

Venturi Vacuum Pump with Silencer

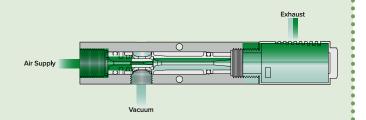
78165-10



The 78165-10 air-powered venturi vacuum pumps are highly efficient, capable of reaching 28"Hg [948mbar], dirt tolerant, and include 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 part or medium size objects
- · End-of-Arm-Tooling/Robotic systems
- Packaging
- · Vessel evacuation
- · Vacuum clamping/holding fixtures

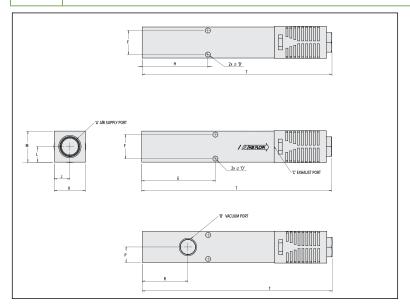
Features/Benefits:

- · Safe operation—high flow, strong holding force
- High productivity—powerful vacuum up to 28"Hg [948mbar]
- Compact & lightweight—modular design for fast installation
- Efficient—minimal air consumption
- · 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 Designations:

"H"

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





78165-10 Specifications: Weight: 2.38 oz [67.5g] Noise Level: 64dB

Item #	Imperial Dimensions (in.)													
	Α	В	С	D	Е	F	Н	J	K	L	M	Р	R	T
70405 40	1/4 NPT F	1/8	1/4 NPT F	0.12	1.78	0.58	1.59	0.38	0.75	0.38	0.75	0.38	1.10	5.06
78165-10		NPT F												6.17
Item #	Metric Dimensions (mm)													
	Α	В	С	D	Е	F	Н	J	K	L	M	Р	R	Т
70105 10		2.1/4 C.1/9	G 1/4 3.0		15 45.21	14.73	40.39	9.53	19.05	9.53	19.05	9.53	27.94	128.52
78165-10	G 1/4	G 1/8	- $ -$	3.05										



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H is for "High" vacuum levels up to 28"Hg [948mbar] for applications involving non-porous materials (steel, plastic, glass, etc.). The High vacuum level provides high vacuum force for lifting heavy materials and holding them securely.)

la #	Air Consumption SCFM	Imperial – Vacuum Flow (SCFM) vs. Vacuum Level ("Hg)												
Item #		O"Hg	3"Hg	6"Hg	9"Hg	12"Hg	15"Hg	18"Hg	21"Hg	24"Hg	27"Hg	28"Hg		
78165-10	78165-10 1.80		1.00	0.95	0.90	0.85	0.75	0.70	0.52	0.47	0.20	0.00		
Item #		Evacuation Time in Seconds based on 1 Cubic Foot Volume/"Hg												
item#		O"Hg	3"Hg	6"Hg	9"Hg	12"Hg	15"Hg	18"Hg	21"Hg	24"Hg	27"Hg	28"Hg		
78165-10		0.00	6.50	12.30	18.90	32.50	47.00	65.40	92.20	130.00	222.20	281.30		

Item #	Air Consumption L/min	Metric – Vacuum Flow (L/min) vs. Vacuum Level (mbar)											
item#		0 mbar	102 mbar	203 mbar	305 mbar	406 mbar	508 mbar	609 mbar	711 mbar	813 mbar	914 mbar	948 mbar	
78165-10	78165-10 51.0		28.3	26.9	25.5	24.1	21.2	19.8	14.7	13.3	5.7	0.0	
Item #		Evacuation Time in Seconds based on 1 Liter Volume/mbar											
item#	item #		102 mbar	203 mbar	305 mbar	406 mbar	508 mbar	609 mbar	711 mbar	813 mbar	914 mbar	948 mbar	
78165-10		0.0	0.2	0.4	0.7	1.1	1.7	2.3	3.3	4.6	7.8	9.9	

