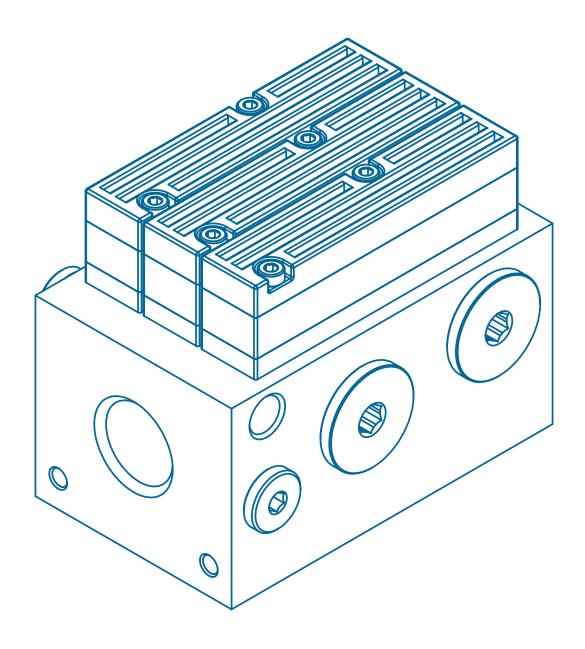
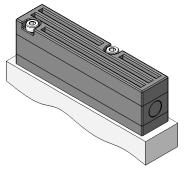
AX PUMPS

SECTION 6

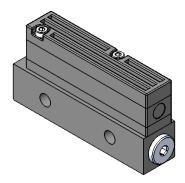




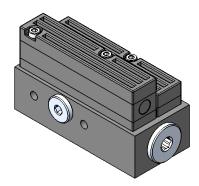
AX PUMPS



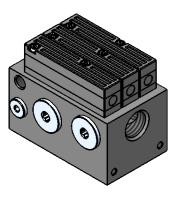
Z Option



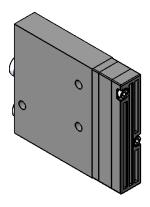
G 1/8 NPSF Bases



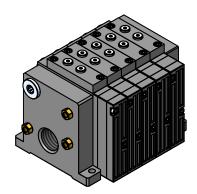
G 1/2 NPSF Bases



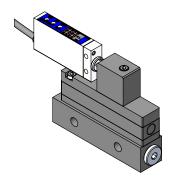
G 1/2 NPSF Bases Large Capacity



G 1/8 NPSF Bases w/ Integral Filter



Pump Manifolds



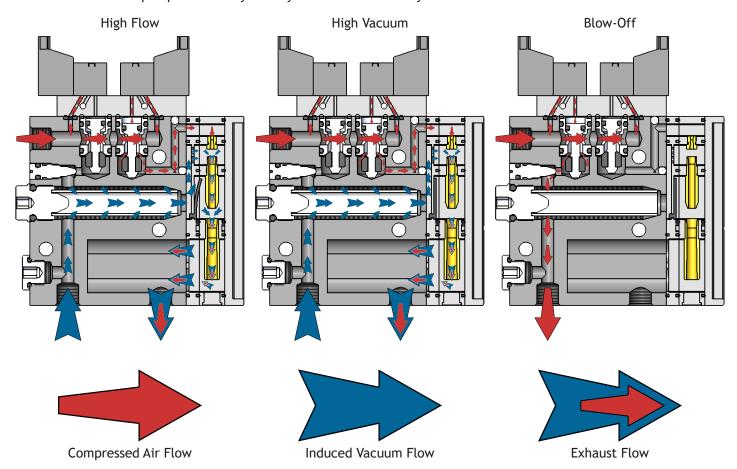
Sensor Options

Information	3
Z Option	4
G 1/8 NPSF Base	5
G 1/2 NPSF Base	6
G 1/2 NPSF Base (Large Capacity)	8
G 1/8 NPSF Base (Integral Filter)	10
Sensor Options	17
Pump Manifolds	18
Performance	20
<u> </u>	

AX PUMPS

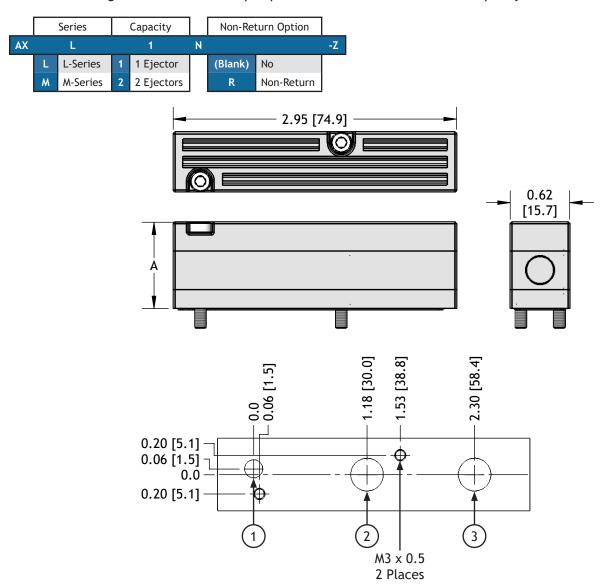
EDCO USA AX Series multi-stage vacuum pumps provide a wide array of styles and configurations to meet your system requirements.

- Modular design allows for stacking up to four pump capacities.
- Wide-range ejector nozzles can operate from 45 to 87 psi [3 to 6 bar].
- Proven coaxial technology provides greater efficiency than conventional ejectors.
- M-Series ejectors may be operated at low air feed pressure for protection from fluctuating factory air-supply pressures.
- L-Series ejectors produce high-vacuum flow suitable for handling porous objects or overcoming other system leakage.
- AX pumps operate at a lower air-pressure so fluctuations in plant air pressure will not affect vacuum pump performance.
- Multi-stage pump modules allow for fast evacuation and greater efficiency.
- Integrated solenoid valves eliminate extra plumbing. Low-power 24 V DC, 1.3 W coils are employed to reduce loads on PLC controllers.
- Choose from solenoid controlled, air-pilot controlled, or simple air-supply controls.
- Integrated solenoid valves control blow-off with adjustable flow controls are available.
- Automatic blow-off modules for single-input controls are available.
- Choose from a variety of different vacuum switches for system monitoring.
- Vacuum filters are replaceable.
- Manifold versions with 1 to 10 stations in common or separate air-supply configurations with control and sensing
 options are available.
- Manifolds include piped exhaust. Exhaust silencers are optional.
- High-quality finish includes anodizing or electroless nickel plating, stainless steel fasteners, stainless steel tie-rods, and glass-reinforced PPS pump modules and valve plates.
- Choose from many standard EDCO pump bases or selection the Z Base option for integration into your custom design.
- AX series vacuum pumps come fully factory assembled and ready for installation.



