

Miniature Venturi Vacuum Pump with Pneumatic Blow-off and Silencer

Fastbreak Min Series: VPOX & VPOX-ADJ



VPOX-60H-ST2 Fastbreak blow-off pump with vacuum cup, spring leveler assembly for rapid part release



VPOX-60H

Standard Pump:

VPOX & VPOX-ADJ air-powered venturi vacuum pumps are trusted for accurate part placement and rapid part release. The reliable Fastbreak Min Series provides both vacuum and blow-off in one pump, using only one compressed air line. No electricity required.

The integrated pneumatic high-speed blow-off on the VPOX pump provides a fixed-duration blow-off, based on the volume of the housing. With the VPOX-ADJ adjustable vacuum pump, you can control the intensity of the blow-off using one fingertip adjustment knob. (Customer-supplied directional control valve with exhaust required.)

For applications where you need to control the duration of the blow-off, please see VPO1QRBV Series on page 39.

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:

- ADJ version allows the user to set the intensity of the blow-off from no blow-off to full blow-off
- Factory-installed miniature vacuum switches or sensors with quick disconnect for reliable part detection
- ST2 (straight-through) silencer that 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

Ideal Applications:

Small part pick & place for applications requiring accurate part placement and rapid part release:

- ~ Integrated circuits
- ~ Packaging machines
- ~ High speed labeling machines
- ~ Sheet feeders
- ~ Robotic end effectors
- ~ Automated assembly

Features/Benefits:

- Fast Response – compact, lightweight, and installs close to vacuum point
- Trouble-free operation:
 - ~ Straight-through design, non-clogging
 - ~ No moving parts to wear
 - ~ No flap valves to stick open
 - ~ Automatically cleans vacuum lines
 - ~ No downtime
- High productivity – rapid part release, cycle rates up to 900/min
- Modular design – add vacuum sensors and solenoid valves to create a complete vacuum system
- Reliable part detection – factory installed miniature vacuum switches or sensors

Eliminate the Guesswork: Contact Us!

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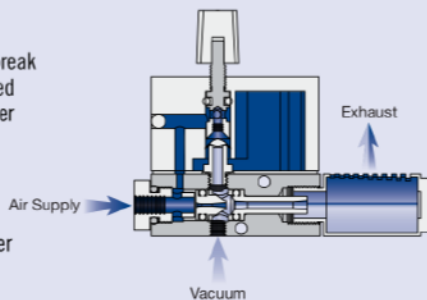


Modular Venturi Vacuum Pumps w/ Pneumatic Blow-off – Min Series

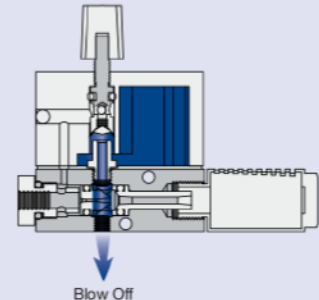
Principles of Operation: VPOX, VPOX-ADJ

Fastbreak pumps provide both suction and blow-off with a single supply of compressed air controlled by a pneumatic valve.

Utilizing quick exhaust valve technology, Fastbreak pumps store compressed air in the upper chamber while simultaneously generating vacuum. The quick exhaust diaphragm seals the compressed air chamber from the suction line.



To release the part, de-activate the air supply. The vacuum stops and the rapid drop in pressure shifts the quick exhaust diaphragm into the up position allowing the stored compressed air to vent into the vacuum line.



When handling small and lightweight parts, choose the adjustable version (-ADJ) shown above to control the blow-off intensity.

***Note:** The (customer supplied) solenoid valve controlling the compressed air to the Fastbreak pump must vent to atmosphere for the quick exhaust valve to actuate properly.

VPOX and VPOX-ADJ Standard Pump Specifications:

Body Material:	Anodized Aluminum, Nebar, Brass, Buna-N, Vinyl, Nylon, Alloy Steel (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 gases
Operating Temperature:	+32° to ~125° F [0° to ~52°C]
Operating Pressure:	80 PSI [5.5 bar] standard or 60 PSI [4.1 bar] – Consult Factory for other operating pressures
Cycle Rates:	Up to 900/min
Blow-off Response Time:	Instantaneous
Orientation:	Any position
Blow-off Duration:	100 milliseconds (based on system design)

VPOX and VPOX-ADJ Operating and Installation Requirements:

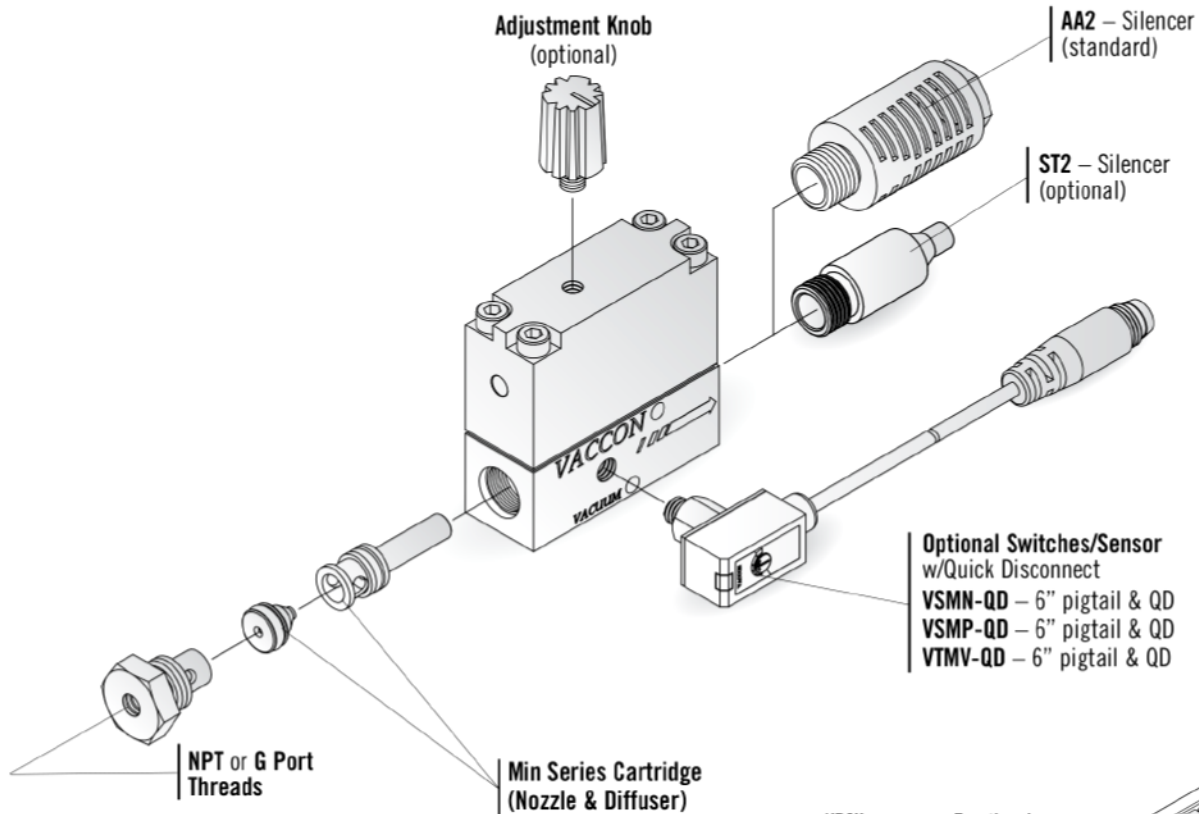
Cartridge Size:	CM60 (M or H)
Supply Line:	Min. 5/32 [4mm], Preferred 1/4" O.D. [6mm] tube for supply lines exceeding 3' (1M)
Control Valve:	3-way/2 position – minimum orifice - 0.093" [2.5mm]
Vacuum Line:	Preferred 1/4" [6mm] for short runs 5/32" [4mm] may be used
Vacuum Line Filtration:	Typically vacuum filters are not required. If desired, Vaccon recommends – VF125LPM. See page 254.
Mounting Holes:	Mounting holes accept 4-40 [M3] screws



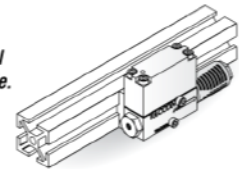
Modular Venturi Vacuum Pumps w/ Pneumatic Blow-off – Min Series

VPOX & VPOX-ADJ: Fastbreak 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.



