

## Line Vac™

Convey parts, materials,  
waste - with no moving parts!

- ✓ High Conveying Rates!
- ✓ Ideal For Long Distance!
- ✓ Mounting Brackets Available!

### What Is The Line Vac?

A fast, low cost way to convey:

- Plastic pellets
- Scrap trim
- Textiles
- Bulk solids
- Food products
- Chips
- Paper
- Pills/tablets
- Small parts
- Shavings
- Sawdust
- Granules



EXAIR's compressed air operated Line Vac connects to standard hose or tube to create a powerful in-line conveyor. The compact design features large throat diameters for maximum throughput capability. Eleven sizes in aluminum and ten in stainless steel are suited to a wide variety of transfer applications.

### Why The Line Vac?

Line Vac conveyors are ideal for moving large volumes of material over long distances. A small amount of compressed air is injected through directed nozzles to produce a vacuum on one end and high output flows on the other, with instantaneous response. The material flow rate is easily controlled with a pressure regulator. An optional bracket permits easy mounting. No moving parts or electricity assures maintenance free operation.



A Model 6084 2" (51mm) Line Vac transports scrap cellophane trim to a waste barrel.



The Model 6083 1-1/2" (38mm) Line Vac conveys plastic granules to the gravity feed hopper on an extruder.

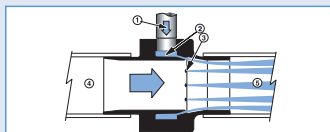
### Applications

- Hopper loading
- Fiber tensioning
- Material conveying
- Waste/trim removal
- Chip removal
- Part transfer
- Filling operations

### Advantages

- Compact
- Quiet
- No moving parts
- Fits standard hose or tube
- Aluminum or stainless steel
- Eleven sizes
- High throughput capability

## How The Line Vac Works



Compressed air flows through the inlet (1) into an annular plenum chamber (2). It is then injected into the throat through directed nozzles (3). These jets of air create a vacuum at the intake (4) which draws material in and accelerates it through the unit (5) for conveying over long vertical or horizontal distances.

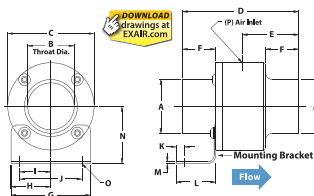


Line Vacs are available in many sizes in both aluminum and stainless steel.

## Line Vac Conveying Rates

Line Vacs are available in a number of styles, materials, and sizes. Each has a large, smooth, straight bore that allows as much material to pass through as possible. Infinite control of the flow rate through the Line Vac can be controlled by a pressure regulator. Kits include a pressure regulator that is sized properly for flow.

The actual conveying rate is affected by the size, mass and geometry of the part to be conveyed along with the length, lift and number of bends in the hose, tube or pipe. These variables make it difficult to determine the exact conveying rate for any product, however, our Application Engineers can assist you by comparing the material you want to convey with something that has already been tested.



