

# Exhaust Blowers & Accessories



**LABCONCO®**



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# The Labconco difference.

**Easy.** Determining if a blower is sized properly and integrating it into a building should be simple. Labconco's Spectrum Exhaust Blower provides a solution with broad performance capability and seamless building integration. No need to worry, let the Spectrum cover you.

**Robust.** Labconco features exhaust blowers in epoxy coated steel, fiberglass reinforced polyester, and PVC to cover applications working with chemicals of any kind. Whatever your needs, we have a blower designed to work for you.

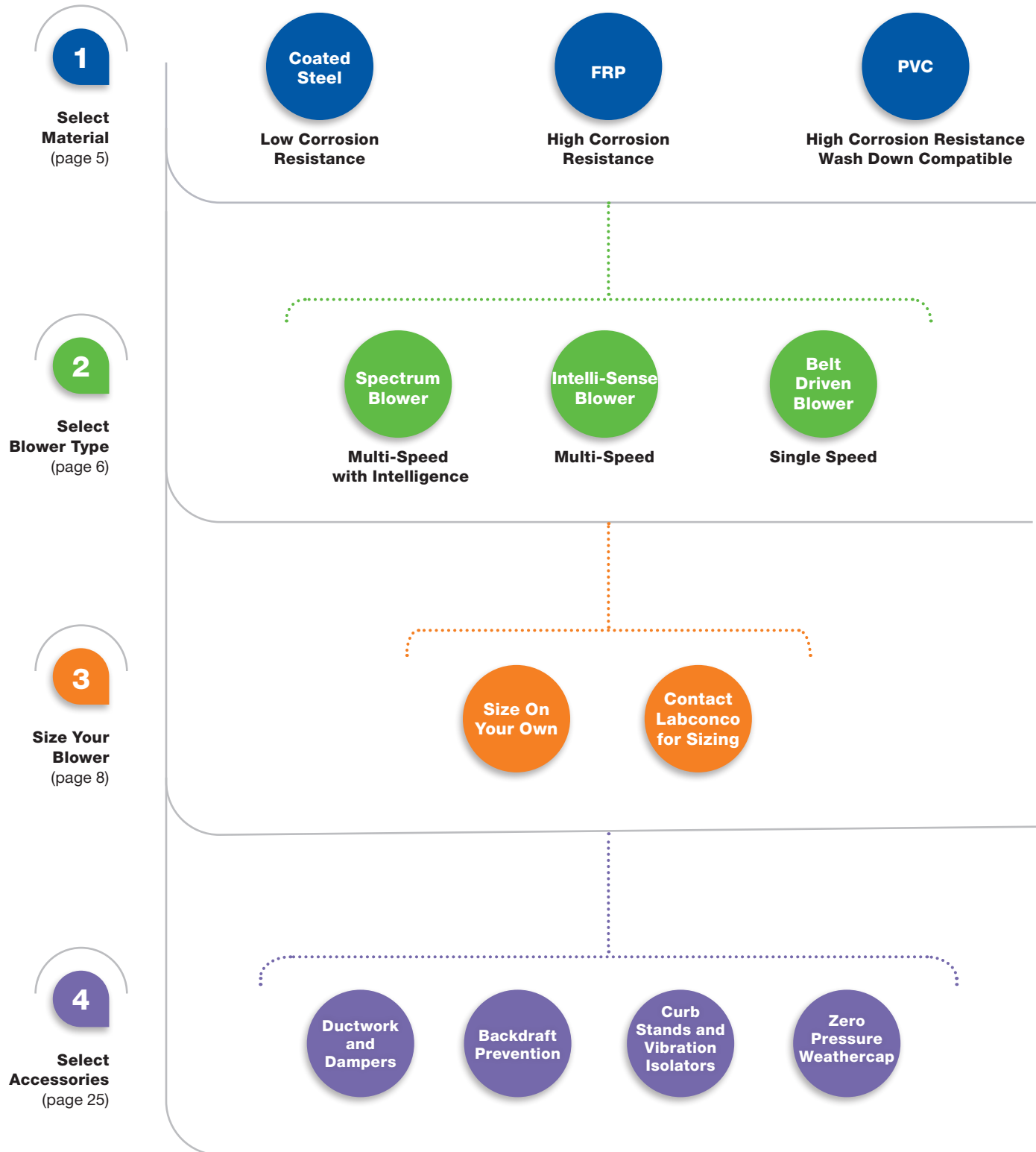
**Safe.** Safety is of paramount importance in laboratories but Labconco extends this ideology to the roof. Labconco's exhaust fans are built to last ensuring optimal safety in whatever application they are serving. In every case, Labconco blowers can help put laboratory personnel's mind at ease.

The Labconco logo is centered within a dark blue, horizontally-oriented oval shape. The word "LABCONCO" is written in a bold, white, sans-serif font. A small registered trademark symbol (®) is located at the end of the word, to the right of the "O".

**LABCONCO®**

# Exhaust Blowers

## Steps to Selecting an Exhaust Blower





# Exhaust Blowers

## Exhaust Blower Product Lines

### Select Material



**Coated Steel**



**FRP Reinforced Polyester (FRP)**



**PVC**

	Coated Steel	FRP	PVC
Corrosive Chemical Resistance	Mildly Resistant	Highly Resistant	Highly Resistant
Solvent Resistance	Resistant	Highly Resistant	Moderate
Wash-Down System Compatibility (i.e. Perchloric Acid)	No	No	Yes
Impeller Material	Phenolic Coated	Polypropylene	PVDF
Spark Resistant Construction	No	Standard	Standard

\*See page 6 and 8 for spark resistance requirements for serving electrically classified spaces

### Accessories



**Ductwork**



**Dampers**



**Wash Rings**



**Vibration Isolators**



**Dual Exhaust Adapters**

# Labconco® Exhaust Blowers

## Select Blower Type



	Spectrum Exhaust Blower	Intelli-Sense Blower	Belt-Driven Blowers
Intelligence	BMS Compatible Send and Receive signals	Manual 3-speed capability	None
Ease of Application	+++	++	+
Energy Use	\$	\$	\$\$
Motor Type	Variable Speed	Variable Speed	Single Speed
Overload Protection	Maintains Operation with derating capacity	Maintains Operation with derating capacity	Cycles off
Materials	Coated Steel FRP PVC	Coated Steel FRP PVC	Coated Steel FRP PVC
Suitable for replacement blower applications	All applications	Only to replace Intelli-Sense installations	Only to replace belt driven blowers
Suitable for non-fume hood applications	Yes	No	Yes
Suitable for BSC connection	Yes	No	Select models only
Suitable for applications serving hazardous (classified) locations**	FRP PVC	No	Select models only
Conforms to ANSI/ ASSP Z9.5 for exhaust fans ventilating hazardous materials	Yes	No	No

\*\* Electrically Classified spaces are per NFPA 70 Article 500 (National Electrical Code) and require non-sparking or EP rated equipment within the space and non-sparking, remotely located exhaust blowers. See page 8 for more information.

# Spectrum® / Intelli-Sense® Exhaust Blowers

## Feature Highlights

### Spectrum Exhaust Blower



#### Connectivity

The Spectrum blower features an on-board control panel to streamline the setup process. RPM can be set by selecting one of three inputs. An installer can simply use the potentiometer right on the board, or a signal can be sent from the building management system (BMS) via 0-10V or 4-20 mA. In addition to receiving a signal, the Spectrum can output data to a BMS via RS232 or RS485 for seamless integration.

#### Alarm Output

The Spectrum blower features a status indicator in the on-board display. Whether it is functioning perfectly, or is experiencing an error, the display will relay this information via an indicator code. Troubleshooting these exhaust fans becomes simple as the various error codes help identify potential causes to get your lab up and running in a timely manner. This code can also be communicated to your BMS so remote monitoring is a breeze.



#### Dual-Voltage Readiness

The 1 horsepower Spectrum blower comes prepared to operate on either 115V or 230V (single phase) systems for ease of selection. The blower comes factory set to 230V and can change to 115V by a flip of the AC Select switch featured on the blower interior. 2 horsepower Spectrum blowers come in 230V Single or Three phase) and feature an efficient VFD motor.

### Intelli-Sense Blower



#### 3-Speed Settings

The Intelli-Sense blowers feature a control box that allows for the setting of 3 different RPM setpoints controlled by an included 3-position switch to be mounted on a Labconco fume hood. These speeds can be set at a high speed for loading, a medium speed for typical operation, and a low speed for when the fume hood is not in use.

Note: These settings cannot be transmitted or received by a BMS and require user input by selecting the speed via the switch.

# What is “**Explosion Proof**” and When is it Needed?

Explosion Proof (EP), is a requirement for equipment placed within a *hazardous (classified) location* per the *National Electrical Code, NFPA 70, Article 500*. Typically, these spaces have a potentially ignitable, flammable, or combustible atmosphere, where a spark may set off an explosive reaction. Equipment installed within a *hazardous (classified) location*, requires electrical components that are insulated from the atmosphere.

In electrically classified labs, electrical outlets and switches are enclosed in intrinsically safe, EP rated boxes, and wiring in the lab is entirely enclosed in conduit. Spark resistant construction is a must for anything installed in these spaces. **Ultimately, if a space is a hazardous (classified) location as outlined in NFPA 70, the components within that space must be Explosion Proof.**

## Exhaust fans serving hazardous (classified) locations

Spectrum FRP and PVC exhaust fans **are suitable for applications serving hazardous (classified) locations** when installed in conformance to ANSI/ASSP Z9.5 and NFPA 45. According to the National Fire Protection Association, NFPA 45, exhaust fans removing hazardous environments shall be located on the roof or exterior of a building. This prevents them from being installed within a *hazardous (classified) location*.