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



How to Specify:

VPOX - 60 H - - ADJ - ST2 -

P/N	Imperial Thread
VPOX	NPT
P/N	Metric Thread
I-VPOX	G Port
P/N	Max. Flow Level
60	Standard
P/N	Max. Vac Level
M	20"Hg [677 mbar]
H	28"Hg [948 mbar]
P/N	Operating Pressure
	80 PSI (Standard)
60	60 PSI

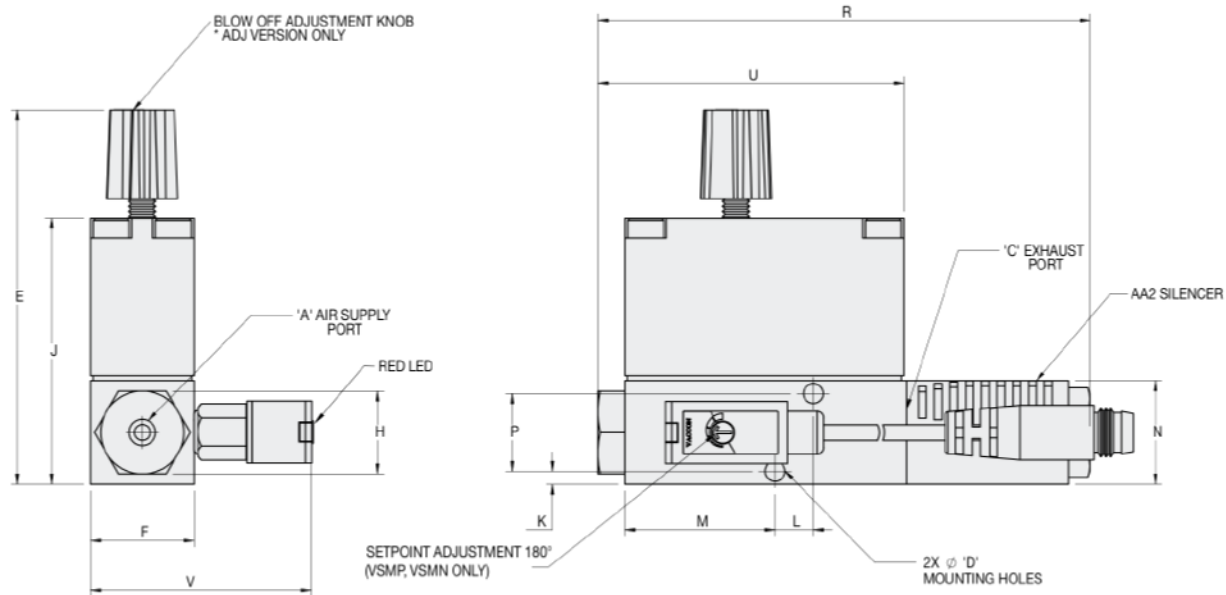
P/N	Switch/Sensor
	None (Standard)
VSMN-QD-6	Switch – NPN with QD
VSMP-QD-6	Switch – PNP with QD
VTMV-QD-6	Sensor – 1-5VDC Output w/QD
P/N	Silencer
AA2	Closed End (Standard)
ST2	Straight-Through
P/N	Adjustable Blow-Off
	Not Adjustable (Standard)
ADJ	Adjustable Blow-off

For complete Performance Data, see page 47.



Modular Venturi Vacuum Pumps w/ Pneumatic Blow-off – Min Series

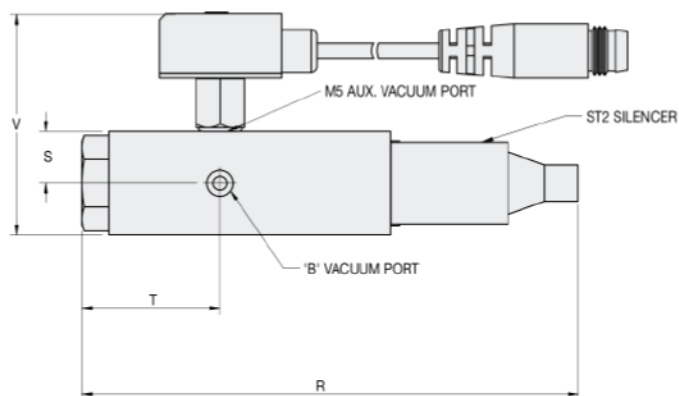
Standard: VPOX-60 (M, H) - (ADJ) Pump



VPOX-60M-ADJ



VPOX-60H-ST2



Specifications:

Weight: 2.6 oz [74g]
Noise Level: 68 dB

Model #	Imperial Dimensions (in.)																
VPOX	A	B	C	D	E*	F	J	K	L	M	N	P	R	S	T	U	V
w/AA2	10-32	10-32	1/8 NPT F	0.12	2.26	0.63	1.61	0.078	0.23	0.91	0.63	0.47	2.97	0.31	0.83	1.85	1.36
w/ST2													2.85				
Model #	Metric Dimensions (mm)																
I-VPOX	A	B	C	D	E*	F	J	K	L	M	N	P	R	S	T	U	V
w/AA2	M5	M5	G 1/8	3.0	57.40	16.00	40.89	1.9812	5.84	23.11	15.88	11.91	75.44	7.87	21.08	46.99	34.53
w/ST2													72.39				

*-ADJ Version Only



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Mid Series Fastbreak Venturi Vacuum Pump with Pneumatic Blow-off and Silencer

VP2X & VP2X-ADJ VP2XBV & VP2XBV-ADJ



VP2X-60H accurately stacks tiles with rapid part release blow-off.



VP2XBV-100H-ADJ-ST4-SX4

Standard Pump:

VP2X & VP2X-ADJ air-powered venturi vacuum pumps are trusted for accurate part placement and rapid part release. The reliable Fastbreak Mid Series provides both vacuum and blow-off in one pump, using only one compressed air line. No electricity required.

The integrated pneumatic high-speed blow-off on the VP2X pump provides a fixed-duration blow-off, based on the volume of the housing. With the VP2X-ADJ adjustable vacuum pump, you can control the intensity of the blow-off using one fingertip adjustment knob. (Customer-supplied directional control valve with exhaust required).

VP2XBV and VP2XBV-ADJ pumps offer an optional 2-way integrated valve.

For applications where you need to control the duration of the blow-off, please see VP35 Series on page 81.

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Ideal Applications:

Pick & place applications requiring accurate part placement and rapid part release:

- ~ Palletizing
- ~ Packaging machines
- ~ High speed labeling machines
- ~ Sheet feeders
- ~ Robotic end effectors
- ~ Automated assembly

Features/Benefits:

- Fast Response – Compact, lightweight, and installs close to vacuum point
- Trouble-free operation:
 - ~ Straight-through design, non-clogging
 - ~ No flap valves to stick open
 - ~ Automatically cleans vacuum lines
 - ~ No downtime
- High productivity – Rapid part release, cycle rates up to 900/min
- Modular design – Add vacuum sensors and solenoid valves to create a complete vacuum system
- Multiple functions from just one PLC output – Requires fewer outputs, less costly, easy to program
- Reliable part detection – Factory installed miniature vacuum switches or sensors

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:

- ADJ version allows the user to set the intensity of the blow-off from no blow-off to full blow-off
- Interchangeable venturi cartridges – 11 different performance levels
- 2-way Integrated valve - 24VDC, normally closed
- Factory-installed miniature vacuum switches or sensors with quick disconnect for reliable part detection
- Silencers – ST4 (straight-through) silencer won't clog, or 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 [5.5bar] standard, 60 PSI [4.1 bar] optional

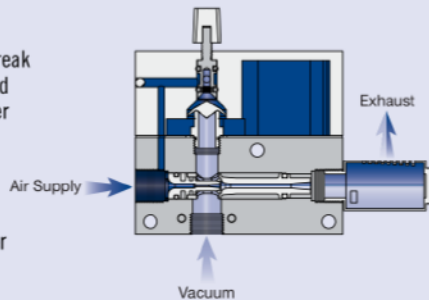


Modular Venturi Vacuum Pumps w/ Pneumatic Blow-Off – Mid Series

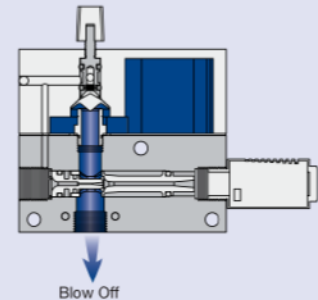
Principles of Operation: VP2X & VP2X-ADJ

Fastbreak pumps provide both suction and blow-off with a single supply of compressed air controlled by a pneumatic valve.

