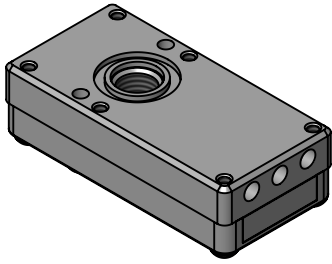
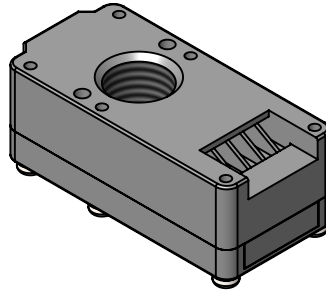


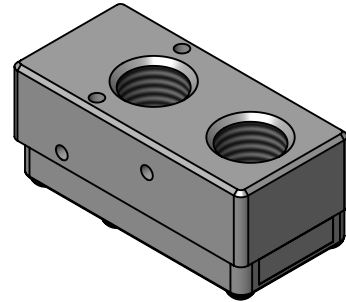
CHIP PUMPS



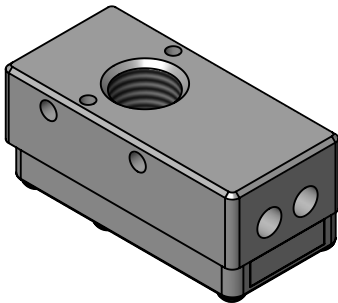
AA Base



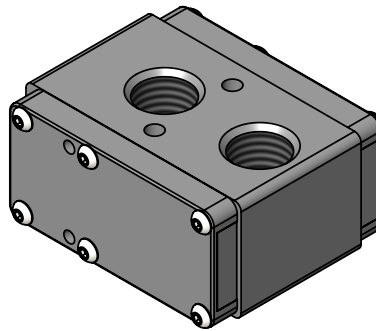
A & B Base



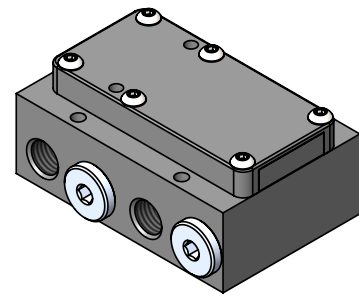
C Base



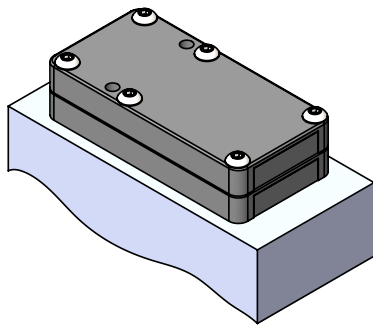
D Base



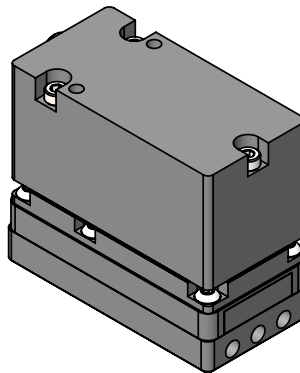
G Base



M Base



Z & ZS Model



Options

AA Base	116
A & B Base	117
C Base	118
D Base	119
G Base	120
M Base	121
Z & ZS Model	122
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Performance	124

Chip Pumps

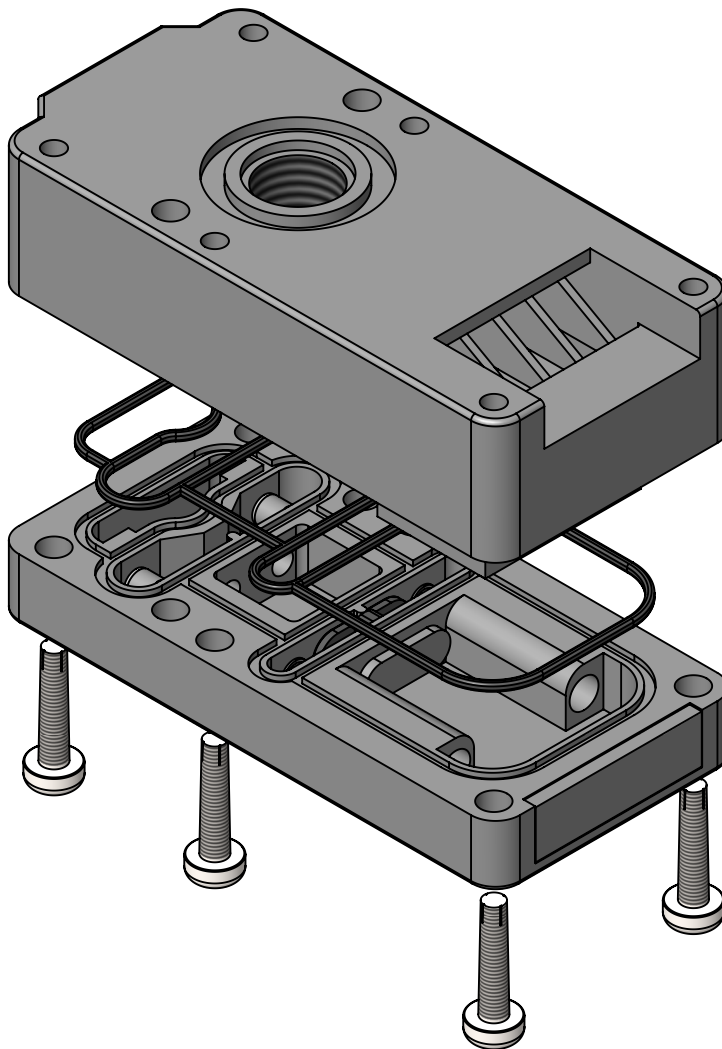
EDCO Vacuum Chip Pumps were named after electronic circuit chips whose small size and versatility have made modern products more efficient, compact, and affordable. Our low-cost Chip Pumps will do the same thing for your vacuum systems.

Chip Pumps provide the performance you expect from a multi-stage, multi-ejector, air-powered vacuum pump. To increase pump capacity, we simply add another pump module to the assembly stack. Our standard seal and valve elastomer is Nitrile, but we also offer Viton¹ and EPDM seal materials at a reasonable price. To make our systems easier to design and install, we offer non-return valves and direct mounted electronic sensors. We are always open to suggestions, so contact us if you need an accessory that you don't see in our catalog.

EDCO Chip Pumps are offered with eleven standard base configurations and a "Z" option for no base at all. This allows a designer complete freedom to integrate a Chip Pump module into a proprietary assembly. However, it is more common to select an EDCO Vacuum Pump having one of the eleven standard bases that best suits your application needs. EDCO USA will design and manufacture custom bases and pump assemblies for OEMs that have special needs which are not satisfied by our standard products. Fill out the Application Worksheet in the resources available on our website.

We have selected 40% glass-filled Polyphenylene Sulphide (PPS, Ryton) for its extremely high strength, light weight, and chemical resistance. The pump bodies and ejectors are all made of PPS to eliminate chemical compatibility problems caused when different materials are used for parts within the same vacuum pump. A and B bases are also PPS for the same reason. All other bases are made of anodized aluminum for applications requiring maximum ruggedness or a larger capacity vacuum pump. All fasteners used are 303/304 series stainless steel.

¹Viton is a registered trademark of DuPont Dow.



Chip Pumps

Venturi Selection

Code	Air Pressure		Max Vacuum inHg [-kPa]
	psi	bar	
4M	60	4	25.50 [86.4]
5L	72	5	22.80 [77.2]
6E	87	6	25.50 [86.4]
6M	87	6	22.50 [86.4]

Seal Material

Code	Description
N	Nitrile
E	EPDM
V	Viton ¹

¹Viton is a registered trademark of DuPont Dow.

