

NDD Series

Diaphragm valve
290psig (2.0MPa(G))



The NDD series are 290psig (2.0MPa(G)) working pressure diaphragm valves designed for controlling high purity gas systems for a wide range of UHP applications such as manufacturing semiconductors, electronic components, and electronic materials.

Specifications

Size	NDD4 (1/4")	NDD8 (1/2")
C_v *1	0.27	Manual valve 0.7 Pneumatic valve 0.5
Maximum Operating Pressure	290psig (2.0MPa(G))	
Wetted Area Volume *2	0.083 in ³ (1.36 cm ³)	Manual valve 0.445in ³ (7.30cm ³) Pneumatic valve 0.436in ³ (7.15cm ³)
Fluid Temperature	PCTFE	-10 °C ~ 80 °C
	PFA	-10 °C ~ 150 °C
	PI	-10 °C ~ 150 °C
Atmospheric Temperature	-10 °C ~ 60 °C	
Leak Rates	Across the Seat He Leak Rates	$\leq 1 \times 10^{-9}$ SCCS ($\leq 1 \times 10^{-10}$ Pa · m ³ /s)
	Inboard He Leak Rates	$\leq 1 \times 10^{-9}$ SCCS ($\leq 1 \times 10^{-10}$ Pa · m ³ /s)
Actuation Pressure (Pneumatic Valve)	73 ~ 102 psig (0.5 ~ 0.7MPa(G))	
Cycle Life (Our N2 filled test performance)	Manual Valve	100,000 cycles
	Pneumatic Valve	4,000,000 cycles

Grade	STD	EP	SEP
Body Material	SUS316L		SUS316LE (Double melt material)
Surface Roughness	$\leq R_z$ 126µin (3.2µm) $\leq R_a$ 20µin (0.5µm)	$\leq R_z$ 28 µin (0.7µm) $\leq R_a$ 5 µin (0.13µm)	
Polish	Mechanical polished	Electro polished	
Cleaning	Degreasing + Precision cleaning		
Packaging	Single bagged package	Double bagged package	

Body	SUS316L, SUS316LE (Double melt material)
Seat	PCTFE, PFA and PI
Diaphragm	Cobalt alloy

*1 The minimum value is stated by Cv value measurement (room temperature) based on SEMASPEC-90120394B-STD.

*2 Calculated value from the CVC male drawing dimensions.

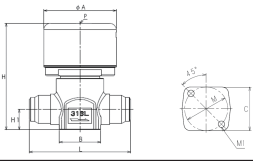
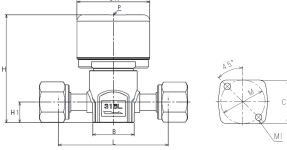
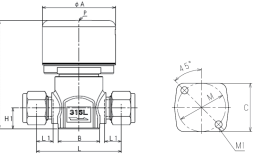
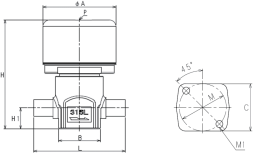
Precautions

- 1) The pneumatic UHP valves are not guaranteed to function if their exterior is submerged inside a vacuum.
- 2) For high temperature applications, please select appropriate material for air-fittings and tubes to ensure proper performance.

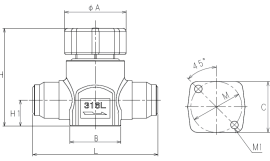
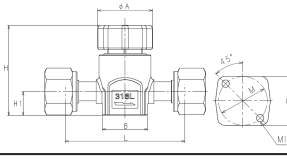
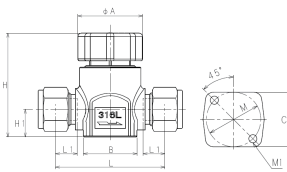
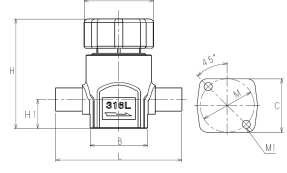
Type

Model	Size	Operation	Valve Shape	Pressure	Connection	Seat Material	Handle Color	Grade
NDD	4	M	S	D	V	C		EP-316L
NDD: NDD-type Diaphragm valve (290psig (2.0MPa(G)) spec)	4: 1/4" 6: 3/8" 8: 1/2"	M: Manual valve C: Normally closed	S: Straight L: L-type A: Angle	D: 290psig (2.0MPa(G))	V: CVC male VF: CVC female W: Tube end S: Compression fitting	C: PCTFE A: PFA P: PI	Not shown: Blue (standard) BK: Black WH: White GR: Green PK: Pink RD: Red YG: Yellow-green SL: Silver LB: Light blue BR: Brown OR: Orange YE: Yellow PU: Purple	STD-316L: Mechanical polished + SUS316L EP-316L: Electro polished + SUS316L SEP-316LE: Electro polished + SUS316LE (Double melt material)

