

Medium Pressure Needle Valves

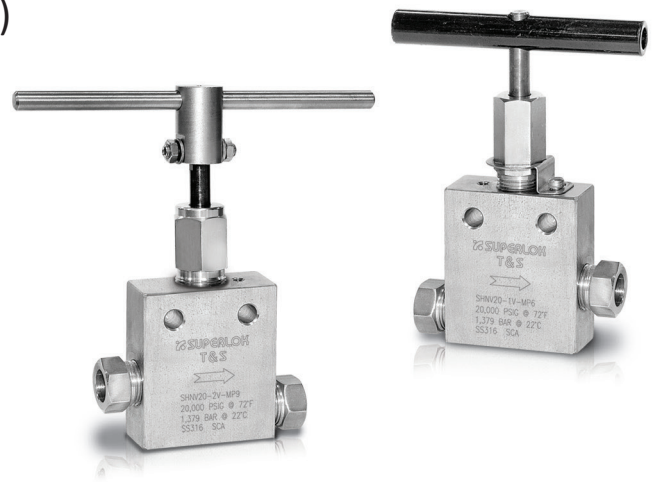
SHNV20 Series 20,000 psi (1380 bar)

Features

- Pressures to 20,000 psi (1,380 bar)
- Non-rotating stem tips.
- Available sizes : 1/4", 3/8", 9/16", 3/4", 1".
- 316 stainless steel high tensile bodies.
- Choice of VEE or Regulating stem tip.
- PTFE(Teflon) encapsulated packing provides dependable stem and body sealing.

Specifications

- Maximum Working Pressure rating: 20,000psig (1,380bar) @72 F°(22 C°)
- Temperature rating: 0 to 450 F°(-17.8 to 232 C°) with Teflon packing and up to 1200 F°(648 C°) with optional grafoil packing.



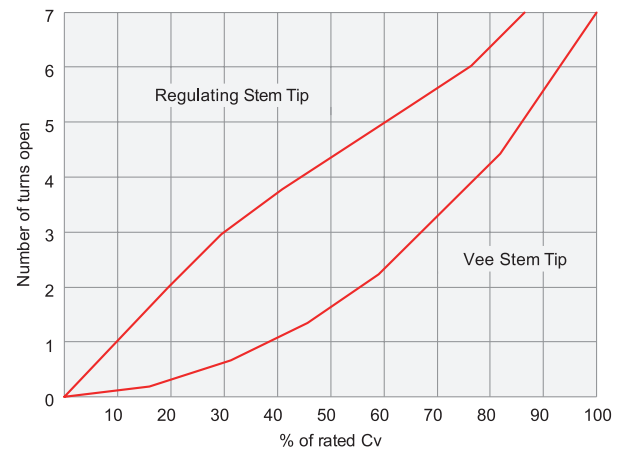
Technical Data

Valve Flow Coefficient

Tube O.D (In.)	Connection	Orifice, In. (mm)	*Cv	Pressure / Temperature Rating @72 F°(22 C°)
1/4"	MP4	0.125" (3.18)	0.31	20,000 psi (1,380 bar)
3/8"	MP6	0.219" (5.56)	0.75	20,000 psi (1,380 bar)
9/16"	MP9	0.312" (7.92)	1.75	20,000 psi (1,380 bar)
3/4"	MP12	0.438" (11.13)	2.80	20,000 psi (1,380 bar)
1"	MP16	0.562" (14.27)	5.20	20,000 psi (1,380 bar)

*Cv values listed are for 2-way straight pattern valves.
For 2-way angle pattern valves, increase Cv value by 50%.

Coefficient Curves (Cv)



Ordering Information

Example : **SHNV 20 - 1V - MP9 - GR - 276**

1
2
3
4
5

• 316 stainless steel is standard body material.