Material Chemical Compatibility

Medium	Material				
	PPS	Aluminum	Nitrile	EPDM	Viton ¹
Weather, Ozone	E	G	L	E	E
Heat, Aging	E	E	G	G	E
Oil, Petrol	E	L	E	U	E
Hydrolysis	E	E	G	G	G
Acid, Alkali	E	U	G	E	G
Acetone	E	E	U	E	U
Ammonia	G	G	L	E	U
Amyl Alcohol	E	G	G	E	G
Benzene	E	G	U	U	E
Butanol	E	G	G	G	E
Cyclohexane	E	E	G	U	E
Ethanol	E	G	L	E	E
Ethyl Acetate	E	G	U	G	U
Hexane	E	E	E	U	E
Carbone Tetrachloride	E	U	U	U	E
Chlora Benzene	E	E	U	U	E
Chloroform	E	L	U	U	E
Methanol	E	G	E	E	L
Methylene Chloride	E	L	U	G	E
Methyl Ethyl Ketone	E	G	U	E	U
NaOH	E	U	G	E	G
Propanol	E	G	E	E	E
Sulphuric Acid	E	U	L	G	E
Tetrahydrofuran	E	U	U	G	U
Tetrachlorethelene	E	U	U	U	E
Toulene	E	E	U	U	E
Trichlorethane	E	U	U	U	E
Trichlorethylene	E	U	U	U	E
Xylene	E	G	U	U	E
Acetic Acid	E	L	E	E	G

E = Excellent | G = Good | L = Limited | U = Unsuided

¹Viton is a registered trademark of DuPont Dow.

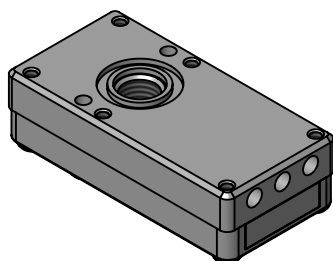
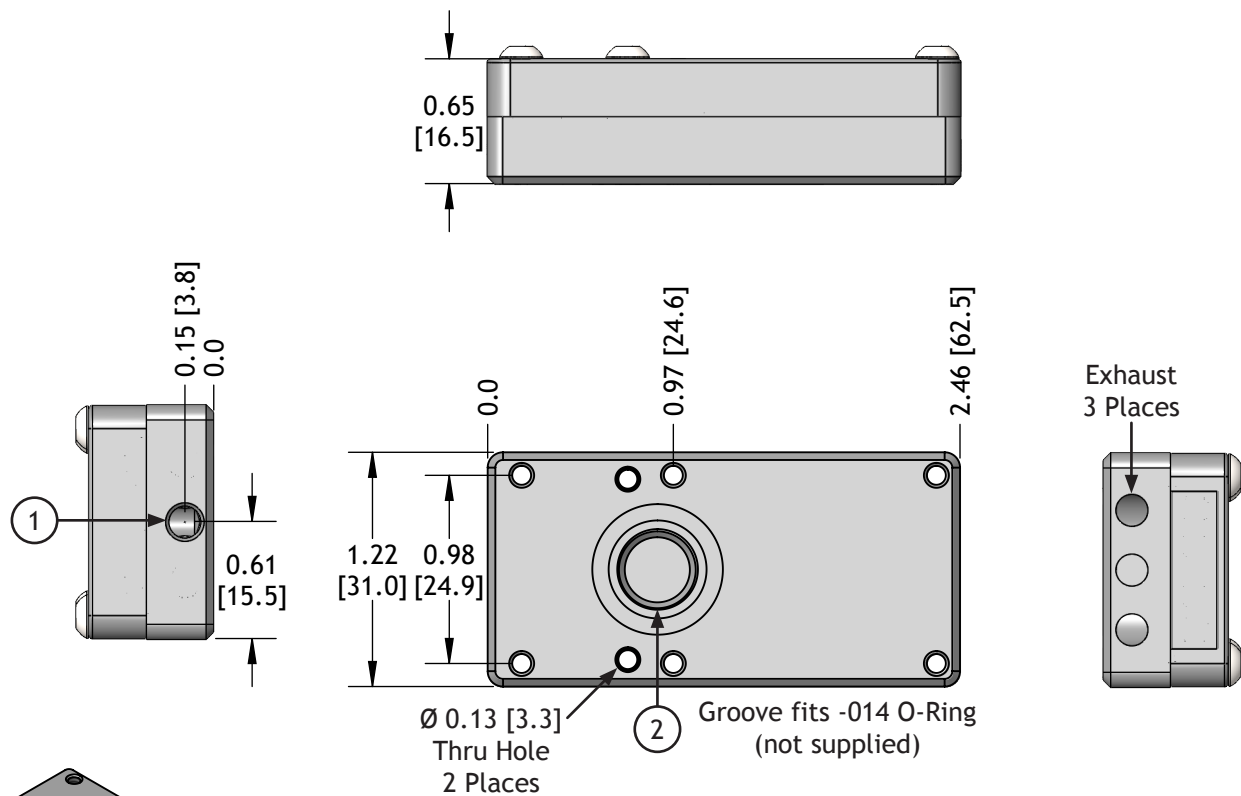
Chip Pumps - "AA" Base

PPS Pump Module w/ Aluminum Base

Series	Capacity	Seal Material	Non-Return Option		Options	
C	6M	10	N		-AA	
4M	M Series	E	EPDM	(Blank)	None	(Blank) None
6M	10	N	Nitrile	R	Non-Return	-BO Blow-Off
5L	E & L Series	V	Viton ¹			-PA5F Port Adapter, M5X0.8
6E	14					-PA18F Port Adapter, G 1/8 NPSF
						-RC18A Release Check Valve
						-RC18A-040 Release Check Valve
						-PFC ² Pump w/ Filter Combo
						-VA3 VA-3 Sensor, NPN, 3-Pin
						-VN3 VN-3 Sensor, NPN, 3-Pin
						-VN4 VN-4 Sensor, NPN, 4-Pin
						-VP3 VP-3 Sensor, PNP, 3-Pin
						-VP4 VP-4 Sensor, PNP, 4-Pin

¹Viton is a registered trademark of DuPont Dow.

²Includes a t-style vacuum filter and replacement filter elements (qty 3).



Weight: 2.36 oz [66.8 g]

