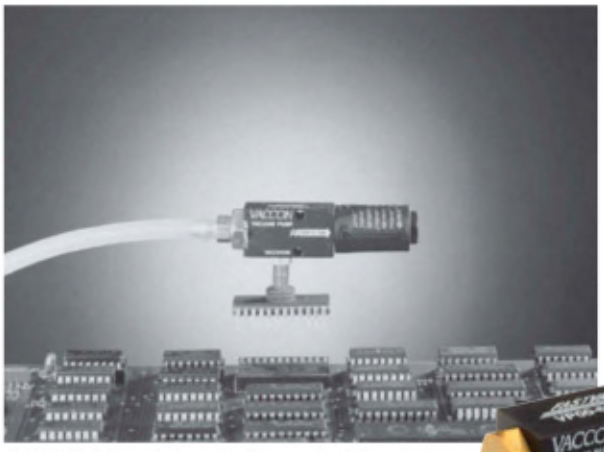
Min Series Venturi Vacuum Pump with Silencer

VP00



VP00-60H picks and places IC chips on circuit boards

VP00-60H Standard Pump

Ideal Applications:

- Small part pick & place
- Integrated circuit handling
- Small vessel evacuation
- Sampling for liquid and gas analysis

Features/Benefits:

- High Productivity – powerful vacuum up to 28"Hg [948mbar]
- Mounts Easily – square body, compact and lightweight
- Fast Response – installs close to vacuum point
- Efficient – minimal air consumption
- Reliable – operates trouble-free:
  - ~ Straight-through design, non-clogging
  - ~ No moving parts to wear or clog
  - ~ No flap valves to stick open
  - ~ No maintenance
  - ~ No downtime

Standard Pump:

The VP00 Min Series air-powered venturi vacuum pumps are highly efficient, capable of reaching 28"Hg [948mbar], and dirt tolerant. The VP00s use minimal compressed air and include a silencer for quiet operation. Lightweight and compact, they easily mount close to the vacuum point for fast response.

Performance Level Designations:

"**M**" 0-20"Hg, [0 to 677mbar] for medium vacuum/high flow applications

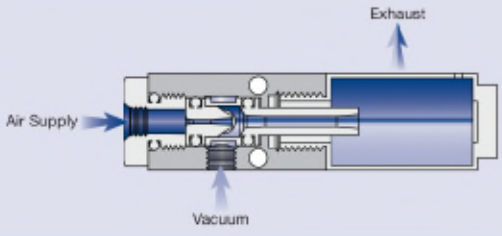
"**H**" 0-28"Hg, [0 to 948mbar] for high vacuum/standard flow applications

Pump Options:

- Factory installed miniature vacuum switches or sensors with quick disconnect for reliable part detection
- ST2 (straight–through) silencer allows ingested debris to exit the pump without clogging
- G port threads for metric machines – an "I" prefix designates products with metric threads
- Choice of operating pressures to meet machine and factory air supply (80 PSI [5.5 bar] standard, 60 PSI [4.1 BAR] optional).

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.



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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**

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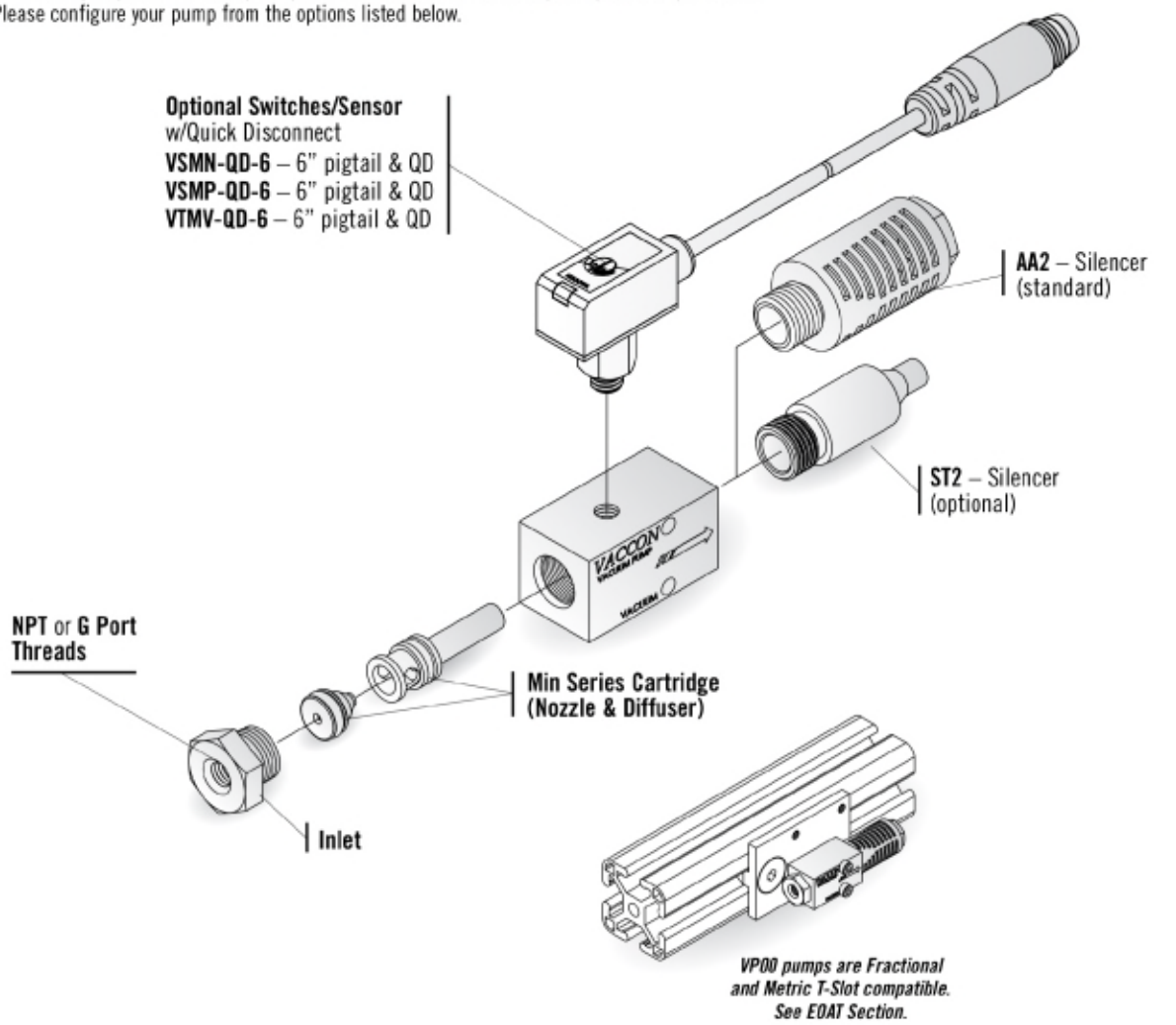
VP00-60 (M, H) Min Series Configurations and Options:

