LABCONCO CORPORATION
8811 Prospect Avenue
Kansas City, MO 64132
(800) 821-5525, (816) 333-8811
(816) 363-0130 fax
labconco@labconco.com

User's Manual

XPert® Bulk Powder Enclosures & XPert® Bulk Powder Filtered Systems/Stations

Models

Bulk Powder Enclosures

Size	Access Opening Position	115V	230V
5'	L	3963500	3963520
	C	3963501	3963521
	R	3963502	3963522
6'	L	3963600	3963620
	C	3963601	3963621
	R	3963602	3963622
8'	L	3963800	3963820
	C	3963801	3963821
	R	3963802	3963822

Bulk Powder Systems

Size	Access Opening Position	115V	230V
5'	L	3961500	3961520
	C	3961501	3961521
	R	3961502	3961522
6'	L	3961600	3961620
	C	3961601	3961621
	R	3961602	3961622

Bulk Powder Stations

Size	Access Opening Position	115V	230V
5'	L	3962500	3962520
	C	3962501	3962521
	R	3962502	3962522
6'	L	3962600	3962620
	C	3962601	3962621
	R	3962602	3962622

To receive important product updates, complete your product registration card online at **register.labconco.com**

Please read the User's Manual before operating the equipment.

Warranty

Labconco Corporation provides a warranty to the original buyer for the repair or replacement of parts and reasonable labor as a result of normal and proper use of the equipment with compatible chemicals. Broken glassware and maintenance items, such as filters, gaskets, light bulbs, finishes and lubrication are not warranted. Excluded from warranty are products with improper installation, erratic electrical or utility supply, unauthorized repair and products used with incompatible chemicals.

The warranty for XPert™ Bulk Powder Enclosures, Systems or Stations will expire one year from date of installation or two years from date of shipment from Labconco, whichever is sooner. Warranty is non-transferable and only applies to the owner (organization) of record.

Buyer is exclusively responsible for the set-up, installation, verification, decontamination or calibration of equipment. This limited warranty covers parts and labor, but not transportation and insurance charges. If the failure is determined to be covered under this warranty, the dealer or Labconco Corporation will authorize repair or replacement of all defective parts to restore the unit to operation. Repairs may be completed by 3rd party service agents approved by Labconco Corporation. Labconco Corporation reserves the rights to limit this warranty based on a service agent's travel, working hours, the site's entry restrictions and unobstructed access to serviceable components of the product.

Under no circumstances shall Labconco Corporation be liable for indirect, consequential, or special damages of any kind. This warranty is exclusive and in lieu of all other warranties whether oral, or implied.

Returned or Damaged Goods

Do not return goods without the prior authorization from Labconco. Unauthorized returns will not be accepted. If your shipment was damaged in transit, you must file a claim directly with the freight carrier. Labconco Corporation and its dealers are not responsible for shipping damages.

The United States Interstate Commerce Commission rules require that claims be filed with the delivery carrier within fifteen (15) days of delivery.

Limitation of Liability

The disposal and/or emission of substances used in connection with this equipment may be governed by various federal, state, or local regulations. All users of this equipment are required to become familiar with any regulations that apply in the user's area concerning the dumping of waste materials in or upon water, land, or air and to comply with such regulations. Labconco Corporation is held harmless with respect to user's compliance with such regulations.

Contacting Labconco Corporation

If you have questions that are not addressed in this manual, or if you need technical assistance, contact Labconco's Customer Service Department or Labconco's Product Service Department at 1-800-821-5525 or 1-816-333-8811, between the hours of 7:30 a.m. and 5:30 p.m., Central Standard Time.

Part #3978600, Rev. G
ECO L352

TABLE OF CONTENTS

Chapter 1: Introduction

Congratulations on your purchase of a Labconco XPert™ Bulk Powder Enclosure, System or Station. Your high performance enclosure is designed to protect you by providing superior containment while conserving energy at OSHA approved velocities as low as 60 feet per minute. It is the result of Labconco's more than 50 years of experience in manufacturing fume hoods and 30 years of experience in manufacturing filtered enclosures.