Code	Function	Threads
1	Air Supply	M5X0.8 (10-32 UNF)
2	Vacuum	G 1/8 NPSF

Chip Pumps - "A" & "B" Bases

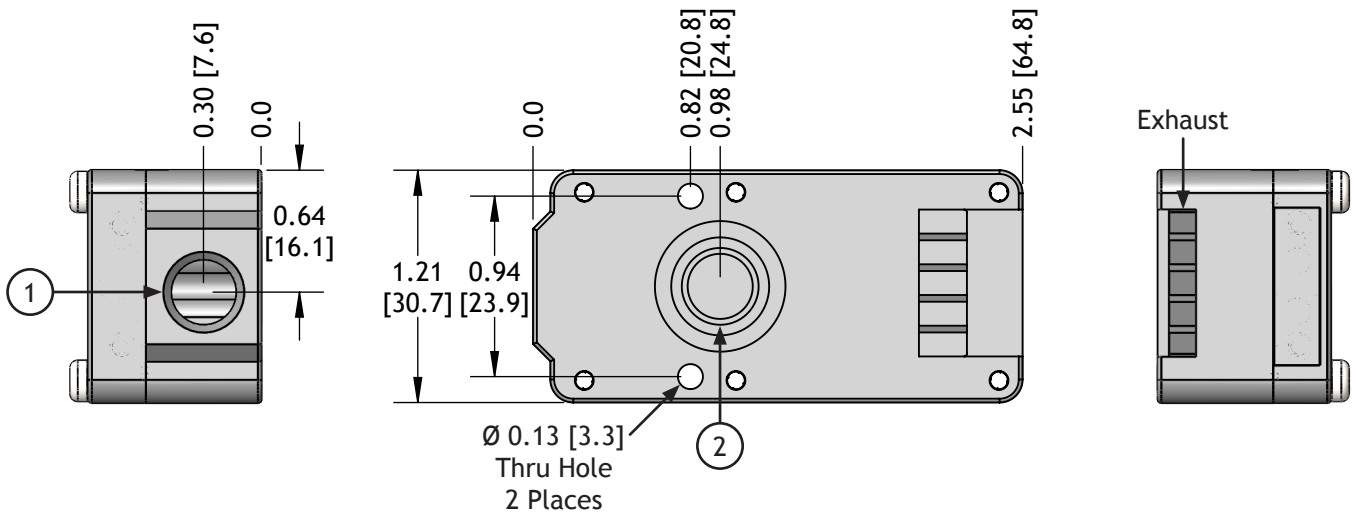
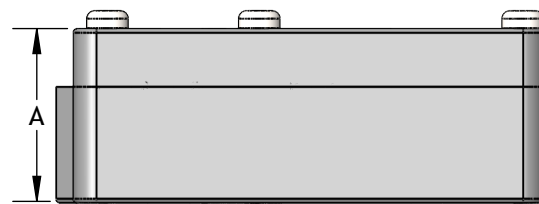
PPS Pump Module & Base

Series	Capacity	Seal	Non-Return Option	Base	Options	Threads
C	5L	14	V	-A		
4M	M Series	E EPDM	(Blank) None	-A A Base	(Blank) None	(Blank) NPSF
6M	10	N Nitrile	R Non-Return	-B B Base	-BO Blow-Off	-G G Threads
5L	20	V Viton ¹			-PA5F Port Adapter, M5X0.8	
6E	E & L Series				-PA18F Port Adapter, G 1/8 NPSF	
	14				-RC18A Release Check Valve	
	28				-RC18A-040 Release Check Valve	
					-PFC ² Pump w/ Filter Combo	
					-VA3 VA-3 Sensor, NPN, 3-Pin	
					-VN3 VN-3 Sensor, NPN, 3-Pin	
					-VN4 VN-4 Sensor, NPN, 4-Pin	
					-VP3 VP-3 Sensor, PNP, 3-Pin	
					-VP4 VP-4 Sensor, PNP, 4-Pin	

¹Viton is a registered trademark of DuPont Dow.

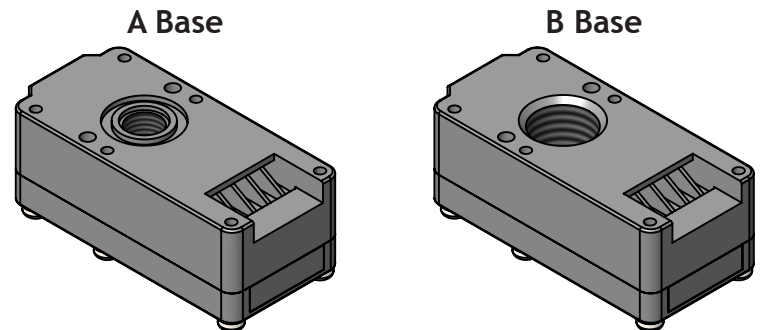
²Includes a t-style vacuum filter and replacement filter elements (qty 3).

³Only available on B Base.



Capacity	A	A - Weight	B - Weight
M	E & L	in [mm]	oz [g]
14	10	0.90 [22.9]	3.00 [85.0]
28	20	1.20 [30.5]	3.73 [105.7]

Code	Function	A	B - NPSF	B - G
1	Air Supply		G 1/8 NPSF	
2	Vacuum	G 1/8 NPSF	3/8 NPSF	G 3/8



Groove fits -014 O-Ring (not supplied)

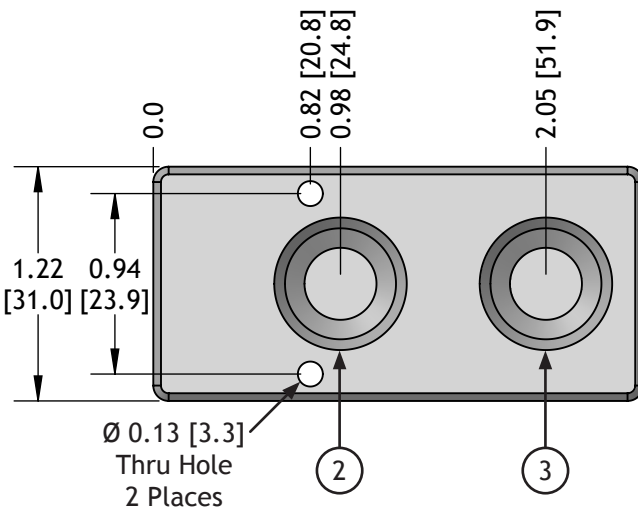
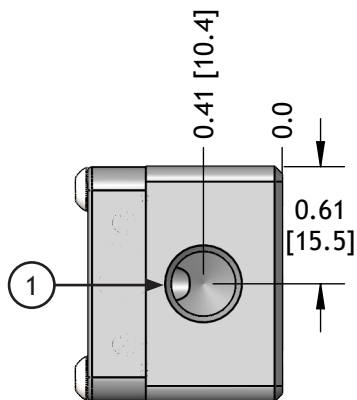
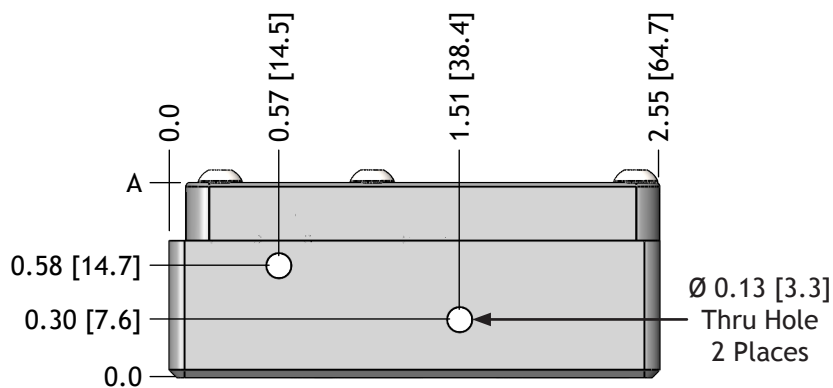
Chip Pumps - "C" Base

PPS Pump Module w/ Aluminum Base

Series	Capacity	Seal	Non-Return Option		Silencer		Options		Threads		
C	6E	14	E	R	-C				-G		
4M	M Series	E	EPDM	(Blank)	None	(Blank)	None	(Blank)	None	(Blank)	NPSF
6M	10	N	Nitrile	R	Non-Return	-ST	STB38M	-BO	Blow-Off	-G	G Threads
5L	20	V	Viton ¹					-PA5F	Port Adapter, M5X0.8		
6E	30							-PA18F	Port Adapter, G 1/8 NPSF		
	40							-RC18A	Release Check Valve		
	E & L Series							-RC18A-040	Release Check Valve		
	14							-PFC ²	Pump w/ Filter Combo		
	28							-VA3	VA-3 Sensor, NPN, 3-Pin		
	42							-VN3	VN-3 Sensor, NPN, 3-Pin		
	56							-VN4	VN-4 Sensor, NPN, 4-Pin		
								-VP3	VP-3 Sensor, PNP, 3-Pin		
								-VP4	VP-4 Sensor, PNP, 4-Pin		

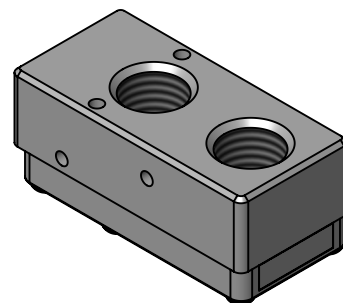
¹Viton is a registered trademark of DuPont Dow.