1. Body Pattern

- 1 = 2-way straight
- 2 = 2-way angle
- 3 = 3-way, two pressure connections
- 4 = 3-way, one pressure connection
- 5 = 3-way, two stem connection valve
- 6 = Replaceable seat valve

2. Stem Type

- V = Vee stem
- R = Regulating stem

4. Packing Material

- (Blank) = PTFE (Standard)
- GR = Grafoil

3. Connection Size & Type

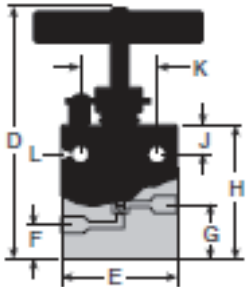
Size (inch)	1/4	3/8	9/16	3/4	1
Medium Pressure	MP4	MP6	MP9	MP12	MP16

5. Body Material

- (Blank) = 316 Stainless Steel
- 276 = Hastelloy
- 625 = Inconel 625

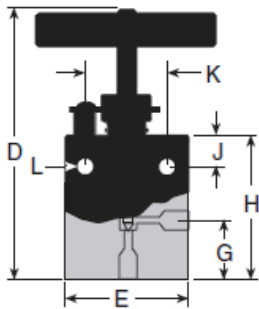
Table of Dimensions

Two Way Straight Valves



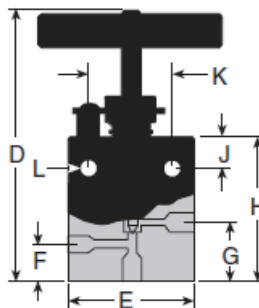
Part No.	Tube OD, in.(mm)	Orifice, in.(mm)	Dimensions, in.(mm)								Thickness, in.(mm)
			D	E	F	G	H	J	K	L	
SHNV20-1V-MP4	1/4 (6.35)	0.125 (3.18)	4.69 (119.13)	2.00 (50.80)	0.38 (9.65)	0.81 (20.57)	2.00 (50.80)	0.38 (9.65)	1.24 (31.50)	0.22 (5.59)	0.75 (19.05)
SHNV20-1V-MP6	3/8 (9.53)	0.219 (5.56)	4.69 (119.13)	2.00 (50.80)	0.38 (9.65)	0.81 (20.57)	2.00 (50.80)	0.38 (9.65)	1.24 (31.50)	0.22 (5.59)	0.75 (19.05)
SHNV20-1V-MP9	9/16 (14.29)	0.312 (7.92)	5.93 (150.86)	2.50 (63.50)	0.50 (12.70)	1.13 (28.70)	2.88 (73.15)	0.50 (12.70)	1.38 (35.05)	0.34 (8.64)	1.00 (25.40)
SHNV20-1V-MP12	3/4 (19.05)	0.438 (11.13)	7.00 (177.80)	3.00 (76.20)	0.75 (19.05)	1.50 (38.10)	3.75 (95.25)	0.63 (16.00)	1.76 (44.70)	0.44 (11.18)	1.38 (35.05)
SHNV20-1V-MP16	1 (25.4)	0.562 (14.27)	9.00 (228.60)	4.12 (104.65)	0.88 (22.35)	1.82 (46.22)	4.63 (117.60)	1.13 (28.70)	2.50 (63.50)	0.56 (14.22)	1.75 (44.45)

Two Way Angle Valves



Part No.	Tube OD, in.(mm)	Orifice, in.(mm)	Dimensions, in.(mm)							Thickness, in.(mm)
			D	E	G	H	J	K	L	
SHNV20-2V-MP4	1/4 (6.35)	0.125 (3.18)	4.81 (122.25)	2.00 (50.80)	1.25 (31.75)	2.44 (61.90)	0.38 (9.65)	1.24 (31.50)	0.22 (5.59)	0.75 (19.05)
SHNV20-2V-MP6	3/8 (9.53)	0.219 (5.56)	4.81 (122.25)	2.00 (50.80)	1.25 (31.75)	2.44 (61.90)	0.38 (9.65)	1.24 (31.50)	0.22 (5.59)	0.75 (19.05)
SHNV20-2V-MP9	9/16 (14.29)	0.312 (7.92)	6.43 (163.56)	2.50 (63.50)	1.63 (41.40)	3.38 (85.85)	0.50 (12.70)	1.38 (35.05)	0.34 (8.64)	1.00 (25.40)
SHNV20-2V-MP12	3/4 (19.05)	0.438 (11.13)	7.50 (190.50)	3.00 (76.20)	2.00 (50.80)	4.25 (107.95)	0.63 (16.00)	1.76 (44.70)	0.44 (11.18)	1.38 (35.05)
SHNV20-2V-MP16	1 (25.4)	0.562 (14.27)	9.00 (228.60)	4.12 (104.65)	2.31 (58.67)	5.12 (130.05)	1.13 (28.70)	2.50 (63.50)	0.56 (14.22)	1.75 (44.45)