Per American Society of Safety Professionals, ANSI/ASSP Z9.5, fan construction shall be per AMCA 99. According to AMCA 99, exhaust fans handling potentially explosive particles, fumes, or vapors, shall have *spark resistant construction*. This strict method of construction applies to all exhaust fan components within the hazardous air stream, fully mitigating the risk of ignition.

Out of the box, Labconco Spectrum FRP and PVC exhaust fans offer the highest level of *spark resistant construction*, built to *Type A* construction requirements per AMCA 99.

## Notable References

- NFPA 70, National Electric Code
  - Article 500 for hazardous location classifications
- NFPA 45, Standard on Fire Protection for Laboratories Using Chemicals
  - Exhaust fans shall be placed on the exterior of the building
- ANSI/ASSP Z9.5, Laboratory Ventilation
  - Fan construction should be designed in recommendation with AMCA 99
- AMCA 99, Classifications for Spark Resistant Construction
  - Spark Resistant Construction classifications of type A, B, and C
  - Type A construction offers the highest degree of spark resistant construction. (Labconco Spectrum FRP and PVC Blowers)

# Building Your Fume Hood Exhaust System

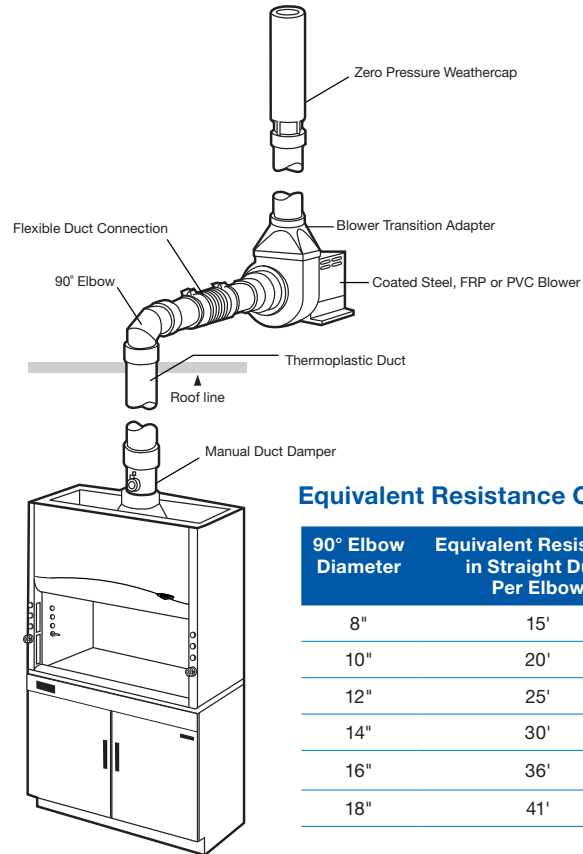
## Size Your Blower

### Option 1: Size on your own

#### How to Size a Fume Hood Exhaust Fan

Use this guide for sizing blowers for Fume Hoods. Enter your information for step-by-step guidance on proper blower sizing.

- Find the required airflow (CFM) and static pressure (inches of water) from the appropriate table in your fume hood's brochure.  
Hood airflow (CFM) \_\_\_\_\_  
Hood Static Pressure (inches of water) \_\_\_\_\_
- Add up the total straight lengths of duct in linear feet going from the top of the hood to the termination of the exhaust. Include all vertical and horizontal runs.  
Total Straight Duct (feet) \_\_\_\_\_
- Determine the number of 90° and 45° elbows in the duct run.  
Total 90° Elbows \_\_\_\_\_ ; Total 45° Elbows \_\_\_\_\_
- Multiply the number of elbows from step 3 by the equivalent resistance found in the Equivalent Resistance Chart (right). For a 45° elbow, the equivalent resistance is half of the 90° elbow of the same size.  
90° Elbow (eq. feet) \_\_\_\_\_ + 45° Elbow (eq. feet) \_\_\_\_\_  
= \_\_\_\_\_ Total Elbow (eq. ft)
- Add the total feet from step 2 to the total feet from step 4 to determine the total equivalent straight length of duct for the system. Be sure to add 5' for the zero pressure weathercap.  
Total Equivalent Length of duct (feet) \_\_\_\_\_
- Use the Static Pressure Losses for Ductwork table (right) to identify the static pressure loss per foot. (ie. 1000 CFM and 12" duct = 0.0018 inches of water per foot) (You may have to round the CFM from step 1).  
Static Pressure Loss  
(inches of water per foot of duct) = \_\_\_\_\_
- Multiply total equivalent length of duct from step 5 by the static pressure loss per foot from step 6 for total duct static pressure.  
Total Duct Static Pressure (inches of water) = \_\_\_\_\_
- Calculate total system static pressure by adding hood static pressure from step 1 and duct static pressure from step 7.  
Total system static pressure (inches of water) = \_\_\_\_\_
- Using the total system static pressure from step 8 and the hood CFM from step 1, use the fan curves on pages 10 and 11 to validate blower operation with your system. Hint: The x-axis is the CFM and the y-axis is the static pressure. Be sure the point that your CFM and Static Pressure intersect is within the blower performance range.



Equivalent Resistance Chart\*

90° Elbow Diameter	Equivalent Resistance in Straight Duct Per Elbow
8"	15'
10"	20'
12"	25'
14"	30'
16"	36'
18"	41'

Static Pressure Losses for Ductwork

Nominal Diameter	6"	8"	10"	12"	16"
Airflow (CFM)	Static Pressure Loss (inches of water per foot of duct)				
250	0.0039	0.0011	0.0003	—	—
500	0.0147	0.0037	0.0013	—	—
750	0.0321	0.0079	0.0026	0.0011	—
1000	0.0557	0.0140	0.0043	0.0018	0.0005
1250	0.0855	0.0210	0.0066	0.0027	0.0008
1500	—	0.0300	0.0095	0.0039	0.0012
1750	—	0.0380	0.0130	0.0053	0.0016
2000	—	—	0.0155	0.0067	0.0020
2500	—	—	0.0245	0.0109	0.0031
3000	—	—	—	0.0145	0.0042
4000	—	—	—	0.0240	0.0074
5000	—	—	—	—	0.0120

### Option 2: Contact Labconco for assistance in sizing your blower.

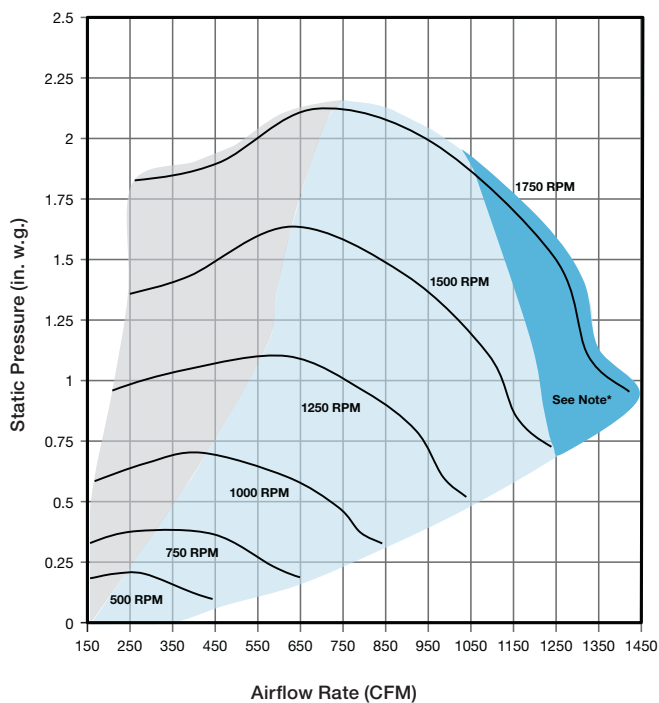
\* The equivalent resistance chart values are based on elbows with a turning radius of 1.5 times the duct diameter. Elbows with a smaller turning radius should not be used as they incorporate a higher static pressure. Find the equivalent straight feet of the elbows by multiplying the number of elbows by the appropriate value in the equivalent resistance chart.



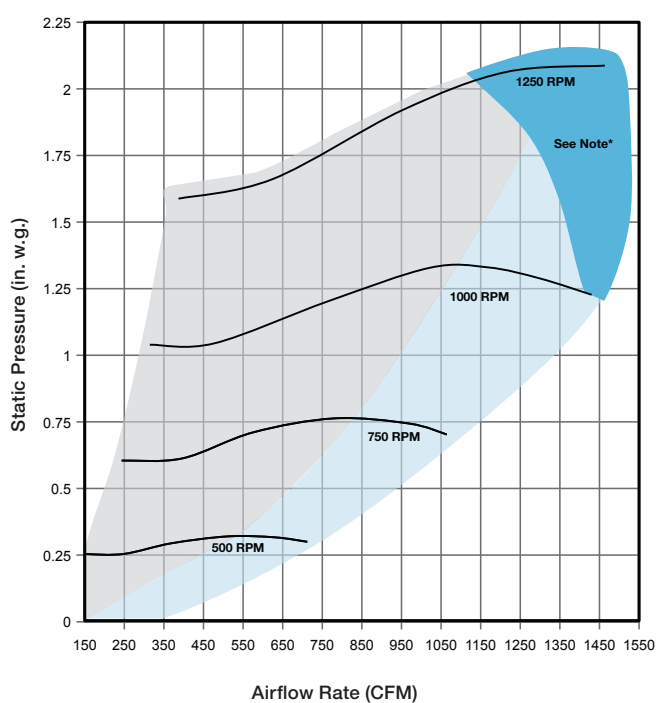
# Spectrum® and Intelli-Sense®

## 1 Horsepower Blower Performance Curves

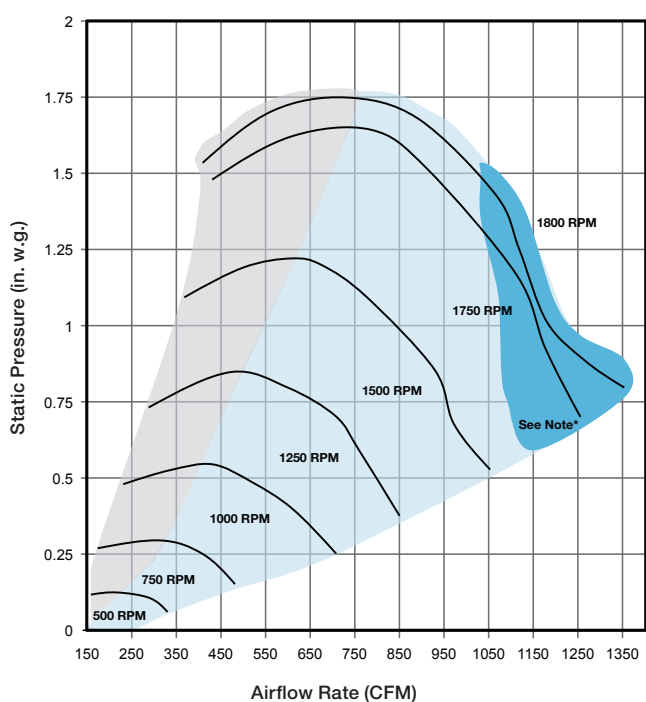
Coated Steel with 10" Nominal Inlet Diameter