DOWNLOAD Drawings at EXAIR.com

## Line Vac Dimensions

| Line Vac Models |                                    |            | Hose Size |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |     |
|-----------------|------------------------------------|------------|-----------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|
| Alum.           | St. St.                            | Heavy Duty | A         | B    | C    | D    | E    | F    | G    | H    | I    | J    | K    | L    | M    | N    | O    | P    |     |
| 6078            | 6058, 6058-316                     | N/A        | in        | 0.38 | 0.19 | 1    | 2.18 | 1    | 0.63 | 1.25 | 0.63 | 0.41 | 0.82 | 0.17 | 1.13 | 0.06 | 1.07 | 0.18 | 1/8 |
|                 |                                    |            | mm        | 10   | 5    | 25   | 55   | 25   | 16   | 32   | 16   | 10   | 21   | 4    | 29   | 2    | 27   | 5    | NPT |
| 6079            | 6059, 6059-316                     | N/A        | in        | 0.50 | 0.31 | 1.25 | 2.62 | 1.23 | 0.75 | 1.25 | 0.63 | 0.34 | 0.68 | 0.13 | 1    | 0.06 | 1.18 | 0.18 | 1/8 |
|                 |                                    |            | mm        | 13   | 8    | 32   | 66   | 31   | 19   | 32   | 16   | 9    | 17   | 3    | 25   | 2    | 30   | 5    | NPT |
| 6080            | 6060, 6060-316, HT6060, HT6060-316 | 150075     | in        | 0.75 | 0.50 | 1.88 | 3.88 | 1.88 | 1    | 2    | 1    | 0.76 | 1.52 | 0.25 | 1.38 | 0.06 | 1.44 | 0.20 | 1/4 |
|                 |                                    |            | mm        | 19   | 13   | 48   | 99   | 48   | 25   | 51   | 25   | 19   | 39   | 6    | 35   | 2    | 37   | 5    | NPT |
| 6081            | 6061, 6061-316, HT6061, HT6061-316 | 150100     | in        | 1    | 0.75 | 2.13 | 3.88 | 1.88 | 1    | 2    | 1    | 0.65 | 1.30 | 0.26 | 1.32 | 0.06 | 1.56 | 0.20 | 1/4 |
|                 |                                    |            | mm        | 25   | 19   | 54   | 99   | 48   | 25   | 51   | 25   | 17   | 33   | 7    | 34   | 2    | 40   | 5    | NPT |
| 6082            | 6062, 6062-316, HT6062, HT6062-316 | 150125     | in        | 1.25 | 1    | 2.38 | 3.88 | 1.88 | 1    | 2.50 | 1.25 | 1    | 2    | 0.31 | 1.61 | 0.06 | 1.68 | 0.28 | 1/4 |
|                 |                                    |            | mm        | 32   | 25   | 61   | 99   | 48   | 25   | 64   | 32   | 25   | 51   | 8    | 41   | 2    | 43   | 7    | NPT |
| 6083            | 6063, 6063-316, HT6063, HT6063-316 | 150150     | in        | 1.50 | 1.25 | 2.75 | 4.38 | 2.13 | 1.25 | 2.50 | 1.25 | 0.86 | 1.73 | 0.25 | 1.44 | 0.06 | 1.88 | 0.28 | 3/8 |
|                 |                                    |            | mm        | 38   | 32   | 70   | 111  | 54   | 32   | 64   | 32   | 22   | 44   | 6    | 37   | 2    | 48   | 7    | NPT |
| 6084            | 6064, 6064-316, HT6064, HT6064-316 | 150200     | in        | 2    | 1.75 | 3.25 | 4.38 | 2.13 | 1.25 | 3    | 1.50 | 1.17 | 2.34 | 0.28 | 1.48 | 0.06 | 2.13 | 0.28 | 3/8 |
|                 |                                    |            | mm        | 51   | 45   | 83   | 111  | 54   | 32   | 76   | 38   | 30   | 59   | 7    | 38   | 2    | 54   | 7    | NPT |
| 6085            | 6065, 6065-316, HT6065, HT6065-316 | 150250     | in        | 2.50 | 2.25 | 3.75 | 4.38 | 2.13 | 1.25 | 3    | 1.50 | 1    | 2    | 0.31 | 1.44 | 0.06 | 2.38 | 0.28 | 3/8 |
|                 |                                    |            | mm        | 64   | 57   | 95   | 111  | 54   | 32   | 76   | 38   | 25   | 51   | 8    | 37   | 2    | 60   | 7    | NPT |
| 6086            | 6066, 6066-316, HT6066, HT6066-316 | 150300     | in        | 3    | 2.75 | 4.25 | 5.63 | 2.75 | 1.75 | 3.25 | 1.63 | 1.20 | 2.41 | 0.41 | 1.44 | 0.06 | 2.63 | 0.28 | 1/2 |
|                 |                                    |            | mm        | 76   | 70   | 108  | 143  | 70   | 45   | 83   | 41   | 31   | 61   | 10   | 37   | 2    | 67   | 7    | NPT |
| 6087            | 6067                               | N/A        | in        | 4    | 3.75 | 5.25 | 5.63 | 2.75 | 1.75 | 3.25 | 1.63 | 1.34 | 2.70 | 0.31 | 1.59 | 0.06 | 3.13 | 0.28 | 1/2 |
|                 |                                    |            | mm        | 102  | 95   | 133  | 143  | 70   | 45   | 83   | 41   | 34   | 69   | 8    | 40   | 2    | 80   | 7    | NPT |
| 6088            | N/A                                | N/A        | in        | 5    | 4.75 | 6.25 | 5.63 | 2.75 | 1.75 | 4.13 | 2.06 | 1.70 | 3.47 | 0.33 | 1.52 | 0.06 | 3.63 | 0.28 | 1/2 |
|                 |                                    |            | mm        | 127  | 121  | 159  | 143  | 70   | 45   | 105  | 52   | 43   | 88   | 8    | 39   | 2    | 92   | 7    | NPT |

