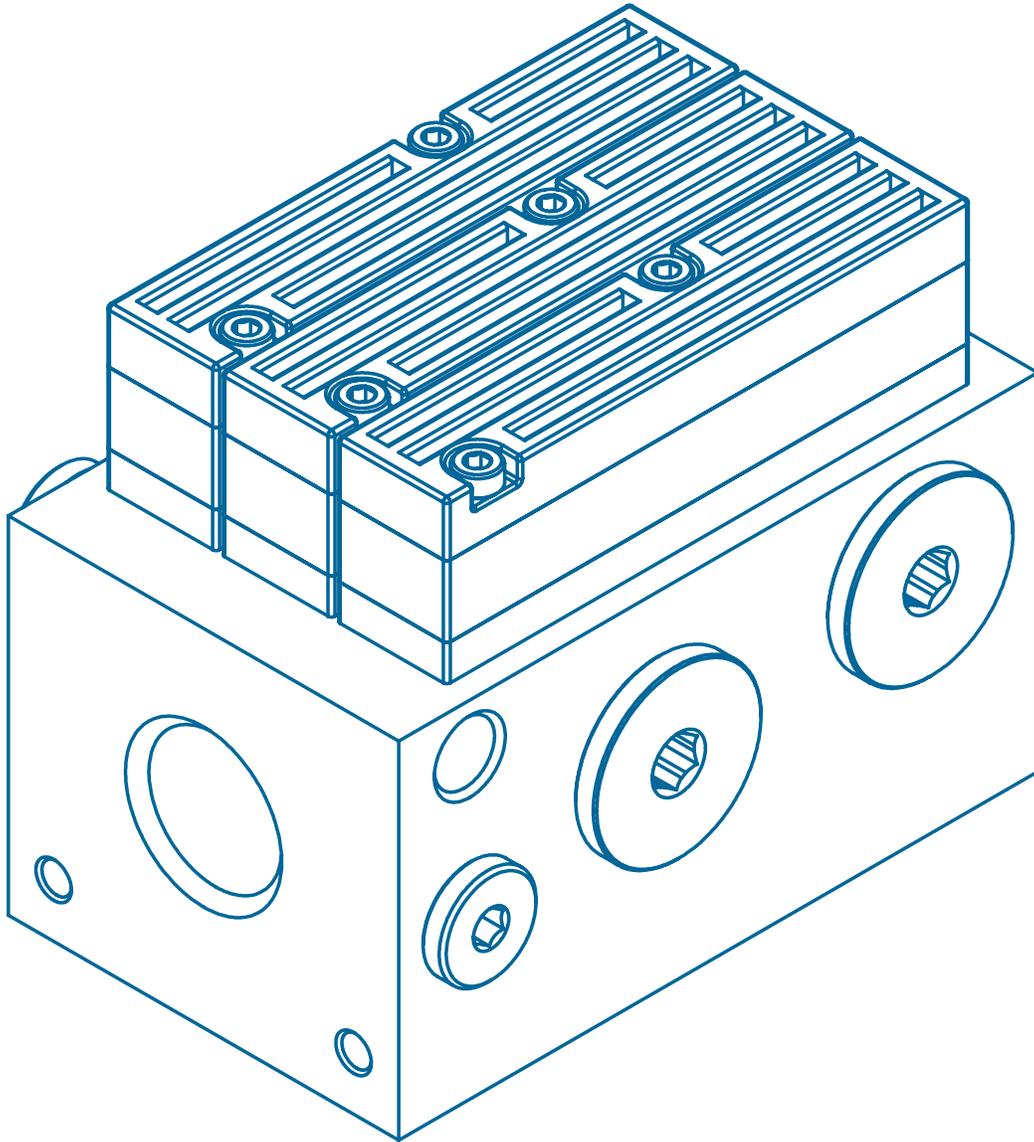
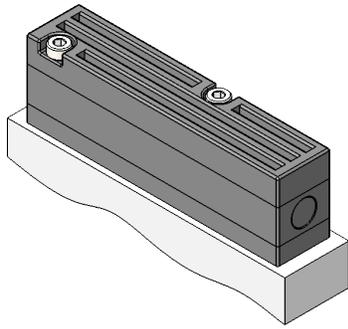


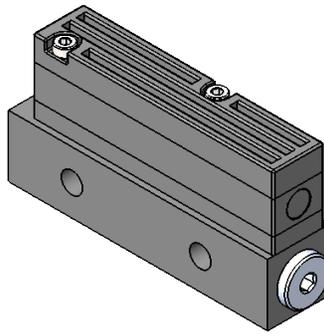
# AX Series Vacuum Pumps

## Section 6

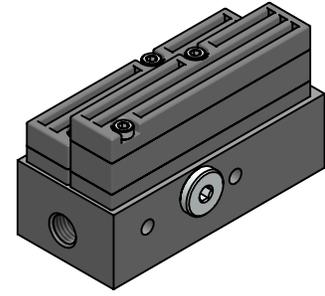




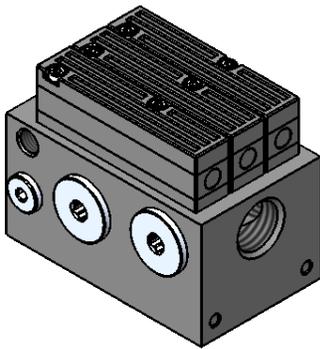
**Z Option**



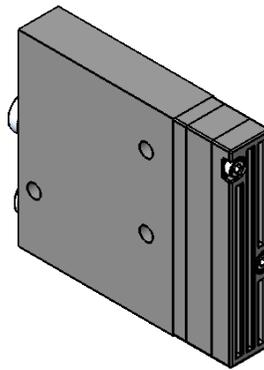
**G 1/8 NPSF Bases**



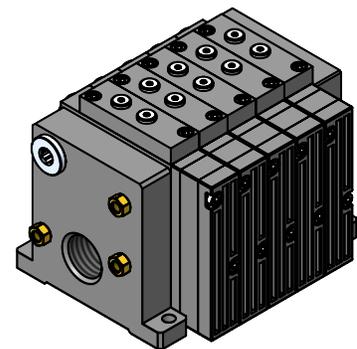
**G 1/2 NPSF Bases**



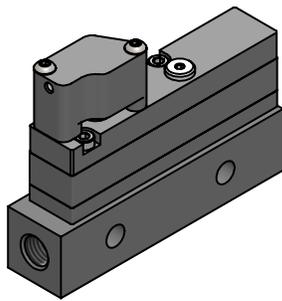
**G 1/2 NPSF Bases  
Large Capacity**



**G 1/8 NPSF Bases  
w/ Integral Filter**



**Pump Manifolds**



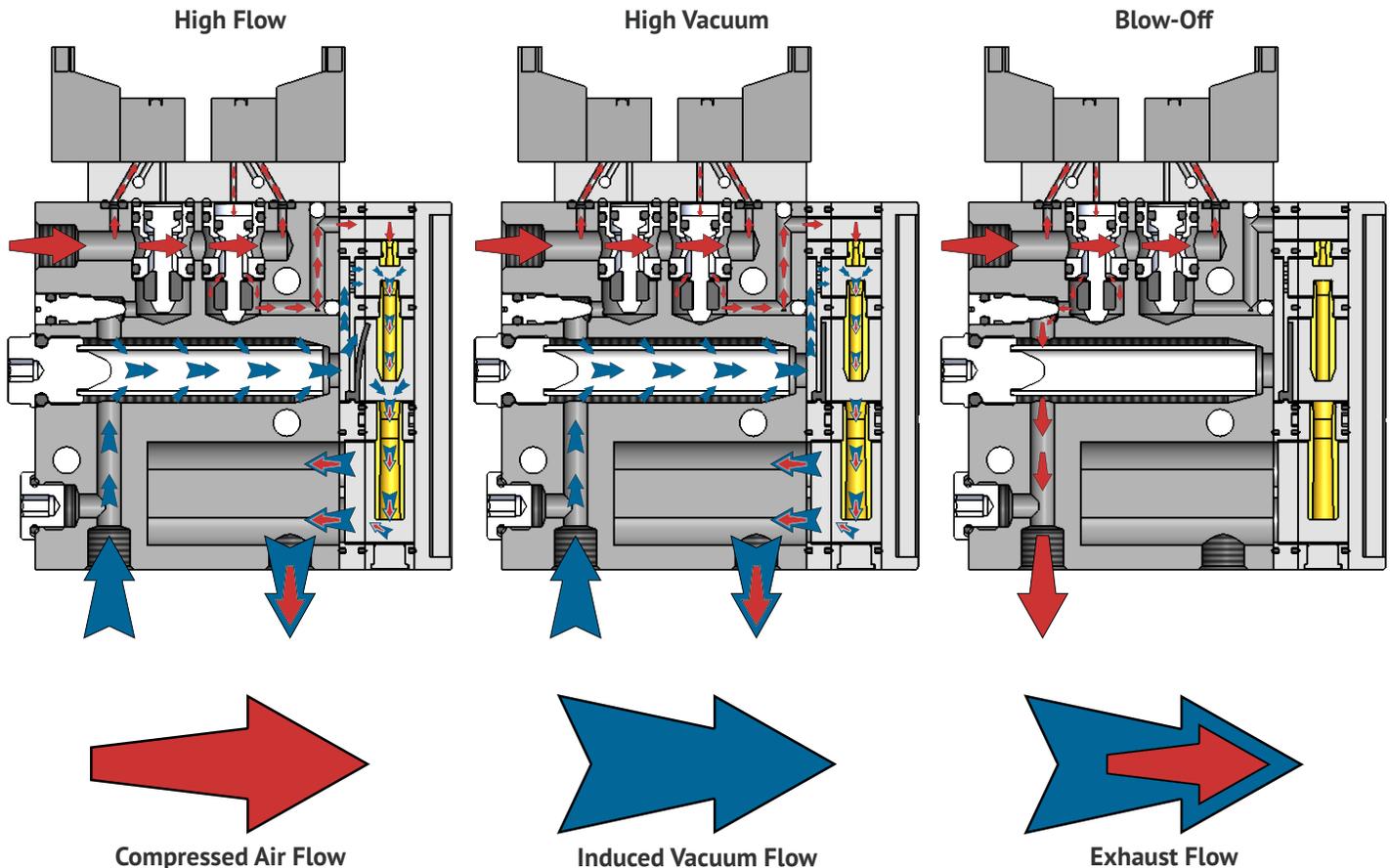
**Options**

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## Basic Information

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.

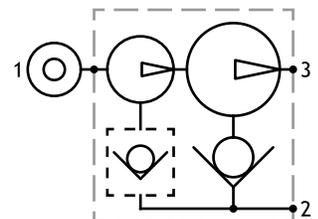
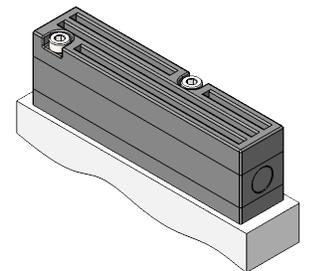
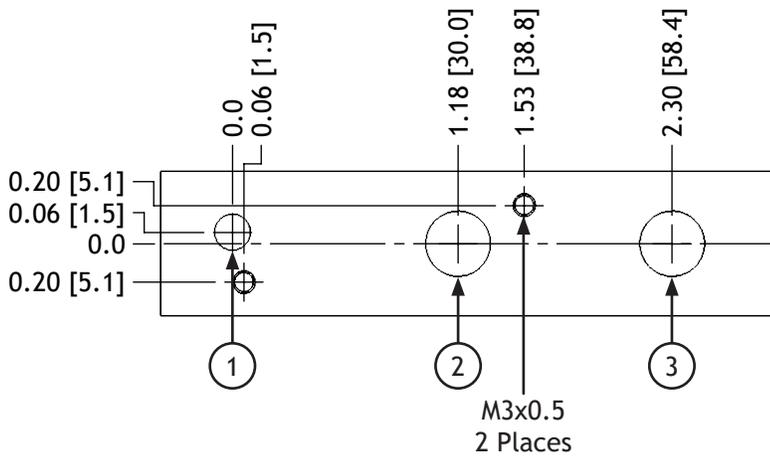
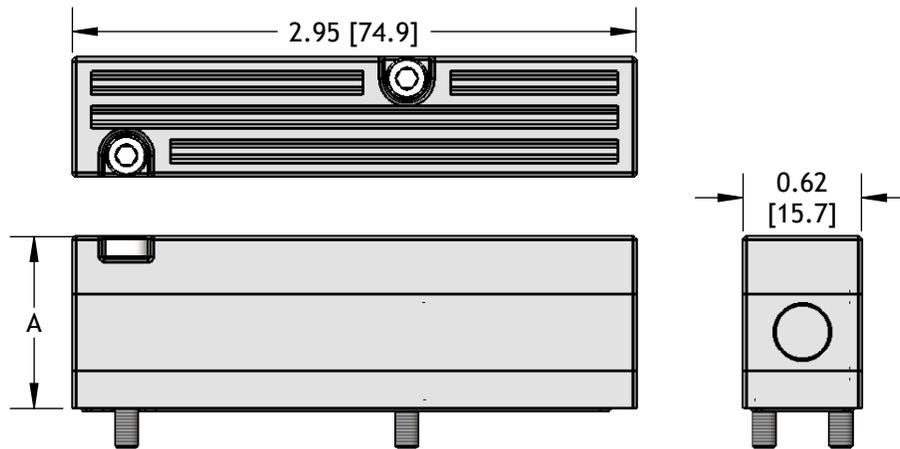


### Z Option (Zero / No Base)

- 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.