All Vaccon pumps offer a variety of options and accessories to meet your specific requirements.
Please configure your pump from the options listed below.



VP00 pumps are Fractional and Metric T-Slot compatible. See EOAT Section.

How to Specify:

VP00-60 H - 60 - ST2 - VSMP-QD-6

P/N	Imperial Thread
VP00-60	10-32
P/N	**Metric Thread**
I-VP00-60	M5

P/N	Max. Vac Level
M	20"Hg [677 mbar]
H	28"Hg [948 mbar]

P/N	Operating Pressure
	80 PSI [5.5 bar] (Std)
60	60 PSI [4.0 bar]

P/N	Switch/Sensor
	None (Standard)
VSMN-QD-6	Switch – NPN with QD
VSMP-QD-6	Switch – PNP with QD
VTMV-QD-6	Sensor – 1-5VDC Output w/QD

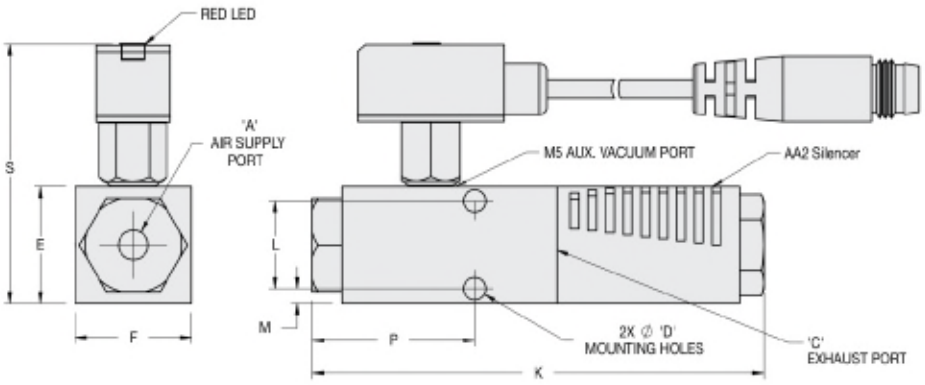
P/N	Silencer
	AA2 – Closed End (Standard)
ST2	Straight-Through

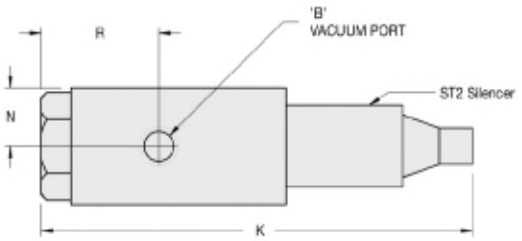
For complete Performance Data, see page 47.

Standard Pump: VP00-60 (M or H)

VP00-60H

VP00-60H-ST2





Specifications:

Weight: 0.86 oz [24.3g]
Noise Level: 58dB

Model #	Imperial Dimensions (in.)												
VP00	A	B	C	D	E	F	K	L	M	N	P	R	S
w/AA2	10-32	10-32	1/8 NPT F	0.12	0.62	0.62	2.42	0.47	0.08	0.31	0.89	0.63	1.36
w/ST2							2.31						
Model #	**Metric Dimensions (mm)**												
I-VP00	A	B	C	D	E	F	K	L	M	N	P	R	S
w/AA2	M5	M5	G 1/8	3.0	15.75	15.75	61.468	11.94	2.03	7.87	22.60	16.00	34.53
w/ST2							58.674						

VP00 Pump Standard Specifications:

Pump Material: Anodized Aluminum (For silencer material, see page 244 - 248)
Cartridge Material: Nylon, Buna-N O-ring (Other material available, see page 8)
Medium: Filtered (50 Micron) un-lubricated, non-corrosive dry gases
Operating Temperature: 30° to ~250°F [-34° to ~121°C]
Operating Pressure: 80 PSI [5.5 bar] standard or 60 PSI [4.1 bar] – Consult Factory for other operating pressures

VP00 Operating and Installation Requirements:

Supply Line: Min. 5/32" [4mm], 1/4" O.D. [6mm] tube preferred for supply lines exceeding 3' [1M]
Control Valve: 3 way/2 position (faster part release), minimum orifice – 0.062" diameter [1.57mm]
Vacuum Line: 1/4" [6mm] tube preferred, for short runs 5/32" [4mm] may be used
Vacuum Line Filtration: Typically vacuum filters are not required. If desired, Vaccon recommends – VF125LPM. See page 254.
Mounting: Mounting holes accept 4-40 or M3 screws

Performance Data for Min Series Vacuum Pumps

For Pump Models: VP00, VP01BV, VP01QRBV, VP0X

M-Series Pumps for Medium Vacuum Applications

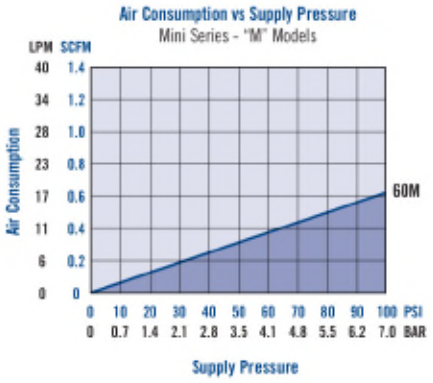
M is for "Medium" vacuum levels up to 20"Hg [677mbar] for applications involving porous materials (cardboard, wood, masonry, baked goods, textiles).