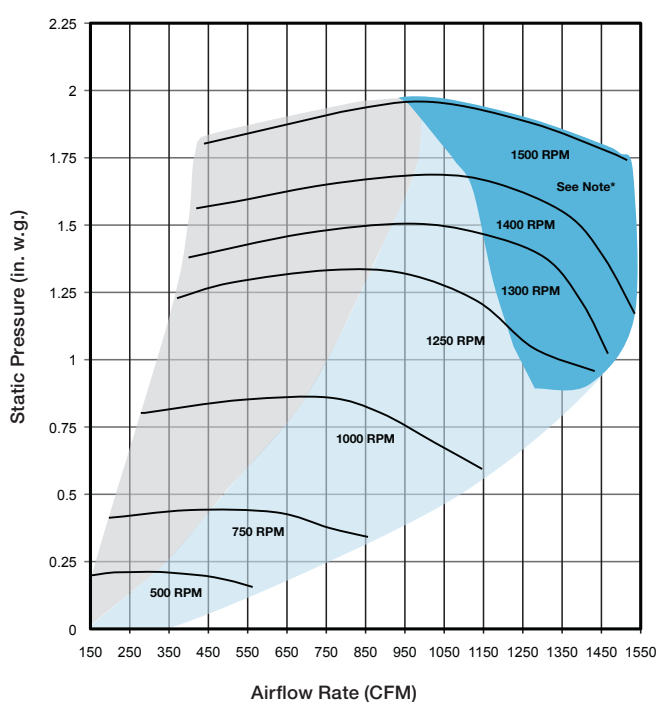
Coated Steel with 12" Nominal Inlet Diameter



FRP and PVC with 10" Nominal Inlet Diameter



FRP and PVC with 12" Nominal Inlet Diameter

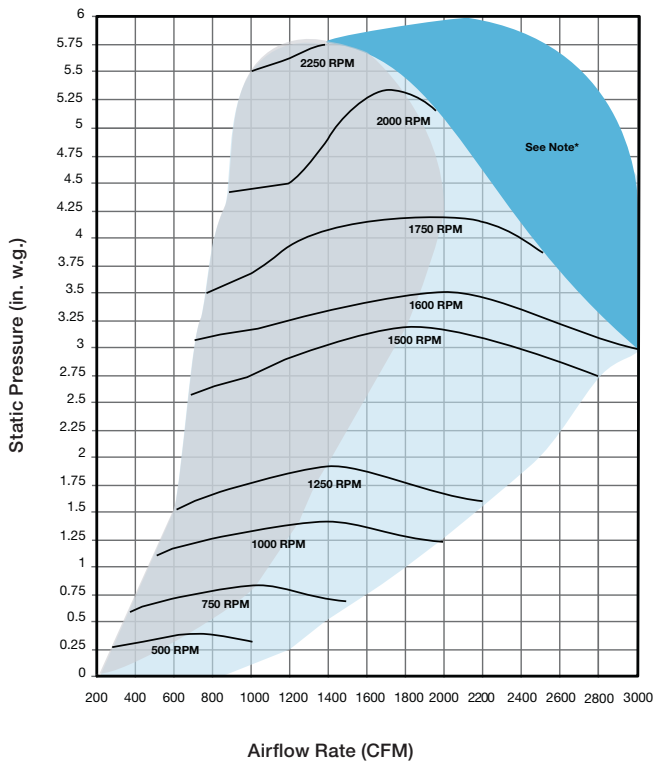


\* Ambient temperatures inside motor housing greater than 125°F may reduce maximum blower performance.

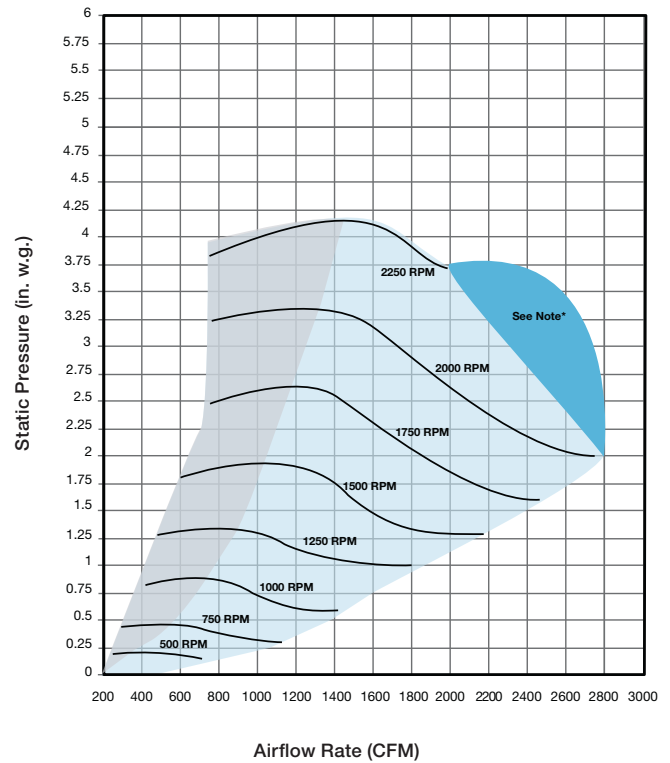
# Spectrum

## 2 Horsepower Blower Performance Curves

Coated Steel with 12" Nominal Inlet Diameter



FRP and PVC 12" Nominal Inlet Diameter



See pages 17-19 for belt driven blower performance data



Scan the above QR code for an immediate download of the belt-driven blower performance curves for reference.

\* Ambient temperatures inside motor housing greater than 125° F may reduce maximum blower performance.

# Spectrum Exhaust Blower

## Features and Ordering Information

**All models** allow for expanded performance capabilities that cover the full spectrum of fume hood exhaust requirements.

**1 horsepower models** feature an energy efficient Electrically Commutated Motor (ECM). UL Listed.

**2 horsepower models** feature an energy efficient Variable Frequency Drive (VFD) motor. UL Listed.

**FRP and PVC models** designed with spark resistant construction (AMCA 99 Type A) perfect for applications serving electrically classified hazardous spaces.

**Suitable** for both new buildings and for replacing existing fans of varying types.

**Simple on/off** input for switched remote control.



**AC Select Switch** on 1 horsepower model allows for a single blower to be installed on a 115V or 230V single phase system that also operates on either 50 or 60 Hz.

**Blower information** output available via RS232 or RS485 signal.

**Coated steel models** suitable for applications serving Class II Type A2, B2 or C1 Biological Safety Cabinets.

**Conforms to ANSI/ASSP Z9.5** for exhaust fans ventilating hazardous materials.

**On-board control panel** allows 3 input options for RPM selection. A potentiometer for at-blower control, 0-10V or 4-20 mA signal for control via building management system.

**On-board screen displays** blower status, alarm, RPM, temperature, and input selection indicators for at-a-glance status verification.

**Materials of construction** Fiberglass Reinforced Polyester (FRP), PVC and Coated steel construction available for a wide range of applications.

**Blower on/off** dry contact for remote blower status notification.

### Spectrum Blower Configurator:

Use this key to configure the nine digit catalog number to order your Spectrum Blower.

1 7 7   5     0 0

Select the **DUCT INLET DIAMETER**. This is the fourth digit of your catalog number.

0 = 10"    2 = 12"

Select the **MATERIAL**. This is the sixth digit of your catalog number.

0 = CS - Coated Steel

1 = FRP - Fiberglass Reinforced Polyester

2 = PVC - Unplasticized Polyvinyl Chloride

Select the **POWER AND ELECTRICAL CONFIGURATION**. This is the seventh digit of your catalog number.

1 = 1 horsepower, 115V/230V, 50/60 Hz, 1ph, F.L. Amps at 115V = 10A, F.L. Amps 230V= 6A

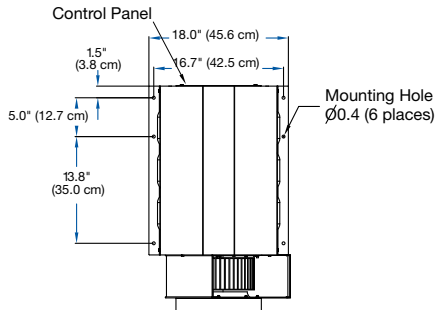
2 = 2 horsepower, 230V, 50/60 Hz, 1ph/3ph, F.L. Amps at 230V = 14A, Only available in 12" inlet. Select "2" for the fourth digit.

