

Min Series Venturi Vacuum Pump with Integral Solenoid Valve and Silencer

VP01BV



VP01BV-60H-ST2

Standard Pump:

VP01BV Min Series pumps are solenoid-controlled miniature venturi vacuum pumps that generate vacuum only when needed, minimizing compressed air consumption. The integral solenoid valve provides instantaneous response for high speed assembly and pick & place applications.

Lightweight and compact, VP01BV pumps are placed directly at the point of use to eliminate plumbing between components and to ensure high cycle rates for increased productivity. Extremely dirt tolerant, vacuum filters are not required.

Add a Vaccon ultra-miniature vacuum switch or sensor for a vacuum achieved/part present signal.

Performance Level Designations:

“M” 0-20”Hg, [0 to 677mbar] for medium vacuum/high flow applications

“H” 0-28”Hg, [0 to 948mbar] for high vacuum/standard flow applications

Ideal Applications:

Small part pick & place for applications requiring accurate part placement:

- Automated assembly
- Robotics
- Material Handling

Features/Benefits:

- High productivity – Cycle rates up to 4800/min for fast part release
- Minimal air consumption – provides instantaneous vacuum as needed
- Reliable part detection – factory-installed miniature vacuum switches or sensors
- Fast Response – installs close to vacuum point – no delay due to long plumbing lines
- Easy installation – modular design speeds installation and minimizes assembly
- Reliable, trouble-free operation:
 - ~ No moving parts to wear
 - ~ Straight-through design, non-clogging
 - ~ No maintenance
 - ~ No downtime

Pump Options:

- Factory-installed miniature vacuum switches or sensors with quick disconnect for reliable part detection
- ST2 (straight-through) silencer that allows ingested debris to exit the pump without clogging
- G port threads for metric machines – an “I” prefix designates products with metric threads
- Choice of operating pressures to meet machine and factory air supply 80 PSI [5.5 BAR] standard, 60 PSI [4.0 BAR] optional

Eliminate the Guesswork: Contact Us!

Vacuum technology isn't an exact science. To ensure proper product selection, Vaccon offers free application engineering assistance, a 30 Day Test & Evaluation Program or you can send sample products to our in-house test facility and we will test and size a pump for you.

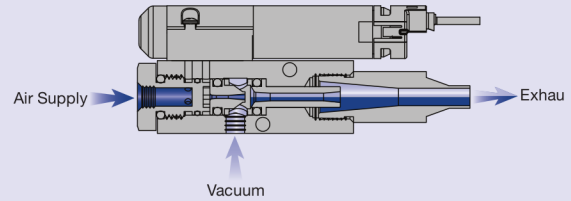
To download a complete set of drawings in 13 different CAD formats, please visit our website at www.vaccon.com

For more information or technical assistance, please call 508-359-7200 or 800-848-8788 or email engineering@vaccon.com



Principles of Operation: VP01BV

To create vacuum, supply compressed air to a N.C. solenoid valve and energize the valve. Compressed air flows to the miniature venturi cartridge producing instant vacuum at the vacuum port. To release the part, de-energize the solenoid valve. The flow of air to the venturi stops instantly, and the rush of incoming atmospheric air breaks the vacuum.



VP01BV Standard Pump Specifications:

Body Material:	Anodized Aluminum (For silencer material, see page 264 - 266.)
Cartridge Material:	Nylon, Buna-N (Other materials available, see page 8)
Medium:	Filtered (50 Micron) un-lubricated, non-corrosive dry gases
Operating Temperature:	0°~122° F [-18°~65°C]
Operating Pressure:	80 PSI [5.5 BAR] standard or 60 PSI [4.0 BAR] – Consult Factory for other operating pressures

3-Way Valve Specifications:

Valve Type:	Base Mounted 3-Way, Solenoid Valve, Normally closed
Valve Body Material:	Brass, Aluminum, Buna-N
Valve Operating Pressure:	Vacuum to 120 psi [-1 to 8 bar]
Electrical:	24 VDC [-15% to +10% Nominal]
Average Life:	100 million cycles or better
Power Consumption:	4 watts
Response Time:	6 milliseconds
Cycle Rate:	80 cycles/second
Electrical Connection:	Fixed leads, 24 AWG, 18"
LED Indicator:	No

VP01BV Operating and Installation Requirements:

Operating Pressure:	80 PSI [5.5 BAR]. Set regulator to 80 PSI (or pre-designated pressure) when pump is operating
Supply Line:	1/4" O.D. [6mm] tube recommended
Vacuum Line:	1/4" O.D. [6mm] tube recommended
Vacuum Line Filtration:	Typically vacuum filters are not required. If desired, Vaccon recommends – VF125LPM. See page 278.
Mounting Holes:	Mounting holes accept #4-40 [M3] screws



