NanoPure

DIAPHRAGM VALVE

UHP

Lion Hygienic Materials Co., Ltd

"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

Introduction

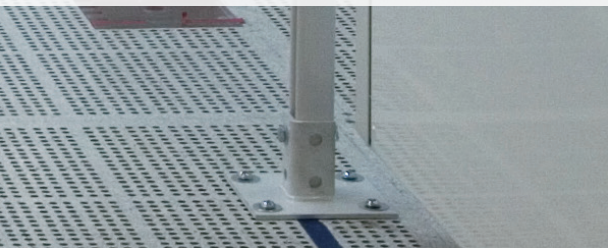
which makes big difference of welding quality while installing or welding assembly. There will be the potential impurity or inclusion in welding process. Therefore, electropolish is the solvable process for increasing reliability of stainless steel to against corrosion gases.

"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!



Nanopure Diaphragm Overview

The Nanopure diaphragm valve series design has no internally wetted threads or springs which minimizes particle generation and particle entrapment for reduced process contamination.

The Nanopure diaphragm valve series internally electropolished body is manufactured from proprietary SS316L, VAR, VIM/VAR (Compliant with SEMI F20).

The Nanopure diaphragm valve series is a high strength Elgiloy to maximize product life and the PCTFE, PEEK, or Vespel seat provides excellent chemical compatibility along with a robust shut-off performance.

The Nanopure diaphragm valve series are cleaned to exacting semiconductor industry requirements and assembled in class 100 cleanroom environments. Prior to shipping, all valve seals(seat, and diaphragm) are 100% Helium leak tested using a mass spectrometer to ensure performance and reliability in demanding UHP applications.

Markets:

- Semiconductor
- Analytical Laboratory
- BioPharma
- Aerospace
- Industrial

Applications:

- Corrosive and specialty gases
- Semiconductor Tools
- Tool Hook-ups
- Gas Cabinets
- Valve Manifold Boxes(VMB)

Nanopure Diaphragm Valve Selection Table

<table>
<tr><th rowspan="2"></th><th rowspan="2">Series</th><th rowspan="2">Cv</th><th rowspan="2">Working Pressure</th><th rowspan="2">Size</th><th rowspan="2">End Connection</th><th rowspan="2">Body Materials</th><th rowspan="2">Diaphragm Materials</th></tr>
<tr></tr>
<tr><td rowspan="3">Low Pressure</td><td>SDA</td><td>0.30</td><td rowspan="3">300 psig (21 bar)</td><td>1/4”, 3/8”, 1/2”</td><td rowspan="4">F & M VC Tube Stube</td><td rowspan="4">SS 316L
SS 316L VAR
SS 316L VIM/ VAR</td><td rowspan="4">Elgiloy</td></tr>
<tr><td>SDF</td><td>0.65</td><td rowspan="2">1/2”, 3/4”, 1”</td></tr>
<tr><td>SDL</td><td>2.80</td></tr>
<tr><td rowspan="4">High Pressure</td><td>SDP</td><td>0.25</td><td rowspan="4">3,500 psig (241 bar)</td><td>1/4”, 3/8”, 1/2”</td></tr>
<tr><td>SDM</td><td>0.70</td><td>1/2”, 3/4”, 1”</td></tr>
<tr><td>CDL</td><td>0.14</td><td rowspan="2">1/4”</td><td rowspan="2">F & M VC SWG, NPT</td><td rowspan="2">SS 316L</td><td rowspan="2">-</td></tr>
<tr><td>CDS</td><td>0.25</td></tr>
</table>

Nanopure Diaphragm Valve Options

<table>
<tr><th rowspan="2"></th><th rowspan="2">Series</th><th rowspan="2">Multiport Elbow</th><th rowspan="2">Monoblock Manifolds</th><th rowspan="2">Actuation</th><th rowspan="2">Indicator Switch</th><th colspan="3">Valve Seat Temperature Rating</th></tr>
<tr><th>PCTFE</th><th>VESPEL(PL)</th><th>PFA</th></tr>
<tr><td rowspan="3">Low Pressure</td><td>SDA</td><td>V</td><td>V</td><td>V</td><td>V</td><td rowspan="8">-10~60°C (14~140°F)</td><td rowspan="8">-10~150°C (14~300°F)</td><td rowspan="8">-10~200°C (14~392°F)</td></tr>
<tr><td>SDF</td><td>V</td><td>V</td><td>V</td><td>V</td></tr>
<tr><td>SDL</td><td></td><td>V</td><td>V</td><td></td></tr>
<tr><td rowspan="4">High Pressure</td><td>SDP</td><td>V</td><td>V</td><td>V</td><td>V</td></tr>
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<tr><td>CDL</td><td></td><td>V</td><td></td><td></td></tr>
<tr><td>CDS</td><td></td><td>V</td><td></td><td></td></tr>
</table>

Seat Material Selection

Gas	Molecular Formula	State*	Seat Materials*Diaphragm Valve		
			PCTFE	VESVEL	PFA
AMMONIA	NH3	LIQUEFIED GAS	A	C	A
BORON TRICHLORIDE	BCL3		B	C	B
CHLORINE	CL3		B	D	B
DICHLORO SILANE	SiH2Cl2		B	C	B
DI-CHLORO DI-FLUORO METHANE	CCl2F2		A	C	A
DIETHYLZINC(DEZN)HEXANES	2Zn(C2H5)		A	A	A
HEXA-FLUORO METHANE	C2F4		A	A	A
HYDROGEN CHLORIDE	HCl		B	D	B
HYDROGEN SULFIDE	H2S		B	D	B
MONO-CHLORO TRI-FLUORO METHANE	CCIF3				
NITOROGEN OXIDE	N2O		C	B	C
SILICON TERACHLORID	SiCl4		B	C	B
SULFER HEXAFLORIDE	SF6		B	B	B
TUNGSTEN HEXAFLUORIDE	WF6		B	C	B
TRI FLUORO METHANE	CHF3				
(TETRAKIS(DIETHYLAMINO)TIN(IV)(TDMASN)	4Sn(2N(C2H5))		B	C	B
(TRIMETHYL ALUMINUM(TMA)	Al2Me6		B	C	B
ARGON	Ar	GAS	A	A	A
DISILANE	Si2h6		B	B	B
HELIUM	He		A	A	A
HYDROGEN	H2S		A	A	A
HYDROGEN SULFIDE	H2S				
NITOROGEN	N2		A	A	A
NITOROGEN TRIFLUORIE	NF3		A	A	A
OXIGEN	O2		A	A	A
PHOSPHINE	PH3		B	B	B
SILANE	SiH4		B	B	B
TETRA FLUORO METHANE	CF4		A	A	A
ARSINE	ASH3	COMPRESSED GAS	A	A	A
BORON TRICHLORIDE	BF3		B	C	B
DIBORANE	B2H6		B	B	B
HYDROGEN BROMIDE	HBr		C	D	C