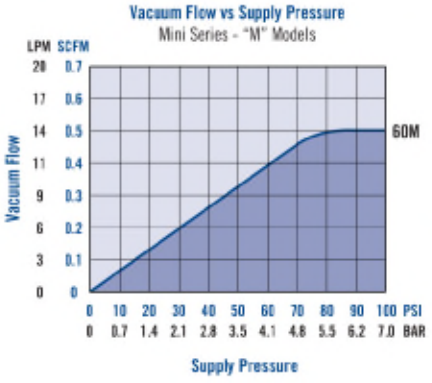
Model #	Air Consumption SCFM	Imperial - Vacuum Flow (SCFM) vs. Vacuum Level ("Hg)							
		0"Hg	3"Hg	6"Hg	9"Hg	12"Hg	15"Hg	18"Hg	20"Hg
60M	0.50	0.50	0.40	0.30	0.22	0.15	0.08	0.03	0.00
		Evacuation Time in Seconds based on 1 Cu. Ft. Volume/"Hg							
		0"Hg	3"Hg	6"Hg	9"Hg	12"Hg	15"Hg	18"Hg	20"Hg
		0.00	12.50	25.10	43.90	68.60	99.30	153.70	227.00

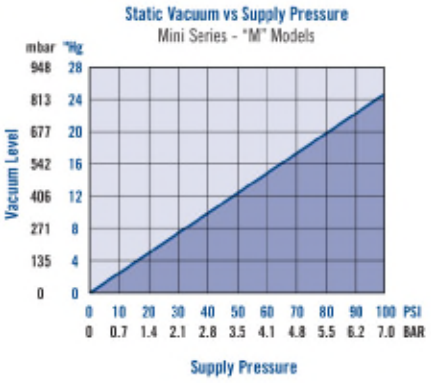
Model #	Air Consumption L/min	Metric - Vacuum Flow (L/min) vs. Vacuum Level (mbar)							
		0 mbar	102 mbar	203 mbar	305 mbar	406 mbar	508 mbar	609 mbar	677mbar
60M	14.16	14.2	11.3	8.5	6.2	4.2	2.3	0.8	0.0
		Evacuation Time in Seconds based on 1 Liter Volume / mbar							
		0 mbar	102 mbar	203 mbar	305 mbar	406 mbar	508 mbar	609 mbar	677mbar
		0.0	0.4	0.9	1.6	2.4	3.5	5.4	8.0

Note 1: Standard operating pressure for Vaccon pumps is 80 PSI [5.5bar]. Pumps can be factory modified to run at other operating pressures i.e. 60 PSI [4 bar] etc. The values shown in the performance chart will remain the same for all operating pressures.

Note 2: Evacuation speed is linear with volume, a two cu. ft. volume will take twice as long to evacuate as a one cu. ft. volume.







Performance Data for Min Series Vacuum Pumps

For Pump Models: VP00, VP01BV, VP01QRBV, VP0X

H-Series Venturis – High Vacuum Applications

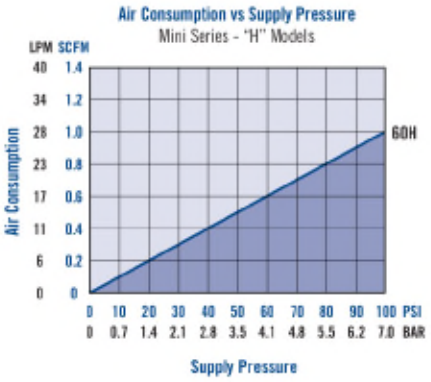
H is for "High" vacuum levels up to 28"Hg [948mbar] for applications involving non-porous materials (steel, plastic, glass, etc.)

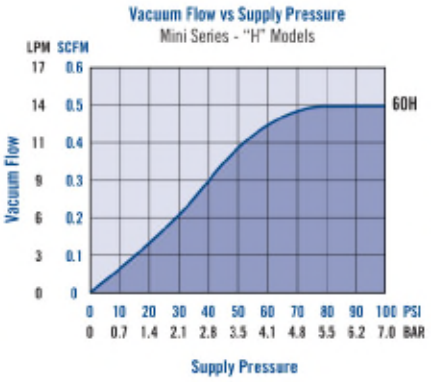
Model #	Air Consumption SCFM	Imperial – Vacuum Flow (SCFM) vs. Vacuum Level ("Hg)										
		0 "Hg	3 "Hg	6 "Hg	9 "Hg	12 "Hg	15 "Hg	18 "Hg	21 "Hg	24 "Hg	27 "Hg	28 "Hg
		0.50	0.38	0.32	0.30	0.27	0.23	0.20	0.13	0.05	0.02	0.00
60H	0.80	Evacuation Time in Seconds based on 1 Cu. Ft. Volume/"Hg										
		0 "Hg	3 "Hg	6 "Hg	9 "Hg	12 "Hg	15 "Hg	18 "Hg	21 "Hg	24 "Hg	27 "Hg	28 "Hg
		0.00	15.00	29.80	50.60	74.50	102.80	135.90	182.20	245.90	410.20	790.80