²Includes a t-style vacuum filter and replacement filter elements (qty 3).



Capacity		A	Weight
M	E & L	in [mm]	oz [g]
10	14	1.01 [25.7]	3.73 [105.8]
20	28	1.31 [33.3]	4.58 [130.0]
30	42	1.61 [40.9]	5.44 [154.1]
40	56	1.91 [48.5]	6.29 [178.2]

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



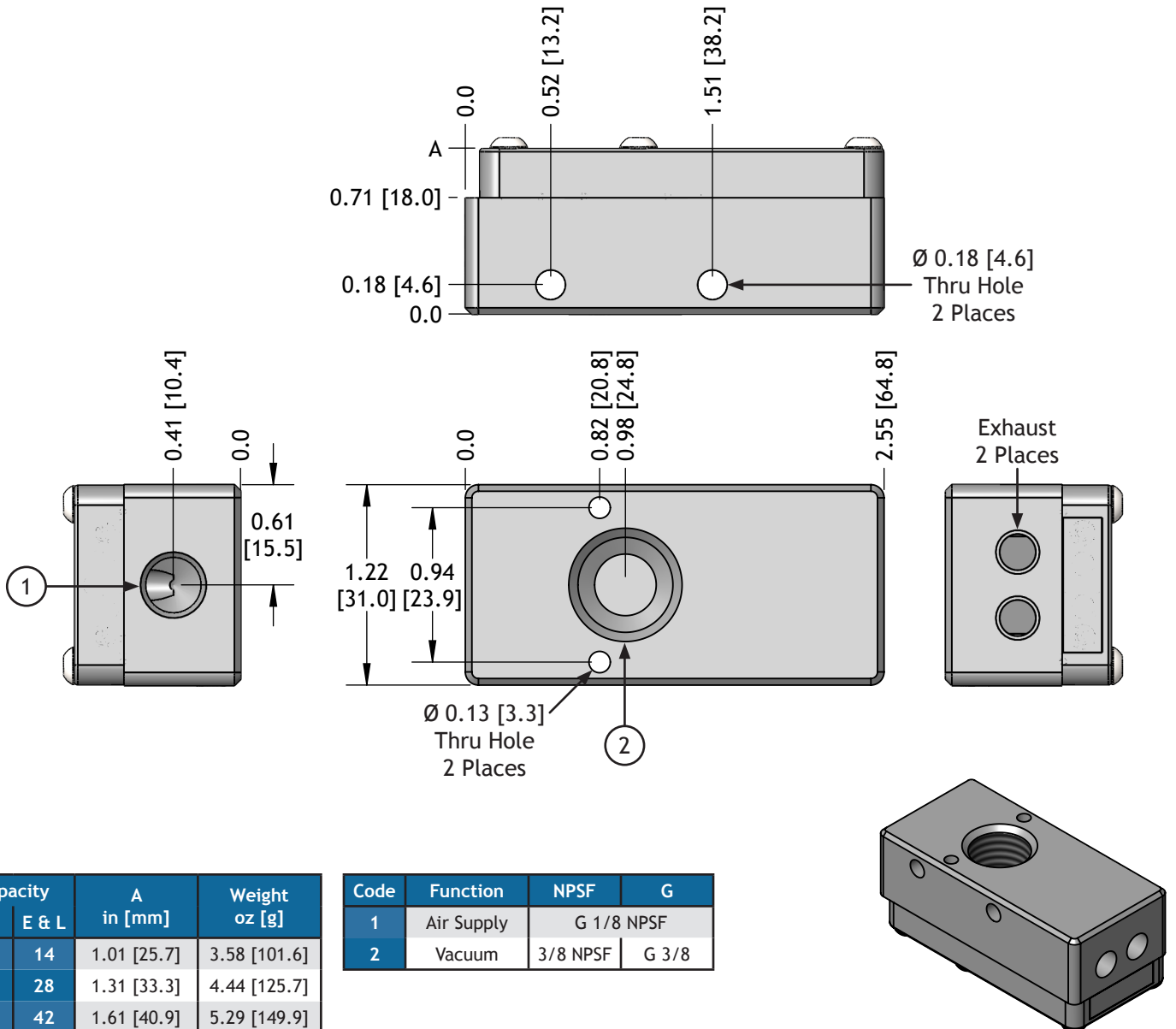
Chip Pumps - "D" Base

PPS Pump Module w/ Aluminum Base

Series	Capacity	Seal	Non-Return Option		Options		Threads		
C	5L	14	N		-D		-G		
4M	M Series	E	EPDM	(Blank)	None	(Blank)	None	(Blank)	NPSF
6M	10	N	Nitrile	R	Non-Return	-BO	Blow-Off	-G	G Threads
5L	20	V	Viton ¹			-PA5F	Port Adapter, M5X0.8		
6E	30					-PA18F	Port Adapter, G 1/8 NPSF		
	E & L Series					-RC18A	Release Check Valve		
	14					-RC18A-040	Release Check Valve		
	28					-PFC ²	Pump w/ Filter Combo		
	42					-VA3	VA-3 Sensor, NPN, 3-Pin		
						-VN3	VN-3 Sensor, NPN, 3-Pin		
						-VN4	VN-4 Sensor, NPN, 4-Pin		
						-VP3	VP-3 Sensor, PNP, 3-Pin		
						-VP4	VP-4 Sensor, PNP, 4-Pin		

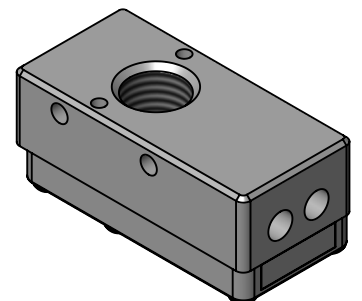
¹Viton is a registered trademark of DuPont Dow.

²Includes a t-style vacuum filter and replacement filter elements (qty 3).



