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## IN-LINE & MODULAR E-VAC INSTALLATION & MAINTENANCE

SUCTION CUPS					
	<b>SMALL ROUND</b>  MODEL DIAMETER THREADS 900752 1" 1/4 NPT 900753 1.5" 1/4 NPT 900754 2" 1/4 NPT 900755 2.5" 1/4 NPT 900756 3.5" 1/4 NPT	<b>VACUUM TUBING</b> 900795 (1/4") 900796 (3/8")  ATTACH ANY MODEL VACUUM CUP LISTED TO THE LEFT  VACUUM GENERATOR  VACUUM GENERATOR CAN BE USED WITHOUT VACUUM CUPS.  MODEL 9008  MODEL 9005 OR 9027  MODEL 9001 OR 9004			
	<b>LARGE ROUND</b>  MODEL DIAMETER THREADS 900757 3.25" 3/8 NPT 900758 3.25" 1/4 NPT 900759 4.25" 3/8 NPT 900760 5" 3/8 NPT 900761 6" 1/2 NPT	<b>OPTIONAL MUFFLERS</b> STANDARD* STRAIGHT THROUGH** 900800 1/4 NPT 3905 1/4 NPT 900801 3/8 NPT 3911 3/8 NPT 900802 1/2 NPT 3912 1/2 NPT			
		<b>FITTINGS</b> (Male Global Thread fits either NPT or BSP)			
	<b>OVAL</b>  MODEL SIZE THREADS 900762 .5" X 1" 1/8 NPT 900763 .5" X 2" 1/8 NPT 900764 .87" X 1.73" 1/8 NPT 900765 1.47" X 2.96" 1/8 NPT				<b>PUSH-IN BRANCH ELBOW CONNECTORS</b> 900788 1/4 Tube X 1/8 MGT 900789 1/4 Tube X 1/4 MGT 900790 3/8 Tube X 1/4 MGT 900791 3/8 Tube X 3/8 MGT MGT = Male Global Thread
	<b>BELLOWS</b>  MODEL DIAMETER THREADS 900766 .73" 1/4 NPT 900767 1" 1/8 NPT 900768 1.5" 1/4 NPT 900769 2" 1/4 NPT 900770 2.5" 1/4 NPT 900771 3.25" 3/8 NPT	<b>PUSH-IN CONNECTORS</b>  900773 1/4 Tube X 1/8 FNPT 900774 1/4 Tube X 1/8 MGT 900775 1/4 Tube X 1/4 MGT 900776 1/4 Tube X 3/8 MGT 900777 3/8 Tube X 1/8 MGT 900778 3/8 Tube X 1/4 MGT 900779 3/8 Tube X 3/8 MGT 900780 3/8 Tube X 1/2 MGT  MGT = Male Global Thread	<b>PUSH-IN SWIVEL TEE CONNECTORS</b>  900781 1/4 Tube X 1/8 MGT 900782 1/4 Tube X 1/4 MGT 900783 1/4 Tube X 3/8 MGT 900784 3/8 Tube X 1/8 MGT 900785 3/8 Tube X 1/4 MGT 900786 3/8 Tube X 3/8 MGT 900787 3/8 Tube X 1/2 MGT  MGT = Male Global Thread		<b>PUSH-IN BULKHEAD CONNECTORS</b> Female Union 900792 1/4 Tube X 1/4 Tube 900793 3/8 Tube X 3/8 Tube 900809 1/4 Tube X 1/4 NPT 900810 3/8 Tube X 1/4 NPT

\*Max Pressure 150 psig (10 bar) Operating Temp 35°F-120°F (2°C-49°C)

\*\*Not to be pressurized. Operating temp 35°F-200°F (2°C-93°C)

### COMPRESSED AIR LINE SIZES

For E-Vac Models 800001- 800017, 820001-820017, 810002-810031 and 830002-830031, use 1/4" pipe or 3/8" hose for runs up to 25' (7.6m) long. For runs up to 50' (15.2m), use 3/8" pipe or 1/2" hose and for runs over 50' (15.2m), use 1/2" pipe or larger. Do not use restrictive fittings or undersized lines that can "starve" the E-Vac by causing excessive line pressure drop.