# Spectrum Exhaust Blower

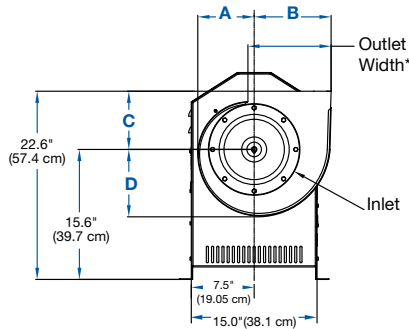
## Dimensional Data

### Coated Steel

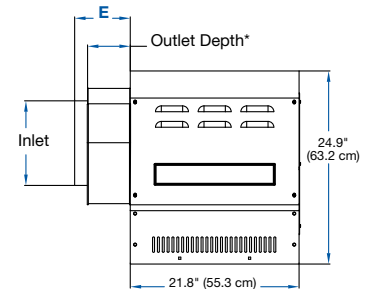
#### TOP



#### FRONT

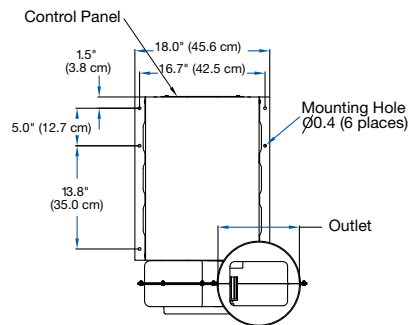


#### SIDE

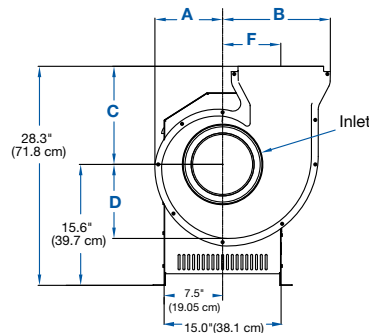


### FRP and PVC

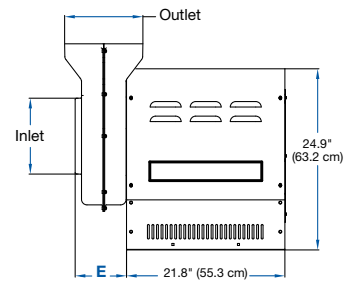
#### TOP



#### FRONT



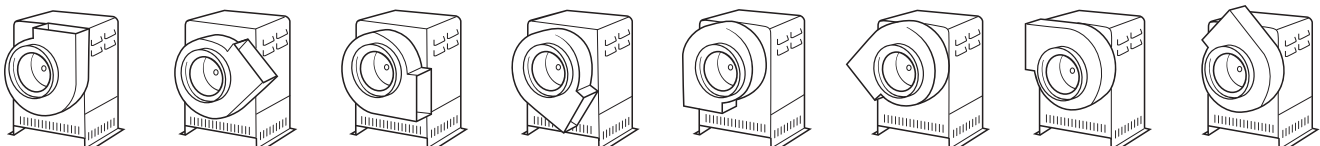
#### SIDE



## Dimensional Data

Dimension	Coated Steel		FRP/PVC	
	10"	12"	10"	12"
<b>A</b>	6.8" (17.2 cm)	9.0" (22.86 cm)	8.75" (22.2 cm)	10.0" (25.4 cm)
<b>B</b>	9.25" (23.4 cm)	12.5" (31.7 cm)	13.9" (35.3 cm)	15.9" (40.3 cm)
<b>C</b>	7.0" (17.7 cm)	9.0" (22.86 cm)	12.7" (32.2 cm)	13.2" (33.5 cm)
<b>D</b>	8.1" (20.5 cm)	10.5" (26.6 cm)	10.5" (26.6 cm)	12.0" (30.4 cm)
<b>E</b>	7.2" (18.2 cm)	8.6" (21.8 cm)	7.1" (18.0 cm)	8.0" (20.3 cm)
<b>F</b>	-	-	7.5" (19.0 cm)	8.5" (21.5 cm)
<b>Inlet</b>	10.9" ID (27.7 cm)	12.25" OD (31.1 cm)	10.4" OD (26.4 cm)	12.4" OD (31.4 cm)
<b>Outlet</b>	10.0" w x 5.5" d* (25.4 cm w x 14.0 cm d)	13.5" w x 7.0" d* (34.3 cm w x 17.8 cm d)	10.75" ID (27.1 cm)	12.75" ID (32.3 cm)

### Variable Exhaust Orientations



\* See page 27 for exhaust transition adapters to round duct.

# Intelli-Sense® Blowers

## Features and Ordering Information

### Energy efficient

1 horsepower ECM motor operates quieter than belt-driven motor types.

### Materials of construction

Fiberglass Reinforced Polyester (FRP), PVC and Coated steel construction available for a wide range of applications.

**3 speed** set points for high, medium, and low speeds. Requires user input via blower speed switch.

### Overload protection

maintains blower operation to keep fume hood operators safe while derating capacity prevents blower damage.



**Speed control box** included for mounting on top of Labconco fume hoods for quick and easy RPM setting.

**Epoxy coated** weather cover protects the motor in even the harshest of environments.

**3-position switch** included for installation on Labconco fume hoods. Required for blower speed variability.

**Broad performance curve** to accommodate a wide range of fume hood application requirements.

### Intelli-Sense Blower Configurator:

Use this key to configure the seven digit catalog number to order your Intelli-Sense Blower.



Select the **MATERIAL**. This is the second, third, fourth and fifth digit of your catalog number.

**0611** = CS - Coated Steel

**1818** = FRP - Fiberglass Reinforced Polyester

**1834** = PVC - Unplasticized Polyvinyl Chloride

Select the **DUCT INLET DIAMETER**. This is the seventh digit of your catalog number.

**0** = 10"    **2** = 12"

Select the **POWER AND ELECTRICAL CONFIGURATION**. This is the sixth digit of your catalog number.

**1** = 1 horsepower, 115V, 50/60 Hz, 1ph, F.L. Amps = 10A

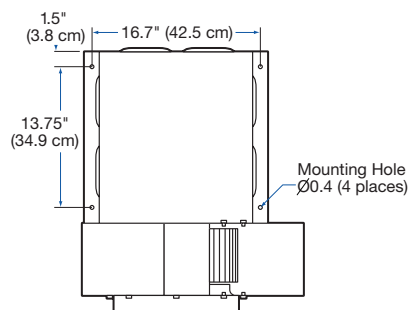
**2** = 1 horsepower, 230V, 50/60 Hz, 1ph F.L. Amps = 6A



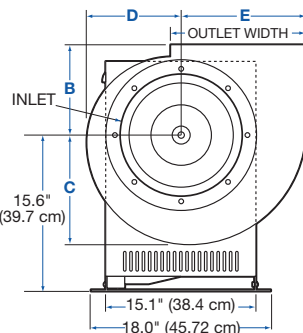
# Intelli-Sense® and Belt-Driven Blowers

## Dimensional Data

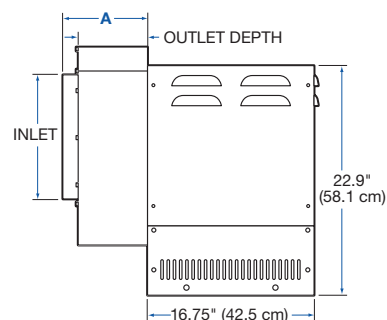
### Coated Steel TOP



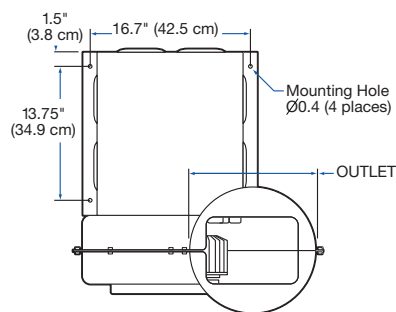
### FRONT



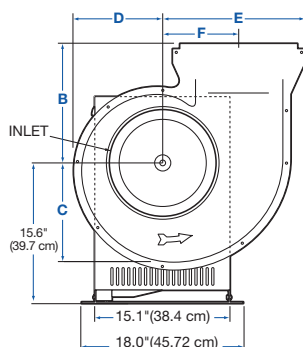
### SIDE



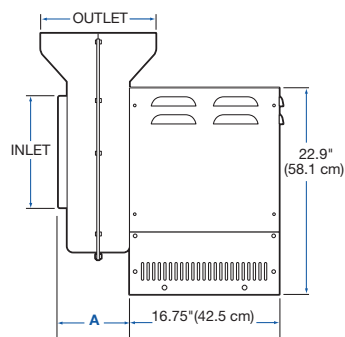
### FRP and PVC TOP



### FRONT



### SIDE

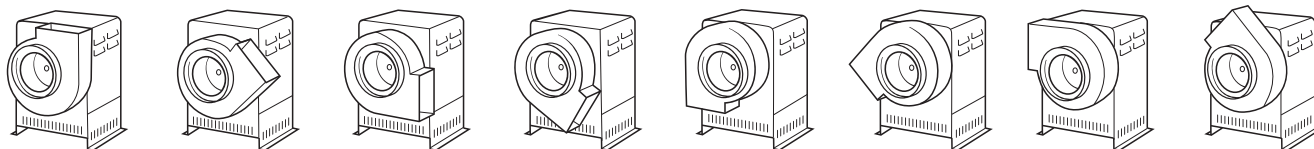


## Dimensional Data

Dimension	Coated Steel		FRP/PVC	
	10"	12"	10"	12"
<b>A</b>	7.2" (18.3 cm)	8.6" (21.8 cm)	7.1" (18.0 cm)	8.6" (21.8 cm)
<b>B</b>	7.0" (17.8 cm)	9.0" (22.9 cm)	12.7" (32.3 cm)	9.0" (22.9 cm)
<b>C</b>	8.1" (20.6 cm)	10.5" (26.7 cm)	10.5" (26.7 cm)	10.5" (26.7 cm)
<b>D</b>	6.8" (17.3 cm)	9.0" (22.9 cm)	8.75" (22.2 cm)	9.0" (22.9 cm)
<b>E</b>	9.25" (23.5 cm)	12.5" (31.8 cm)	13.9" (35.3 cm)	12.5" (31.8 cm)
<b>F</b>	-	-	7.5" (19.1 cm)	8.5" (21.6 cm)
<b>Inlet</b>	10.9" ID (27.7 cm)	12.25" OD (31.1 cm)	10.4" OD (26.4 cm)	12.4" OD (31.5 cm)
<b>Outlet</b>	10.0" w x 5.5" d (25.4 cm w x 14.0 cm d)	13.5" w x 7.0" d (34.3 cm w x 17.8 cm d)	10.75" ID (27.3 cm)	12.75" ID (32.4 cm)

See page 16 for 16" FRP belt-driven blower dimensional data.

