

Needle Valve

NV8 Series



- ❖ Maximum working pressure up to 6000 psig (413 bar)
- ❖ Working temperature from -65°F to 1200°F (-53°C to 648°C)
- ❖ Bar stock valve body
- ❖ Straight and angle patterns
- ❖ Upper stem and lower stem design

Features

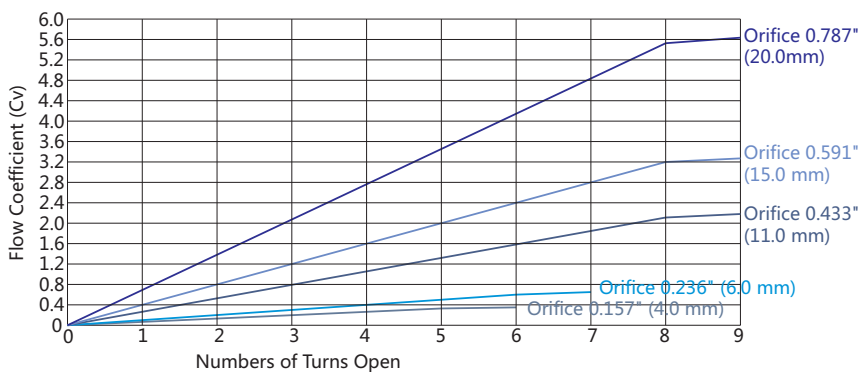
- ❖ Maximum working pressure up to 6000 psig (413 bar)
- ❖ Working temperature from -65°F to 1200°F (-53°C to 648°C)
- ❖ Bar stock valve body
- ❖ Straight and angle patterns
- ❖ Upper stem and lower stem design, Stem threads above packing protected from system media
- ❖ Two-piece knuckle joint provides nonrotating needle feature
- ❖ Nonrotating, hardened needle for positive shutoff
- ❖ Safety back-seating in fully open position
- ❖ Optional handle colors available

Pressure vs. Temperature

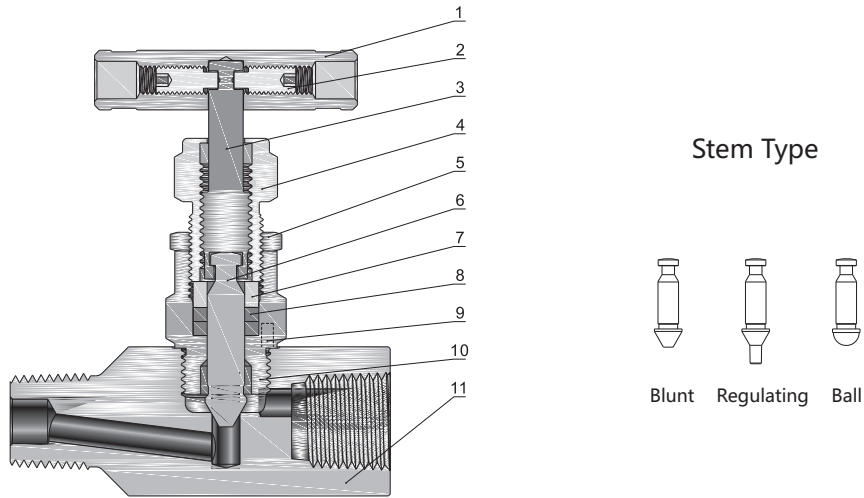
ASME Class	2500						N/A
Material Group	2. 2	2. 2	2. 8	3. 4	3. 1	3. 5	N/A
Material Name	316 S.S.	316H S.S.	F53 S.S.	Alloy 400	Alloy 20	Alloy 600	Alloy C-276
Temperature, °F (°C)	Working Pressure, psig (bar)						
-65 (-53) to 100 (37)	6000 (413)	6000 (413)	6000 (413)	5000 (344)	5000 (344)	6000 (413)	6000 (413)
200 (93)	5160 (355)	5160 (355)	5160 (355)	4400 (303)	4640 (319)	5600 (385)	6000 (413)
250 (121)	4910 (338)	4910 (338)	5350 (368)	4260 (293)	4500 (310)	5460 (376)	6000 (413)
300 (148)	4660 (321)	4660 (321)	5540 (382)	4120 (283)	4360 (300)	5320 (366)	6000 (413)
350 (176)	4470 (307)	4470 (307)	5330 (367)	4050 (279)	4185 (288)	5220 (359)	5975 (411)
400 (204)	4280 (294)	4280 (294)	5120 (353)	3980 (274)	4010 (276)	5120 (352)	5880 (405)
450 (232)	4130 (284)	4130 (284)	4960 (342)	3970 (273)	3955 (272)	5030 (346)	5710 (393)
500 (260)	3980 (274)	3980 (274)	4800 (331)	3960 (272)	3900 (268)	4940 (340)	5540 (381)
600 (315)	3760 (259)	3760 (259)	4640 (320)	—	3790 (261)	4780 (329)	5040 (347)
650 (343)	3700 (254)	3700 (254)	4580 (315)	—	3750 (258)	4700 (323)	4905 (337)
700 (371)	3600 (248)	3600 (248)	4520 (311)	—	3710 (255)	4640 (319)	4730 (325)
750 (398)	3520 (242)	3520 (242)	4430 (305)	—	3665 (252)	4430 (305)	4430 (305)
800 (426)	3460 (238)	3460 (238)	—	—	3600 (248)	4230 (291)	4230 (291)
850 (454)	3380 (232)	3380 (232)	—	—	—	4060 (279)	4060 (279)
900 (482)	3280 (225)	3280 (225)	—	—	—	3745 (258)	3745 (258)
950 (510)	3220 (221)	3220 (221)	—	—	—	2725 (187)	3220 (221)
1000 (537)	3030 (208)	3030 (208)	—	—	—	1800 (124)	3030 (208)
1050 (565)	3000 (206)	3000 (206)	—	—	—	1155 (79.5)	3000 (206)
1100 (593)	2685 (184)	2685 (184)	—	—	—	770 (53.0)	2685 (184)
1150 (621)	2285 (157)	2285 (157)	—	—	—	565 (38.9)	2285 (157)
1200 (648)	1715 (118)	1715 (118)	—	—	—	515 (35.4)	1545 (106)

