

Vacuum Valve Solutions

Varian's extensive line of vacuum valves are engineered for reliability, performance, and value. These valves are also engineered to optimize conductance, to operate in a wide variety of applications, and to operate with a minimum of moving parts. This reduces wear and particle generation which contributes to their performance and reliability.

Varian valves are manufactured using the highest quality vacuum materials and provide a choice of actuation, and a variety of mounting flanges. All Varian valves are leak checked with the Varian mass spectrometer leak detector and tested prior to shipment to ensure proper operation.

Common Applications

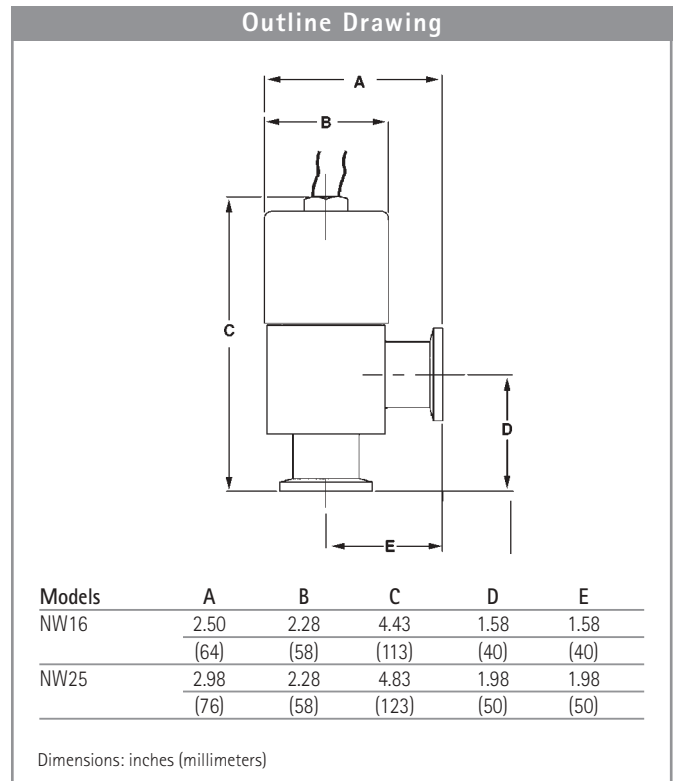
- Rough vacuum
 - Freeze drying
 - Food processing
 - Metal ore refining
 - Steam plant condensers
 - Vacuum distillation
- Medium vacuum
 - Decorative coatings
 - Functional coatings
 - Chemical processes
 - Electron microscopes
 - Microscopy sample processing
- High/Ultrahigh vacuum
 - Physics research
 - Optics
 - High energy
 - Semiconductor manufacturing
 - Electron tube manufacturing
 - Surface analysis (Auger Spectroscopy)
 - Molecular beam epitaxy
 - Outer space simulation



Valve Selection Guide									
Vacuum Range	Valve Type	Housing Material		Size Range	Feedthrough (I.D.)	Flange Options Type	Actuation Options	Ref. Page	
		Al	SS						
Rough to High Vacuum									
Atm 10 ⁻⁶ torr	Block	Right Angle	•		0.75 in. to 1.0 in.	Shaft	ISO-KF	Electromagnetic	318
Atm 10 ⁻⁹ torr	Block	Right Angle	•		0.75 in. to 3 in.	Bellows	ISO-KF	Manual/Air	320
Atm 10 ⁻⁹ torr	Block	In-Line	•		0.75 in. to 1.5 in.	Bellows	ISO-KF	Manual/Air	322
Atm 10 ⁻⁹ torr	Block	Right Angle		•	0.75 in. to 1.5 in.	Bellows	CF, ISO-KF, Weld	Manual/Air	326
Atm 10 ⁻⁹ torr	Block	In-Line		•	0.75 in. to 1.0 in.	Bellows	CF, ISO-KF, Weld	Manual/Air	326
Atm 10 ⁻⁹ torr	Tube MBS*	Right Angle		•	0.75 in. to 1.5 in.	Bellows	CF	Manual/Air	332
Atm 10 ⁻⁹ torr	Tube MBS*	In-Line		•	0.75 in. to 1.5 in.	Bellows	CF	Manual/Air	332
Atm 10 ⁻⁹ torr	Gate	<i>GateKeeper</i>	•		2.5 in. to 10 in.	Shaft	ISO, ASA	Manual/Air	336
Ultra High Vacuum									
Atm 10 ⁻¹¹ torr	UHV, All-Metal	Right Angle		•	0.75 in. to 2.5 in.	Bellows	CF	Manual	340
Atm 10 ⁻¹¹ torr	UHV, All-Metal	In-Line		•	1.5 in.	Bellows	CF	Manual	340
Atm 10 ⁻¹¹ torr	UHV, All-Metal	Tee		•	1.5 in.	Bellows	CF	Manual	340
Special Purpose									
Atm 10 ⁻⁴ torr	Variable Leak			•		Bellows	CF	Manual	342
Atm 10 ⁻⁴ torr	Vacuum Pump Isolation (VPI)		•		NW25-NW40	Shaft	ISO-KF	ATM Air	343

