

About Vacuum Pumps

Designed to create a vacuum, these pumps produce a negative, or below atmospheric, pressure condition in a vessel or tank. Low to medium or rough vacuum is measured in inches of mercury (Hg). Rough vacuum is vacuum up to 28" Hg. It's suitable for light lifting, grabbing, and moving parts. High or deep vacuum is 29.9" Hg and greater. High vacuum is also measured in microns of mercury (Hg). High vacuum is often needed in refrigeration service.

When measured in inches Hg, the higher the number, the better the vacuum; when measured in microns, the lower the

number, the better the vacuum.

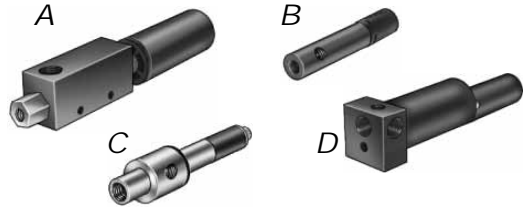
Free air is the initial pull needed to create a vacuum. The vessel or tank size and how quickly the vacuum level needs to be reached will determine the cfm (flow) the pump needs to generate. Tubing ID and fitting ID sizes also affect flow through the pump. You can estimate how many minutes it will take to form a vacuum by dividing the tank capacity by the cfm of the pump. Forming a vacuum in a large tank will take much longer than in a small tank when using a comparable pump.

Venturi Vacuum Pumps

Also known as vacuum generators, these compressed-air powered pumps are easy to install and maintain because they have no moving parts or seals. They don't require lubrication either. Plus, they're compact and lightweight. All have a silencer to reduce noise level. Maximum temperature is 300° F for aluminum body pumps; 125° F for Delrin body pumps.

A-C Single Stage—Use for low airflow or as an intermittent vacuum source. Choose from fixed and variable flow. *Variable-flow* pumps are adjusted by rotating the diffuser section.

D Multistage—Generates higher vacuum flow with less air consumption. Pumps with NPT connections include a 2" vacuum gauge.



Max. Vacuum, Hg	Free Air, cfm	Air Consumption @ Operating Pressure, cfm	Operating Pressure, psi	dB Rating	Connection Intake Vacuum	Exhaust Connection, NPT female	O'all Size, Lg. x Wd.	NPT Female Intake & Vacuum Connections Each	BSPP Female Intake & Vacuum Connections Each		
(A) Single Stage, Fixed Flow—Aluminum body											
27"	0.95	1.6	30-75	65	1/8" 1/8"	1/8"	5 11/32" x 2"	41605K13	\$70.82	4102K21	\$54.90
27"	2.2	3.5	30-75	65	1/8" 1/8"	1/4"	7 23/64" x 1 21/32"	41605K14	53.71	4102K22	58.87
27"	4.0	6.4	30-75	65	1/8" 3/8"	3/8"	8 3/16" x 1 21/32"	41605K15	68.50	4102K23	73.05
17"	4.1	4.06	70	65	1/8" 1/4"	3/8"	7 3/8" x 1 11/16"			4102K24	73.09
17"	6.8	7.09	70	65	1/8" 3/8"	3/8"	8 3/16" x 1 11/16"	41605K57	69.47	4102K25	73.09
16 1/2"	34.0	26.4	80	65	1/8" 3/8"	1/2"	9 1/4" x 1 1/2"	41605K59	101.07		
7 1/2"	28.0	13.0	80	65	1/8" 3/8"	1/2"	9 1/4" x 1 1/2"	41605K58	94.70		
(B) Single Stage, Fixed Flow—Aluminum body											
28"	0.5	0.8	80	68	1/8" 1/8"	1/4"	4 1/8" x 3/4"	9997K15	54.29		
28"	1.2	1.8	80	68	1/8" 1/8"	1/4"	4 1/8" x 3/4"	9997K16	54.29		
28"	2.0	2.8	80	68	1/8" 1/8"	1/4"	4 1/8" x 3/4"	9997K17	65.14		
28"	3.2	4.8	80	68	1/8" 1/8"	1/4"	4 1/8" x 3/4"	9997K18	70.86		
28"	5.4	7.8	80	72	1/4" 3/8"	3/8"	5 7/8" x 1 1/4"	9997K25	126.57		
28"	9.0	12.5	80	68	1/4" 3/8"	3/8"	8"	9997K26	158.29		
28"	20.0	22.0	80	68	3/8" 3/8"	3/8"	10 1/4" x 1 1/4"	9997K27	204.00		
28"	28.0	28.0	80	76	1/2" 1/2"	1/2"	11 1/4" x 1 1/2"	9997K29	310.57		
(C) Single Stage, Variable Flow—Aluminum body											
25"	2.0	2.6	80	68	1/8" 1/4"	1/4"	5 49/64" x 1 1/4"	13445K87	110.57	4164K91	110.57
25"	3.2	4.5	80	68	1/8" 1/4"	1/4"	5 49/64" x 1 1/4"	13445K81	110.57	4164K92	110.57
25"	6.0	6.8	80	68	1/8" 1/4"	1/4"	5 49/64" x 1 1/4"	13445K82	135.71	4164K93	135.71
25"	10.0	12.0	80	68	1/8" 1/4"	1/4"	6 3/8" x 1 1/4"	13445K83	154.86	4164K94	154.86
25"	30.0	29.0	80	76	3/8" 1/2"	1/2"	11"	13445K84	171.43	4164K95	171.43
25"	60.0	45.0	80	76	3/8" 1/2"	3/4"	13 9/64" x 2"	13445K85	207.71	4164K96	207.71
25"	120.0	90.0	80	76	1/2" 3/4"	1"	14 1/64" x 2 1/4"	13445K86	259.14	4164K97	259.14
(D) Multistage, Fixed Flow—Delrin body											
27"	6.8	2.7	68	65	1/8" 1/2"	1/4"	8 1 3/16" x 3"	41605K33	173.33	4102K44	173.58
27"	12.0	4.9	68	65	1/8" 1/2"	3/8"	8 4 1/64" x 3"	41605K34	201.49	4102K45	203.65
27"	17.0	7.0	68	65	1/8" 1/2"	3/8"	10 7/32" x 3"	41605K45	230.72	4102K46	235.01