### COMPRESSED AIR SUPPLY

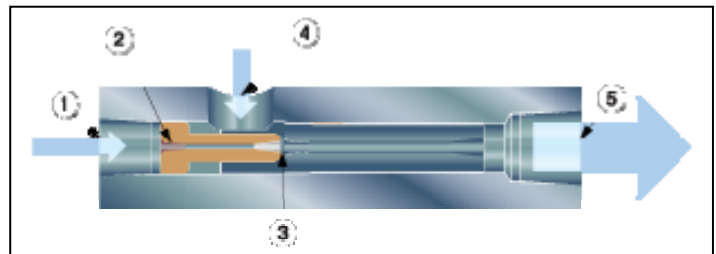
With proper filtration and separation of dirt, moisture and oil from the compressed air supply, the E-Vac will operate for years with no maintenance required. Use a 10 micron or smaller filter separator on the compressed air supply (Model 9001 Automatic Drain Filter Separator for all models.).

To prevent problems associated with oil, use an oil removal filter (Model 9005 Oil Removal Filter is used with the Model 810031 and 830031 E-Vac; the Model 9027 Oil Removal Filter is used for all other models.). The oil removal filter should be used downstream from the automatic drain filter separator. Filters should be used close to each E-Vac, within 10 to 15' (3 to 4.6m) is best.

E-Vac is designed to use normal shop air supplies up to 80 PSIG (5.5 BAR). For infinite control of flow and vacuum, pressure may be regulated (Model 9008 Pressure Regulator for all models).

### HOW IT WORKS

Compressed air flows through the inlet (1), then through a single directed nozzle (2). As the airstream exhausts, it expands and increases in velocity prior to passing through the venturi (3). A vacuum inlet tangential to the primary airflow (4) is located at the suction point between the orifice and the venturi. The airflow that is drawn through the vacuum inlet mixes with the primary airstream, then exhausts on the opposite end (5).



Model	Air Inlet	Vacuum Inlet	Exhaust Port
800001, 800002, 800003, 810002, 810003, 810006	1/8 NPT	1/8 NPT	1/4 NPT
820001, 820002, 820003, 830002, 830003, 830006	1/8 NPT	1/8 NPT	1/4 NPT
800001H, 800002H, 800003H, 810002H, 810003H, 810006H	1/8 NPT	1/8 NPT	1/4 NPT
820001H, 820002H, 820003H, 830002H, 830003H, 830006H	1/8 NPT	1/8 NPT	1/4 NPT
800001M, 800002M, 800003M, 810002M, 810003M, 810006M	1/8 NPT	1/8 NPT	1/4 NPT
820001M, 820002M, 820003M, 830002M, 830003M, 830006M	1/8 NPT	1/8 NPT	1/4 NPT
800005, 800008, 810008, 810013	1/4 NPT	3/8 NPT	3/8 NPT
820005, 820008, 830008, 830013	1/4 NPT	3/8 NPT	3/8 NPT
800005H, 800008H, 810008H, 810013H	1/4 NPT	3/8 NPT	3/8 NPT
820005H, 820008H, 830008H, 830013H	1/4 NPT	3/8 NPT	3/8 NPT
800005M, 800008M, 810008M, 810013M	1/4 NPT	3/8 NPT	3/8 NPT
820005M, 820008M, 830008M, 830013M	1/4 NPT	3/8 NPT	3/8 NPT
800013, 800017, 810023, 810031	1/2 NPT	1/2 NPT	1/2 NPT
820013, 820017, 830023, 830031	1/2 NPT	1/2 NPT	1/2 NPT
800013H, 800017H, 810023H, 810031H	1/2 NPT	1/2 NPT	1/2 NPT
820013H, 820017H, 830023H, 830031H	1/2 NPT	1/2 NPT	1/2 NPT
800013M, 800017M, 810023M, 810031M	1/2 NPT	1/2 NPT	1/2 NPT
820013M, 820017M, 830023M, 830031M	1/2 NPT	1/2 NPT	1/2 NPT

E-Vac Models (Silencing Mufflers may installed to reduce noise levels.)	Standard Muffler	Straight-Through Muffler
800001, 800002, 800003, 810002, 810003, 810006	900800	3905
820001, 820002, 820003, 830002, 830003, 830006	900800	3905
800005, 800008, 810008, 810013	900801	3911
820005, 820008, 830008, 830013	900801	3911
800013, 800017, 810023, 810031	900802	3912
820013, 820017, 830023, 830031	900802	3912

## FITTINGS AND TUBING

The vacuum port of the E-Vac has an NPT thread (a vacuum cup can be threaded directly into it). For vacuum cups that are remotely located, push-in connector fittings (most have global threads for use with NPT and BSP) can be installed on the E-Vac and the vacuum cup. Polyurethane vacuum tubing is available (10', 20', 30', 40' and 50' lengths) to connect them. For best performance, the length of the tubing should be minimized to achieve the best attach and release times.