A: Best **B**: Good **C**: Caution **D**: Poor

Warning! For your safety

The user who is accountable with design and selection has the sole responsibility for all operation set up, ensuring the installation, measurement, and maintenance without dangerous situation. All details of material compatibility and ratings should be considered for each product, which be selected by specific certification. Be aware that any kind of improper operation of products can cause unpredictable physical and property damage.

SDA SERIES

Materials of construction

- Body: SS 316L, VAR, VIM/VAR
- Seat: PCTFE, Vespel, PFA
- Diaphragm: Elgiloy
- Nut: SS 300 Series
- Cap: SS 17-4
- Maximum operating
- Woking Pressure: 300 psig (20.6 bar)
- Temperature: 40°F to 150°F (-40°C to 65°C)
- Flow capacity: C_v = 0.30
- Design Leak Rate:
  Outboard: $1x10^{-9}$ atm cc/sec He
  Inboard: $1x10^{-9}$ atm cc/sec He
  Across the seat: $1x10^{-9}$ atm cc/sec He
- Air actuation pressure: 60-80 psig (4-5.5 bar)
- Surface finishes: 10, 5 µin (0.25, 0.125 µm)
- Internal volume: 2.65 cc

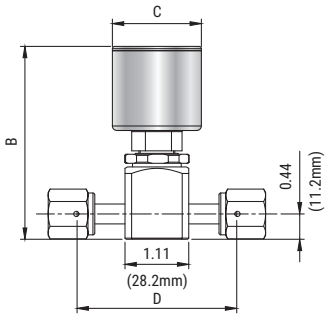
Features

For oxygen: refer to CGAG-4.4 Industrial Practices for Gaseous Oxygen

- Internally thread less and spring less.
- 100% Helium leak tested.
- Cleaning process, removes metallic ions, organic films and surface adhering particles.
- Diaphragm is sealed metal-to-metal to the body and is the only seal to atmosphere other than the inlet and outlet connections.
- Minimal Dead Space for Faster Dry Down and Reduced Purge Times.

Dimensions

AMNC/ ALNC/ALNO



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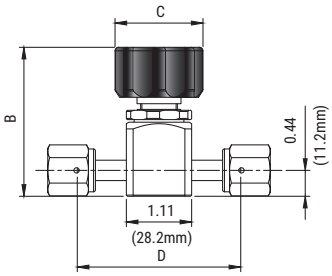

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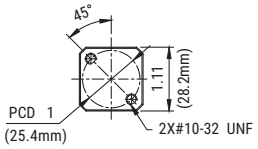
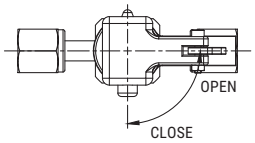
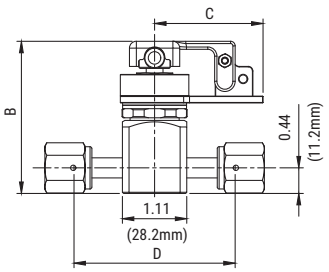
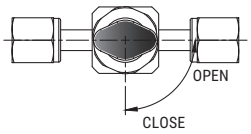


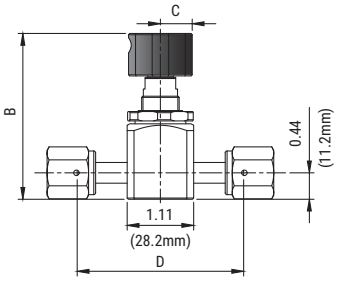
lever lock



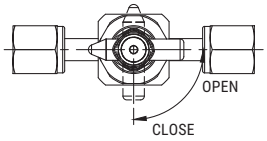


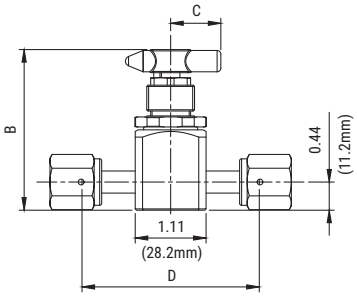
Directional



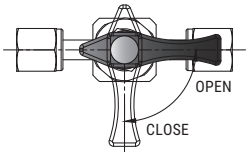


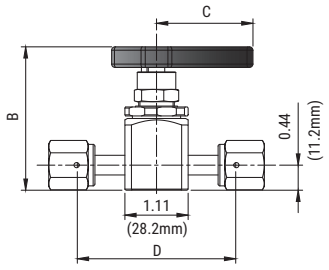
Short Lever





Lever





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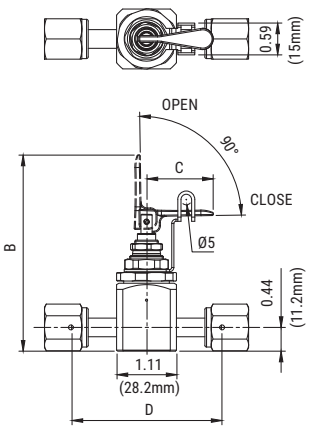
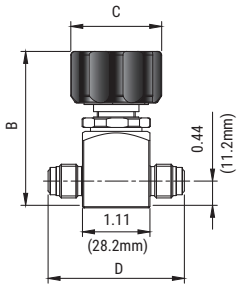
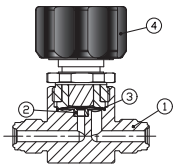