The XPert Bulk Powder Enclosures, Systems, or Stations have been engineered to provide maximum containment. They will effectively contain toxic, noxious, or other harmful materials when properly installed. The XPerts offer many unique features to enhance safety, performance, and energy savings. To take full advantage of them, please acquaint yourself with this manual and keep it handy for future reference. **For specifics on the enclosure, consult the additional manual shipped with the upper portion**. If you are unfamiliar with how the XPert Bulk Powder enclosures operate, please review Chapter 4: High Performance Features and Safety Precautions before you begin working in the enclosure. Even if you are an experienced user, please review Chapter 5: Using Your Enclosure, which describes the features, so you can use the enclosure efficiently.

If the unit is not operated as specified in this manual it may impair the protection provided by the unit.

Si l'unité n'est pas utilisée comme spécifié dans ce manuel il peut diminuer la protection fournie par l'unité.

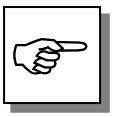
Typographical Conventions

Recognizing the following typographical conventions will help you understand and use this manual:

- Steps required to perform a task are presented in a numbered format.
- Comments located in the margins provide suggestions, reminders, and references.

- Critical information is presented in boldface type in paragraphs that are preceded by the exclamation icon. Failure to comply with the information following an exclamation icon may result in injury to the user or permanent damage to the enclosure.

- Critical information is presented in boldface type in paragraphs that are preceded by the wrench icon. A trained certifier or contractor should only perform these operations. Failure to comply with the information following a wrench icon may result in injury to the user or permanent damage to your hood.



- Important information is presented in capitalized type in paragraphs that are preceded by the pointer icon. It is imperative that the information contained in these paragraphs be thoroughly read and understood by the user.

- CAUTION – See Manual. When this symbol is on the unit it indicates a caution that is detailed in this manual.
- ATTENTION - Voir manuel. Lorsque ce symbole est sur l'unité, il indique une mise en garde qui est indiqué dans ce manuel.

Chapter 2: Prerequisites

Before you install the enclosure, you need to prepare your site for installation. Carefully examine the location where you intend to install it. You must be certain that the area is level and of solid construction. A dedicated source of electrical power should be located near the installation site to power the enclosure. Additionally, the balance used inside the enclosure should be strategically placed in the lab to avoid environmental influences.

Carefully read this chapter to learn the requirements for your installation site:

- The support, vibration and movement requirements.
- The temperature variation requirements.
- The humidity and static electricity requirements.
- The location and air current requirements.
- The exhaust and blower requirements.
- The electrical power requirements.
- The space requirements.

Refer to Appendix B: Dimensions for XPert Bulk Powder Enclosures, Filtered Systems and Filtered Stations.

Refer to Appendix C: Specifications for environmental conditions.

Support, Vibration and Movement Requirements

The XPert Bulk Powder Enclosures all come standard with a support stand, electric lift and stainless steel work surface.

The ability for analytical balances to accommodate vibration varies with type and brand. More advanced balances have improved vibration compensation; however in the preparation of a balance enclosure site, please consider the following:

- The corners of a building typically have less vibration than the center.
- The work surface with the Bulk Powder Enclosure should not contain any vibration-producing equipment, such as shakers or pumps.
- Although the enclosure's work surface is a very stable platform, adding a marble slab with dampening pads is also an effective low cost means of controlling vibration.

Temperature Variation Requirements

The extent the balance readings are influenced by temperature variations is a function of the balance design. Most manufacturers would suggest that a temperature drift of 1-2°C is generally tolerable. Only validation through your Operational Qualification protocol can define what is acceptable. To minimize the potential for temperature variations:

- Never install balances near heating sources such as radiators and hot plates.
- Avoid incandescent lighting of the enclosure where radiant heat produced will raise temperatures. (See Chapter 7 for adding an accessory fluorescent light kit to models without a light).
- Do not place the enclosure in a location that would receive direct sunlight.

Humidity and Static Electricity Requirements

Electrostatics can be troublesome in a balance enclosure. It is important to understand and, to the extent possible, control static charges. An electrostatic charged vessel, sample or enclosure can apply forces and lead to errors in weighing. The repulsion or attraction can be detected with micro, semi micro and analytical balances. Static charges can also lead to particulates being attracted to surfaces within the balance enclosure. Containment of harmful powders, prevention of cross-contamination and clean up are all enhanced when static attraction of powders is minimized. The construction of the XPert Bulk Powder Enclosure avoids the use of plastics, which are highly insulative. The advantages to the glass and epoxy-coated metal construction are twofold.

