

Aluminum valves with (left to right): Electro Pneumatic, Manual, and Motor Actuators. Stainless Steel valves also available.

ANSI, ISO, JIS, or Special Flanges

These Vacuum Research 5 minute rebuild valves are available with virtually any flange or combination of flanges at no extra charge. Combinations of ISO on one flange and ANSI on the other are easily accommodated. Even different sizes such as 4 inch on one flange and 6 inch on the other.

Insertable “Flangeless” Valves

It is sometimes helpful to keep the flange-to-flange dimension (“A” dimension on the dimensions pages) as short as possible. In such cases your valves can be provided with no port flanges at all and with either O-Ring grooves machined into the valve body or with a precision machined surface on the body to seal against the O-rings on your pump or chamber. Contact the factory for prices.

Aluminum or Stainless Steel

Vacuum Research Bonnet Style valves are available in stainless steel or 6061 aluminum. Smooth surface finish gives low outgassing and fast pump down.

High Conductance

In addition to the oversize ports used in the LPWA Series for the last 40 years, we now offer the X-LPWA Series where a 4 inch valve has a 6 inch port, an 8 inch valve has a 10 inch port, etc. Conductance values are shown on page 39.

Fail Safe

All Vacuum Research Bonnet Style Valves can be installed for fast close on power failure and air operated valves can be manually positioned without air or electricity.

Long Life

More than 250,000 cycles for aluminum valves. That’s one cycle every 2 minutes, 24 hours/day for a year.

SolidWorks *.STEP Files

Contact us to obtain SolidWorks 3D *.STEP format modeling files that plug formatted VRC valve 3-D models into your computer-aided design projects.



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 out-gassing compiled by Dr. M. Wong at Fermi Labs can be found at http://home.fnal.gov/~ml-wong/outgas_rev.htm. See page 40 for more information

Vacuum & Pressure

Vacuum Research valves stay sealed with vacuum or atmosphere on either side.

Satisfaction Guaranteed

Vacuum Research has been building high vacuum valves for almost 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.

No Leaks

All Vacuum Research 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

All Valves are (RoHS) 2015/863/EU Compliant and carry the mark.

Electric Motor, Air or Manual Actuators

All Vacuum Research gate valves are available with 3 types of actuators. Manual actuators are the least expensive. Electro-pneumatic actuators use 70 psi (4.9 kg/cm) compressed air and include the solenoid (specify the solenoid voltage that is most convenient for you). Electric motor actuators use high torque servo motors and operate from 115V or 230V, 1Ø 50 or 60 Hz. CE Mark included.

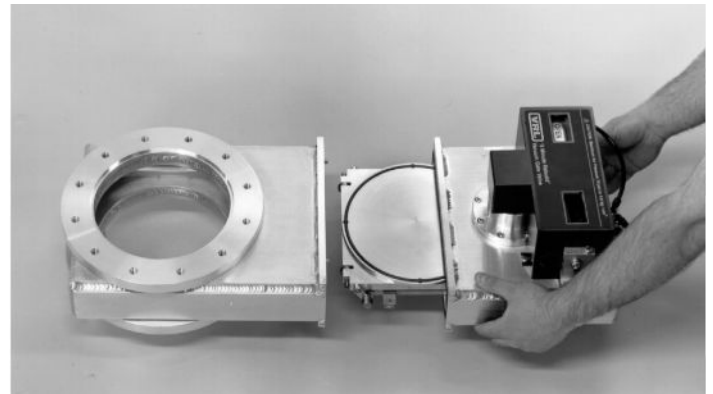
Roughing and Gauge Ports

There are six locations for optional gauge and roughing ports described on page 43.

Position Indicators, Limit Switches

Visual indication of valve position is included on all valves. Limit switches for remote indication are available and are described on the Optional Features pages in the Accessories & Parts section.

Complete Rebuild in 5 Minutes.



With no special tools or training you can replace every moving part in your Vacuum Research Bonnet Style Valve in 5 minutes. (Our best guys can do it in less time, but they practice.)



Stainless steel & aluminum valves with Conflat® flanges. Aluminum has less outgassing than stainless steel. Up to 2 orders of magnitude less, see references on page 39.

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. Refer to page 40 for more information.

ORDERING INFORMATION

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

Electric Motor Actuators: Any Vacuum Research valve can be supplied with a high torque electric motor actuator. Refer to the "Electric Motor Actuator" page in the Accessories and Parts section of this catalog for pricing.

