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MANUFACTURING INTELLIGENT COMPRESSED AIR® PRODUCTS SINCE 1983



COAT



CONSERVE



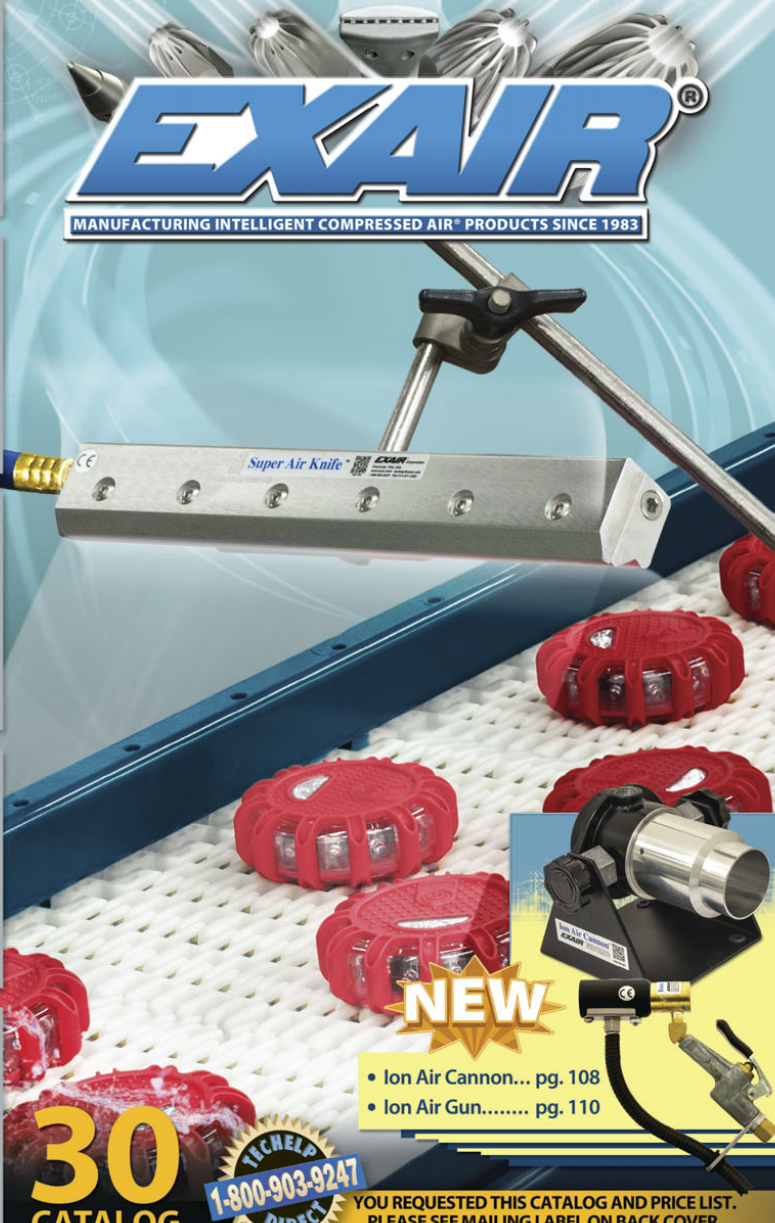
COOL



CONVEY



CLEAN



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CATALOG

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- **Watch product videos** to learn more about the features and benefits of our engineered products
- Quickly **order online** with a purchase order or credit card (US & Canada)
- **Access product presentation slides** you can use to educate others
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- **Use our product FAQ's** for quick access to our most common questions
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- Collect compressed air data and pipe sizing recommendations
- **Find Flow, Force and Heat conversions**



Visit our PDF library and download

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- Our current **price list** to have all product prices in one convenient location
- EXAIR's **Air Nozzle Blowoff Guide** to see the details on our enormous selection of sizes, materials and performance options



Follow our blog for 5 new entries a week and learn

- Details and installations of widely varied applications
- The methodology and results of critical mathematical formulas which help determine money savings, air savings, performance benefits and more
- New product releases before they reach our catalog or website
- More about EXAIR, our team and community involvement
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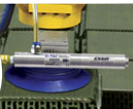


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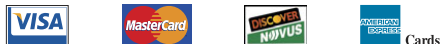
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Ordering: Call 1-800-903-9247 or +1-513-671-3322 Worldwide
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E-mail: orders@exair.com
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Remit to address (payments only):

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OSHA and CE Compliance: EXAIR compressed air products comply with OSHA's Safety Requirements, the EU General Product Safety Directive (2001/95/EC) and meet the noise limitation requirements of the EU Machinery Directive (2006/42/EC). EXAIR's Electronic Flow Control and Electronic Temperature Control meet the low voltage standards of the EU Low Voltage Directive (2006/95/EC). Some EXAIR products display the CE mark where there are applicable directives. All sound level measurements are taken at 3 feet away.

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Reach: Per Regulation (EC) No 1907/2006 Title I, Article 3, paragraph 3, the European Union has recently enacted legislation to register chemicals and substances imported into the EU to ensure a high level of protection of human health and the environment.

Per Title II, Article 7, paragraph 1, articles (products) must be registered when a substance is intended to be released under normal or reasonably foreseeable conditions of use and it is present in those articles in quantities totaling over 1 metric ton per producer or importer per year. Registration of EXAIR products is not required since they do not contain substances that are intentionally released.

Conflict Mineral Free: Look for this symbol to designate conflict mineral free products throughout our catalog. EXAIR supports Section 1502 of the Dodd-Frank Wall Street Reform and Consumer Protection Act and we are committed to compliance with the conflict minerals rule in order to curb the illicit trade of tin, tantalum, tungsten and gold in the DRC region. EXAIR is using the CMRT 3.02 template to document our supply chain and commitment to conflict free products.

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Warranty: 5 Year "Built To Last" Warranty against defects in workmanship and materials on all compressed air products*. Defective products must be returned freight prepaid for repair or replacement at our option. This warranty applies under conditions of normal use, but does not apply to defects that result from intentional damage, negligence, unreasonable use, wear or exposure.

Built to Last 5 Year WARRANTY

*5 Year Warranty applies to compressed air products only.

A 1 Year Warranty applies to all accessories and electrically powered products.

EXAIR's Unconditional Guarantee:

Extends to all U.S. and Canadian customers and includes invoiced U.P.S. Ground Service shipping charges. Products returned after the 30 day guarantee period are subject to a 15% restocking charge. Products must be returned freight prepaid.

EXAIR Corporation

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EXAIR unconditionally guarantees its cataloged products for 30 days.

If you are not satisfied for any reason within that time, you may return the product for full credit with no restocking charge.

EXAIR®

EFFICIENCYLAB



EXAIR's Intelligent Compressed Air® products vs Your current installation

How does the Efficiency Lab work?

Our Efficiency Lab service begins with receiving a sample of the product(s) you currently use for your application. One of our qualified Application Engineers will use calibrated testing equipment to compare the performance of your existing product(s) to an EXAIR engineered solution. These tests will determine air consumption, noise levels and force. The test results will then be published in a comprehensive report, which includes a cost savings analysis, and be provided to you. For most applications, EXAIR products can help you improve application efficiency AND typically pay for themselves in a matter of weeks.

How can I get a product tested for free?

To participate in our FREE Efficiency Lab please contact one of our Application Engineers and get the details about sending us your product(s).

You may reach an application Engineer by phone at (800) 903-9247 or (513) 671-3322. You can send an email to lab@exair.com or visit our website and take advantage of our live help at www.exair.com.

EXAIR's FREE Efficiency Lab service determines how much air and dollar savings you will achieve by installing one of our Intelligent Compressed Air products.

Unable to send your product to EXAIR's Efficiency Lab?