### Variable Exhaust Orientations



# Belt-Driven Blowers

## Description and Dimensional Information

### Belt-Driven Blowers description

Belt-driven blowers are offered in the same three materials as the Spectrum and the Intelli-Sense blowers: Fiberglass Reinforced Polyester (FRP), PVC and Coated steel. These blowers are designed for single-speed operation. Once the fume hood is balanced, that RPM will not change for the life of the blower unless actively modified. These blowers are sometimes a more economical solution for laboratory exhaust but require more intensive balancing and installation procedures.

#### Materials of construction

Fiberglass Reinforced Polyester (FRP), PVC and Coated steel construction are available for a wide range of applications.

#### Sizes from 1/6 to 3

horsepower provides a blower solution for any fume hood exhaust requirements.

#### Totally enclosed motor

housing available for installation in hazardous (classified) locations.



#### Epoxy coated weather cover

protects blower components in even harsh weather conditions.

#### Adjustable outlet orientation

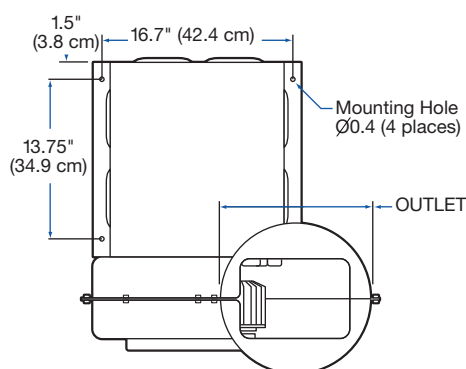
allows for alternate exhaust directions to fit any duct run.

**One speed setting** for constant volume applications only.

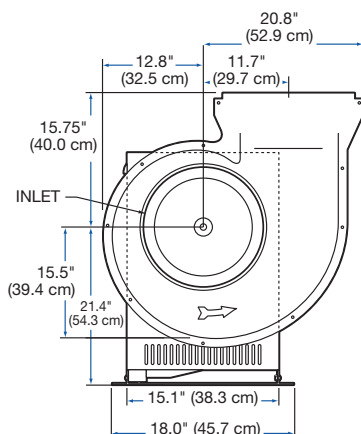
## 16" FRP Belt-Driven Blower

### Dimensional Data

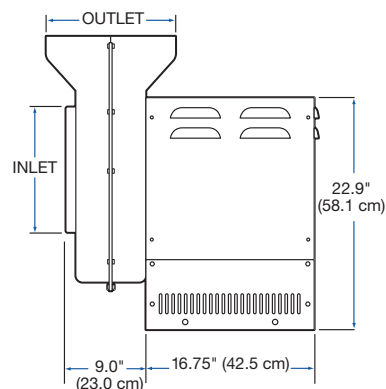
#### TOP



#### FRONT



#### SIDE



See page 15 for dimensional data for 10" and 12" Belt-Driven blowers in the Coated Steel, FRP and PVC materials.

# Coated Steel Belt-Driven Blowers

## Ordering Information and Performance Data

Catalog Number	Motor Data			10" Inlet CFM and RPM RANGES at Static Pressure - inches H <sub>2</sub> O											
Std.	HP	Electrical Requirements	F.L. Amps	.12 CFM	.25 CFM	.38 CFM	.50 CFM	.62 CFM	.75 CFM	.88 CFM	1.00 CFM	1.25 CFM	RPM Range Avail.	Shipping Wt. lbs./kg	
E.P.*															
7068000	1/6	115V/60 Hz/1Ø	4.0	370-	300-	308-								529-	92/42
7068100*			3.15	500	540	410								807	100/45
7068200	1/4	115V/60 Hz/1Ø	4.4		540-	410-	350-	390-						752-	92/42
7068300*			4.5		720	760	710	620	430					1067	100/45
7068400	1/3	115V/60 Hz/1Ø	6.1			760-	710-	620-	430-	460-	500-			929-	86/39
7068500*			6.4			850	825	790	770	740	640			1260	94/43
7068600	1/2	115V/60 Hz/1Ø	8.4				825-	790-	770-	740-	640-	555-			88/40
7068700*		115/230V/60 Hz/1Ø	9.0/4.5				970	950	920	890	875	780	1456		96/44

Catalog Number	Motor Data			12" Inlet CFM and RPM RANGES at Static Pressure - inches H <sub>2</sub> O											
Std. E.P.*	HP	Electrical Requirements	F.L. Amps	.12 CFM	.25 CFM	.38 CFM	.50 CFM	.62 CFM	.75 CFM	.88 CFM	1.00 CFM	1.25 CFM	1.50 CFM	RPM Range Avail.	Ship. Wt. lbs./kg
7068800	1/3	115V/60 Hz/1Ø	6.1	540-	450-	550								373-	90/41
7068900*			6.4	1000	900									569	90/41
7069000	1/2	115V/60 Hz/1Ø	8.4		900-	550-	640-	710-						532-	96/44
7069100*		115/230V/60 Hz/1Ø	9.0/4.5		1380	1305	1100	850						753	104/47
7069200	3/4	115V/60 Hz/1Ø	11.6/5.8			1305-	1100-	850-	780-	830-				667-	96/44
7069300*			11.4/5.7			1700	1680	1550	1350	1200				946	100/47
7069400	1	115/230V/60 Hz/1Ø	13.6/6.8				1680-	1550-	1350-	1200-	900-	1000-		828-	100/45
7069500*			13.6/6.8				1900	1550	1840	1800	1760	1660	1405	1173	108/49
7069600	1-1/2	115/230V/60 Hz/1Ø	20.4/10.2						1840-	1800-	1725-	1660-	1100-	920-	114/52
7069700*		230/460V/60 Hz/3Ø	4.8/2.4						2150	2120	2060	2040	1960	1303	122/55

\* Coated steel belt driven blowers with an EP rated motor feature an aluminum impeller. This blower does not conform to AMCA-99 spark resistant construction, and is not appropriate to serve an electrically classified space per NFPA 70.

# FRP Belt-Driven Blowers

## Ordering Information and Performance Data

Catalog Number	Motor Data			10" Inlet CFM and RPM RANGES at Static Pressure - inches H <sub>2</sub> O											
Std. E.P.*	HP	Electrical Requirements	F.L. Amps	.12 CFM	.25 CFM	.38 CFM	.50 CFM	.62 CFM	.75 CFM	.88 CFM	1.00 CFM	1.25 CFM	1.50 CFM	RPM Range Avail.	Ship. Wt. lbs./kg
7180000	1/6	115V/60 Hz/1Ø	4.0	325-500	250-520	306-400								630-962	92/42
7180100*			3.15												100/45
7180200	1/4	115V/60 Hz/1Ø	4.4		520-700	400-640	360-560							828-1173	92/42
7180300*			4.5												100/45
7180400	1/3	115V/60 Hz/1Ø	6.1			640-840	560-820	390-780	430-710	410-610				1073-1456	86/39
7180500*			6.4												94/43
7180600	1/2	115V/60 Hz/1Ø	8.4			840-890	820-960	780-940	710-920	610-890	500-870	550-780		1305-1772	88/40
7180700*		115/230V/60 Hz/1Ø	9.0/4.5												96/44

Catalog Number	Motor Data			12" Inlet CFM and RPM RANGES at Static Pressure - inches H <sub>2</sub> O											
Std. E.P.*	HP	Electrical Requirements	F.L. Amps	.12 CFM	.25 CFM	.38 CFM	.50 CFM	.62 CFM	.75 CFM	.88 CFM	1.00 CFM	1.25 CFM	1.50 CFM	RPM Range Avail.	Ship. Wt. lbs./kg
7181000	1/4	115V/60 Hz/1Ø	4.4	720-960	550-900	550-760								532-753	96/44
7181100*			5.4												104/47
7181200	1/2	115V/60 Hz/1Ø	8.4		900-1200	760-1120	640-1020	710-900						690-978	100/45
7181300*		115/230V/60 Hz/1Ø	9.0/4.5												108/49
7181400	3/4	115/230V/60 Hz/1Ø	11.6/5.8		1200-1400	1120-1640	1020-1570	900-1505	780-1430	840-1360	900-1280	1000-1080		920-1303	100/45
7181500*			11.4/5.7												114/52
7181600	1-1/2	115/230V/60 Hz/1Ø	20.4/10.2			1640-1700	1570-1960	1505-2030	1430-1960	1360-1900	1280-1850	1080-1750	1100-1650	1207-1639	114/52
7181700*		230/460V/60 Hz/3Ø	4.8/2.4												122/55

Catalog Number	Motor Data			16" Inlet CFM and RPM RANGES at Static Pressure - inches H <sub>2</sub> O							
Std. E.P.*	HP	Electrical Requirements	F.L. Amps	1.00 CFM	1.50 CFM	2.00 CFM	2.50 CFM	3.00 CFM	4.00 CFM	RPM Range Avail.	Shipping Wt. lbs./kg
7182000	2	208-230/460V/60 Hz/3Ø	6.8/3.4	1800	1260-	1460-	1630-			1083-	96/44
7182100*	2	208-230/460V/60 Hz/3Ø	6.0/3.0	2900	2640	2300	1880			1469	104/47
7182200	3	208-230/460V/60 Hz/3Ø	9.7/4.85	2900-	2640-	2300-	1880-	1780-	2050	1309-	100/45
7182300*	3	230/460V/60 Hz/3Ø	8.4/4.2	3250	3500	3300	3060	2800		1777	108/49

\* AMCA 99 Type A spark resistant construction.

