

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.

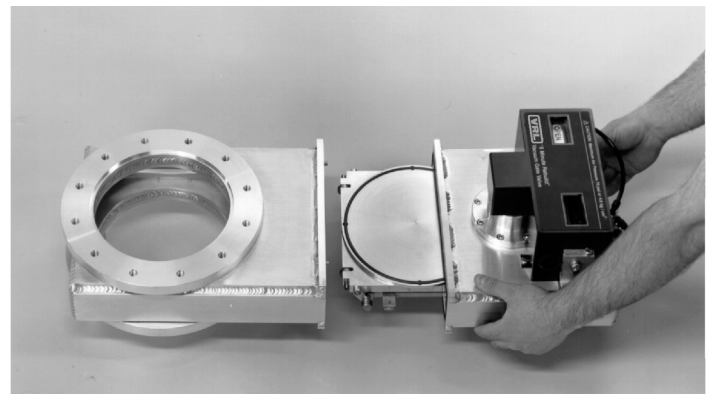
Roughing and Gauge Ports

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

Position Indicators, Limit Switches

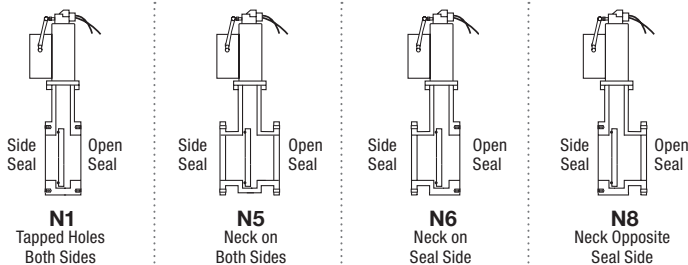
Visual indication of valve position is included on all valves. Limit switches for remote indication are available and are described on the Optional Features pages in the Accessories & Parts section.

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.)

Aluminum or Stainless, ANSI Flanges, Bonnet Style



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.

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.

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 this catalog for pricing information.

ORDERING INFORMATION

Model Number: Refer to page 2 for instructions on how 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 Electric Motor Actuator page in the Accessories & Parts section.

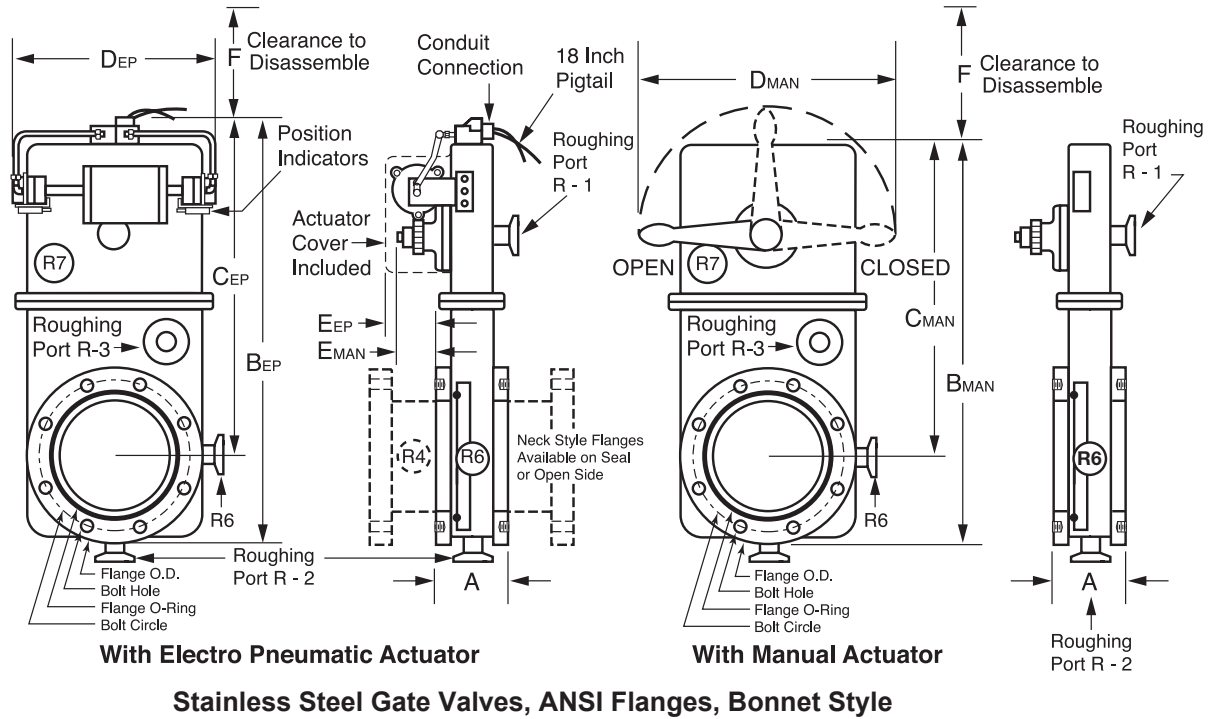
Special Features: Refer to pages 40-42 for specifications for roughing and gauge ports, position indicators & other special features.