If it is not possible to send us your product, we have a one page Product Efficiency Survey on our website (www.exair.com/labdoc.htm) which will provide us the details about a current inefficient compressed air application. Fill in the information and click submit. You will hear from one of our Application Engineers within 3 business days.

Okay, so what is the fine print?

This offer is available to all customers in the U.S. and Canada only. Some restrictions may apply.

What about confidentiality?

Yes, EXAIR will keep the results of our Efficiency Lab test and report confidential unless given permission to share that information with others.

Products must be shipped to EXAIR freight prepaid. EXAIR will pay the return shipping via UPS ground.

E-Vac® Vacuum Generators

Vacuums for lifting, clamping, mounting and placement!

What Is The E-Vac?

EXAIR's compressed air powered E-Vac single stage vacuum generators are the low cost way to create a vacuum for:

- Pick and place
- Chucking
- Vacuum forming
- Clamping
- Alignment
- Lifting
- Surface mounting

E-Vac compressed air powered vacuum pumps provide instantaneous response and are most commonly used for pick and place operations. They are available in a variety of sizes and flows for a wide range of applications.

Why The E-Vac?

The E-Vac vacuum generators have been engineered for high efficiency to minimize air consumption. These single stage, all aluminum units provide consistent, steady vacuum, unlike mechanical vacuum pumps. Dust and small particulates easily pass through the vacuum generator and they have no moving parts, making them maintenance free.

EXAIR's E-Vac Vacuum Generator is available in 2 styles:

In-Line E-Vac Vacuum Generator

These single stage, cylindrical units are compact and easy to mount at the point of use. They can be held in place by threading them directly onto a compressed air line or with the use of a mounting clip. There are 7 models available for use with porous materials, like cardboard, with vacuum levels up to 21" Hg (71 kPa) and vacuum flows up to 18.5 SCFM (524 SLPM). There are 7 models available for use with non-porous materials such as glass, with vacuum levels up to 27" Hg (91 kPa) with vacuum flows up to 15.8 SCFM (447 SLPM).

Adjustable E-Vac Vacuum Generator

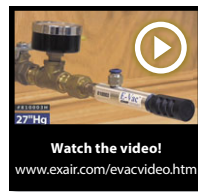
This series of vacuum generators permits easy adjustment by simply loosening the locknut and turning the exhaust to increase or decrease the level of vacuum and vacuum flow. This style is also an excellent choice where large particulate may be present and passed through the vacuum system. There are 4 models with adjustable vacuum up to 25" Hg (85 kPa) and vacuum flow up to 81 SCFM (2,294 SLPM).

Applications

- Pick and place parts and equipment
- Bag/package opening
- Label placement
- Vacuum forming
- Mold evacuation
- Vacuum filling
- Leak testing
- Evacuate containers
- Clamping and chucking
- Paper alignment and feed in printing equipment
- Vacuum packaging
- Surface mounting
- Vacuum press for wood veneers and laminates
- Carton forming
- Robotic tooling
- Vacuum liquids for testing

Advantages

- Compact, portable
- Single stage design eliminates fluctuations in vacuum
- Quiet
- Instantaneous vacuum
- Easy to mount at point of use
- Lightweight, rugged
- No moving parts – no maintenance
- 18 models
- Fast response – increases cycle time
- Durable 6061 aluminum construction
- Safe operation - no electricity



In-Line E-Vac



Adjustable E-Vac

How to Build An E-Vac System:

1. Select the E-Vac type.

- Determine if the part to be lifted is porous or non-porous (page 118 and 119).
- Select a style - In-Line Low Vacuum, In-Line High Vacuum, or Adjustable (pages 118, 119 and 121).

The E-Vac type determines max. vacuum available for lifting the part and vacuum cup selection.

| | |
|------------------|--|
| Porous | low vacuum generators max. vacuum = 21" Hg (71 kPa) |
| Non-porous | high vacuum generators max. vacuum = 27" Hg (91 kPa) |
| Adjustable E-Vac | vacuum generators max. vacuum = 25" Hg (85 kPa) |

Need Help Selecting the Correct E-Vac?

Our Application Engineers can assist you in determining the correct model E-Vac and vacuum cups (if required). Call 1-800-903-9247 or visit www.exair.com/appassist.htm

2. Determine the weight of the part.

3. Multiply the weight by the vacuum cup safety factor (see page 123) for the total vacuum cup capacity needed.

4. Determine the number of vacuum cups needed by considering the following:

- How many cups are needed to distribute the weight for stable lifting and placement?
- What is the weight that each vacuum cup can lift based on maximum vacuum available (E-Vac type)?
- Select vacuum cups from chart on page 123 based on max. vacuum available (E-Vac type) and holding weight/cup.

5. To choose an E-Vac model number, consider the entire vacuum system from the E-Vac to the part.

- Number of vacuum cups per E-Vac.
- Length and size of vacuum tubing.
- Vacuum cup size and type.

- The volume of air to evacuate from your vacuum system and the vacuum flow of the E-Vac you've selected (pages 118, 119 and 122) will determine the time it takes from E-Vac activation to vacuum cup holding the part. As the vacuum level in the system increases, the volume of evacuating air decreases.
- A lower volume of air in the vacuum system and/or a higher capacity (SCFM/SLPM) E-Vac will give faster pick-up times.
- An exact pick-up time cannot be calculated.
- If the E-Vac vacuum generator doesn't meet your needs, return it for a different model, with no restocking charge (U.S. and Canada only).

Here is an example using the steps outlined above:

A sheet of material measures 3' x 3' (.91m x .91m) and weighs 25 lbs (11.3kg). Each sheet is in a stack and will be placed on a conveyor.

If it is porous like wood and positioned vertically:

- Choose a porous, low vacuum In-Line E-Vac. The maximum vacuum is 21" Hg (71 kPa).
- The weight is 25 lbs (11.3kg).
- Since the part is picked-up and hung on an overhead conveyor vertically, the safety factor is 4. The vacuum cup capacity needed is $4 \times 25 = 100$ lbs (45.4kg).
- Four vacuum cups will be used for stability when lifting the sheet. Each cup will need at least a 25 lb (11.3kg) capacity. In the table on page 123, at 21" Hg (71 kPa), the Model 900755 Vacuum Cup will hold up to 25.3 lbs (11.5kg).
- There are 4 small round vacuum cups that are positioned close to one another. The vacuum system has a small to medium volume and pick-up and release time is not critical. To reduce the sound level, use the straight through muffler.

Order: (1) Model 800008M In-Line E-Vac
(4) Model 900755 Vacuum Cups

See Page 125 for other accessories.

If it is non-porous like glass and positioned horizontally:

- Choose a non-porous, high vacuum In-Line E-Vac. The maximum vacuum is 27" Hg (91 kPa).
- The weight is 25 lbs (11.3kg).
- Since the part is picked-up and placed on a belt conveyor horizontally, the safety factor is 2. The vacuum cup capacity needed is $2 \times 25 = 50$ lbs (22.7kg).
- Four vacuum cups will be used for stability when lifting the sheet. Each cup will need at least a 12.5 lb (5.7kg) capacity. In the table on page 123, at 27" Hg (91 kPa), the Model 900754 Vacuum Cup will hold up to 20.8 lbs (9.4kg).
- There are 4 small round vacuum cups that are positioned close to one another. The vacuum system has a small to medium volume and pick-up and release time is not critical. To reduce the sound level, use the straight through muffler.

Order: (1) Model 810006M In-Line E-Vac
(4) Model 900754 Vacuum Cups

See Page 125 for other accessories.

The Model 840008M Adjustable E-Vac can be substituted for picking up the wood or the glass since the vacuum level and vacuum flow is easily adjusted to suit the porous or non-porous application. The Adjustable E-Vac is especially useful for loads that vary.