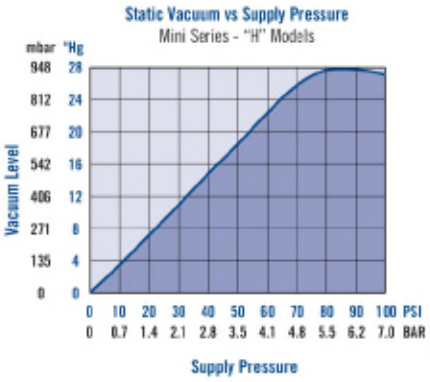
Model #	Air Consumption L/min	Metric – Vacuum Flow (L/min) vs. Vacuum Level (mbar)										
		0 mbar	102 mbar	203 mbar	305 mbar	406 mbar	508 mbar	609 mbar	711 mbar	813 mbar	914 mbar	948 mbar
		14.2	10.8	9.1	8.5	7.6	6.5	5.7	3.7	1.4	0.6	0.0
60H	22.7	Evacuation Time in Seconds based on 1 Liter Volume/mbar										
		0 mbar	102 mbar	203 mbar	305 mbar	406 mbar	508 mbar	609 mbar	711 mbar	813 mbar	914 mbar	948 mbar
		0.0	0.5	1.1	1.8	2.6	3.6	4.8	6.5	8.7	14.5	27.9

Note 1: Standard operating pressure for Vaccon pumps is 80 PSI [5.5 bar]. Pumps can be factory modified to run at other operating pressures i.e. 60 PSI [4 bar] etc. The values shown in the performance chart will remain the same for all operating pressures.

Note 2: Evacuation speed is linear with volume, a two cu. ft. volume will take twice as long to evacuate as a one cu. ft. volume.







Modular Venturi Vacuum Pumps – Mid Series

VP10 Series

Compact and lightweight, the VP10 Series is designed for versatile performance in limited space applications.

See Page 50

VP1X Series – Pneumatic Blow-Off

Vaccon's FASTBREAK vacuum pumps with high speed blow-off are ideal for pick & place applications that require accurate placement and rapid release.

See Page 54

VP10-MP Series – Multi Port Version

The VP10-MP Series provides the flexibility of the VP10 Modular design with an integral 4-Port vacuum manifold.

See Page 58

VP20/VP20BV Series - Optional Solenoid Valve

Vaccon's most popular and versatile model, the VP20 Series modular venturi vacuum pumps offer a variety of options in a compact size. Now available with optional integral valve.

See Page 62

VP2X/VP2XBV Series – Pneumatic Blow-Off - Optional Solenoid Valve

Vaccon's FASTBREAK vacuum pumps with high speed blow-off. Ideal for pick & place applications. Now available with optional integral valve.

See Page 67

VP20-MP/VP20BV-MP Series – Multi Port Version - Optional Solenoid Valve

The VP20-MP Series provides the flexibility of the VP20 Modular design with an integral 4-Port vacuum manifold. Now available with optional integral valve.

See Page 72

VP20-AS Series – Air Saver Technology

Vaccon's Air Saver Pumps are an all-pneumatic system that minimizes compressed air usage by creating, monitoring and maintaining vacuum for safe energy efficient operations.

See Page 77

VP35 Series

VP35 Mid Series are solenoid-controlled venturi vacuum pumps that feature a second solenoid to control blow-off air for rapid part release.

See Page 81

VP50 – All Pneumatic Pilot Control

All pneumatic pilot controlled venturi vacuum pumps that feature an integral check valve, air saver technology, and air pilot controlled blow-off.

See Page 85

VMBV/VMF – Segmented Modular Manifolds

Custom Vacuum Manifolds are individual vacuum segments with a common air supply that provides independent vacuum to multiple locations.

See Page 89

Mid Series

Mid-size Venturi Vacuum Pump with Interchangeable Cartridges and Silencer

VP10

VP10-100H holds 4 tees for screen printing application

VP10-60M

Ideal Applications:

- Pick & place small part or medium size object
- End-of-Arm-Tooling/Robotic systems
- Packaging
- Vessel evacuation
- Vacuum clamping/holding fixtures

Features/Benefits:

- Customize your pump performance with interchangeable venturi cartridges
- Safe operation – high flow, strong holding force
- High productivity – powerful vacuum up to 28"Hg [948mbar]
- Compact & lighweight – modular design speeds 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

Standard Pump:

The VP10 Mid Series 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.

All Mid Series pumps incorporate Vaccon's interchangeable venturi cartridge system that allows designers to choose from 11 different cartridge assemblies to optimize pump performance to meet their specific application needs.

Performance Level Designations:

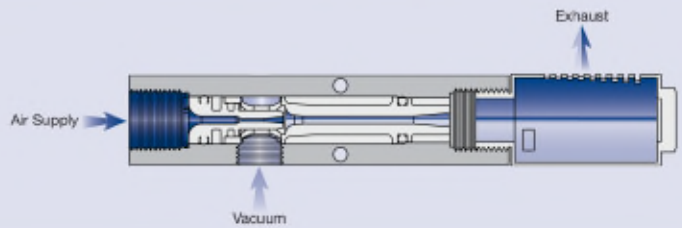
"**L**" 0-10"Hg [0 to 339mbar] for low vacuum/high flow applications
"**M**" 0-20"Hg [0 to 677mbar] for medium vacuum/high flow applications
"**H**" 0-28"Hg [0 to 948mbar] for high vacuum/standard flow applications

Pump Options:

- Interchangeable venturi cartridges – 11 different performance levels
- Factory installed miniature vacuum switches/sensors with quick disconnect for reliable part detection
- Silencers– ST4 (straight-through) silencer won't clog. STAA4 silencers for ultra quiet operation
- G port threads for metric machines – an "I" prefix designates products with metric threads
- Choice of operating pressures to meet machine and factory air supply 80 PSI [5.5 bar] standard, 60 PSI [4.1 bar] optional

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.