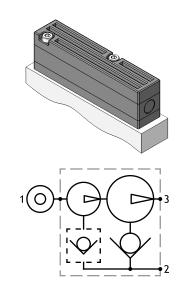
AX PUMPS: Z OPTION (ZERO / NO BASE)

- Complete pump module ready for integration into your custom design.
- M3 mounting screws and pump seals are included.
- Can be configured with one or two pump modules for more vacuum flow capacity.



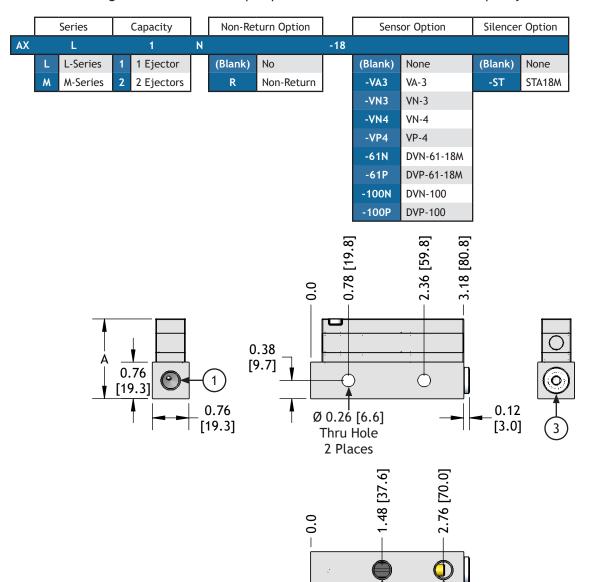
Capacity	A in [mm]	Weight oz [g]
1	0.90 [22.9]	1.71 [48.4]
2	1.30 [33.1]	2.44 [69.3]

Code	Function	Hole Ø in [mm]
1	Air Supply	0.19 [4.8]
2	Vacuum	0.34 [8.6]
3	Exhaust	0.34 [8.6]



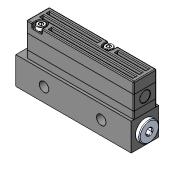
AX PUMPS: G 1/8 NPSF BASE

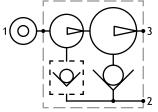
- Basic pump with two exhaust ports at 90° use the one most suitable for your application.
- Can be configured with one or two pump modules for more vacuum flow capacity.



Capacity	A in [mm]	Weight oz [g]
1	1.66 [42.2]	4.19 [118.7]
2	2.06 [52.4]	4.92 [139.6]

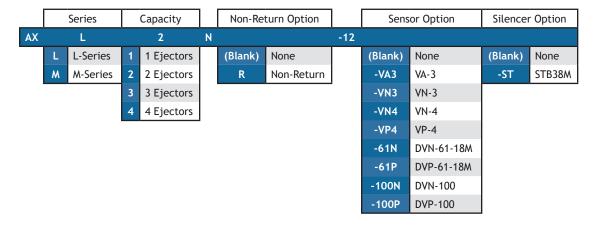
Code	Function	Ports
1	Air Supply	G 1/8 NPSF
2	Vacuum	G 1/8 NPSF
3	Exhaust	G 1/8 NPSF

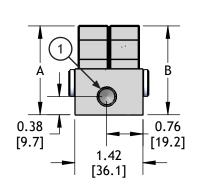


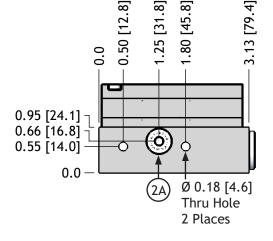


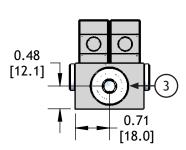
AX PUMPS: G 1/2 NPSF BASE

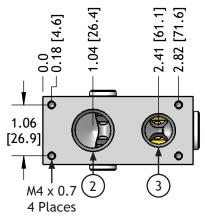
- Basic pump includes two exhaust ports at 90° use the port most suitable for your application.
- Configurable with one to four pump modules for more vacuum flow capacity.
- Two side auxiliary vacuum ports are included.





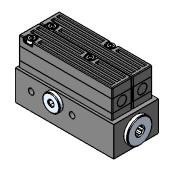


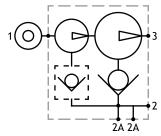




Capacity	A in [mm]	B in [mm]	Weight oz [g]
1	1.85 [47.0]	1.45 [66.8]	8.03 [227.8]
2	1.85 [47.0]	1.85 [47.0]	8.73 [247.6]
3	2.25 [57.2]	1.85 [47.0]	9.43 [267.4]
4	2.25 [57.2]	2.25 [57.2]	10.13 [287.2]

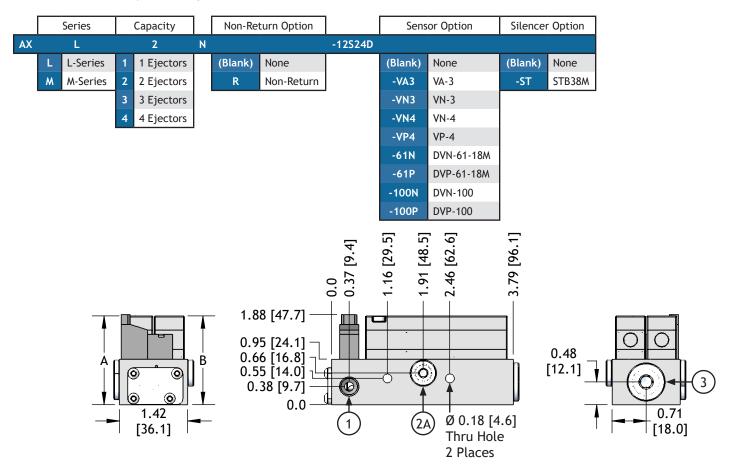
Code	Function	Ports
1	Air Supply	G 1/8 NPSF
2	Vacuum - Main	G 1/2 NPSF
2A	Vacuum - Alternate	G 1/8 NPSF
3	Exhaust	3/8 NPSF





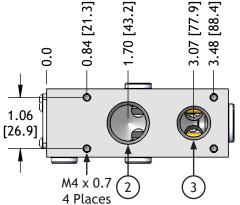
AX PUMPS: G 1/2 NPSF BASE W/ SOLENOID CONTROLLED AIR-SUPPLY

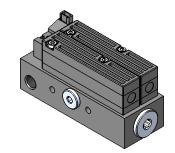
- Normally-closed solenoid valve controls vacuum-on, 24V DC, 1.3 W coil.
- Order solenoid cables separately. SV10-QD-1M (See system accessories.)
- Basic pump includes two exhaust ports at 90° use the port most suitable for your application.
- Configurable with one to four pump modules for more vacuum flow capacity.
- Two side auxiliary vacuum ports are included.