Modular Venturi Vacuum Pumps – Min Series

VP01BV Min Series Configurations and Options:

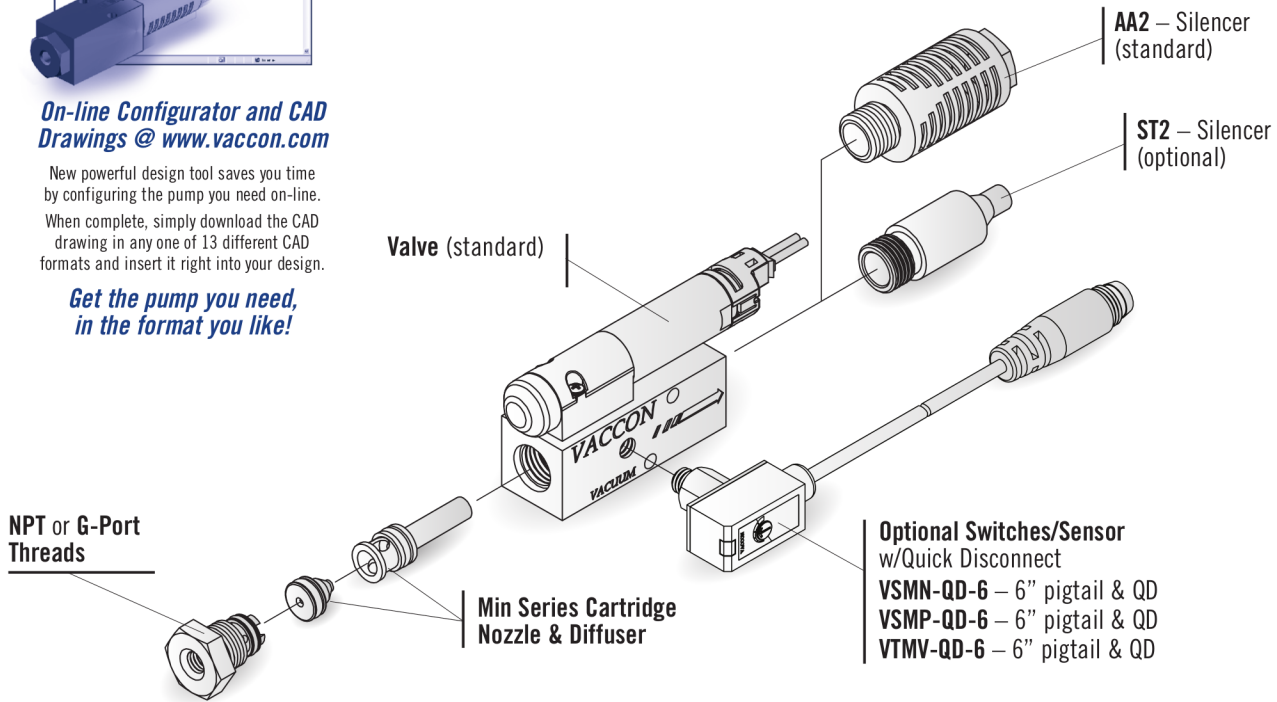
All Vaccon pumps offer a variety of options and accessories to meet your specific requirements. Please configure your pump from the options listed below.



On-line Configurator and CAD Drawings @ www.vaccon.com

New powerful design tool saves you time by configuring the pump you need on-line. When complete, simply download the CAD drawing in any one of 13 different CAD formats and insert it right into your design.

Get the pump you need, in the format you like!



How to Specify:

VP01BV-60 H-60-ST2-VTMV-QD-6

P/N	Imperial Thread
VP01BV-60	10-32
P/N	Metric Thread
I-VP01BV-60	M5
P/N	Max. Vac Level
M	20"Hg [677mbar]
H	28"Hg [948mbar]
P/N	Operating Pressure
	80 PSI [5.5 BAR] (Std)
60	60 PSI [4.0 BAR]