# PVC Belt-Driven Blowers

## Ordering Information and Performance Data

Motor Data					CFM and RPM RANGES at Static Pressure - inches H <sub>2</sub> O										
Inlet/ Outlet	Catalog Number	HP	Electrical Requirements	F.L. Amps	.25 CFM	.38 CFM	.50 CFM	.62 CFM	.75 CFM	1.00 CFM	1.12 CFM	1.25 CFM	1.50 CFM	RPM Range Avail.	Ship. Wt. lbs./kg
10"	7183000	1/2	115V/60 Hz/1Ø	8.4	680- 720	610- 890	520- 901	390- 865	430- 815	495- 655				1150- 1561	90/41
	7183100	1/2	115V/60 Hz/1Ø	8.4	1130- 1400	1020- 1490	920- 1450	770- 1400	780- 1330	900- 1150	950- 1040			881- 1248	96/44
12"	7183200	1	115/230V/60 Hz/1Ø	13.6/6.8		1490- 1700	1450- 1900	1400- 1880	1330- 1850	1150- 1760	1040- 1730	1000- 1690	1100- 1600	1208- 1639	100/45

### PVC Blower Selection Guide

Hood	Duct Work	FPM	CFM	25'	Equivalent Duct Length		
					50'	75'	100'
4' Protector® Stainless Steel Perchloric Acid Hood	10"	100	730	7183000	7183000	7183000	7183000
5' Protector Stainless Steel Perchloric Acid Hood	10"	100	960	7183100	7183100	7183100	7183100
6' Protector Stainless Steel Perchloric Acid Hood	10"	100	1180	7183100	7183100	7183100	7183200
8' Protector Stainless Steel Perchloric Acid Hood	10"	100	1660	7183200	7183200	7183200	7183200
4' Protector PVC Perchloric Acid Hood	12"	100	730	7183000	7183000	7183000	7183000
6' Protector PVC Perchloric Acid Hood	12"	100	1180	7183100	7183100	7183100	7183100
8' Protector PVC Perchloric Acid Hood	12"	100	1660	7183200	7183200	7183200	7183200
4' Protector PVC Acid Digestion Hood	12"	100	730	7183000	7183000	7183000	7183000
6' Protector PVC Acid Digestion Hood	12"	100	1180	7183100	7183100	7183100	7183100
8' Protector PVC Acid Digestion Hood	12"	100	1660	7183200	7183200	7183200	7183200



# Remote Blowers for Small Enclosures

## Specifications and Ordering Information



### All models feature:

- For the lower exhaust capacities and static pressure losses needed for smaller enclosures
- For use with Protector® Demonstration Hoods, Work Stations, XPert Stations and XVS™ Ventilation Stations ducted to the outside
- Phenolic coating on impeller and housing is corrosion resistant
- Direct drive motor has fully enclosed fan cooled motor

### All models conform to the following standards:

- UL Standard 61010-1

Catalog Number	Electrical Requirements	Shipping Weight
<b>4863500</b>	115V, 60 Hz, 4.4A	35 lbs. (16 kg)
<b>4863501*</b>	115/230V, 50 Hz, 5.6/2.8A	35 lbs. (16 kg)
<b>7053501**</b>	115V, 60 Hz, 4.4A	40 lbs. (18 kg)

CFM at Static Pressure (inches of H <sub>2</sub> O)						
S.P.	0.0"	0.13"	0.25"	0.50"	0.75"	0.87"
CFM	595	560	515	420	300	167

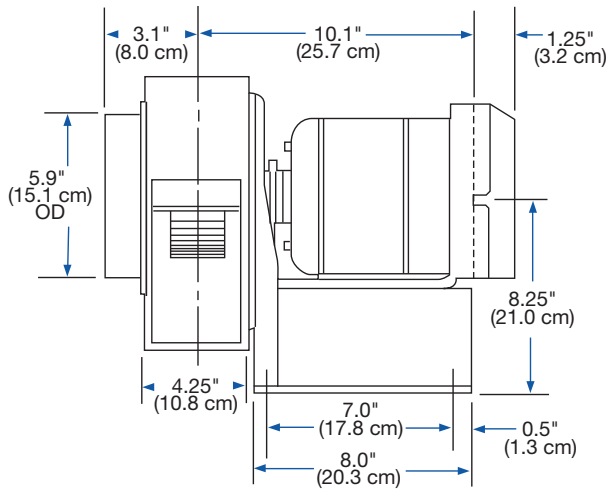
\* International electrical configuration

\*\* Aluminum impeller and UL listed explosion-proof motor reduce spark potential.

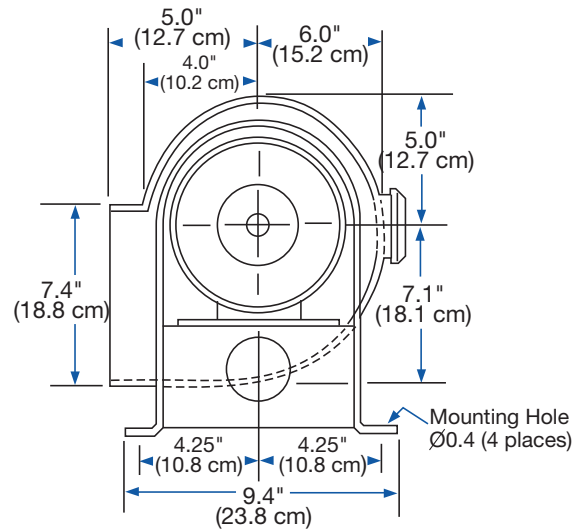
# Remote Blowers for Small Enclosures

## Dimensional Data and Ducting Options

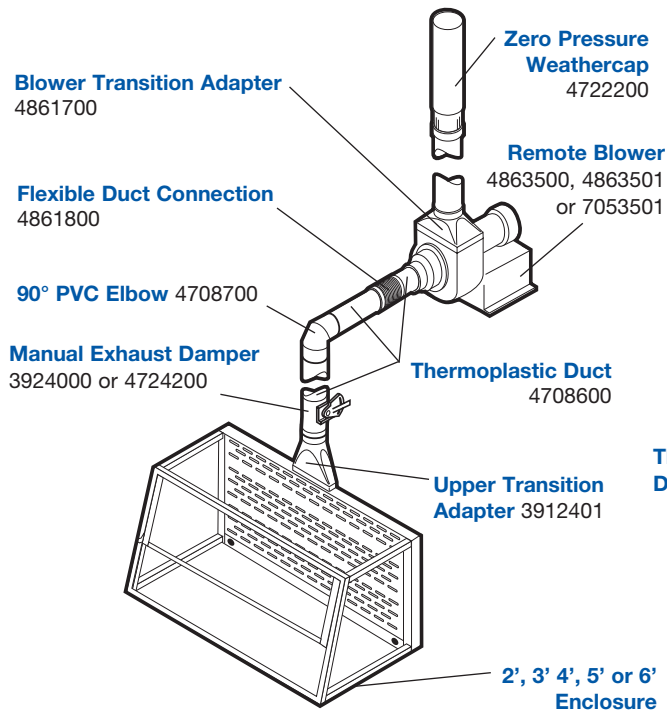
**FRONT**



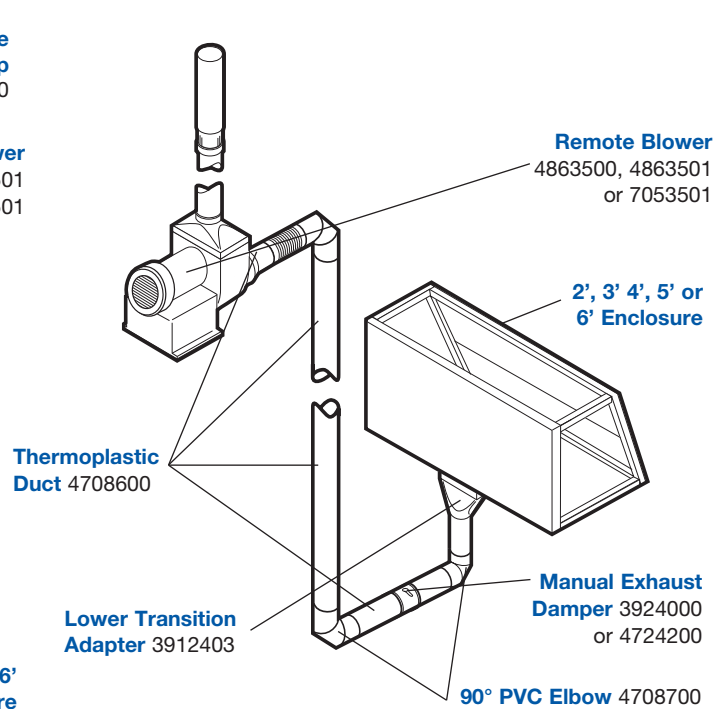
**SIDE**



**FROM TOP**



**FROM BOTTOM**



# Polypropylene Blowers

## Specifications and Ordering Information



### Application suitability:

- Ventilation requirements of XPert® Filtered Stations
- Other enclosures with high static pressure and low volume