Utilizing quick exhaust valve technology, Fastbreak pumps store compressed air in the upper chamber while simultaneously generating vacuum. The quick exhaust diaphragm seals the compressed air chamber from the suction line.



To release the part, deactivate the air supply. The vacuum stops and the rapid drop in pressure shifts the quick exhaust diaphragm into the up position allowing the store compressed air to vent into the vacuum line.



When handling small and lightweight parts, choose the adjustable version (-ADJ) shown above to control the blow-off intensity.

***Note:** A customer supplied solenoid valve controlling the compressed air to the Fastbreak pump must be in close proximity to the pump and vent to atmosphere for the quick exhaust valve to actuate properly.

VP2X and VP2X-ADJ Standard Pump Specifications:

Body Material:	Anodized Aluminum, Nebar, Brass, Buna-N, Vinyl, Nylon, Alloy Steel (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 gases
Operating Temperature:	+32° to ~125° F [0° to ~52°C]
Operating Pressure:	80 PSI [5.5 bar] standard or 60 PSI [4.1 bar] – Consult Factory for other operating pressures
Cycle Rates:	Up to 900/min
Blow-off Response Time:	Instantaneous
Orientation:	Any position
Blow-off Duration:	100 milliseconds (based on system design)

Optional 2-Way Valve Specifications:

Valve Type:	Axial 2-Way Solenoid Valve, Normally closed
Valve Body Material:	Brass, Aluminum, Buna-N
Valve Operating Pressure:	Vacuum to 120 PSI [-1 to 8 bar]
Electrical:	24 VDC [-15% to +10% Nominal]
Power Consumption:	4 watts
Response Time:	6 milliseconds
Cycle Rate:	80 cycles/second
Average Life:	100 million cycles or better
Electrical Connection:	2 Pin Connector with 24 AWG, 18" leads [457.2mm]
LED Indicator:	Yes

VP2X and VP2X-ADJ Operating and Installation Requirements:

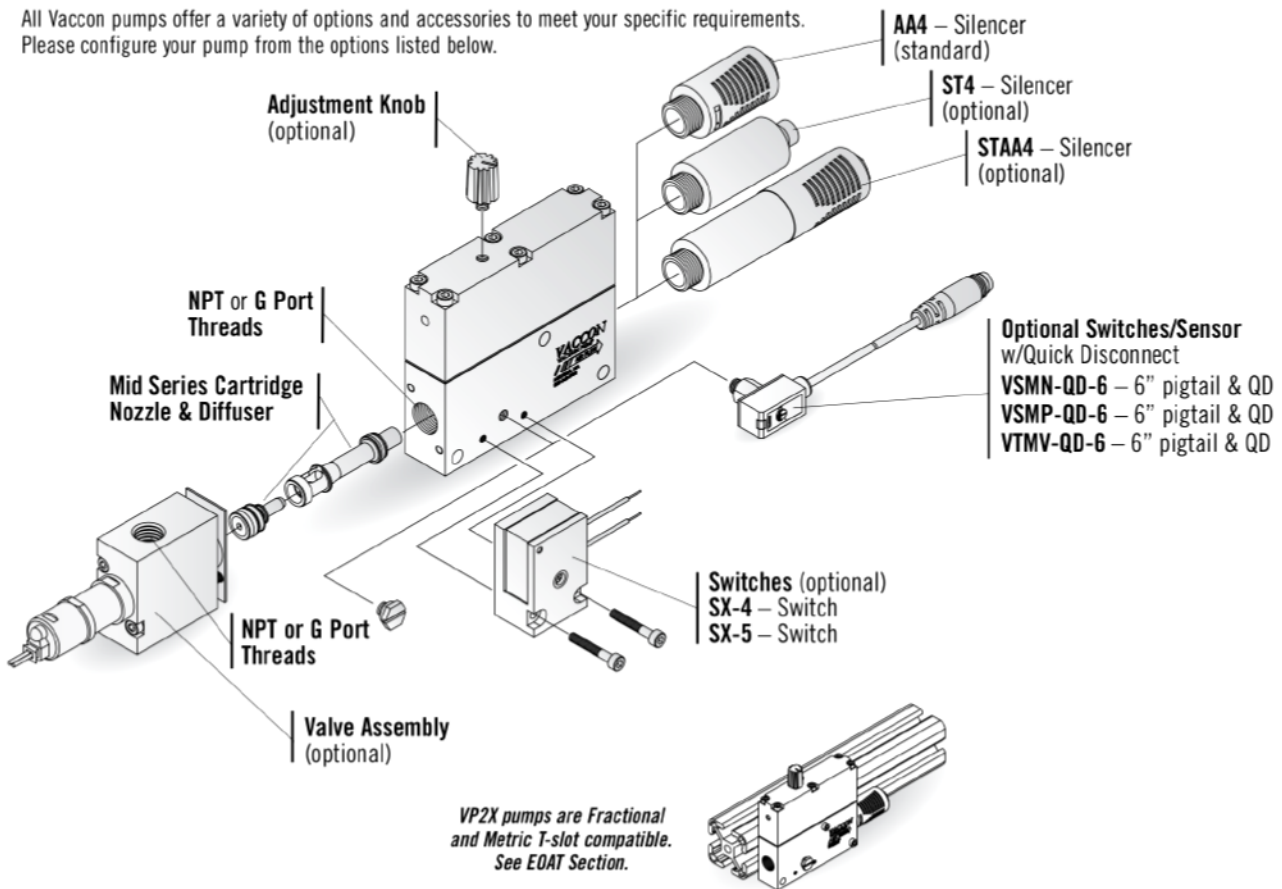
Cartridge size:	C60 (M, H) and C90 (L, M, H)	C100 (L, M, H) and C150 (L, M, H)
Supply Line:	1/4" O.D. [6mm] tube recommended	3/8" O.D. [10mm] tube recommended
Vacuum Line:	1/4" O.D. [6mm] tube recommended	3/8" O.D. [10mm] tube recommended
Vacuum Line Filtration:	Typically vacuum filters are not required. If desired, Vaccon recommends – VF-250LPM – See page 254	Typically vacuum filters are not required. If desired, Vaccon recommends – VF-250F – See page 254
Control Valve:	3 way/2 position, minimum orifice - 0.125" ID [3mm]	
Mounting Holes:	Mounting holes accept 10-32 [M5] screws	



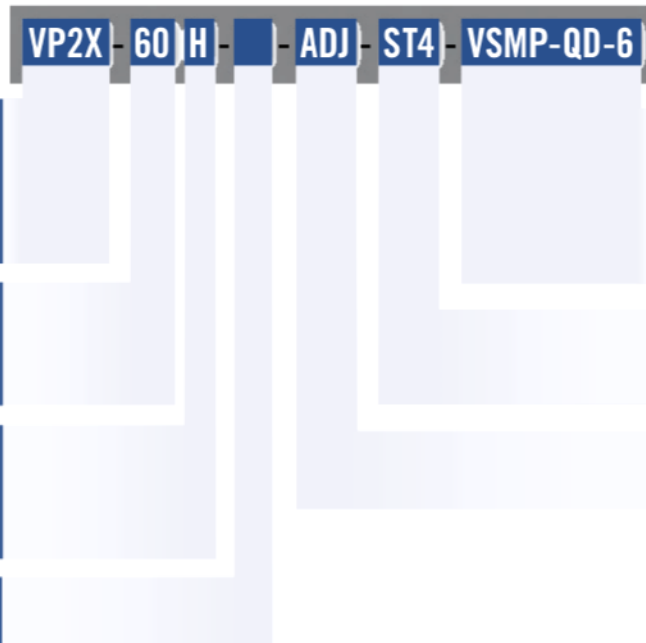
Modular Venturi Vacuum Pumps w/ Pneumatic Blow-Off – Mid Series

VP2X & VP2X-ADJ Fastbreak 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:



P/N	Imperial Thread-NPT
VP2X	No Valve
VP2XBV	with Valve Assy
P/N	Metric Thread-G Port
I-VP2X	No Valve
I-VP2XBV	with Valve
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/QC
SX-4	Switch – 2-14.8"Hg
SX-5	Switch – 7.4-30"Hg
P/N	Silencer
	AA4 – Closed end (Standard)
ST4	Straight-Through
STAA4	Hybrid
P/N	Adjustable Blow-off
	Not Adjustable (Standard)
ADJ	Adjustable Blow-off

For complete Performance Data, see page 94.