1. The enclosure does not contribute high electrostatic forces affecting the precision of the balance.
2. The attraction and ultimate accumulation of powder (hazardous or nuisance) are minimized on the inside of the enclosure.

To correct or ensure against electrostatic issues, the following additional measures may be prescribed to improve weighing operations.

- Maintain a humidity level between 45 and 60%. The ability to sustain this humidity range can be challenging depending upon the regional climate and HVAC system.
- Ionizers in various forms (guns, bars and blowers) are effective ways to flood an area with ions and essentially "neutralize" electrostatic electricity.

Background on Electrostatics or Static Electricity

Electrostatic charges on a surface such as the wall of a balance enclosure are not created by moving air. Gases do not cause the charge. Impurities within the air impinging upon surfaces dictate the polarity and magnitude of the charge. The process, *triboelectrification*, occurs when the friction of the dust particles contact the surface and electrons move across the interface.

The ability of a material to become polarized is a property known as *permittivity*. On highly insulative materials like acrylic, ions or charged molecules are strongly bound to the surface by polarization forces. The higher the force, the higher is the permittivity value of the material. It is suggested that the use of high permittivity materials, such as plastic, be avoided.

Since static electricity is a surface phenomenon, materials can also be classified by their surface resistivity measured in ohms per square. The table below lists the surface resistivity of various classes of material.

Surface Resistively Table

Material	Surface Resistivity	Example
Conductive	$0 \rightarrow 10^5\ \Omega$ per square	Skin, Metals
Static dissipative	$10^5 \rightarrow 10^9\ \Omega$ per square	Glass
Antistatic	$10^9 \rightarrow 10^{12}\ \Omega$ per square	Polyethylene bag
Insulative	$10^{12}\ \Omega$ per square$\rightarrow$	Acrylic, Packing foam, Styrofoam

Location and Air Current Requirements

The XPert Bulk Powder Enclosure has been designed to contain hazardous powders by negating typical cross drafts and movements within the opening. Air movement does not affect most modern balances with draft shields. However, as a precautionary measure of safety and a higher level of quality management, it is recommended that the enclosure be placed in such an area to avoid:

- High traffic areas where walking might cause an air disturbance or be a nuisance to balance readings.
- Overhead or wall HVAC diffusers, fans, radiators or other lab equipment producing air currents.
- Next to doorways or windows that may be opened.

Do not position the unit so that it is difficult to operate the main disconnect device.

Ne placez pas l'appareil de sorte qu'il est difficile de faire fonctionner le dispositif principal de déconnexion.

Exhaust and Blower Requirements for Bulk Powder Enclosures

The exhaust connection has been designed to accept a 2" x 10" (5.1cm x 25.4cm) nominal exhaust collar. Labconco offers accessory transition adapters for the top exhaust connection to either a 5" dia. hose or 6" dia. duct. When using the accessory FilterMate Portable Exhausters, it requires the 5" Transition Adapter 3912400 which is sold with the FilterMate. Multiple FilterMate Portable Exhausters require the airflow to be properly balanced. The 5', 6' and 8' enclosures require two or three FilterMate Portable Exhausters dependent on face velocity and size. See the following chart and refer to Chapter 3 for installation startup. See Chapter 7 for ordering any of these accessories, FilterMate Portable Exhausters or remote blowers.

Only one exhaust connection is required for the 5' and 6' enclosures when connecting to house exhaust. Two exhaust connections are required for the 8' enclosure when connecting to house exhaust. A 3981600 Exhaust Transition (6" x 6" x 8") may be used for the 8' enclosure connected to house exhaust. Data for the exhaust volume and enclosure static pressure loss is listed for each enclosure model at face velocities of 60, 80 and 100 fpm.

Enclosure Width	Sash Height	Model Description	Face Velocity (fpm)	Exhaust Volume (CFM)	Static Pressure Loss (in H_2O)	No. of FilterMates Required	Approx. Noise Level (dbA) at 80 fpm
5'	12"	5' XPert Bulk Powder Enclosure	60 80 100	290 385 480	.20" .35" .54"	2 2 3	57-59 63-66 59-63
6'	12"	6' XPert Bulk Powder Enclosure	60 80 100	350 465 580	.27" .48" .75"	2 3 3	57-61 59-62 63-67
8'	12"	8' XPert Bulk Powder Enclosure	60 80 100	465 620 775	.15" .27" .42"	3 3 3	59-62 63-67 70-75

Proper blower selection can be determined from these exhaust requirements and the total system static pressure loss. The enclosure must be connected to either a dedicated blower, a house exhaust system or dedicated filtered exhausters, such as FilterMate Portable Exhausters. Labconco offers accessory remote blowers and FilterMate Portable Exhausters listed in Chapter 7.