AX	Series	Capacity	Non-Return Option		Quick Release Option <sup>1</sup>		Sensor Port Option <sup>1</sup>		
L	L-Series	1	1 Ejector	(Blank)	No	(Blank)	None	(Blank)	None
M	M-Series	2	2 Ejectors	R	Non-Return	-AQR	Atmospheric	-PA5F	M5 Port
								-PA18F	G 1/8 NPSF Port

<sup>1</sup>Sensor Port Options cannot be used with a Quick Release Option.  
The AQR option comes standard with an M5x0.8 monitor port.



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]

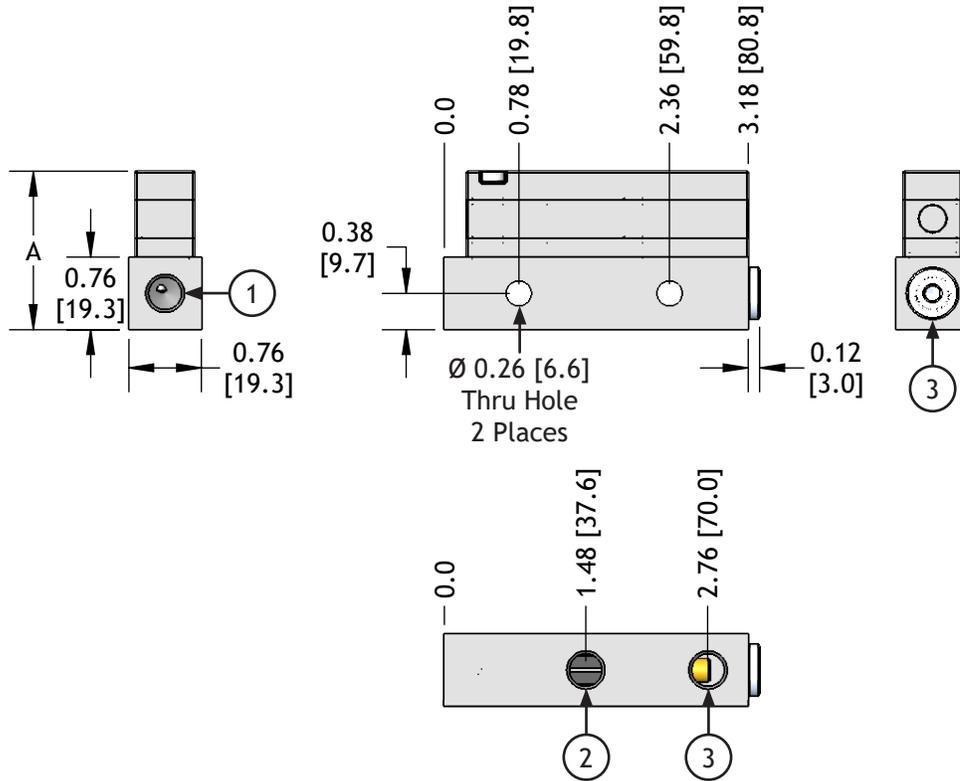
Code	Function	Hole Ø in [mm]
1	Air Supply	0.19 [4.8]
2	Vacuum	0.34 [8.6]
3	Exhaust	0.34 [8.6]

### 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.

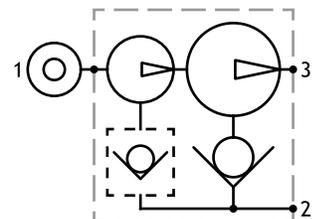
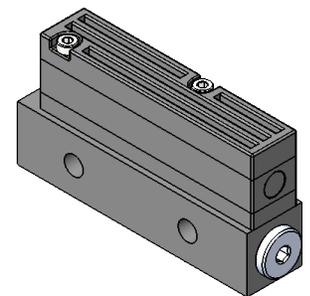
AX	Series	Capacity	Non-Return Option		Quick Release Option <sup>1</sup>		Sensor Port Option <sup>1</sup>		Silencer Option		
L	L-Series	1	1 Ejector	(Blank)	No	(Blank)	None	(Blank)	None	(Blank)	None
M	M-Series	2	2 Ejectors	R	Non-Return	-AQR	Atmospheric	-PA5F	M5 Port	-ST	STA18M
								-PA18F	G 1/8 NPSF Port		

<sup>1</sup>Sensor Port Options cannot be used with a Quick Release Option.  
The AQR option comes standard with an M5x0.8 monitor port.



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]

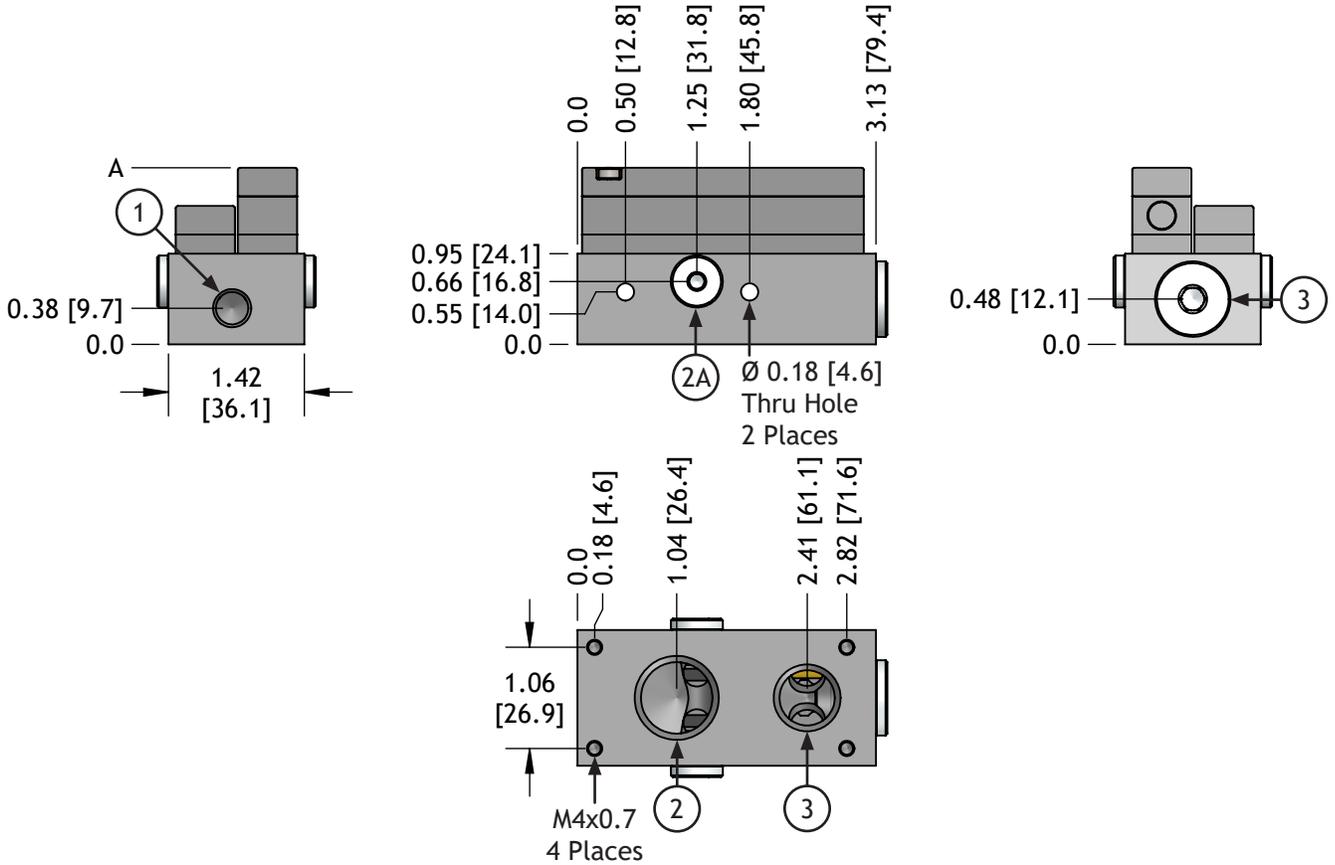
Code	Function	Ports
1	Air Supply	G 1/8 NPSF
2	Vacuum	G 1/8 NPSF
3	Exhaust	G 1/8 NPSF



### G 1/2 NPSF Base

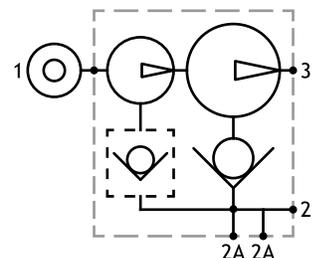
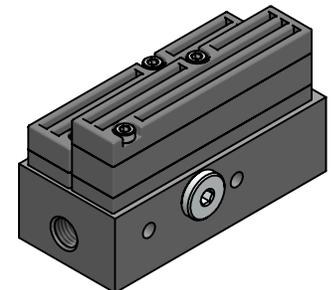
- Basic pump includes two exhaust ports at 90° - use the port most suitable for your application.
- Configurable with one to four pump modules for more vacuum flow capacity.
- Two side auxiliary vacuum ports are included.

Series	Capacity	Non-Return Option		Quick Release Option		Silencer Option	
AX	L	2	N	-12			
L	L-Series	1	1 Ejectors	(Blank)	None	(Blank)	None
M	M-Series	2	2 Ejectors	R	Non-Return	-AQR	Atmospheric
		3	3 Ejectors			-ST	STB38M
		4	4 Ejectors				



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

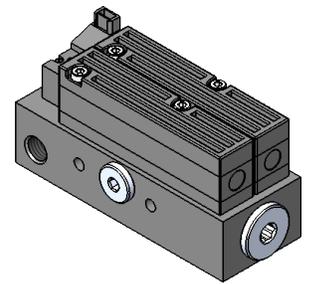
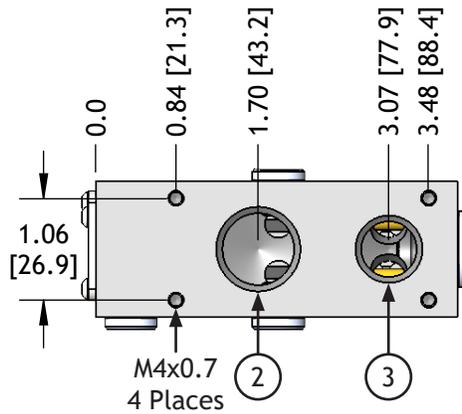
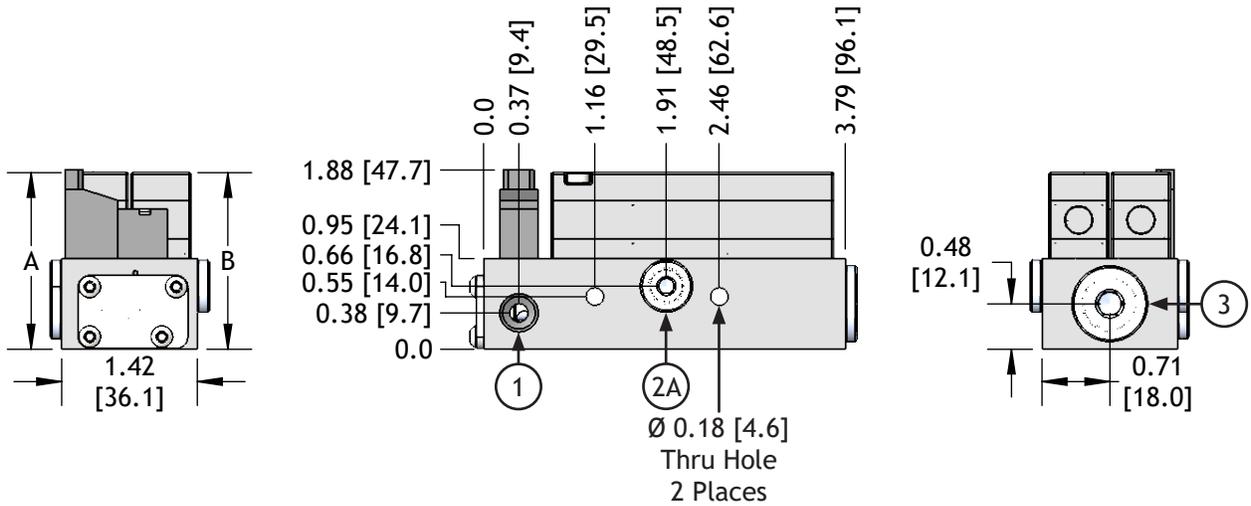
Code	Function	Ports
1	Air Supply	G 1/8 NPSF
2	Vacuum - Main	G 1/2 NPSF
2A	Vacuum - Alternate	G 1/8 NPSF
3	Exhaust	3/8 NPSF