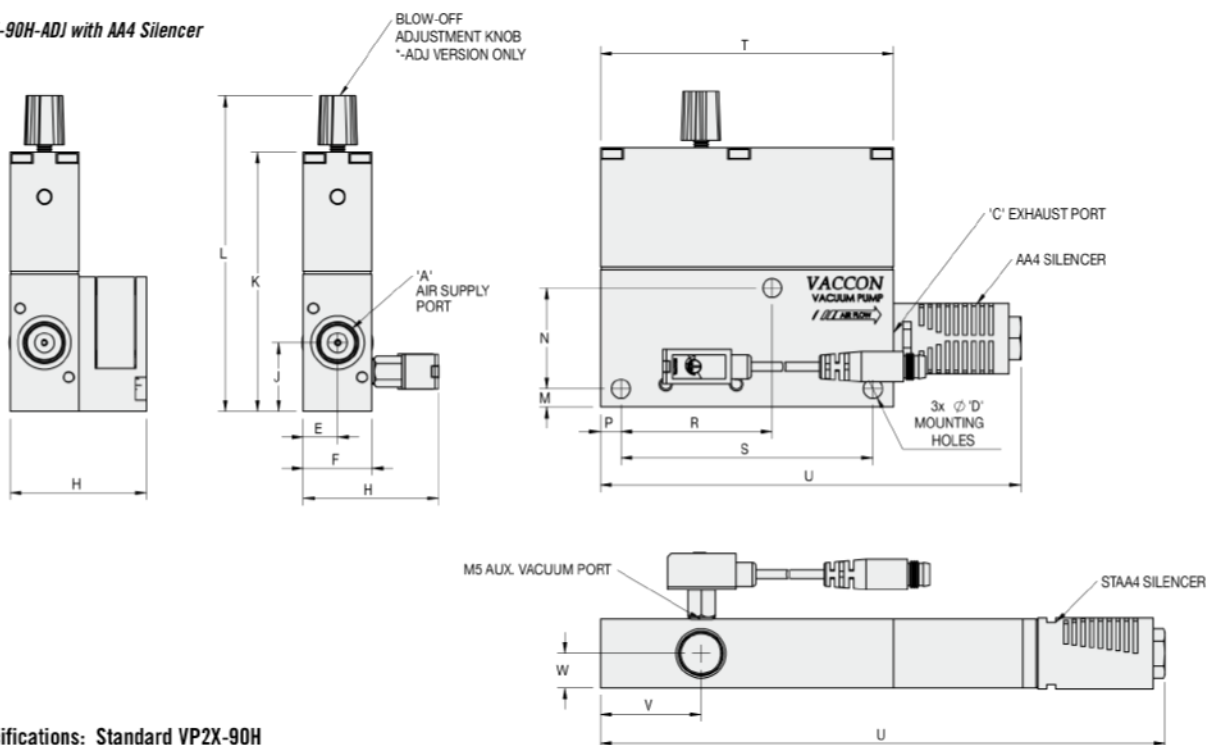


Modular Venturi Vacuum Pumps w/ Pneumatic Blow-Off – Mid Series

Standard Pump: VP2X-(60, 90, 100, 150) (L, M or H) (-ADJ)



VP2X-90H-ADJ with AA4 Silencer



Specifications: Standard VP2X-90H

Weight: 8.4 oz [238g]

Noise Level: 64 dB

Model #	Imperial Dimensions (in.)																		
VP2X (ADJ)	A	B	C	D	E	F	H	J	K	L	M	N	P	R	S	T	U	V	W
w/STAA4	1/4 NPT F	1/4 NPT F	1/4 NPT F	0.21	0.38	0.75	N/A	0.75	2.83	3.49	0.20	1.10	0.23	1.65	2.75	3.20	6.31	1.10	0.375
w/AA4							N/A										4.59		
w/ST4							N/A										5.06		
w/VSMP-QD-6, VTMV-QD-6, SX-4, SX-5							1.49										N/A		
Model #	Metric Dimensions (mm)																		
I-VP2X (ADJ)	A	B	C	D	E	F	H	J	K	L	M	N	P	R	S	T	U	V	W
w/STAA4	G 1/4	G 1/4	G 1/4	5.33	9.65	19.05	N/A	19.05	71.88	88.65	5.08	27.94	5.84	41.91	69.85	81.28	160.27	27.94	9.53
w/AA4							N/A										116.59		
w/ST4							N/A										128.52		
w/VSMP-QD-6, VTMV-QD-6, SX-4, SX-5							37.85										N/A		

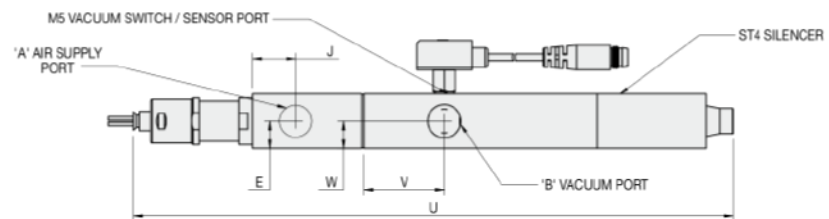
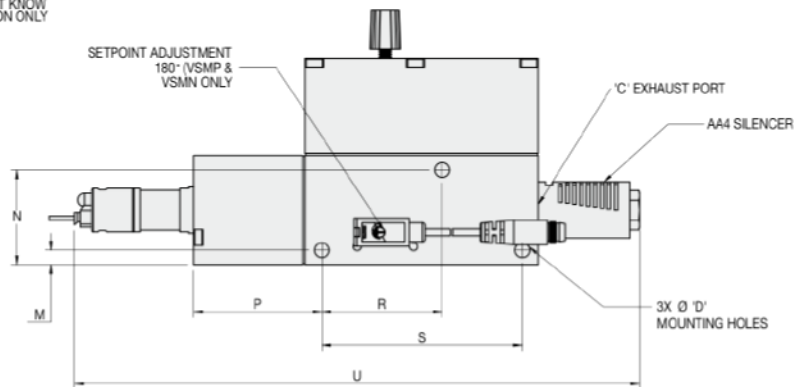
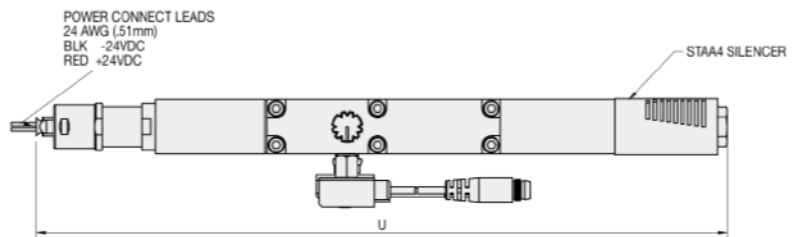
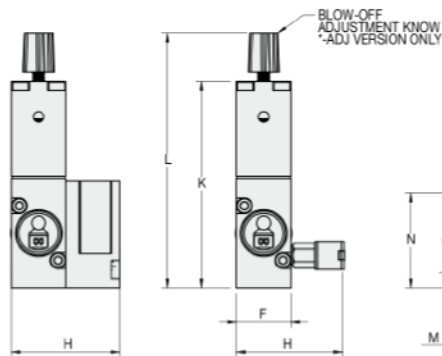


Modular Venturi Vacuum Pumps w/ Pneumatic Blow-Off – Mid Series

Standard Pump: VP2XBV-(60, 90, 100, 150) (L, M or H) (-ADJ)



VP2XBV-90H-ADJ with ST4 Silencer



Specifications: Standard VP2XBV-90H

Weight: 11.4oz [323.2g]