Exhaust and Blower Requirements

Bulk Powder Filtered System

The XPert Bulk Powder Filtered Balance System uses an integral motorized impeller to draw room air past the operator and through the enclosure. This contaminated air is then pulled through the rear perforated baffle and pushed through the HEPA filter. The HEPA-filtered exhaust air is then forced out the top of the enclosure. An optional carbon filter may be installed on the downstream side of the HEPA filter located under the exhaust diffuser screen to protect against nuisance odors.

The HEPA-filtered exhaust air can be re-circulated into the laboratory or exhausted outside with the addition of the Thimble Exhaust Connection and remote blower listed in Chapter 7.

Bulk Powder Filtered Station

The XPert Bulk Powder Filtered Balance Station does not include the motorized impeller and must be exhausted to the outside by a remote blower. The remote blower may be activated from the blower switch on the enclosure. See Electrical Requirements in Chapter 2 and Electrical Supply Connections in Chapter 3. Only one 10" dia. exhaust connection is required for the 5' and 6' XPert Filtered Balance Stations to exhaust to the outside.

Data for the exhaust volume, noise pressure and enclosure static pressure loss is listed for each filtered enclosure model at face velocities of 60, 80, and 100 fpm.

Proper blower selection may be determined from these exhaust requirements and the total system static pressure loss. For outside exhaust, the enclosure must be connected to either a dedicated blower or a house exhaust system.

Labconco offers accessory remote blowers listed in Chapter 7. Contact Labconco for blower sizing assistance.

Enclosure Width	Model Description	Face Velocity (fpm)	Exhaust Volume (CFM)	XPert Station Initial Static Pressure Loss with HEPA Filter (in H_2O)	XPert System Max. Equivalent Resistance of 10" Duct (ft)	XPert System Max. External Static Pressure	XPert System Noise Pressure db(A)
5'	5' XPert Bulk Powder Filtered Balance System or Station	60 80 100	290 385 480	.38"-.46" .55"-.67" .72"-.85"	450 230 120	.22" .20" .15"	52-56 58-63 63-67
6'	6' XPert Bulk Powder Filtered Balance System or Station	60 80 100	350 465 580	.46"-.56" .67"-.81" .87"-1.03"	300 150 70	.20" .18" .13"	55-57 61-63 67-69

If the enclosure is connected directly to a house exhaust system, an adjustable damper (or valve) must be installed to control the airflow properly. This is equally important when a house exhaust system is controlling filtered enclosures. See Chapter 7 for accessory Adjustable Damper ordering information.

If the enclosure is connected directly to a house exhaust system, an adjustable damper (or valve) must be installed to control the airflow properly. This is equally important when a house exhaust system is controlling multiple filtered enclosures. See Chapter 7 for accessory adjustable damper ordering information.

Electrical Requirements

Standard duplex electrical receptacles rated for 115V, 12A or 230V, 6A should be nearby for connecting the XPert Bulk Powder Enclosure. Other equipment, such as a balance, can be connected to the four-plex electrical box located underneath the stainless steel work surface. The four-plex electrical box has four outlets rated at 115V, 12 A or 230V, 6 A. The XPert Filtered System/Station or accessory FilterMate Portable Exhausters can also be powered through the four-plex electrical box for your convenience. The enclosures include iris pass-through to allow electrical cords through the back of the enclosure without leaving a large hole for contaminants to escape.

XPert Station Only

The remote blower for the XPert Filtered Balance Station may be connected to the blower switch on the enclosure. The blower switch is connected to a relay with wires that are terminated in the junction box behind the front panel. We recommend a maximum amperage of 9 amps, 115V or 4.5 amps, 230V for this circuit to the remote blower. Please refer to the wiring diagram on the unit. Connect the blower wires inside the junction box to the remote blower per local electrical codes.

Space Requirements

The dimensions for the different models are shown in Appendix B: Dimensions. Leave 6-12" around the enclosure for proper airflow.

