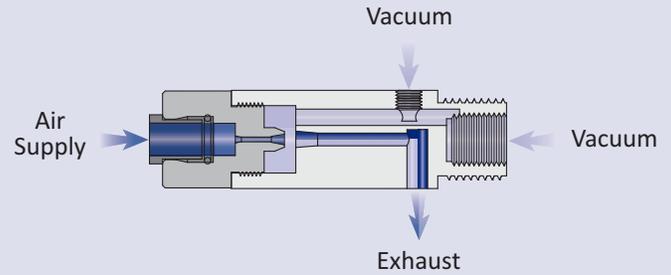


## Principles of Operation

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. The nozzle and diffuser combine to create a venturi vacuum cartridge. The precise fit of the nozzle to the diffuser is critical to the pump functioning properly.



## Installation Instructions:

Vaccon's VPI-90H in-line venturi vacuum pump features the air supply port and vacuum port on the same axis. Unlike standard venturi vacuum pumps where the vacuum port is 90 degrees from the supply port, the VPI-90H's can be attached vertically to a robotic end of arm tool in a single or densely populated array to accommodate any size, shape and weight of product being handled.



1. Install in-line vacuum pump to your mounting hardware, end-of-arm-tool, extrusion, etc.. The optional panel mount nut can be used to secure the pump to a panel. The exhaust port has a 5/8-18 UNF male thread. The panel through hole should be at least 7/8" [21 mm].
2. Attach air line to air supply port. Attach vacuum line to vacuum port (when not directly attaching a vacuum cup to the port). See chart below for minimum recommended sizes.

VPI-90H	<b>Air Supply Port Threads</b>	<b>Recommended Air Supply Line (outer diameter)</b>
	1/4" Push-To-Connect	1/4"
	<b>Vacuum Port Threads</b>	<b>Recommended Vacuum Line (outer diameter)</b>
	1/8" NPT	1/4"
	<b>Panel Mounting Threads</b>	<b>Recommended Mounting Hole</b>
	5/8-18 UNF	7/8" [21 mm]

**Notes: Recommended sizes are based on tubing with 0.062" [1/16", 1.5 mm] wall polyethylene and polyurethane tubing**  
**Vaccon discourages the use of quick disconnect fittings on all connections**

