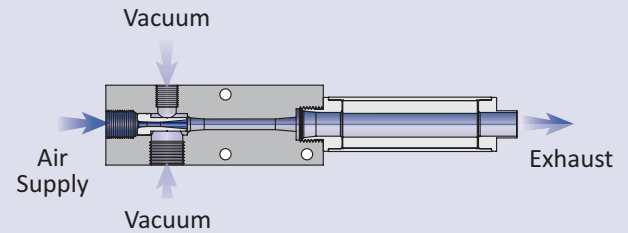


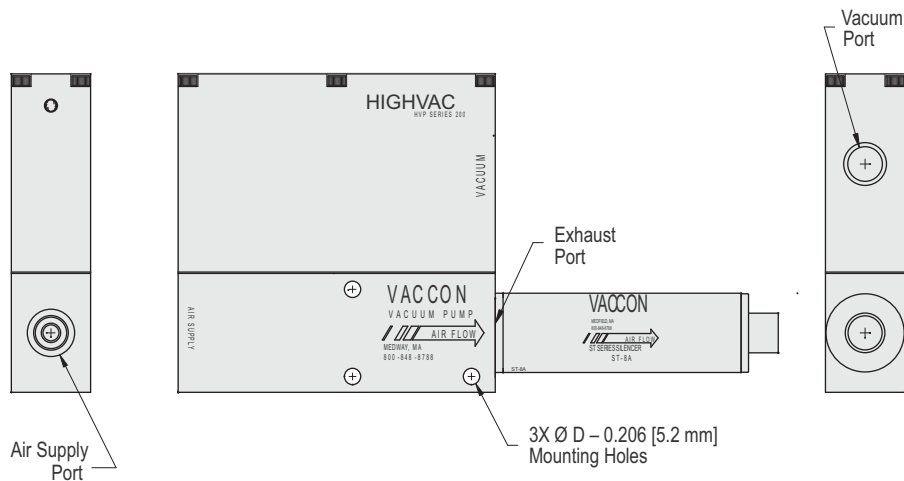
Principles of Operation

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.



Installation Instructions:

1. Mount pump. HVP-100 pump has two mounting holes that accept 4-40 (M3) screws. HVP-200 and HVP-300 pumps have three mounting holes that accept 10-32 (M5) screws (not supplied). Pump works in any orientation.
2. Attach air line to air supply port. Attach vacuum line to vacuum port. See chart below for minimum recommended sizes (tubing outer diameters are listed).
3. Turn on compressed air and regulate to specified pressure (80 PSI standard, models with “-60” designation to 60 PSI – set regulator while pump is operating). The HVP pump will generate vacuum immediately.



HVP Model	Supply Port Threads	Vacuum Port Threads	Recommended Vacuum and Air Supply Line Size (outer diameter)
HVP-100	¼ NPT	⅛ NPT	⅜"
HVP-200	¼ NPT	¼ NPT	⅜"
HVP-300	⅜ NPT	¼ NPT	½"

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.

Please note: The HighVac Series venturi vacuum pumps are capable of achieving a vacuum level of 29.5" Hg [999 mbar]. The vacuum level is the magnitude of suction created by the vacuum pump. Vacuum level is affected by elevation and barometric pressure. For each 1,000 feet of elevation, the vacuum level that the pump can achieve decreases by approximately 1" Hg [33.9 mbar]. For example, an HVP pump in Denver at an altitude of 5280 feet, would only be capable of reaching approximately 24.5" Hg of vacuum [830 mbar].