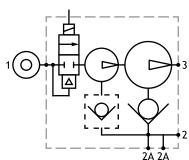


Capacity	A in [mm]	B in [mm]	Weight oz [g]
1	1.85 [47.0]	1.45 [66.8]	9.78 [277.4]
2	1.85 [47.0]	1.85 [47.0]	10.48 [297.2]
3	2.25 [57.2]	1.85 [47.0]	11.18 [316.9]
4	2.25 [57.2]	2.25 [57.2]	11.88 [336.7]

Code	Function	Ports
1	Air Supply	G 1/8 NPSF
2	Vacuum - Main	G 1/2 NPSF
2A	Vacuum - Alternate	G 1/8 NPSF
3	Exhaust	3/8 NPSF

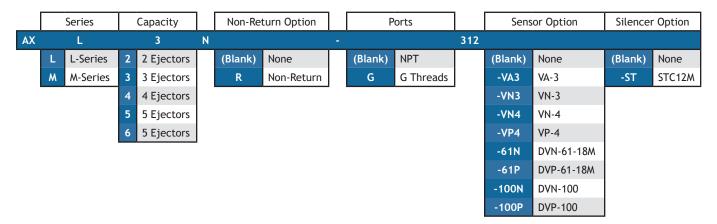


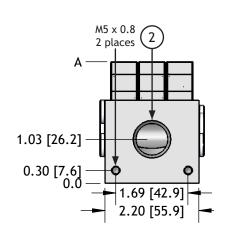


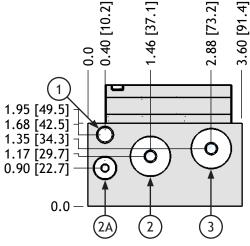


AX PUMPS: G 1/2 NPSF BASE FOR LARGE CAPACITIES

- Modular design includes rugged aluminum base for ease of installation and servicing.
- Three 1/2" pump vacuum ports simplify vacuum system plumbing use the most convenient ports and plug the
 rest.
- Low noise level and fast evacuation times.
- Optional vacuum gauge, exhaust silencer, and foot-mount brackets are available.







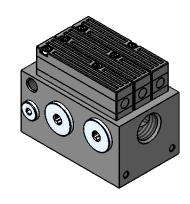
1.26 [32.0]

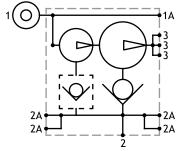


		M5 x 2 pla	
	0 (0 0	
1.35 [34.3]			
0.30 [7.6] — 0.0 —	•	Č	
	1.69 2.20		_

Capacity	A in [mm]	Weight oz [g]
2	1.85 [47.0]	686.11 [24.2]
3	1.85 [47.0]	705.9 [24.9]
4	2.25 [57.2]	725.68 [25.6]
5	2.25 [57.2]	745.47 [26.3]
6	2.25 [57.2]	765.25 [27.0]

Code	Function	NPT	G
1	Air Supply	G 1/8 NPSF	
2	Vacuum - Main	1/2 NPTF	G 1/2
2A	Vacuum - Alternate	G 1/8 NPSF	
3	Exhaust	1/2 NPTF	G 1/2
М	Mounting	1/4-20	M6 x 1.0



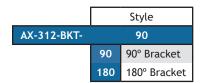


AX PUMPS: AX-312 MOUNTING BRACKETS

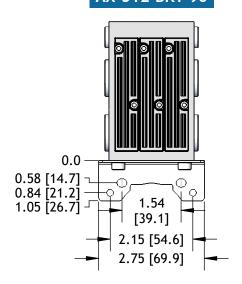
Stainless steel mounting brackets attach to the ends of the base. Straight and right angle versions are available.

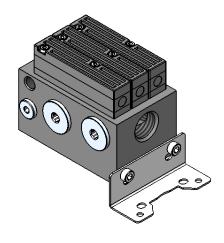
M5 SHCS (qty 2) Included for easy mounting.

Additional Weight: 1.29 oz [36.4 g]

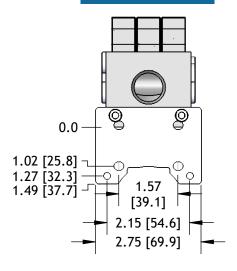


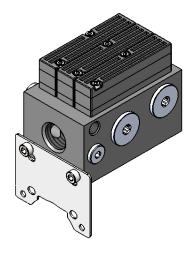
AX-312-BKT-90





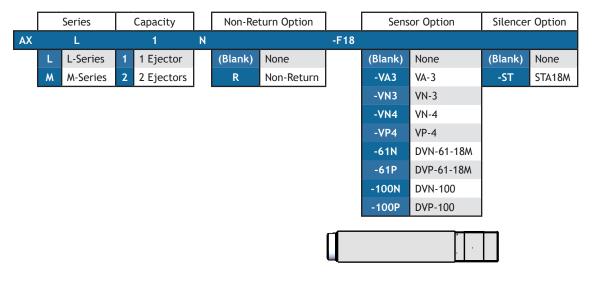
AX-312-BKT-180

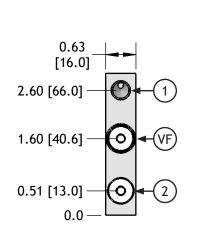


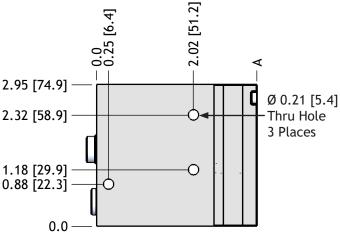


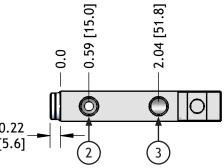
AX PUMPS: G 1/8 NPSF BASE W/ INTEGRAL FILTER

- Pump with filter and two vacuum ports at 90° use the most convenient port.
- Configurable with one or two pump modules for more vacuum flow capacity.
- RE10X50 filter element included.