Integral





Handle Style	Diameter (A)	Height (B)	Lever (C)
ALNC	1.11 (28.30)	3.32 (84.30)	/
ALNO	1.30 (33.00)	3.15 (80.00)	/
AMNC	1.55 (39.40)	3.35 (85.30)	/
W	1.49 (38.00)	2.53 (64.40)	/
L	/	2.51 (64.00)	1.69 (43.00)
LL	/	2.62 (66.60)	1.87 (47.50)
SL	/	2.51 (64.00)	0.79 (20.00)
D	/	2.76 (70.30)	0.53 (13.50)
T	/	3.64 (92.40)	1.23 (31.20)

Port Style	End-To-End Length (D)
4IMM	2.24 (57.00±0.6)
4MM	2.78 (70.60±0.6)
4FF	2.78 (70.60±0.6)
8IMM	3.00 (76.20±0.6)
8MM	3.27 (83.00±0.6)
8FF	3.27 (83.00±0.6)
T4	1.74 (44.20±0.6)
T6	1.74 (44.20±0.6)
T8	1.74 (44.20±0.6)

SDP SERIES

Materials of construction

- Body: SS 316L, VAR, VIM/VAR
- Seat: PCTFE, Vespe, PFA
- Diaphragm: Elgiloy
- Nut: SS 300 Series
- Cap: SS 17-4
- Maximum operating
- Woking Pressure: 3,500 psig (241 bar)
- Temperature: 40°F to 150°F (-40°C to 65°C)
- Flow capacity: Cv = 0.25
- Design Leak Rate:
  Outboard: $1x10^{-9}$ atm cc/sec He
  Inboard: $1x10^{-9}$ atm cc/sec He
  Across the seat: $1x10^{-9}$ atm cc/sec He
- Air actuation pressure: 60-80 psig (4-5.5 bar)
- Surface finishes: 10, 5 µin (0.25, 0.125 µm)
- Internal volume: 1.25 cc

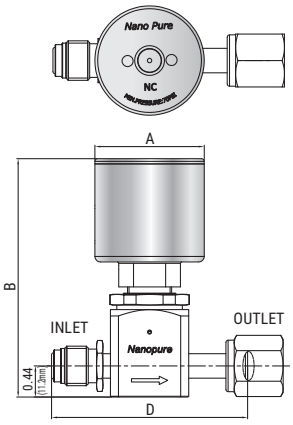
Features

For oxygen: refer to CGAG-4.4 Industrial Practices for Gaseous Oxygen

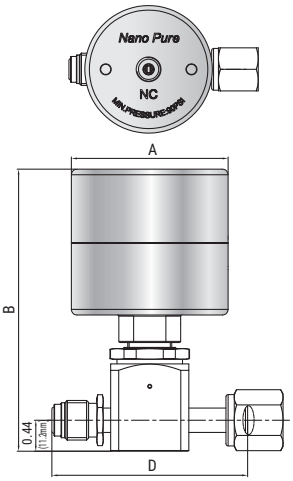
- Internally thread less and spring less.
- 100% Helium leak tested.
- Cleaning process, removes metallic ions, organic films and surface adhering particles.
- Diaphragm is sealed metal-to-metal to the body and is the only seal to atmosphere other than the inlet and outlet connections.
- Minimal Dead Space for Faster Dry Down and Reduced Purge Times.

Dimensions

AMNC



AHNC



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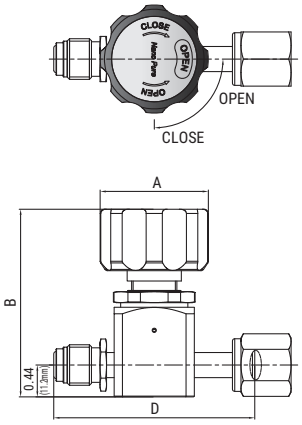
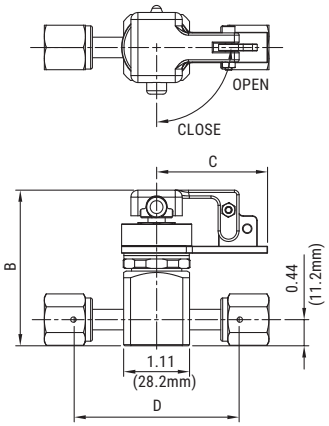
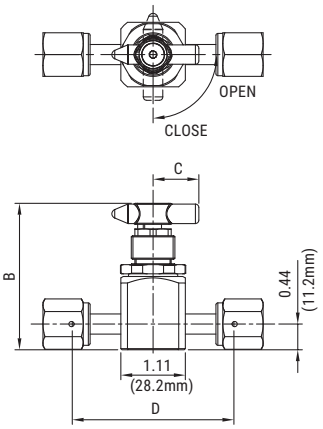


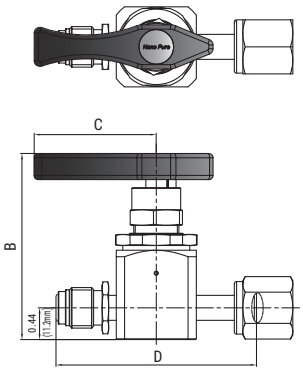
lever lock



Short Lever



Lever



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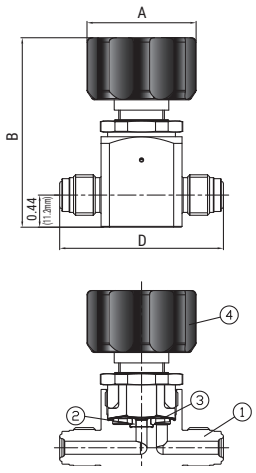

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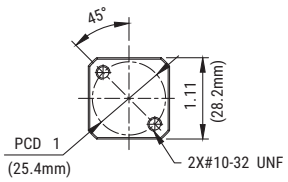


Handle Style	Diameter (A)	Height (B)	Lever (C)
AHNC	2.22 (56.50)	4.00 (101.70)	/
W	1.5 (38.00)	2.60 (65.90)	/
L	/	2.58 (65.50)	1.69 (43.00)
LL	/	2.62 (66.60)	1.87 (47.50)
SL	/	2.52 (64.00)	0.79 (20.00)