Chapter 3
Getting Started

Now that the site for your XPert Bulk Powder Enclosure is properly prepared, you are ready to unpack, inspect, install, and validate your system. Read this chapter to learn how to:

- Unpack and move the enclosure.
- Set up the enclosure with the support lift stand and work surface.
- Connect to an exhaust system (if necessary).
- Connect the electrical supply.
- Set the face velocity.
- Seal the enclosure to the work surface.
- Arrange validation for the enclosure.

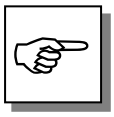
Depending upon which model you are installing, you may need common plumbing and electrical installation tools in addition to wrenches, ratchets, sockets, a nut driver set, a flat-blade screwdriver, a Phillips screwdriver, and a carpenter level to complete the instructions in the chapter.

The upper portion of the enclosure models with attached work surfaces weigh between 100 to 550 lbs. each (45 to 248 kg). The lift stands weigh between 380 to 500 lbs. each (171 to 225 kg). The shipping container allows for lifting with a mechanical lift truck or floor jack. If you must lift manually, follow safe-lifting guidelines. Do not lift by the front or side air foils.

Unpacking the Enclosure

The United States Interstate Commerce Commission rules require that claims be filed with the delivery carrier within fifteen (15) days of delivery.

Carefully remove the crating and shrink-wrap on the enclosure and inspect it for damage that may have occurred in transit. Your XPert Powder Enclosure, System, or Station is shipped as three separate parts: the lift stand, the transfer cart and the upper enclosure. If damaged, notify the delivery carrier immediately and retain the entire shipment intact for inspection by the carrier.



DO NOT RETURN GOODS WITHOUT THE PRIOR AUTHORIZATION OF LABCONCO. UNAUTHORIZED RETURNS WILL NOT BE ACCEPTED.

IF ENCLOSURE WAS DAMAGED IN TRANSIT, YOU MUST FILE A CLAIM DIRECTLY WITH THE FREIGHT CARRIER. LABCONCO CORPORATION AND ITS DEALERS ARE NOT RESPONSIBLE FOR SHIPPING DAMAGES.

Do not discard the packing material until you have checked all of the components and tested the unit.

We recommend that you do not remove the enclosure from its shipping container until it is ready to be placed into its final location. Move the unit by placing a flat, low dolly under the shipping skid, or by using a floor jack.

Do not move the enclosure by tilting it onto a hand truck.

Installing the Enclosure and Work Surface on the Lift Stand

Use caution when lifting or moving the upper enclosure or lift stand. A hydraulic lift, electric lift or forklift is highly recommended.

See Figure 3-1 for installation.

1. The lift stand has leveling feet to adjust the height. Be sure the lift stand height will allow the transfer caddy to latch properly. The lower face of the transfer cart's square handle must be placed level with the lower side of the 2" sq. frame on the lift stand. This adjustment allows the transfer cart to engage properly. (see Figure 3-1)
2. The stainless steel work surface and upper portion of the enclosure are shipped as one unit and connected by fasteners. Slide both items as one unit onto the lift stand. It is easy to do this by elevating both items with a hydraulic lift table or forklift.

3. **Use the bolts and screws detailed below to secure the stainless steel work surface to the lift stand from underneath; these bolts and screws are provided and shipped with the XPert Bulk Powder.** The work surface has concealed fasteners for the bolts and screws located on the underneath side. The long bolts are used to pass through the 2" sq. tubing and the shorter fasteners are only used in the middle near the hole in the work surface.