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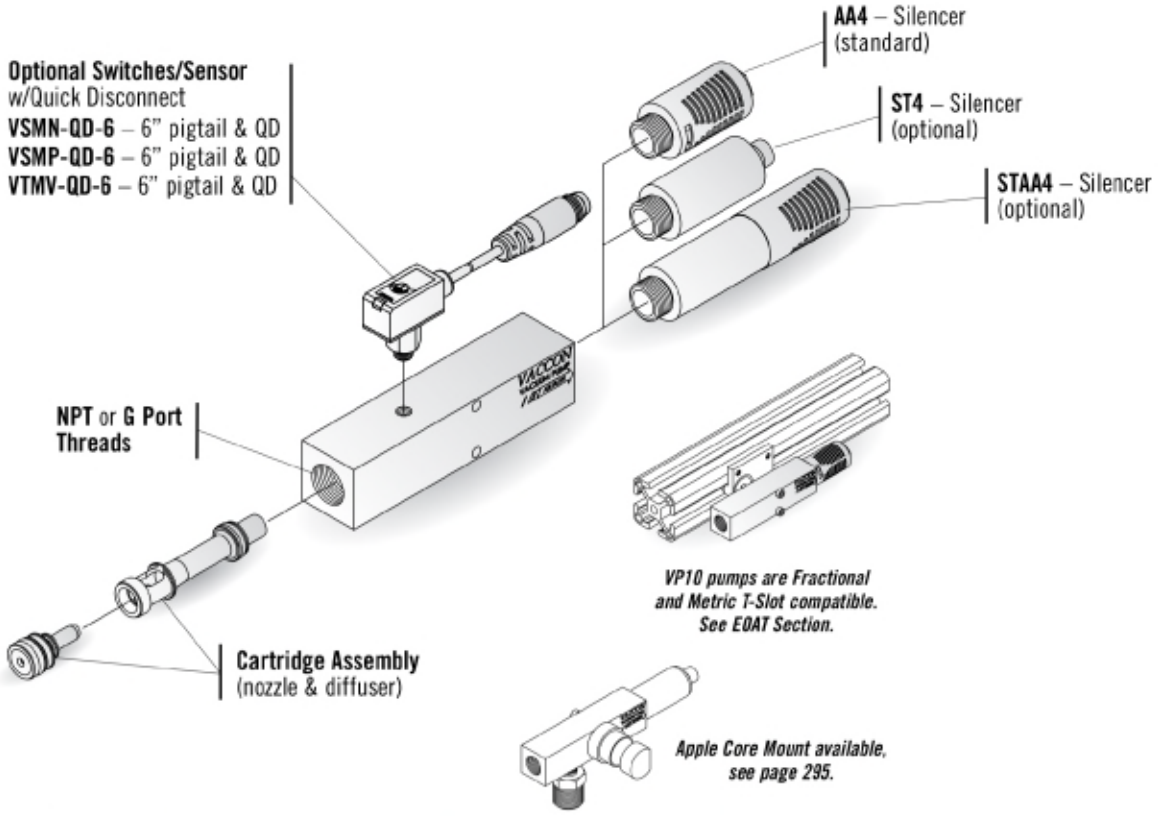
VP10- (60, 90, 100, 150) (L, M, H) Mid Series Configurations and Options:

All Vaccon pumps offer a variety of options and accessories to meet your specific requirements.
Please configure your pump from the options listed below.



How to Specify:

VP10 - 60 H - 60 - ST4 - ☐

P/N	Imperial Thread
VP10	NPT
P/N	**Metric Thread**
I-VP10	G Port

P/N	Max. Flow Level
60	(N/A in L)
90	
100	
150	

P/N	Max. Vac Level
L	10"Hg [339 mbar] (N/A in 60 Series)
M	20"Hg [677 mbar]
H	28"Hg [948 mbar]

P/N	Operating Pressure
	80 PSI [5.5 bar] (Std)
60	60 PSI [4.0 bar]

P/N	Switch/Sensor
	None (Standard)
VSMN-QD-6	Switch – NPN with QD
VSMP-QD-6	Switch – PNP with QD
VTMV-QD-6	Sensor – 1-5VDC Output w/QD

P/N	Silencer
	AA4 - Closed End (Standard)
ST4	Straight-Through
STAA4	Hybrid

For complete Performance Data, see page 94.

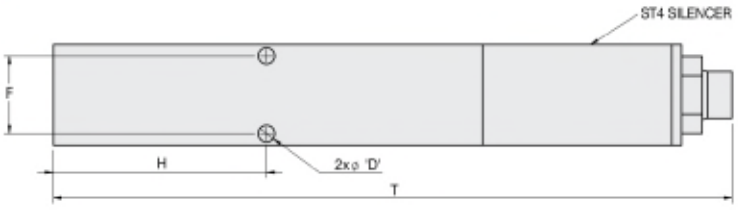
VP10 Pump Standard Specifications:

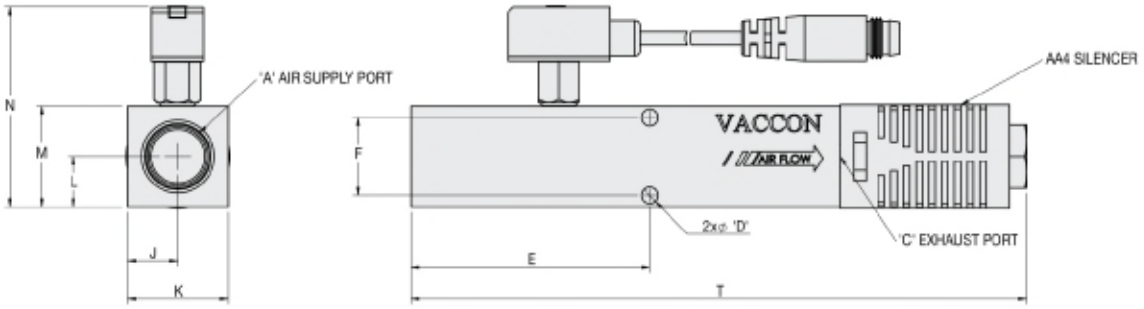
Pump Material:	Anodized Aluminum (For silencer material, see page 244 - 248)
Cartridge Material:	Nylon, Buna-N O-ring (Other materials available - See page 8)
Medium:	Filtered (50 Micron) un-lubricated, non-corrosive dry gasses
Operating Temperature:	-30° to ~250° F [-34° to ~121°C]
Operating Pressure:	80 PSI [5.5 bar] Standard or 60 PSI [4.1 bar] – Consult Factory for other operating pressures