Noise Level: 64 dB

Model #	Imperial Dimensions (in.)																		
VP2XBV (ADJ)	A	B	C	D	E	F	H	J	K	L	M	N	P	R	S	U	V	W	Y
w/STAA4	1/8 NPT F	1/4 NPT F	1/4 NPT F	0.21	0.38	0.75	N/A	0.59	2.83	3.49	0.20	1.30	1.76	1.65	2.75	9.47	1.10	0.38	1/8 NPT
w/AA4							N/A									7.75			
w/ST4							N/A									8.22			
w/VSMP-QD-6, VTMV-QD-6, SX-4, SX-5							1.49									N/A			
Model #	Metric Dimensions (mm)																		
I-VP2XBV (ADJ)	A	B	C	D	E	F	H	J	K	L	M	N	P	R	S	U	V	W	Y
w/STAA4	G 1/8	G 1/4	G 1/4	5.33	9.65	19.05	N/A	14.99	71.88	88.65	5.08	33.02	44.70	41.91	69.85	240.6	27.94	9.65	G 1/8
w/AA4							N/A									196.9			
w/ST4							N/A									208.8			
w/VSMP-QD-6, VTMV-QD-6, SX-4, SX-5							37.85									N/A			

*-ADJ Version Only



Mid Series Fastbreak Venturi Vacuum Pump with Pneumatic Blow-Off and Silencer

VP1X & VP1X-ADJ



Standard Pump:

VP1X & VP1X-ADJ air-powered venturi vacuum pumps are trusted for accurate part placement and rapid part release. The reliable Fastbreak Mid Series provides both vacuum and blow-off in one pump, using only one compressed air line. No electricity required.

The integrated pneumatic high-speed blow off on the VP1X pump provides a fixed-duration blow-off, based on the volume of the housing. With the VP1X-ADJ adjustable vacuum pump, you can control the intensity of the blow-off using one fingertip adjustment knob. (Customer-supplied directional control valve with exhaust required.)

For applications where you need to control the duration of the blow-off, please see VP35 Series on page 81.

For applications where you need a solenoid operated pump with a pneumatic blow-off, please see VP2XBV on page 67.

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Ideal Applications:

- Pick & place applications requiring accurate part placement and rapid part release:
 - ~ Palletizing
 - ~ Packaging machines
 - ~ High speed labeling machines
 - ~ Sheet feeders
 - ~ Robotic end effectors
 - ~ Automated assembly

Features/Benefits:

- Fast Response – compact, lightweight, and installs close to vacuum point
- Trouble-free operation:
 - ~ Straight-through design, non-clogging
 - ~ No flap valves to stick open
 - ~ Automatically cleans vacuum lines
 - ~ No downtime
- High productivity – rapid part release, cycle rates up to 900/min
- Modular design – add vacuum sensors and solenoid valves to create a complete vacuum system
- Reliable part detection – factory installed miniature vacuum switches or sensors

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:

- ADJ version allows the user to set the intensity of the blow-off from no blow-off to full blow-off
- Interchangeable venturi cartridges – 11 different performance levels
- Factory-installed miniature vacuum switches or sensors with quick disconnect for reliable part detection
- Silencers – ST4 (straight-through) silencer won't clog, or 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

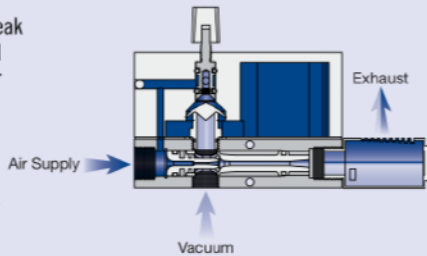


Modular Venturi Vacuum Pumps w/ Pneumatic Blow-Off – Mid Series

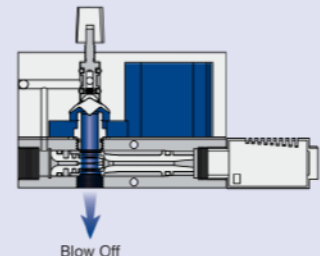
Principles of Operation: VP1X & VP1X-ADJ

Fastbreak pumps provide both suction and blow-off with a single supply of compressed air controlled by a pneumatic valve.

Utilizing quick exhaust valve technology, Fastbreak pumps store compressed air in the upper chamber while simultaneously generating vacuum. The quick exhaust diaphragm seals the compressed air chamber from the suction line.



To release the part, deactivate the air supply. The vacuum stops and the rapid drop in pressure shifts the quick exhaust diaphragm into the up position allowing the store compressed air to vent into the vacuum line.



When handling small and lightweight parts, choose the adjustable version (-ADJ) shown above to control the blow-off intensity.

***Note:** A customer supplied solenoid valve controlling the compressed air to the Fastbreak pump must be in close proximity to the pump and vent to atmosphere for the quick exhaust valve to actuate properly.

VP1X and VP1X-ADJ Standard Pump Specifications:

Body Material:	Anodized Aluminum, Nebar, Brass, Buna-N, Vinyl, Nylon, Alloy Steel (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 gases	
Operating Temperature:	+32° to ~125° F [0° to ~52°C]	
Operating Pressure:	80 PSI [5.5 bar] standard or 60 PSI [4.1 bar] – Consult Factory for other operating pressures	
Cycle Rates:	Up to 900/min	
Blow-off Response Time:	Instantaneous	
Orientation:	Any position	
Blow-off Duration:	100 milliseconds (based on system design)	

VP1X and VP1X-ADJ Operating and Installation Requirements:

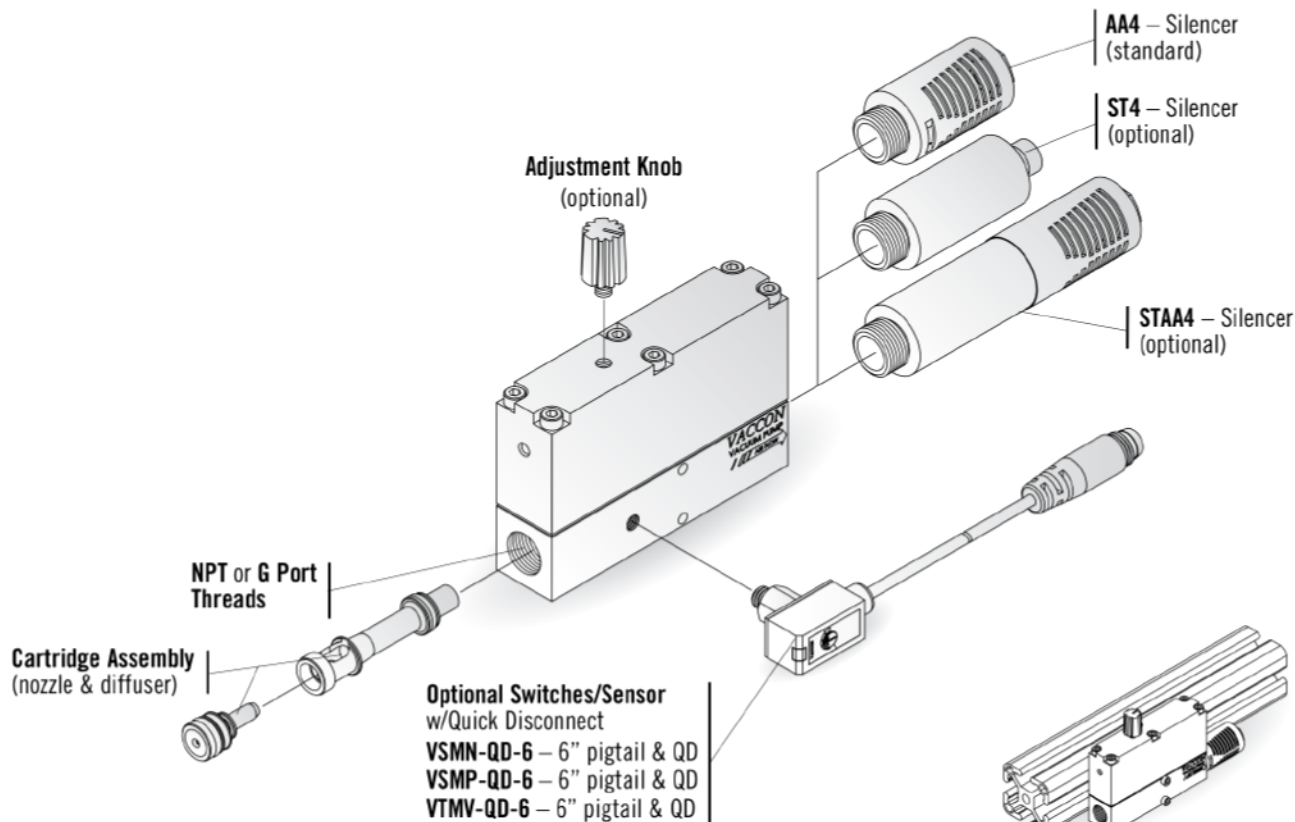
Cartridge size:	C60 (M, H) and C90 (L, M, H)	C100 (L, M, H) and C150 (L, M, H)
Supply Line:	1/4" O.D. [6mm] tube recommended	3/8" O.D. [10mm] tube recommended
Vacuum Line:	1/4" O.D. [6mm] tube recommended	3/8" O.D. [10mm] tube recommended
Vacuum Line Filtration:	Typically vacuum filters are not required. If desired, Vaccon recommends – VF-125LPM – See page 254	Typically vacuum filters are not required. If desired, Vaccon recommends – VF-250F – See page 254
Control Valve:	3 way/2 position, minimum orifice - 0.125" ID [3mm]	
Mounting Holes:	Mounting holes accept 4-40 [M3] screws	