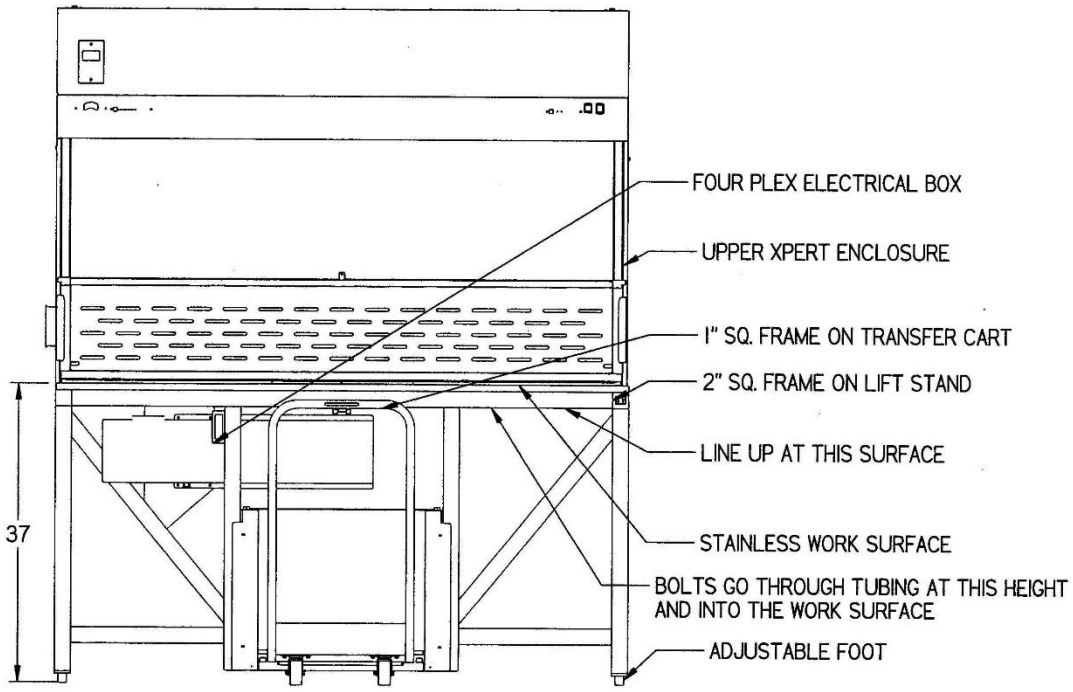
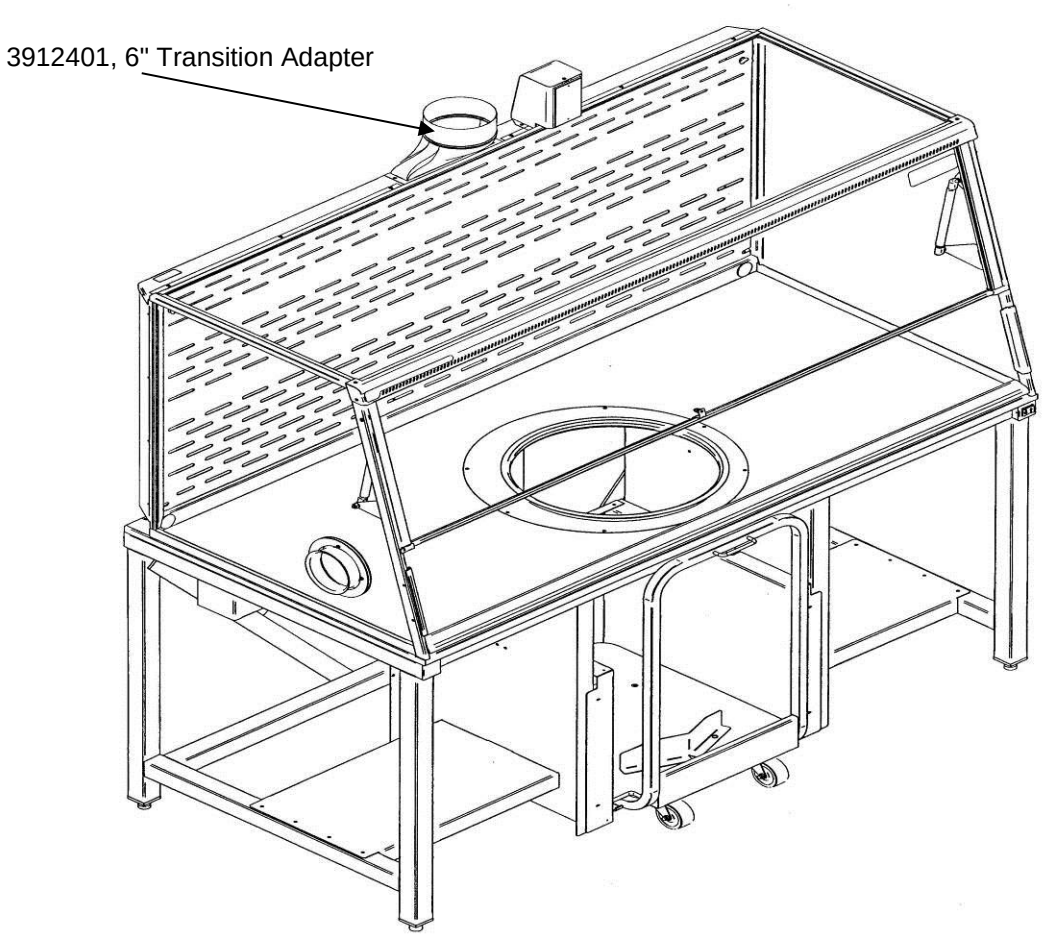