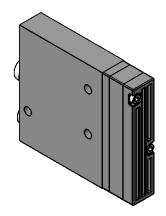


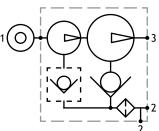


	— 0.0 — 0.59 [15.0	— 2.04 [51.8	
		Ф [0	
0.22 [5.6]	- 1	(3)	
		\bigcirc	

Capacity	A in [mm]	Weight oz [g]
1	3.34 [84.8]	7.00 [198.7]
2	3.74 [95.0]	7.71 [218.5]

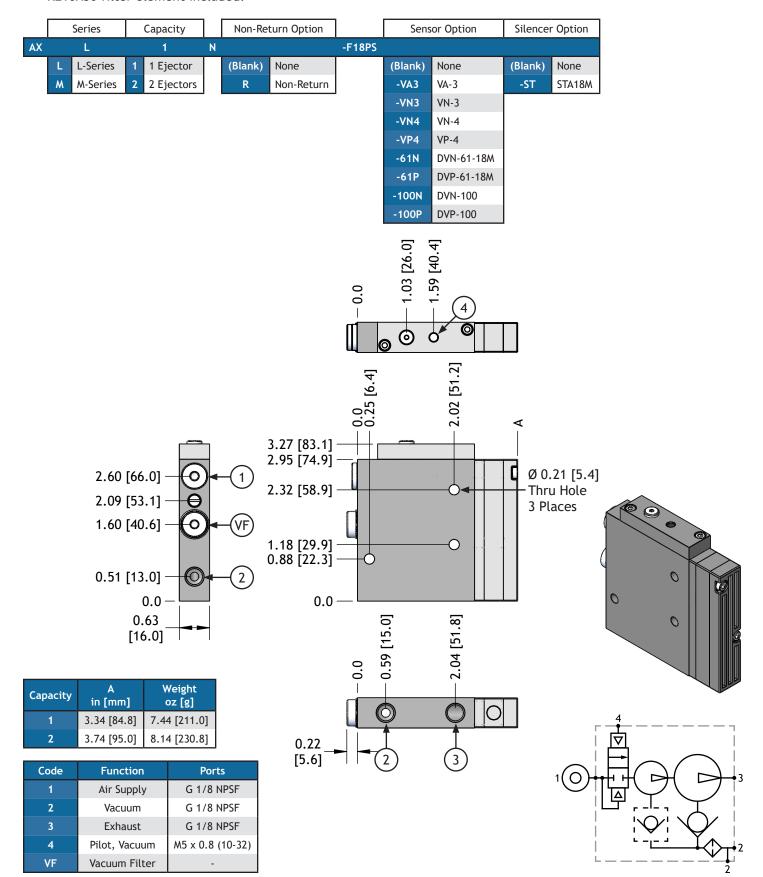
Code	Function	Ports
1	Air Supply	G 1/8 NPSF
2	Vacuum	G 1/8 NPSF
3	Exhaust	G 1/8 NPSF
VF	Vacuum Filter	-





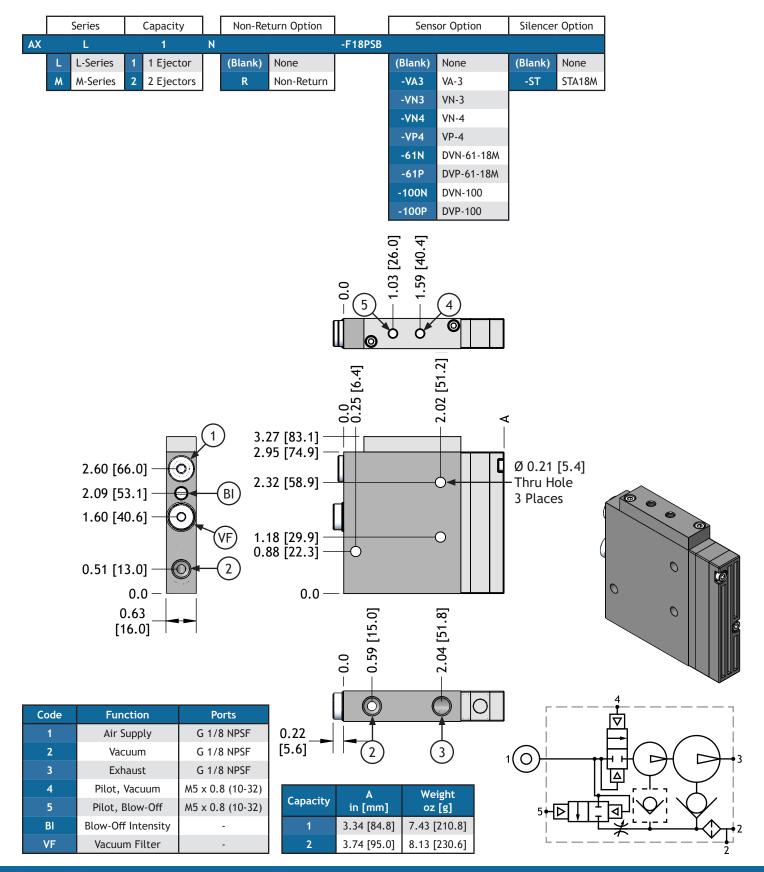
AX PUMPS: G 1/8 NPSF BASE W/ INTEGRAL FILTER & PILOT CONTROLLED SUPPLY

- Pump with filter and two vacuum ports at 90° use the most convenient port.
- Includes internal, air-piloted air supply control valve.
- Configurable with one or two pump modules for more vacuum flow capacity.
- RE10X50 filter element included.