Port Style	End-To-End (D)
4IMM	2.24 (57.00)
4MM	2.78 (70.60)
4FF	2.78 (70.60)
8IMM	3.00 (76.20)
8MM	3.27 (83.00)
8FF	3.27 (83.00)
T4	1.74 (44.20)
T6	1.74 (44.20)
T8	1.74 (44.20)

SDF SERIES

Materials of construction

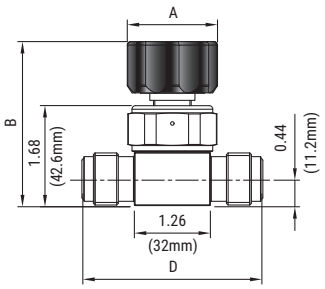
- Body: SS 316L, VAR, VIM/VAR
- Seat: PCTFE, Vespel, PFA
- Diaphragm: Elgiloy
- Woking Pressure: 300 psig (20.6 bar)
  Design Proof Pressure: 375 psig (26 bar)
- Design Burst Pressure: 750 psig (52bar)
- Temperature: 40°F to 150°F (-40°C to 65°C)
- Flow capacity: C_v = 0.65
- Design Leak Rate:
  Outboard: $1x10^{-9}$ atm cc/sec He
  Inboard: $1x10^{-9}$ atm cc/sec He
  Across the seat: $1x10^{-9}$ atm cc/sec He
- Surface finishes: 10 , 5 µin (0.25, 0.125 µm)

Features

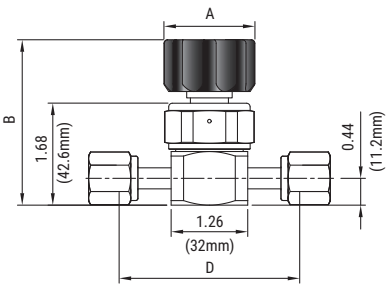
- For oxygen: refer to CGAG-4.4 Industrial Practices for Gaseous Oxygen
- Internally thread less and spring less.
- 100% Helium leak tested.
- Cleaning process, removes metallic ions, organic films and surface adhering particles.
- Diaphragm is sealed metal-to-metal to the body and is the only seal to atmosphere other than the inlet and outlet connections.
- High cycle life (including corrosive service)

Dimensions

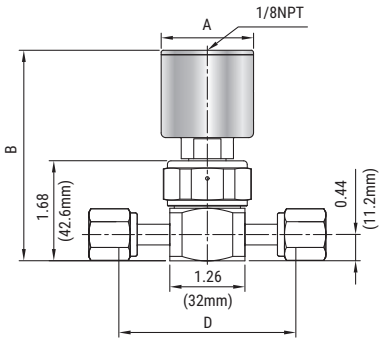
Window
4IMM / 8IMM



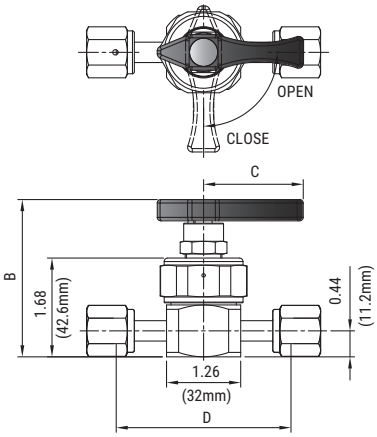
Window



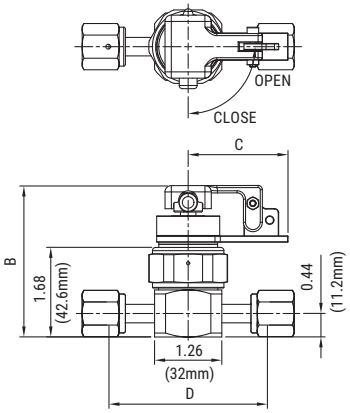
ALNC/O/AMNC



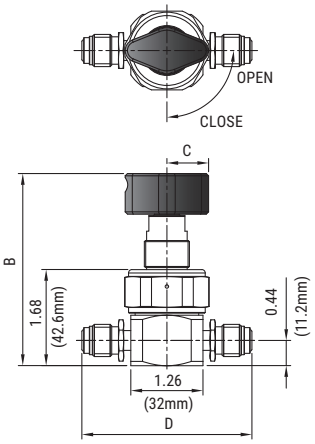
Lever



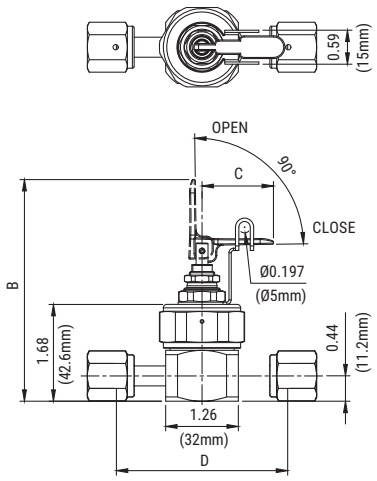
Lever Lock



Directional



Toggle



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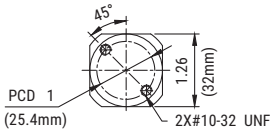


Integral Male VC

Handle Style	Diameter (A)	Height (B)	Lever (C)
ALNC	1.11 (28.30)	3.50 (89.00)	/
ALNO	1.30 (33.00)	3.30 (85.36)	/
AMNC	1.55 (39.40)	3.53 (90.00)	/
W	1.49 (38.00)	2.72 (69.00)	/
L	/	2.67 (67.80)	1.69 (43.00)
LL	/	2.83 (72.00)	1.87 (47.50)
D	/	3.35 (85.00)	0.73 (18.50)
T	/	3.84 (97.60)	1.24 (31.50)

Port Style	End-To-End Length (D)
4IMM	2.24 (57.00±0.60)
4HMM	2.96 (75.20±0.60)
4HFF	2.78 (70.60±0.60)
4HMF	2.96 (75.20±0.60)
4HFM	2.96 (75.20±0.60)
8IMM	3.00 (76.20±0.60)
8MM	4.16 (106.00±0.60)
8FF	4.16 (106.00±0.60)
T6	2.25 (57.10±0.60)
T8	2.25 (57.10±0.60)