Air Operated Conveyors

## Line Vac Performance

| Model                                       | 80 PSIG<br>(5.5 BAR) |       | Air Consumption   |       | Vacuum |  |
|---|----------------------|-------|-------------------|-------|--------|--|
|   | SCFM                 | SLPM  | "H <sub>2</sub> O | kPa   |        |  |
| 6058, 6058-316, 6078                        | 5.60                 | 158   | -120              | -29.9 |        |  |
| 6059, 6059-316, 6079                        | 7                    | 198   | -100              | -24.9 |        |  |
| 6060, HT6060, 6060-316,<br>HT6060-316, 6080 | 10.70                | 303   | -72               | -18   |        |  |
| 6061, HT6061, 6061-316,<br>HT6061-316, 6081 | 14.70                | 416   | -42               | -11   |        |  |
| 6062, HT6062, 6062-316,<br>HT6062-316, 6082 | 25.90                | 733   | -42               | -11   |        |  |
| 6063, HT6063, 6063-316,<br>HT6063-316, 6083 | 33                   | 934   | -36.8             | -9    |        |  |
| 6064, HT6064, 6064-316,<br>HT6064-316, 6084 | 45                   | 1,274 | -28.5             | -7    |        |  |
| 6065, 6065-316, HT6065,<br>HT6065-316, 6085 | 58.50                | 1,656 | -23.5             | -6    |        |  |
| 6066, 6066-316, HT6066,<br>HT6066-316, 6086 | 68.50                | 1,939 | -14.7             | -4    |        |  |
| 6067, 6087                                  | 95                   | 2,690 | -13.6             | -3.4  |        |  |
| 6088  | 128                  | 3,625 | -10.5             | -2.6  |        |  |



Line Vac Kits include a Line Vac, mounting bracket, filter separator and pressure regulator (with coupler).

Sound levels for the individual Line Vac units are not provided. The length, bends and configuration of the hose, tube or pipe used in conjunction with the Line Vac to form the complete conveying system will determine the actual sound levels (which can vary greatly).

## Selecting The Right Model

Line Vac is available in a wide range of sizes to fit your application. Some of the criteria used to select the proper model are:

- Diameter of parts being conveyed
- Diameter of hose or tube
- Rate (weight or volume)
- Stainless steel (Type 303 and 316) or aluminum

Aluminum is the economical choice for general purpose conveying. Our standard stainless steel models (Type 303) offer good corrosion resistance and are ideal for food service, abrasive or corrosive applications. For critical applications including certain foods and pharmaceutical products, Type 316 stainless steel models provide excellent corrosion resistance.

**Warning:**  
Do not use with any material that can become an explosive mixture.



A 316 Stainless Steel Line Vac is used by a pharmaceutical company to convey pills and tablets to a packaging station.

| Line Vac Comparison                                  |                    |                      |
|--|--------------------|----------------------|
| Material Type  | Temperature Rating | Corrosion Resistance |
| Aluminum Line Vac                                    | 275°F (135°C)      | Fair                 |
| Stainless Steel Line Vac (Type 303)                  | 400°F (204°C)      | Good                 |
| Stainless Steel Line Vac (Type 316)                  | 400°F (204°C)      | Excellent            |
| High Temperature Stainless Steel Line Vac (Type 303) | 900°F (482°C)      | Good                 |
| High Temperature Stainless Steel Line Vac (Type 316) | 900°F (482°C)      | Excellent            |
| Heavy Duty Line Vac Hardened Alloy Construction      | 400°F (204°C)      | Good                 |
| Flanged Line Vac (Type 316)                          | 400°F (204°C)      | Excellent            |

The High Temperature Line Vac models are suited for temperatures up to 900°F (482°C). Frequently used for sampling hot flue gases, this High Temperature Line Vac can resist back pressure from long pipe lengths with numerous bends. The Heavy Duty Line Vac shown on page 161 moves the highest volumes and resists wear.