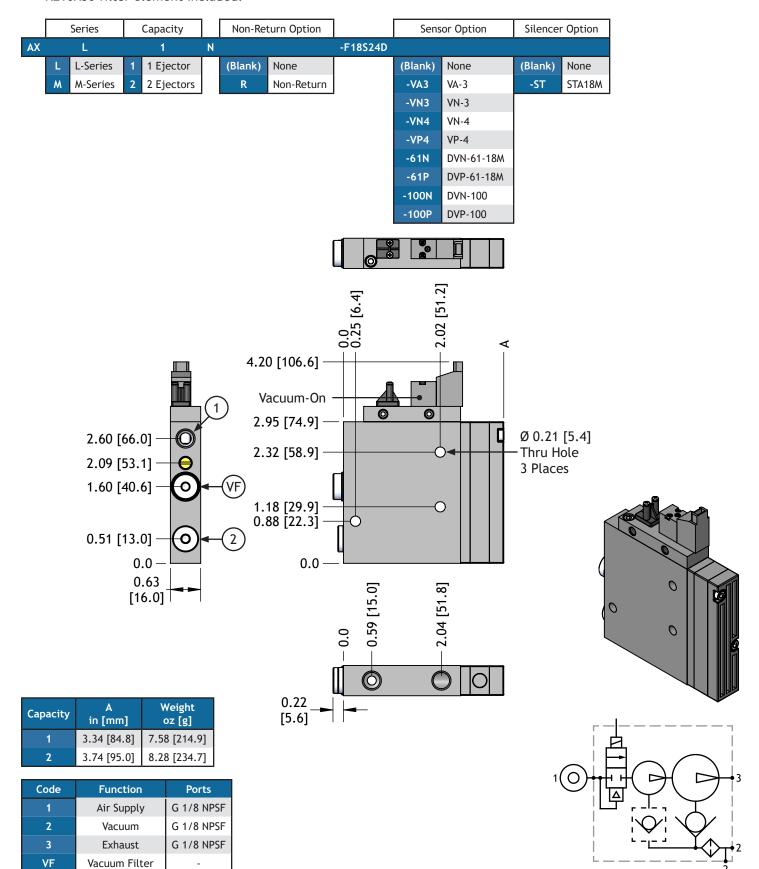
AX PUMPS: G 1/8 NPSF BASE W/ INTEGRAL FILTER & PILOT CONTROLLED SUPPLY / BLOW-OFF

- Pump with filter and two vacuum ports at 90° use the most convenient port.
- Includes internal, air-piloted air supply control valve and internal, air-piloted blow-off control valve with adjustable flow control.
- Configurable with one or two pump modules for more vacuum flow capacity.
- RE10X50 filter element included.



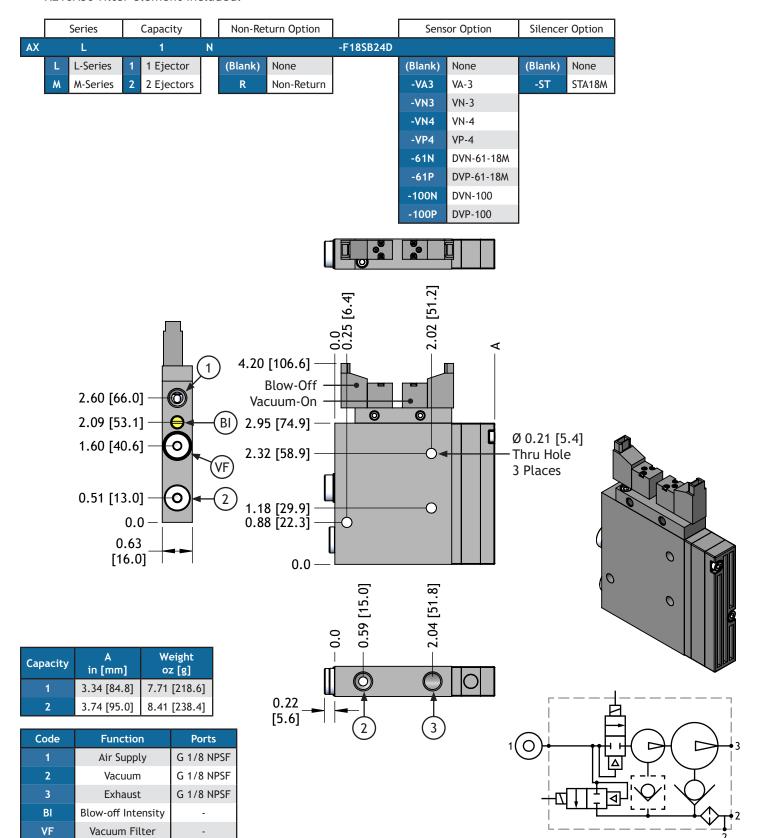
AX PUMPS: G 1/8 NPSF BASE W/ INTEGRAL FILTER & SOLENOID CONTROLLED SUPPLY

- Pump with filter and two vacuum ports at 90° use the most convenient port.
- Normally-closed solenoid valve (24V DC, 1.3W coil) controls vacuum-on. (Order cable separately. SV10-QD-1M)
- Configurable with one or two pump modules for more vacuum flow capacity.
- RE10X50 filter element included.



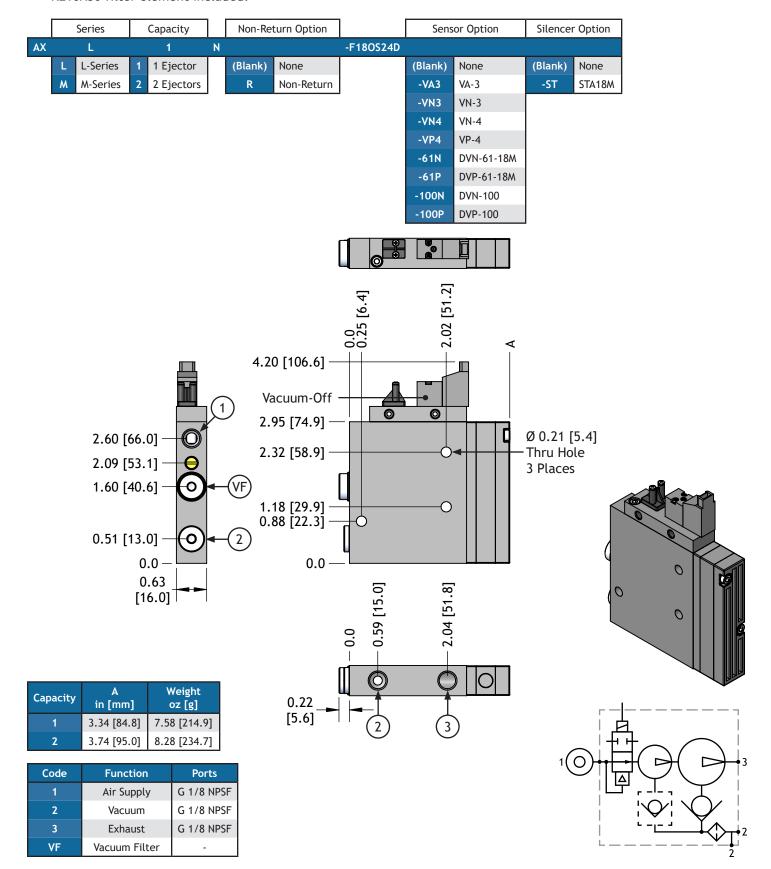
AX PUMPS: G 1/8 NPSF BASE W/ INTEGRAL FILTER & SOLENOID CONTROLLED SUPPLY / BLOW-OFF

- Pump with filter and two vacuum ports at 90° use the most convenient port.
- Normally-closed solenoid valve (24V DC, 1.3W coil) controls vacuum-on.
- Normally-closed solenoid valve (24V DC, 1.3W coil) controls blow-off (with adjustable flow control).
- Order solenoid cables separately. SV10-QD-1M
- Configurable with one or two pump modules for more vacuum flow capacity.
- RE10X50 filter element included.