Three Way Valves / Two Pressure Connections

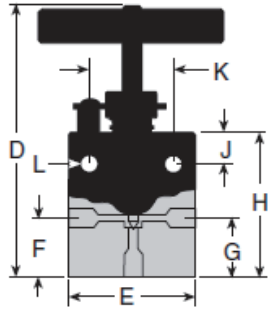


Part No.	Tube OD, in.(mm)	Orifice, in.(mm)	Dimensions, in.(mm)								Thickness, in.(mm)
			D	E	F	G	H	J	K	L	
SHNV20-3V-MP4	1/4 (6.35)	0.125 (3.18)	5.00 (127.00)	2.00 (50.80)	1.00 (25.40)	1.44 (36.57)	2.63 (66.68)	0.38 (9.65)	1.24 (31.50)	0.22 (5.59)	0.75 (19.05)
SHNV20-3V-MP6	3/8 (9.53)	0.219 (5.56)	5.00 (127.00)	2.00 (50.80)	1.00 (25.40)	1.44 (36.57)	2.63 (66.68)	0.38 (9.65)	1.24 (31.50)	0.22 (5.59)	0.75 (19.05)
SHNV20-3V-MP9	9/16 (14.29)	0.312 (7.92)	6.51 (165.59)	2.50 (63.50)	1.25 (31.75)	1.88 (47.75)	3.63 (92.08)	0.50 (12.70)	1.38 (35.05)	0.34 (8.64)	1.00 (25.40)
SHNV20-3V-MP12	3/4 (19.05)	0.438 (11.13)	7.88 (200.03)	3.00 (76.20)	1.63 (41.28)	2.38 (60.45)	4.63 (117.60)	0.63 (16.00)	1.76 (44.70)	0.44 (11.18)	1.38 (35.05)
SHNV20-3V-MP16	1 (25.4)	0.562 (14.27)	9.75 (247.89)	4.12 (104.65)	2.13 (54.10)	3.07 (77.97)	5.88 (149.35)	1.13 (28.70)	2.50 (63.50)	0.56 (14.22)	1.75 (44.45)

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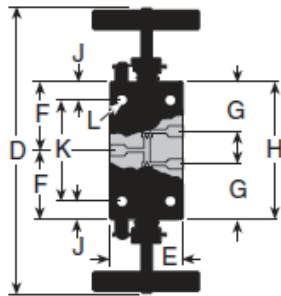
Table of Dimensions

Three Way Valves / One Pressure Connection



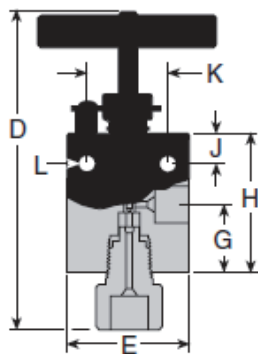
Part No.	Tube OD, in.(mm)	Orifice, in.(mm)	Dimensions, in.(mm)								Thickness, in.(mm)
			D	E	F	G	H	J	K	L	
SHNV20-4V-MP4	1/4 (6.35)	0.125 (3.18)	4.81 (122.25)	2.00 (50.80)	1.25 (31.75)	1.25 (31.75)	2.44 (61.90)	0.38 (9.65)	1.24 (31.50)	0.22 (5.59)	0.75 (19.05)
SHNV20-4V-MP6	3/8 (9.53)	0.219 (5.56)	4.81 (122.25)	2.00 (50.80)	1.25 (31.75)	1.25 (31.75)	2.44 (61.90)	0.38 (9.65)	1.24 (31.50)	0.22 (5.59)	0.75 (19.05)
SHNV20-4V-MP9	9/16 (14.29)	0.312 (7.92)	6.43 (163.56)	2.50 (63.50)	1.63 (41.40)	1.63 (41.40)	3.38 (85.85)	0.50 (12.70)	1.38 (35.05)	0.34 (8.64)	1.00 (25.40)
SHNV20-4V-MP12	3/4 (19.05)	0.438 (11.13)	7.50 (190.50)	3.00 (76.20)	2.00 (50.80)	2.00 (50.80)	4.25 (107.95)	0.63 (16.00)	1.76 (44.70)	0.44 (11.18)	1.38 (35.05)
SHNV20-4V-MP16	1 (25.4)	0.562 (14.27)	9.00 (228.84)	4.12 (104.65)	2.31 (58.67)	2.31 (58.67)	5.12 (130.05)	1.13 (28.70)	2.50 (63.50)	0.56 (14.22)	1.75 (44.45)