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.)

2 or 3 inch valves	\$81	8 inch valves	\$240
4 inch valves	\$122	10 inch valves	\$313
6 inch valves	\$153	12 inch valves	\$403

Nominal Size	Electro-Pneumatic Operator “EP” Suffix				Manual Operator “M” Suffix			
	Aluminum Model & Neck Style	Price	Stainless Steel Model & Neck Style	Price	Aluminum Model & Neck Style	Price	Stainless Steel Model & Neck Style	Price
2 inch ANSI (ASA) (3.375” Port)	LPWA-2-ANSI-N1-EP	\$2,333	LPSS-2-ANSI-N1-EP	\$7,139	LPWA-2-ANSI-N1-M	\$2,000	LPSS-2-ANSI-N1-M	\$6,766
	LPWA-2-ANSI-N5-EP	\$2,616	LPSS-2-ANSI-N5-EP	\$7,723	LPWA-2-ANSI-N5-M	\$2,105	LPSS-2-ANSI-N5-M	\$7,351
	LPWA-2-ANSI-N6-EP	\$2,342	LPSS-2-ANSI-N6-EP	\$7,435	LPWA-2-ANSI-N6-M	\$2,227	LPSS-2-ANSI-N6-M	\$7,057
	LPWA-2-ANSI-N8-EP	\$2,342	LPSS-2-ANSI-N8-EP	\$7,435	LPWA-2-ANSI-N8-M	\$2,227	LPSS-2-ANSI-N8-M	\$7,057
	(4” Port)	X-LPWA same price as LPWA		X-LPSS same price as LPSS		X-LPWA same price as LPWA		X-LPSS same price as LPSS
3 inch ANSI (ASA) (3.375” Port)	LPWA-3-ANSI-N1-EP	\$2,627	LPSS-3-ANSI-N1-EP	\$7,518	LPWA-3-ANSI-N1-M	\$2,288	LPSS-3-ANSI-N1-M	\$7,146
	LPWA-3-ANSI-N5-EP	\$2,793	LPSS-3-ANSI-N5-EP	\$8,173	LPWA-3-ANSI-N5-M	\$2,529	LPSS-3-ANSI-N5-M	\$8,127
	LPWA-3-ANSI-N6-EP	\$2,727	LPSS-3-ANSI-N6-EP	\$7,847	LPWA-3-ANSI-N6-M	\$2,389	LPSS-3-ANSI-N6-M	\$7,474
	LPWA-3-ANSI-N8-EP	\$2,727	LPSS-3-ANSI-N8-EP	\$7,847	LPWA-3-ANSI-N8-M	\$2,389	LPSS-3-ANSI-N8-M	\$7,474
	(4” Port)							
4 inch ANSI (ASA) (5.375” Port)	LPWA-4-ANSI-N1-EP	\$2,808	LPSS-4-ANSI-N1-EP	\$8,320	LPWA-4-ANSI-N1-M	\$2,436	LPSS-4-ANSI-N1-M	\$7,875
	LPWA-4-ANSI-N5-EP	\$3,195	LPSS-4-ANSI-N5-EP	\$9,124	LPWA-4-ANSI-N5-M	\$2,819	LPSS-4-ANSI-N5-M	\$8,678
	LPWA-4-ANSI-N6-EP	\$3,038	LPSS-4-ANSI-N6-EP	\$8,721	LPWA-4-ANSI-N6-M	\$2,667	LPSS-4-ANSI-N6-M	\$8,276
	LPWA-4-ANSI-N8-EP	\$3,038	LPSS-4-ANSI-N8-EP	\$8,721	LPWA-4-ANSI-N8-M	\$2,667	LPSS-4-ANSI-N8-M	\$8,276
	(6” Port)							
6 inch ANSI (ASA) (7.125” Port)	LPWA-6-ANSI-N1-EP	\$3,662	LPSS-6-ANSI-N1-EP	\$9,926	LPWA-6-ANSI-N1-M	\$3,132	LPSS-6-ANSI-N1-M	\$9,481
