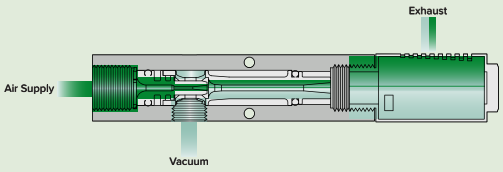
Compact Venturi Vacuum Pump

78165-00

The 78165-00 compact venturi vacuum pump is highly efficient, dirt tolerant, and includes a silencer for quiet operation. Lightweight and compact, they can be easily mounted close to the vacuum point for fast response.

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.



Ideal Applications:

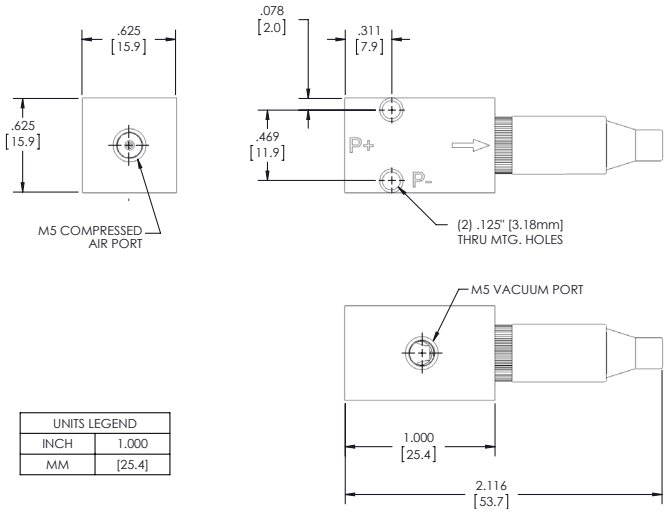
- Pick and place small parts
- End-of-Arm-Tooling/Robotic systems
- Vessel evacuation
- Vacuum clamping/holding fixtures

Features/Benefits:

- Small footprint for tight spaces
- Mounts easily—square body, compact and lightweight
- Fast response—installs close to vacuum point
- Reliable—trouble-free operation
  - Straight-through design, non-clogging
  - No moving parts to wear or clog
  - No flap valves to stick open
  - No maintenance
  - No downtime

Performance Level Designation:

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



UNITS LEGEND	
INCH	1.000
MM	[25.4]

Item #	Air Consumption SCFM (l/min)	Vacuum Flow - SCFM (l/min) vs. Vacuum Level - % Vacuum										
78165-00	0.8 (22.7)	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	93%
		0.5 (14.2)	0.38 (10.8)	0.32 (9.1)	0.3 (8.5)	0.27 (7.6)	0.23 (6.5)	0.2 (5.7)	0.13 (3.7)	0.05 (1.4)	0.02 (0.6)	0
Item #	**Air Consumption SCFM (l/min)**	**Evacuation Time in Seconds based on 1 Cubic Foot Volume (1 Liter Volume) vs % Vacuum**										
78165-00		0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	93%
		0	15 (0.5)	29.8 (1.1)	50.6 (1.8)	74.5 (2.6)	102.8 (3.6)	135.9 (4.8)	183.2 (6.5)	245.9 (8.7)	410.2 (14.5)	790.8 (27.9)