### G 1/2 NPSF Base w/ Solenoid Controlled Air-Supply

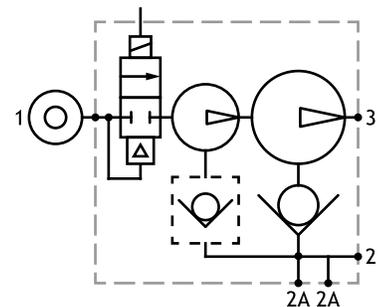
- Normally-closed solenoid valve controls vacuum-on, 24V DC, 1.3 W coil.
- Order solenoid cables separately. SV10-QD-1M (See system accessories.)
- Basic pump includes two exhaust ports at 90° - use the port most suitable for your application.
- Configurable with one to four pump modules for more vacuum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

AX	Series	Capacity	Non-Return	Quick Release	Silencer
	L	2	N	-12S24D	
	L	L-Series	1	1 Ejectors	(Blank) None (Blank) None
	M	M-Series	2	2 Ejectors	R Non-Return -AQR Atmospheric -ST STB38M
			3	3 Ejectors	
			4	4 Ejectors	



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

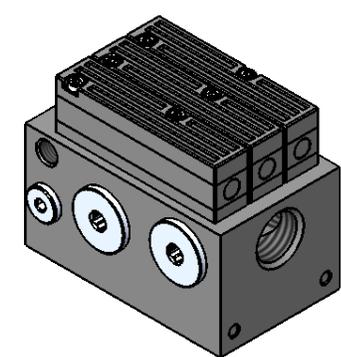
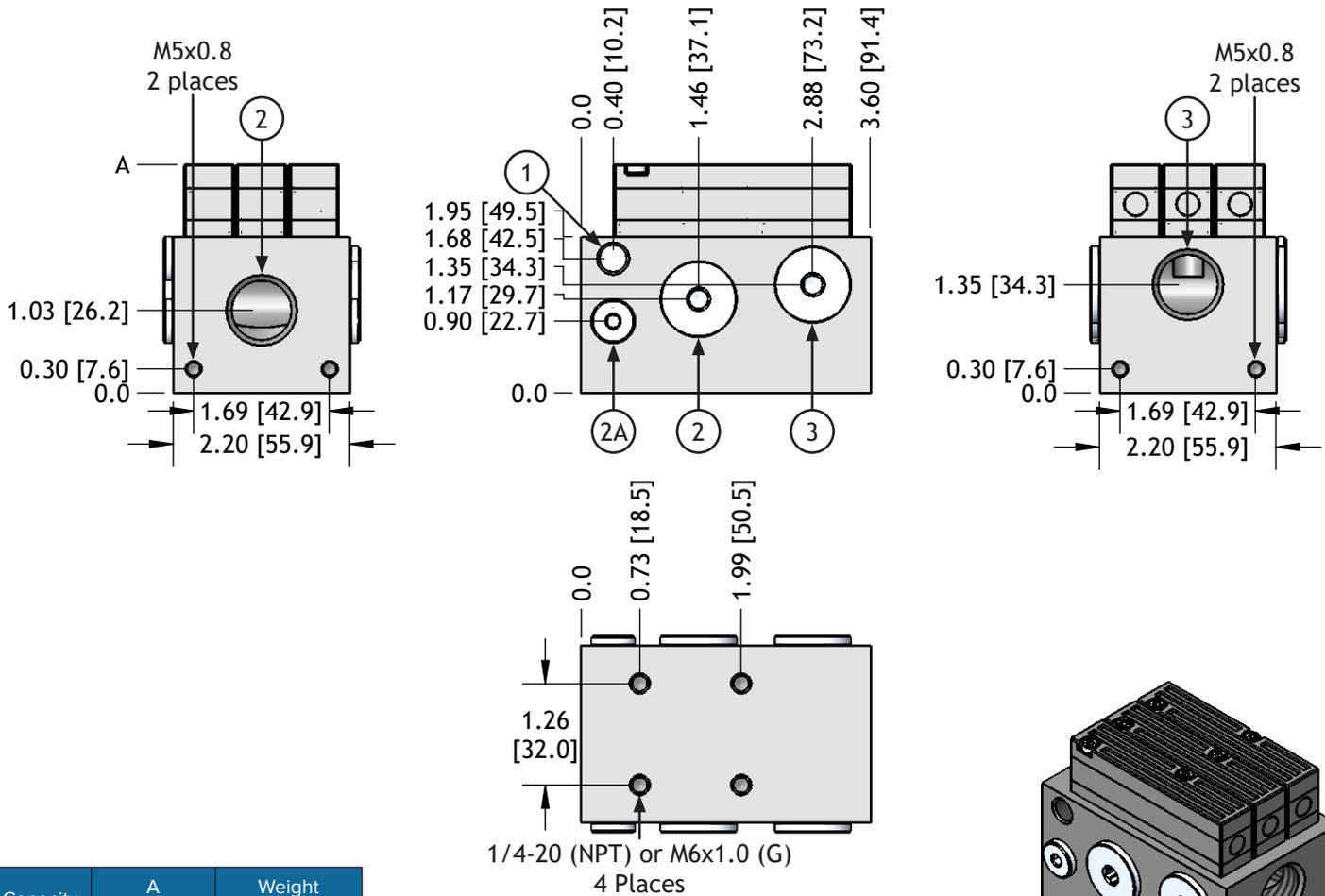
Code	Function	Ports
1	Air Supply	G 1/8 NPSF
2	Vacuum - Main	G 1/2 NPSF
2A	Vacuum - Alternate	G 1/8 NPSF
3	Exhaust	3/8 NPSF



### G 1/2 NPSF Base (Large Capacity)

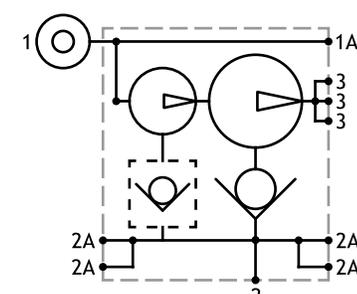
- Modular design includes rugged aluminum base for ease of installation and servicing.
- Three 1/2" pump vacuum ports simplify vacuum system plumbing - use the most convenient ports and plug the rest.
- Low noise level and fast evacuation times.
- Optional vacuum gauge, exhaust silencer, and foot-mount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

Series	Capacity	Non-Return		Port Threads		Quick Release		Silencer			
AX	L	3	N	-312							
L	L-Series	2	2 Ejectors	(Blank)	None	(Blank)	NPT	(Blank)	None	(Blank)	None
M	M-Series	3	3 Ejectors	R	Non-Return	-G	G Threads	-AQR	Atmospheric	-ST	STC12M
		4	4 Ejectors								
		5	5 Ejectors								
		6	5 Ejectors								



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



## Mounting Brackets for AX-312 Pumps

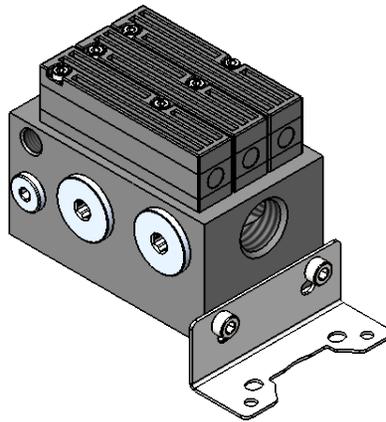
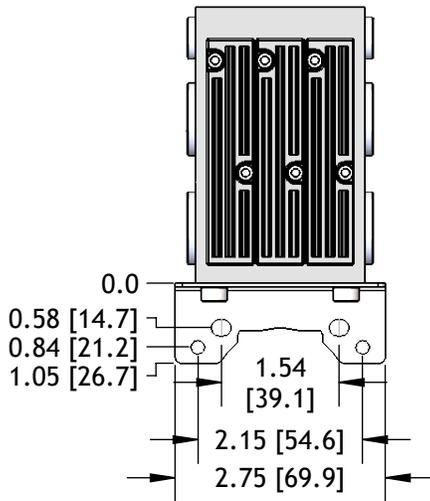
Stainless steel mounting brackets attach to the ends of the base. Straight and right angle versions are available.

M5 SHCS (qty 2) Included for easy mounting.

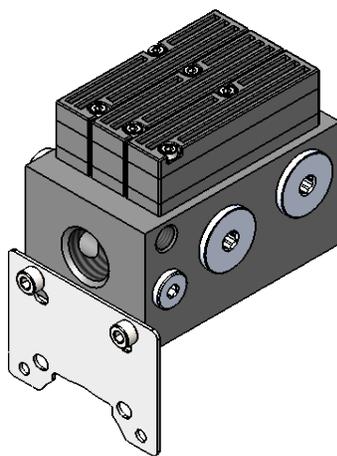
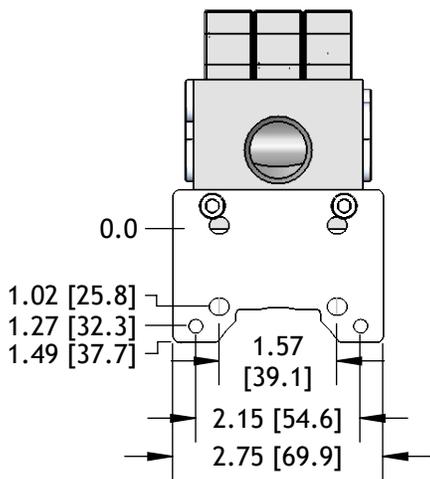
Additional Weight: 1.29 oz [36.4 g]

Style	90
AX-312-BKT-	90
90	90° Bracket
180	180° Bracket

AX-312-BKT-90



AX-312-BKT-180

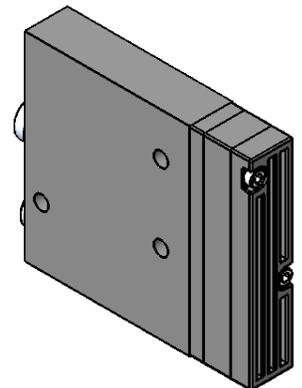
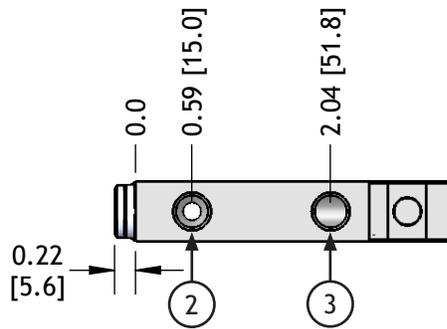
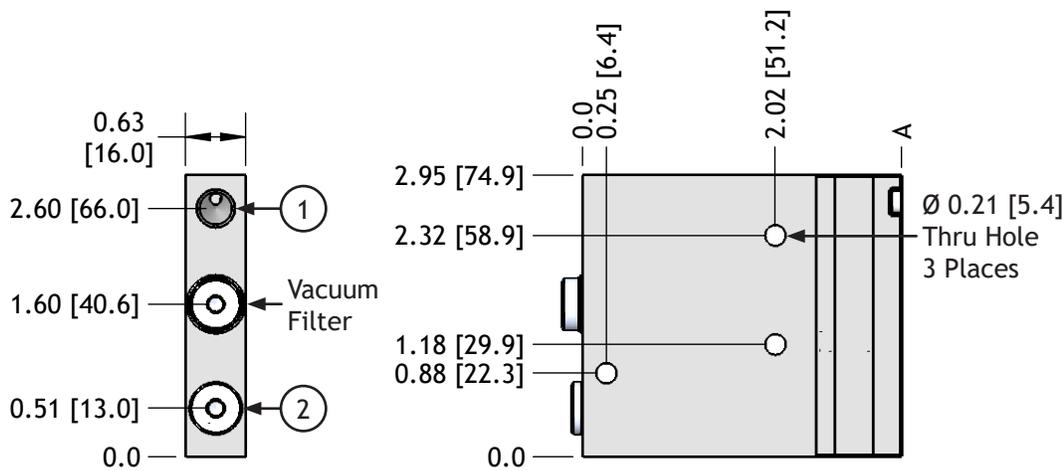


### G 1/8 NPSF Base w/ Integral Filter

- 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.

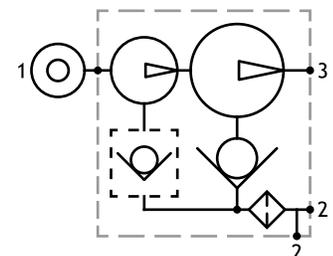
Series	Capacity	Non-Return Option		Quick Release Option¹		Sensor Port Option¹		Silencer Option	
AX	L	1	N	-F18					
L	L-Series	1	1 Ejector	(Blank)	None	(Blank)	None	(Blank)	None
M	M-Series	2	2 Ejectors	R	Non-Return	-AQR	Atmospheric	-PA5F	M5 Port
						-PA18F	G 1/8 NPSF Port		

¹Sensor Port Options cannot be used with a Quick Release Option.  
The AQR option comes standard with an M5x0.8 monitor port.