E-Vac® Vacuum Generators

Low Vacuum Generators For Porous Applications

Low vacuum units up to 21" Hg (71 kPa) with vacuum flows up to 18.5 SCFM (524 SLPM) are typically used for porous materials such as cardboard and delicate materials. The low level vacuum prevents any warping, marring, dimpling or disfiguring of the surface due to excessive vacuum. This style generates more vacuum flow to overcome porosity and leakage. There are 7 In-Line models that vary by flow and vacuum level.

Choose the E-Vac by the SCFM (SLPM) flow that best suits the performance needed for your application (see *Performance Table below*).

E-Vac Kits give you the ability to experiment with an assortment of vacuum cups. Kits include a muffler, an assortment of (4) pairs of vacuum cups (closely matched to the performance of that E-Vac), (2) straight, (2) elbow and (1) tee vacuum fittings, 10' (3m) of vacuum tubing and a mounting clip.

E-Vac Deluxe Kits include the same items as the standard kit with the addition of an automatic drain filter separator for the compressed air supply and pressure regulator (with coupler).



In-Line E-Vac Vacuum Generators for porous applications.



Create your own vacuum system!

In-Line E-Vac with Straight Through Muffler, push-in connectors, vacuum tubing and a round vacuum cup (shown).

| In-Line E-Vac Low Vacuum Generators For Porous Applications | Model 1.5 SCFM 43 SLPM | Model 2.1 SCFM 60 SLPM | Model 3.1 SCFM 88 SLPM | Model 5.4 SCFM 153 SLPM | Model 8.4 SCFM 238 SLPM | Model 12.6 SCFM 357 SLPM | Model 16.8 SCFM 476 SLPM |
|---|------------------------|------------------------|------------------------|-------------------------|-------------------------|--------------------------|--------------------------|
| In-Line E-Vac Only | 800001 | 800002 | 800003 | 800005 | 800008 | 800013 | 800017 |
| In-Line E-Vac with Straight Through Muffler | 800001M | 800002M | 800003M | 800005M | 800008M | 800013M | 800017M |
| In-Line E-Vac Kit with Straight Through Muffler | 801001M | 801002M | 801003M | 801005M | 801008M | 801013M | 801017M |
| In-Line E-Vac Deluxe Kit with Straight Through Muffler | 802001M | 802002M | 802003M | 802005M | 802008M | 802013M | 802017M |

Note: Replace 'M' with 'H' for Standard Muffler

| In-Line E-Vac Model | Air Consumption SCFM @ 80 PSIG SLPM @ 5.5 BAR | | Sound Level in dBA | | | Vacuum Flow (SCFM/SLPM) vs. Vacuum Level ("Hg/ kPa) | | | | | | | | | | | | | | | | | | |
|---------------------|---|-------|--------------------|------------------|--------------------------|---|-------|-------|-------|-------|---------|-------|-------|------|-------|------|-------|------|------|------|-----|-----|----|----|
| | | | No Muffler | Standard Muffler | Straight Through Muffler | | | | | | | | | | | | | | | | | | | |
| | | | 0 | 3/10 | 6/20 | 9/31 | 12/41 | 15/51 | 18/61 | 21/71 | Max Vac | | | | | | | | | | | | | |
| 800001 | 1.5 | 42.5 | 80 | 72 | 60 | 1.52 | 43.0 | 1.41 | 39.9 | 1.25 | 35.4 | 1.10 | 31.1 | 0.95 | 26.9 | 0.85 | 24.1 | 0.56 | 15.9 | 0.00 | 0.0 | 0.0 | 21 | 71 |
| 800002 | 2.1 | 59.5 | 80 | 72 | 63 | 2.22 | 62.9 | 2.05 | 58.0 | 1.91 | 54.1 | 1.77 | 50.1 | 1.45 | 41.1 | 0.95 | 26.9 | 0.56 | 15.9 | 0.00 | 0.0 | 0.0 | 21 | 71 |
| 800003 | 3.1 | 87.8 | 89 | 74 | 70 | 3.75 | 106.2 | 3.52 | 99.7 | 3.15 | 89.2 | 2.75 | 77.9 | 2.15 | 60.9 | 1.20 | 34.0 | 0.56 | 15.9 | 0.00 | 0.0 | 0.0 | 21 | 71 |
| 800005 | 5.4 | 152.9 | 92 | 83 | 66 | 5.59 | 158.3 | 5.23 | 148.1 | 4.51 | 127.7 | 3.75 | 106.2 | 3.34 | 94.6 | 2.51 | 71.1 | 1.25 | 35.4 | 0.00 | 0.0 | 0.0 | 21 | 71 |
| 800008 | 8.4 | 237.9 | 97 | 88 | 74 | 7.70 | 218.0 | 6.95 | 196.8 | 6.30 | 178.4 | 5.30 | 150.1 | 4.23 | 119.8 | 3.15 | 89.2 | 1.31 | 37.1 | 0.00 | 0.0 | 0.0 | 21 | 71 |
| 800013 | 12.6 | 356.8 | 99 | 91 | 78 | 15.50 | 438.9 | 14.50 | 410.6 | 13.15 | 372.4 | 11.35 | 321.4 | 8.70 | 246.3 | 4.03 | 114.1 | 0.00 | 0.0 | 0.00 | 0.0 | 0.0 | 18 | 61 |
| 800017 | 16.8 | 475.7 | 101 | 91 | 81 | 18.50 | 523.8 | 17.20 | 487.0 | 14.70 | 416.2 | 12.40 | 351.1 | 9.80 | 277.5 | 5.00 | 141.6 | 0.00 | 0.0 | 0.00 | 0.0 | 0.0 | 18 | 61 |

High Vacuum Generators For Non-Porous Applications

High vacuum units up to 27" Hg (91 kPa) with vacuum flows up to 15.8 SCFM (447 SLPM) are typically used for non-porous materials such as glass, steel sheet, and plastic. There are 7 In-Line models that vary by flow and vacuum level.

Choose the E-Vac by the SCFM (SLPM) flow that best suits the performance needed for your application (see *Performance Table below*).

E-Vac Kits give you the ability to experiment with an assortment of vacuum cups. Kits include a muffler, an assortment of (4) pairs of vacuum cups (closely matched to the performance of that E-Vac), (2) straight, (2) elbow and (1) tee vacuum fittings, 10' (3m) of vacuum tubing and a mounting clip.

E-Vac Deluxe Kits include the same items as the standard kit with the addition of an automatic drain filter separator for the compressed air supply and pressure regulator (with coupler).

EXAIR E-Vacs are available in other materials upon request. Contact an application engineer for an alternate material quote.



In-Line E-Vac Vacuum Generators for non-porous applications.



The In-Line E-Vac with Standard Muffler (shown above) is also available with your choice of accessories that can be found on page 125.

| In-Line E-Vac High-Vacuum Generators For Non-Porous Applications | Model 2.3 SCFM 65 SLPM | Model 3.3 SCFM 93 SLPM | Model 6.2 SCFM 176 SLPM | Model 8.4 SCFM 238 SLPM | Model 13.2 SCFM 374 SLPM | Model 23.1 SCFM 654 SLPM | Model 30.8 SCFM 872 SLPM |
|--|------------------------|------------------------|-------------------------|-------------------------|--------------------------|--------------------------|--------------------------|
| In-Line E-Vac Only | 810002 | 810003 | 810006 | 810008 | 810013 | 810023 | 810031 |
| In-Line E-Vac with Straight Through Muffler | 810002M | 810003M | 810006M | 810008M | 810013M | 810023M | 810031M |
| In-Line E-Vac Kit with Straight Through Muffler | 811002M | 811003M | 811006M | 811008M | 811013M | 811023M | 811031M |
| In-Line E-Vac Deluxe Kit with Straight Through Muffler | 812002M | 812003M | 812006M | 812008M | 812013M | 812023M | 812031M |

Note: Replace 'M' with 'H' for Standard Muffler

Vacuum Generators

In-Line E-Vac High Vacuum Generator Performance (Non-Porous)

