

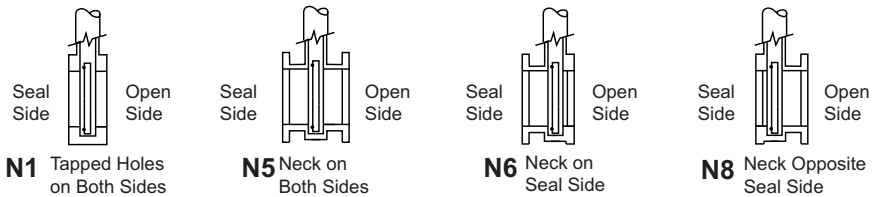


End Operated Aluminum Gate Valves; Standard Size Ports with ANSI Flanges

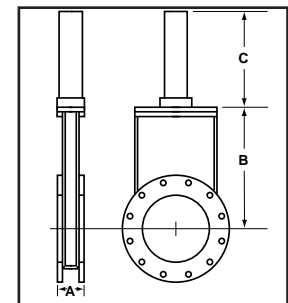


Stainless Steel Gates in Aluminum Valves: Add suffix "SS Gate" to the model number to specify a stainless steel gate in an aluminum valve. Refer to the "Optional Features and Accessories" page for pricing information.

- Less Outgassing Than Stainless, See Page 39
- Seal with Vacuum or Atmosphere on Either Side
- Helium Tested to 5×10^{-10} scc per second
- All Valves (RoHS) 2002/95/EC Compliant
- Flanges to Match Diffusion & Cryo Pumps
- Closing Speeds as Fast as 75 mSec. Available
- Optional Operation to 10 Bar, 147 PSIG; \$250.
- Optional Remote Position Indicators
- NW & Compression Gauge & Roughing Ports
- Automatic Closure on Power Failure



Nominal Size	Model No. Dimensions in Inches	Port Dia.	Flange O.D.	Flange O-Rings	Bolt Circle	(no. of bolts) x bolt size	Flange to Flange A	B	C	List Price
2 inch	END STD 2 N1	2.00	6.00	3.50 ID x .139	4.75	(4) 5/8-11	3.125	6.25	7.375	\$1204.
2 inch	END STD 2 N5	2.00	6.00	3.50 ID x .139	4.75	(4) Slotted	4.875	6.25	7.375	\$1429.
2 inch	END STD 2 N6 & 8	2.00	6.00	3.50 ID x .139	4.75	Neck Side Slotted	4.00	6.25	7.375	\$1315.
3 inch	END STD 3 N1	3.00	7.50	4.00 ID x .139	6.00	(4) 5/8-11	3.75	8.375	9.406	\$1799.
3 inch	END STD 3 N5	3.00	7.50	4.00 ID x .139	6.00	(4) Slotted	6.50	8.375	9.406	\$1913.
3 inch	END STD 3 N6 & 8	3.00	7.50	4.00 ID x .139	6.00	Neck Side Slotted	5.125	8.375	9.406	\$1868.
4 inch	END STD 4 N1	4.00	9.00	5.75 ID x .139	7.50	(8) 5/8-11	4.125	8.375	9.406	\$1847.
4 inch	END STD 4 N5	4.00	9.00	5.75 ID x .139	7.50	(8) Slotted	7.125	8.375	9.406	\$2115.
4 inch	END STD 4 N6 & 8	4.00	9.00	5.75 ID x .139	7.50	Neck Side Slotted	5.625	8.375	9.406	\$2010.
6 inch	END STD 6 N1	6.00	11.00	7.50 ID x .139	9.50	(8) 3/4-10	4.375	11.375	11.656	\$1969.
6 inch	END STD 6 N5	6.00	11.00	7.50 ID x .139	9.50	(8) Slotted	7.875	11.375	11.656	\$2292.
6 inch	END STD 6 N6 & 8	6.00	11.00	7.50 ID x .139	9.50	Neck Side Slotted	6.125	11.375	11.656	\$2103.
8 inch	END STD 8 N1	8.00	13.50	9.00 ID x .275	11.75	(8) 3/4-10	4.375	14.313	13.719	\$3114.
8 inch	END STD 8 N5	8.00	13.50	9.00 ID x .275	11.75	(8) Slotted	7.875	14.313	13.719	\$3397.
8 inch	END STD 8 N6 & 8	8.00	13.50	9.00 ID x .275	11.75	Neck Side Slotted	6.125	14.313	13.719	\$3255.
10 inch	END STD 10 N1	10.00	16.00	12.00 ID x .275	14.25	(12) 7/8-9	4.625	19.063	15.969	\$4319.
10 inch	END STD 10 N5	10.00	16.00	12.00 ID x .275	14.25	(12) Slotted	8.125	19.063	15.969	\$4671.
10 inch	END STD 10 N6 & 8	10.00	16.00	12.00 ID x .275	14.25	Neck Side Slotted	6.375	19.063	15.969	\$4499.
12 inch	END STD 12 N1	12.00	19.00	13.00 ID x .275	17.00	(12) 7/8-9	4.625	21.00	18.00	\$5393.
12 inch	END STD 12 N5	12.00	19.00	13.00 ID x .275	17.00	(12) Slotted	8.125	21.00	18.00	\$5735.
12 inch	END STD 12 N6 & 8	12.00	19.00	13.00 ID x .275	17.00	Neck Side Slotted	6.375	21.00	18.00	\$5570.
14 inch	END STD 14 N1	14.00	21.00	15.00 ID x .275	18.75	(12) 1-8	6.50	27.625	22.03	\$9437.
16 inch	END STD 16 N1	16.00	23.50	17.50 ID x .275	21.25	(16) 1-8	6.50	27.625	22.03	\$10,334.
18 inch	END STD 18 N1	18.00	25.00	19.00 ID x .275	22.75	(16)	7.81	35.56	28.50	\$15,485.
20 inch	END STD 20 N1	20.00	27.50	22.00 ID x .275	25.00	(20) 1 1/8-7	7.88	35.75	27.031	\$16,185.
22 inch	END APD CRYO SHI-APD CP-22	21.75	27.50	No O-Ring on Pump (Seal) Side	25.00	(20) 1 1/8-7	7.625	35.75	27.031	\$16,210.
24 inch	END STD 24 N1	24.00	32.00	26.00 ID x .275	29.50	(20) 1 1/4-7	8.56	42.50	30.50	\$23,320.



