

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

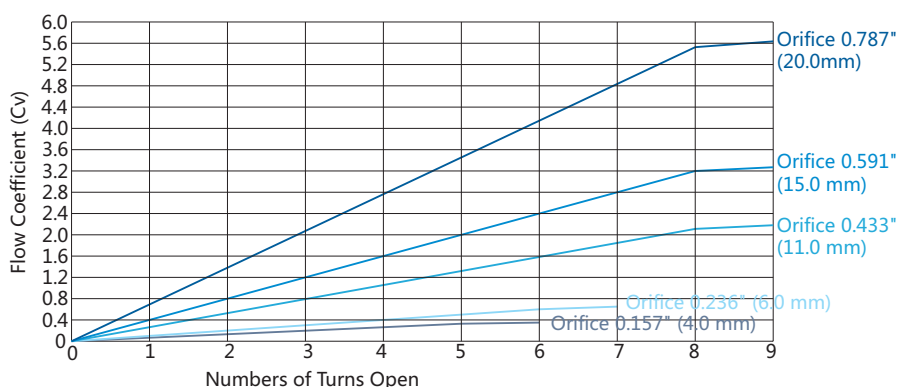
- ❖ Maximum working pressure up to 6000 psig (413 bar)
- ❖ Working temperature from -65°F to 1200°F (-53°C to 648°C)
- ❖ Bar stock valve body
- ❖ Straight and angle patterns
- ❖ Upper stem and lower stem design, Stem threads above packing protected from system media
- ❖ Two-piece knuckle joint provides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

Pressure vs. Temperature

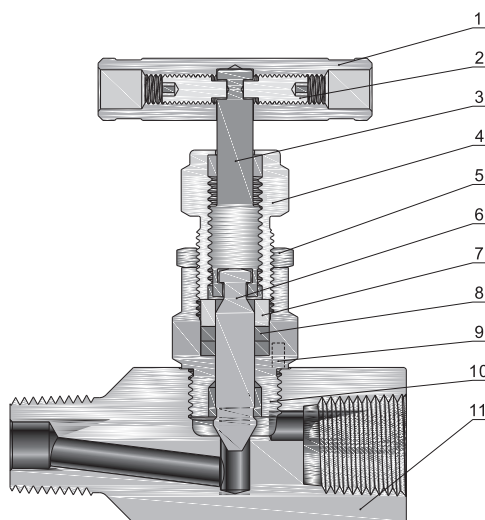
ASME Class	2500						N/A
Material Group	2. 2	2. 2	2. 8	3. 4	3. 1	3. 5	N/A
Material Name	316 S.S.	316H S.S.	F53 S.S.	Alloy 400	Alloy 20	Alloy 600	Alloy C-276
Temperature, °F (°C)	Working Pressure, psig (bar)						
-65 (-53) to 100 (37)	6000 (413)	6000 (413)	6000 (413)	5000 (344)	5000 (344)	6000 (413)	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)