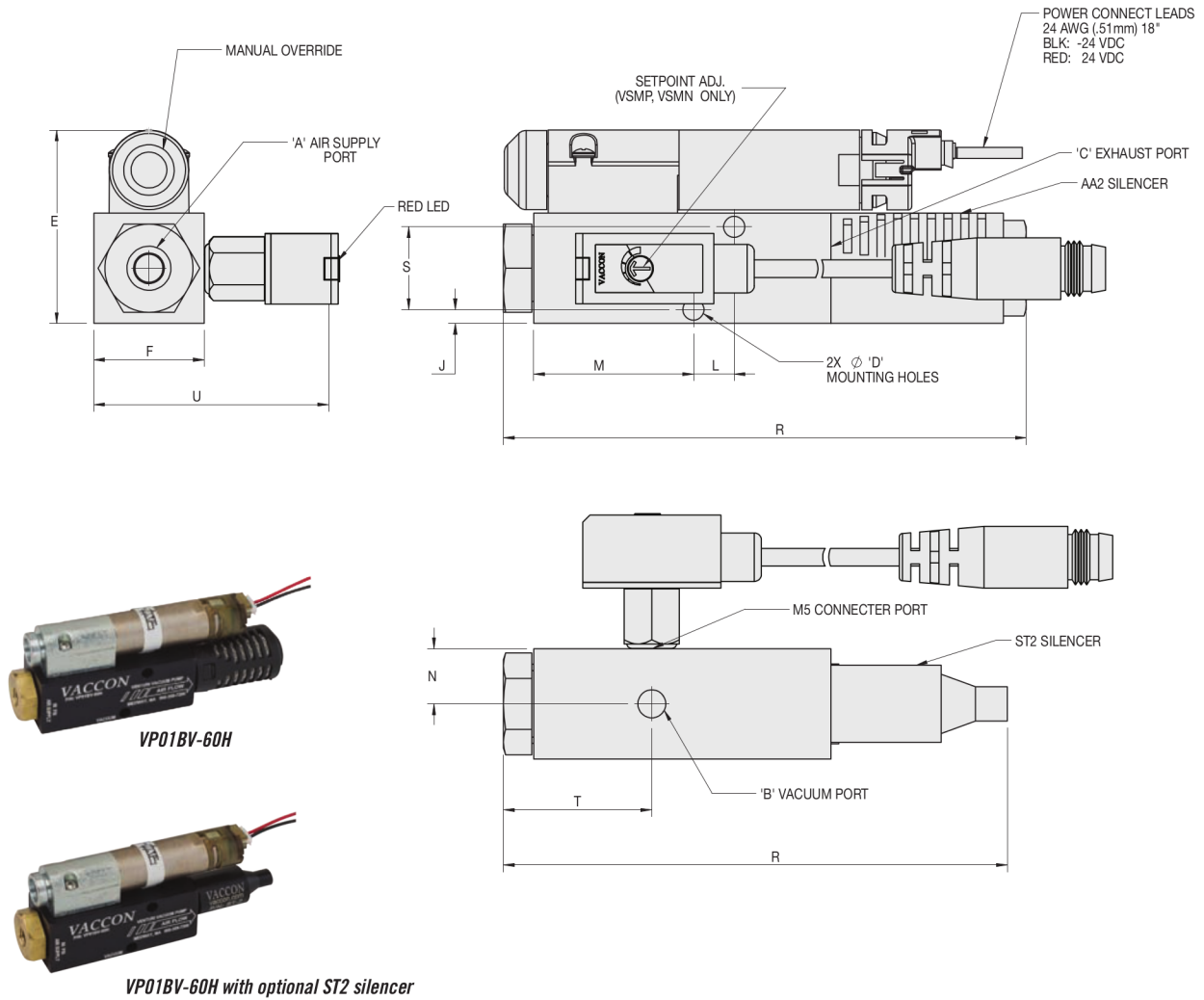
P/N	Switch/Sensor
	None (Standard)
VSMN-QD-6	Switch – NPN with QD
VSMP-QD-6	Switch – PNP with QD
VTMV-QD-6	Sensor – 1-5VDC Output w/QD
P/N	Silencer
	AA2 Closed End (Standard)
ST2	Straight-Through

*Note: Normally Open pump configuration available - consult factory.

For complete Performance Data, see page 50.



Standard Pump: VP01BV-60 (M or H)



Specifications:

Weight: 2.50 oz [71.0g]
Noise Level: 58 dB

Model #	Imperial Dimensions (in.)													
VP01BV	A	B	C	D	E	F	J	L	M	N	R	S	T	U
w AA2	10-32 F	10-32 F	1/8F NPT	0.12	1.09	0.63	0.08	0.23	0.91	0.31	2.96	0.47	0.84	1.37
w ST2											2.86			
w VSMP-QD-6/ VTMV-QD-6											N/A			
Model #	Metric Dimensions (mm)													
I-VP01BV	A	B	C	D	E	F	J	L	M	N	R	S	T	U
w AA2	M5	M5	G1/8	3.05	27.69	16.00	2.03	5.84	23.11	7.87	75.18	11.94	21.34	34.79
w ST2											72.64			
w VSMP-QD-6/ VTMV-QD-6											N/A			