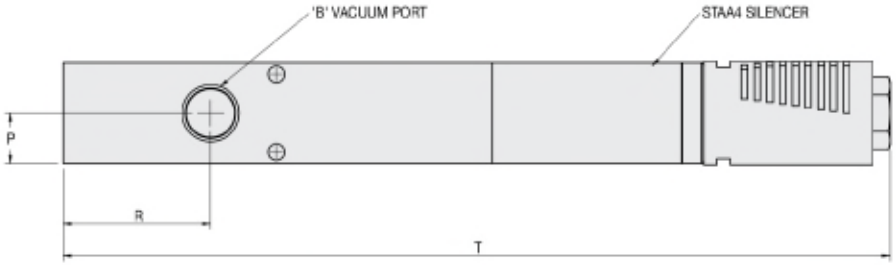
VP10 Operating and Installation Requirements:

Cartridge size:	**C60 (M, H) and C90 (L, M, H)**	**C100 (L, M, H) and C150 (L, M, H)**
Supply Line:	1/4" O.D. [6mm] tube recommended	3/8" O.D. [10mm] tube recommended
Vacuum Line:	1/4" O.D. [6mm] tube recommended	3/8" O.D. [10mm] tube recommended
Vacuum Line Filtration:	Typically vacuum filters are not required. If desired, Vaccon recommends – VF125LPM. See page 254.	
Control Valve:	3 way/2 position (faster part release), minimum orifice – 0.125 ID [3mm]	
Mounting Holes:	Mounting holes accept 4-40 [M3] screws	

VP10- (60, 90, 100, 150) (L, M, H)







VP10-100H with AA4 silencer

Specifications:

Weight: 2.38 oz [67.5g]
Noise Level: 64dB

VP10-90M with ST4 silencer

Specifications:

Weight: 2.47 oz [70g]
Noise Level: 66dB

VP10-100H with STAA4 silencer

Specifications:

Weight: 2.84 oz [80.6g]
Noise Level: 58dB

Model #	Imperial Dimensions (in.)														
VP10	A	B	C	D	E	F	H	J	K	L	M	N	P	R	T
w/AA4	1/4 NPT F	1/8 NPT F	1/4 NPT F	0.12	1.78	0.58	1.59	0.38	0.75	0.38	0.75	1.48	0.38	1.10	4.59
w/ST4															5.06
w/STAA4															6.17
Model #	**Metric Dimensions (mm)**														
I- VP10)	A	B	C	D	E	F	H	J	K	L	M	N	P	R	T
w/AA4	G 1/4	G 1/8	G 1/4	3.05	45.21	14.73	40.39	9.53	19.05	9.53	19.05	37.60	9.53	27.94	116.59
w/ST4															128.52
w/STAA4															156.59

Performance Data for Mid Series Pumps

For Pump Models: VP10, VP10-MP, VP1X, VP20, VP20BV, VP20-MP, VP20BV-MP, VP2X, VP2XBV, VP35, VP50 and Manifolds

L-Series Venturis – Low Vacuum Applications

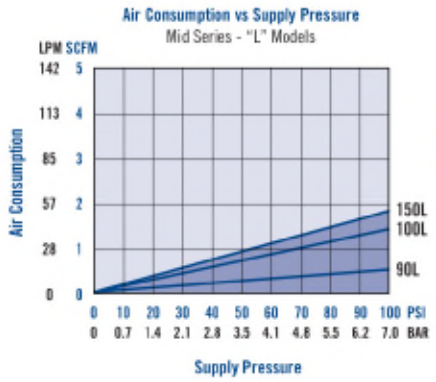
L is for "Low" vacuum levels up to 10"Hg [339 mbar] for applications handling delicate parts, thin walled materials and for process control.

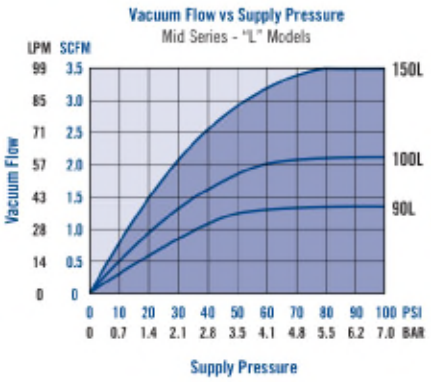
Model #	Air Consumption SCFM	Imperial – Vacuum Flow (SCFM) vs. Vacuum Level ("Hg)				
		0"Hg	3"Hg	6"Hg	9"Hg	10"Hg
90L	0.50	1.30	1.10	0.70	0.20	0.00
100L	1.40	2.10	1.60	1.10	0.50	0.00
150L	1.80	3.50	2.50	1.90	0.70	0.00
Model #		Evacuation Time in Seconds based on 1 Cubic Foot Volume/"Hg				
		0"Hg	3"Hg	6"Hg	9"Hg	10"Hg
90L		0.00	3.26	7.93	18.65	39.63
100L		0.00	2.33	4.66	10.88	24.00
150L		0.00	1.54	4.36	10.77	22.83