Flow Data at 100°F (37°C)

Regulating Stem

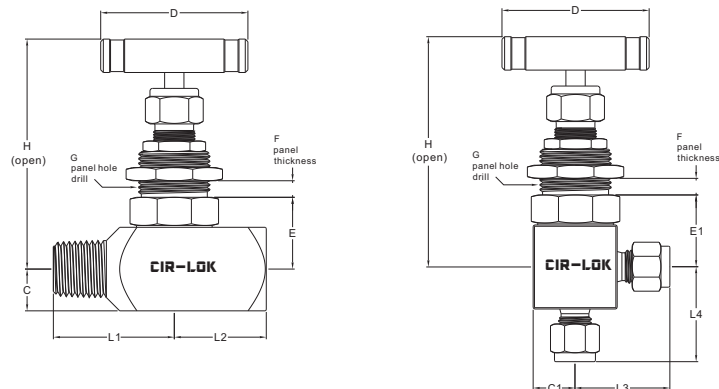


Standard Materials of Construction



Item	Component	Material Grade/ASTM Specification				
		316 S.S.	Alloy 400	Titanium	Alloy C-276	Brass
1	Handle	Anodized aluminum or stainless steel				
2	Screw	Nickel cadmium-plated steel				
3	Upper Stem	316 S.S./A276				
4	Packing Bolt	316 S.S./A276			Brass 360/B16	
5	Nut	316 S.S./B783			Brass 360/B16	
6	Lower Stem	Chrome-plated 316 S.S./A276	Alloy R-405/B164	Titanium Gr 4/B348	Alloy C-276/B574	Chrome-plated 316 S.S./A276
7	Gland	316 S.S./A276				
8	Packing	PTFE or Graphite				
9	Pin	304 S.S./A276				
10	Bonnet	316 S.S./A479	Alloy R-405/B164	Titanium Gr 4/B348	Alloy C-276/B574	Brass 360/B16
11	Body	316 S.S./A479 316 S.S./A182	Alloy 400/B164,B127,B564	Titanium Gr 4/B348 or Titanium Gr 4/B381	Alloy C-276/B564	Brass 360/B16