Capacity		A	Weight
M	E & L	in [mm]	oz [g]
10	14	1.01 [25.7]	3.58 [101.6]
20	28	1.31 [33.3]	4.44 [125.7]
30	42	1.61 [40.9]	5.29 [149.9]

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



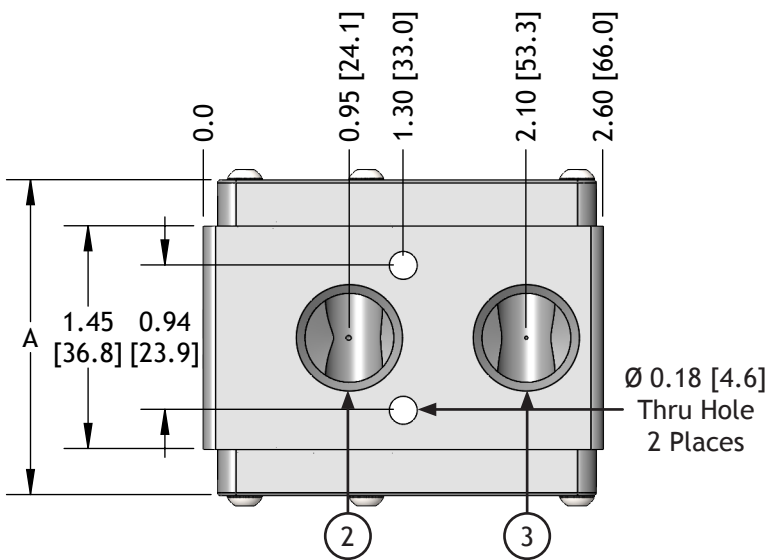
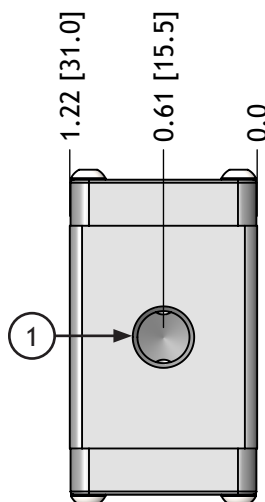
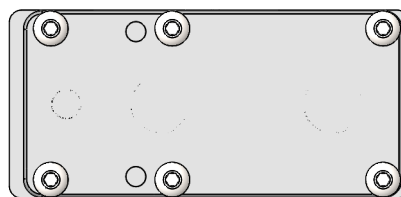
Chip Pumps - "G" Base

PPS Pump Module w/ Aluminum Base

Series	Capacity	Seal	Non-Return Option		Silencer		Options		Threads	
C	4M	20	N		-G					
	4M	M Series	E	EPDM	(Blank)	None	(Blank)	None	(Blank)	NPSF
	6M	20	N	Nitrile	R	Non-Return	-ST	STB38M	-BO	Blow-Off
	5L	30	V	Viton ¹					-PA5F	Port Adapter, M5X0.8
	6E	40							-PA18F	Port Adapter, G 1/8 NPSF
		50							-RC18A	Release Check Valve
		60							-RC18A-040	Release Check Valve
		E & L Series							-PFC ²	Pump w/ Filter Combo
		28							-VA3	VA-3 Sensor, NPN, 3-Pin
		42							-VN3	VN-3 Sensor, NPN, 3-Pin
		56							-VN4	VN-4 Sensor, NPN, 4-Pin
		70							-VP3	VP-3 Sensor, PNP, 3-Pin
		84							-VP4	VP-4 Sensor, PNP, 4-Pin

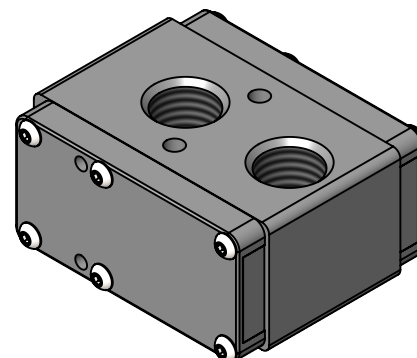
¹Viton is a registered trademark of DuPont Dow.

²Includes a t-style vacuum filter and replacement filter elements (qty 3).



Capacity		A in [mm]	Weight oz [g]
M	E & L		
20	28	1.82 [46.2]	8.06 [228.4]
30	42	2.12 [53.8]	8.91 [252.5]
40	56	2.42 [61.5]	9.76 [276.6]
50	70	2.72 [69.1]	10.61 [300.7]
60	84	3.02 [76.7]	11.46 [324.8]

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



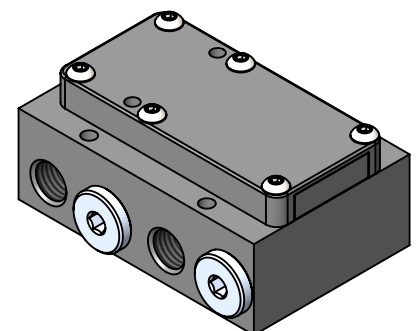
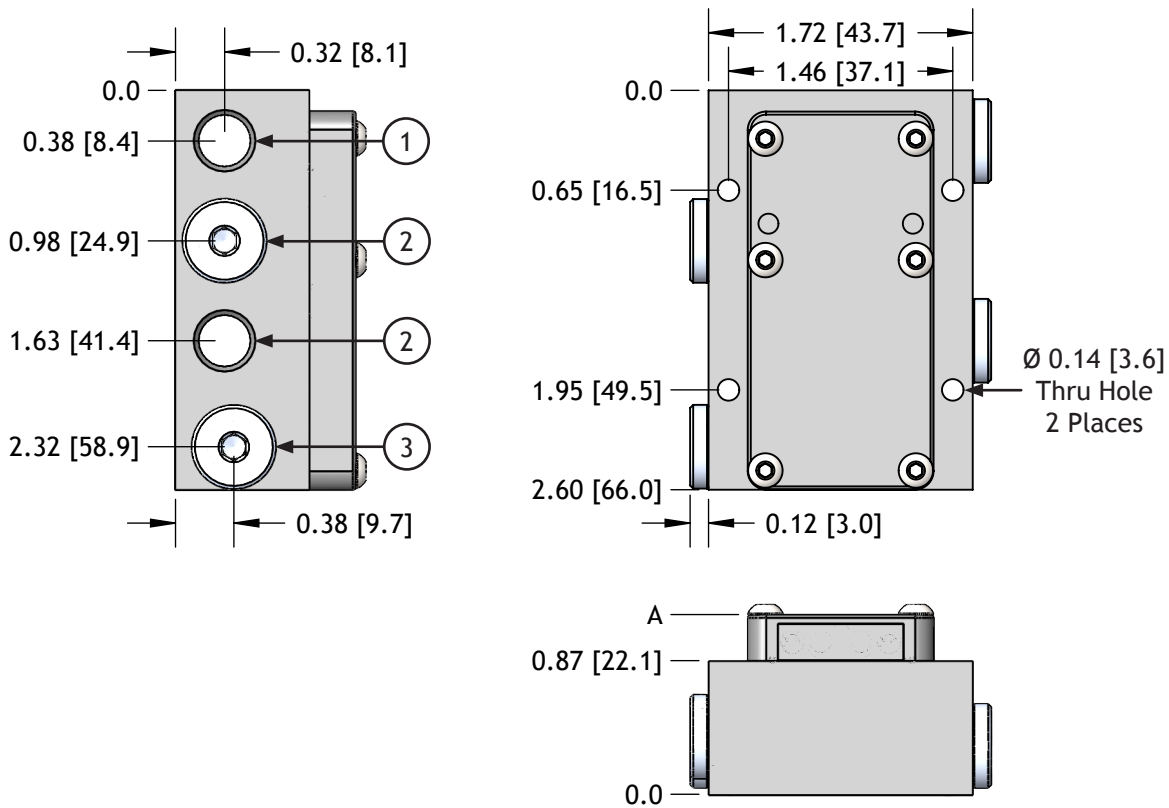
Chip Pumps - "M" Base

PPS Pump Module w/ Aluminum Base

Series	Capacity	Seal	Non-Return Option		Silencer		Options	
C	4M	20	N		-M			
	4M	M Series	E	EPDM	(Blank)	None	(Blank)	None
	6M	10	N	Nitrile	R	Non-Return	-ST	STA18M
	5L	20	V	Viton ¹				
	6E	E & L Series						
		14					-BO	Blow-Off
		28					-PA5F	Port Adapter, M5X0.8
							-PA18F	Port Adapter, G 1/8 NPSF
							-RC18A	Release Check Valve
							-RC18A-040	Release Check Valve
							-PFC ²	Pump w/ Filter Combo
							-VA3	VA-3 Sensor, NPN, 3-Pin
							-VN3	VN-3 Sensor, NPN, 3-Pin
							-VN4	VN-4 Sensor, NPN, 4-Pin
							-VP3	VP-3 Sensor, PNP, 3-Pin
							-VP4	VP-4 Sensor, PNP, 4-Pin

¹Viton is a registered trademark of DuPont Dow.

