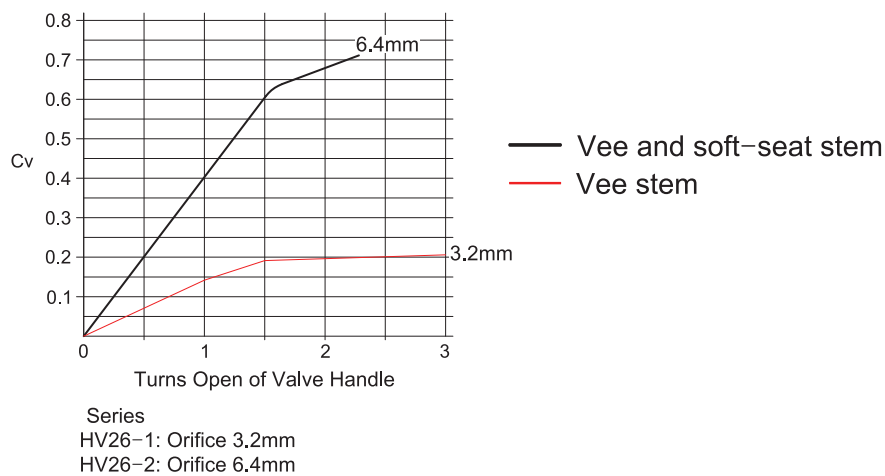
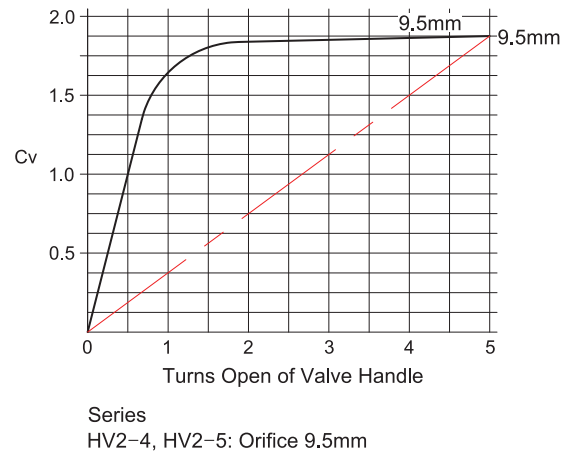
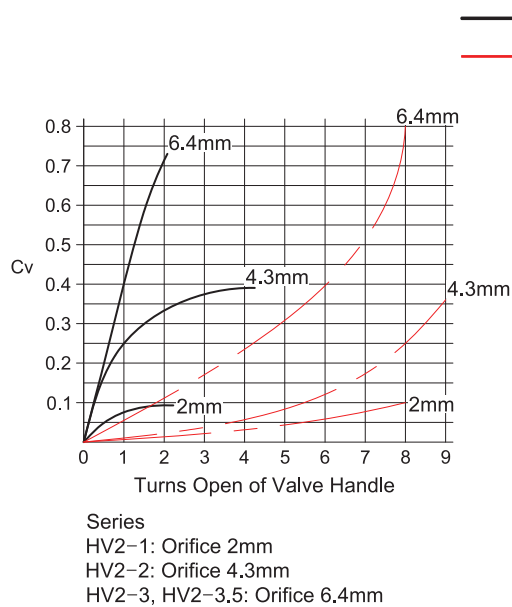
Packing Material	Body Material	Temperature °F (°C)	Working Pressure psig (bar)
PTFE	SS 316	-65 to 450 (-54 to 232)	4130 (284)
PEEK	SS 316	-65 to 600 (-54 to 315)	3760 (259)

### Temperature and Pressure Ratings HV26 Series

Body Material	Stem Tip	Temperature °F (°C)	Working Pressure psig (bar)
SS 316	Vee	-65 to 450 (-54 to 232)	-65°F to 100°F (-54°C to 38°C)
	Soft Seat (kel-F)	-65 to 200 (-54 to 93)	6000 (413)



## Flow Coefficient (cv) with Number of Handle Turns



### SAFETY in VALVE SELECTION

The selection of a valve for any application or system design must be considered to ensure safe performance. Valve function, valve rating, material compatibility, proper installation, operation and maintenance remain the sole responsibility of the system designer and the user. HN-Tech accepts no liability for any improper selection, installation, operation or maintenance.



**HN-LOK**  
*Fittings & Valves*

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