SDM SERIES

Materials of construction

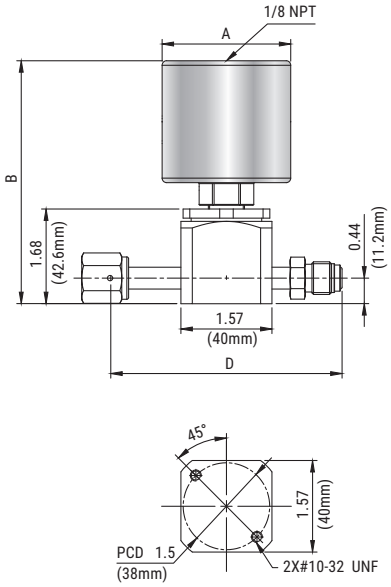
- Body: SS 316L, VAR, VIM / VAR
- Seat: PCTFE, Vespel, PFA
- Diaphragm: Elgiloy
- Woking Pressure: 3,000 psig (207 bar)
- Temperature: 40°F to 150°F (-40°C to 65°C)
- Flow capacity: Cv = 0.7
- Design Leak Rate:
  Outboard: 2 x10^{-10} atm cc/sec He
  Inboard: 2 x10^{-9} atm cc/sec He
  Across the seat: 1x10^{-9} atm cc/sec He
- Air actuation pressure: 70-110 psig (4.8-7.6 bar)
- Surface finishes: 10, 5 µin (0.25, 0.125 µm)
- Internal volume: 5.9 cc

Features

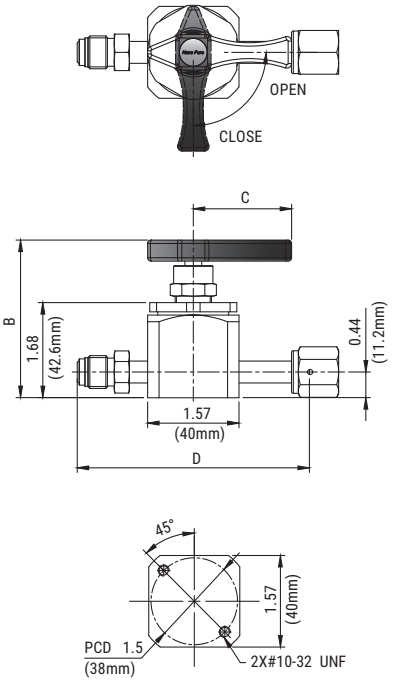
- The SDM Series is designed to deliver both bulk specialty and house gases.
- Manual and pneumatic and various connection and options provide an array of choices to suit most any application.
- High pressure melds with high flow to meet in bulk specialty gas system (BSGS) delivery.
- The caveat is that in the reverse flow direction, the valve does not achieve full flow capacity, Cv, until the pressure differential (outlet to inlet) is less than 50 psi (3.5 bar)

Dimensions

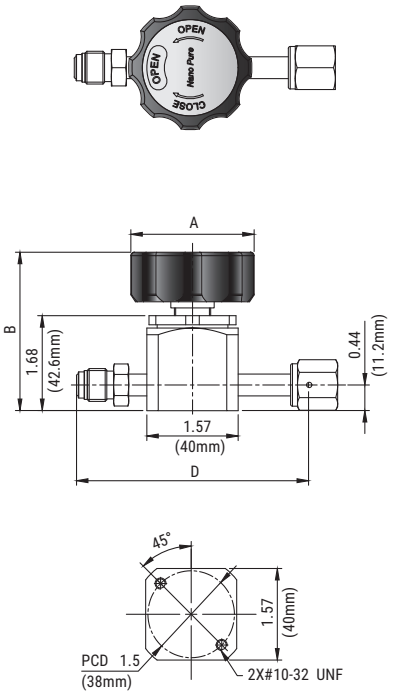
HHNC



Lever



Window



Handle Style	Diameter (A)	Height (B)	Lever (C)
HHNC	2.22 (56.50)	4.18 (106.20)	/
W	2.12 (54.00)	2.72 (69.00)	/
L	/	2.72 (69.00)	1.69 (43.00)

Port Style	End-To-End Length (D)
4HMM	4.00 (101.60±0.60)
4HFF	4.00 (101.60±0.60)
8MM	4.85 (123.19±0.60)
8FF	4.85 (123.19±0.60)
12FF	7.00 (177.80±0.60)
12MM	7.00 (177.80±0.60)
T4	2.75 (69.80±0.60)
T6	2.75 (69.80±0.60)
T8	3.58 (91.00±0.60)
T12	6.50 (165.10±0.60)

SDL SERIES

Features

Operating conditions

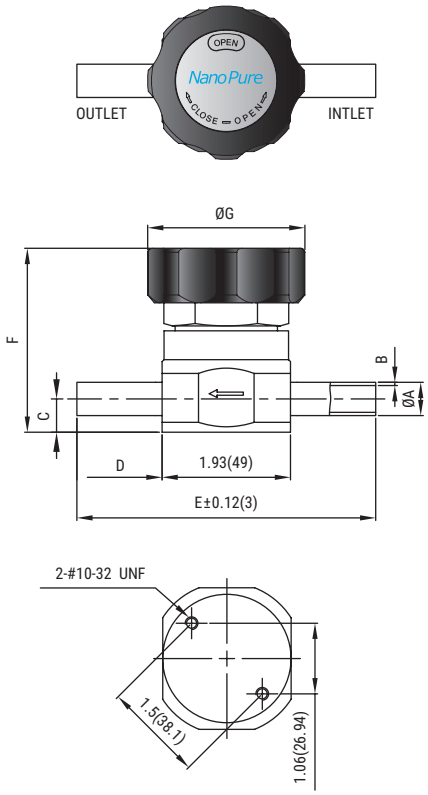
- Maximum operating Pressure:
  Vacuum to 375 psig (0-25.8 bar)
- Body: SS 316L, VAR
- Diaphragm: Elgilcy
- Flow Capacity Cv: 2.8
- Tied-Diaphragm Design for Ultra-High Purity and High Cycle Life
- Springless,Packless Design for High Purity
- No Internal Particle Shedding Components
- Surfaces Finish EP: 10, 5 uin (0.25, 0.13 um)
- He test:
  Inboard: ≤ 1 x 10^{-9} std.cc (atm) / sec
  Outboard: ≤ 1 x 10^{-9} std.cc (atm) / sec
  Across the Seat: ≤ 1 x 10^{-6} std.cc (atm) / sec
- Available with Purge Connections and Integral Purge Valves
- Available as multi-port Valves
- Available as pneumatically-actuated m
- Cleaned For High-Purity Gas Service

