

NanoPure

NEEDLE VALVES

ND SERIES



Lion Hygienic Materials Co., Ltd

經銷商

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NanoPure is a brand of Gas Delivery Total Solution, belongs to King Lai Group, who was founded 1991 in Taiwan and expanded production facility in Kunshan, Jiangsu Province, China. Supplying tubing/piping and fitting materials service for Semiconductor, FPD, LED and Photovoltaic industries, the core idea of *NanoPure* is providing "High purity materials" with high quality components for gas delivery applications.

Gas supply and delivery is always the topic to study in Semiconductor processing. To ensure the accuracy of the processing, the purity of gas sources is the vital factors. Keeping the purity while the gas has been transferred into processing tools is highly monitored by process engineers.

NanoPure is composed of people who are specialist in stainless steels fabrication. By making sure the selection of finest materials, we provide finest products. The key point is how to control the quality of materials



which makes big difference of welding quality while installing or welding assembly. There will be the potential impurity or inclusion in welding process. Therefore, electropolish is the solvable process for increasing reliability of stainless steel to against corrosion gases.

NanoPure aims to provide the highest quality products, so the quality control and uniformity are essential points to promise customers. In the meantime, we do put emphasis on the details of products such as dimension and tolerance which are important for

quality control and therefore remain the high yield rate for assembly. Operational packages can be followed according to the customer's instruction, the ranging from normal standard clean package to Ultra High Purity clean room package.

NanoPure In addition to UHP products, we also provide various products needed by various Industries, such as Oil & Gas Industries, Process Instrumentation, Power Generation, Pulp & Paper, Chemical, Analytical Instrumentation, Hydrogen Fuel Cells and Natural Gas.

NanoPure considers every single key processing during the fabrication.

Our goal is keeping continually improvement to reach customers' satisfaction!



- Live-loaded packing system
- Compact design
- Working pressures up to 6000 psig (413 bar)
- Temperatures up to 600°F (315°C)

Features

Stem Designs: Regulating, Vee, Soft sea

Regulating:

Orifice Sizes: From 0.080 to 0.375 in. (2.0 to 9.5 mm)

Flow Coefficients (Cv)

From 0.09 to 1.80

Flow Patterns: Straight, angle

Panel Mounting

Temperature, °F (°C)	Working Pressure, psig (bar)
-65 (-53) to -20 (-28)	5000 (344)
-20 (-28) to 100 (37)	5000 (344)
200 (93)	4295 (295)
250 (121)	4085 (281)
300 (148)	3875 (266)
350 (176)	3715 (255)
400 (204)	3560 (245)
450 (232)	3435 (236)
500 (260)	3310 (228)
600 (315)	3130 (215)

Pressure-Temperature Ratings

Ratings are limited to:

200°F (93°C) max with soft-seat stem with PCTFE stem tip.

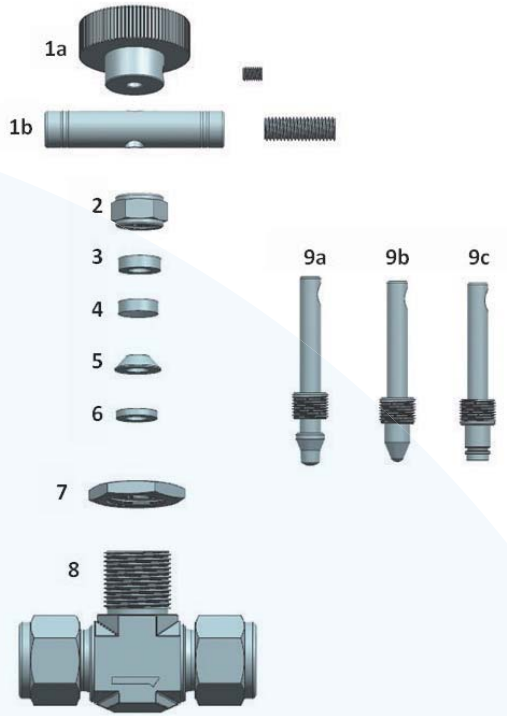
250°F (121°C) max with UHMWPE packing.

450°F (232°C) max with PFA packing.

600°F (315°C) max with PEEK packing.