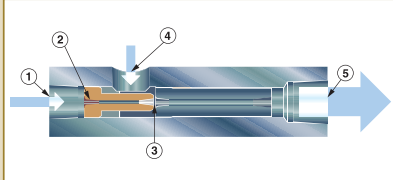
| In-Line E-Vac Model | Air Consumption SCFM @ 80 PSIG SLPM @ 5.5 BAR | | Sound Level in dBA | | | Vacuum Flow (SCFM/SLPM) vs. Vacuum Level ("Hg/ kPa) | | | | | | | | | | | | | | | | | | | | | |
|---------------------|---|-------|--------------------|------------------|--------------------------|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|---------|-------|------|-------|------|-------|------|------|------|-----|----|----|
| | | | No Muffler | Standard Muffler | Straight Through Muffler | Vacuum Level | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | 0 | 3/10 | 6/20 | 9/31 | 12/41 | 15/51 | 18/61 | 21/71 | 24/81 | 27/91 | Max Vac | | | | | | | | | | | |
| 810002 | 2.3 | 65.1 | 86 | 81 | 70 | 1.22 | 34.5 | 1.16 | 33.0 | 1.00 | 28.3 | 0.90 | 25.5 | 0.87 | 24.6 | 0.74 | 21.0 | 0.56 | 16.0 | 0.46 | 13.0 | 0.20 | 5.7 | 0.00 | 0.0 | 27 | 91 |
| 810003 | 3.3 | 93.4 | 87 | 82 | 73 | 1.73 | 49.0 | 1.59 | 45.0 | 1.48 | 41.9 | 1.24 | 35.1 | 1.09 | 30.9 | 1.02 | 28.9 | 0.78 | 22.1 | 0.67 | 19.0 | 0.49 | 13.9 | 0.00 | 0.0 | 27 | 91 |
| 810006 | 6.2 | 175.6 | 91 | 82 | 77 | 2.75 | 78.0 | 2.65 | 75.0 | 2.26 | 64.0 | 2.05 | 58.0 | 1.87 | 53.0 | 1.59 | 45.0 | 1.13 | 32.0 | 0.92 | 26.0 | 0.77 | 21.7 | 0.00 | 0.0 | 27 | 91 |
| 810008 | 8.4 | 237.9 | 97 | 90 | 78 | 4.40 | 124.6 | 4.10 | 116.1 | 3.75 | 106.2 | 3.15 | 89.2 | 2.75 | 77.9 | 2.39 | 67.7 | 1.75 | 49.6 | 1.27 | 36.0 | 0.99 | 28.0 | 0.00 | 0.0 | 27 | 91 |
| 810013 | 13.2 | 373.8 | 100 | 92 | 83 | 6.85 | 194.0 | 6.50 | 184.1 | 5.81 | 164.5 | 4.89 | 138.5 | 4.12 | 116.7 | 3.51 | 99.4 | 2.61 | 73.9 | 1.92 | 54.4 | 1.31 | 37.1 | 0.00 | 0.0 | 27 | 91 |
| 810023 | 23.1 | 654.1 | 102 | 92 | 84 | 11.95 | 338.4 | 11.80 | 334.1 | 10.45 | 295.9 | 9.02 | 255.4 | 8.10 | 229.4 | 6.52 | 184.6 | 4.54 | 128.6 | 3.65 | 103.4 | 2.67 | 75.6 | 0.00 | 0.0 | 27 | 91 |
| 810031 | 30.8 | 872.1 | 105 | 92 | 87 | 15.75 | 446.0 | 15.25 | 431.8 | 12.67 | 358.8 | 11.12 | 314.9 | 10.25 | 290.2 | 7.97 | 225.7 | 5.98 | 169.3 | 5.04 | 142.7 | 3.41 | 96.6 | 0.00 | 0.0 | 27 | 91 |

E-Vac® Vacuum Generators

In-Line E-Vacs

EXAIR manufactures two versions of the In-Line E-Vac – Low Vacuum and High Vacuum. The application will dictate which type of vacuum is most suitable. The dimensions and performance for each model are shown.

How The In-Line E-Vac Works



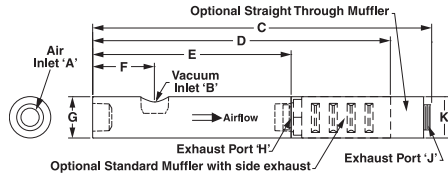
Compressed air flows through the inlet (1), then through a single directed nozzle (2). As the airstream exhausts, it expands and increases in velocity prior to passing through the venturi (3). A vacuum inlet tangential to the primary airflow (4) is located at the suction point between the orifice and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



The In-Line E-Vac (porous version) is used to lift the plywood lid of a crate in a receiving department.

In-Line E-Vac Dimensions

DOWNLOAD Drawings at EXAIR.com



Need Help Selecting the Correct E-Vac?

Not sure how much vacuum is required for your application? Our Application Engineers can assist you in determining the correct model E-Vac and vacuum cups (if required). Call 1-800-903-9247 or visit www.exair.com/appassist.htm

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 mm | N/A N/A | N/A N/A | 3.00 76 | 0.88 22 | 0.75 19 | 1/4 NPT | N/A N/A | N/A N/A |
| 800001H, 800002H, 800003H, 810002H, 810003H, 810006H | 1/8 NPT | 1/8 NPT | in mm | N/A N/A | 5.00 127 | 3.00 76 | 0.88 22 | 0.75 19 | 1/4 NPT | N/A N/A | 0.81 21 |
| 800001M, 800002M, 800003M, 810002M, 810003M, 810006M | 1/8 NPT | 1/8 NPT | in mm | 5.25 133 | N/A N/A | 3.00 76 | 0.88 22 | 0.75 19 | 1/4 NPT | 1/4 NPS 1/4 NPS | 0.75 19 |
| 800005, 800008, 810008, 810013 | 1/4 NPT | 3/8 NPT | in mm | N/A N/A | N/A N/A | 4.50 114 | 1.50 38 | 1.00 25 | 3/8 NPT | N/A N/A | N/A N/A |
| 800005H, 800008H, 810008H, 810013H | 1/4 NPT | 3/8 NPT | in mm | N/A N/A | 7.50 191 | 4.50 114 | 1.50 38 | 1.00 25 | 3/8 NPT | N/A N/A | 1.25 32 |
| 800005M, 800008M, 810008M, 810013M | 1/4 NPT | 3/8 NPT | in mm | 7.75 197 | N/A N/A | 4.50 114 | 1.50 38 | 1.00 25 | 3/8 NPT | 3/8 NPS 3/8 NPS | 1.00 25 |
| 800013, 800017, 810023, 810031 | 1/2 NPT | 1/2 NPT | in mm | N/A N/A | N/A N/A | 6.00 152 | 1.88 48 | 1.25 32 | 1/2 NPT | N/A N/A | N/A N/A |
| 80013H, 800017H, 810023H, 810031H | 1/2 NPT | 1/2 NPT | in mm | N/A N/A | 9.00 229 | 6.00 152 | 1.88 48 | 1.25 32 | 1/2 NPT | N/A N/A | 1.25 32 |
| 80013M, 800017M, 810023M, 810031M | 1/2 NPT | 1/2 NPT | in mm | 10.25 260 | N/A N/A | 6.00 152 | 1.88 48 | 1.25 32 | 1/2 NPT | 1/2 NPS 1/2 NPS | 1.25 32 |

Adjustable E-Vac® Vacuum Generators

A simple turn can increase or decrease vacuum and flow!

What Is The Adjustable E-Vac?