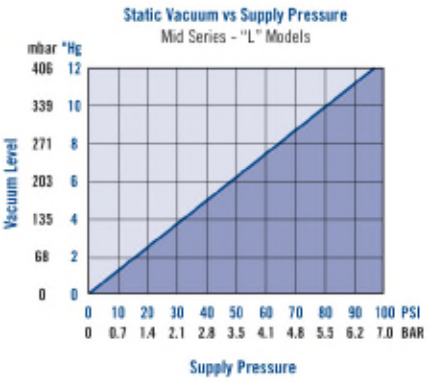
Model #	Air Consumption L/min	Metric – Vacuum Flow (L/min) vs. Vacuum Level (mbar)				
		0 mbar	102 mbar	203 mbar	305 mbar	339 mbar
90L	14.2	36.8	31.1	19.8	5.7	0.0
100L	39.6	59.5	45.3	31.1	14.2	0.0
150L	51.0	99.1	70.8	53.8	19.8	0.0
Model #		Evacuation Time in Seconds based on 1 Liter Volume/mbar				
		0 mbar	102 mbar	203 mbar	305 mbar	339 mbar
90L		0.0	0.1	0.3	0.7	1.4
100L		0.0	0.1	0.2	0.4	0.9
150L		0.0	0.1	0.2	0.4	0.8

Note 1: Standard operating pressure for Vaccon pumps is 80 PSI [5.5 bar]. Pumps can be factory modified to run at other operating pressures i.e. 60 PSI [4.1 bar] etc. The values shown in the performance chart will remain the same for all operating pressures.

Note 2: Evacuation speed is linear with volume, a two cu. ft. volume will take twice as long to evacuate as a one cu. ft. volume.







Performance Data for Mid Series Pumps

For Pump Models: VP10, VP10-MP, VP20, VP20BV, VP20-AS, VP20-MP, VP20BV-MP, VP2X, VP2XBV, VP35, VP50 and Manifolds

M-Series Venturis –Medium Vacuum Applications

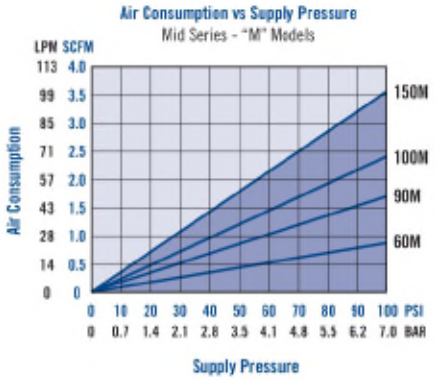
M is for "Medium" vacuum levels up to 20"Hg [677 mbar] for applications involving porous materials (cardboard, wood, masonry, baked goods, textiles.)

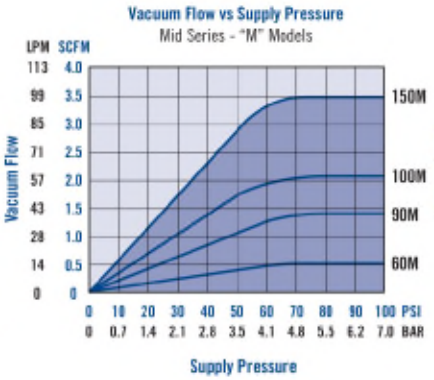
Model #	Air Consumption SCFM	Imperial – Vacuum Flow (SCFM) vs. Vacuum Level ("Hg)							
		0"Hg	3"Hg	6"Hg	9"Hg	12"Hg	15"Hg	18"Hg	20"Hg
60M	0.50	0.50	0.40	0.30	0.22	0.15	0.08	0.03	0.00
90M	1.40	1.40	1.25	1.20	1.05	0.85	0.65	0.25	0.00
100M	1.80	2.10	2.00	185	1.75	1.60	1.25	0.80	0.00
150M	2.80	3.50	3.20	2.95	2.75	2.50	1.80	0.95	0.00
Model #		Evacuation Time in Seconds based on 1 Cubic Foot Volume/"Hg							
		0"Hg	3"Hg	6"Hg	9"Hg	12"Hg	15"Hg	18"Hg	20"Hg
60M		0.00	12.50	25.10	43.90	68.60	99.30	153.70	227.00
90M		0.00	3.75	7.20	12.40	19.10	29.90	52.00	104.00
100M		0.00	2.65	5.80	9.90	16.20	22.90	36.20	56.60
150M		0.00	1.35	3.20	5.20	7.70	11.80	23.40	52.00

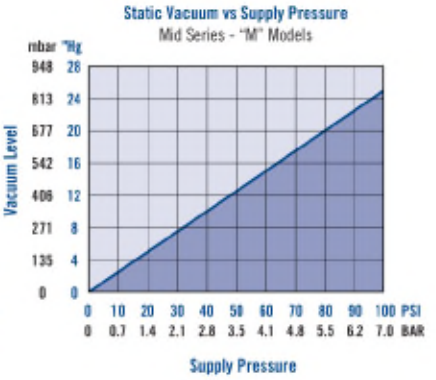
Model #	Air Consumption L/min	Metric – Vacuum Flow (L/min) vs. Vacuum Level (mbar)							
		0 mbar	102 mbar	203 mbar	305 mbar	406 mbar	508 mbar	609 mbar	677 mbar
60M	14.2	14.2	11.3	8.5	6.2	4.2	2.3	0.8	0.0
90M	39.6	39.6	35.4	34.0	29.7	24.1	18.4	7.1	0.0
100M	51.0	59.5	56.6	52.4	49.6	45.3	35.4	22.7	0.0
150M	79.3	99.1	90.6	83.5	77.9	70.8	51.0	26.9	0.0
Model #		Evacuation Time in Seconds based on 1 Liter Volume/mbar							
		0 mbar	102 mbar	203 mbar	305 mbar	406 mbar	508 mbar	609 mbar	677 mbar
60M		0.0	0.4	0.9	1.6	2.4	3.5	5.4	8.0
90M		0.0	0.1	0.3	0.4	0.7	1.1	1.8	3.7
100M		0.0	0.1	0.2	0.3	0.6	0.8	1.3	2.0
150M		0.0	0.0	0.1	0.2	0.3	0.4	0.8	1.8

Note 1: Standard operating pressure for Vaccon pumps is 80 PSI [5.5 bar]. Pumps can be factory modified to run at other operating pressures i.e. 60 PSI [4.1 bar] etc. The values shown in the performance chart will remain the same for all operating pressures.