Modular Venturi Vacuum Pumps w/ Pneumatic Blow-Off – Mid Series

VP1X & VP1X-ADJ Fastbreak 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:

VP1X - 60 H - - - - - ADJ - ST4 -

P/N	Imperial Thread
VP1X	NPT
P/N	Metric Thread
I-VP1X	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	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

P/N	Adjustable Blow-off
	Not Adjustable (Standard)
ADJ	Adjustable Blow-off

VP1X pumps are Fractional and Metric T-slot compatible. See E0AT Section.

For complete Performance Data, see page 94.



Modular Venturi Vacuum Pumps w/ Pneumatic Blow-Off – Mid Series

Standard: VP1X - (60, 90, 100, 150) (L, M or H) (-ADJ) Pump



VP1X-90H-ADJ with AA4

Specifications:

Weight: 5.7 oz [162g]
Noise Level: 64 dB



VP1X-60M with ST4

Specifications:

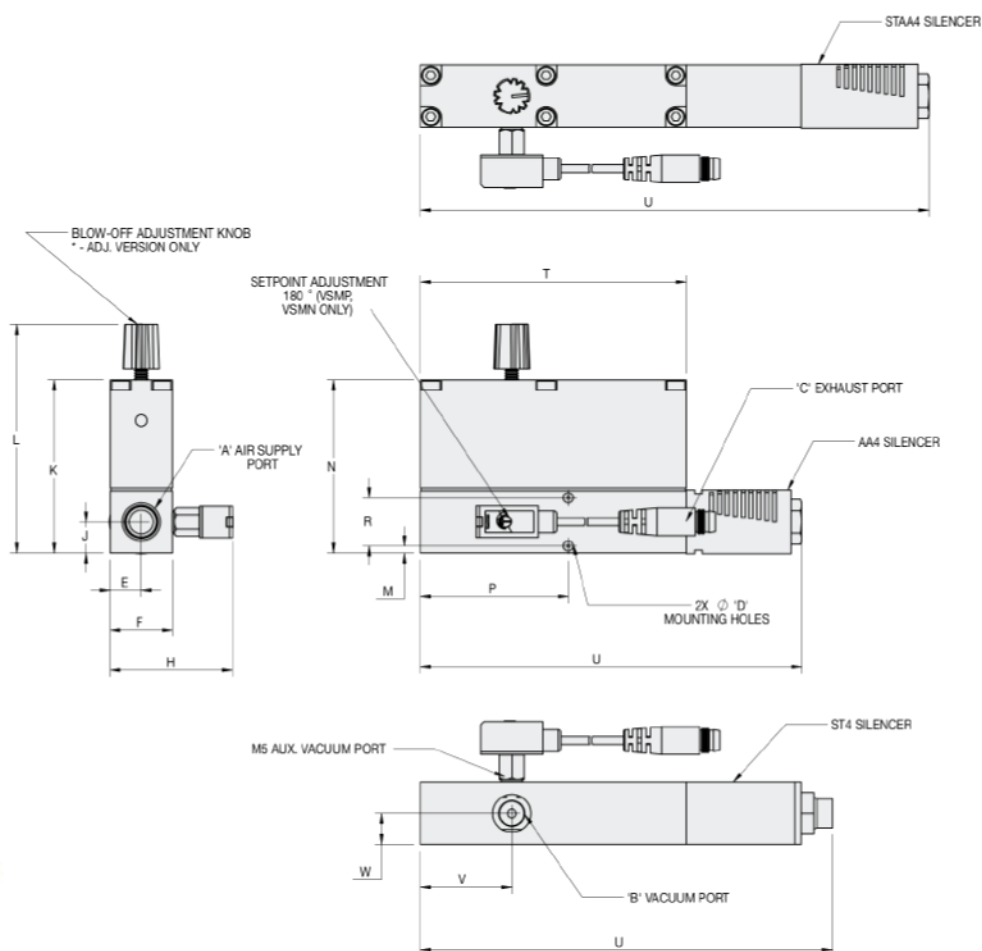
Weight: 5.8 oz [162g]
Noise Level: 66 dB



VP1X-100M-ADJ with STAA4

Specifications:

Weight: 6.0 oz [162g]
Noise Level: 58 dB



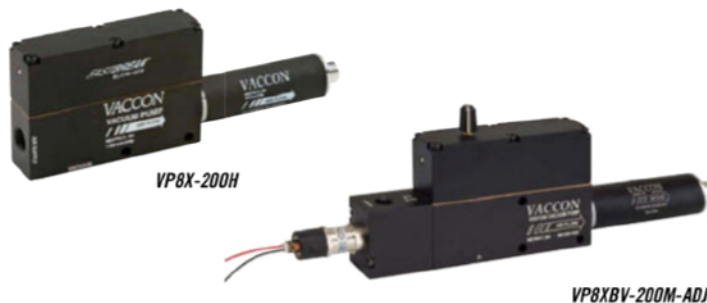
Model #	Imperial Dimensions (in.)																	
VP1X (ADJ)	A	B	C	D	E	F	H	J	K	L*	M	N	P	R	T	U	V	W
w/AA4	1/4 NPT F	1/8 NPT F	1/4 NPT F	0.12	0.38	0.75	1.49	0.38	2.08	2.75	0.09	2.08	1.78	.58	3.20	6.18	1.10	0.38
w/ST4																4.60		
w/STAA4																5.06		
Model #	Metric Dimensions (mm)																	
I- VP1X (ADJ)	A	B	C	D	E	F	H	J	K	L*	M	N	P	R	T	U	V	W
w/AA4	G 1/4	G 1/8	G 1/4	3.05	9.65	19.05	37.83	9.53	52.83	69.85	2.29	52.83	45.21	14.73	81.28	156.97	27.94	9.53
w/ST4																116.84		
w/STAA4																128.52		

*-ADJ Version Only



Max Series Venturi Vacuum Pump with Pneumatic Blow-off and Silencer

Fastbreak Max Series: VP8X & VP8X-ADJ/VP8XBV & VP8XBV-ADJ



Standard Pump:

VP8X & VP8X-ADJ and VP8XBV & VP8XBV-ADJ air-powered venturi vacuum pumps are trusted for accurate part placement and rapid part release. The reliable Fastbreak Max Series provides both vacuum and blow-off in one pump, using only one compressed air line. No electricity required.

The integrated pneumatic high-speed blow-off on the VP8X and VP8XBV pumps provide a fixed-duration blow-off, based on the volume of the housing. With the VP8X-ADJ and VP8XBV-ADJ adjustable vacuum pumps, you can control the intensity of the blow-off using one fingertip adjustment knob. (Non-BV versions require customer-supplied directional control valve with exhaust.) The VP8XBV pumps offer an integrated valve for increased production cycles.

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

Eliminate the Guesswork: Contact Us!