Applications

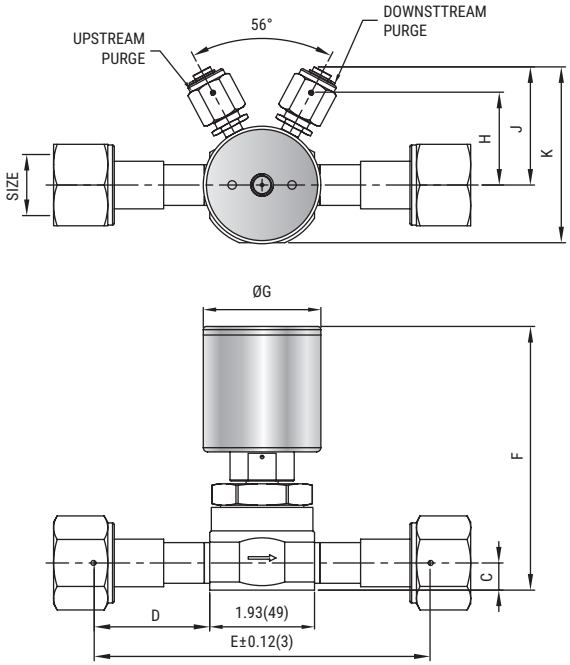
This SDL is intended for bulk gas distribution where containment，cleanliness and purity are of the utmost importance.

- High-purity gas system control valves.
- High-purity gas control for point-of-use service
- Superior containment and cleanliness for your most critical valve applications
- Suitable for inert and most toxic gases
- Interanal Volume: 13.37 cc

Dimensions



Purge Port



Size	A (in, mm)	B (in, mm)	C (in, mm)	D (in, mm)	E (in, mm)
1/2" Tube	0.50 (12.70)	0.049 (1.24)	0.50 (12.70)	1.28 (32.50)	4.49 (114.00±0.60)
3/4" Tube	0.75 (19.05)	0.049 (1.24)	0.50 (12.70)	1.67 (42.50)	5.28 (134.00±0.60)
3/4" Tube	0.75 (19.05)	0.065 (1.65)	0.50 (12.70)	1.67 (42.50)	5.28 (134.00±0.60)
1" Tube	1.00 (25.40)	0.065 (1.65)	0.50 (12.70)	1.87 (47.50)	5.67 (144.00±0.60)
1/2" MVC	/		0.50 (12.70)	1.51 (38.31)	4.94 (125.60±0.60)
3/4" MVC	/		0.50 (12.70)	2.13 (54.06)	6.19 (157.12±0.60)
1" MVC	/		0.50 (12.70)	2.36 (59.90)	6.65 (168.90±0.60)
1/2" FVC	/		0.50 (12.70)	1.51 (38.31)	4.94 (125.60±0.60)
3/4" FVC	/		0.50 (12.70)	2.13 (54.06)	6.19 (157.12±0.60)
1" FVC	/		0.50 (12.70)	2.36 (59.90)	6.65 (168.90±0.60)

Handle Style	F (in, mm)	G (in, mm)
ALNC/NO	4.86 (123.50)	2.16 (55.00)
W	2.76 (70.00)	2.36 (60.00)

Diaphragm Valve For example

SDA – **6V** – **E** – **P** – **W** – **4FF** – **FB**

Series

SDA=300 Psig
SDF=300 Psig
SDP=3500 Psig
SDM=3500 Psig
CDL(S)=3500 Psig
SDL=375 Psig

Materials

6L=316L
6V=VAR
6VV=VIM/VAR
H=Hastelloy

Diaphragm

E=Elgiloy

Seat

P=PCTFE
V=Vespel
F=PFA

Handle

D=Directional
L=Lever
LL=Lever Lock
R=Rotary (CDS Only)
SL=Short Lever
T=Toggle
W=Window
AHNC=High Pressure NC
AHNO=High Pressure NO
ALNC=Low Pressure NC
ALNO=Low Pressure NO
AMNC=Low Pressure NC
LSC=Limit Switch Closed
LCO=Limit Switch Open

Connector

4IMM=1/4" Integral Male VC
4MM=1/4" In & Out Male VC
4FF=1/4" In & Out Female VC
4MF=1/4" In Male Out F HVC
4FM=1/4" In Female Out Male VC
8IMM=1/2" Integral Male VC
8MM=1/2" In & Out Male VC
8FF=1/2" In & Out Female VC
8MF=1/2" In Male Out Female VC
8FM=1/2" In Female Out Male VC
12MM=3/4" In & Out Male Face VC
12FF=3/4" In & Out Female VC
12MF=3/4" In Male Out Female VC
12FM=3/4" In Female Out Male VC
16MM=1" In & Out Male Face VC
16FF=1" In & Out Female VC
16MF=1" In Male Out Female VC
16FM=1" In Female Out Male VC
T4=1/4" Tube Stub
T6=3/8" Tube Stub
T8=1/2" Tube Stub
T12=3/4" Tube Stub
T16=1" Tube Stub

High Flow VC Fitting (SDF Only)

4HMM=1/4" In & Out Male HVC
4HFF=1/4" In & Out Female HVC
4HMHF=1/4" In Male Out F HVC
4HFHM=1/4" In Female Out Male HVC

Purge port (SDL Only)

IOPP=1/4" Male VC
IPP=1/4" Male VC
OPP=1/4" Male VC

Grade

FA=EP Ra µin 5 (µm 0.125)
FB=EP Ra µin 10 (µm 0.25)
BA=Ra. µin 25 (µm 0.625)