²Includes a t-style vacuum filter and replacement filter elements (qty 3).



Capacity		A	Weight
M	E & L	in [mm]	oz [g]
10	14	1.17 [29.7]	6.09 [172.7]
20	28	1.47 [37.3]	6.94 [196.9]

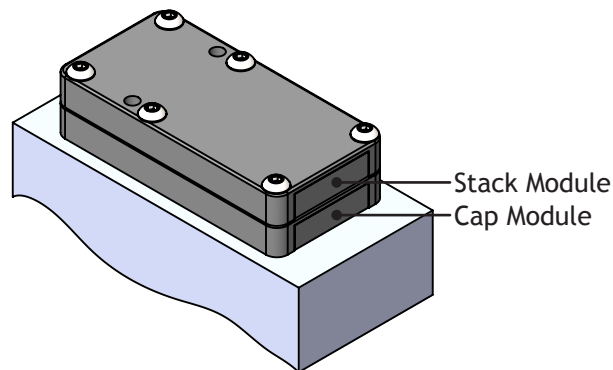
Code	Function	Ports
1	Air Supply	G 1/8 NPSF
2	Vacuum	G 1/8 NPSF
3	Exhaust	G 1/8 NPSF

Chip Pumps - "Z" Base

PPS pump module ready for integration into your custom design.

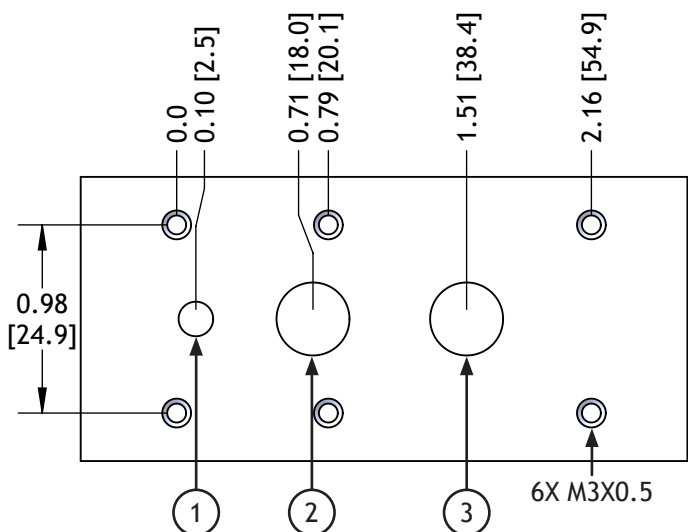
Series	Capacity	Seal	Non-Return Option		Module Type	
C	5L	14	E	R	-Z	
4M	M Series	E	EPDM	(Blank)	None	-Z Cap
6M	10	N	Nitrile	R	Non-Return	-ZS Stack
5L	E & L Series	V	Viton ¹			
6E	14					

¹Viton is a registered trademark of DuPont Dow.



Weight: 0.86 oz [24.3 g]

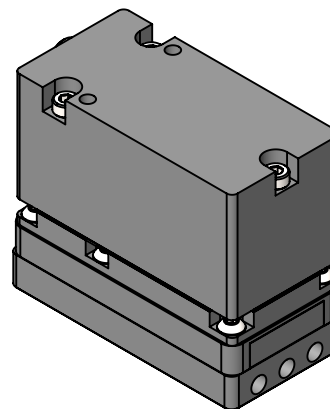
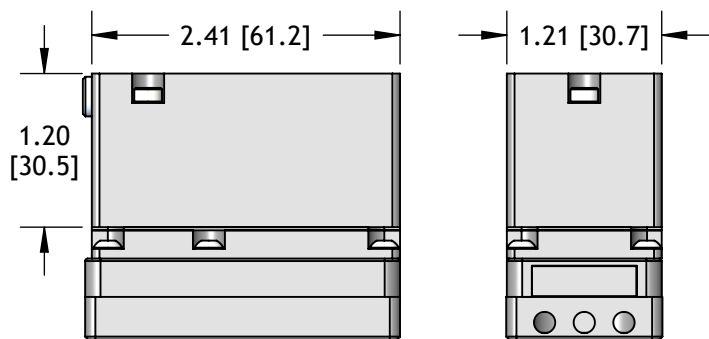
Code	Function	Hole Ø in [mm]
1	Air Supply	0.18 [4.6]
2	Vacuum	0.38 [9.7]
3	Exhaust	0.38 [9.7]



Chip Pumps - Blow-Off Option (-BO)

Pneumatic blow-off modules provide 25cc of stored, compressed-air to give a robust pulse to dissipate vacuum in a system whenever the vacuum pump air supply is vented. All connections to the vacuum pump are internal for a very compact, fool-proof, neat installation.

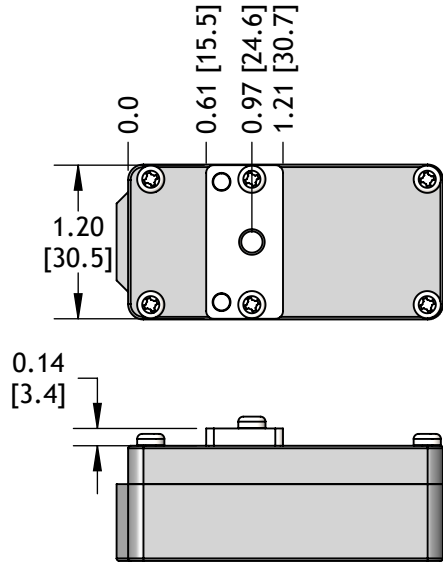
A single three-way, normally-closed air supply valve can be used to control the pump and blow-off functions. When the three-way valve shuts off and exhausts the pump air supply, the stored reservoir air will automatically discharge directly into the pump vacuum chamber to dissipate system vacuum.



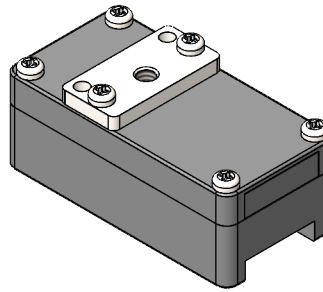
Additional Weight: 4.37 oz [124.0 g]

Chip Pumps - M5 Port Options (-PA5F)

An additional vacuum port allows for vacuum monitoring.