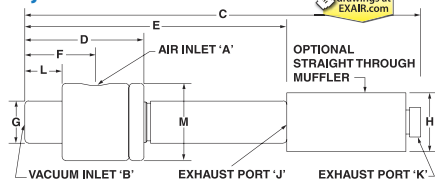
EXAIR's Adjustable E-Vac is a series of low cost, compressed air powered vacuum generators where the vacuum and flow rates can be easily adjusted to suit the application requirements. These vacuum pumps are ideal for a wide variety of pick and place, box opening, clamping, lifting, chucking, and surface mounting applications. They are maintenance free and have no moving parts to wear out.

Why The Adjustable E-Vac?

Engineered for high efficiency, the Adjustable E-Vac minimizes compressed air use by allowing it to be tuned to the application. With a simple turn of the unit, the vacuum and flow levels can be changed to overcome porosity and increase or decrease the lifting power. The straight-through, single stage aluminum construction requires no vacuum filter and simply passes contaminants from dirty environments through the unit so there is no clogging or loss of suction.

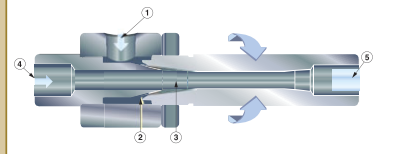
Adjustable E-Vac is available in 4 sizes that have adjustable vacuum rates up to 25" Hg (85 kPa) and flow rates up to 81 SCFM (2,294 SLPM). Kit configurations that include vacuum cups, fittings, tubing and a mounting clip are available.

Adjustable E-Vac Dimensions



The vacuum level of the Adjustable E-Vac can quickly be changed from lifting lightweight pavers to heavy cement blocks.

How The Adjustable E-Vac Works



Compressed air flows through the inlet (1), then through an adjustable annular nozzle (2). As the airstream enters the vacuum flow, it expands and increases in velocity (3). A vacuum flow is induced, creating suction (4). The airflow that is drawn through the vacuum inlet mixes with the primary airstream, then exhausts on the opposite end (5).

Vacuum Generators

Adjustable Vacuum Generator Dimensions

| Model | Air Inlet A | Vacuum Inlet B | | C | D | E | F | G | H | L | M | Exhaust Port J | Exhaust Port K |
|---------|-------------|----------------|----|-------|------|------|------|------|------|------|------|----------------|----------------|
| 840008 | 1/8 NPT | 1/4 NPT | in | N/A | 2.00 | 4.38 | 1.19 | 0.72 | N/A | 0.63 | 1.31 | 1/4 NPT | N/A |
| | | | mm | N/A | 51 | 111 | 30 | 18 | N/A | 16 | 33 | | |
| 840008M | 1/8 NPT | 1/4 NPT | in | 6.63 | 2.00 | 4.38 | 1.19 | 0.72 | 0.75 | 0.63 | 1.31 | 1/4 NPT | 1/4 NPS |
| | | | mm | 168 | 51 | 111 | 30 | 18 | 19 | 16 | 33 | | |
| 840015 | 3/8 NPT | 1/2 NPT | in | N/A | 2.38 | 5.44 | 1.31 | 0.97 | N/A | 0.63 | 1.56 | 1/2 NPT | N/A |
| | | | mm | N/A | 60 | 138 | 33 | 25 | N/A | 16 | 40 | | |
| 840015M | 3/8 NPT | 1/2 NPT | in | 9.69 | 2.38 | 5.44 | 1.31 | 0.97 | 1.25 | 0.63 | 1.56 | 1/2 NPT | 1/2 NPS |
| | | | mm | 246 | 60 | 138 | 33 | 25 | 32 | 16 | 40 | | |
| 840030 | 3/8 NPT | 1/2 NPT | in | N/A | 2.50 | 6.19 | 1.44 | 1.22 | N/A | 0.75 | 1.94 | 3/4 NPT | N/A |
| | | | mm | N/A | 64 | 157 | 37 | 31 | N/A | 19 | 49 | | |
| 840030M | 3/8 NPT | 1/2 NPT | in | 13.63 | 2.50 | 6.19 | 1.44 | 1.22 | 2.00 | 0.75 | 1.94 | 3/4 NPT | 3/4 NPS |
| | | | mm | 346 | 64 | 157 | 37 | 31 | 51 | 19 | 49 | | |
| 840060 | 1/2 NPT | 3/4 NPT | in | N/A | 2.75 | 6.50 | 1.56 | 1.47 | N/A | 0.75 | 2.19 | 1 NPT | N/A |
| | | | mm | N/A | 70 | 165 | 40 | 37 | N/A | 19 | 56 | | |
| 840060M | 1/2 NPT | 3/4 NPT | in | 13.94 | 2.75 | 6.50 | 1.56 | 1.47 | 2.00 | 0.75 | 2.19 | 1 NPT | 1 NPS |
| | | | mm | 354 | 70 | 165 | 40 | 37 | 51 | 19 | 56 | | |

E-Vac® Vacuum Generators

Adjustable E-Vac Vacuum Generators

Choose the Adjustable E-Vac by the SCFM (SLPM) flow that best suits the performance needed for your application (see *Performance Table below*).

Adjustable E-Vac Kits give you the ability to experiment with an assortment of vacuum cups. E-Vac Kits include a muffler, an assortment of (4) pairs of vacuum cups (closely matched to the performance of that E-Vac), (2) straight, (2) elbow and (1) tee vacuum fittings, 10' (3m) of vacuum tubing and a mounting clip.

Adjustable E-Vac Deluxe Kits include the same items as the standard kit with the addition of an automatic drain filter separator for the compressed air supply and pressure regulator (with coupler).



Adjustable E-Vac Vacuum Generators have vacuum levels up to 25" Hg (85 kPa) that can be used with porous and non-porous materials.

Adjustable E-Vac Performance

The amount of vacuum created varies with the porosity of the load being picked up. Units come from the factory set to 15" Hg (51 kPa). A maximum of 25" Hg (85 kPa) can be achieved on a solid, non-porous surface, but will require increasing the air consumption and vacuum flow.

| Adjustable E-Vac | Model 8.2 SCFM 232 SLPM | Model 15.4 SCFM 436 SLPM | Model 26.4 SCFM 748 SLPM | Model 62.7 SCFM 1,775 SLPM |
|---|-------------------------|--------------------------|--------------------------|----------------------------|
| Adjustable E-Vac Only | 840008 | 840015 | 840030 | 840060 |
| Adjustable E-Vac with Straight Through Muffler | 840008M | 840015M | 840030M | 840060M |
| Adjustable E-Vac Kit with Straight Through Muffler | 841008M | 841015M | 841030M | 841060M |
| Adjustable E-Vac Deluxe Kit with Straight Through Muffler | 842008M | 842015M | 842030M | 842060M |

Adjustable Vacuum Generator Performance (15" Hg/ 51 kPa)

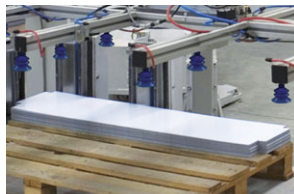
| Model | Air Consumption SCFM @ 80 PSIG SLPM @ 5.5 BAR | Sound Level in dBA | | Vacuum Flow (SCFM/SLPM) vs. Vacuum Level ("Hg/kPa) (Set to 15" Hg/51 kPa) | | | | | | | | | | | | |
|--------|---|--------------------|--------------------------|---|-------|--------|-------|--------|-------|--------|-------|-------|-------|-------|-----|-----|
| | | No Muffler | Straight Through Muffler | Vacuum Level ("Hg/kPa) | | | | | | | | | | | | |
| | | | | 0 | 3/10 | 6/20 | 9/31 | 12/41 | 15/51 | | | | | | | |
| 840008 | 8.2 | 232.2 | 89 | 77 | 5.80 | 164.2 | 4.68 | 132.6 | 3.71 | 105.0 | 2.59 | 73.4 | 1.53 | 43.2 | 0.0 | 0.0 |
| 840015 | 15.4 | 436.1 | 95 | 77 | 18.70 | 529.5 | 16.00 | 453.1 | 12.02 | 340.3 | 7.75 | 219.4 | 4.05 | 114.7 | 0.0 | 0.0 |
| 840030 | 26.4 | 747.5 | 99 | 74 | 36.70 | 1039.2 | 32.00 | 906.1 | 25.63 | 725.8 | 17.68 | 500.5 | 7.69 | 217.8 | 0.0 | 0.0 |
| 840060 | 62.7 | 1775.4 | 107 | 85 | 81.00 | 2293.6 | 67.00 | 1897.2 | 56.33 | 1595.1 | 29.00 | 821.2 | 11.13 | 315.3 | 0.0 | 0.0 |