ORDERING INFORMATION

Model Number: Refer to page 2 for instructions on how to specify the features you need.

Position Indicators: Two reed switches activated by a magnet inside the pneumatic actuator provide closure for open and closed position. SPST contacts rated 0.5A @ 110 or 220 VAC non-inductive. Add LSE to Model No. \$150.00 /pair

Gauge and Roughing Ports: See page 42 for sizes and prices.

200 PSI Shaft Seal \$250.

Special Features: Refer to page 40 and 41 for information on special features and accessories.

Viton® or Kalrez® or Silicone O-Rings: Our standard Valves use a Viton® O-Ring for the gate seal and Buna-N O-Rings for all other locations. You may specify Viton® (or other materials) throughout the valve with a "V", "S", or "K" in the model number. For Viton® add the following to the price. (Contact factory for Silicone or Kalrez® prices.)

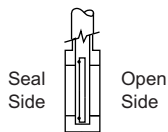
- 2 or 3 in. valves \$55.
- 4 in. valves \$83.
- 6 in. valves \$103.
- 8 in. valves \$164.
- 10 in. valves \$214.
- 12 in. valves \$275.



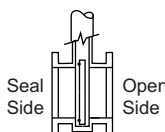
End Operated Aluminum Gate Valves; Over Size Large Ports with ANSI Flanges



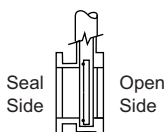
- Less Outgassing Than Stainless, See Page 39
- Simple End Operated Air Cylinder
- Over 100,000 Cycles Without Maintenance
- Helium Tested to 5×10^{-10} scc/s
- All Valves (RoHS) 2002/95/EC Compliant
- Flanges to Match Diffusion & Cryo Pumps
- Closing Speeds as Fast as 75 mSec. Available
- Optional Operation to 10 Bar, 147 PSIG; \$250.
- Optional Remote Position Indicators
- NW & Compression Gauge & Roughing Ports
- Automatic Closure on Power Failure



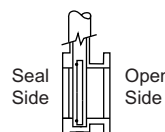
N1 Tapped Holes on Both Sides



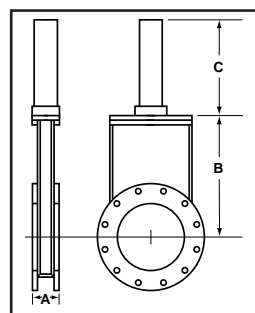
N5 Neck on Both Sides



N6 Neck on Seal Side



N8 Neck Opposite Seal Side



Stainless Steel Gates in Aluminum Valves: To specify a stainless steel gate in an aluminum valve add a suffix to the model number "SS Gate". Refer to the "Optional Features and Accessories" page in the Accessories and Parts section of this catalog for pricing information.