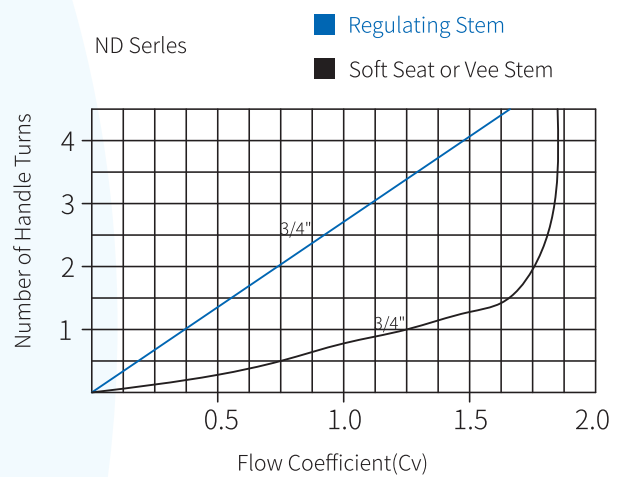
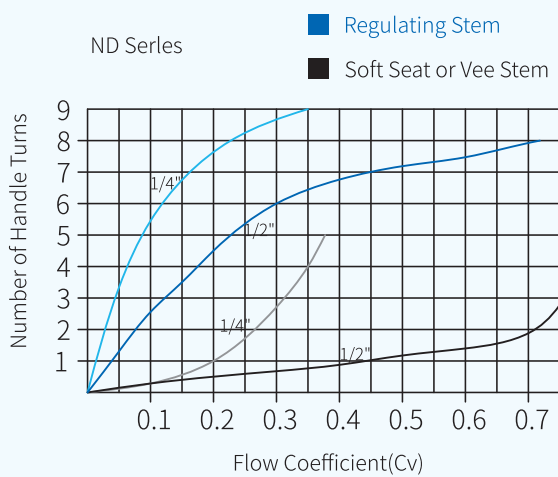


Materials of Construction

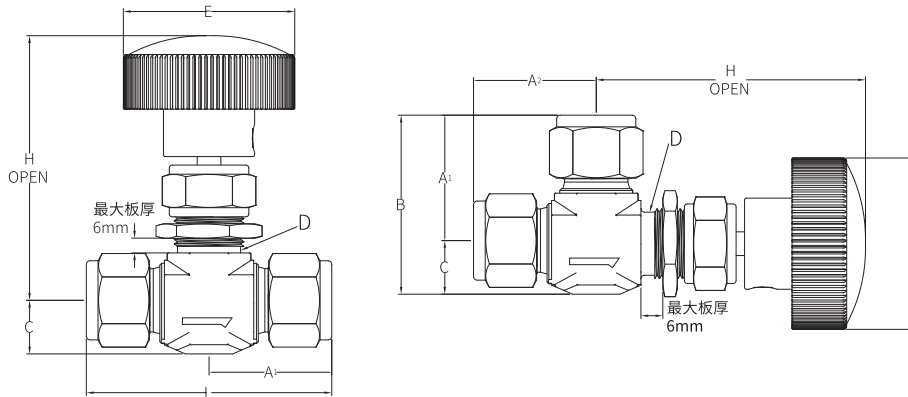


No.	Part	QTY	Material
1a	ROUND HANDLE	1	NYLON WITH ZINC ALLOY INSTERT
1b	BAR HANDLE	1	ALUMINUM
2	PACKING NUT	1	SS 316
3	GLAND	1	SS 316
4	UPPER PACKING	1	PCTFE
5	LOWER PACKING	1	PCTFE
6	STEM WASHER	1	SS 316
7	PANEL NUT	1	SS 316
8	BODY	1	SS 316
9a	REGULATING STEM	1	SS 316
9b	VEE STEM	1	SS 316
9c	SOFT-SEAT STEM	1	SS 316/PCTFE