Special Features: Refer to pgs 40-43 for specifications of roughing & gauge ports, position indicators & other special features.

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.)

63 mm.....	\$68
100 mm	\$102
160 mm	\$128
200 mm	\$200
250 mm	\$263
320 mm	\$339

Metal Bonnet Seal: Metal Bonnet Seal: To specify a metal (rather than elastomer) bonnet seal add "MBS" to the model number & add the cost below:

	Aluminum Valve	Stainless Steel
2.75 in. valves.....	\$271	\$331
3.38 in. valves.....	\$271	\$331
4.50 in. valves.....	\$371	\$331
6 in. valves.....	\$315	\$377
8 in. valves.....	\$331	\$603
10 in. valves.....	\$526	\$753
12 in. valves.....	\$526	\$753

CF® Flanges with Metric Threads:

No extra charge for Conflat® flanges with metric threads. Bolt circle, gasket size, and other dimensions remain unchanged. Specify "CF-MET" in the model number.

Valve Port Diam.	Flange O.D.	Bolts
38 mm	70 mm	6, M-6
63 mm	114 mm	8, M-8
100 mm	152 mm	16, M-8
150 mm	203 mm	20, M-8
200 mm	254 mm	24, M-8
250 mm	304 mm	32, M-8

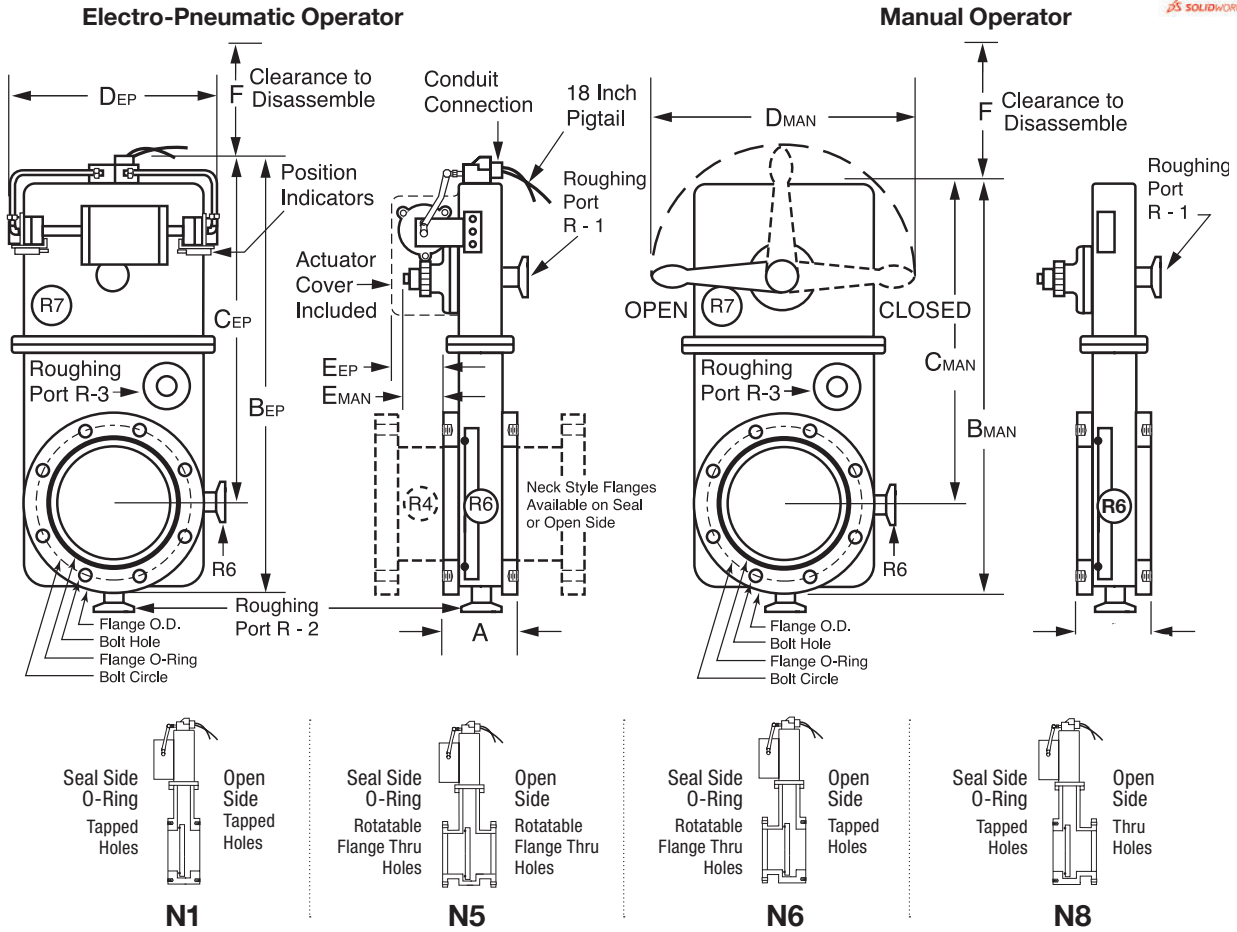
Aluminum Conflat Gaskets®:

Prices shown below are for packs of 10, or each, depending on Gasket size.

Flange O.D.	Gasket O.D.	Part No.	Price
1.33 in.	0.838 in.	X701G01.33A	\$50/10
2.75 in.	1.895 in.	X701G02.75A	\$77/10
3.375 in.	2.425 in.	X701G03.375A	\$105/10
4.50 in.	3.25 in.	X701G04.50A	\$128/10
6.00 in.	4.75 in.	X701G06.00A	\$178/10
8.00 in.	6.73 in.	X701G08.00A	\$254/10
10.00 in.	8.73 in.	X701G010.00A	\$284 /10
12.00 in.	10.73 in.	X701G012.00A	\$42/ea
13.25 in.	11.55 in.	X701G013.25A	\$50/ea
12.31 in.	12.31 in.	X701G014.00A	Contact Factory

Conflat® Outside Diameter	Conflat® Valves with Electro-Pneumatic Operator				Conflat® Valves with Manual Operator			
	Aluminum Model & Neck Style	Price	Stainless Steel Model & Neck Style	Price	Aluminum Model & Neck Style	Price	Stainless Steel Model & Neck Style	Price
2.75 in. Outside Diameter Conflat® Flange (1.63 in. Port)	OPWA-2.75-CF-N1-EP	\$1,440	OPSS-2.75-CF-N1-EP	\$5,215	OPWA-2.75-CF-N1-M	\$1,282	OPSS-2.75-CF-N1-M	\$4,902
	OPWA-2.75-CF-N5-EP	\$1,603	OPSS-2.75-CF-N5-EP	\$5,461	OPWA-2.75-CF-N5-M	\$1,446	OPSS-2.75-CF-N5-M	\$5,147
	OPWA-2.75-CF-N6-EP	\$1,525	OPSS-2.75-CF-N6-EP	\$5,338	OPWA-2.75-CF-N6-M	\$1,368	OPSS-2.75-CF-N6-M	\$5,025
	OPWA-2.75-CF-N8-EP	\$1,525	OPSS-2.75-CF-N8-EP	\$5,338	OPWA-2.75-CF-N8-M	\$1,368	OPSS-2.75-CF-N8-M	\$5,025
3.375 in. Outside Diameter Conflat® Flange (2.01 in. Port)	LPWA-3.375-CF-N1-EP	\$1,851	LPSS-3.375-CF-N1-EP	\$6,000	LPWA-3.375-CF-N1-M	\$1,695	LPSS-3.375-CF-N1-M	\$6,055
	LPWA-3.375-CF-N5-EP	\$2,112	LPSS-3.375-CF-N5-EP	\$6,306	LPWA-3.375-CF-N5-M	\$1,956	LPSS-3.375-CF-N5-M	\$5,994
	LPWA-3.375-CF-N6-EP	\$2,094	LPSS-3.375-CF-N6-EP	\$6,153	LPWA-3.375-CF-N6-M	\$1,936	LPSS-3.375-CF-N6-M	\$5,840
	LPWA-3.375-CF-N8-EP	\$2,094	LPSS-3.375-CF-N8-EP	\$6,153	LPWA-3.375-CF-N8-M	\$1,936	LPSS-3.375-CF-N8-M	\$5,840
4.50 in. Outside Diameter Conflat® Flange (2.51 in. Port)	LPWA-4.50-CF-N1-EP	\$1,981	LPSS-4.50-CF-N1-EP	\$6,073	LPWA-4.50-CF-N1-M	\$1,814	LPSS-4.50-CF-N1-M	\$5,761
	LPWA-4.50-CF-N5-EP	\$2,506	LPSS-4.50-CF-N5-EP	\$6,282	LPWA-4.50-CF-N5-M	\$2,346	LPSS-4.50-CF-N5-M	\$5,969