High Temperature Line Vacs can resist temperatures to 900°F (482°C) and are available from stock in hose or threaded models.

For assistance with product selection, contact an Application Engineer at 1-800-903-9247.

### Clear PVC Hose

EXAIR stocks 3/8" (10mm), 1/2" (13mm), 3/4" (19mm), 1" (25mm), 1-1/4" (32mm), 1-1/2" (38mm), 2" (51mm), 2-1/2" (64mm) and 3" (76mm) I.D. PVC hose in lengths up to 50' (15.2m). Ideal for conveying applications, the hose is very flexible and has a smooth internal bore that eliminates material build up. The reinforced, heavy wall of this clear hose provides visual confirmation that the material is moving when air is supplied to the Line Vac. Temperature rating is -4 to 150°F (-20 to 66°C).



### Special Line Vacs

EXAIR manufactures special Line Vacs suited to specific application requirements. Configurations and materials can be made to facilitate your requirements.

The Line Vac can be engineered to retrofit existing machinery. The Line Vac (*shown below*) has special flanges that permit direct mounting to a machine used in the manufacturing of silicon wafers for the semiconductor industry.



A special 3/4" (19mm) Stainless Steel Line Vac evacuates fumes from a silicon wafer etching operation.

This flanged Line Vac is used to remove acidic vapors resulting from surface etching of the silicon wafer. Ordinarily, EXAIR's Stainless Steel Air Amplifier would have been used since it moves much higher volumes of air. In this case, the Line Vac was the better choice since the exhaust piping was long with many bends that would have created high back pressure. The directed nozzles of the Line Vac overcame this downstream resistance.



This special 1-1/2" (38mm) Line Vac is made of PVDF to withstand a chloride washdown.

The special flanged Line Vac (*shown above*) is made of PVDF, a plastic that has high chemical resistance. In this case, the 1-1/2" (38mm) Line Vac was regularly exposed to a chloride wash, a chemical that would corrode stainless steel. QF flanges were provided on each end to allow easy removal of the conveying hoses for cleaning purposes.



This special Line Vac is used to fill small packets.

Filling small packets with fine powders or granulated materials

If you have special requirements, please contact an Application Engineer to discuss the application.

such as salt or sugar is done using small tubes that are gravity fed from a hopper. This works well when the material is dry, however, moist materials would often pack the tube, blocking the flow. The special funnel shaped Line Vac (*shown bottom center*) created a suction on the existing tube to permit continuous product flow.



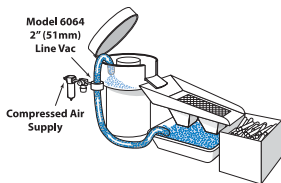
A special miniature Line Vac used to vacuum microscopic debris measures the same size as a penny!

The special miniature Line Vac with barb fittings (*shown above*) was designed for a manufacturer of integrated circuit chips. It was used to remove microscopic debris during the chip making process. This small Line Vac generated high vacuum and was the perfect configuration for the confined working space. It has also been used by another manufacturer to vacuum liquid and chips from small drilled holes.

## Refilling A Vibratory Bowl

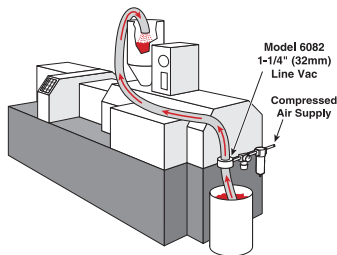
**The Problem:** A manufacturer of metal products deburrs aluminum sleeves in a vibratory bowl filled with abrasive media. As the parts complete the deburring cycle, they are discharged to a screened bed. The abrasive media drops through the bed and the finished parts roll into a box. Refilling the bowl was a back breaking operation that required repetitious lifting of heavy buckets.

**The Solution:** A Model 6064 2" (51mm) Stainless Steel Line Vac was installed on the vibratory bowl. In minutes, the media was conveyed back up to the bowl through a hose, without the heavy lifting.