	LPWA-6-ANSI-N5-EP	\$4,198	LPSS-6-ANSI-N5-EP	\$11,020	LPWA-6-ANSI-N5-M	\$3,654	LPSS-6-ANSI-N5-M	\$10,575
	LPWA-6-ANSI-N6-EP	\$3,882	LPSS-6-ANSI-N6-EP	\$10,473	LPWA-6-ANSI-N6-M	\$3,351	LPSS-6-ANSI-N6-M	\$9,117
	LPWA-6-ANSI-N8-EP	\$3,882	LPSS-6-ANSI-N8-EP	\$10,473	LPWA-6-ANSI-N8-M	\$3,351	LPSS-6-ANSI-N8-M	\$9,117
	(8” Port)							
8 inch ANSI (ASA) (8” Port)	LPWA-8-ANSI-N1-EP	\$5,270	LPSS-8-ANSI-N1-EP	\$9,926	LPWA-8-ANSI-N1-M	\$4,716	LPSS-8-ANSI-N1-M	\$9,992
	LPWA-8-ANSI-N5-EP	\$5,683	LPSS-8-ANSI-N5-EP	\$11,604	LPWA-8-ANSI-N5-M	\$5,117	LPSS-8-ANSI-N5-M	\$11,159
	LPWA-8-ANSI-N6-EP	\$5,474	LPSS-8-ANSI-N6-EP	\$11,020	LPWA-8-ANSI-N6-M	\$4,926	LPSS-8-ANSI-N6-M	\$11,031
	LPWA-8-ANSI-N8-EP	\$5,474	LPSS-8-ANSI-N8-EP	\$11,020	LPWA-8-ANSI-N8-M	\$4,926	LPSS-8-ANSI-N8-M	\$11,031
	(10” Port)							
10 inch ANSI (ASA) (11.625” Port)	LPWA-10-ANSI-N1-EP	\$6,480	LPSS-10-ANSI-N1-EP	\$16,786	LPWA-10-ANSI-N1-M	\$5,722	LPSS-10-ANSI-N1-M	\$15,888
	LPWA-10-ANSI-N5-EP	\$6,995	LPSS-10-ANSI-N5-EP	\$18,486	LPWA-10-ANSI-N5-M	\$6,328	LPSS-10-ANSI-N5-M	\$17,494
	LPWA-10-ANSI-N6-EP	\$6,737	LPSS-10-ANSI-N6-EP	\$17,588	LPWA-10-ANSI-N6-M	\$6,080	LPSS-10-ANSI-N6-M	\$16,691
	LPWA-10-ANSI-N8-EP	\$6,737	LPSS-10-ANSI-N8-EP	\$17,588	LPWA-10-ANSI-N8-M	\$6,080	LPSS-10-ANSI-N8-M	\$16,691
	(12” Port)							
12 inch ANSI (ASA) (12” Port)	LPWA-12-ANSI-N1-EP	\$8,050	LPSS-12-ANSI-N1-EP	\$18,682	LPWA-12-ANSI-N1-M	\$7,071	LPSS-12-ANSI-N1-M	\$18,785
	LPWA-12-ANSI-N5-EP	\$8,544	LPSS-12-ANSI-N5-EP	\$20,436	LPWA-12-ANSI-N5-M	\$7,833	LPSS-12-ANSI-N5-M	\$19,367
	LPWA-12-ANSI-N6-EP	\$8,276	LPSS-12-ANSI-N6-EP	\$19,559	LPWA-12-ANSI-N6-M	\$7,574	LPSS-12-ANSI-N6-M	\$18,662
	LPWA-12-ANSI-N8-EP	\$8,276	LPSS-12-ANSI-N8-EP	\$19,559	LPWA-12-ANSI-N8-M	\$7,574	LPSS-12-ANSI-N8-M	\$18,662
	(16” Port)							
16 inch ANSI (ASA) (16” Port)	LPWA-16-ANSI-N1-EP	Contact	LPSS-16-ANSI-N1-EP	Contact Factory	LPWA-16-ANSI-N1-M	Contact	LPSS-16-ANSI-N1-M	Contact Factory
	Contact factory for prices of 16 inch aluminum valves with N5, N6, and N8 neck styles, and for all 16 inch stainless steel valves							