Note 2: Evacuation speed is linear with volume, a two cu. ft. volume will take twice as long to evacuate as a one cu. ft. volume.







Performance Data for Mid Series Pumps

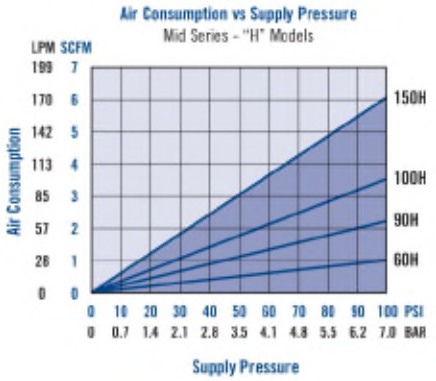
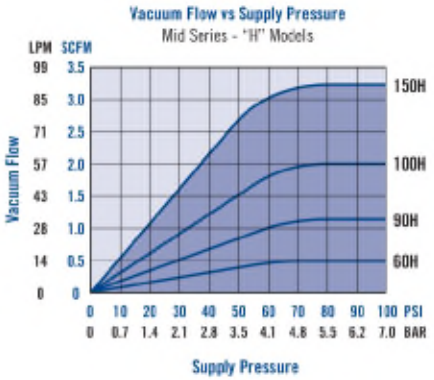
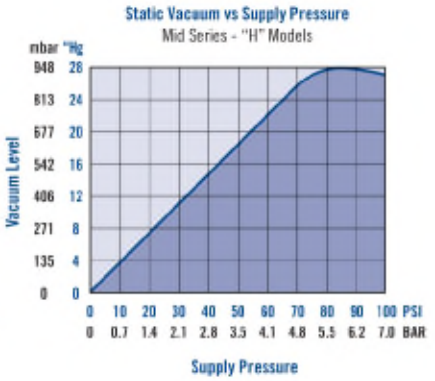
For Pump Models: VP10, VP10-MP, VP1X, VP20, VP20BV, VP20-AS, VP20-MP, VP20BV-MP, VP2X, VP2XBV, VP35, VP50, and Manifolds

H-Series Venturis – High Vacuum Applications

H is for "High" vacuum levels up to 28"Hg [948 mbar] 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.

Model #	Air Consumption SCFM	Imperial – Vacuum Flow (SCFM) vs. Vacuum Level ("Hg)										
		0"Hg	3"Hg	6"Hg	9"Hg	12"Hg	15"Hg	18"Hg	21"Hg	24"Hg	27 Hg	28"Hg
60H	0.80	0.50	0.38	0.32	0.30	0.27	0.23	0.20	0.13	0.05	0.02	0.00
90H	1.80	1.20	1.00	0.95	0.90	0.85	0.75	0.70	0.52	0.47	0.20	0.00
100H	2.80	2.00	1.85	1.75	1.57	1.40	1.25	1.05	0.84	0.70	0.35	0.00
150H	4.80	3.20	2.80	2.50	2.30	2.00	1.60	1.40	1.20	0.80	0.50	0.00
Model #		Evacuation Time in Seconds based on 1 Cubic Foot Volume/"Hg										
		0"Hg	3"Hg	6"Hg	9"Hg	12"Hg	15"Hg	18"Hg	21"Hg	24"Hg	27"Hg	28"Hg
60H		0.00	15.00	29.80	50.60	74.50	102.80	135.90	183.20	245.90	410.20	790.80
90H		0.00	6.50	12.30	18.90	32.50	47.00	65.40	92.20	130.00	222.20	281.30
100H		0.00	2.70	6.50	11.20	17.50	25.80	38.40	55.20	79.20	166.70	251.80
150H		0.00	2.30	3.80	6.50	10.20	14.20	21.30	44.90	55.00	81.00	125.00

Model #	Air Consumption L/min	Metric – Vacuum Flow (L/min) vs. Vacuum Level (mbar)									
		0 mbar	102 mbar	203 mbar	305 mbar	406 mbar	508 mbar	609 mbar	711 mbar	813 mbar	914 mbar	948 mbar
60H	22.7	14.2	10.8	9.1	8.5	7.6	6.5	5.7	3.7	1.4	0.6	0.0
90H	51.0	34.0	28.3	26.9	25.5	24.1	21.2	19.8	14.7	13.3	5.7	0.0
100H	79.3	56.6	52.4	49.6	44.5	39.6	35.4	29.7	23.8	19.8	9.9	0.0
150H	135.9	90.6	79.3	70.8	65.1	56.6	45.3	39.6	34.0	22.7	14.2	0.0
Model #		Evacuation Time in Seconds based on 1 Liter Volume/mbar										
		0 mbar	102 mbar	203 mbar	305 mbar	406 mbar	508 mbar	609 mbar	711 mbar	813 mbar	914 mbar	948 mbar
60H		0.0	0.5	1.1	1.8	2.6	3.6	4.8	6.5	8.7	14.5	27.9
90H		0.0	0.2	0.4	0.7	1.1	1.7	2.3	3.3	4.6	7.8	9.9
100H		0.0	0.1	0.2	0.4	0.6	0.9	1.4	1.9	2.8	5.9	8.9
150H		0.0	0.1	0.1	0.2	0.4	0.5	0.8	1.6	1.9	2.9	4.4

Note 1: Standard operating pressure for Vaccon pumps is 80 PSI [5.5 bar]. Pumps can be factory modified to run at other operating pressures i.e. 60 PSI [4.1 bar] etc. The values shown in the performance chart will remain the same for all operating pressures.

Note 2: Evacuation speed is linear with volume, a two cu. ft. volume will take twice as long to evacuate as a one cu. ft. volume.