

ALD27 SERIES DIAPHRAGM VALVES

GENTEC® ALD27 Series Diaphragm Valves are designed for atomic layer deposition processes in the semiconductor industry.



SLVV-ALD27PS-15C2-S1

Wetted Surface Roughness

- Ra: 5 μ m
- Wetted Components processed according to GENTEC Ultra High Purity Process Specification (GC-S1)

Internal Volume

- 4.3 cc

Features

- Suitable for high purity applications
- High speed actuation ≤ 5 ms
- Pre-set flow adjusting mechanism ensures precise and consistent Cv from valve to valve
- Optional solenoid pilot valve for high speed actuation control
- Optional position sensor
- 100% Helium-leak tested
- 1.5" C-Seal

Materials

- Body: 316L VAR, 316L VIM VAR
- Seat: PFA
- Diaphragm: Co-Ni Super Alloy

Specifications

- Flow capacity*: Cv=0.62
- * Customizable CV
- Maximum leak Rate:
Inboard leakage: 1×10^{-9} atm.cc/sec He
Across seat leakage: 1×10^{-9} atm.cc/sec He

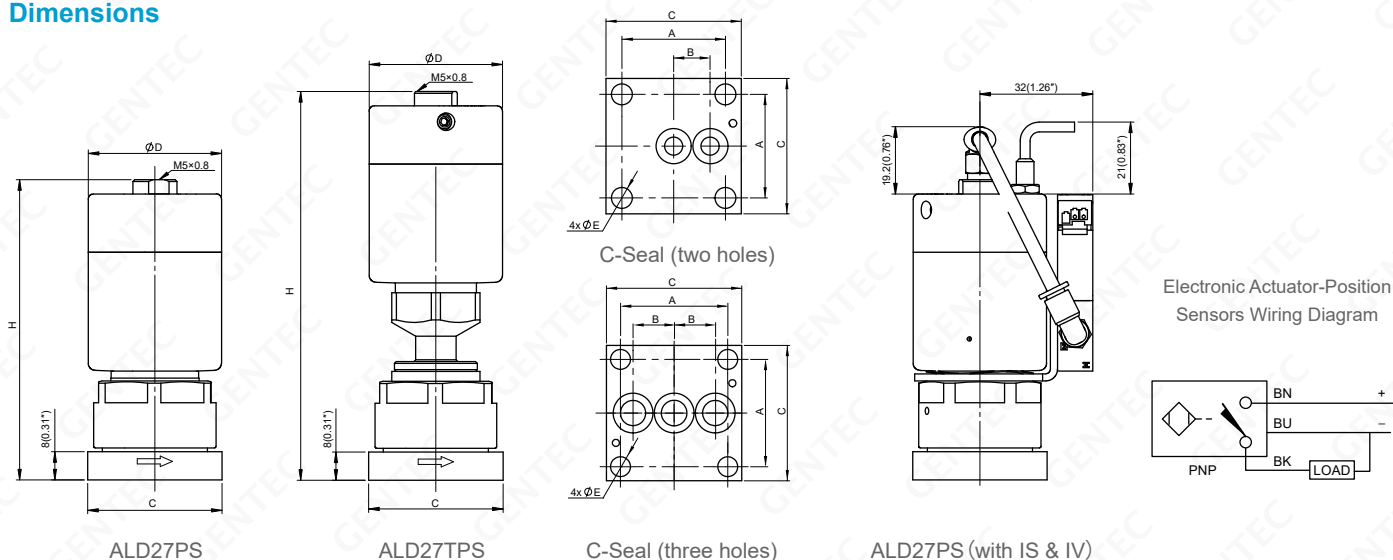
Operating Conditions

- Maximum Operating Pressure: 150 psi
- Minimum Operating Pressure: vacuum
- Operating Temperature:
Standard type ALD27: 0°C~120°C (32°F~248°F)
With Thermal Bridge ALD27T: 0°C~200°C (32°F~392°F)

Actuator Specifications

- Operating pressure: 50 ~ 90 psi
- Working Temperature: ≤ 120 °C
- Inlet Connection: M5 (F)
- Normally: closed

Dimensions



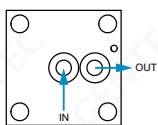
Series	Dimensions					
	A	B	C	D	E	H
ALD27PS (C-Seal)	1.19" (30.2)	0.46" (11.56)	1.5" (38.1)	1.49" (37.8)	0.17" (4.4)	3.35" (85.1)
ALD27TPS (C-Seal)	1.19" (30.2)	0.46" (11.56)	1.5" (38.1)	1.49" (37.8)	0.17" (4.4)	4.34" (110.2)

Dimension: in. (mm)

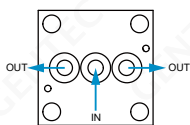
Position Sensor Technical Information	
Output	3-wire V (dc)—transistor (current-sourcing)
Output Function	Normally open
Voltage	10 to 30 V (dc) polarity protected—pulsed SCP
Operating Temperature	-10°F ~ 158°F (-23°C ~ 70°C)

Solenoid Pilot Valve Technical Information	
Component	MAC Valve 34C-ABA
Solenoid	24 V, 4 W
Pilot Valve	Temperature: -18°C ~ 50°C (-0.4°F ~ 122°F)
	Porting: M5 × 0.8-6H thread, compatible with 10-32 screws
Tubing	Material: polyurethane
Bracket	Material: 316 stainless steel

Inlet and Outlet



C-Seal (two holes)



C-Seal (three holes)

Ordering Information

EX: SLVV	- ALD27	T	P	S	- 15C2	- IS	- S1
Body	Valve Series	Temperature	Valve Type	Working Pressure	Connection Type	Options	Process Standard
SLVV: 316L VIM VAR SLV: 316L VAR	ALD27	Blank: standard T: with thermal bridge	P: pneumatic	S: 150 psi	15C2: 1.5" C-Seal, two holes 15C3: 1.5" C-Seal, three holes Please contact GENTEC for more information	IS: with position sensor IV: with solenoid pilot valve IH: with heater mounting hole	S1: Ultra-high purity process