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 506-359-7200 or 800-848-8788 or email engineering@vaccon.com

Ideal Applications:

Pick & place applications requiring accurate part placement and rapid part release:

- ~ Palletizing
- ~ Packaging machines
- ~ High speed labeling machines
- ~ Sheet feeders
- ~ Robotic end effectors
- ~ Automated assembly

Features/Benefits:

- Fast Response – compact, lightweight, and installs close to vacuum point
- Trouble-free operation:
 - ~ Straight-through design, non-clogging
 - ~ No flap valves to stick open
 - ~ Automatically cleans vacuum lines
 - ~ No downtime
- High productivity – rapid part release, cycle rates up to 900/min
- Modular design – add vacuum sensors and solenoid valves to create a complete vacuum system
- Multiple functions from just one PLC output – requires fewer outputs, less costly, easy to program
- Reliable part detection – factory installed miniature vacuum switches or sensors

Pump Options:

- ADJ version allows the user to set the intensity of the blow-off from no blow-off to full blow-off
- Integrated 2-way valve - 24VDC, normally closed
- Factory-installed miniature vacuum switches or sensors with quick disconnect for reliable part detection
- FA-51-3/8 silencer for high flow applications, STAA6 hybrid silencer 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

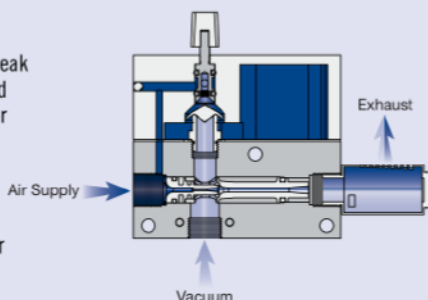


Modular Venturi Vacuum Pumps w/ Pneumatic Blow-Off – Max Series

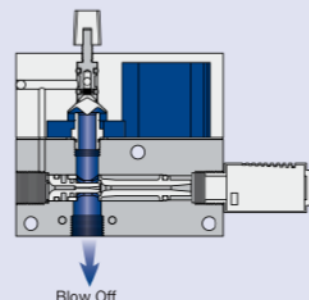
Principles of Operation: VP8X & VP8X-ADJ

Fastbreak pumps provide both suction and blow-off with a single supply of compressed air controlled by a pneumatic valve.

Utilizing quick exhaust valve technology, Fastbreak pumps store compressed air in the upper chamber while simultaneously generating vacuum. The quick exhaust diaphragm seals the compressed air chamber from the suction line.



To release the part, deactivate the air supply. The vacuum stops and the rapid drop in pressure shifts the quick exhaust diaphragm into the up position allowing the stored compressed air to vent into the vacuum line.



When handling small and lightweight parts, choose the adjustable version (-ADJ) shown above to control the blow-off intensity.

***Note:** A customer supplied solenoid valve controlling the compressed air to the Fastbreak pump must be in close proximity to the pumps and vent to atmosphere for the quick exhaust valve to actuate properly.

VP8X and VP8X-ADJ/VP8XBV and VP8XBV-ADJ Standard Pump Specifications:

Body Material:	Anodized Aluminum, Nebar, Brass, Buna-N, Vinyl, Nylon, Alloy Steel (Buna-N on ADJ pumps only) (For silencer material, see page 244 - 248)
Medium:	Filtered (100 Micron) un-lubricated, non-corrosive dry gases
Operating Temperature:	+32° to ~125° F [0° to ~52°C]
Operating Pressure:	80 PSI [5.5 bar] or 60 PSI [4.1 bar] – Consult Factory for other operating pressures
Cycle Rates:	Up to 900/min
Blow-off Response Time:	Instantaneous
Orientation:	Any position
Blow-off Duration:	100 milliseconds (based on system design)

Optional 2-Way Valve Specifications:

Valve Type:	Axial 2-Way Solenoid Valve, Normally closed
Valve Body Material:	Brass, Aluminum, Buna-N
Valve Operating Pressure:	Vacuum to 120 PSI [-1 to 8 bar]
Electrical:	24 VDC [-15% to +10% Nominal]
Power Consumption:	4 watts
Response Time:	6 milliseconds
Cycle Rate:	80 cycles/second
Average Life:	100 million cycles or better
Electrical Connection:	2 Pin Connector with 24 AWG, 18" leads [457.2mm]
LED Indicator:	Yes

VP8X and VP8X-ADJ/VP8XBV and VP8XBV-ADJ Operating and Installation Requirements:

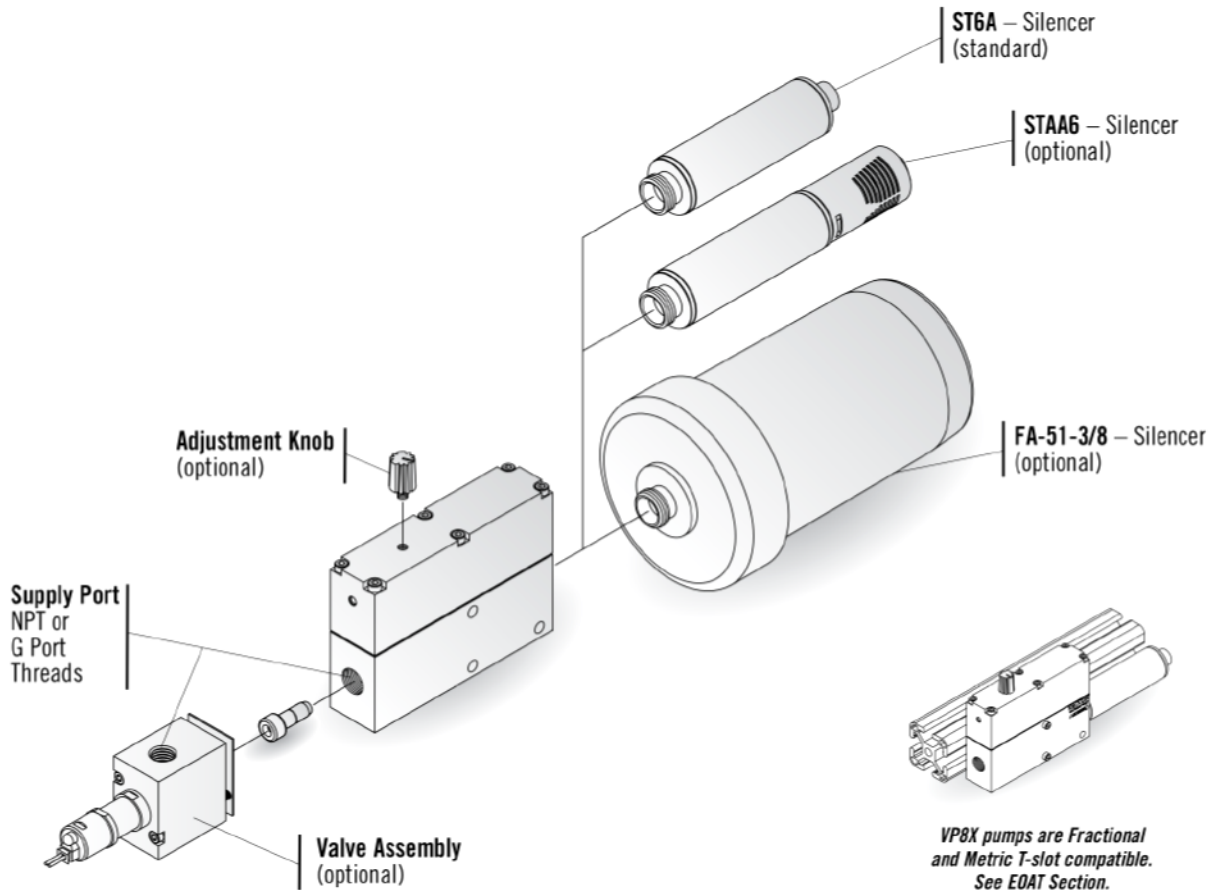
Supply Line:	3/8" O.D. [10mm] tube recommended, not to exceed 3' [1M]
Vacuum Line:	3/8" O.D. [10mm] tube recommended, not to exceed 3' [1M]
Control Valve:	3 way/2 position, minimum orifice - 0.156" diameter [4mm]
Vacuum Line Filtration:	Typically vacuum filters are not required. If desired, Vaccon recommends – VF375F. See page 254.
Mounting Holes:	Mounting holes accept #10-32 [M5] screws



Modular Venturi Vacuum Pumps w/ Pneumatic Blow-Off – Max Series

VP8X & VP8X-ADJ Fastbreak Max 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:

		VP8X-200 - H - 60 - ADJ -					
P/N	Imperial Thread-NPT					P/N	Silencer
VP8X-200	No Valve					ST-6A	Straight-Through (Standard)
VP8XBV-200	with Valve Assy					STAA6	Hybrid
P/N	Metric Thread-G Port					FA-51-3/8	High Flow
I-VP8X-200	No Valve					P/N	Adjustable Blow-off
I-VP8XBV-200	with Valve					Not Adjustable	(Standard)
P/N	Max. Vac Level					ADJ	Adjustable Blow-off
L	10"Hg [339 mbar]					P/N	Operating Pressure
M	20"Hg [677 mbar]					80 PSI [5.5 bar]	(Standard)
H	28"Hg [948 mbar]					60	60 PSI [4.1 bar]

For complete Performance Data, see page 136.