Adjustable Vacuum Generator Performance (25" Hg/ 85 kPa)

| Model | Air Consumption SCFM @ 80 PSIG SLPM @ 5.5 BAR | Sound Level in dBA | | Vacuum Flow (SCFM/SLPM) vs. Vacuum Level ("Hg/kPa) (Set to 25" Hg/85 kPa) | | | | | | | | | | | | | | | | | | | | |
|--------|---|--------------------|--------------------------|---|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|-------|-------|-------|------|-------|------|------|-----|-----|
| | | No Muffler | Straight Through Muffler | Vacuum Level ("Hg/kPa) | | | | | | | | | | | | | | | | | | | | |
| | | | | 0 | 3/10 | 6/20 | 9/31 | 12/41 | 15/51 | 18/61 | 21/71 | 24/81 | 25/85 | | | | | | | | | | | |
| 840008 | 12.2 | 345.5 | 104 | 89 | 5.80 | 164.2 | 5.58 | 1579 | 5.18 | 146.5 | 4.80 | 135.9 | 4.33 | 122.5 | 3.83 | 108.3 | 2.94 | 83.2 | 1.93 | 54.5 | 0.37 | 10.5 | 0.0 | 0.0 |
| 840015 | 25.9 | 733.4 | 107 | 89 | 18.00 | 509.7 | 16.53 | 4679 | 15.70 | 444.6 | 14.18 | 401.4 | 12.13 | 343.3 | 8.98 | 254.1 | 5.65 | 160.0 | 2.69 | 76.1 | 0.55 | 15.6 | 0.0 | 0.0 |
| 840030 | 44.8 | 1268.6 | 107 | 82 | 32.00 | 906.1 | 29.00 | 821.2 | 26.83 | 759.8 | 24.12 | 682.9 | 20.92 | 592.3 | 14.63 | 414.1 | 9.90 | 280.3 | 6.13 | 173.7 | 1.19 | 33.8 | 0.0 | 0.0 |
| 840060 | 105.2 | 2978.8 | 114 | 92 | 70.00 | 1982.1 | 66.33 | 1878.3 | 62.33 | 1765.0 | 55.50 | 1571.5 | 45.00 | 1274.2 | 30.67 | 868.4 | 18.37 | 520.1 | 8.38 | 237.4 | 2.10 | 59.5 | 0.0 | 0.0 |



Compressed air use is minimized by selecting the exact vacuum level required to lift the heavy, porous cardboard cartons.



A series of bellows cups lift one plastic part at a time off of a pallet.

Choosing A Suitable Vacuum Cup

Round Cups are best suited to smooth, flat surfaces. They will grip and release quickly. These cups hold their shape with extended use and grip well to vertical surfaces. Round cups with cleats are better at lifting heavy loads. Cups without cleats can be used for light lifting.



Oval Cups provide the most vacuum due to the larger surface area. They provide more vacuum power than round cups and are suited to lifting heavy loads. They are designed to handle flat rigid sheet materials like wood, glass, cardboard boxes and composites.



Bellows Cups are best suited to textured, uneven surfaces. The folds, called convolutions, provide a collapsible area that allows the cup to quickly compress when it touches the flat surface. The attach and release time is greater due to the significant volume of the cup.



Vacuum Cup Safety Factor

A **safety factor of 2** is recommended when the vacuum cup is positioned horizontally.

A **safety factor of 4** is recommended when the vacuum cup is positioned vertically.

Some companies or local codes may require a specific safety factor.

Using The Tables Below

Determine the weight of the part to be lifted. Multiply it by the safety factor of (2) when the cup will be positioned horizontally, or by (4) when positioned vertically.

Using the table below, look through the numbers highlighted in orange for the weight capacity per vacuum cup. Use enough vacuum cups to distribute the weight evenly for stable lifting and placement. The model number(s) for the vacuum cup(s) that can handle that weight are directly above (in that column) and are highlighted in blue . Details for each vacuum cup can be found on page 124.

To the left of the vacuum cup weight you've selected (in that same row) is the vacuum level highlighted in green that is needed. Performance data for the In-Line E-Vacs designed for specific vacuum levels can be found on pages 118-119. For loads that vary, Adjustable E-Vacs are the best choice (performance shown on page 122).

Weight in lbs that a vacuum cup can hold at a given vacuum

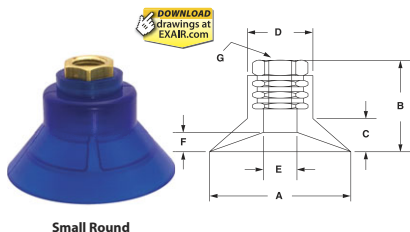
| Vacuum Cup Models | 900762 900766 | 900752 900767 | 900763 | 900764 | 900753 900768 | 900754 900769 | 900765 | 900755 900770 | 900756 900758 | 900757 900771 | 900759 | 900760 | 900761 |
|-----------------------------|------------------|------------------|--------|--------|------------------|------------------|--------|------------------|------------------|------------------|--------|--------|--------|
| Area of cup in ² | 0.4 | 0.8 | 1.0 | 1.5 | 1.8 | 3.1 | 4.4 | 4.9 | 8.3 | 14.2 | 19.6 | 28.3 | |
| Vacuum ⁱⁿ Hg | 5 | 0.5 | 1.0 | 1.2 | 1.8 | 2.2 | 3.9 | 5.3 | 6.0 | 10.2 | 17.4 | 24.1 | 34.7 |
| | 10 | 1.0 | 1.9 | 2.5 | 3.7 | 4.3 | 7.7 | 10.7 | 12.1 | 20.4 | 34.8 | 48.2 | 69.4 |
| | 15 | 1.5 | 2.9 | 3.7 | 5.5 | 6.5 | 11.6 | 16.0 | 18.1 | 30.6 | 52.3 | 72.3 | 104.2 |
| | 20 | 2.1 | 3.9 | 4.9 | 7.4 | 8.7 | 15.4 | 21.4 | 24.1 | 40.7 | 69.7 | 96.4 | 138.9 |
| | 21 | 2.2 | 4.1 | 5.2 | 7.8 | 9.1 | 16.2 | 22.4 | 25.3 | 42.8 | 73.2 | 101.3 | 145.8 |
| | 27 | 2.8 | 5.2 | 6.6 | 10.0 | 11.7 | 20.8 | 28.9 | 32.6 | 55.0 | 94.1 | 130.2 | 187.5 |

