

HYVAC PRODUCTS, INC.

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AIR-VAC

Air Powered Vacuum Pump

These are simple designed vacuum pumps based on a venturi air flow design that can be used for vacuum pressures from 25-27" of mercury vacuum. The pumps require a source of compressed air in order to function but require no electricity. Once the source is hooked up the pumps can be set up to reach vacuum pressures from atmospheric pressure to 27" and most pressures in between can be regulated. They can be considered for continuous operation and require very little to no maintenance and come with a 5 year warranty against defects. They are very small, lightweight and portable. Vacuum inlet ports are 1/8" FNPT and can be fitted with pipe fittings or hose connections to accommodate the most common inside diameters of commercial vacuum hose or piping lines.

These pumps are a really good choices for pick and place applications, vacuum conveying, vacuum filtering, degassing liquids, vacuum forming/molding vacuum chucking of parts for machining, laminate manufacturing and vacuum packaging.

Because these pumps are powered by compressed air the noise level is the same or less as having a compressed air line venting. Care should be taken in the selection of these style pumps when noise is objectionable or undesirable. It is possible to remotely locate the pumps where this obstacle, if objectionable, can be easily overcome.

Their operation and activity may be controlled via air source valves.

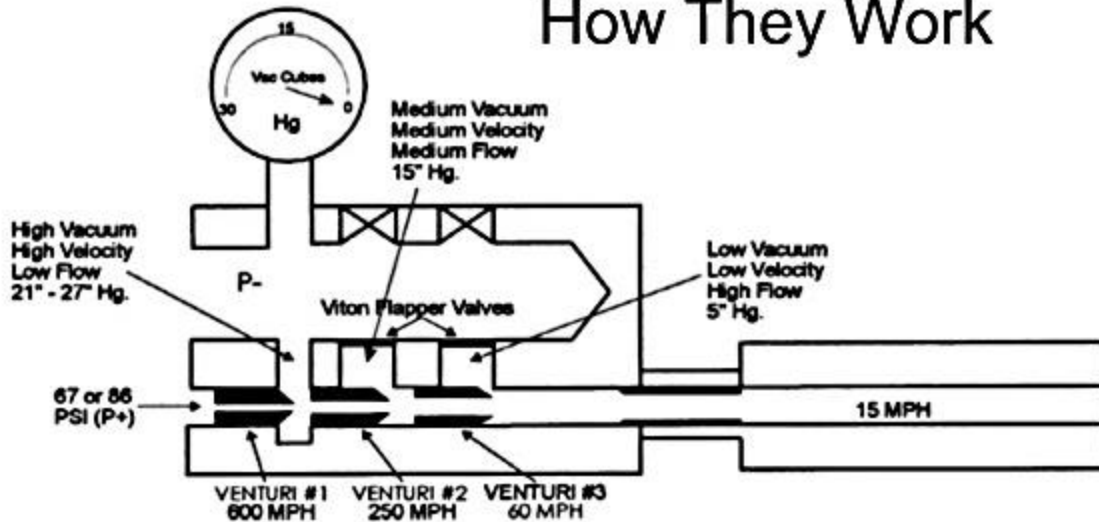
Air-Vac Model	Catalog #	Flow at 0" Hg	Air Use	Air Press.
19	97800-001	0.7 cfm	1.5 scfm	65 psi
40	97805-001	1.5 cfm	2.5 scfm	65 psi
60	97810-001	2.2 cfm	3.5 scfm	65 psi
100	97815-001	3.5 cfm	4.0 scfm	65 psi
150	97820-001	5.0 cfm	6.5 scfm	65 psi
200	97825-001	7.0 cfm	6.5 scfm	65 psi
300	97830-001	10.0 cfm	8.6 scfm	65 psi
* Specials		To 160 cfm	varying	65 psi

Optional exhaust silencers and vacuum gauges are available for all models. Optional air flow valve / and regulators are also available for these models allowing for varying / controlling compressed air flows and vacuum levels.

Principle of Operation

When compressed air is forced through a conical nozzle, its velocity increases. This principle was discovered by a 18th century physicist, G. B. Venturi and can be applied to generate vacuum economically without a single moving part.