Modular Venturi Vacuum Pumps w/ Pneumatic Blow-Off – Max Series

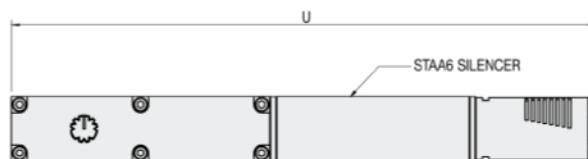
Standard Pump: VP8X-200 (L, M or H) (-ADJ)



VP8X-200M with STAA6 Silencer

Specifications:

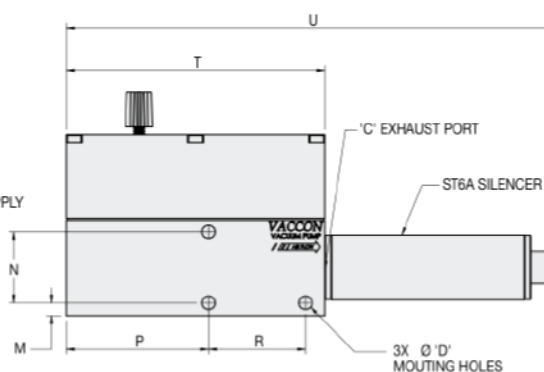
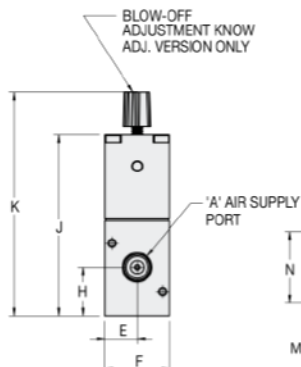
Weight: 15.6 oz [442g]
Noise Level: 64 dB



VP8X-200H-ADJ with ST6A Silencer

Specifications:

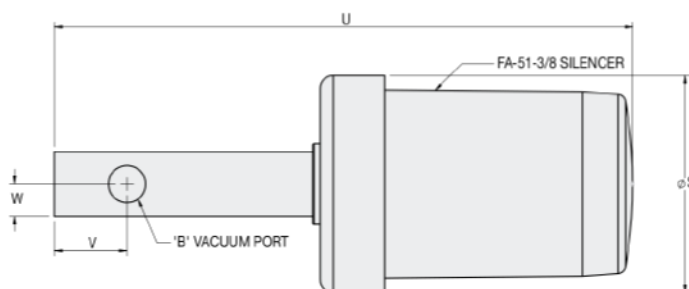
Weight: 15 oz [425g]
Noise Level: 72 dB



VP8X-200H-ADJ with FA-51-3/8 silencer

Specifications:

Weight: 2 lbs [1kg]
Noise Level: 73 dB



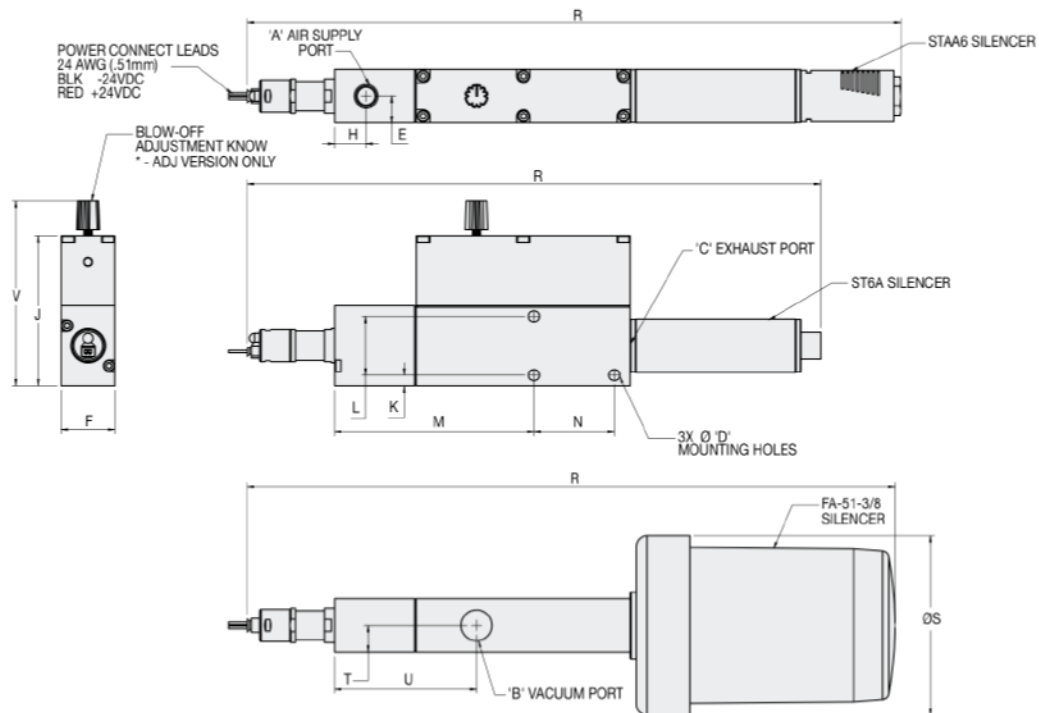
Model #	Imperial Dimensions (in.)																	
VP8X-200 (ADJ)	A	B	C	D	E	F	H	J	K*	M	N	P	R	S	T	U	V	W
w/ST-6A	1/4 NPT F	3/8 NPT F	3/8 NPT F	0.21	0.50	1.00	0.75	2.80	3.46	0.20	1.10	2.20	1.50	3.36	4.00	7.56	1.13	0.50
w/STAA6																9.06		
w/FA-51-3/8																9.70		
Model #	Metric Dimensions (mm)																	
I-VP8X-200 (ADJ)	A	B	C	D	E	F	H	J	K*	M	N	P	R	S	T	U	V	W
w/ST-6A	G 1/4	G 3/8	G 3/8	5.3	12.7	25.4	19.1	71.1	87.9	5.1	27.9	55.9	38.1	85.3	101.6	192.0	28.6	12.7
w/STAA6																230.1		
w/FA-51-3/8																246.4		

*-ADJ Version Only



Modular Venturi Vacuum Pumps w/ Pneumatic Blow-Off – Max Series

Standard Pump: VP8XBV-200 (L, M or H) (-ADJ)



VP8XBV-200H-ADJ with ST6A Silencer

Specifications:

Weight: 19.1 oz [541.5g]
Noise Level: 72 dB



VP8XBV-200M with STAA6 Silencer

Specifications:

Weight: 19.7 oz [558.5g]
Noise Level: 64 dB



VP8XBV-200H-ADJ with FA-51-3/8 silencer

Specifications:

Weight: 2 lbs 4 oz [1.021kg]
Noise Level: 73 dB

Model #	Imperial Dimensions (in.)																
VP8XBV-200 (ADJ)	A	B	C	D	E	F	H	J	K	L	M	N	R	S	T	U	V
w/STAA6	1/4 NPT F	1/4 NPT F	3/8 NPT F	0.21	0.50	1.00	0.59	2.80	0.20	1.10	3.73	1.50	12.22	3.36	0.50	2.66	3.46
w/ST-6A													10.73				
w/FA-51-3/8													16.90				
Model #	Metric Dimensions (mm)																
I-VP8XBV-200 (ADJ)	A	B	C	D	E	F	H	J	K	L	M	N	R	S	T	U	V
w/STAA6	G 1/4	G 1/4	G 3/8	5.3	12.7	25.4	15.0	71.1	5.1	27.9	94.7	38.1	310.4	85.3	12.7	67.6	87.9
w/ST-6A													272.4				
w/FA-51-3/8													429.3				