Stainless Steel, ANSI Flanges, Bonnet Style

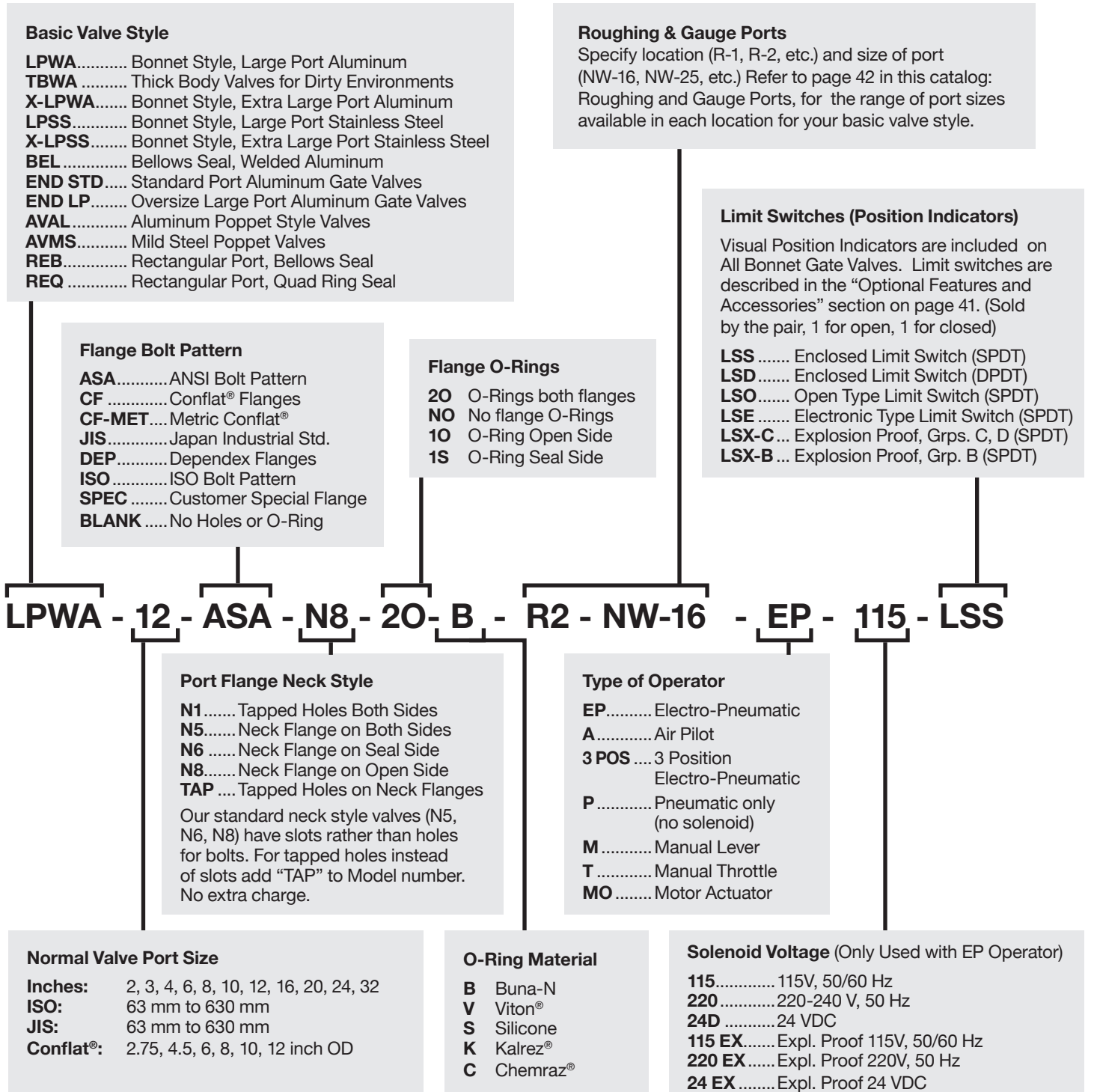


All dimensions in inches. Roughing ports and position indicator limit switches optional. Flanges available without O-rings.
 For valves with ports up to 8 inches the actuator is on the same side as the gate seal, valves with ports 10 inches and larger have the actuator opposite the gate seal side.