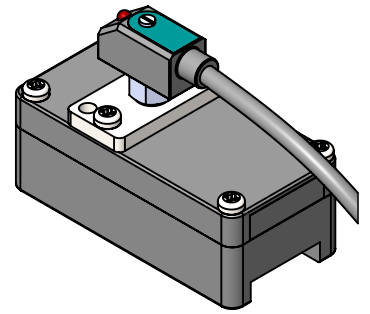


-PA5F



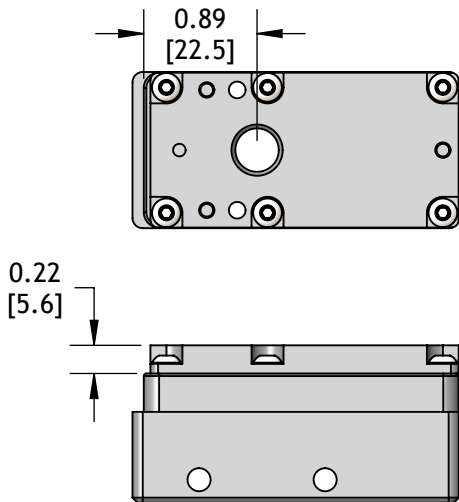
Additional Weight: 0.38 oz [10.7 g]

-VN3, -VN4, -VP3, -VP4

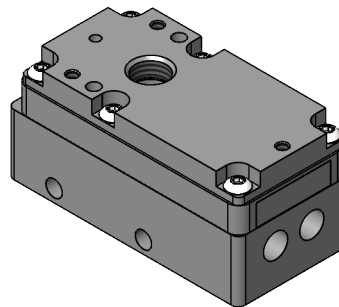


Chip Pumps - G 1/8 NPSF Port Options (-PA18F)

An additional vacuum port allows for mounting a vacuum switch or release check valve directly to the pump.

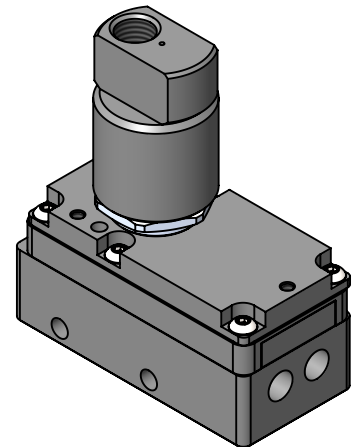


-PA18F



Additional Weight: 0.88 oz [25.0 g]

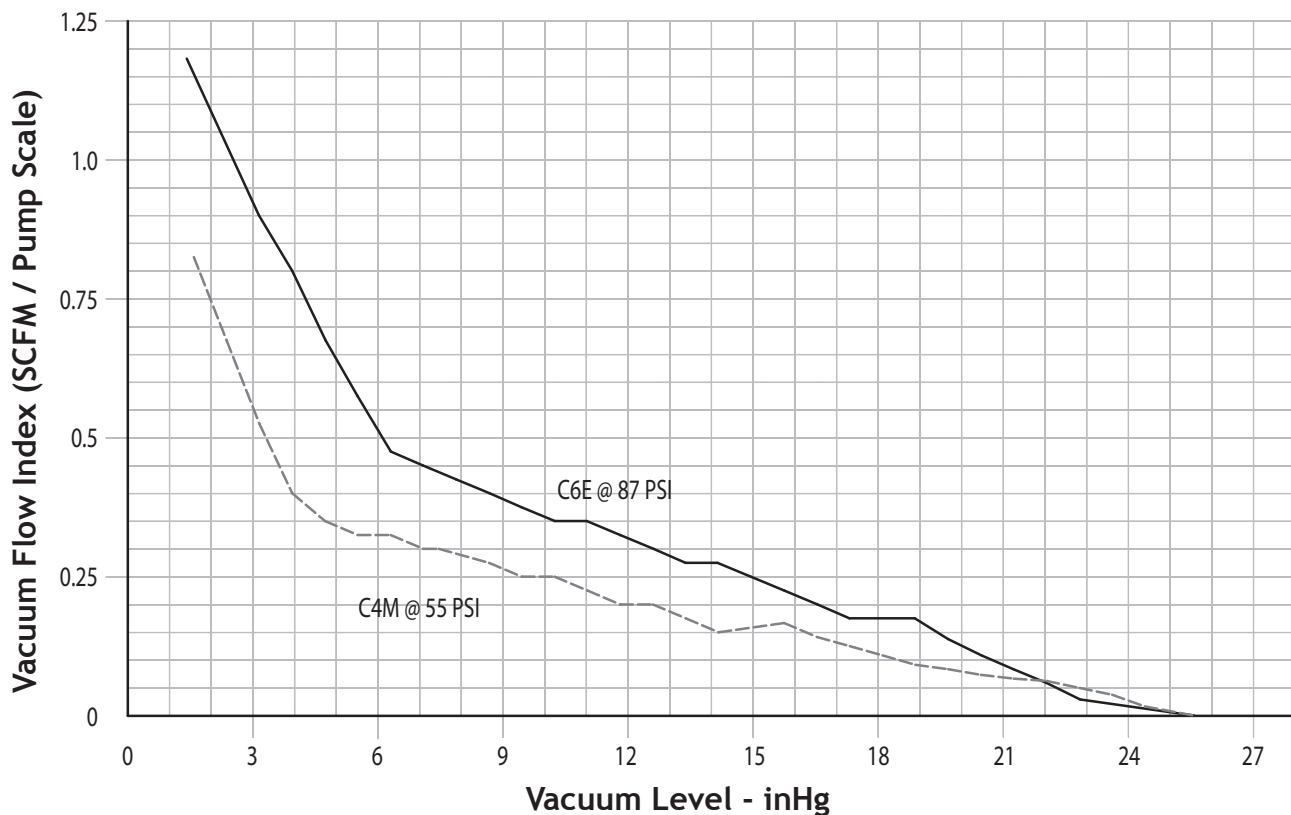
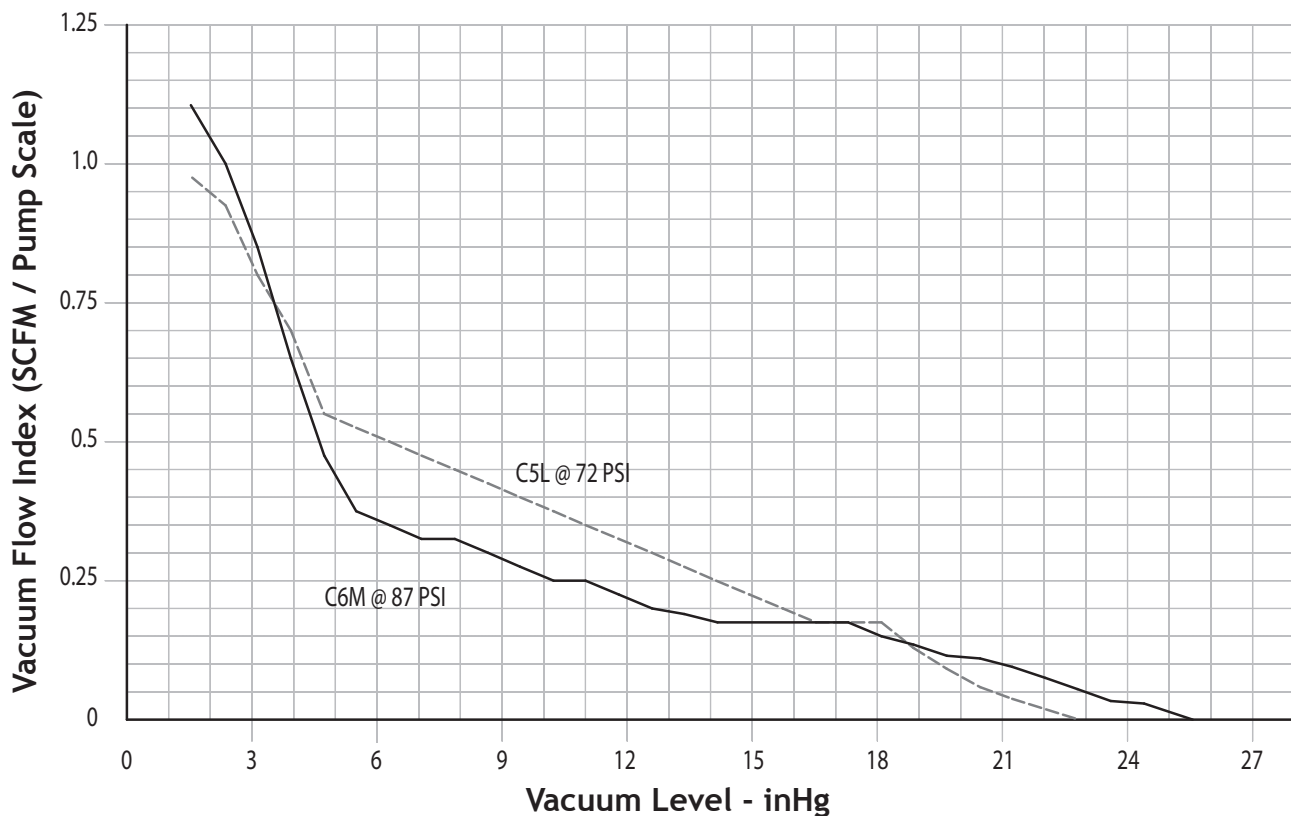
-RC18A, -RC18A-040