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

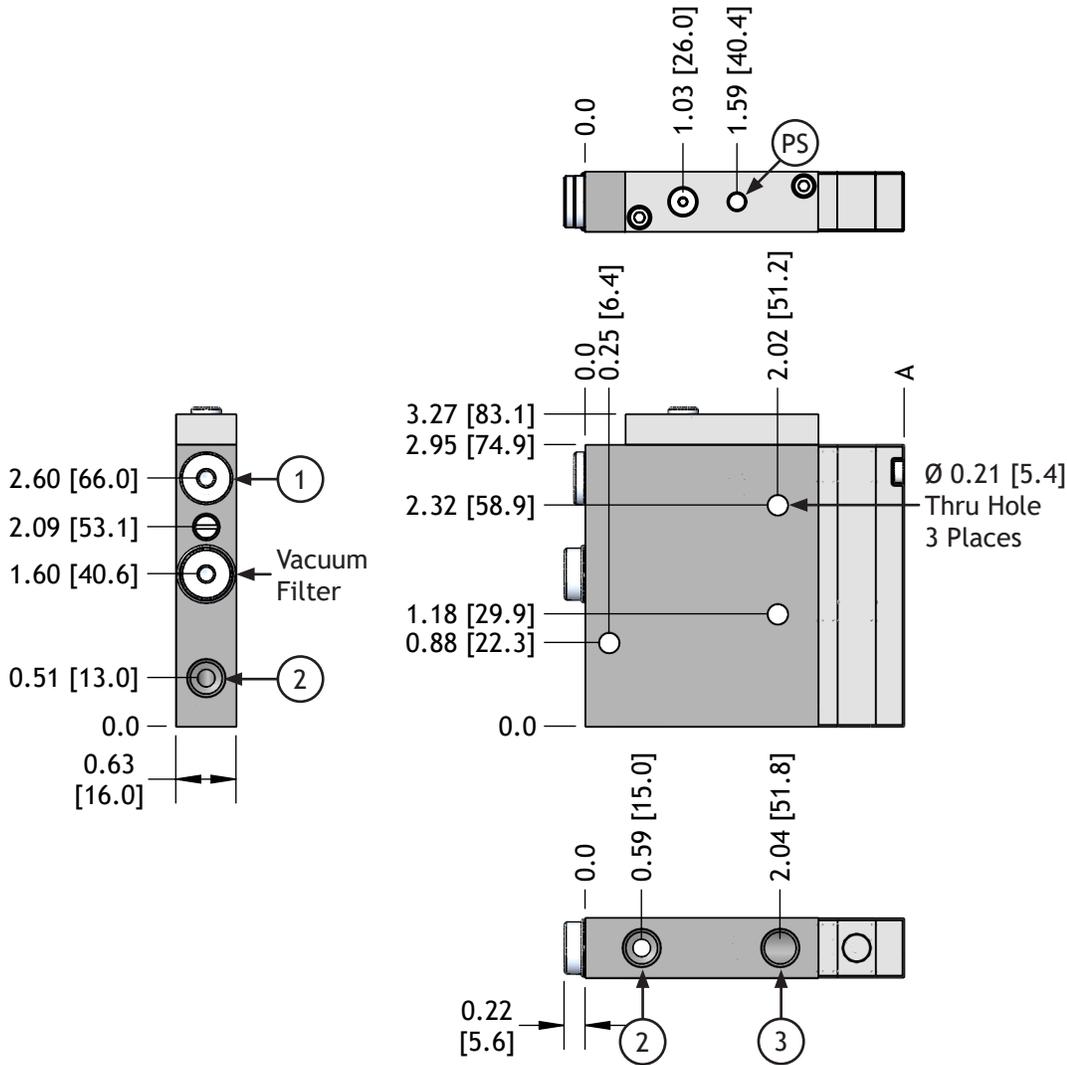


### G 1/8 NPSF Base w/ Integral Filter & Pilot Controlled Air-Supply

- 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.

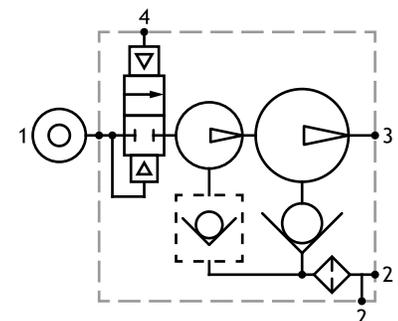
Series		Capacity		Non-Return Option		Quick Release Option <sup>1</sup>		Sensor Port Option <sup>1</sup>		Silencer Option	
AX	L	1	N	-F18PS							
L	L-Series	1	1 Ejector	(Blank)	None	(Blank)	None	(Blank)	None	(Blank)	None
M	M-Series	2	2 Ejectors	R	Non-Return	-AQR	Atmospheric	-PA5F	M5 Port	-ST	STA18M
								-PA18F	G 1/8 NPSF Port		

<sup>1</sup>Sensor Port Options cannot be used with a Quick Release Option.  
The AQR option comes standard with an M5x0.8 monitor port.



Capacity	A in [mm]	Weight oz [g]
1	3.34 [84.8]	7.44 [211.0]
2	3.74 [95.0]	8.14 [230.8]

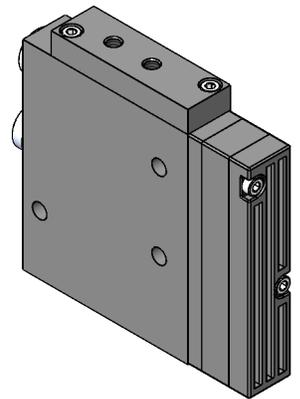
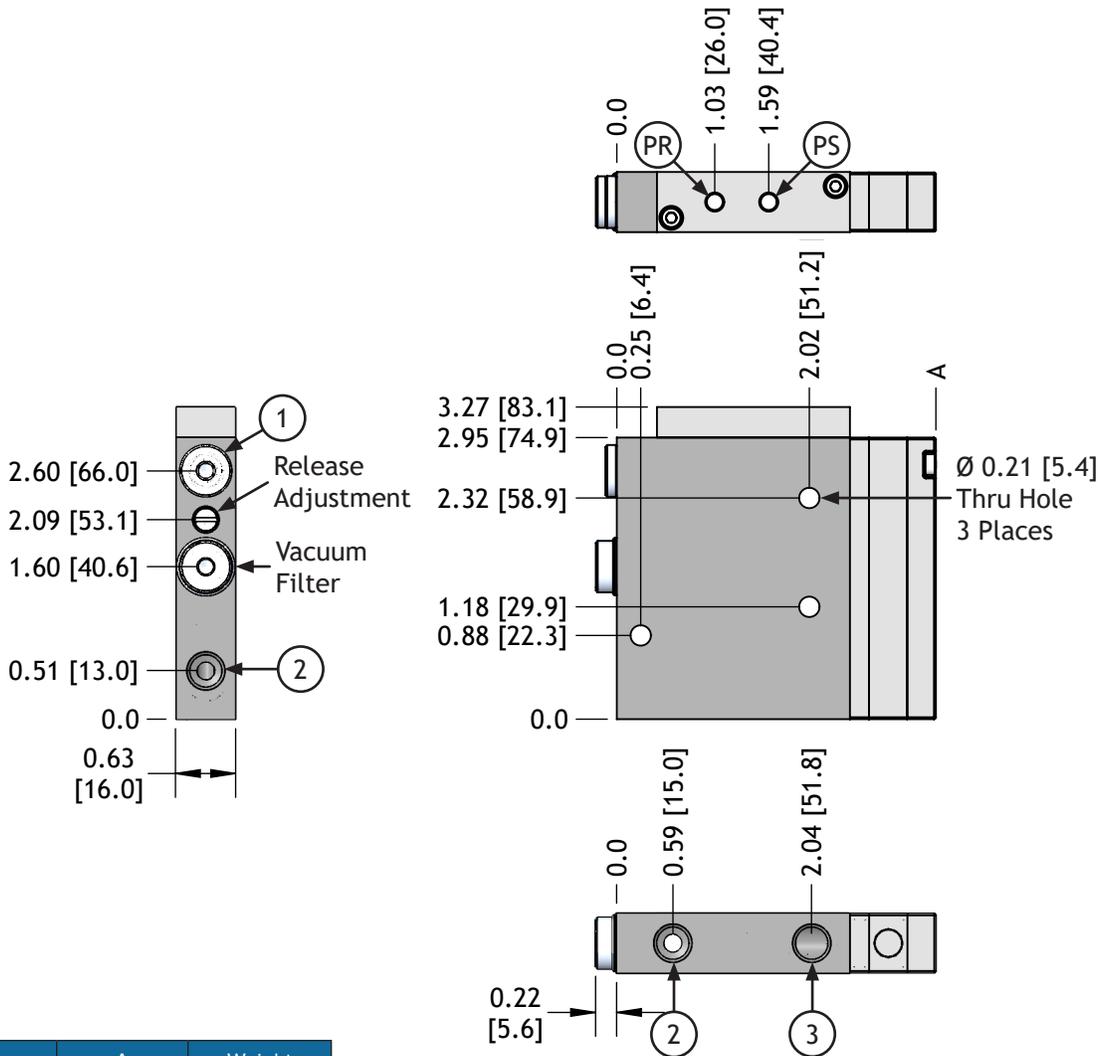
Code	Function	Ports
1	Air Supply	G 1/8 NPSF
2	Vacuum	G 1/8 NPSF
3	Exhaust	G 1/8 NPSF
PS	Pilot, Air-Supply	M5x0.8 (10-32 UNF)



## G 1/8 NPSF Base w/ Integral Filter & Pilot Controlled Air-Supply & Release

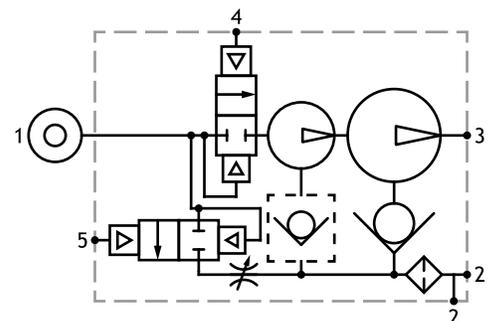
- Pump with filter and two vacuum ports at 90° - use the most convenient port.
- Includes internal, air-piloted air supply control valve and internal, air-piloted blow-off control valve with adjustable flow control.
- Configurable with one or two pump modules for more vacuum flow capacity.
- RE10X50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

Series	Capacity	Non-Return Option		Sensor Port Option		Silencer Option	
AX	L	1	N	-F18PSB			
L	L-Series	1	1 Ejector	(Blank)	None	(Blank)	None
M	M-Series	2	2 Ejectors	R	Non-Return	-PA5F	M5 Port
						-PA18F	G 1/8 NPSF Port



Capacity	A in [mm]	Weight oz [g]
1	3.34 [84.8]	7.43 [210.8]
2	3.74 [95.0]	8.13 [230.6]

Code	Function	Ports
1	Air Supply	G 1/8 NPSF
2	Vacuum	G 1/8 NPSF
3	Exhaust	G 1/8 NPSF
4	Pilot, Air-Supply	M5x0.8 (10-32 UNF)
5	Pilot, Release	M5x0.8 (10-32 UNF)

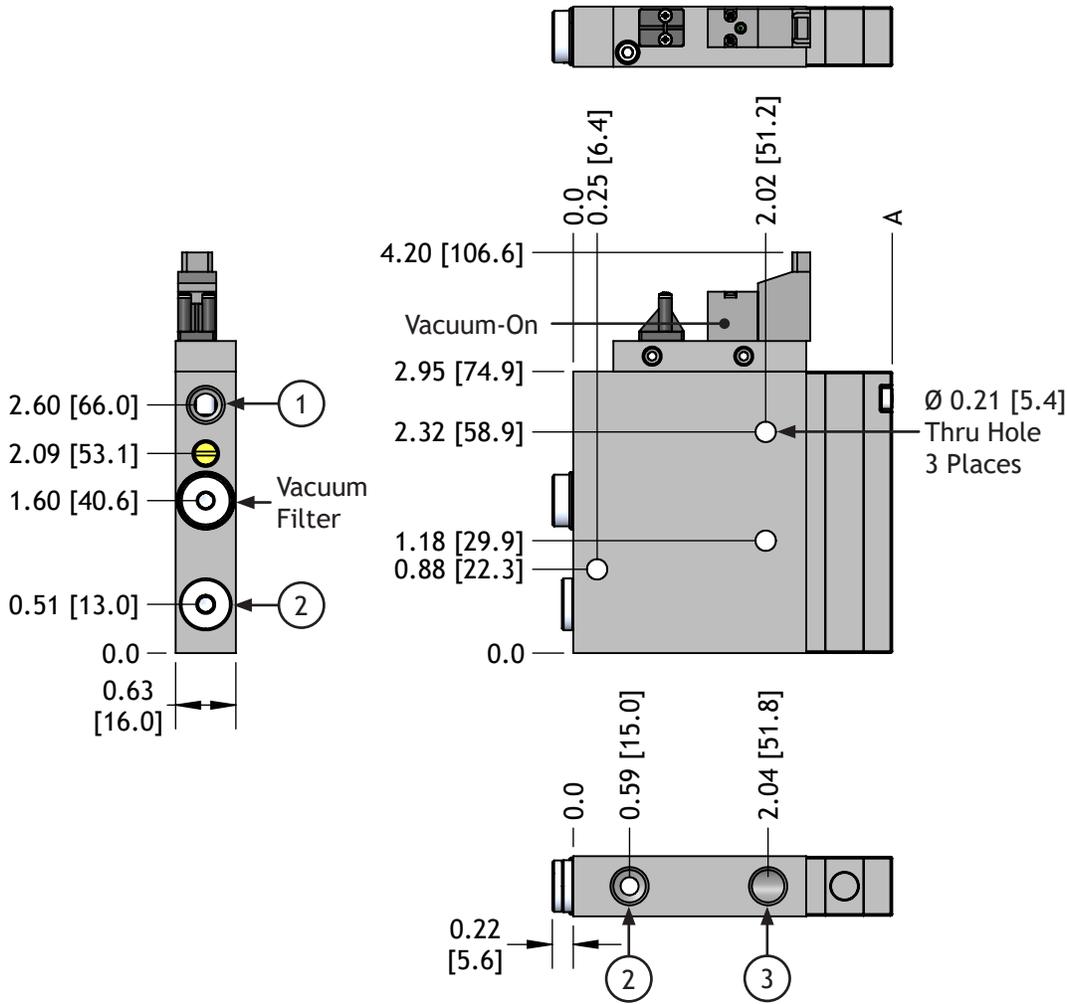


### G 1/8 NPSF Base w/ Integral Filter & Solenoid Controlled Air-Supply

- 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.

