Inline Venturi Vacuum Pump

VPI-90H Pump

VPI-90H densely populated robotic arm with vacuum cups for material handling applications

VPI-90H

Ideal Applications:

- Pick and place
- Bottling
- Packaging
- Palletizing
- Robotic/End-of-Arm tooling

Features/Benefits:

- High performance – powerful vacuum up to 28"Hg [948mbar]
- Push-to-connect air supply fitting
- Allows multi-populated boards – dense formations
- Fast response – installs close to vacuum point
- Efficient – minimal air consumption
- Easy to install – compact & lightweight, simple mounting, saves plumbing
- Safe operation – no electricity needed at the pump
- Reliable, trouble-free operation
  - ~ No moving parts to wear
  - ~ No flap valves to stick open
  - ~ No maintenance
  - ~ No downtime

Standard Pump:

Unlike standard venturi vacuum pumps where the vacuum port is 90° from the supply port, Vaccon's air-powered VPI-90H inline venturi vacuum pumps feature an air-supply port and vacuum port on the same axis to consolidate space.

VPI-90H pumps vertically mount to robotic arms to create single or densely populated arrays of pump/cup combinations to accommodate and lift products of any size, shape, or weight.

Internal threads on the vacuum port enable vacuum cups to connect directly to the pump while the external threads attach directly to the end of arm tool. VPI-90H's feature an additional vacuum port for a vacuum switch/sensor to ensure accurate part detection or for a connection to an externally supplied blow-off.

Performance Level Designations:

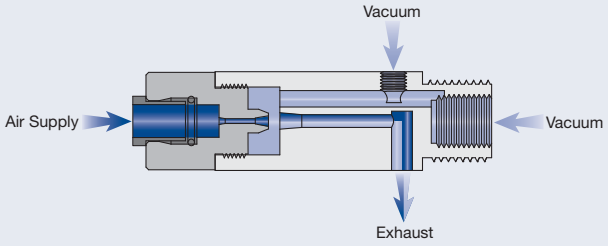
"**H**" 0-28"Hg, [0 to 948mbar] for high vacuum/standard flow applications

Pump Options:

- Choice of operating pressures to meet machine and factory air requirements (80 PSI [5.5 BAR] standard, 60 PSI [4.0 BAR] optional).
- Auxiliary port for optional vacuum sensor or switch with or without quick disconnect
- Auxiliary port for optional externally supplied blow-off
- Optional jam nut for ease of mounting

Principles of Operation:

Vacuum is produced by forcing compressed air through a limiting orifice (nozzle). As the air exits the orifice it expands, increasing in velocity to supersonic speed before entering the venturi section (diffuser). This creates a vacuum at the vacuum inlet port located between the nozzle and diffuser. Combined, the nozzle and diffuser create a venturi vacuum cartridge.



Eliminate the Guesswork: Contact Us!

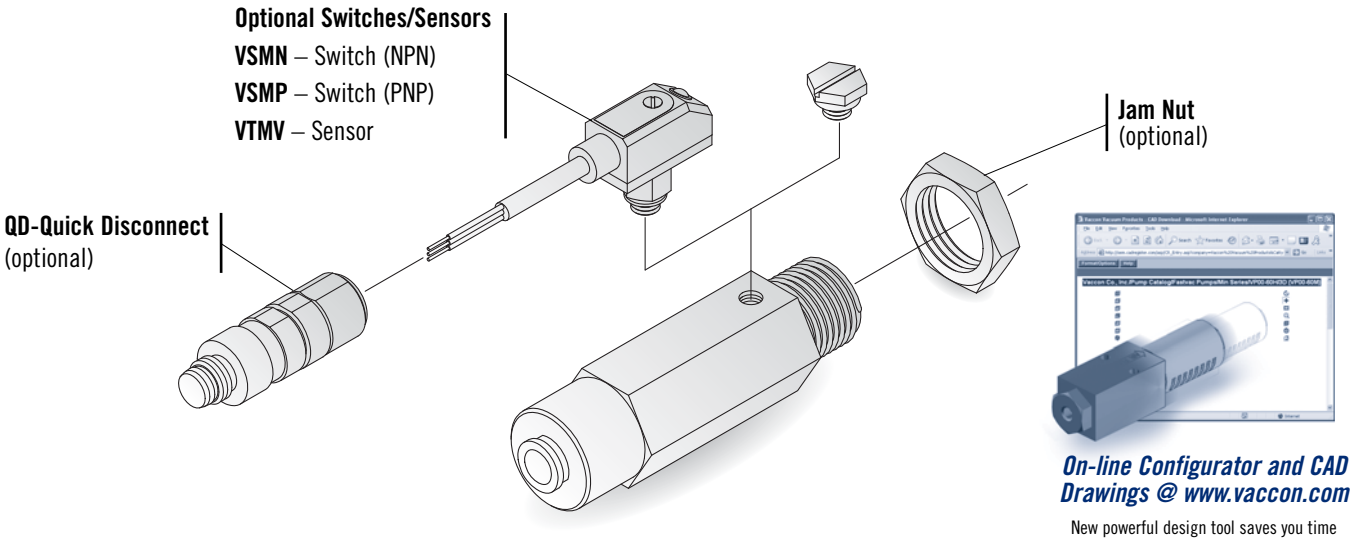
Vacuum technology isn't an exact science. To ensure proper product selection, Vaccon offers free application engineering assistance, a 30 Day Test & Evaluation Program or you can send sample products to our in-house test facility and we will test and size a pump for you.

