

Application

The Positive Displacement Vacuum/Pressure Blower Package is part of Coperion K-Tron's single blower railcar unloading system used for pneumatically conveying pellets, powders, and granular materials. One blower powers both the vacuum and the pressure components of the system, minimizing cost, and is ideal for applications where the vacuum component is conveyed a short distance.

The blower conveys material from railcars to storage tanks at rates up to 18,140 kg/h [40,000 lbs/h]. Pre-designed packages range from a 76 mm [3 in] to a 127 mm [5 in] conveying line.

Selecting the right blower to operate at the correct speed is critical for maximum efficiency of any pneumatic conveying system. Before selecting a blower package, Coperion K-Tron system engineers carefully calculate the required performance of the blower and how it will respond to a specific application.

Design

The vacuum/pressure blower package incorporates an industry-proven positive displacement blower (rotary lobe type). The blower is dynamically balanced, and isolation pads are positioned between the blower and the base to reduce vibration and noise. Depending on the application, vacuum/pressure blower motors are available ranging from 2.2 to 112 kW [3 to 150 HP]. An adjustable motor mount accommodates the IEC or NEMA motor bolt pattern. A heavy-duty drive guard totally encloses the drive to protect plant personnel. The complete blower package is supported by a heavy-duty base that allows easy access for service and cleaning.

Noise level without sound enclosure ranges from 70 to 97 dB(A) depending on the actual configuration and installation of the vacuum/pressure blower package. Sound enclosures are available as an option.

Technical Data

Standard Mechanical Specifications

- Positive displacement blower (rotary lobe type)
- IEC or NEMA motor mount frame
- Heavy-duty blower base
- Totally enclosed drive guard
- Easy-to-read vacuum and pressure liquid filled gauges
- Chamber-absorptive type discharge silencer
- Vibration mounting pads
- IP65 [NEMA 4, 4X] adjustable differential pressure switch
- Air-actuated vacuum breaker valve
- Check valve
- Mechanical vacuum and pressure relief valves
- OSHA and CE compliant
- Blower oil included

Hazardous Location Options

- NEC Class I, Div. 1, Groups G & D
Class II, Div. 2, Groups E, F & G
- ATEX versions available upon request

Standard Electrical Specifications

- 200-230 / 380-460 volt, 3-phase, 50/60 cycle motor
- IEC motor - Efficiency per IEC 60034-30-1, IE3 level, with IP65 protection
- NEMA motor - NEMA Premium® Efficiency, severe duty, TEFC with IP54 protection

NOTE:

For blower performance information such as motor sizes and airflow ranges contact factory.



Above photo shows mechanical pressure relief valve mounted on silencer, adjustable differential pressure switch, and vacuum and pressure gauges above the drive guard.



Above photo shows mechanical vacuum relief valve, vacuum breaker valve, PD blower and motor.