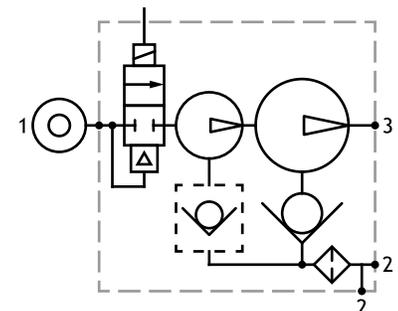
Series	Capacity	Non-Return Option		Quick Release Option <sup>1</sup>		Sensor Port Option <sup>1</sup>		Silencer Option	
AX	L	1	N	-F18S24D					
L	L-Series	1	1 Ejector	(Blank)	None	(Blank)	None	(Blank)	None
M	M-Series	2	2 Ejectors	R	Non-Return	-AQR	Atmospheric	-PA5F	M5 Port
						-PA18F	G 1/8 NPSF Port	-ST	STA18M

<sup>1</sup>Sensor Port Options cannot be used with a Quick Release Option.  
The AQR option comes standard with an M5x0.8 monitor port.



Capacity	A in [mm]	Weight oz [g]
1	3.34 [84.8]	7.58 [214.9]
2	3.74 [95.0]	8.28 [234.7]

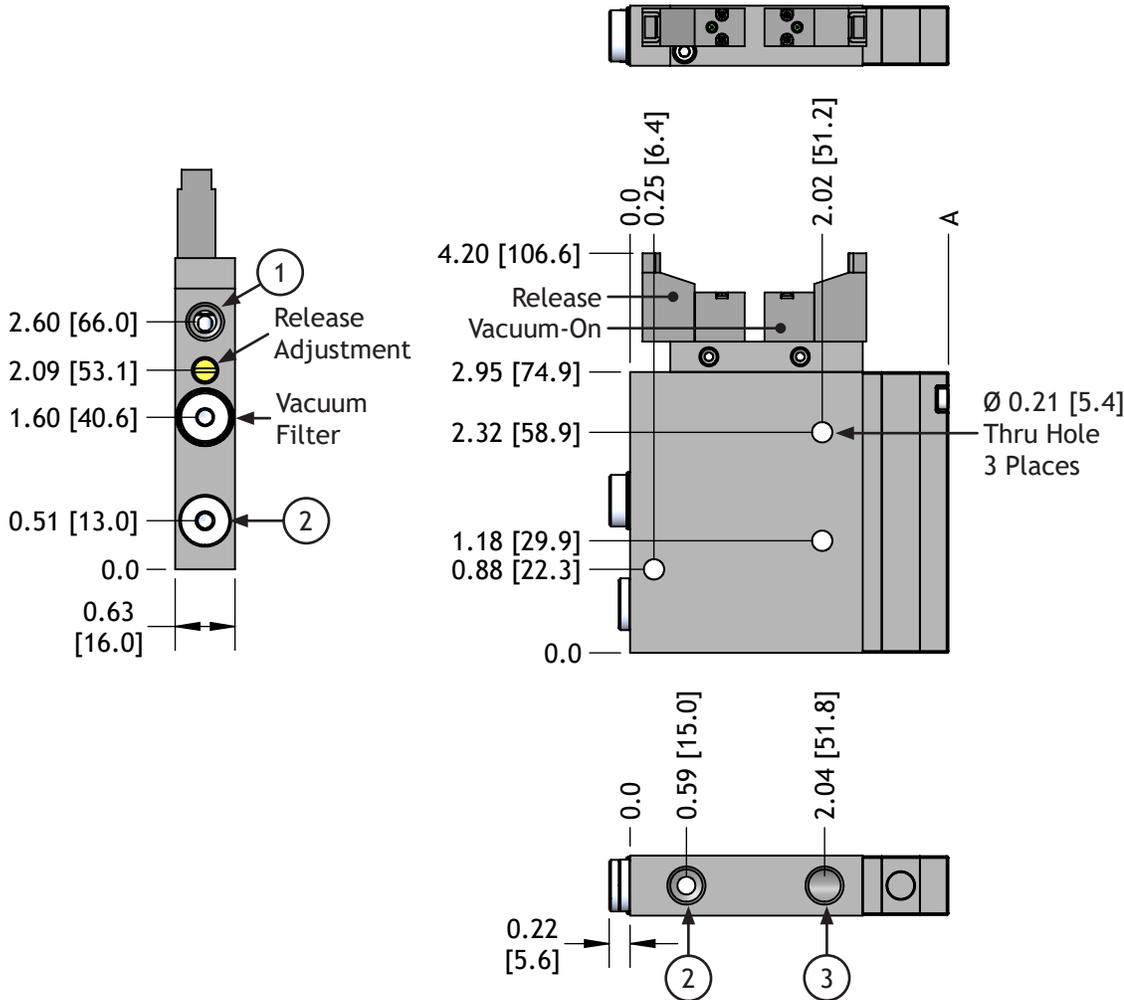
Code	Function	Ports
1	Air Supply	G 1/8 NPSF
2	Vacuum	G 1/8 NPSF
3	Exhaust	G 1/8 NPSF



## G 1/8 NPSF Base w/ Integral Filter & Solenoid Controlled Air-Supply & Release

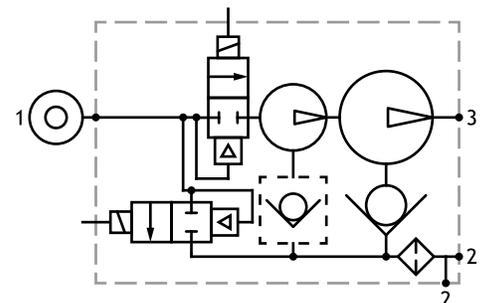
- Pump with filter and two vacuum ports at 90° - use the most convenient port.
- Normally-closed solenoid valve (24V DC, 1.3W coil) controls vacuum-on.
- Normally-closed solenoid valve (24V DC, 1.3W coil) controls release (with adjustable flow control).
- Order solenoid cables separately. SV10-QD-1M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

Series	Capacity	Non-Return Option		Sensor Port Option		Silencer Option	
AX	L	1	N	-F18SB24D			
L	L-Series	1	1 Ejector	(Blank)	None	(Blank)	None
M	M-Series	2	2 Ejectors	R	Non-Return	-PA5F	M5 Port
						-ST	STA18M
						-PA18F	G 1/8 NPSF Port



Capacity	A in [mm]	Weight oz [g]
1	3.34 [84.8]	7.71 [218.6]
2	3.74 [95.0]	8.41 [238.4]

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

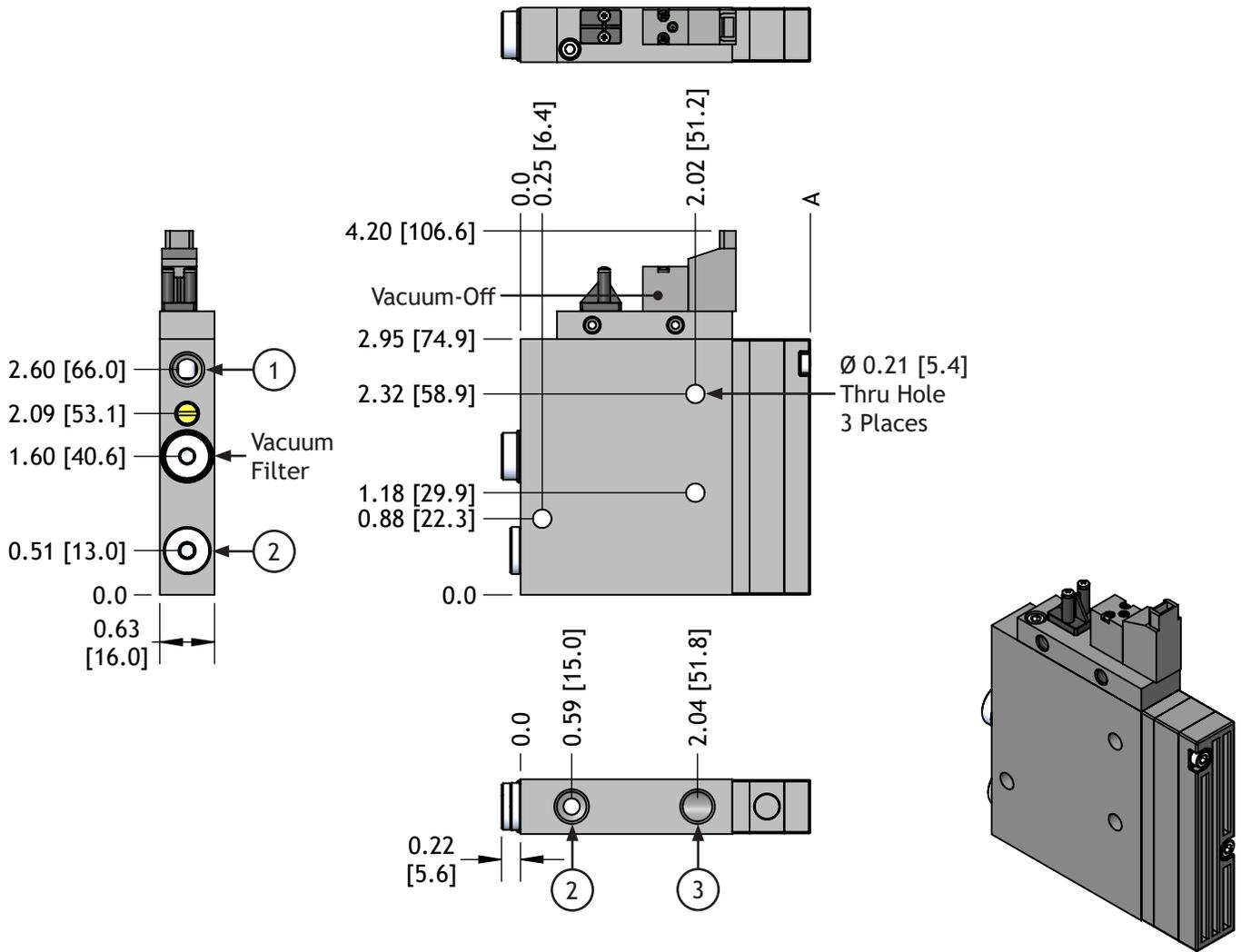


### G 1/8 NPSF Base w/ Integral Filter & N.O. Solenoid Controlled Air-Supply

- 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.

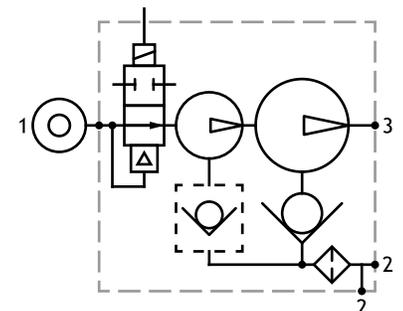
Series	Capacity	Non-Return Option		Quick Release Option <sup>1</sup>		Sensor Port Option <sup>1</sup>		Silencer Option	
AX	L	1	N	-F18OS24D					
L	L-Series	1	1 Ejector	(Blank)	None	(Blank)	None	(Blank)	None
M	M-Series	2	2 Ejectors	R	Non-Return	-AQR	Atmospheric	-PA5F	M5 Port
								-PA18F	G 1/8 NPSF Port
								-ST	STA18M

<sup>1</sup>Sensor Port Options cannot be used with a Quick Release Option.  
The AQR option comes standard with an M5x0.8 monitor port.