	LPWA-4.50-CF-N6-EP	\$2,444	LPSS-4.50-CF-N6-EP	\$6,239	LPWA-4.50-CF-N6-M	\$2,275	LPSS-4.50-CF-N6-M	\$6,956
	LPWA-4.50-CF-N8-EP	\$2,444	LPSS-4.50-CF-N8-EP	\$6,239	LPWA-4.50-CF-N8-M	\$2,275	LPSS-4.50-CF-N8-M	\$6,956
6.00 in. Outside Diameter Conflat® Flange (4.01 in. Port)	LPWA-6-CF-N1-EP	\$2,346	LPSS-6-CF-N1-EP	\$6,993	LPWA-6-CF-N1-M	\$2,178	LPSS-6-CF-N1-M	\$6,619
	LPWA-6-CF-N5-EP	\$2,465	LPSS-6-CF-N5-EP	\$7,373	LPWA-6-CF-N5-M	\$2,303	LPSS-6-CF-N5-M	\$7,373
	LPWA-6-CF-N6-EP	\$2,359	LPSS-6-CF-N6-EP	\$7,330	LPWA-6-CF-N6-M	\$2,275	LPSS-6-CF-N6-M	\$6,956
	LPWA-6-CF-N8-EP	\$2,359	LPSS-6-CF-N8-EP	\$7,330	LPWA-6-CF-N8-M	\$2,275	LPSS-6-CF-N8-M	\$6,956
8.00 in. Outside Diameter Conflat® Flange (6.02 in. Port)	LPWA-8-CF-N1-EP	\$2,682	LPSS-8-CF-N1-EP	\$8,343	LPWA-8-CF-N1-M	\$2,444	LPSS-8-CF-N1-M	\$7,969
	LPWA-8-CF-N5-EP	\$3,016	LPSS-8-CF-N5-EP	\$9,263	LPWA-8-CF-N5-M	\$2,787	LPSS-8-CF-N5-M	\$8,889
	LPWA-8-CF-N6-EP	\$2,787	LPSS-8-CF-N6-EP	\$8,803	LPWA-8-CF-N6-M	\$2,611	LPSS-8-CF-N6-M	\$8,429
	LPWA-8-CF-N8-EP	\$2,787	LPSS-8-CF-N8-EP	\$8,803	LPWA-8-CF-N8-M	\$2,611	LPSS-8-CF-N8-M	\$8,429
10.00 in. Outside Diameter Conflat® Flange (8.02 in. Port)	LPWA-10-CF-N1-EP	\$4,424	LPSS-10-CF-N1-EP	\$8,772	LPWA-10-CF-N1-M	\$3,961	LPSS-10-CF-N1-M	\$8,398
	LPWA-10-CF-N5-EP	\$4,765	LPSS-10-CF-N5-EP	\$9,754	LPWA-10-CF-N5-M	\$4,297	LPSS-10-CF-N5-M	\$9,379
	LPWA-10-CF-N6-EP	\$4,639	LPSS-10-CF-N6-EP	\$9,263	LPWA-10-CF-N6-M	\$4,130	LPSS-10-CF-N6-M	\$8,889
	LPWA-10-CF-N8-EP	\$4,639	LPSS-10-CF-N8-EP	\$9,263	LPWA-10-CF-N8-M	\$4,130	LPSS-10-CF-N8-M	\$8,889
12.00 in. Outside Diameter Conflat® Flange (10.02 in. Port)	LPWA-12-CF-N1-EP	\$5,949	LPSS-12-CF-N1-EP	\$14,109	LPWA-12-CF-N1-M	\$5,564	LPSS-12-CF-N1-M	\$13,354
	LPWA-12-CF-N5-EP	\$6,327	LPSS-12-CF-N5-EP	\$15,458	LPWA-12-CF-N5-M	\$5,984	LPSS-12-CF-N5-M	\$14,704
	LPWA-12-CF-N6-EP	\$6,067	LPSS-12-CF-N6-EP	\$14,783	LPWA-12-CF-N6-M	\$5,815	LPSS-12-CF-N6-M	\$14,029
	LPWA-12-CF-N8-EP	\$6,067	LPSS-12-CF-N8-EP	\$14,783	LPWA-12-CF-N8-M	\$5,815	LPSS-12-CF-N8-M	\$14,029

Contact factory for SolidWorks 3D *.STEP format files. 2D drawing below for outline dimension reference.