Proximity Switch

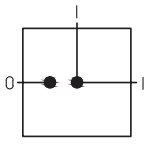
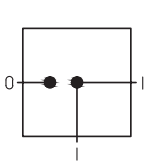
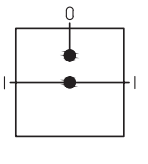
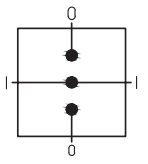
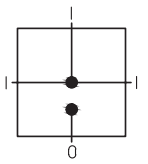
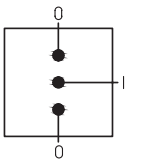
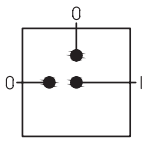
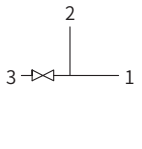
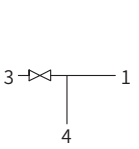
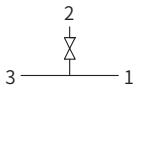
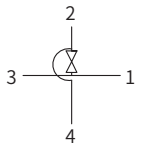
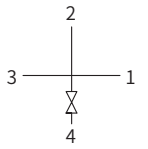
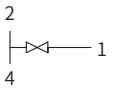
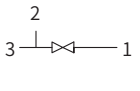
PS=Proximity Switch,
8" Long Cable Available with Normally Open or Normally Closed Actuators

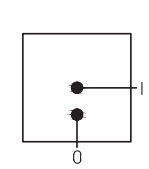
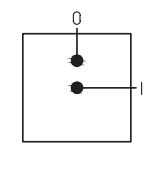
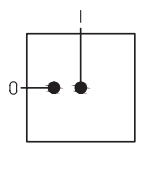
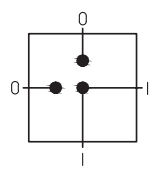
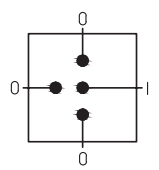
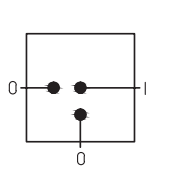
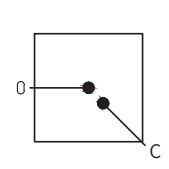
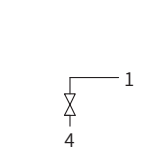
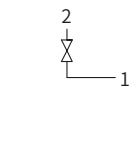
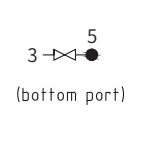
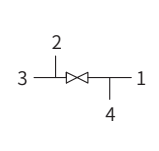
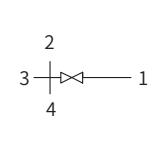
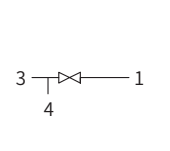
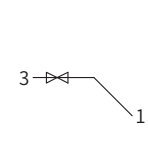
Handle Color

BK=Black
BL=Blue
GN=Green
OE=Orange
RD=Red
WE=White
YW=Yellow

SDA & SDP & SDF Series

Selection Guide for Multi-Port, Angle and Elbow Diaphragm Valves

A (3 Port)	B (3 Port)	C (3 Port)	D (4 Port)	E (4 Port)	F (3 Port)	G (3 Port)
						
						

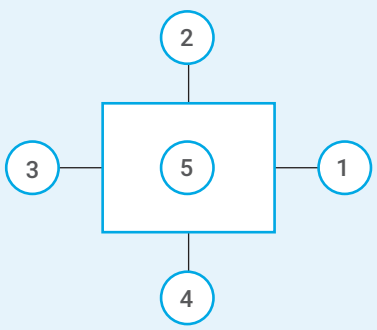
H (2 Port Elbow)	I (2 Port Elbow)	J (2 Port Elbow)	K (4 Port)	L (4 Port)	M (3 Port)	T
						
						

Although high purity valves will operate in either flow direction, the "O" port is generally used as the outlet or downstream port and the "I" port is normally used as the inlet or upstream port. The Flow Path Designator letter will be used in the Valve Ordering Information.

End Connector

Port Numbering Sequence

Top View



5 = Bottom port

End Connections	Designator
1/4" Tube Stub	A
1/4" MVC	B
1/4" FVC	C
1/4" H MVCR	D
1/4" H FVCR	E
3/8" Tube Stub	F
3/8" HMVC	G
3/8" HFVC	H
1/2" Tube Stub	I
1/2" MVC	J
1/2" FVC	K
3/4" Tube Stub	L
3/4" MVC	M
3/4" FVC	N
1" Tube Stub	O
1" MVC	P
1" FVC	Q

Diaphragm Valve for Multi-Port, Angle and Elbow For example

SDA – 6L – E – P – ALNC – C – BBB – FB

Series

SDA=300 Psig
SDF=300 Psig
SDM=3500 Psig
SDP=3500 Psig
SDL=300 Psig

Materials

6L=316L
6V=VAR
6VV=VIM/VAR
H=Hastelloy

Diaphragm

E=Elgiloy

Seat

P=PCTFE
V=Vespel
F=PFA

Handle

D=Directional
LL=LevelLock
L=Lever
SL=Short Lever
T=Toggle
W=Window
AHNC=High Pressure NC
AHNO=High Pressure NO
ALNC=Low Pressure NC
ALNO=Low Pressure NO
AMNC=Middle Pressure NC
AMNO=Middle Pressure NO
LSC=Limit Switch Closed
LCO=Limit Switch Open

Flow Path

See Page

End Connctiongs

See Page

Grade

FA=EP Ra µin 5 (µm 0.125)
FB=EP Ra µin 10 (µm 0.25)
BA=BA Ra µin 25 (µm 0.625)

SDA & SDF SM SERIES

UHP Surface Mount Diaphragm Valve
1-1/8" & 1-1/2"

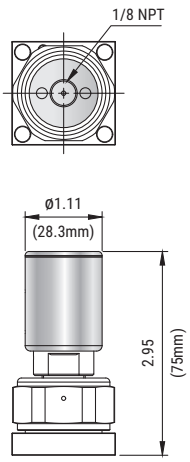
Features

- Body: SS 316L, VAR, VIM/VAR
- Seat: PCTFE, Vespel
- Diaphragm: Elgiloy
- Pressure: Vacuum to 300 psig (20.6 bar)
- Design Proof Pressure: 450 psig (31 bar)
- Design Burst Pressure: 900 psig (62 bar)
- For oxygen: refer to CGAG-4.4 Industrial Practices for Gaseous Oxygen
- Temperature: 40°F to 150°F (-40°C to 65°C)
  Bake out: 250°F (121°C) in the open position
- SDA C_v = 0.30
- SDF C_v = 0.65
- Design Leak Rate: Outboard: $1x10^{-9}$ scc/sec He
  Inboard: $2x10^{-10}$ scc/sec He
  Across the seat: $4x10^{-9}$ scc/sec He
- Surface finishes: 10, 5 µinch (0.25, 0.125 µm)