**Comment:** The ability to convey the abrasive media with air was the key to success. The Line Vac is easy to use, and in this case, was the best choice since it will hold up better to the abrasive media conveyed through it.

## Conveying Plastic Pellets



**The Problem:** Injection molding machines transform plastic pellets into various plastic products. The pellets are gravity fed from a hopper on top of the machine. The "bucket and ladder" method of replenishing the hopper was inefficient and expensive.

**The Solution:** A Model 6982 1-1/4" (32mm) Line Vac Kit was used to convey the pellets up to the hopper. The mounting bracket included with the kit was used to secure the Line Vac to the machine. A filter assured no contamination of the plastic material and a regulator controlled the plastic flow rate.

**Comment:** Unlike mechanical transfer systems that break down or wear out, the Line Vac has no moving parts. This low cost method of conveying also gives precise control of material flow into the hopper.

## Line Vac for Matrix Removal from Labelling Application

**The Problem:** A manufacturer applies labels to their products. After they have been applied, there is a waste stream that is referred to as "the matrix". The matrix is the release liner that labels are affixed to in bulk format prior to being used. The normal method for taking up this waste stream was to use a winder. However, after some amount of time, the winder inevitably becomes filled. Once full, the line is stopped and the winder is manually emptied. They needed a better way to dispose of the matrix.

**The Solution:** The Line Vac presents a unique advantage in that it can pull the matrix from the machine and convey it out to a waste receptacle. This requires no winder, no stopping the line and no emptying. This solution freed up personnel for other tasks and increased production. The compact design and powerful operation of the Line Vac

allowed it to be placed close to the generation of scrap, trim, or waste. Its powerful conveying capacity allowed it to transport the material to a remote and central location.

**Comment:** This application illustrates the versatility of the Line Vac product line. Commonly used for hopper loading products in the plastics industry, a Line Vac is also a strong performer for applications like waste/trim removal, assembly parts conveyance, blasting media recovery, gas sampling and chip removal. Its large variety of materials and sizes makes it well suited for industrial, pharmaceutical, laboratory, high temperature and corrosive environments. No moving parts or electricity assures maintenance free operation.



1" (25mm) Line Vacs remove and discard a label matrix.

| Line Vac Only Models  |                         |   |   |  |  |
|-----------------------|-------------------------|---|---|--|--|
| Inlet/Outlet Diameter | Aluminum Line Vac Model | Type 303 Stainless Steel Line Vac Model | Type 316 Stainless Steel Line Vac Model | High Temperature Type 303 Stainless Steel Line Vac Model | High Temperature Type 316 Stainless Steel Line Vac Model |
| 3/8" (10mm)           | 6078                    | 6058                                    | 6058-316                                | N/A  | N/A  |
| 1/2" (13mm)           | 6079                    | 6059                                    | 6059-316                                | N/A  | N/A  |
| 3/4" (19mm)           | 6080                    | 6060                                    | 6060-316                                | HT6060   | HT6060-316   |
| 1" (25mm)             | 6081                    | 6061                                    | 6061-316                                | HT6061   | HT6061-316   |
| 1-1/4" (32mm)         | 6082                    | 6062                                    | 6062-316                                | HT6062   | HT6062-316   |
| 1-1/2" (38mm)         | 6083                    | 6063                                    | 6063-316                                | HT6063   | HT6063-316   |
| 2" (51mm)             | 6084                    | 6064                                    | 6064-316                                | HT6064   | HT6064-316   |
| 2-1/2" (64mm)         | 6085                    | 6065                                    | 6065-316                                | HT6065   | HT6065-316   |
| 3" (76mm)             | 6086                    | 6066                                    | 6066-316                                | HT6066   | HT6066-316   |
| 4" (102mm)            | 6087                    | 6067                                    | N/A                                     | N/A  | N/A  |
| 5" (127mm)            | 6088                    | N/A                                     | N/A                                     | N/A  | N/A  |