■ NDD Pneumatic Valve

Model	Type	Connection	L	L1	H	H1	A	B	C	M	P	M1
	NDD4CSD - V □	1/4" CVC male	2.24 (57)	—	3.03 (77)	0.43 (11)	1.26 (32)	1.10 (28)	0.98 (25)	1.00 (25.4)	Rc1/8	2-M5 Depth 0.20(5.0)
	NDD8CSD - V □	1/2" CVC male	3.03 (77)	—	3.94 (100)	0.63 (16)	1.56 (39.7)	1.24 (31.5)	1.10 (28)	1.10 (28)	Rc1/8	2-M5 Depth 0.20(5.0)
	NDD4CSD - VF □	1/4" CVC female	2.78 (70.6)	—	3.03 (77)	0.43 (11)	1.26 (32)	1.10 (28)	0.98 (25)	1.00 (25.4)	Rc1/8	2-M5 Depth 0.20(5.0)
	NDD8CSD - VF □	1/2" CVC female	3.27 (83)	—	3.94 (100)	0.63 (16)	1.56 (39.7)	1.24 (31.5)	1.10 (28)	1.10 (28)	Rc1/8	2-M5 Depth 0.20(5.0)
	NDD4CSD - S □	1/4" Compression fitting	1.89 (48)	0.31 (7.9)	3.03 (77)	0.43 (11)	1.26 (32)	1.10 (28)	0.98 (25)	1.00 (25.4)	Rc1/8	2-M5 Depth 0.20(5.0)
	NDD6CSD - S □	3/8" Compression fitting	2.52 (64)	0.50 (12.7)	3.94 (100)	0.63 (16)	1.56 (39.7)	1.24 (31.5)	1.10 (28)	1.10 (28)	Rc1/8	2-M5 Depth 0.20(5.0)
	NDD8CSD - S □	1/2" Compression fitting	2.52 (64)	0.50 (12.7)	3.94 (100)	0.63 (16)	1.56 (39.7)	1.24 (31.5)	1.10 (28)	1.10 (28)	Rc1/8	2-M5 Depth 0.20(5.0)
	NDD4CSD - W □	1/4" Butt welding	2.13 (54)	—	3.03 (77)	0.43 (11)	1.26 (32)	1.10 (28)	0.98 (25)	1.00 (25.4)	Rc1/8	2-M5 Depth 0.20(5.0)
	NDD6CSD - W □	3/8" Butt welding	2.72 (69)	—	3.94 (100)	0.63 (16)	1.56 (39.7)	1.24 (31.5)	1.10 (28)	1.10 (28)	Rc1/8	2-M5 Depth 0.20(5.0)
	NDD8CSD - W □	1/2" Butt welding	2.72 (69)	—	3.94 (100)	0.63 (16)	1.56 (39.7)	1.24 (31.5)	1.10 (28)	1.10 (28)	Rc1/8	2-M5 Depth 0.20(5.0)

■ NDD Manual Valve

Model	Type	Connection	L	L1	H	H1	A	B	C	M	M1
	NDD4MSD - V □	1/4" CVC male	2.24 (57)	—	1.93 (49)	0.43 (11)	1.50 (38)	1.10 (28)	0.98 (25)	1.00 (25.4)	2-M5 Depth 0.20(5.0)
	NDD8MSD - V □	1/2" CVC male	3.03 (77)	—	2.36 (60)	0.63 (16)	1.50 (38)	1.24 (31.5)	1.10 (28)	1.10 (28)	2-M5 Depth 0.20(5.0)
	NDD4MSD - VF □	1/4" CVC female	2.78 (70.6)	—	1.93 (49)	0.43 (11)	1.50 (38)	1.10 (28)	0.98 (25)	1.00 (25.4)	2-M5 Depth 0.20(5.0)
	NDD8MSD - VF □	1/2" CVC female	3.27 (83)	—	2.36 (60)	0.63 (16)	1.50 (38)	1.24 (31.5)	1.10 (28)	1.10 (28)	2-M5 Depth 0.20(5.0)
	NDD4MSD - S □	1/4" Compression fitting	1.89 (48)	0.31 (7.9)	1.93 (49)	0.43 (11)	1.50 (38)	1.10 (28)	0.98 (25)	1.00 (25.4)	2-M5 Depth 0.20(5.0)
	NDD6MSD - S □	3/8" Compression fitting	2.52 (64)	0.50 (12.7)	2.36 (60)	0.63 (16)	1.50 (38)	1.24 (31.5)	1.10 (28)	1.10 (28)	2-M5 Depth 0.20(5.0)
	NDD8MSD - S □	1/2" Compression fitting	2.52 (64)	0.50 (12.7)	2.36 (60)	0.63 (16)	1.50 (38)	1.24 (31.5)	1.10 (28)	1.10 (28)	2-M5 Depth 0.20(5.0)
	NDD4MSD - W □	1/4" Butt welding	2.13 (54)	—	1.93 (49)	0.43 (11)	1.50 (38)	1.10 (28)	0.98 (25)	1.00 (25.4)	2-M5 Depth 0.20(5.0)
	NDD6MSD - W □	3/8" Butt welding	2.72 (69)	—	2.36 (60)	0.63 (16)	1.50 (38)	1.24 (31.5)	1.10 (28)	1.10 (28)	2-M5 Depth 0.20(5.0)
	NDD8MSD - W □	1/2" Butt welding	2.72 (69)	—	2.36 (60)	0.63 (16)	1.50 (38)	1.24 (31.5)	1.10 (28)	1.10 (28)	2-M5 Depth 0.20(5.0)

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