## CHECK VALVE

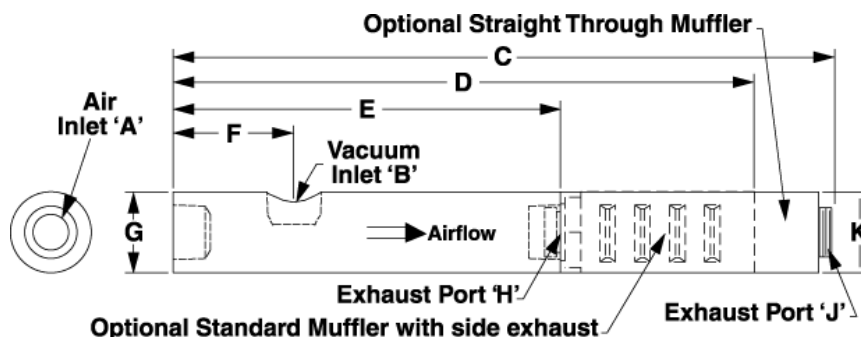
A vacuum check valve is available to hold the vacuum in case of compressed air loss. It is designed for high flow so it doesn't restrict airflow or slow the vacuum operation. Maximum vacuum can still be achieved without affecting the performance. E-Vac vacuum generators that are used without a check valve will release the load if there is a significant drop in compressed air pressure or the supply of compressed air is lost.

## TROUBLESHOOTING & MAINTENANCE

**If There Is A Reduction In Flow Or Vacuum From The E-Vac**, check the pressure by installing a gauge at the compressed air inlet of the E-Vac. Large pressure drops are possible due to undersized lines, restrictive fittings and clogged filter elements.

**For replacement or repair filter and regulator parts, contact EXAIR at 1-800-903-9247 or [techelp@exair.com](mailto:techelp@exair.com). Call (513) 671-3322 for outside the US and Canada.**

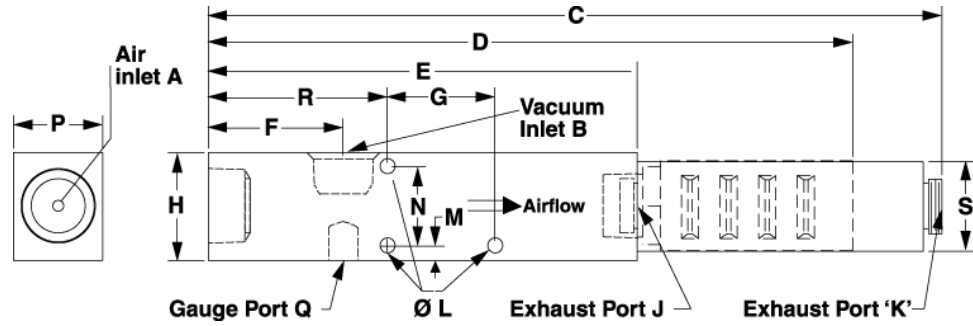
## In-Line E-Vac Dimensions



**In-Line Vacuum Generator Dimensions**

Model	Air Inlet A	Vacuum Inlet B		C	D	E	F	G	H	J	K
800001, 800002, 800003, 810002, 810003, 810006	1/8 NPT	1/8 NPT	in	N/A	N/A	3.00	0.88	0.75	1/4 NPT	N/A	N/A
			mm	N/A	N/A	76	22	19		N/A	N/A
800001H, 800002H, 800003H, 810002H, 810003H, 810006H	1/8 NPT	1/8 NPT	in	N/A	5.00	3.00	0.88	0.75	1/4 NPT	N/A	0.81
			mm	N/A	127	76	22	19		N/A	21
800001M, 800002M, 800003M, 810002M, 810003M, 810006M	1/8 NPT	1/8 NPT	in	5.25	N/A	3.00	0.88	0.75	1/4 NPT	1/4 NPS	0.75
			mm	133	N/A	76	22	19		1/4 NPS	19
800005, 800008, 810008, 810013	1/4 NPT	3/8 NPT	in	N/A	N/A	4.50	1.50	1.00	3/8 NPT	N/A	N/A
			mm	N/A	N/A	114	38	25		N/A	N/A
800005H, 800008H, 810008H, 810013H	1/4 NPT	3/8 NPT	in	N/A	7.50	4.50	1.50	1.00	3/8 NPT	N/A	1.25
			mm	N/A	191	114	38	25		N/A	32
800005M, 800008M, 810008M, 810013M	1/4 NPT	3/8 NPT	in	7.75	N/A	4.50	1.50	1.00	3/8 NPT	3/8 NPS	1.00
			mm	197	N/A	114	38	25		3/8 NPS	25
800013, 800017, 810023, 810031	1/2 NPT	1/2 NPT	in	N/A	N/A	6.00	1.88	1.25	1/2 NPT	N/A	N/A
			mm	N/A	N/A	152	48	32		N/A	N/A
800013H, 800017H, 810023H, 810031H	1/2 NPT	1/2 NPT	in	N/A	9.00	6.00	1.88	1.25	1/2 NPT	N/A	1.25
			mm	N/A	229	152	48	32		N/A	32
800013M, 800017M, 810023M, 810031M	1/2 NPT	1/2 NPT	in	10.25	N/A	6.00	1.88	1.25	1/2 NPT	1/2 NPS	1.25
			mm	260	N/A	152	48	32		1/2 NPS	32

