

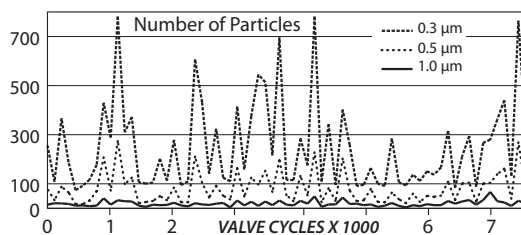


Aluminum Conflat® Flanges The Aluminum Conflat® Flanges on the VRC valves provide an all metal reusable seal using low cost solid aluminum gaskets (available from VRC, see catalog page 42).

Mate Directly to Stainless Steel Conflat® Flanges The bolt circle, number of holes, threads, flange diameter, etc. are the same as stainless steel CF flanges, and mate directly to stainless steel flanges using aluminum gaskets.

Less Outgassing Than Stainless Steel Dozens of papers show the 6000 Series aluminum used in VRC valves outgasses up to 2 orders of magnitude less than 300 Series stainless steel and of course no hydrogen. A bibliography of 70 peer reviewed papers about outgassing compiled by Dr. M. Wong at Fermi Labs can be found at http://home.fnal.gov/~mlwong/outgas_rev.htm.

Low Particle Generation



High Speed Closing speeds as fast as 75 mSeconds available.

Fast Pumpdown VRC valve bodies are not cast. The internal surfaces are smooth extruded or machined 6061 aluminum and pump down at speeds comparable to or faster than stainless steel.

Satisfaction Guaranteed Vacuum Research has been building high vacuum valves for more than 50 years and has earned a reputation for world class product quality and customer service. If you are not satisfied with our valve just send it back.

Metal Bonnet Seals Our standard bonnet & hub seal is Viton® but metal seals are available. Kalrez® is optional.

Rotatable Flanges Rotatable flanges are available on one or both sides of all valve sizes. Our rotatable flanges have through holes. Our fixed flanges have tapped holes.

Maximum Temperature All VRC valves use Viton® for the gate seal which can operate up to 190 °C (375 °F). Kalrez® available.

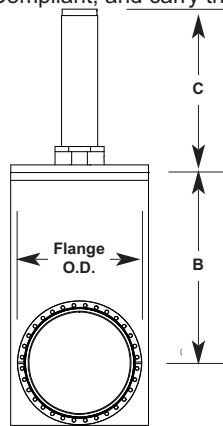
Fail Safe All Vacuum Research air operated valves can be installed for fast close on power failure.

Long Life More than 250,000 cycles for standard valves.

No Leaks All VRC valves have total leak rates of less than 5 X 10⁻¹⁰ std. cc/sec. By total leak we mean that each completed valve is tested in a He filled bag.

RoHS Compliant and CE Mark All Valves (RoHS) 002/95/EC Compliant, and carry the CE Mark.