Flow Data at 100°F (37°C) Flow Coefficient at Turns Open



Dimensions



End Connections		Cv	Orifice in. (mm)	Dimensions, in. (mm)						
Type	Size			L	A1/A2	B	C	D	E	H
Fractional tube fittings	1/8"	0.09	0.08 (2.0)	1.94 (49.3)	0.98 (24.9)	1.29 (32.8)	0.31 (7.9)	0.47 (11.9)	1 (25.4)	2.28 (57.9)
	1/4"	0.37	0.172 (4.4)	2.27 (57.6)	1.13 (28.7)	1.51 (38.4)	0.38 (9.7)	0.53 (13.5)	1.38 (35.1)	2.5 (63.5)
	3/8"	0.73	0.25 (6.4)	2.58 (65.5)	1.29 (32.8)	1.79 (45.5)	0.5 (12.7)	0.78 (19.8)	1.88 (47.8)	2.97 (75.4)
	1/2"			2.8 (71.1)	1.40 (35.6)	1.9 (48.3)				
	1/2"	1.8	0.375 (9.5)	3.8 (96.5)	1.90 (48.3)	2.65 (67.3)	0.75 (19.1)	1.03 (26.2)	3 (76.2)	3.91 (99.3)
	3/4"									
Metric tube fittings	3 mm	0.09	0.08 (2.0)	1.94 (49.3)	0.98 (24.9)	1.29 (32.8)	0.31 (7.9)	0.47 (11.9)	1 (25.4)	2.28 (57.9)
	6 mm	0.37	0.172 (4.4)	2.27 (57.6)	1.13 (28.7)	1.51 (38.4)	0.38 (9.7)	0.53 (13.5)	1.38 (35.1)	2.5 (63.5)
	8 mm			2.34 (59.4)	1.17 (29.7)	1.54 (39.1)				
	10 mm	0.73	0.25 (6.4)	2.6 (66.0)	1.30 (33.0)	1.8 (45.7)	0.5 (12.7)	0.78 (19.8)	1.88 (47.8)	2.97 (75.4)
	12 mm			2.8 (71.1)	1.40 (35.6)	1.9 (48.3)				
	12 mm	1.8	0.375 (9.5)	3.8 (96.5)	1.90 (48.3)	2.65 (67.3)	0.75 (19.1)	1.03 (26.2)	3 (76.2)	3.91 (99.3)
	16 mm									
	18 mm									
Female NPT	1/8"	0.09	0.08 (2.0)	1.62 (41.1)	0.81 (20.6)	1.19 (30.2)	0.38 (9.7)	0.53 (13.5)	1.38 (35.1)	2.5 (63.5)
	1/4"	0.37	0.25 (6.4)	2.12 (53.8)	1.06 (26.9)	1.56 (39.6)	0.5 (12.7)	0.78 (19.8)	1.88 (47.8)	2.97 (75.4)
	3/8"	0.73	0.375 (9.5)	3 (76.2)	1.50 (38.1)	2.25 (57.2)	0.75 (19.1)	1.03 (26.2)	3 (76.2)	3.91 (99.3)
	1/2"	1.8								
Male NPT	1/8"	0.09	0.08 (2.0)	1.5 (38.1)	0.75 (19.1)	1.06 (26.9)	0.31 (7.9)	0.47 (11.9)	1.0 (25.4)	2.28 (57.9)
	1/4"	0.37	0.172 (4.4)	1.97 (50.0)	0.98 (24.9)	1.36 (34.5)	0.38 (9.7)	0.53 (13.5)	1.38 (35.1)	2.5 (63.5)
	3/8"	0.73	0.25 (6.4)	2.25 (62.5)	1.12 (28.4)	1.62 (41.1)	0.5 (12.7)	0.78 (19.8)	1.88 (47.8)	2.97 (75.4)
	1/2"	1.8	0.375 (9.5)	3 (76.2)	1.50 (38.1)	2.25 (57.2)	0.75 (19.1)	1.03 (26.2)	3 (76.2)	3.88 (98.6)
	3/4"	1.8	0.375 (9.5)	3 (76.2)	1.50 (38.1)	2.65 (67.3)	0.75 (19.1)	1.03 (26.2)	3 (76.2)	3.91 (99.3)

Ordering Information

ND - **SS** - **R** - **04** - **04** - **S**

Base Series	Body Materials	Stem	Connector (In)	Connector (Out)	Patten	Handles
ND	SS	R	02	02	S	
	SS: 316	R: Regulating V: Vee S: Soft sea	02: 1/8" SWG 04: 1/4" SWG 06: 3/8" SWG 08: 1/2" SWG 12: 3/4" SWG 6M0: 6mm SWG 8M0: 8mm SWG 10M0:10mm SWG 12M0:12mm SWG 16M0:16mm SWG 18M0:18mm SWG 2M:1/8"MNPT 4M: 1/4"MNPT 6M: 3/8"MNPT 8M: 1/2"MNPT 12M: 3/4"MNPT 2F:1/8"FNPT 4F: 1/4"FNPT 6F: 3/8"FNPT 8F: 1/2"FNPT	02: 1/8" SWG 04: 1/4" SWG 06: 3/8" SWG 08: 1/2" SWG 12: 3/4" SWG 6M0: 6mm SWG 8M0: 8mm SWG 10M0:10mm SWG 12M0:12mm SWG 16M0:16mm SWG 18M0:18mm SWG 2M:1/2"MNPT 4M: 1/4"MNPT 6M: 3/8"MNPT 8M: 1/2"MNPT 12M: 3/4"MNPT 2F:1/8"FNPT 4F: 1/4"FNPT 6F: 3/8"FNPT 8F: 1/2"FNPT	S: Straight A: Angle	R: Round handle B: Bar handle

Sour Gas Service

Needle valves with female NPT, female ISO, and male NPT end connections are available for sour gas service.

See the NACE specification for information on stainless tube fitting requirements.

Testing

Every integral-bonnet needle valve is factory tested with nitrogen at 1000 psig (69 bar). Seats have a maximum allowable leak rate of 0.1 std cm³/min. Shell testing is performed to a requirement of no detectable leakage with a liquid leak detector.

Oxygen Service Hazards

For more information about hazards and risks of oxygen enriched systems

Cleaning and Packaging

To order needle valves cleaned and packaged in accordance with product.

cleanliness requirements stated in ASTM G93 Level C



Stock Code 300260

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