Nominal Size	Model No. Dimensions in Inches	Port Dia.	Flange O.D.	Flange O-Rings	Bolt Circle	(no. of bolts) x bolt size	Flange to Flange A	B	C	List Price
2 inch	END LP2 N1	2.50	6.00	3.50 ID x .139	4.75	(4) 5/8-11	3.125	8.375	9.406	\$1170.
2 inch	END LP2 N5	2.50	6.00	3.50 ID x .139	4.75	(4) Slotted	4.875	8.375	9.406	\$1386.
2 inch	END LP2 N6 & 8	2.50	6.00	3.50 ID x .139	4.75	Neck Side Slotted	4.00	8.375	9.406	\$1277.
3 inch	END LP3 N1	4.00	7.50	4.5 ID x .139	6.00	(4) 5/8-11	3.75	8.375	9.406	\$1747.
3 inch	END LP3 N5	4.00	7.50	4.5 ID x .139	6.00	(4) Slotted	6.50	8.375	9.406	\$1857.
3 inch	END LP3 N6 & 8	4.00	7.50	4.5 ID x .139	6.00	Neck Side Slotted	5.125	8.375	9.406	\$1814.
4 inch	END LP4 N1	6.00	9.00	6.25 ID x .139	7.50	(8) 5/8-11	4.125	11.375	11.656	\$1793.
4 inch	END LP4 N5	6.00	9.00	6.25 ID x .139	7.50	(8) Slotted	7.125	11.375	11.656	\$2053.
4 inch	END LP4 N6 & 8	6.00	9.00	6.25 ID x .139	7.50	Neck Side Slotted	5.625	11.375	11.656	\$1951.
6 inch	END LP6 N1	8.00	11.00	8.25 ID x .139	9.50	(8) 3/4-10	4.375	14.313	13.719	\$2048.
6 inch	END LP6 N5	8.00	11.00	8.25 ID x .139	9.50	(8) Slotted	7.875	14.313	13.719	\$2361.
6 inch	END LP6 N6 & 8	8.00	11.00	8.25 ID x .139	9.50	Neck Side Slotted	6.125	14.313	13.719	\$2179.
8 inch	END LP8 N1	10.00	13.50	10.50 ID x .139	11.75	(8) 3/4-10	4.375	19.063	15.969	\$3400.
8 inch	END LP8 N5	10.00	13.50	10.50 ID x .139	11.75	(8) Slotted	7.875	19.063	15.969	\$3673.
8 inch	END LP8 N6 & 8	10.00	13.50	10.50 ID x .139	11.75	Neck Side Slotted	6.125	19.063	15.969	\$3538.
10 inch	END LP10 N1	12.00	16.00	12.50 ID x .275	14.25	(12) 7/8-9	4.625	21.00	18.00	\$4193.
10 inch	END LP10 N5	12.00	16.00	12.50 ID x .275	14.25	(12) Slotted	8.125	21.00	18.00	\$4535.
10 inch	END LP10 N6 & 8	12.00	16.00	12.50 ID x .275	14.25	Neck Side Slotted	6.375	21.00	18.00	\$4364.
22 inch	END APD CRYO SHI-APD CP-22	21.75	27.50	No O-Ring on Pump (Seal) Side	25.00	(20) 1 1/8-7	7.625	37.75	27.031	\$16,210.

ORDERING INFORMATION

Model Number: Refer to pg. 2 for instructions on how to specify the features you need.

Position Indicators: Two reed switches activated by a magnet inside the pneumatic actuator provide closure for open and closed position. SPST contacts rated 0.5A @ 110 or 220 VAC non-inductive. Add LSE to Model No. . . . \$150.00 /pair

Gauge and Roughing Ports: See page 42 for sizes and prices.

200 PSI Shaft Seal \$250.

Special Features: Refer to pages 40 and 41 for information on special features and accessories.

Viton® or Kalrez® or Silicone O-Rings: Our standard Valves use a Viton® O-Ring for the gate seal and Buna-N O-Rings for all other locations. You may specify Viton® (or other materials) throughout the valve with a "V", "S", or "K" in the model number. For Viton® add the following to the price. (For Silicone or Kalrez® contact the factory for prices.)