Three Way / Two Stem Connection Valves



Part No.	Tube OD, in.(mm)	Orifice, in.(mm)	Dimensions, in.(mm)								Thickness, in.(mm)
			D	E	F	G	H	J	K	L	
SHNV20-5V-MP4	1/4 (6.35)	0.125 (3.18)	8.13 (206.38)	2.00 (50.80)	1.69 (42.85)	1.00 (25.40)	3.38 (85.73)	0.38 (9.65)	2.62 (66.55)	0.22 (5.59)	0.75 (19.05)
SHNV20-5V-MP6	3/8 (9.53)	0.219 (5.56)	8.13 (206.38)	2.00 (50.80)	1.69 (42.85)	1.00 (25.40)	3.38 (85.73)	0.38 (9.65)	2.62 (66.55)	0.22 (5.59)	0.75 (19.05)
SHNV20-5V-MP9	9/16 (14.29)	0.312 (7.92)	11.31 (287.56)	2.50 (63.50)	2.56 (65.07)	1.63 (41.40)	5.13 (130.18)	0.50 (12.70)	4.13 (104.80)	0.34 (8.64)	1.00 (25.40)
SHNV20-5V-MP12	3/4 (19.05)	0.438 (11.13)	13.00 (330.20)	3.00 (76.20)	3.25 (82.55)	2.00 (50.80)	6.50 (165.10)	0.63 (16.00)	5.24 (133.10)	0.44 (11.18)	1.38 (35.05)
SHNV20-5V-MP16	1 (25.4)	0.562 (14.27)	15.44 (392.42)	4.12 (104.65)	3.75 (95.25)	1.88 (47.75)	7.50 (190.50)	1.13 (28.70)	5.24 (133.10)	0.56 (14.22)	1.75 (44.45)

Replaceable Seat Valves



Part No.	Tube OD, in.(mm)	Orifice, in.(mm)	Dimensions, in.(mm)							Thickness, in.(mm)
			D	E	G	H	J	K	L	
SHNV20-6V-MP4	1/4 (6.35)	0.125 (3.18)	5.75 (146.05)	2.00 (50.80)	1.06 (26.92)	2.25 (57.15)	0.38 (9.65)	1.24 (31.50)	0.22 (5.59)	0.75 (19.05)
SHNV20-6V-MP6	3/8 (9.53)	0.219 (5.56)	5.75 (146.05)	2.00 (50.80)	1.06 (26.92)	2.25 (57.15)	0.38 (9.65)	1.24 (31.50)	0.22 (5.59)	0.75 (19.05)
SHNV20-6V-MP9	9/16 (14.29)	0.312 (7.92)	7.34 (186.68)	2.50 (63.50)	1.38 (35.05)	3.13 (79.38)	0.50 (12.70)	1.38 (35.05)	0.34 (8.64)	1.00 (25.40)
SHNV20-6V-MP12	3/4 (19.05)	0.438 (11.13)	9.00 (228.60)	3.00 (76.20)	2.00 (50.80)	4.25 (107.95)	0.63 (16.00)	1.76 (44.70)	0.44 (11.18)	1.38 (35.05)
SHNV20-6V-MP16	1 (25.4)	0.562 (14.27)	11.00 (279.64)	4.12 (104.65)	2.56 (65.02)	5.25 (133.35)	1.13 (28.70)	2.50 (63.50)	0.56 (14.22)	1.75 (44.45)

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