Dimensions



Basic Ordering Number	Connection Type and Size	Orifice in. (mm)	Cv	Dimension, in. (mm)														
				L1	L2	L3	L4	C	C1	D	E	E1	F	G	H	H1		
NV8-FNPT2-04-	1/8 Female NPT	0.157 (4.0)	0.35	1.00 (25.4)	1.00 (25.4)	1.00 (25.4)	0.563 (14.3)	0.5 (12.7)	0.5 (12.7)	2.17 (55)	0.84 (21.4)	0.84 (21.4)	0.25 (6.4)	0.77 (19.6)	2.85 (72.4)	2.85 (72.4)	0.9 (23.0)	2.91 (74.0)
NV8-FNPT4-04-	1/4 Female NPT			1.06 (26.9)	1.06 (26.9)													
NV8-NPT4-04-	1/4 Male NPT			1.03 (26.2)	1.03 (26.2)	1.06 (26.9)	1.06 (26.9)											
NV8-NPT6-04-	3/8 Male NPT			1.19 (30.2)	1.19 (30.2)													
NV8-F4-04-	1/4" CIR-LOK			1.20 (30.5)	1.20 (30.5)	1.20 (30.5)	1.20 (30.5)											
NV8-M6-04-	6 mm CIR-LOK																	
NV8-M8-04-	8 mm CIR-LOK																	
NV8-OFS4-04-	1/4" Male OFS			1.03 (26.2)	1.03 (26.2)													
NV8-GFS4-04-	1/4" Male GFS																	
NV8-FNPT4-06-	1/4 Female NPT			0.236 (6.0)	0.85	1.12 (28.6)	1.12 (28.6)											
NV8-FNPT6-06-	3/8 Female NPT																	
NV8-NPT6-06-	3/8 Male NPT						1.12 (28.6)											
NV8-F6-06-	3/8" CIR-LOK	1.41 (35.8)	1.41 (35.8)			1.32 (33.6)	1.32 (33.6)											
NV8-F8-06-	1/2" CIR-LOK	1.52 (38.6)	1.52 (38.6)			1.42 (36.1)	1.42 (36.1)											
NV8-M10-06-	10 mm CIR-LOK	1.42 (36.1)	1.42 (36.1)			1.33 (33.8)	1.33 (33.8)											
NV8-M12-06-	12 mm CIR-LOK	1.52 (38.6)	1.52 (38.6)			1.42 (36.1)	1.42 (36.1)											
NV8-M14-06-	14 mm CIR-LOK	1.56 (39.7)	1.56 (39.7)															
NV8-FSW6-06-	3/8" FSW																	
NV8-FSW8-06-	1/2" FSW																	
NV8-MSW12-06-	12 mm MSW	1.13 (28.6)	1.13 (28.6)			1.13 (28.6)	1.13 (28.6)											
NV8-MSW14-06-	14 mm MSW																	
NV8-MSW16-06-	16 mm MSW																	
NV8-MBW14-06-	14 mm MBW	1.50 (38.1)	1.50 (38.1)			1.50 (38.1)	1.50 (38.1)											
NV8-MBW16-06-	16 mm MBW																	
NV8-UGM14-06-	14 mm UGM	2.92 (74.1)	2.92 (74.1)															
NV8-UGM16-06-	16 mm UGM																	
NV8-OFS8-06-	1/2" Male OFS	1.13 (28.6)	1.13 (28.6)															
NV8-GFS8-06-	1/2" Male GFS	1.56 (39.7)	1.56 (39.7)															
NV8-MS20-06-	M20 x 1.5 Male ISO	1.50 (38.1)	1.50 (38.1)															
NV8-MS22-06-	M22 x 1.5 Male ISO																	
NV8-FNPT8-11-	1/2 Female NPT	0.433 (11.0)	2.18	1.75 (44.5)	1.75 (44.5)	1.63 (41.3)	1.50 (38.1)	0.875 (22.2)	0.75 (19.05)	3.5 (88.9)	1.38 (34.9)	1.25 (31.75)	0.38 (9.7)	1.08 (27.5)	4.12 (104.8)	4.0 (101.6)		
NV8-FNPT12-11-	3/4 Female NPT																	
NV8-NPT12-11-	3/4 Male NPT					1.50 (38.1)												
NV8-F12-11-	3/4" CIR-LOK																	
NV8-M14-11-	14 mm CIR-LOK			1.97 (50.0)	1.97 (50.0)	1.61 (41.0)	1.61 (41.0)											
NV8-M16-11-	16 mm CIR-LOK																	
NV8-M18-11-	18 mm CIR-LOK																	
NV8-MSW14-11-	14 mm MSW																	
NV8-MSW16-11-	16 mm MSW																	
NV8-FSW12-11-	3/4" FSW			1.75 (44.5)	1.75 (44.5)													
NV8-MBW14-11-	14 mm MBW																	
NV8-MBW16-11-	16 mm MBW																	
NV8-UGM14-11-	14 mm UGM			2.98 (75.7)	2.98 (75.7)													
NV8-OFS12-11-	3/4" Male OFS																	
NV8-GFS8-11-	1/2" Male GFS			1.56 (39.7)	1.56 (39.7)													
NV8-MS27-11-	M27 x 2 Male ISO																	