Capacity	A in [mm]	Weight oz [g]
1	3.34 [84.8]	7.58 [214.9]
2	3.74 [95.0]	8.28 [234.7]

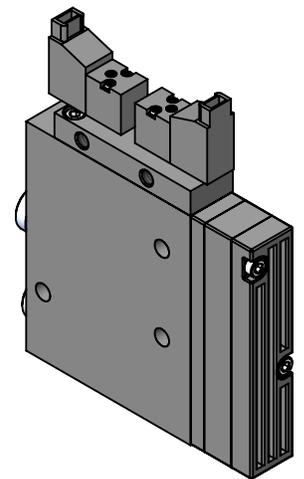
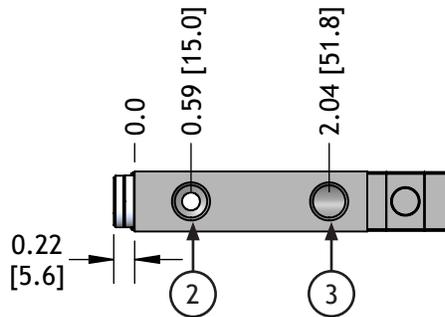
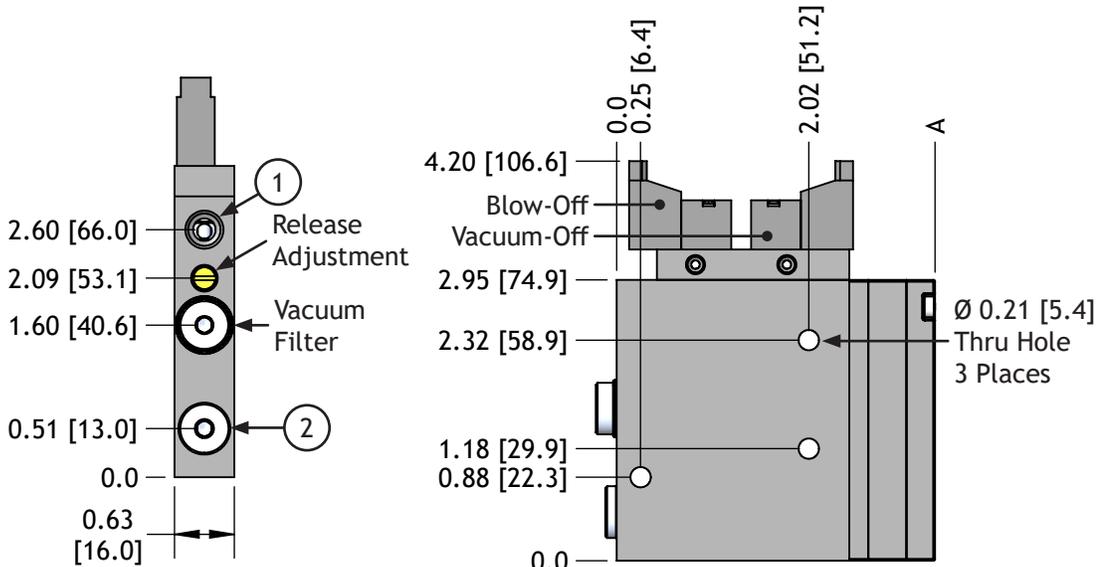
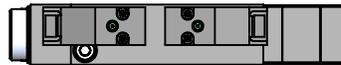
Code	Function	Ports
1	Air Supply	G 1/8 NPSF
2	Vacuum	G 1/8 NPSF
3	Exhaust	G 1/8 NPSF



## G 1/8 NPSF Base w/ Integral Filter & N.O. Solenoid Controlled Air-Supply & Release

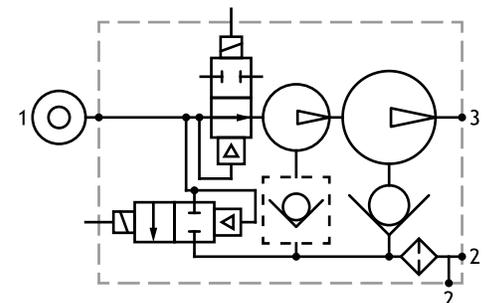
- Pump with filter and two vacuum ports at 90° - use the most convenient port.
- Normally-opened solenoid valve (24V DC, 1.3W coil) controls vacuum-off.
- Normally-on vacuum retains parts in the event of a power failure.
- Normally-closed solenoid valve (24V DC, 1.3W coil) controls blow-off (with adjustable 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.

Series	Capacity	Non-Return Option		Sensor Port Option		Silencer Option	
AX	L	1	N	-F18OSB24D			
L	L-Series	1	1 Ejector	(Blank)	None	(Blank)	None
M	M-Series	2	2 Ejectors	R	Non-Return	-PA5F	M5 Port
						-PA18F	G 1/8 NPSF Port



Capacity	A in [mm]	Weight oz [g]
1	3.34 [84.8]	7.71 [218.6]
2	3.74 [95.0]	8.41 [238.4]

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



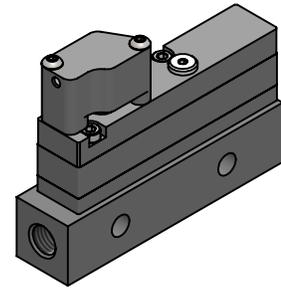
## Release Options

### -AQR: Atmospheric Quick Release

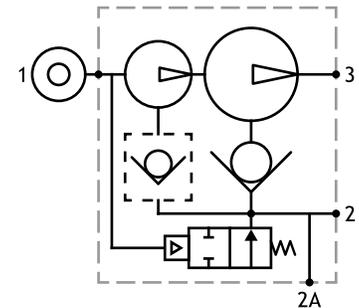
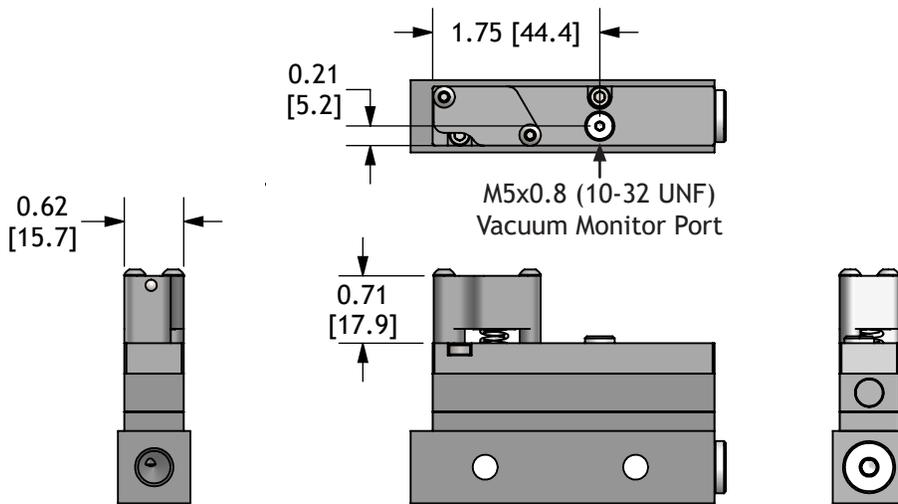
Vacuum generators, or vacuum pumps, are powered by compressed air to create vacuum. When the air source is turned off, vacuum is dissipated by atmospheric air entering the exhaust port and reverse flowing through the last venturi nozzle. This works well for slow cycle speeds and small cups but when relatively large cups are used with small vacuum generators then reverse air flow may not be sufficient to dissipate residual vacuum fast enough.

The AQR valve is spring-biased open but is held closed by air pressure supplied to the vacuum generator. When the air supply is turned off, vacuum is no longer generated and the AQR valve opens a large passage to atmosphere so that vacuum is quickly dissipated to release the work object.

The AQR module uses the same cap as the PA5F monitor port option. An M5x0.8 auxiliary vacuum port can be used with the AQR without adding a sensor port option.



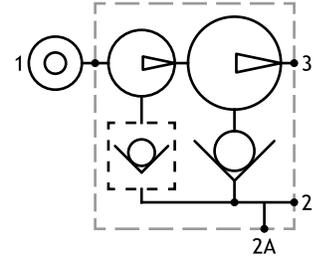
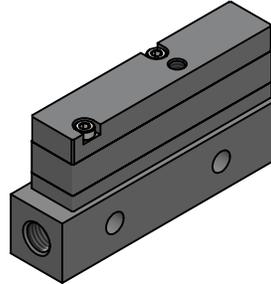
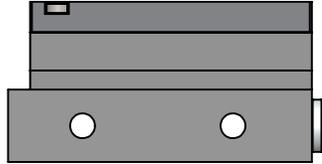
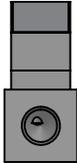
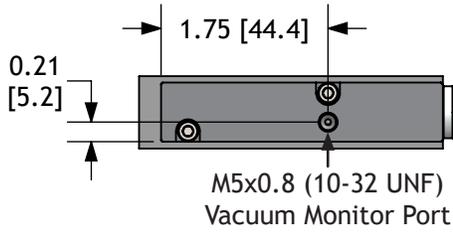
Additional Weight: 0.98 oz [27.8 g]



### Sensor Port Options

#### -PA5F: M5 Female Monitor Port

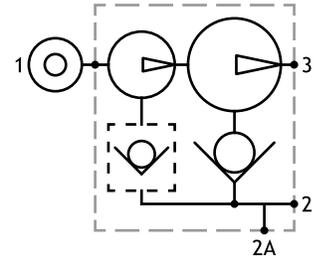
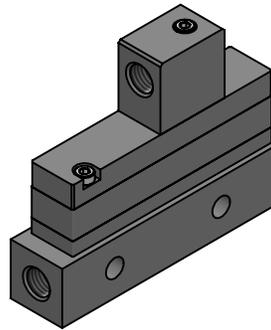
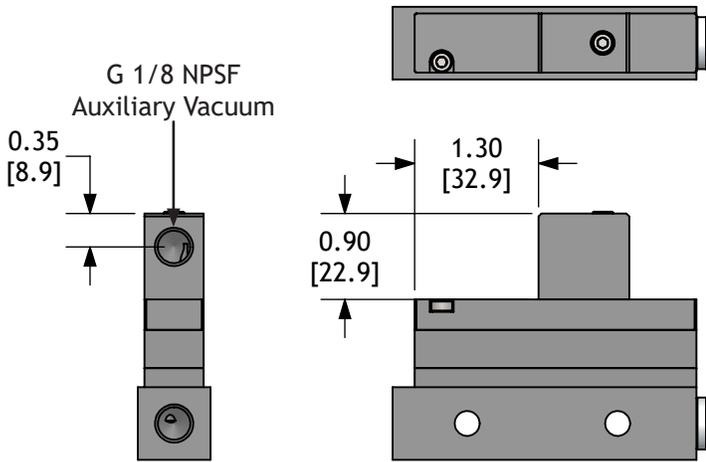
For use with sensors with M5x0.8 male connection threads.



Additional Weight: 0.49 oz [13.9 g] Shown using AXL1N-18 schematic.

#### -PA18F: G 1/8 NPSF Monitor Port

For use with sensors with G 1/8 NPSF male connection threads.

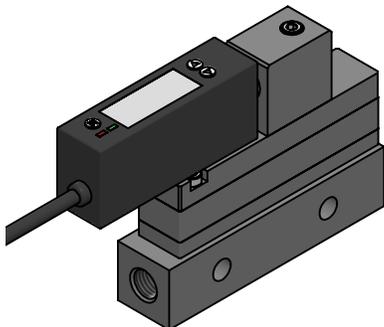


Additional Weight: 1.29 oz [36.6 g] Shown using AXL1N-18 schematic.

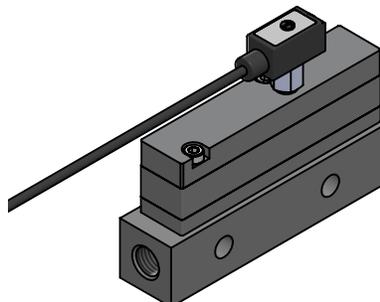
#### Examples:

Please note, the 100 series sensors don't use the same swivel connectors as the 61 / 62 series sensors. As such, these are unable to be removed or rotated without removing the adapter block.