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**

VPI-90H 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:

VPI-90H - 60 - JN - VSMP-QD

P/N	Thread	Max Vac Level
VPI-90H	NPT	28"Hg [948mbar]

P/N	Operating Pressure
	80 PSI [5.5 BAR] (Standard)
60	60 PSI [4.0 BAR]

P/N	Jam Nut
	None (Standard)
JN	Jam Nut

P/N	Switch/Sensor
	None (Standard)
VSMN	Switch – NPN
VSMP	Switch – PNP
VTMV	Sensor 0-5vDC Output
VSMN-QD	Switch w/Quick Disconnect
VSMP-QD	Switch w/Quick Disconnect
VTMV-QD	Sensor w/Quick Disconnect

For complete Performance Data, see page 152 – Equivalent to a VP10-90H.

VPI-90H Inline Pump Standard Specifications:

Pump Material: Anodized Aluminum Buna-N O-ring, Nylon

Medium: Filtered (50 Micron) un-lubricated, non-corrosive dry gases

Operating Temperature: -30°~250° F [-34°~121°C]

Operating Pressure: 80 PSI [5.5 BAR] or 60 PSI [4.0 BAR] – Consult Factory for other operating pressures

VPI-90H Inline Pump Operating and Installation Instructions:

Supply Line: Preferred 1/4" OD tubing [6mm]

Control Valve: 3-way/2 position (faster part release) – minimum orifice - 0.125" [3mm]

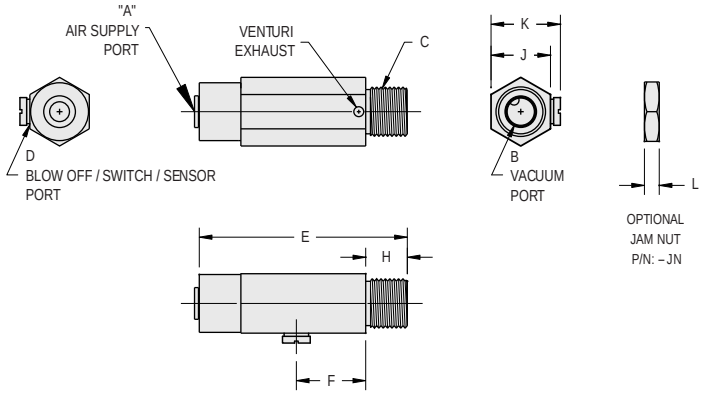
Vacuum Line: Preferred 1/4" OD tubing [6mm]

Vacuum Line Filtration: Typically filters are not required, if desired Vaccon recommends – VF125LPM. See page 282.

Mounting: 5/8-18 male thread (optional jam nut – P/N: -JN)

Standard Pump: VPI-90H Inline Venturi Vacuum Pump

VPI-90H



Specifications:

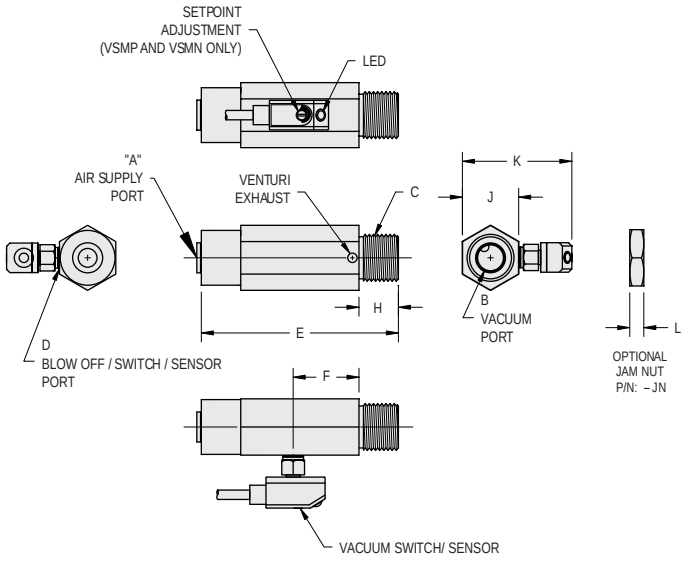
Segment Weight: 1.7 oz [48g]
Noise Level: 76 dB

Model #	Imperial Dimensions (in.)									
	A	B	C	D	E	F	H	J	K	L
VPI-90H	1/4 PTC	1/8 NPT F	5/8-18 UNF	M5	2.63	0.88	0.53	0.75	0.88	0.19

Consult factory for metric availability.

VPI-90H with Optional Sensor/Switch (VSMN, VSMP, VTMV)

VPI-90H with VSMN vacuum switch.



Specifications:

Segment Weight: 2.7 oz [76.5g]
Noise Level: 76 dB

Model #	Imperial Dimensions (in.)									
	A	B	C	D	E	F	H	J	K	L
VPI-90H (VSMN, VSMP, VTMV)	1/4 PTC	1/8 NPT F	5/8-18 UNF	M5	2.63	0.88	0.53	0.75	1.46	0.19

Consult factory for metric availability.