Weight in kilograms that a vacuum cup can hold at a given vacuum

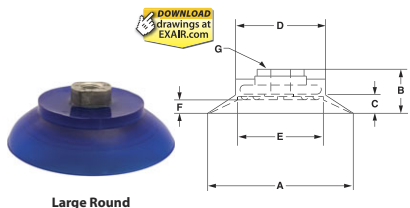
| Vacuum Cup Models | 900762 900766 | 900752 900767 | 900763 | 900764 | 900753 900768 | 900754 900769 | 900765 | 900755 900770 | 900756 900758 | 900757 900771 | 900759 | 900760 | 900761 |
|-----------------------------|------------------|------------------|--------|--------|------------------|------------------|--------|------------------|------------------|------------------|--------|--------|--------|
| Area of cup cm ² | 3 | 5 | 6 | 10 | 11 | 20 | 28 | 32 | 54 | 92 | 127 | 182 | |
| Vacuum kPa | 17 | 0.2 | 0.4 | 0.6 | 0.8 | 1.0 | 1.7 | 2.4 | 2.7 | 4.6 | 7.9 | 10.9 | 15.7 |
| | 34 | 0.5 | 0.9 | 1.1 | 1.7 | 2.0 | 3.5 | 4.8 | 5.5 | 9.2 | 15.8 | 21.9 | 31.5 |
| | 51 | 0.7 | 1.3 | 1.7 | 2.5 | 3.0 | 5.2 | 7.3 | 8.2 | 13.9 | 23.7 | 32.8 | 47.2 |
| | 68 | 0.9 | 1.7 | 2.2 | 3.4 | 3.9 | 7.0 | 9.7 | 10.9 | 18.5 | 31.6 | 43.7 | 63.0 |
| | 71 | 1.0 | 1.8 | 2.3 | 3.5 | 4.1 | 7.3 | 10.2 | 11.5 | 19.4 | 33.2 | 45.9 | 66.1 |
| | 91 | 1.3 | 2.4 | 3.0 | 4.5 | 5.3 | 9.4 | 13.1 | 14.8 | 25.0 | 42.7 | 59.1 | 85.0 |

Vacuum Cup Dimensions

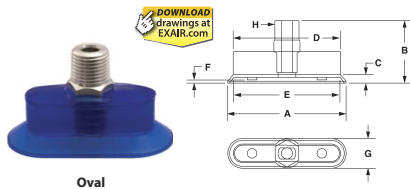
EXAIR vacuum cups are vinyl. They are ideal for general purpose applications and provide excellent resistance to wear. The Durometer rating (used to indicate the flexibility and stiffness of the cup) is A50. Temperature range is 32° to 125°F (0° to 52°C).



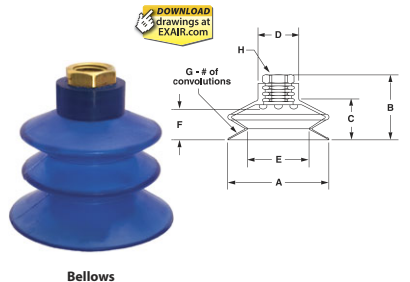
Small Round



Large Round



Oval



Bellows

| Vacuum Cups - Small Round | | | | | | | | | |
|---------------------------|----|------|------|------|------|------|------|----------|--------|
| Model | | A | B | C | D | E | F | G | Cleats |
| 900752 | in | 1.00 | 1.12 | 0.25 | 0.81 | 0.45 | 0.17 | 1/4 FNPT | No |
| | mm | 25 | 28 | 6 | 21 | 11 | 4 | | |
| 900753 | in | 1.50 | 0.90 | 0.28 | 1.25 | 1.06 | 0.12 | 1/4 FNPT | Yes |
| | mm | 38 | 23 | 7 | 32 | 27 | 3 | | |
| 900754 | in | 2.00 | 1.00 | 0.25 | 1.56 | 1.31 | 0.18 | 1/4 FNPT | Yes |
| | mm | 51 | 25 | 6 | 40 | 33 | 5 | | |
| 900755 | in | 2.50 | 1.80 | 0.72 | 1.35 | 0.95 | 0.62 | 1/4 FNPT | Yes |
| | mm | 64 | 46 | 18 | 34 | 24 | 16 | | |
| 900756 | in | 3.50 | 1.10 | 0.56 | 0.98 | 0.51 | 0.37 | 1/4 FNPT | No |
| | mm | 89 | 28 | 14 | 25 | 13 | 9 | | |

| Vacuum Cups - Large Round | | | | | | | | | |
|---------------------------|----|------|------|------|------|------|------|----------|--------|
| Model | | A | B | C | D | E | F | G | Cleats |
| 900757 | in | 3.25 | 1.15 | 0.50 | 2.23 | 1.87 | 0.37 | 3/8 FNPT | Yes |
| | mm | 83 | 29 | 13 | 57 | 47 | 9 | | |
| 900758 | in | 3.25 | 1.15 | 0.50 | 2.23 | 1.87 | 0.37 | 1/4 FNPT | Yes |
| | mm | 83 | 29 | 13 | 57 | 47 | 9 | | |
| 900759 | in | 4.25 | 1.18 | 0.50 | 2.75 | 2.43 | 0.37 | 3/8 FNPT | Yes |
| | mm | 108 | 30 | 13 | 70 | 62 | 9 | | |
| 900760 | in | 5.00 | 1.75 | 1.12 | 3.25 | 2.65 | 0.62 | 3/8 FNPT | Yes |
| | mm | 127 | 44 | 28 | 83 | 67 | 16 | | |
| 900761 | in | 6.00 | 1.31 | 0.50 | 4.75 | 4.90 | 0.12 | 1/2 FNPT | Yes |
| | mm | 152 | 33 | 13 | 121 | 124 | 3 | | |

| Vacuum Cups - Oval | | | | | | | | | | |
|--------------------|----|------|------|------|------|------|------|------|----------|--------|
| Model | | A | B | C | D | E | F | G | H | Cleats |
| 900762 | in | 1.00 | 1.06 | 0.12 | 0.81 | 0.76 | 0.09 | 0.50 | 1/8 MNPT | No |
| | mm | 25 | 27 | 3 | 21 | 19 | 2 | 13 | | |
| 900763 | in | 2.00 | 1.06 | 0.12 | 1.81 | 1.76 | 0.09 | 0.50 | 1/8 MNPT | No |
| | mm | 51 | 27 | 3 | 46 | 45 | 2 | 13 | | |
| 900764 | in | 1.73 | 1.03 | 0.21 | 1.35 | 1.21 | 0.09 | 0.87 | 1/8 MNPT | Yes |
| | mm | 44 | 26 | 5 | 34 | 31 | 2 | 22 | | |
| 900765 | in | 2.96 | 0.93 | 0.19 | 0.92 | 2.34 | 0.20 | 1.47 | 1/8 FNPT | No |
| | mm | 75 | 24 | 5 | 23 | 59 | 5 | 37 | | |

| Vacuum Cups - Bellows | | | | | | | | | | |
|-----------------------|----|------|------|------|------|------|------|---|----------|--------|
| Model | | A | B | C | D | E | F | G | H | Cleats |
| 900766 | in | 0.73 | 1.43 | 0.75 | 0.67 | 0.45 | 0.79 | 3 | 1/4 FNPT | No |
| | mm | 19 | 36 | 19 | 17 | 11 | 20 | | | |
| 900767 | in | 1.00 | 1.48 | 0.85 | 0.56 | 0.44 | 0.85 | 4 | 1/8 FNPT | No |
| | mm | 25 | 38 | 22 | 14 | 11 | 22 | | | |
| 900768 | in | 1.50 | 1.12 | 0.71 | 1.06 | 1.00 | 0.31 | 1 | 1/4 FNPT | Yes |
| | mm | 38 | 28 | 18 | 27 | 25 | 8 | | | |
| 900769 | in | 2.00 | 1.54 | 0.89 | 1.00 | 1.17 | 0.68 | 1 | 1/4 FNPT | Yes |
| | mm | 51 | 39 | 23 | 25 | 30 | 17 | | | |
| 900770 | in | 2.50 | 2.40 | 1.75 | 1.00 | 1.12 | 1.80 | 2 | 1/4 FNPT | No |
| | mm | 64 | 61 | 44 | 25 | 28 | 46 | | | |
| 900771 | in | 3.25 | 3.00 | 2.20 | 1.00 | 1.53 | 2.00 | 2 | 3/8 FNPT | No |
| | mm | 83 | 76 | 56 | 25 | 39 | 51 | | | |

MNPT = NPT Male
FNPT = NPT Female

Increased Energy And Vacuum Efficiency

Energy and vacuum efficiency are not limited to the Adjustable E-Vac vacuum generators. All E-Vac styles and models can offer significant improvements when looking to reduce the amount of compressed air used for a specific vacuum application. Once the appropriate amount of vacuum and flow for the application are determined, it is important to select the appropriate model that will deliver the best performance while using the least amount of compressed air that it takes to do the job.