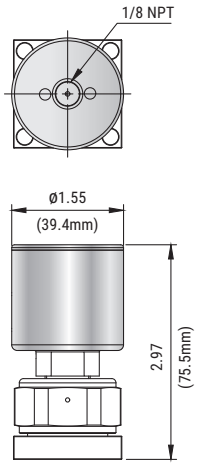
- The SDA 7 SDF SM Series offer a surface mount body design.
- The surface mount design complies with SEMI PR 3.1 for 1.125" and 1.5" C-seal.
- SDSM Series is manufactured according to UHP specifications of SEMI F-20 with manual and pneumatic operating mechanisms.
- Internally thread less and spring less.
- Minimum particle generation and particle entrapment areas.
- 100% Helium leak tested.
- Cleaning process, removes metallic ions, Organic films and surface adhering particles.
- Diaphragm is sealed metal-to-metal to the body.

Dimensions

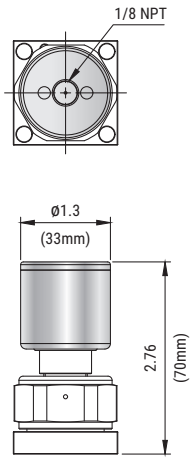
ALNC



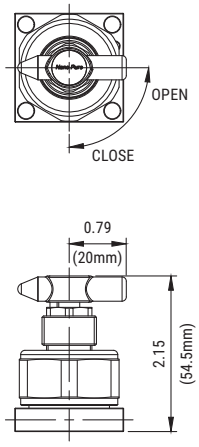
AMNC



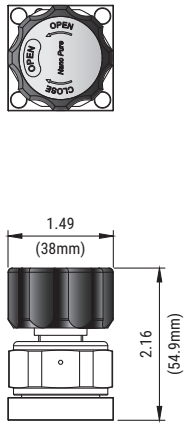
ALNO



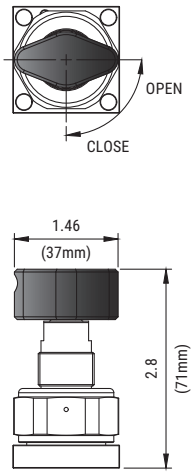
Short Lever



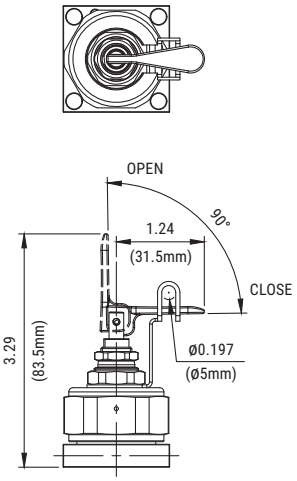
Window



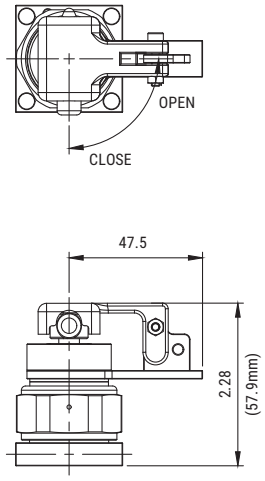
Directional



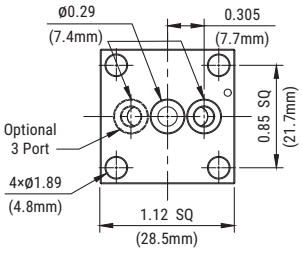
Toggle



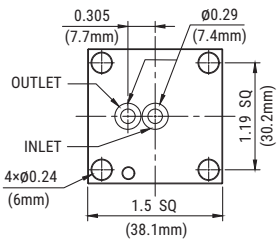
Lock



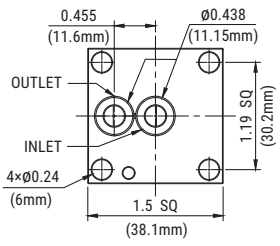
1.125" C-seal



1.5" C-seal



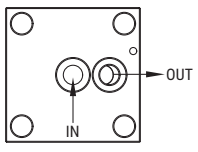
1.5" High Flow C-seal



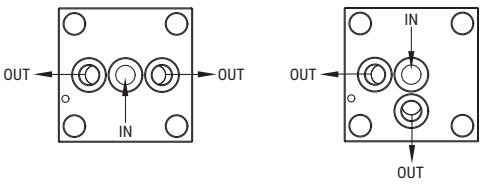
1.5" W-seal

Please contact the manufacturer for the size of the W-seal

2 Port Valve



3 Port Valve



Diaphragm Valve For example

SDASM – 6V – E – P – AMNC – 2P – B – FA

Series

SDASM=300 Psig
SDFSM=300 Psig

Materials

6L=316L
6V=VAR
6VV=VIM/VAR
H=Hastelloy

Diaphragm

E=Elgiloy

Seat

P=PCTFE
V=Vespel
F=PFA

Handle

D=Directional
L=Lever
LL=Lever Lock
SL=Short Lever
T=Toggle
W=Window
ALNC=Low Pressure NC
ALNO=Low Pressure NO
AMNC=Low Pressure NO
LSC=Limit Switch Closed
LCO=Limit Switch Open

Porting

2P=2 Port, Standard C-Seal
3P=3 Port, Standard C-Seal
3PA=3 Port, Standard C-Seal
2PW=W Seal

1-1/2" Interface Only

2PH=2 Port, High Flow C-Seal
3PH=3 Port, High Flow C-Seal
3PAH=3 Port, High Flow C-Seal

Base Size

A=1-1/2" Interface
B=1-1/8" Interface

Grade

FA=EP Ra µin 5 (µm 0.125)
FB=EP Ra µin 10 (µm 0.25)

KL GROUP

Stock Code 300260

NanoPure

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