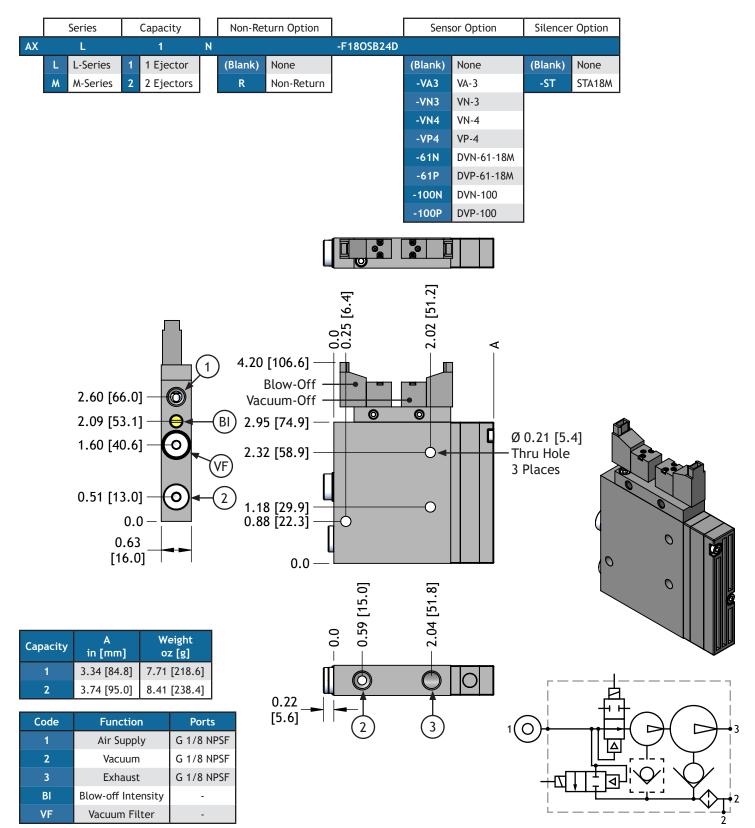
AX PUMPS: G 1/8 NPSF BASE W/ INTEGRAL FILTER & SOLENOID (N.O.) CONTROLLED SUPPLY

- Pump with filter and two vacuum ports at 90° use the most convenient port.
- Normally-opened solenoid valve (24V DC, 1.3W coil) controls vacuum-off. (Order cable separately. SV10-QD-1M)
- Normally-on vacuum retains parts in the event of a power failure.
- Configurable with one or two pump modules for more vacuum flow capacity.
- RE10X50 filter element included.



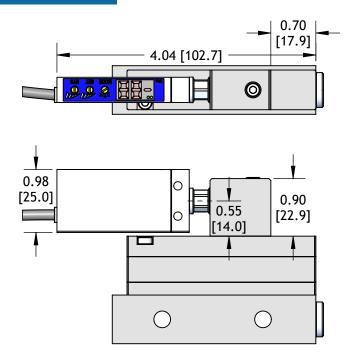
AX PUMPS: G 1/8 NPSF BASE W/ INTEGRAL FILTER & SOL (N.O.) CONTROLLED SUPPLY / BLOW-OFF

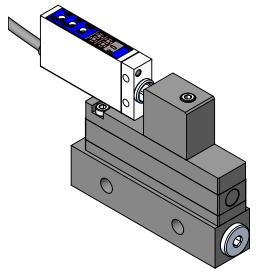
- Pump with filter and two vacuum ports at 90° use the most convenient port.
- Normally-opened solenoid valve (24V DC, 1.3W coil) controls vacuum-off.
- Normally-on vacuum retains parts in the event of a power failure.
- Normally-closed solenoid valve (24V DC, 1.3W coil) controls blow-off (with adjustable flow control).
- Order solenoid cables separately. SV10-QD-1M
- Configurable with one or two pump modules for more vacuum flow capacity.
- RE10X50 filter element included.



AX PUMPS: SENSOR OPTIONS

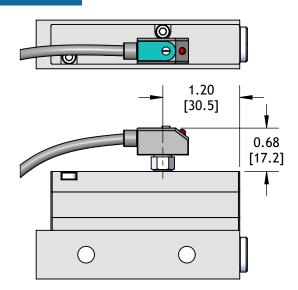
61 SERIES SENSORS

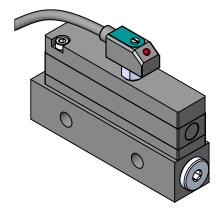




Additional Weight: 0.45 oz [12.8 g]

V SERIES SENSORS



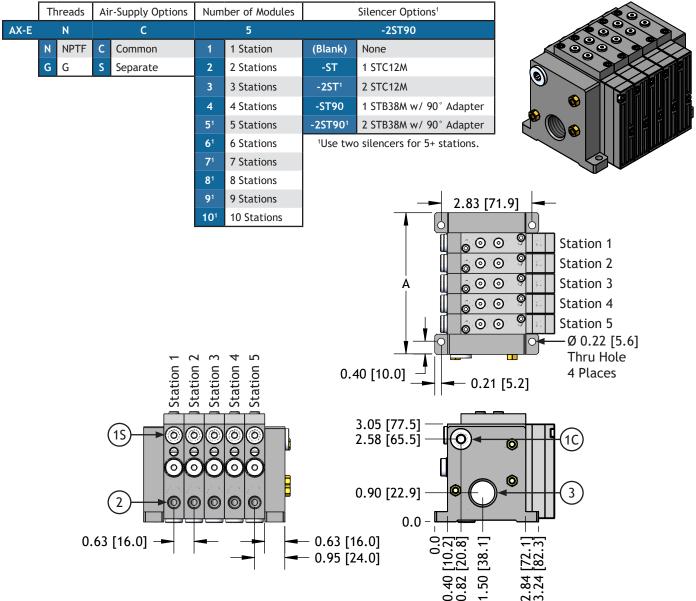


Additional Weight: 1.74 oz [49.4 g]

AX PUMPS: VACUUM PUMP MANIFOLDS

AX Series Vacuum Pumps can be used as a multi pump module manifold. All of our G 1/8 NPSF bases with integral filters (F18 models) can be used in these manifolds. To order a manifold, first, select your AX Manifold End Plate assembly. Next, decide which AX Manifold Pump Module(s) you'd like to use. Order each module as a separate line item and provide instructions for the order in which you'd like your manifold to be assembled.