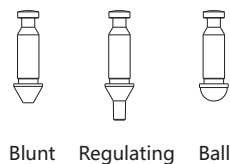
Regulating Stem



Standard Materials of Construction

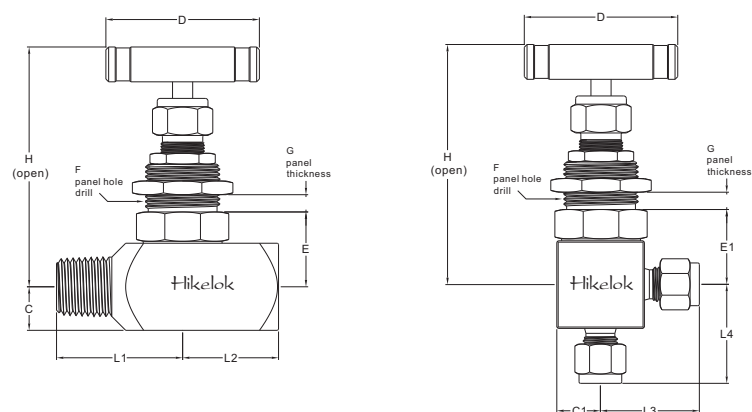


Stem Type



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)
NV8-FNPT4-04-	1/4 Female NPT			1.06 (26.9)	1.06 (26.9)	1.06 (26.9)	0.9 (23.0)									
NV8-NPT4-04-	1/4 Male NPT			1.03 (26.2)	1.03 (26.2)	1.06 (26.9)										
NV8-NPT6-04-	3/8 Male NPT			1.19 (30.2)	1.19 (30.2)											
NV8-F4-04-	1/4" Hikelok			1.20 (30.5)	1.20 (30.5)	1.20 (30.5)										
NV8-M6-04-	6 mm Hikelok															
NV8-M8-04-	8 mm Hikelok															
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)	1.12 (28.6)	0.63 (15.9)	0.563 (14.3)	0.563 (14.3)	2.5 (63.5)	1.0 (25.4)	1.0 (25.4)	0.38 (9.7)	0.96 (24.4)	3.5 (88.9)	3.5 (88.9)
NV8-FNPT6-06-	3/8 Female NPT						1.06 (27.0)									
NV8-NPT6-06-	3/8 Male NPT						1.12 (28.6)									
NV8-F6-06-	3/8" Hikelok			1.41 (35.8)	1.41 (35.8)	1.32 (33.6)	1.32 (33.6)									
NV8-F8-06-	1/2" Hikelok			1.52 (38.6)	1.52 (38.6)	1.42 (36.1)	1.42 (36.1)									
NV8-M10-06-	10 mm Hikelok			1.42 (36.1)	1.42 (36.1)	1.33 (33.8)	1.33 (33.8)									
NV8-M12-06-	12 mm Hikelok			1.52 (38.6)	1.52 (38.6)											
NV8-M14-06-	14 mm Hikelok			1.56 (39.7)	1.56 (39.7)	1.42 (36.1)	1.42 (36.1)									
NV8-FSW6-06-	3/8" FSW															
NV8-FSW8-06-	1/2" FSW			1.13 (28.6)	1.13 (28.6)	1.13 (28.6)	1.13 (28.6)									
NV8-MSW12-06-	12 mm MSW															
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					1.50 (38.1)										
NV8-NPT12-11-	3/4 Male NPT															
NV8-F12-11-	3/4" Hikelok			1.97 (50.0)	1.97 (50.0)	1.61 (41.0)	1.61 (41.0)									
NV8-M14-11-	14 mm Hikelok															
NV8-M16-11-	16 mm Hikelok															
NV8-M18-11-	18 mm Hikelok															
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)									
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)	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-MSW28-15-	28 mm MSW															
NV8-PSW12-15-	3/4 PSW															
NV8-M20-15-	20 mm Hikelok															
NV8-M22-15-	22 mm Hikelok			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													
NV8-MSW25-20-	25 mm MSW															
NV8-FSW16-20-	1" FSW															
NV8-MSW28-20-	28 mm MSW			1.97 (50.0)	1.97 (50.0)			1.25 (31.75)		5.5 (140)					5.2 (132)	
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	Same as Body	0.157 in. (4.0 mm)	Same as Body	Blunt	PTFE	No	Black Aluminum Bar	Straight	316 316 S.S.
	NPT	Male NPT	4 1/4 in.		S Stellite	0.236 in. (6.0 mm)	S Stellite	R Regulating	G Graphite	Y Yes	Red Aluminum Bar	A Angle	316L 316L S.S.
	FBT	Female BSPT	6 3/8 in. or 6 mm	If outlet and inlet are the same, eliminate the outlet designator		0.433 in. (11 mm)		A Ball			Green Aluminum Bar		304 304 S.S.
	MBT	Male BSPT	8 1/2 in. or 8 mm			0.591 in. (15 mm)		T PTFE			Blue Aluminum Bar		304L 304L S.S.
	FMS	Female ISO	10 10 mm			0.787 in. (20 mm)		K PCTFE			304 Stainless Steel Bar		321 321 S.S.
	MS	Male ISO	12 3/4 in. or 12 mm					P PEEK					F91 F91
	FBP	Female BSPP	14 14 mm or M14 x 1.5										F91 F92
	MBP	Male BSPP	16 1 in. or 16 mm										A400 Alloy 400
	F	Fractional Tube Fitting	18 18 mm										A20 Alloy 20
	M	Metric Tube Fitting	20 1 1/4 in. or 20 mm or M20 x 1.5										A600 Alloy 600
	UGF	Nut + Gasket + Fractional Bulge Nipple	22 22 mm or M22 x 1.5										A825 Alloy 825
	UGM	Nut + Gasket + Metric Bulge Nipple	24 M24 x 1.5										A276 Alloy C276
	FSW	Fractional Tube Socket Weld	25 25mm										DU7 Duplex 2507
	MSW	Metric Tube Socket Weld	27 M27 x 2										BR Brass
	FBW	Fractional Tube Butt Weld	28 28mm										
	MBW	Metric Tube Butt Weld											
	PSW	Pipe Socket Weld											
	PBW	Pipe Butt Weld											