Options

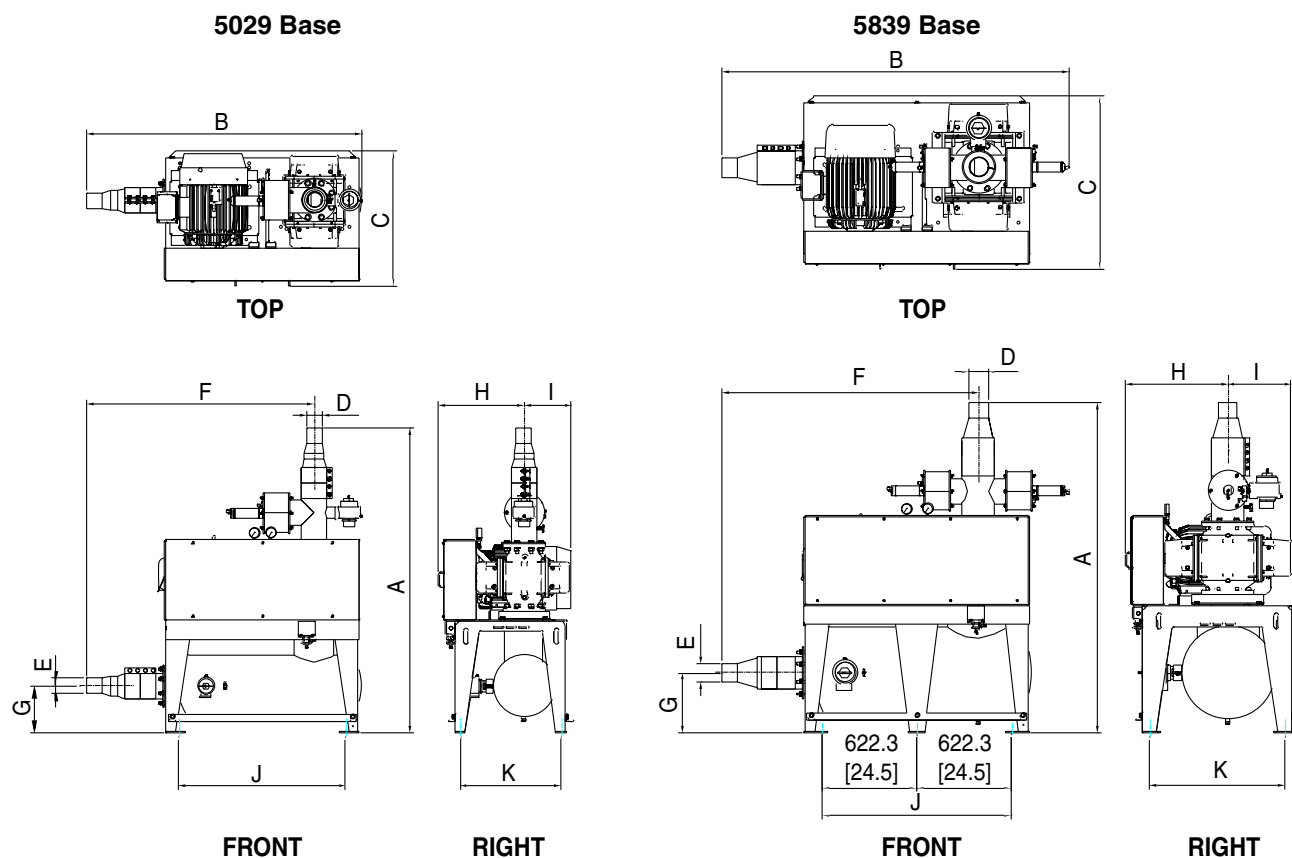
Mechanical

- Sound enclosures
- Additional silencers
- Pipe couplings and size reducers
- After coolers
- Temperature switch
- Special voltage requirements

Electrical

- For CSA or UL certified solenoid contact factory

Dimensions of Vacuum/Pressure Blower mm [in]



Part No.	Base	A	B	C	D	E	F	G	H	I (MAX)	J	K	Enclosure
5184-100 & 5184-100M	5029	1,829 [72]	1,796 [70.7]	887 [34.9]	76 [3]	76 [3]	1499 [59]	311 [12.25]	511 [20.12]	319 [12.57]	1092 [43]	664 [26.13]	5309-154
5184-101 & 5184-101M	5029	1,829 [72]	1,796 [70.7]	887 [34.9]	76 [3]	89 [3.5]	1499 [59]	311 [12.25]	511 [20.12]	319 [12.57]	1092 [43]	664 [26.13]	5309-154
5184-102 & 5184-102M	5029	1,996 [78.6]	1,805 [71.06]	887 [34.9]	102 [4]	102 [4]	1499 [59]	305 [12]	562 [22.12]	311 [12.26]	1092 [43]	664 [26.13]	5309-154
5184-103 & 5184-103M	5029	1,996 [78.6]	1,805 [71.06]	887 [34.9]	102 [4]	114 [4.5]	1499 [59]	305 [12]	562 [22.12]	311 [12.26]	1092 [43]	664 [26.13]	5309-154
5184-104 & 5184-104M	5839	2,165 [85.25]	2,273 [89.5]	1,137 [44.75]	127 [5]	127 [5]	1679 [66.1]	392 [15.45]	668 [26.3]	417 [16.4]	1245 [49]	886 [34.88]	5309-155

Caution: Measurements are for general reference only. Please consult dimensional drawing for exact measurements.