Basic Ordering Number	Connection Type and Size	Orifice in. (mm)	Cv	Dimension, in. (mm)												
				L1	L2	L3	L4	C	C1	D	E	E1	F	G	H	H1
NV8-FNPT12-15-	3/4 Female NPT	0.591 (15.0)	3.27			1.75 (44.5)	1.14 (29.0)	1.14 (29.0)	0.875 (22.2)	5.0 (127)	1.7 (43.2)	1.43 (36.4)	0.38 (9.7)	1.28 (32.5)	5.0 (127)	4.72 (120)
NV8-FSW16-15-	1" FSW															
NV8-MSW25-15-	25 mm MSW			1.75 (44.5)	1.75 (44.5)	1.75 (44.5)	1.75 (44.5)									
NV8-MSW28-15-	28 mm MSW															
NV8-PSW12-15-	3/4 PSW															
NV8-M20-15-	20 mm CIR-LOK															
NV8-M22-15-	22 mm CIR-LOK			2.35 (59.7)	2.35 (59.7)	2.35 (59.7)	2.0 (51.0)									
NV8-FNPT16-20-	1 Female NPT	0.787 (20.0)	5.65					1.25 (31.75)		5.5 (140)					5.2 (132)	
NV8-MSW25-20-	25 mm MSW															
NV8-FSW16-20-	1" FSW			1.97 (50.0)	1.97 (50.0)											
NV8-MSW28-20-	28 mm MSW															
NV8-PSW12-20-	3/4 PSW															
NV8-PSW16-20-	1 PWS															

❖ If working pressure up to 10,000 psi, please refer to NV81 series.

How to Order

NV8 — MBW8 — M12 — S06S — GY — LA — 316

Series	Inlet Type	Inlet Size	Outlet Type	Outlet Size	Seat Material	Orifice Size	Tip Material	Tip Type	Packing Material	Panel Mounting	Handle	Flow Pattern	Body Material
NV8	FNPT	Female NPT	2 1/8 in.	Same as inlet type and inlet size If outlet and inlet are the same, eliminate the outlet designator	Same as Body S Stellite	04 0.157 in. (4.0 mm) 06 0.236 in. (6.0 mm) 11 0.433 in. (1.1 mm) 15 0.591 in. (1.5 mm) 20 0.787 in. (20 mm)	Same as Body S Stellite	Blunt R Regulating A Ball T PTFE K PCTFE P PEEK	PTFE G Graphite	No Y Yes	Black Aluminum Bar Red Aluminum Bar R Green Aluminum Bar G Blue Aluminum Bar L 304 Stainless Steel Bar S	Straight A Angle	316 316 S.S. 316L 316L S.S. 304 304 S.S. 304L 304L S.S. 321 321 S.S. F91 F91 F91 F92 A400 Alloy 400 A20 Alloy 20 A600 Alloy 600 A825 Alloy 825 A276 Alloy C276 DU7 Duplex 2507 BR Brass
	NPT	Male NPT	4 1/4 in.										
	FBT	Female BSPT	6 3/8 in. or 6 mm										
	MBT	Male BSPT	8 1/2 in. or 8 mm										
	FMS	Female ISO	10 10 mm										
	MS	Male ISO	12 3/4 in. or 12 mm										
	FBP	Female BSPP	14 14 mm or M14 x 1.5										
	MBP	Male BSPP	16 1 in. or 16 mm										
	F	Fractional Tube Fitting	18 18 mm										
	M	Metric Tube Fitting	20 1 1/4 in. or 20 mm or M20 x 1.5										
	UGF	Nut + Gasket + Fractional Bulge Nipple	22 22 mm or M22 x 1.5										
	UGM	Nut + Gasket + Metric Bulge Nipple	24 M24 x 1.5										
	FSW	Fractional Tube Socket Weld	25 25 mm										
	MSW	Metric Tube Socket Weld	27 M27 x 2										
FBW	Fractional Tube Butt Weld	28 28 mm											
MBW	Metric Tube Butt Weld												
PSW	Pipe Socket Weld												
PBW	Pipe Butt Weld												