Nominal ANSI Size	Model No. ANSI Flange	Port Diam. Choose LPSS or X-LPSS	ANSI Flange Out. Diam.	LPSS Flange O-Rings Contact factory for X-LPSS O-Rings	Bolt Circle	(no of bolts) x bolts size	A Flange to Flange	BMAN Manual Overall Weight	BEP EP Overall Weight	CEP Port CL to top of Valve	DMAN Manual Overall Width	DEP EP Overall Width	EMAN Manual	EEP EP	F Disassembly Clearance	Net Wt. lbs.	Ship Wt. lbs.
2 inch	LPSS 2 N1	LPSS	6.00	3.625 ID X .139	4.75	(4) 3/8-16	2.970	11.00	12.25	9.25	10.00	8.50	2.063	2.375	2.625	30	40
2 inch	LPSS 2 N5	3.375 in. X-LPWA	6.00	3.625 ID X .139	4.75	(4) Slotted	5.720	11.00	12.25	9.25	10.00	8.50	2.063	2.375	2.625	30	40
2 inch	LPSS 2 N6 & 8	4 in.	6.00	3.625 ID X .139	4.75	Neck Side Slotted	4.345	11.00	12.25	9.25	10.00	8.50	2.063	2.375	2.625	30	40
3 inch	LPSS 3 N1	LPSS	7.50	4.00 ID X .139	6.00	(4) 3/8-16	2.970	11.75	13.00	9.25	10.00	8.50	2.063	2.375	2.625	40	50
3 inch	LPSS 3 N5	3.375 in. X-LPWA	7.50	4.00 ID X .139	6.00	(4) Slotted	5.720	11.75	13.00	9.25	10.00	8.50	2.063	2.375	2.625	40	50
3 inch	LPSS 3 N6 & 8	4 in.	7.50	4.00 ID X .139	6.00	Neck Side Slotted	4.345	11.75	13.00	9.25	10.00	8.50	2.063	2.375	2.625	40	50
4 inch	LPSS 4 N1	LPSS	9.00	5.75 ID X .139	7.50	(8) 3/8-16	3.610	17.25	18.50	14.00	16.00	10.125	2.25	3.50	4.50	75	85
4 inch	LPSS 4 N5	5.375 in. X-LPWA	9.00	5.75 ID X .139	7.50	(8) Slotted	6.610	17.25	18.50	14.00	16.00	10.125	2.25	3.50	4.50	75	85
4 inch	LPSS 4 N6 & 8	6 in.	9.00	5.75 ID X .139	7.50	Neck Side Slotted	5.110	17.25	18.50	14.00	16.00	10.125	2.25	3.50	4.50	75	85
6 inch	LPSS 6 N1	LPSS	11.00	7.50 ID X .139	9.50	(8) 3/4-10	3.860	20.75	22.00	16.375	16.00	12.50	2.625	3.375	5.50	83	108
6 inch	LPSS 6 N5	7.125 in. X-LPWA	11.00	7.50 ID X .139	9.50	(8) Slotted	7.360	20.75	22.00	16.375	16.00	12.50	2.625	3.375	5.50	83	108
6 inch	LPSS6 N6 & 8	8 in.	11.00	7.50 ID X .139	9.50	Neck Side Slotted	5.610	20.75	22.00	16.375	16.00	12.50	2.625	3.375	5.50	83	108
8 inch	LPSS 8 N1	LPSS	13.50	9.00 ID X .275	11.75	(8) 3/4-10	3.860	21.875	23.125	16.375	16.00	12.50	2.625	3.125	5.50	100	120
8 inch	LPSS 8 N5	8 in. X-LPWA	13.50	9.00 ID X .275	11.75	(8) Slotted	7.360	21.875	23.125	16.375	16.00	12.50	2.625	3.125	5.50	100	120
8 inch	LPSS 8 N6 & 8	10 in.	13.50	9.00 ID X .275	11.75	Neck Side Slotted	5.610	21.875	23.125	16.375	16.00	12.50	2.625	3.125	5.50	100	120
10 inch	LPSS 10 N1	LPSS	16.00	12.00 ID X .275	14.25	(12) 3/4-10	4.110	30.438	31.668	23.668	21.00	18.00	2.938	3.125	4.75	147	170
10 inch	LPSS 10 N5	11.625 in. X-LPWA	16.00	12.00 ID X .275	14.25	(12) Slotted	7.610	30.438	31.668	23.668	21.00	18.00	2.938	3.125	4.75	147	171
10 inch	LPSS 10 N6 & 8	12 in.	16.00	12.00 ID X .275	14.25	Neck Side Slotted	5.860	30.438	31.668	23.668	21.00	18.00	2.938	3.125	4.75	147	171
12 inch	LPSS 12 N1	12.00	19.00	13.00 ID X .275	17.00	(12) 3/4-10	4.110	32.00	33.25	23.668	21.00	18.00	2.938	3.125	4.75	150	180
12 inch	LPSS 12 N5	12.00	19.00	13.00 ID X .275	17.00	(12) Slotted	7.610	32.00	33.25	23.668	21.00	18.00	2.938	3.125	4.75	150	180
12 inch	LPSS 12 N6 & 8	12.00	19.00	13.00 ID X .275	17.00	Neck Side Slotted	5.860	32.00	33.25	23.668	21.00	18.00	2.938	3.125	4.75	150	180
16 inch	LPSS 16 N1	16.00	23.50	17.00 ID X .275	21.25	(16) 1-8	5.750	41.63	42.63	30.188	21.00	21.00	4.94	6.33	7.75	250	400



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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