**Modular E-Vac Dimensions**



**Modular Vacuum Generator Dimensions**

Model	Air Inlet A	Vacuum Inlet B		C	D	E	F	G	H	Exhaust Port J	Exhaust Port K	L	M	N	P	Q	R	S
820001 820002 820003 830002 830003 830006	1/8 NPT	1/8 NPT	in	N/A	N/A	3.0	0.88	N/A	0.75	1/4 NPT	N/A	For #8 or M4 Screw or Smaller	0.11	0.52	0.75	N/A	1.78	N/A
			mm	N/A	N/A	76	22	N/A	19									
820001H 820002H 820003H 830002H 830003H 830006H	1/8 NPT	1/8 NPT	in	N/A	5.0	3.0	0.88	N/A	0.75	1/4 NPT	N/A	For #8 or M4 Screw or Smaller	0.11	0.52	0.75	N/A	1.78	0.81
			mm	N/A	127	76	22	N/A	19									
820001M 820002M 820003M 830002M 830003M 830006M	1/8 NPT	1/8 NPT	in	5.25	N/A	3.0	0.88	N/A	0.75	1/4 NPT	1/4 NPS	For #8 or M4 Screw or Smaller	0.11	0.52	0.75	N/A	1.78	0.75
			mm	133	N/A	76	22	N/A	19									
820005 820008 830008 830013	1/4 NPT	3/8 NPT	in	N/A	N/A	4.50	1.50	1.50	1.50	3/8 NPT	N/A	For #10 or M5 Screw or Smaller	0.20	1.10	1.00	1/8 NPT	2.20	N/A
			mm	N/A	N/A	114	38	38	38									
820005H 820008H 830008H 830013H	1/4 NPT	3/8 NPT	in	N/A	7.50	4.50	1.50	1.50	1.50	3/8 NPT	N/A	For #10 or M5 Screw or Smaller	0.20	1.10	1.00	1/8 NPT	2.20	1.25
			mm	N/A	191	114	38	38	38									
820005M 820008M 830008M 830013M	1/4 NPT	3/8 NPT	in	7.75	N/A	4.50	1.50	1.50	1.50	3/8 NPT	3/8 NPS	For #10 or M5 Screw or Smaller	0.20	1.10	1.00	1/8 NPT	2.20	1.0
			mm	197	N/A	114	38	38	38									
820013 820017 830023 830031	1/2 NPT	1/2 NPT	in	N/A	N/A	6.0	1.88	1.50	1.50	1/2 NPT	N/A	For #10 or M5 Screw or Smaller	0.20	1.10	1.25	1/8 NPT	2.50	N/A
			mm	N/A	N/A	152	48	38	38									
820013H 820017H 830023H 830031H	1/2 NPT	1/2 NPT	in	N/A	9.0	6.0	1.88	1.50	1.50	1/2 NPT	N/A	For #10 or M5 Screw or Smaller	0.20	1.10	1.25	1/8 NPT	2.50	1.25
			mm	N/A	229	152	48	38	38									
820013M 820017M	1/2 NPT	1/2 NPT	in	10.25	N/A	6.0	1.88	1.50	1.50	1/2 NPT	1/2 NPS	For #10 or M5	0.20	1.10	1.25	1/8 NPT	2.50	1.25

## **CLEANING**

If contaminants have clogged the E-Vac, inspect it for dirt contamination and a possible oil film inside the unit. Clean it with a mild detergent and reassemble. Occasionally, there is a build-up which occurs in the unit that is a result of vapors in the atmosphere that have been pulled through the E-Vac. Clean all surfaces with a solvent and a clean rag.

If you have any questions or problems, please contact:

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