Chip Pumps - Performance

C5I & C6E	7	14	28	42	58	70	84	98	112
Scale	1	2	4	6	8	10	12	14	16

C4M & C6M	5	10	20	30	40	50	60	70	80
Scale	1	2	4	6	8	10	12	14	16



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.

Chip Pumps - Performance

Vacuum Flow - SCFM

Model	Air Supply PSI	Air Consu SCFM	Max Vacuum inHg	SCFM at Vacuum Level							
				3 inHg	6 inHg	9 inHg	12 inHg	15 inHg	18 inHg	21 inHg	24 inHg
C5L14	72	2.0	23.6	1.6	1.0	0.83	0.64	0.45	0.35	0.09	-
C5L28	72	4.0	23.6	3.3	2.0	1.7	1.30	0.9	0.7	0.18	-
C5L42	72	6.0	23.6	4.9	3.1	2.5	1.9	1.4	1.1	0.27	-
C5L56	72	8.0	23.6	6.6	4.1	3.3	2.6	1.8	1.4	0.36	-
C5L70	72	10.0	23.6	8.2	5.1	4.2	3.2	2.3	1.8	0.45	-
C5L84	72	12.0	23.6	9.8	6.1	5.0	3.8	2.7	2.1	0.54	-
C6E14	87	2.3	25.6	1.8	1.0	0.78	0.64	0.5	0.35	0.18	0.03
C6E28	87	4.6	25.6	3.7	2.1	1.6	1.30	1.0	0.7	0.36	0.06
C6E42	87	6.9	25.6	5.5	3.1	2.3	1.9	1.5	1.1	0.54	0.09
C6E56	87	9.2	25.6	7.4	4.1	3.1	2.6	2.0	1.4	0.72	0.12
C6E70	87	11.5	25.6	9.2	5.2	3.9	3.2	2.5	1.8	0.9	0.15
C6E84	87	13.8	25.6	11.0	6.2	4.7	3.8	3.0	2.1	1.1	0.18
C4M10	55	1.6	25.5	1.1	0.65	0.53	0.40	0.32	0.22	0.14	0.05
C4M20	55	3.2	25.5	2.2	1.3	1.1	0.80	0.64	0.44	0.28	0.11
C4M30	55	4.8	25.5	3.3	2.0	1.6	1.2	1.0	0.66	0.42	0.33
C4M40	55	6.4	25.5	4.4	2.6	2.1	1.6	1.3	0.88	0.56	0.44
C4M50	55	8.0	25.5	5.5	3.3	2.7	2.0	1.6	1.1	0.70	0.27
C4M60	55	9.6	25.5	6.6	3.9	3.2	2.4	1.9	1.3	0.84	0.66
C6M10	87	1.6	25.5	1.8	0.72	0.44	0.35	0.31	0.2	0.2	0.06
C6M20	87	3.2	25.5	3.5	1.4	0.88	0.7	0.62	0.4	0.4	0.12
C6M30	87	4.8	25.5	5.2	2.2	1.3	1.0	0.93	0.6	0.6	0.18
C6M40	87	6.4	25.5	7.0	2.9	1.8	1.4	1.2	0.80	0.8	0.24
C6M50	87	8.0	25.5	8.8	3.6	2.2	1.8	1.6	1.0	1.0	0.3
C6M60	87	9.6	25.5	10.5	4.3	2.6	2.1	1.9	1.2	1.2	0.36

SCFM X 28.32 = nl / m

Evacuation Time - Sec / 100 in³

Model	Air Supply PSI	Air Consum SCFM	Max Vacuum inHg	SCFM at Vacuum Level							
				3 inHg	6 inHg	9 inHg	12 inHg	15 inHg	18 inHg	21 inHg	24 inHg
C5L14	72	2.0	23.6	0.14	0.39	0.77	1.4	2.3	3.9	6.8	-
C5L28	72	4.0	23.6	0.07	0.2	0.39	0.68	1.2	1.9	3.4	-
C5L42	72	6.0	23.6	0.05	0.13	0.26	0.45	0.76	1.3	2.3	-
C5L56	72	8.0	23.6	0.04	0.1	0.19	0.34	0.57	0.97	1.7	-
C5L70	72	10.0	23.6	0.03	0.08	0.15	0.27	0.46	0.77	1.4	-
C5L84	72	12.0	23.6	0.02	0.07	0.13	0.23	0.38	0.64	1.1	-
C6E14	87	2.3	25.6	0.13	0.34	0.71	1.3	2.2	3.6	6.3	7.1
C6E28	87	4.6	25.6	0.07	0.17	0.36	0.64	1.1	1.8	3.2	3.6
C6E42	87	6.9	25.6	0.04	0.11	0.24	0.42	0.72	1.2	2.1	2.4
C6E56	87	9.2	25.6	0.03	0.09	0.18	0.32	0.54	0.91	1.6	1.8
C6E70	87	11.5	25.6	0.03	0.07	0.14	0.25	0.43	0.73	1.3	1.4
C6E84	87	13.8	25.6	0.02	0.06	0.12	0.21	0.36	0.61	1.1	1.2
C4M10	55	1.6	25.5	0.16	0.50	1.0	1.9	3.2	5.4	9.3	18.2
C4M20	55	3.2	25.5	0.08	0.25	0.50	1.0	1.6	2.7	4.7	9.1
C4M30	55	4.8	25.5	0.05	0.17	0.33	0.63	1.1	1.8	3.1	6.1
C4M40	55	6.4	25.5	0.04	0.13	0.25	0.48	0.8	1.4	2.3	4.6
C4M50	55	8.0	25.5	0.03	0.1	0.2	0.38	0.64	1.1	1.9	3.6
C4M60	55	9.6	25.5	0.03	0.08	0.17	0.32	0.53	0.9	1.6	3.1
C6M10	87	1.6	25.5	0.12	0.37	0.79	1.5	2.5	4.3	7.5	14.5
C6M20	87	3.2	25.5	0.06	0.19	0.40	0.74	1.3	2.2	3.8	7.3
C6M30	87	4.8	25.5	0.04	0.17	0.26	0.49	0.83	1.4	2.5	4.8
C6M40	87	6.4	25.5	0.03	0.09	0.2	0.37	0.63	1.1	1.9	3.6
C6M50	87	8.0	25.5	0.02	0.07	0.16	0.3	0.5	0.86	1.5	2.9
C6M60	87	9.6	25.5	0.02	0.06	0.13	0.25	0.42	0.72	1.3	2.4

sec / 100 cu in 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.