| Line Vac Kit Models   |                             |   |   |  |  |
|---|-----------------------------|---|---|--|--|
| Line Vac Kits - include the Line Vac, mounting bracket, filter separator and pressure regulator (with coupler). |                             |   |   |  |  |
| Inlet/Outlet Diameter   | Aluminum Line Vac Kit Model | Type 303 Stainless Steel Line Vac Kit Model | Type 316 Stainless Steel Line Vac Kit Model | High Temperature Type 303 Stainless Steel Line Vac Kit Model | High Temperature Type 316 Stainless Steel Line Vac Kit Model |
| 3/8" (10mm)   | 6978                        | 6958  | 6958-316                                    | N/A  | N/A  |
| 1/2" (13mm)   | 6979                        | 6959  | 6959-316                                    | N/A  | N/A  |
| 3/4" (19mm)   | 6980                        | 6960  | 6960-316                                    | HT6960   | HT6960-316   |
| 1" (25mm)   | 6981                        | 6961  | 6961-316                                    | HT6961   | HT6961-316   |
| 1-1/4" (32mm)   | 6982                        | 6962  | 6962-316                                    | HT6962   | HT6962-316   |
| 1-1/2" (38mm)   | 6983                        | 6963  | 6963-316                                    | HT6963   | HT6963-316   |
| 2" (51mm)   | 6984                        | 6964  | 6964-316                                    | HT6964   | HT6964-316   |
| 2-1/2" (64mm)   | 6985                        | 6965  | 6965-316                                    | HT6965   | HT6965-316   |
| 3" (76mm)   | 6986                        | 6966  | 6966-316                                    | HT6966   | HT6966-316   |
| 4" (102mm)  | 6987                        | 6967  | N/A   | N/A  | N/A  |
| 5" (127mm)  | 6988                        | N/A   | N/A   | N/A  | N/A  |

| Accessories |   |
|-------------|---|
| Model #     | Description   |
| 6994        | Mounting Bracket for 3/8" (10mm) and 1/2" (13mm) Line Vac Units     |
| 6995        | Mounting Bracket for 3/4" (19mm) and 1" (25mm) Line Vac Units       |
| 6996        | Mounting Bracket for 1-1/4" (32mm) and 1-1/2" (38mm) Line Vac Units |
| 6997        | Mounting Bracket for 2" (51mm), and 2-1/2" (64mm) Line Vac Units    |
| 6998        | Mounting Bracket for 3" (76mm) and 4" (102mm) Line Vac Units        |
| 6999        | Mounting Bracket for 5" (127mm) Line Vac Unit                       |
| 9001        | Auto Drain Filter Separator, 3/8 NPT, 65 SCFM (1,841 SLPM)          |
| 9032        | Auto Drain Filter Separator, 1/2 NPT, 90 SCFM (2,549 SLPM)          |
| 9002        | Auto Drain Filter Separator, 3/4 NPT, 220 SCFM (6,230 SLPM)         |
| 9005        | Oil Removal Filter, 3/8 NPT, 15-37 SCFM (425-1,048 SLPM)            |
| 9006        | Oil Removal Filter, 3/4 NPT, 50-150 SCFM (1,416-4,248 SLPM)         |
| 9008        | Pressure Regulator with Gauge, 1/4 NPT, 50 SCFM (1,416 SLPM)        |
| 9033        | Pressure Regulator with Gauge, 1/2 NPT, 100 SCFM (2,832 SLPM)       |
| 9009        | Pressure Regulator with Gauge, 3/4 NPT, 220 SCFM (6,230 SLPM)       |

Hose is available in 10', 20', 30', 40' and 50' lengths. Select the hose model number (diameter) and indicate the length with a dash. Example: A Model 6931-20 is 1" ID Hose x 20' long.

|       |                |
|-------|----------------|
| 6928- | Hose 3/8" ID   |
| 6929- | Hose 1/2" ID   |
| 6930- | Hose 3/4" ID   |
| 6931- | Hose 1" ID     |
| 6932- | Hose 1-1/4" ID |
| 6933- | Hose 1-1/2" ID |
| 6934- | Hose 2" ID     |
| 6935- | Hose 2-1/2" ID |
| 6936- | Hose 3" ID     |



(2) Model 6083 1-1/2" (38mm) Line Vacs convey rejected metal caps from a fluorescent lamp operation to a scrap bin.



1-1/4" (32mm) Line Vac is mounted on a burr removal tool to suction the plastic shavings and transport them to a waste container.