

KITZ SCT

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")
Cv *1	0.27	Manual valve 0.7
		Pneumatic valve 0.5
Maximum Operating Pressure	290psig (2.0MPa(G))	
Wetted Area Volume *2	0.083in ³ (1.36 cm ³)	Manual valve 0.445in ³ (7.30in ³)
		Pneumatic valve 0.436in ³ (7.15in 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 ~ 102psig (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	$\leq R_z 126\mu\text{in}$ (3.2 μm) $\leq R_a 20\mu\text{in}$ (0.5 μm)		$\leq R_z 28\mu\text{in}$ (0.7 μm) $\leq R_a 5\mu\text{in}$ (0.13 μm)
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.

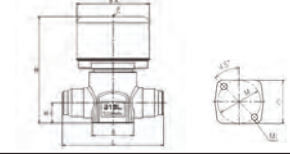
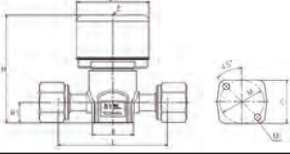
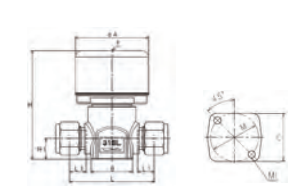
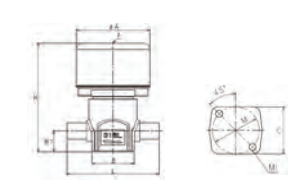
Precautions

- 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.

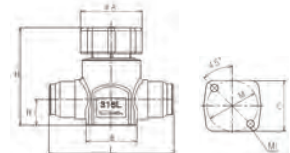
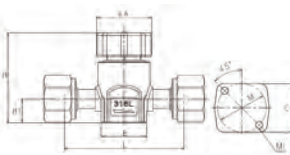
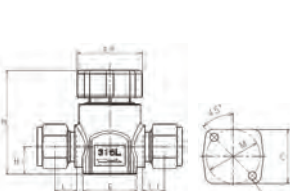
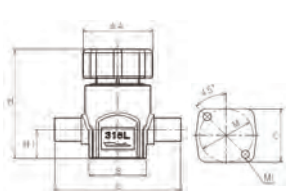
Type

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	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)



Caution

Product specifications and performance values described in this catalog are based on our design calculations, in-house testing, product usage performance and public standards and specifications, and are posted as a user's guide under general usage conditions of the product. If the product is used outside of the described usage conditions or under special usage conditions, you should receive our technical advice in advance or it will be necessary to first conduct research and evaluation for performance verification at the users' own responsibility. Even if physical or personal damage occurs without use of the procedure, we shall assume no responsibility. Although this catalog has been edited with the utmost care possible, contact us if there are any unclear points if you come across any questionable matter. In addition, information described in this catalog will be revised without notice due to reasons that include correction of errors, supplement/improvement of insufficient content, improvement in product performance design change, and discontinuation of production of products, etc., when deemed necessary. This invalidates the product catalog of the previous version. The issue code is described in the back of your catalog. For product selection, contact us to confirm whether your catalog is the latest version. In addition, when exporting our products, exporters should obtain an export permit from the Ministry of Economy, Trade and Industry based on the provisions of the Export Trade Control Order of the "Foreign Exchange and Foreign Trade Act." Contact us regarding any unclear points.

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