How They Work



Multi Venturi Design: Some of HyVacs' vacuum venturis incorporate a series of nozzles. Each nozzle has a progressively larger orifice selected to extract the maximum amount of energy from the compressed air flowing through it. This optimizes the levels of vacuum generated. Normally, no special pre filters are required because the venturi nozzles are aligned to allow "straight through" air flow. Thus any air line contaminants or condensables easily clear the generator without clogging or building up.

Compressed Air Driven: Venturis' are easy to install. They operate efficiently on shop air (20-90 PSI) and are well suited for explosion-proof applications. There is no RF noise generated to effect electrical or electronic systems.

Compact Size: Allows the pump as the vacuum source to be placement closer to the point of use. Shorter air lines cost less and quicken the response time.

Light Weight Construction: Most models weigh less then two pounds providing maximum flexibility and mounting ease.

Superior Control: Vacuum levels are controlled by adjusting inlet pressure. Pumps can be cycled on and off by controlling inlet pressure rather than the vacuum line. Thus, there is no wasted energy. Control may be manual or automated. Vacuum pressure may also be adjusted on the vacuum side by using 1/4turn ball valves or introducing another form of leak.

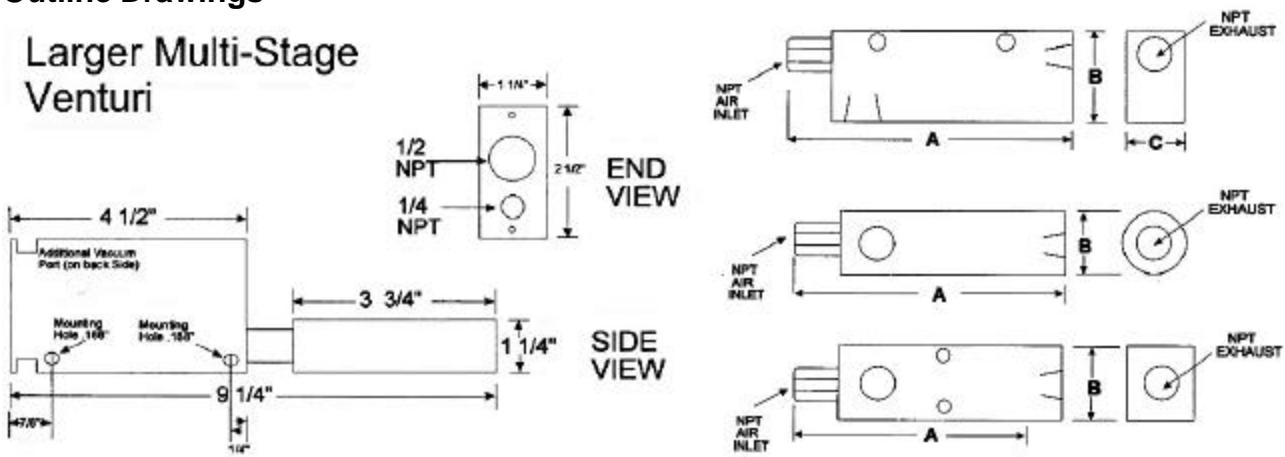
No Moving Parts: Expect extra long pump life with no lubrication required.

Quiet Operation: All multi-venturi pumps come equipped with the HyVac straight through air flow silencers. The silencers muffle exhausted air resulting in low noise levels in the 60-65db range, without creating back pressure on the pump or air pressure source.

All metal construction. Pumps are standard in aluminum but can be manufactured in other materials such as stainless steel for corrosive applications.

Outline Drawings

Larger Multi-Stage Venturi



Model	A Dim	B Dim	C Dim	Inlet	Vacuum	Exhaust
19	2.50"	1.25"	0.60"	1/8"	1/8"	1/8"
40	3.50"	1.00"	1.00"	1/8"	1/4"	1/4"
60	3.10"	1.30"	0.60"	1/4"	3/8"	3/8"
100	4.30"	1.25"	1.25"	1/4"	3/8"	3/8"
150	4.30"	1.25"	1.25"	1/4"	3/8"	3/8"
200	4.30"	1.25"	1.25"	1/4"	3/8"	3/8"
300	4.10"	1.50"	1.25"	1/8"	1/8"	1/8"