AX PUMPS: MANIFOLD END PLATES



Capacity	A in [mm]	Weight oz [g]				
1	1.98 [48.0]	9.96 [282.3]				
2	2.52 [64.0]	10.22 [289.6]				
3	3.15 [80.0]	10.48 [297.0]				
4	3.78 [96.0]	10.74 [304.4]				
5	4.41 [112.0]	10.65 [301.9]				
6	5.04 [128.0]	10.91 [309.3]				
7	5.67 [144.0]	11.17 [316.6]				
8	6.30 [160.0]	11.43 [324.0]				
9	6.93 [176.0]	11.69 [331.4]				
10	7.56 [192.0]	11.95 [338.7]				

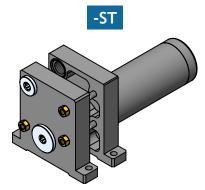
Code	Function	NPT G				
1C	Main Air Supply - Common	1/4 NPTF G 1/4				
15	Main Air Supply - Separate	G 1/8 NPSF				
2	Vacuum	G 1/8 NPSF				
3	Exhaust - Common	G 1/2	NPSF			

AX PUMPS: MANIFOLD PUMP MODULES

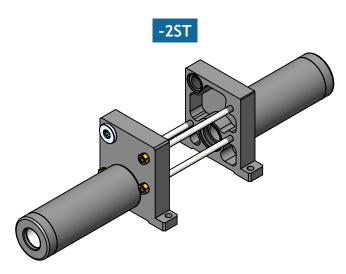
ı	Series		Capacity]	Non-Re	turn Option		Г	Air-Supply	Mod	dule Style	Sens	or Option
AX	L		1	N			-		С	18			•
	L L Series	1	1 Ejector		(Blank)	No		С	Common	18	Standard	(Blank)	None
	M M Series	2	2 Ejectors		R	Non-Return		S	Separate	18PS	Piloted Supply	-VA3	VA-3
										18PSB	Piloted Supply & Blow-Off	-VN3	VN-3
										18S24D	Solenoid Supply	-VN4	VN-4
										18SB24D	Solenoid Supply & Blow-Off	-VP4	VP-4
										180S24D	Solenoid Supply (N.O.)	-61N	DVN-61-18M
										180SB24D	Solenoid Supply (N.O.) & Blow-Off	-61P	DVP-61-18M
									•			-100N ¹	DVN-100
												-100P1	DVP-100

¹100 Series switches are too wide for use on adjacent modules.

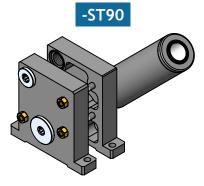
AX PUMPS: SILENCER OPTIONS



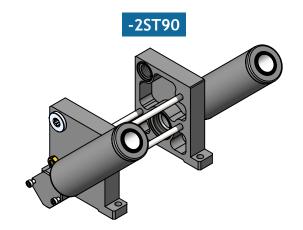
Additional Weight: 3.36 oz [95.3 g]



Additional Weight: 6.72 oz [190.6 g]



Additional Weight: 4.03 oz [114.4 g]

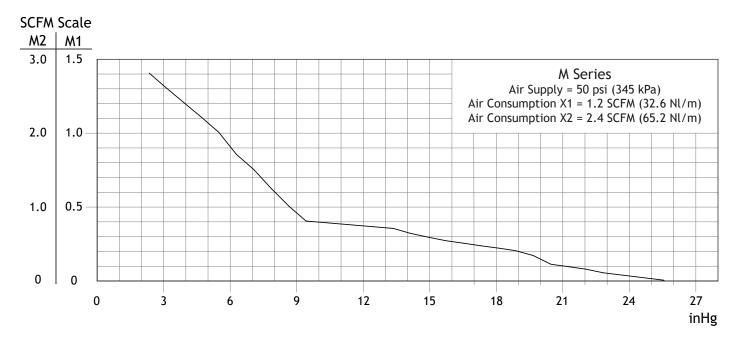


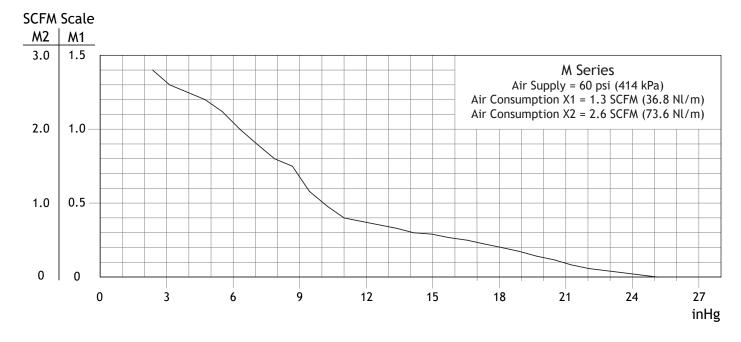
Additional Weight: 8.06 oz [228.8 g]

AX PUMPS: M-SERIES PERFORMANCE

AX-M series pumps are optimized for operation at 50 psi (3.5 bar) air-supply pressure. Performance data at any other air pressure is shown solely for reference and serves only to demonstrate the affect of operation at non-optimal air pressures. Do not expect identical performance to tabulated data.