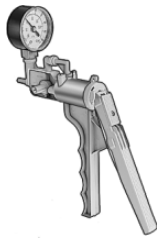
Hand-Held Vacuum/Pressure Pump

Pump has a pistol-grip pump head for single-handed manual operation—just squeeze the trigger to create a vacuum.

Use for liquid transfer and pickup, integrity checks of hydraulic vacuum and liquid lines, and valve checks.

Pump includes two 2-ft. long pieces of 1/4" ID PVC tubing, a vacuum/pressure gauge, tubing adapters and holders, 4.5-oz. reservoir jar, tapered adapters and plugs, and santoprene cup adapter.

Maximum temperature is 120° F. Overall size is 8" Lg. x 2" Wd. x 10 1/4" Ht.



Pump Head	Max. Vacuum, Hg	Stroke Volume	Max. psig	Each
Zinc Alloy	25"	1 cu. in.	15	9963K21 \$78.18

Portable Diaphragm

Oilless Vacuum/Pressure Pump

Easy-to-carry pump requires no lubrication and provides oilfree discharge. Pumps are compact and quiet. They have a pressure gauge and a vacuum gauge. Pump head is aluminum. Diaphragm is heat-resistant Norel/Nomex. Motor is thermal-overload protected, shaded pole; operates on 115 VAC, 60 Hz, 1 ph., 4.2 amps; and generates 1575 rpm. Includes a 6-ft. cord with three-prong plug, on/off switch, and rubber feet. Intake and discharge connections are 1/4" barbed fittings for use with 1/4" ID tubing. Max. temp. is 104° F. Overall size is 7 1/16" Lg. x 6 1/2" Wd. x 10 1/16" Ht.



Max. Vacuum, Hg	Free Air, cfm	Max. psig	hp	Each
24"	1.1	60	1/8	4176K11 \$350.10

Diaphragm Oilless Vacuum/Pressure Pump

This pump has a convoluted diaphragm to reduce stress, wear, and heat buildup. Use for applications such as air/gas sampling and pressure/vacuum filtration. Head is Noryl to withstand corrosive gases. Diaphragm is nitrile; valves are PTFE.

Pump has two polyethylene 3/8" NPT male x 3/8" hose barb adapters for use with 3/8" ID tubing. Motor is TEFC (totally enclosed fan-cooled), brushless with thermal overload protection, and has a 6-ft. cord with three-prong plug. Maximum temperature is 95° F. UL listed.

Max. Vacuum, Hg	Free Air, cfm	Max. psig	VAC @ 60 Hz, hp	Full Load Amps	O'all Size, Lg. x Wd. x Ht.	Each
20"	0.6	18	1/4	1.2	7 1/4" x 4" x 5 1/2"	41675K31 \$178.51