### All models feature:

- For roof-mounting
- Epoxy-coated steel support and weather cover for long life in extreme weather
- Housings have no exposed metal parts. Thermoformed and mechanically welded PVC, fire-retardant polypropylene and PVDF

- Variable frequency drive (VFD) controller. May be installed under roof line, for adjustment of RPM or frequency. No additional damper is required
- Impellers made of injection-molded fire-retardant polypropylene
- Three phase, 230V, TEFC motor
- Variable exhaust orientation adjusts to 12 outlet positions for installation flexibility (vertical discharge is recommended)

Catalog Number	HP	Motor Data Electrical Requirements	VFD Input	Wheel Diagram	Maximum RPM	Inlet/Outlet ID	Inlet/Outlet OD	Shipping Weight
4863502	1/3	230V, 60 Hz, 9A, 3 phase	115V, 60 Hz	7.87" (20 cm)	3600	4.63" (11.8 cm)	4.92" (12.5 cm)	40 lbs. (18.1 kg)
4863503	1/3	230V, 50 Hz, 9A, 3 phase	230V, 50 Hz	7.87" (20 cm)	3600	4.63" (11.8 cm)	4.92" (12.5 cm)	40 lbs. (18.1 kg)
4863504	1/2	230V, 60 Hz, 9A, 3 phase	115V, 60 Hz	9.84" (25 cm)	3600	5.88" (14.9 cm)	6.30" (16.0 cm)	45 lbs. (20.4 kg)
4863505	1/2	230V, 50 Hz, 9A, 3 phase	230V, 50 Hz	9.84" (25 cm)	3600	5.88" (14.9 cm)	6.30" (16.0 cm)	45 lbs. (20.4 kg)

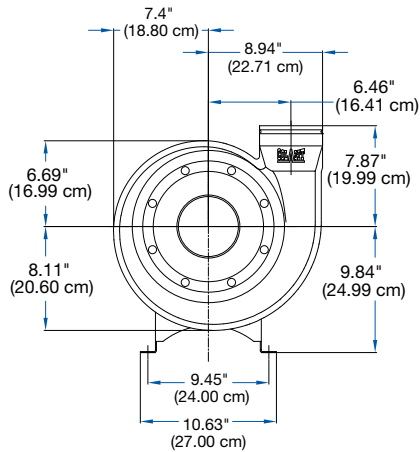
Catalog Number	CFM @ Static Pressure - (inches of water)							
	0.25"	0.50"	0.75"	1.00"-2.00"	2.50"	3.00"	3.50"	4.00"
4863502	50-200	50-350	50-350	50-350	100-250	100-150	—	—
4863503								
4863504	—	—	600	100-600	100-600	100-500	100-400	100
4863505								

Contact Labconco for blower sizing assistance.

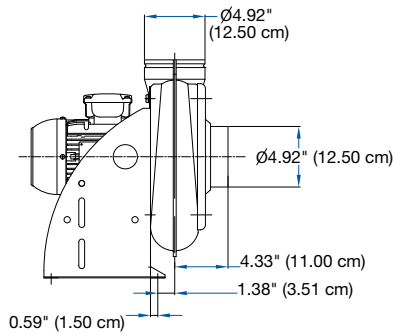
# Polypropylene Blowers

## Dimensional Data

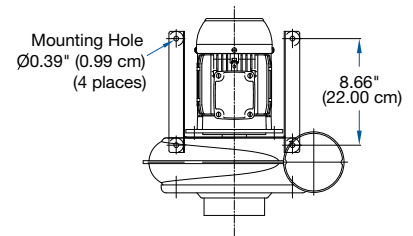
### 1/3 Horsepower Models



**FRONT**  
(4863502 and 4863503)

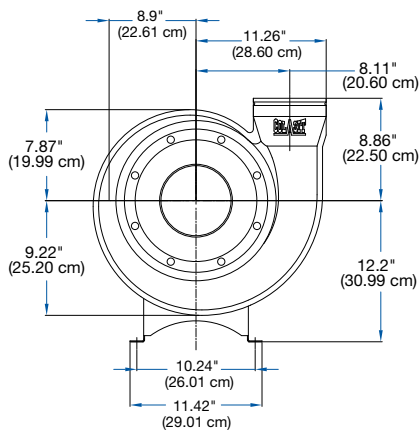


**SIDE**  
(4863502 and 4863503)

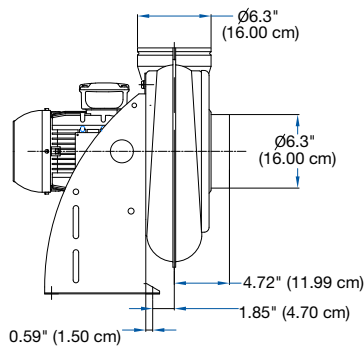


**TOP**  
(4863502 and 4863503)

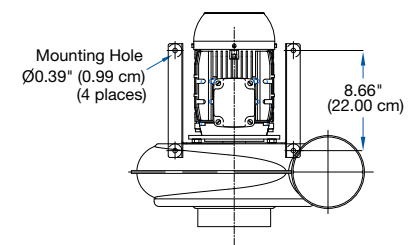
### 1/2 Horsepower Models



**FRONT**  
(4863504 and 4863505)

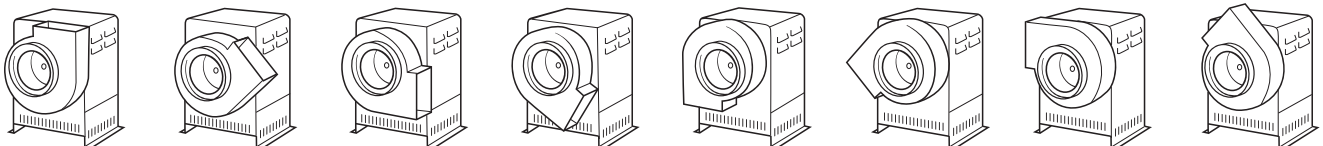


**SIDE**  
(4863504 and 4863505)



**TOP**  
(4863504 and 4863505)

### Variable Exhaust Orientations

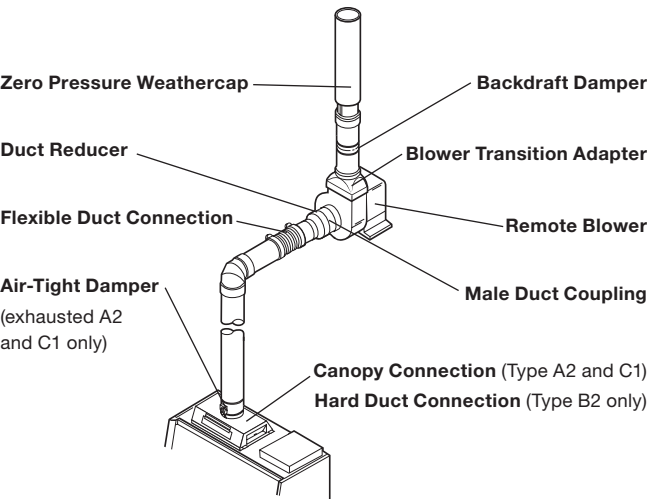


# Exhausting Labconco Class II Biological Safety Cabinets

## Exhaust Layout and Cabinet Accessories

Labconco Class II biosafety cabinets (BSCs) can be exhausted when work involves hazardous chemical vapors or odors. All Class II BSC Types (A2, B2 or C1) operate at constant volume, but have varying exhaust requirements. In general, Type A2 and Type C1 BSCs use a canopy/thimble design with stable static pressures similar to chemical fume hoods. Type B2 BSCs require high initial static pressure that increases over time, and a dedicated exhaust. Please reach out to your Labconco representative for more assistance with selection.

### Typical Cabinet Exhaust System



Class II BSC Type	Exhaust Connection with Cabinet	Static Pressure from Cabinet	Requires dedicated exhaust run
Logic+ Type A2	Ventus Canopy Accessory	0.15" w.g.	No
Logic+ Type B2	Hard Duct to Damper built into cabinet	1.8-2.2" w.g. + additional 2" w.g. for filter loading	Yes*
Axiom Type C1	Canopy, built into cabinet	0.3" w.g.	No

\* CAG-007: Exhaust System Requirements of Class II Biosafety Cabinets



**Ventus Canopy Connection.** For thimble exhausting Type A2 cabinets. NSF approved design detects insufficient exhaust in less than one second and signals MyLogic OS with visual and audible alarms. Alarm increases motor to maximum speed for personnel safety. Adds only 1.4" (3.6 cm) to cabinet height. Powder-coated steel. Collar is 10" (25.4 cm) ID. Exhaust connection is required. **Air-tight Damper (3776800) recommended.** Contact Labconco for information on factory installation. Shipping weight 75 lbs. (34 kg)

Catalog Number	For Use With	Required Exhaust Volume (CFM)* @ 0.15" w.g.		
		8" Sash Opening	10" Sash Opening	12" Sash Opening
3889200	3' Type A2	289	348	-
3889201	4' Type A2	366	444	521
3889202	5' Type A2	443	540	638
3889203	6' Type A2	520	637	755

### Flex Duct Connection.



Catalog Number	Length	Shipping Weight
7034800	1'	5 lbs (2.3 kg)
7034801	3'	10 lbs (4.5 kg)
7034802	6'	15 lbs (6.8 kg)
7034803	10'	25 lbs (11.3 kg)

### 3858320—Dry Contact Relay Kit.

Connects BSC to remote blower or building monitoring system. Includes outputs for Blower, Night-Smart, and Alarm status. Shipping weight 1.0 lb (0.5 kg)

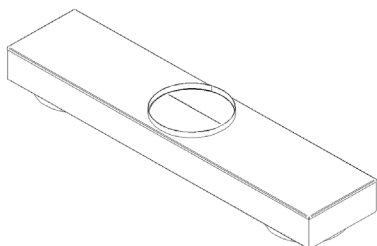


**3776800—Air-Tight Damper.** Mounts atop Ventus Canopy to adjust exhaust airflow and closes for decontamination procedures. Manually adjustable. Type 304 stainless steel. 10" (25.4 cm) high with 10" (25.4 cm) diameter OD





# Ductwork and Accessories



**Low Profile Dual Exhaust Adapter.** For use with 8' wide fume hoods. Type 304 stainless steel adapter attaches to the two duct collars on an 8' Labconco Protector fume hood. Reduced height of the adapter makes it perfect for low height options. 6" tall version will not add any overall height to the fume hood where the 9" version will add 3" to the overall height of a fume hood. Connections are 12" x 12" x 12" diameters.