*MBS – Metal Bonnet Seal

Electromagnetic Block Valves – Direct Acting



Features	Benefits
• Reliable design	• Service-free operation
• Low cost	• Economical
• Rapid spring-closed actuator	• System protection on loss of power
• KF Flange connections	• Ease of Installation
• Single coil	• Compact construction
	• Rapid cycling

Technical Specifications

Vacuum Range Cleaned Aluminum: atm to 10 ⁻⁶ torr Nickel-Plated: atm to 10 ⁻⁹ torr	Service Life 250,000 cycles
Leak Rate <1 x 10 ⁻⁹ std cc/sec. (helium)	Conductance NW16 – 2.2 l/s NW25 – 3.5 l/s
Operating Temperature 15° C min to 40° C maximum	Speed to Open/Close Open – 50 ms Close – 25 ms
Bakeable To – Non-operating (closed) 125° C	Loss of Power Valve closes (in < 25 m/sec)
Pulse Voltage/Hold Voltage 23 Watts	

Ordering Information

Size	Voltage Option	Part Number		Shipping Weight lbs. (kg)
		Aluminum Body	Nickel-Plated	
NW16	100V; 60Hz	L9940301	L9940601	1.5 (0.7)
	115V; 50/60Hz	L9940302	L9940602	1.5 (0.7)
	200V; 60Hz	L9940303	L9940603	1.5 (0.7)
	220V; 50/60Hz	L9940304	L9940604	1.5 (0.7)
	12 VDC	L9940305	L9940605	1.5 (0.7)
	24 VDC	L9940306	L9940606	1.5 (0.7)
	100V; 50Hz	L9940307	L9940607	1.5 (0.7)
	240V; 50Hz	L9940308	L9940608	1.5 (0.7)
NW25	100V; 60Hz	L9942301	L9942601	2.0 (0.9)
	115V; 50/60Hz	L9942302	L9942602	2.0 (0.9)
	200V; 60Hz	L9942303	L9942603	2.0 (0.9)
	220V; 50/60Hz	L9942304	L9942604	2.0 (0.9)
	12 VDC	L9942305	L9942605	2.0 (0.9)
	24 VDC	L9942306	L9942606	2.0 (0.9)
	100V; 50Hz	L9942307	L9942607	2.0 (0.9)
	240V; 50Hz	L9942308	L9942608	2.0 (0.9)

Ordering Information

Description	Part Number	Shipping Weight lbs. (kg)
Spare Parts		
Plunger Assembly – includes shaft, spring, and seal	L9987008	1.0 (0.5)
Operator, EMB, 100V, 50 Hz	L9987007	1.0 (0.5)
Operator, EMB, 100V, 60 Hz	L9987001	1.0 (0.5)
Operator, EMB, 115V, 50/60 Hz	L9987002	1.0 (0.5)
Operator, EMB, 200V, 60 Hz	L9987003	1.0 (0.5)
Operator, EMB, 220V, 50/60 Hz	L9987004	1.0 (0.5)
Operator, EMB, 240V, 50Hz	L9987009	2.0 (1.0)
Operator, EMB, 12 VDC	L9987005	1.0 (0.5)
Operator, EMB, 24 VDC	L9987006	1.0 (0.5)
Manual	699912065	1.0 (0.5)