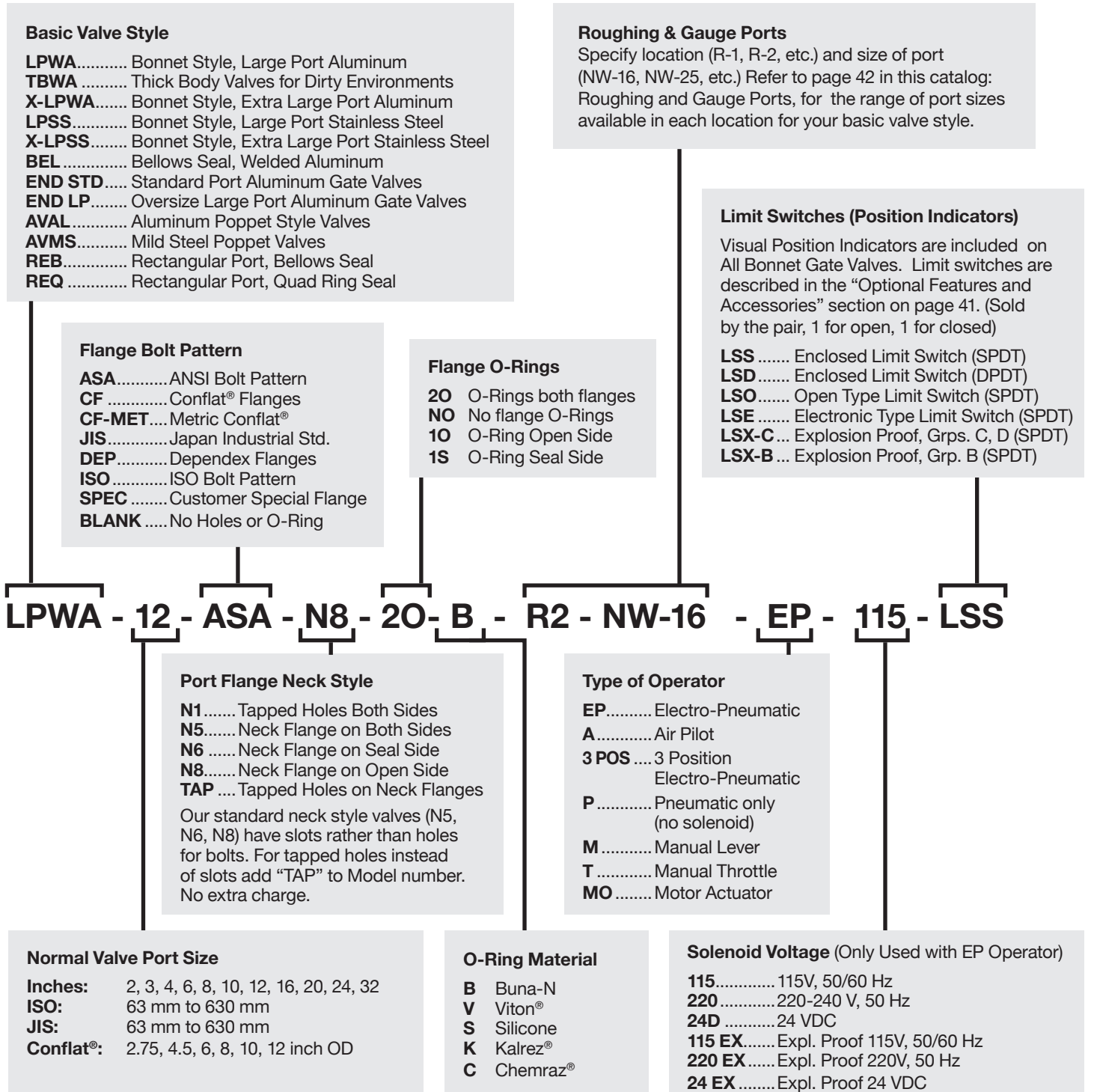


For valves with ports up to 8 inches the actuator is on the same side as the gate seal, valves with ports 10 inches and larger have the actuator opposite the gate seal side.