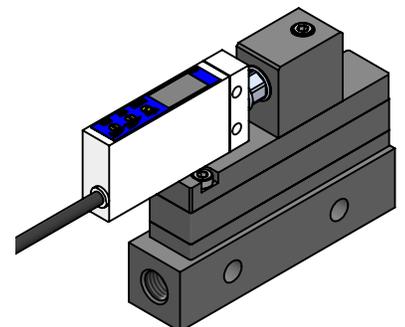
#### 100 Series Sensors



#### V Series Sensors



#### 61/62 Series Sensors



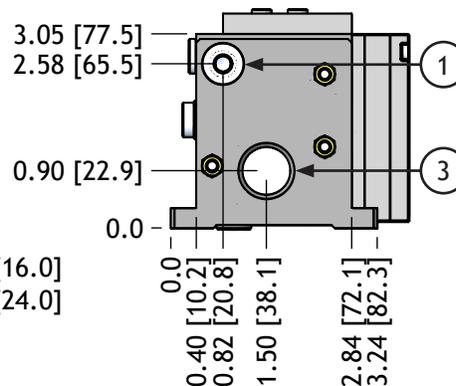
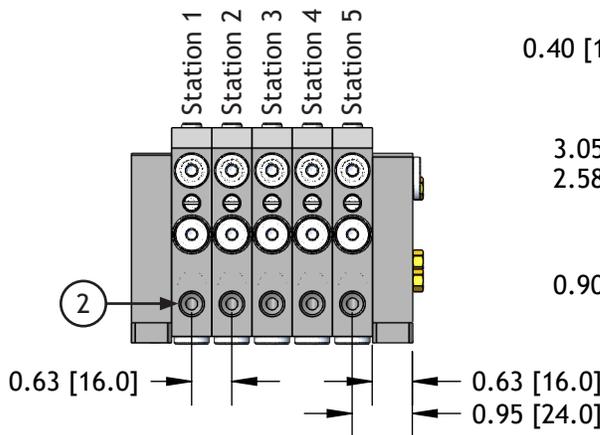
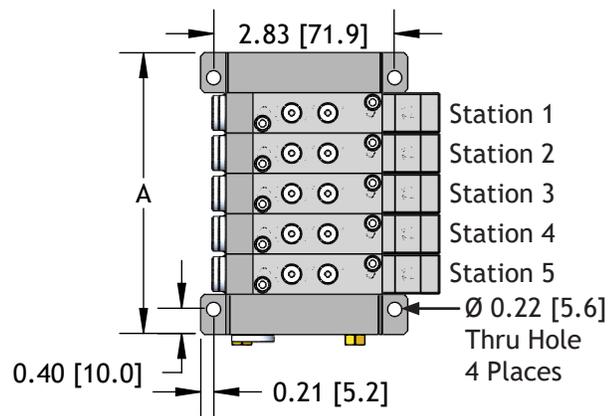
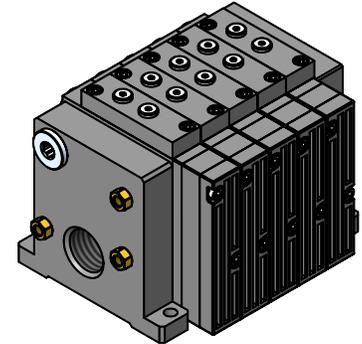
## Manifolds

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.

See page 6:20 for silencer options details.

## Manifold End Plates

Threads		Number of Modules		Silencer Options <sup>1</sup>	
AX-E	N	1	5	-2ST90	
N	NPTF	1	1 Station	(Blank)	None
G	G	2	2 Stations	-ST	1 STC12M
		3	3 Stations	-2ST <sup>1</sup>	2 STC12M
		4	4 Stations	-ST90	1 STB38M w/ 90° Adapter
		5	5 Stations	-2ST90 <sup>1</sup>	2 STB38M w/ 90° Adapter
		6	6 Stations	<sup>1</sup> Use two silencers for 5+ stations.	
		7	7 Stations		
		8	8 Stations		
		9	9 Stations		
		10	10 Stations		



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
1S	Main Air Supply - Separate	G 1/8 NPSF	
2	Vacuum	G 1/8 NPSF	
3	Exhaust - Common	G 1/2 NPSF	

### Manifold Vacuum Pump Modules

Series		Capacity		Non-Return		Pump Module Style		Quick Release <sup>1</sup>		Sensor Port Adapter <sup>2</sup>	
AX	L	1	N	-	18						
L	L Series	1	1 Ejector	(Blank)	Standard	C18	Standard	(Blank)	Standard	(Blank)	Standard
M	M Series	2	2 Ejectors	R	Non-Return	C18PS	Pilot Controlled Air-Supply	-AQR	Atmospheric	-PA5F	M5x.08
						C18PSB	Pilot Controlled Air-Supply & Release			-PA18F	G 1/8 NPSF
						C18S24D	Solenoid Controlled Air-Supply				
						C18SB24D	Solenoid Controlled Air-Supply & Release				
						C18OS24D	Solenoid Controlled Air-Supply (N.O.)				
						C18OSB24D	Solenoid Controlled Air-Supply & Release (N.O.)				

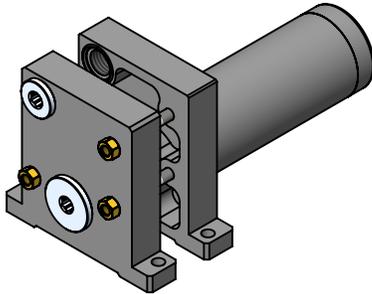
<sup>1</sup>AQR option not available on PSB, SB24D, OSB24D pump module styles.

<sup>2</sup>Sensor Port Adapters cannot be used with a Quick Release Option. The AQR option comes standard with an M5x0.8 auxiliary vacuum port.

### Manifold End Plate Silencer Options

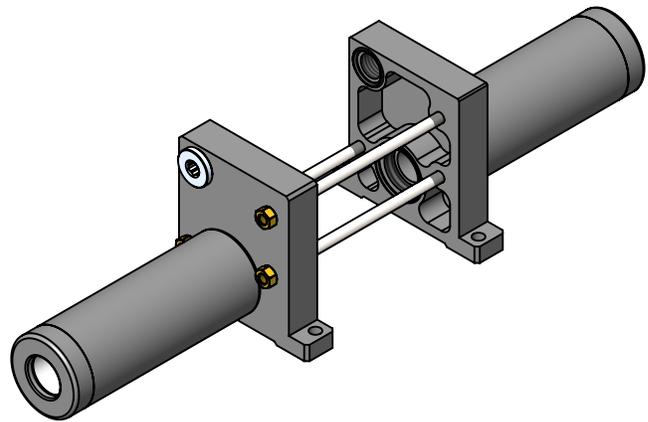
Use two silencers when building manifolds with 5+ stations.

-ST



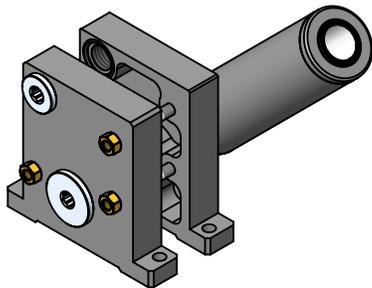
Additional Weight: 3.36 oz [95.3 g]

-2ST



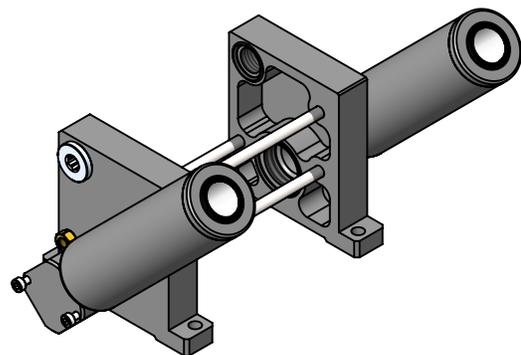
Additional Weight: 6.72 oz [190.6 g]

-ST90



Additional Weight: 4.03 oz [114.4 g]

-2ST90



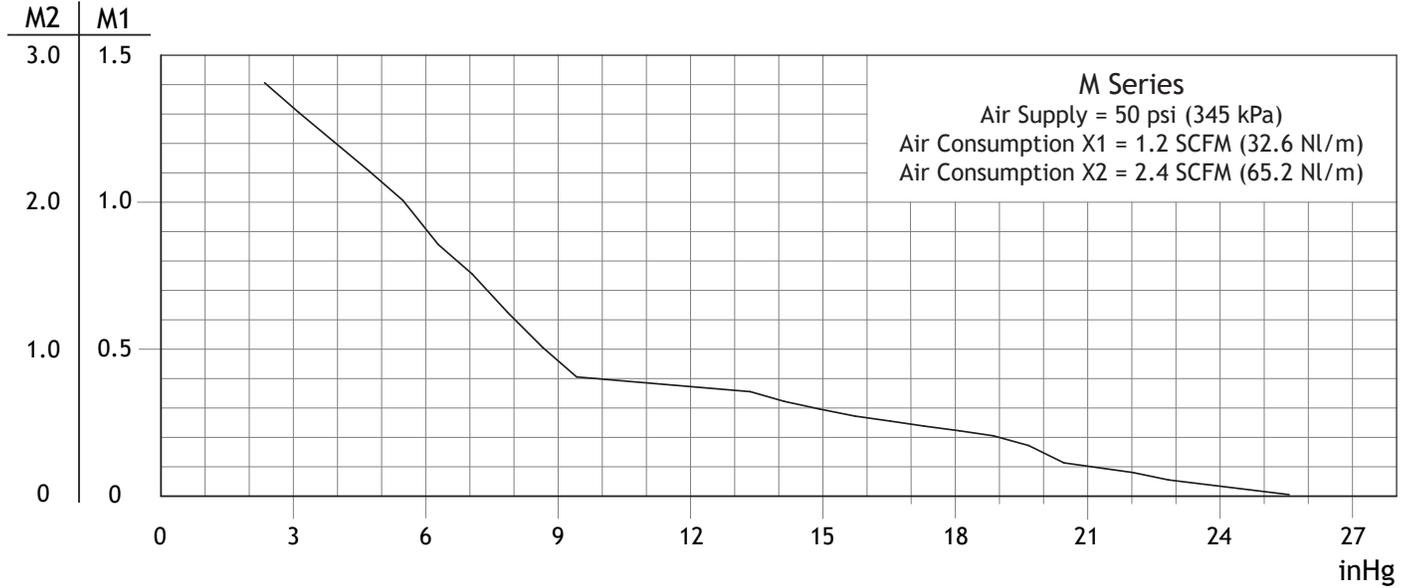
Additional Weight: 8.06 oz [228.8 g]

### Performance Data: M Series

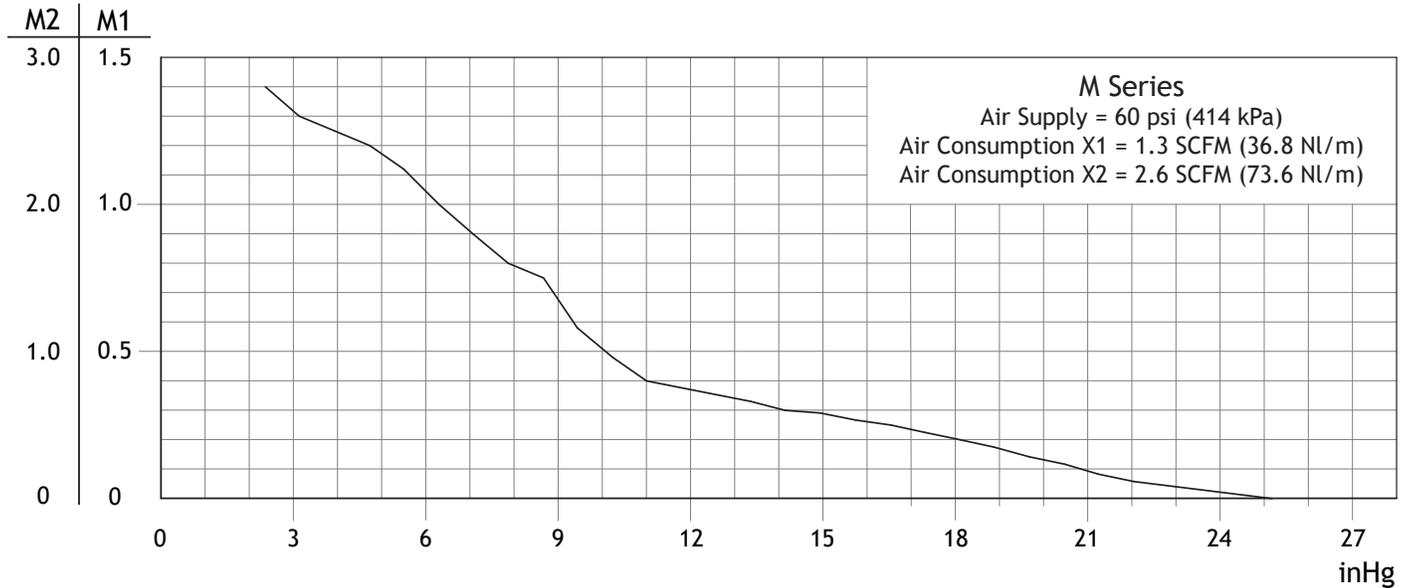
AX-M series pumps are optimized for operation at 50 psi (3.5 bar) air-supply pressure. Performance data at any other air pressure is shown solely for reference and serves only to demonstrate the affect of operation at non-optimal air pressures. Do not expect identical performance to tabulated data.

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.