FIGURE 3-1

Fastening Hardware for Step 3:

1. 1880740, Quantity 8, Hex Bolt ¼-20 x 2.5
2. 1880708, Quantity 3, Hex Head Screw ¼-20 x 0.5

Figure 3-2
XPert Bulk Powder with 6" Transition Adapter for Exhausting Outside



Connecting to the Exhaust System (Optional on XPert Filtered Balance System)

ATTENTION: The weight of the exhaust ductwork system must be supported independently of the enclosure or damage may occur.

The exhaust system should be installed by a qualified HVAC contractor.

XPert Enclosure

The exhaust connection on the enclosure has been designed to accept a 2" x 10" (5.1cm x 25.4cm) nominal transition adapter. See Chapter 7 for ordering accessory transition adapters. Labconco manufactures transition adapters for top exhaust. Labconco recommends that the 6" dia. Transition Adapter(3912401) be used for house exhaust on all 5', 6' and 8' XPert Bulk Powder Enclosures. Labconco recommends balancing the airflow when using multiple FilterMate Portable Exhausters. For the 8' XPert Bulk Enclosures, Labconco recommends using the 6x6x8 exhaust transition tee for exhausting to the outside. Review Chapter 2 for exhaust prerequisites and review Chapter 7 for ordering blower exhaust equipment. For your convenience several exhaust options are shown in Figures 3-2 and 3-3. Consult Labconco Customer Service should you require help sizing your blower for the exhaust volume and system static pressure loss.