- 2 or 3 in. valves \$55.
- 4 in. valves \$83.
- 6 in. valves \$103.
- 8 in. valves \$164.
- 10 in. valves \$214.
- 12 in. valves \$275.



Model Numbering System

VRC Valves are
Manufactured in
the USA.



Vacuum Research valves are available with dozens of options to allow you to select exactly the features you need for your vacuum system. The model number system illustrated below will accurately describe most valves, but if you have any questions about the best way to specify what you need, just call or fax our customer service department and we will be happy to help you. All Valves are (RoHS) 2002/95/EC Compliant.

Basic Valve Style

LPWA	Bonnet Style, Large Port Aluminum
TBWA	Thick Body Valves for Dirty Environments
X-LPWA	Bonnet Style, Extra Large Port Aluminum
LPSS	Bonnet Style, Large Port Stainless Steel
X-LPSS	Bonnet Style, Extra Large Port Stainless Steel
BEL	Bellows Seal, Welded Aluminum
END STD	Standard Port Aluminum Gate Valves
END LP	Oversize Large Port Aluminum Gate Valves
AVAL	Aluminum Poppet Style Valves
AVMS	Mild Steel Poppet Valves
REB	Rectangular Port, Bellows Seal
REQ	Rectangular Port, Quad Ring Seal

Roughing & Gauge Ports

Specify location (R-1, R-2, etc.) and size of port (NW-16, NW-25, etc.) Refer to page 42 in this catalog: Roughing and Gauge Ports, for the range of port sizes available in each location for your basic valve style.

Limit Switches (Position Indicators)

Visual Position Indicators are included on All Bonnet Gate Valves. Limit switches are described in the "Optional Features and Accessories" section on page 44. (Sold by the pair, 1 for open, 1 for closed)

LSS	Enclosed Limit Switch (SPDT)
LSD	Enclosed Limit Switch (DPDT)
LSO	Open Type Limit Switch (SPDT)
LSE	Electronic Type Limit Switch (SPDT)
LSX-C	Explosion Proof, Grps. C, D (SPDT)
LSX-B	Explosion Proof, Grp. B (SPDT)

Flange Bolt Pattern

ASA	ANSI Bolt Pattern
CF	Conflat® Flanges
CF-MET	Metric Conflat®
JIS	Japan Industrial Std.
DEP	Dependex Flanges
ISO	ISO Bolt Pattern
SPEC	Customer Special Flange
BLANK	No Holes or O-Ring

Flange O-Rings

2O	O-Rings both flanges
NO	No flange O-Rings
1O	O-Ring Open Side
1S	O-Ring Seal Side

LPWA - 12 - ASA - N8 - 2O - B - R2 - NW-16 - EP - 115 - LSS

Port Flange Neck Style

N1	Tapped Holes Both Sides
N5	Neck Flange on Both Sides
N6	Neck Flange on Seal Side
N8	Neck Flange on Open Side

Slots or Tapped Holes on Neck Flanges:
Our standard neck style valves (N5, N6, N8) have slots rather than holes for bolts. For tapped holes instead of slots add "tapped" to Model number. No extra charge.

Type of Operator

EP	Electro-Pneumatic
3 POS	3 Position Electro-Pneumatic
P	Pneumatic only (no solenoid)
M	Manual Lever
T	Manual Throttle
MO	Motor Actuator

Nominal Valve Port Size

Inches:	2, 3, 4, 6, 8, 10, 12, 16, 20, 24, 32
ISO:	63 mm to 630 mm
JIS:	63 mm to 630 mm
Conflat®:	2.75, 4.5, 6, 8, 10, 12 Inch OD

O-Ring Material

B	Buna-N
V	Viton®
S	Silicone
K	Kalrez®

Solenoid Voltage Only Used With EP Operator

115	115V, 50/60 Hz
220	220-240 V, 50 Hz
24D	24 VDC
115 EX	Expl. Proof 115V, 50/60 Hz
220 EX	Expl. Proof 220V, 50 Hz
24 EX	Expl. Proof 24 VDC

Ordering Information



Call our toll free number (800) 426-9340, or (412) 261-7630 to place orders, or for customer service.



Our FAX number is (412) 261-7220. Address orders by mail to Vacuum Research Corporation, 100 Chapel Harbor Drive, #4, Pittsburgh, PA 15238 USA. Prices in this catalog are FOB factory. CIF or C&F prices available. Contact factory for pro forma invoice or price quotation. Terms are Net 30 Days.



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