Nominal CF Flange O.D.	Model No ANSI Flange All dimensions in inches	Port Diam.	Flange O.D.	Flange Thickness	Bolt Circle	(no of bolts) x bolt size	A		B _{MAN} Manual Overall Height	B _{EP} EP Overall Height	D _{EP} EP Overall Width	F Disassy. Clearance	Weight lbs. Aluminum	
							Alum Flange to Flange	St. Steel Flange to Flange					Net	Ship
2.75 in.	OPWA 2.75 N1	1.50	2.75	0.500	2.312	(6) ¼ - 28	3.88	2.38	10.41	11.13	6.75	2.63	8	13
2.75 in.	OPWA 2.75 N5	1.50	2.75	0.500	2.312	.265 thru hold on neck	6.63	5.12	10.41	11.13	6.75	2.63	8	13
2.75 in.	OPWA 2.75 N6 & N8	1.50	2.75	0.500	2.312	.265 thru hold on neck	5.25	3.75	10.41	11.13	6.75	2.63	8	13
3.375 in.	LPWA 3.375 N1	2.01	3.38	0.625	2.85	(6) ⅝ - 24	3.88	2.630	10.41	11.13	6.75	2.63	8	13
3.375 in.	LPWA 3.375 N5	2.01	3.38	0.625	2.85	.332 thru hold on neck	7.13	5.88	10.41	11.13	6.75	2.63	8	13
3.375 in.	LPWA 3.375 N6 & N8	2.01	3.38	0.625	2.85	.332 thru hold on neck	5.51	4.26	10.41	11.13	6.75	2.63	8	13
4.50 in.	LPWA 4.50 N1	2.51	4.50	0.680	3.628	(8) ⅝ - 24	3.88	2.74	10.75	11.5	6.75	2.63	8	13
4.50 in.	LPWA 4.50 N5	2.51	4.50	0.680	3.628	.332 thru hold on neck	7.35	6.21	10.75	11.5	6.75	2.63	8	13
4.50 in.	LPWA 4.50 N6 & N8	2.51	4.50	0.680	3.628	.332 thru hold on neck	5.62	4.48	10.75	11.5	6.75	2.63	8	13
6 in.	LPWA 6 N1	4.01	6.00	0.780	5.128	(16) ⅝ - 24	4.43	2.94	14.18	14.93	7.80	4.0	10	15
6 in.	LPWA 6 N5	4.01	6.00	0.780	5.128	.332 thru hold on neck	8.30	6.81	14.18	14.93	7.80	4.0	10	15
6 in.	LPWA 6 N6 & N8	4.01	6.00	0.780	5.128	.332 thru hold on neck	6.37	4.88	14.18	14.93	7.80	4.0	10	15
8 in.	LPWA 8 N1	6.02	8.00	0.880	7.128	(20) ⅝ - 24	4.63	3.14	19.75	20.5	10.50	4.48	14	21
8 in.	LPWA 8 N5	6.02	8.00	0.880	7.128	.332 thru hold on neck	8.90	7.41	19.75	20.5	10.50	4.48	14	21
8 in.	LPWA 8 N6 & N8	6.02	8.00	0.880	7.128	.332 thru hold on neck	6.77	5.28	19.75	20.5	10.50	4.48	14	21
10 in.	LPWA 10 N1	8.02	10.00	0.970	9.128	(24) ⅝ - 24	4.81	4.05	25.81	26.6	12.0	5.15	25	30
10 in.	LPWA 10 N5	8.02	10.00	0.970	9.128	.332 thru hold on neck	9.44	8.68	25.81	26.6	12.0	5.51	25	30
10 in.	LPWA 10 N6 & N8	8.02	10.00	0.970	9.128	.332 thru hold on neck	7.12	6.36	25.81	26.6	12.0	5.51	25	30
12 in.	LPWA 12 N1	10.02	12.00	1.020	11.118	(32) ⅝ - 24	4.91	4.15	25.75	26.5	16.50	5.51	50	59
12 in.	LPWA 12 N5	10.02	12.00	1.020	11.118	.332 thru hold on neck	9.74	8.98	25.75	26.5	16.51	5.51	50	59
12 in.	LPWA 12 N6 & N8	10.02	12.00	1.020	11.118	.332 thru hold on neck	7.32	6.56	25.75	26.5	16.50	5.51	50	59



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) 2015/863/EU Compliant.



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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