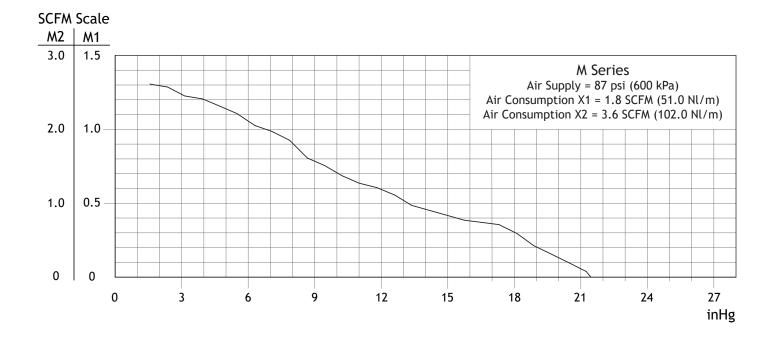
Graphs and tables show performance data at standard atmospheric conditions of 59° F (15° C) and 29.92 inHg (760 mmHg). Attainable vacuum levels will decrease with an increase in elevation or temperature.





AX PUMPS: M-SERIES PERFORMANCE

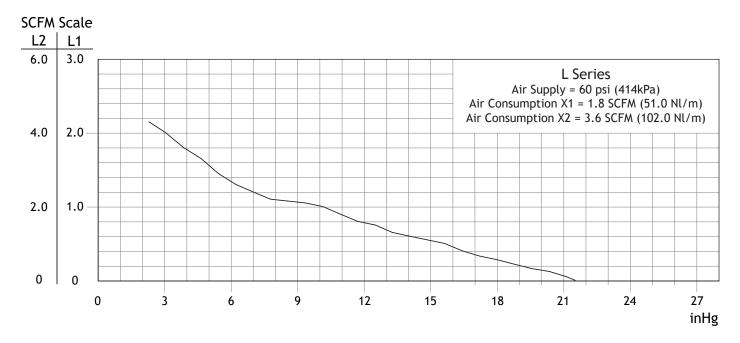
SCFM Scale M2 M1 3.0 1.5 M Series Air Supply = 72 psi (496 kPa) Air Consumption X1 = 1.5 SCFM (42.5 Nl/m)Air Consumption X2 = 3.0 SCFM (85.0 Nl/m) 2.0 1.0-0.5 1.0 0 9 0 3 6 12 15 18 21 24 27 inHg

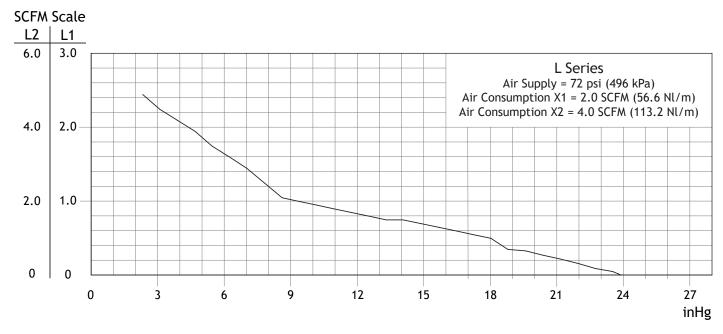


AX PUMPS: L-SERIES PERFORMANCE

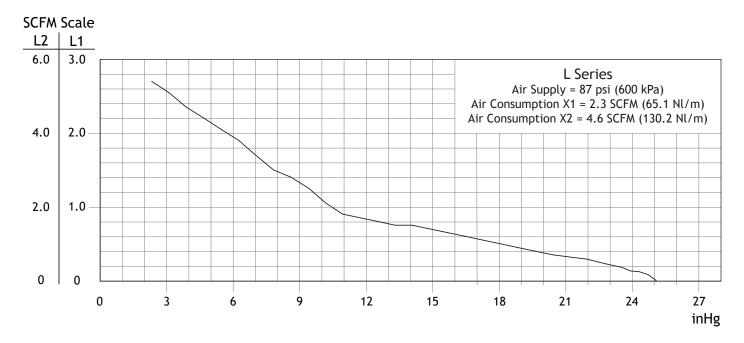
AX-L series pumps are optimized for operation at 87 psi (6.0 bar) air-supply pressure. Performance data at any other air pressure is shown solely for reference and serves only to demonstrate the affect of operation at non-optimal air pressures. Do not expect identical performance to tabulated data.

Graphs and tables show performance data at standard atmospheric conditions of 59° F (15° C) and 29.92 inHg (760 mmHg). Attainable vacuum levels will decrease with an increase in elevation or temperature.





AX PUMPS: L-SERIES PERFORMANCE



AX PUMPS: PERFORMANCE

VACUUM FLOW - SCFM

	Air	Air	Max								
Model	Supply PSI	Cons. SCFM	Vacuum inHG	3 inHG	6 inHG	9 inHG	12 inHG	15 inHG	18 inHG	21 inHG	24 inHG
AXM1N	50	1.2	25.5	1.30	0.91	0.46	0.37	0.29	0.22	0.10	0.03
AXM1N	60	1.3	25.1	1.32	1.00	0.67	0.37	0.29	0.20	0.10	0.02
AXM1N	72	1.5	24.8	1.31	1.10	0.86	0.40	0.34	0.17	0.06	0.01
AXM1N	87	1.8	21.4	1.23	1.05	0.78	0.59	0.41	0.30	0.05	0.004
AXL1N	60	1.8	21.6	2.03	1.35	1.06	0.79	0.55	0.29	0.07	-
AXL1N	72	2.0	24.0	2.28	1.65	1.03	0.84	0.70	0.51	0.24	-
AXL1N	87	2.3	25.1	2.57	1.95	1.30	0.84	0.70	0.51	0.33	0.13

SCFM X 28.32 = nl / m

EVACUATION TIME - SEC / 100 IN³

	Air	Air	Max	Seconds to Vacuum Level								
Model	Supply PSI	Cons. SCFM	Vacuum inHG	3 inHG	6 inHG	9 inHG	12 inHG	15 inHG	18 inHG	21 inHG	24 inHG	
AXM1N	50	1.2	25.5	0.43	0.50	0.57	1.82	3.1	5.3	9.3	18.3	
AXM1N	60	1.3	25.1	0.43	0.47	0.91	1.67	2.9	4.9	8.7	16.9	
AXM1N	72	1.5	24.8	0.20	0.48	0.89	1.57	2.7	4.6	8.3	16.1	
AXM1N	87	1.8	21.4	0.15	0.50	0.94	1.62	2.7	4.5	8.0	15.7	
AXL1N	60	1.8	21.6	0.12	0.31	0.61	1.07	1.8	3.1	5.5	-	
AXL1N	72	2.0	24.0	0.11	0.27	0.53	0.96	1.6	2.7	4.7	9.2	
AXL1N	87	2.3	25.1	0.10	0.24	0.47	0.84	1.5	2.4	4.3	8.1	

 $sec / 100 in^3 X 0.61 = sec / l$