Catalog Number	Height	Shipping Weight
9595108	6"	90 lbs.
9595109	9"	100 lbs.



**Blower Mounting Stand.** For use with any Labconco Exhaust blower. Coated steel tubing is perfect for installation outdoors while the 12" and 18" heights offer clearance off the roof to keep the blower away from any hazard.

Catalog Number	Stand Height	Shipping Weight
7174600	12"	22 lbs.
7174700	18"	28 lbs.



**7174900 – Vibration Isolator Kit.** Perfect for installation with exhaust fans. These isolators dampen the vibration associated with an operating exhaust fan, reducing noise and extending the life of the fan. Each kit comes with 4 vibration dampening feet.



**Thermoplastic Duct.** PVC exhaust duct is Type I, unplasticized, schedule 40, lightweight and corrosion-resistant. Female duct coupling required to join two sections. Connections can be made using solvent cement. PVC is rigid and may be cut without the use of special tools. Comes in 10' lengths. Flame spread <10.<sup>†</sup>

Nominal Diagram	6"	8"	10"	12"	16"
Catalog Number	4708600	4718900	7027200	5602000	5605000
Actual OD	6.625"	8.625"	10.75"	12.75"	16.0"
Actual ID	6.25"	8.25"	10.375"	12.375"	15.625"
Shipping Weight	25 lbs. (11 kg)	35 lbs. (16 kg)	50 lbs. (23 kg)	65 lbs. (29 kg)	80 lbs. (36 kg)



**Duct Couplings, Female.** PVC coupling makes connections between two sections of thermoplastic duct quick and easy.

Nominal Diagram	6"	8"	10"	12"	16"
Catalog Number	4708900	4719200	7027500	5602300	5605300
Shipping Weight	4.0 lbs. (2.0 kg)	5.0 lbs. (2.0 kg)	5.0 lbs. (2.0 kg)	6.0 lbs. (3.0 kg)	7.0 lbs. (3.0 kg)



**Manual Duct Dampers.** Allows you to balance airflow. It may be used with exhaust and auxiliary-air ducts, and is usually placed directly into the fume hood collar.

Nominal Diagram	6"	8"	10"	12"	16"
Catalog Number	4724200	4741300	5983400	5981200	4726400
Approximate Height	14"	19.125"	19.5"	19.67"	24"
Shipping Weight	10 lbs. (5 kg)	12 lbs. (5 kg)	15 lbs. (7 kg)	20 lbs. (9 kg)	25 lbs. (11 kg)

<sup>†</sup> Per ASTM E-84 testing, compliant with NFPA 45

# Ductwork and Accessories



**Thermoplastic Duct Reducers.** PVC coupling type reducers for connecting thermoplastic duct of different diameters. Compare your blower inlet size with your duct size to see if one is necessary.

Nominal Size	6" x 8"	8" x 10"	10" x 12"	12" x 16"
Catalog Number	5605900	5606000	5606100	5630700
Shipping Weight	2.0 lbs. (1.0 kg)	5.0 lbs. (2.0 kg)	6.0 lbs. (3.0 kg)	8.0 lbs. (4.0 kg)



**Duct Couplings, Male.** PVC duct in 6" lengths. For connecting blowers and elbows, thermoplastic duct reducers and weathercaps.

Nominal Diagram	6"	8"	10"	12"
Catalog Number	2144700	4719900	7027800	7067300
Actual OD	6.625"	8.625"	10.75"	12.75"
Actual ID	6.25"	8.25"	10.375"	12.375"
Shipping Weight	3.0 lbs. (1.0 kg)	4.0 lbs. (2.0 kg)	5.0 lbs. (2.0 kg)	6.0 lbs. (3.0 kg)



**Flexible Duct Connections.** Neoprene-impregnated polyester for reducing vibration between the blower and ductwork. Supplied with two clamps for easy installation. 12" long.

Nominal Diagram	9" for 8" fittings	11" for 10" fittings	13" for 12" fittings
Catalog Number	4726500	7034200	5621400
Shipping Weight	5.0 lbs. (2.0 kg)	5.0 lbs. (2.0 kg)	5.0 lbs. (2.0 kg)



**Elbows.** 90° and 45° PVC elbows are compatible with thermoplastic duct. For quick installation and minimum pressure losses. Belled end connections for receiving PVC duct directly.

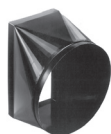
Nominal Diagram	6"	8"	10"	12"	16"
90° Elbows					
Catalog Number	4708700	4719000	7027300	5602100	5605100
Approximate Height	13.625"	17.3"	20.375"	24.2"	29"
Equivalent Resistance of Straight Duct	12	15	20	25	36
Shipping Weight	8.0 lbs. (4.0 kg)	10 lbs. (5 kg)	12 lbs. (5 kg)	14 lbs. (6 kg)	17 lbs. (8 kg)
45° Elbows					
Catalog Number	4708800	4719100	7027400	5602200	5605200
Approximate Height	8.75"	10.75"	12.5"	15"	17.5"
Equivalent Resistance of Straight Duct	6	7.5	10	12.5	18
Shipping Weight	8.0 lbs. (4.0 kg)	10 lbs. (5 kg)	12 lbs. (5 kg)	14 lbs. (6 kg)	17 lbs. (8 kg)



**T and Y Connections.** PVC fittings in T and Y configurations. Compatible with thermoplastic duct. End connections receive PVC pipe directly. Contact Labconco for help in sizing blowers with these accessories.

Nominal Diagram	10" x 10" x 12"	12" x 12" x 12"	12" x 12" x 16"
T Connections			
Catalog Number	5630400	5630401	—
Approximate Height	19"	19"	—
Shipping Weight	20 lbs. (9 kg)	20 lbs. (9 kg)	—
Y Connections			
Catalog Number	5630100	5630101	5630500
Approximate Height	12.75"	22.75"	23.75"
Shipping Weight	19 lbs. (9 kg)	20 lbs. (9 kg)	20 lbs. (9 kg)

# Ductwork & Accessories



**Blower Transition Adapters.** Epoxy-coated steel transition adapter fits all Labconco Coated Steel Blowers. For connecting round thermoplastic duct to exhaust side of the blower to create an exhaust stack. Nominal size PVC duct fits inside adapter opening.

Nominal Diagram	8"	10"	12"
Catalog Number	4722400	4722401	7003400
For use with Labconco Blowers	7068000-7068700	7068000-7068700	7068800-7069700
Shipping Weight	3.0 lbs. (1.0 kg)	4.0 lbs. (2.0 kg)	4.0 lbs. (2.0 kg)



**Zero Pressure Weathercap.** PVC cap adds little static pressure to the exhaust system. Allows for vertical discharge of effluent air for dispersion away from the building.

Nominal Diagram	6"	8"	10"	12"	16"
Catalog Number	4722200	4722300	7095100	5622100	5622200
Height	36"	40"	48"	56"	72"
Equivalent Resistance of Straight Duct	5	5	5	5	5
Shipping Weight	20 lbs. (9 kg)	25 lbs. (11 kg)	30 lbs. (14 kg)	35 lbs. (16 kg)	40 lbs. (18 kg)



**Wash Rings.** For use in perchloric acid duct systems. Each has a wide angle conical spray nozzle and wash water standard PVC connector nipple with 3/4" male threads, fabricated into a PVC female coupling for use with 10" or 12" nominal duct.

Nominal Diagram	10"	12"
Catalog Number	4746000	4746100
Shipping Weight	5.0 lbs (2.0 kg)	6.0 lbs (3.0 kg)



**Dual Exhaust Adapter.** For use with Protector ClassMate hoods. Type 304 stainless steel common exhaust adapter allows two ClassMate hoods mounted back-to-back to be exhausted from a single 12" (12.75" OD pipe) nominal diameter duct. It extends above the hood by 12.6".

Nominal Diagram	8" x 8" x 12"
Catalog Number	9595100
Approximate Height	19"
Shipping Weight	20 lbs. (9 kg)

**Backdraft Dampers.** For use in buildings under negative pressure to keep outside air from entering the lab via the hood ventilation system. Damper is weighted to stay in down/resting position when hood is not in use, and rises from the airflow exhausting when the blower is on. Mounts vertically on blower outlet. Made of Type I, unplasticized, schedule 40 PVC duct.

Nominal Diagram	8"	10"	12"
Catalog Number	S304508	S304510	S304512
Length	12"	18"	18"
Shipping Weight	15 lbs. (7 kg)	18 lbs. (8 kg)	20 lbs. (9 kg)



**Spiral Tube.** Simplifies temporary installations. It is corrosion-resistant, neoprene-impregnated fiberglass reinforced with steel wire. Includes rigid duct connector and two clamps. 10' long.

Nominal Diagram	7" for 6" fittings	9" for 8" fittings	11" for 10" fittings	13" for 12" fittings
Catalog Number	1965100	4719400	7027700	5622300
Equivalent Resistance of Straight Duct	Because this ductwork is flexible and may conform to various configurations, it isn't possible to know the precise equivalent resistance			
Shipping Weight	10 lbs. (5 kg)	15 lbs. (7 kg)	20 lbs. (9 kg)	25 lbs. (11 kg)

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