Many companies have a centralized vacuum system where the vacuum is generated at a location that is far away from the point of use. The long runs of piping through the plant produce line loss and it is often difficult to obtain that perfect balance of vacuum and flow required for the application. The compact In-line E-Vac vacuum generators eliminate this problem since they can be mounted at the point where the vacuum source is needed. EXAIR's Application Engineers can help you to select the E-Vac vacuum generator and vacuum cups that provide the right amount of lifting capability while minimizing the amount of compressed air usage.

Other Applications For E-Vac

E-Vacs are used in many other “non-lifting” applications. They are commonly used for vessel evacuation, clamping, chucking, and other work holding applications. Many types of automated equipment use vacuum to evacuate, grip, hold, align and insert parts. These vacuums can be used for surface mounting, vacuum packaging, bag opening, label placement, carton forming and container evacuation.

Another popular application is using the E-Vac for liquid sampling. This process can easily be accomplished using an E-Vac vacuum generator attached to a liquid holding tube. When the tube is dipped into the vat, tank or container, the compressed air is turned on so it draws a specific volume of liquid up into the tube. When the compressed air is turned off, the liquid flows from the tube and can be dispensed into a container or machine to be analyzed.

Accessories Needed To Build Your Vacuum System

EXAIR offers a variety of mufflers, tubing, check valves, and fittings shown on page 126 that make it easy to build a vacuum system best suited to your vacuum application.

When using E-Vac vacuum generators, it is important to use a source of clean, dry compressed air that will keep them operating at their peak performance. Automatic drain filter separators to keep the compressed air free of contaminants and moisture can be found on page 186. Oil removal filters that remove oil particulates that are common to many compressed air systems are also shown. Pressure regulators, shutoff valves, compressed air hose, and solenoid valves (to electrically turn the compressed air on and off) can be found on pages 187 through 191.

• Mufflers

Optional silencing mufflers are available that permit maximum exhaust of the E-Vac unit so cycle speed is not reduced. The Standard Muffler (for use with In-Line E-Vacs only) has a closed end and is suitable for applications that are free of dust and debris. The Straight Through Muffler is recommended where particulates are present since it will not accumulate debris that can erode performance. Straight Through Mufflers offer the best sound level reduction (up to 26 dBA). Sound levels are shown on pages 118, 119 and 122.

• 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), or hose barb fittings 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. 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.

E-Vac® Vacuum Generators



Mufflers

| Standard | | |
|------------------|------------------|----------|
| Model | Description | Thread |
| 900800 | Standard Muffer | 1/4 MNPT |
| 900801 | Standard Muffer | 3/8 MNPT |
| 900802 | Standard Muffer | 1/2 MNPT |
| Straight Through | | |
| Model | Description | Thread |
| 890001 | Straight Through | 1/4 MNPS |
| 890002 | Straight Through | 3/8 MNPS |
| 890003 | Straight Through | 1/2 MNPS |
| 890004 | Straight Through | 3/4 MNPS |
| 890005 | Straight Through | 1 MNPS |
| Check Valves | | |
| Model | Description | Thread |
| 900804 | Check Valve | 1/4 FNPT |
| 900805 | Check Valve | 3/8 FNPT |
| 900806 | Check Valve | 1/2 FNPT |

E-Vac Accessories

| Push-In Connector | |
|-------------------------------------|-----------------------------------|
| Model | Description |
| 900773 | 1/4 Tube x 1/8 FNPT |
| 900774 | 1/4 Tube x 1/8 Male Global Thread |
| 900775 | 1/4 Tube x 1/4 Male Global Thread |
| 900776 | 1/4 Tube x 3/8 Male Global Thread |
| 900777 | 3/8 Tube x 1/8 Male Global Thread |
| 900778 | 3/8 Tube x 1/4 Male Global Thread |
| 900779 | 3/8 Tube x 3/8 Male Global Thread |
| 900780 | 3/8 Tube x 1/2 Male Global Thread |
| Push-In Swivel Elbow Connector | |
| Model | Description |
| 900781 | 1/4 Tube x 1/8 Male Global Thread |
| 900782 | 1/4 Tube x 1/4 Male Global Thread |
| 900783 | 1/4 Tube x 3/8 Male Global Thread |
| 900784 | 3/8 Tube x 1/8 Male Global Thread |
| 900785 | 3/8 Tube x 1/4 Male Global Thread |
| 900786 | 3/8 Tube x 3/8 Male Global Thread |
| 900787 | 3/8 Tube x 1/2 Male Global Thread |
| Push-In Swivel Branch Tee Connector | |
| Model | Description |
| 900788 | 1/4 Tube x 1/8 Male Global Thread |
| 900789 | 1/4 Tube x 1/4 Male Global Thread |
| 900790 | 3/8 Tube x 1/4 Male Global Thread |
| 900791 | 3/8 Tube x 3/8 Male Global Thread |

MNPT = NPT Male
FNPT = NPT Female



E-Vac Accessories - continued

| Push-In Bulkhead Connector | | |
|--|--|----------|
| Model | Description | |
| 900792 | Female Union - 1/4 Tube x 1/4 Tube | |
| 900793 | Female Union - 3/8 Tube x 3/8 Tube | |
| 900809 | Female Union - 1/4 Tube x 1/4 NPT | |
| 900810 | Female Union - 3/8 Tube x 1/4 NPT | |
| Vacuum Tubing | | |
| Tubing lengths are 10', 20', 30', 40', and 50'. Select the tubing model number (diameter) and indicate the length with a dash. Example: A Model 900795-20 is 1/4" tubing x 20' long. | | |
| Model | Description | |
| 900795- | 1/4" O.D. Polyurethane Tubing | |
| 900796- | 3/8" O.D. Polyurethane Tubing | |
| Mounting Clip | | |
| Model | Description | |
| 900798 | Mounting Clip with Strap | |
| Hose Barbs | | |
| Model | Description | |
| 900969 | 1/4 MNPT x 1/4 Hose Barb | |
| 900970 | 1/4 MNPT x 3/8 Hose Barb | |
| 900971 | 1/4 MNPT x 1/2 Hose Barb | |
| 900972 | 1/2 MNPT x 1/4 Hose Barb | |
| 900973 | 1/2 MNPT x 3/8 Hose Barb | |
| 900974 | 1/2 MNPT x 1/2 Hose Barb | |
| 900975 | 1/2 MNPT x 3/4 Hose Barb | |
| 900976 | 3/4 MNPT x 3/8 Hose Barb | |
| 900977 | 3/4 MNPT x 1/2 Hose Barb | |
| 900978 | 3/4 MNPT x 3/4 Hose Barb | |
| 900979 | 3/4 MNPT x 1 Hose Barb | |
| 900980 | 1 MNPT x 3/4 Hose Barb | |
| 900981 | 1 MNPT x 1 Hose Barb | |
| Hose | | |
| Hose lengths are 10', 20', 30', 40', and 50'. Select the hose model number (diameter) and indicate the length with a dash. Example: A Model 900796-20 is 1/4" hose x 20' long. | | |
| Model | Description | |
| 900796- | 1/4" I.D. Hose | |
| 900689- | 3/8" I.D. Hose | |
| 900690- | 1/2" I.D. Hose | |
| 900063- | 3/4" I.D. Hose | |
| 900064- | 1" I.D. Hose | |
| Vacuum Gauge | | |
| Model | Description | Thread |
| 900811 | Vacuum Gauge (-30" Hg/-1 BAR/-100 kPa-0) | 1/8 MNPT |

MNPT = NPT Male
FNPT = NPT Female