Aluminum Conflat® Valves, Electro-Pneumatic Operator				
Conflat® Outside Diameter	Viton® Gate & Bonnet Seal	Price	Viton® Gate Seal, Metal Bonnet Seal Insert "Metal" in Model No.	Price
2.75 in. Outside Diameter Conflat® Flange (1.6 in. Port)	END-2.75-CF-N1-EP	\$1219.	END-2.75-CF-N1-METAL-EP	\$1386.
	END-2.75-CF-N5-EP	\$1358.	END-2.75-CF-N5-METAL-EP	\$1525.
	END-2.75-CF-N6-EP	\$1292.	END-2.75-CF-N6-METAL-EP	\$1458.
	END-2.75-CF-N8-EP	\$1292.	END-2.75-CF-N8-METAL-EP	\$1458.
3.375 in. Outside Diameter Conflat® Flange (2 in. Port)	END-3.375-CF-N1-EP	\$1569.	END-3.375-CF-N1-METAL-EP	\$1736.
	END-3.375-CF-N5-EP	\$1791.	END-3.375-CF-N5-METAL-EP	\$1957.
	END-3.375-CF-N6-EP	\$1774.	END-3.375-CF-N6-METAL-EP	\$1941.
	END-3.375-CF-N8-EP	\$1774.	END-3.375-CF-N8-METAL-EP	\$1941.
4.50 in. Outside Diameter Conflat® Flange (2.5 in. Port)	END-4.50-CF-N1-EP	\$1829.	END-4.50-CF-N1-METAL-EP	\$1995.
	END-4.50-CF-N5-EP	\$2128.	END-4.50-CF-N5-METAL-EP	\$2263.
	END-4.50-CF-N6-EP	\$1968.	END-4.50-CF-N6-METAL-EP	\$2134.
	END-4.50-CF-N8-EP	\$1968.	END-4.50-CF-N8-METAL-EP	\$2134.
6.00 in. Outside Diameter Conflat® Flange (4 in. Port)	END-6-CF-N1-EP	\$2329.	END-6-CF-N1-METAL-EP	\$2605.
	END-6-CF-N5-EP	\$2638.	END-6-CF-N5-METAL-EP	\$2916.
	END-6-CF-N6-EP	\$2512.	END-6-CF-N6-METAL-EP	\$2788.
	END-6-CF-N8-EP	\$2512.	END-6-CF-N8-METAL-EP	\$2788.
8.00 in. Outside Diameter Conflat® Flange (6 in. Port)	END-8-CF-N1-EP	\$2927.	END-8-CF-N1-METAL-EP	\$3288.
	END-8-CF-N5-EP	\$3260.	END-8-CF-N5-METAL-EP	\$3620.
	END-8-CF-N6-EP	\$3122.	END-8-CF-N6-METAL-EP	\$3482.
	END-8-CF-N8-EP	\$3122.	END-8-CF-N8-METAL-EP	\$3482.
10.00 in. Outside Diameter Conflat® Flange (8 in. Port)	END-10-CF-N1-EP	\$4080.	END-10-CF-N1-METAL-EP	\$4551.
	END-10-CF-N5-EP	\$4468.	END-10-CF-N5-METAL-EP	\$4939.
	END-10-CF-N6-EP	\$4329.	END-10-CF-N6-METAL-EP	\$4800.
	END-10-CF-N8-EP	\$4329.	END-10-CF-N8-METAL-EP	\$4800.
12.00 in. Outside Diameter Conflat® Flange (10 in. Port)	END-12-CF-N1-EP	\$4934.	END-12-CF-N1-METAL-EP	\$6985.
	END-12-CF-N5-EP	\$5422.	END-12-CF-N5-METAL-EP	\$7428.
	END-12-CF-N6-EP	\$5322.	END-12-CF-N6-METAL-EP	\$7262.
	END-12-CF-N8-EP	\$5322.	END-12-CF-N8-METAL-EP	\$7262.
Optional Operation to 10 Bar, 147 PSIG; 200 PSI Shaft Seal add \$250.				
Aluminum Conflat Gaskets® Packs of 10, except larger sizesSee next page				



Conflat® Flange O.D.	Flange to Flange	B Port C/L to Top	C Actuator Height	D Body Width	(Number) Bolt Size
2.75 in. (1.6 in. Port)	3.1	6.3	7.4	4.63	(6) 1/4-28
3.375 in. (2 in. Port)	3.4	6.3	7.4	4.63	(8) 5/16-24
4.50 in. (2.5 in. Port)	3.5	8.38	9.4	6.48	(8) 5/16-24
6.00 in. (4 in. Port)	4.3	8.38	9.4	6.48	(16) 5/16-24
8.00 in. (6 in. Port)	4.5	11.38	11.66	9.0	(20) 5/16-24
10.00 in. (8 in. Port)	4.7	14.3	12.72	11.0	(24) 5/16-24
12.00 in. (10 in. Port)	5.0	19.0	16.0	13.63	(32) 5/16-24



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

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.

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®

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

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

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

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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