SCFM Scale



SCFM Scale

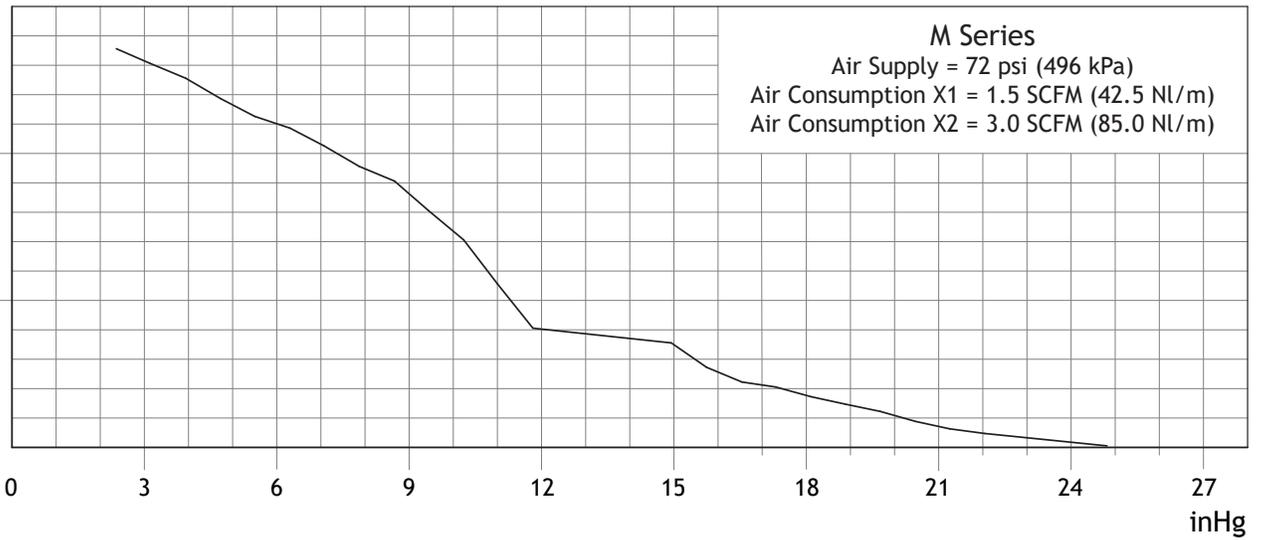


All performance data presented is a representation of production pumps but is not a guarantee due to variations in local barometric pressure and of mass produced components.

Performance Data: M Series

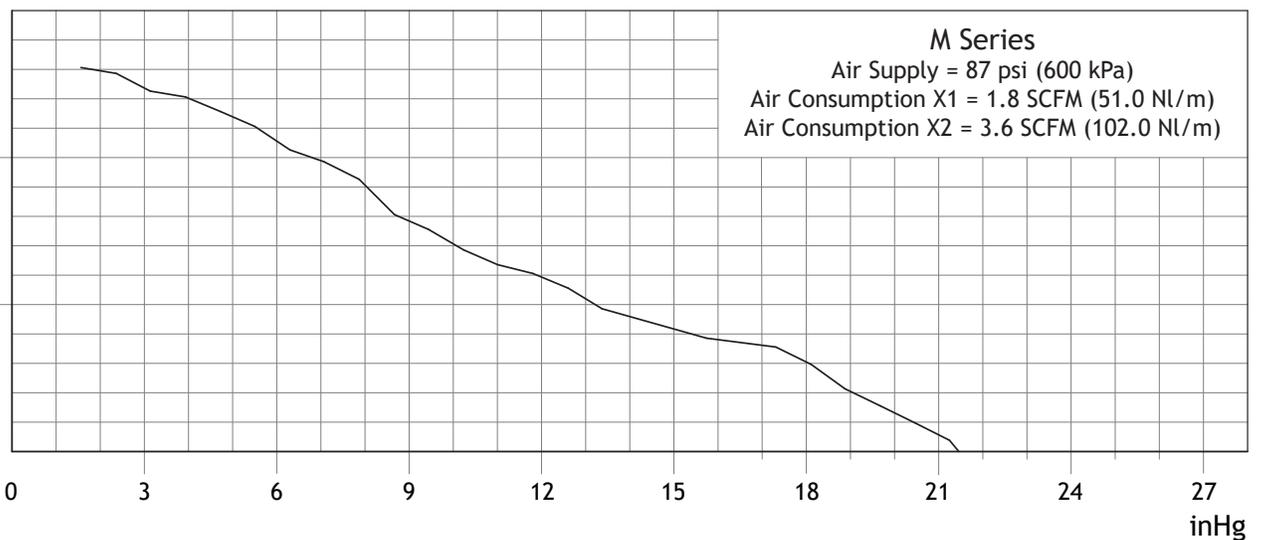
SCFM Scale

M2	M1
3.0	1.5



SCFM Scale

M2	M1
3.0	1.5



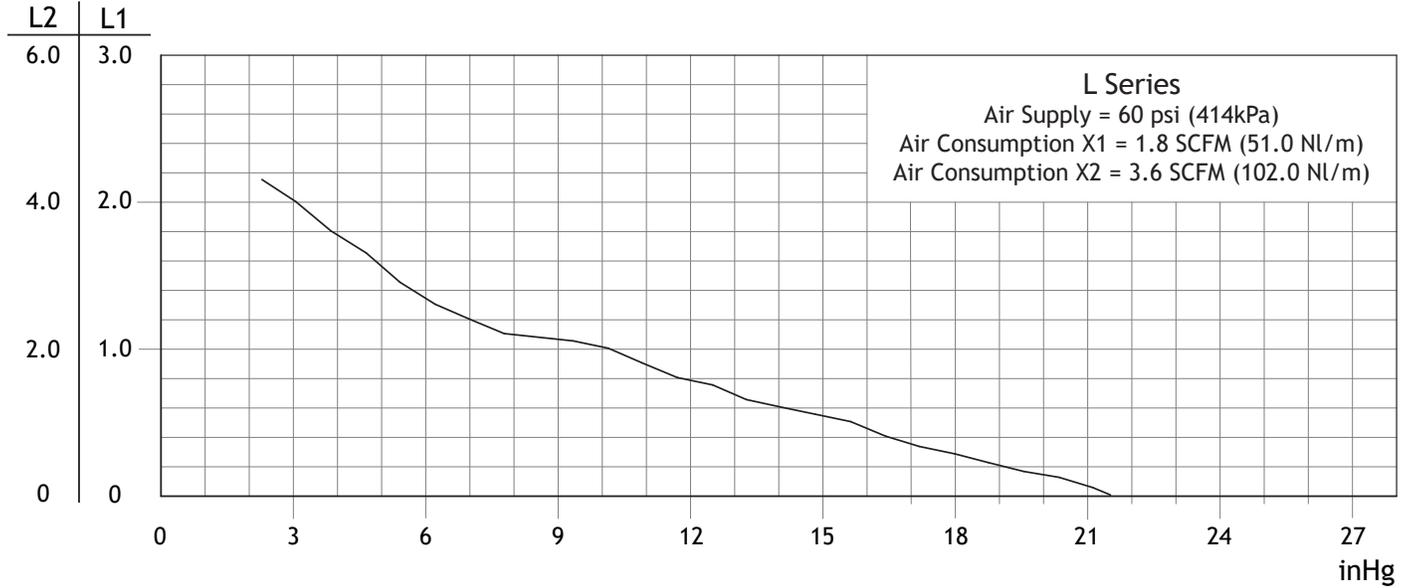
All performance data presented is a representation of production pumps but is not a guarantee due to variations in local barometric pressure and of mass produced components.

### Performance Data: L Series

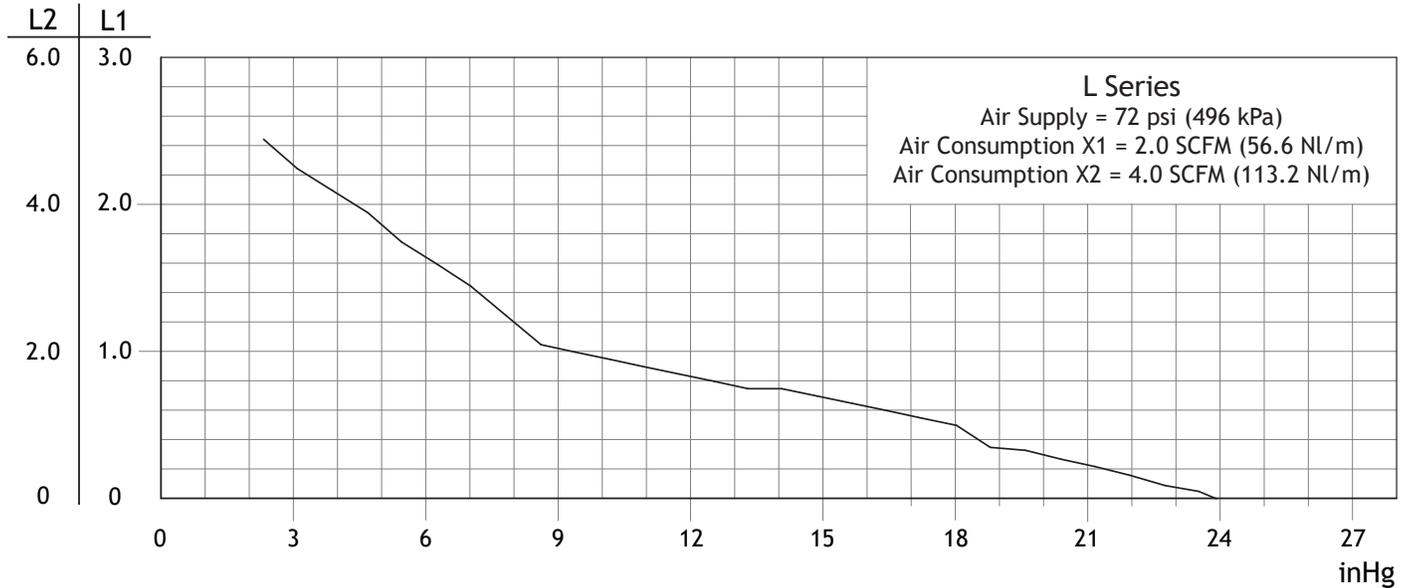
AX-L series pumps are optimized for operation at 87 psi (6.0 bar) air-supply pressure. Performance data at any other air pressure is shown solely for reference and serves only to demonstrate the affect of operation at non-optimal air pressures. Do not expect identical performance to tabulated data.

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.

SCFM Scale



SCFM Scale

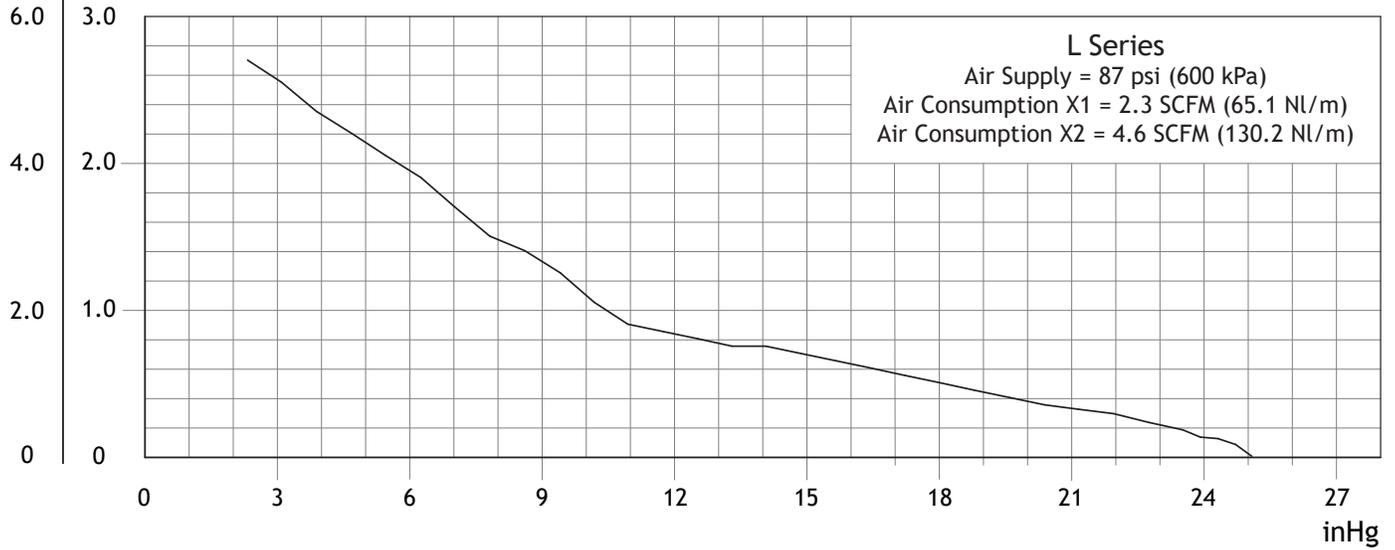


All performance data presented is a representation of production pumps but is not a guarantee due to variations in local barometric pressure and of mass produced components.

Performance Data: L Series

SCFM Scale

L2	L1
----	----



Performance Data: Both Series

Vacuum Flow - SCFM

Model	Air Supply PSI	Air Cons. SCFM	Max Vacuum inHG	SCFM at Vacuum Level							
				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 in<sup>3</sup>)

Model	Air Supply PSI	Air Cons. SCFM	Max Vacuum inHG	Seconds to Vacuum Level							
				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<sup>3</sup> X 0.61 = sec / l

All performance data presented is a representation of production pumps but is not a guarantee due to variations in local barometric pressure and of mass produced components.