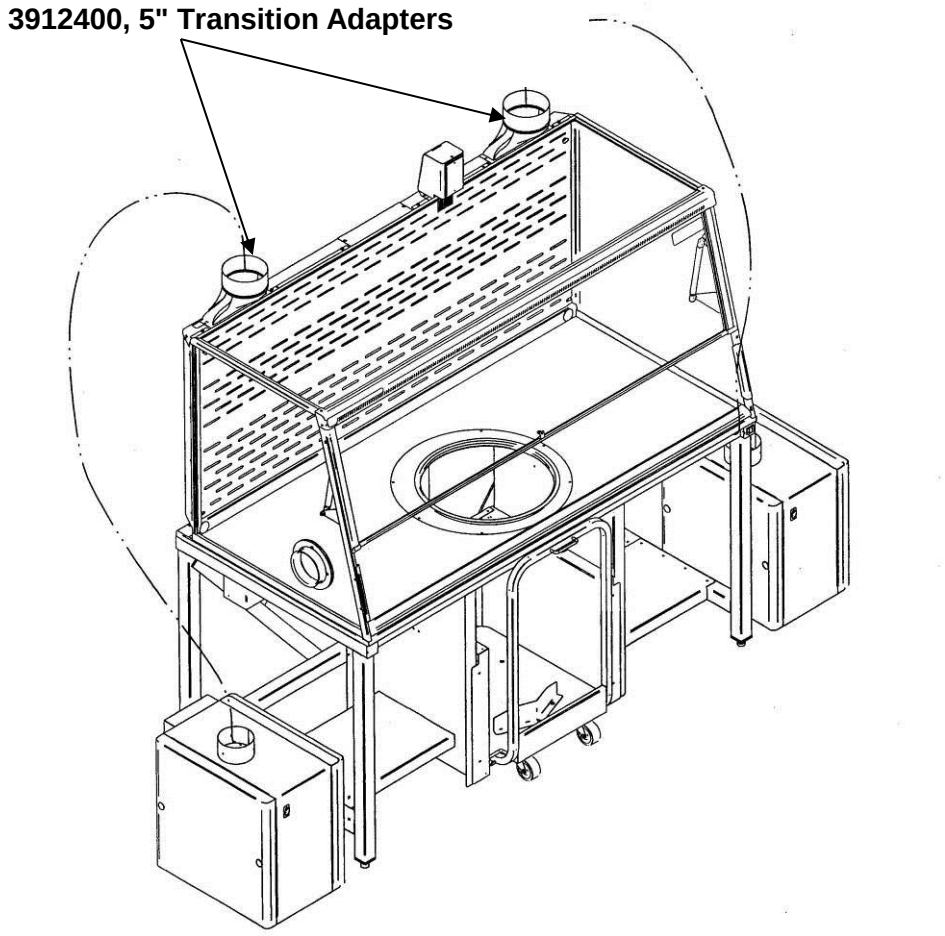


Figure 3-3
XPert Bulk Enclosure connected to two FilterMate Portable Exhausters

To ensure compatibility, the selected exhaust duct material should match the enclosures, procedures and chemical applications.

XPert Filtered Balance Station

The exhaust connection on the XPert Filtered Balance Station has been designed to accept 10" diameter ductwork for 5' and 6' models as shown in Figure 3-4. Review Chapter 2 for exhaust prerequisites and review Chapter 7 for ordering blower, damper, and ductwork exhaust equipment.

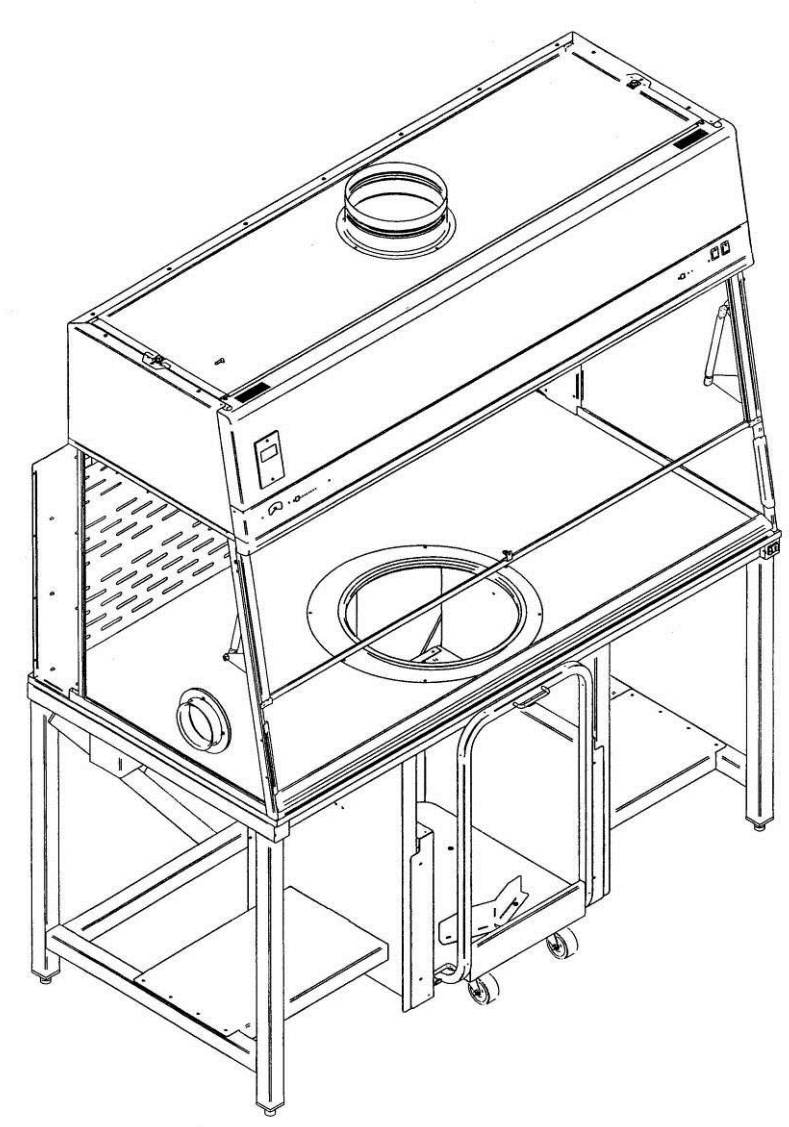


Figure 3-4
XPert Bulk Powder Filtered Station with Built-In HEPA Filter and 10" dia. Exhaust (Remote Blower Required)

XPert Filtered Balance System

The XPert Bulk Powder Filtered System normally exhausts to the room as shown in Figure 3-5. See Chapter 7 for ordering an optional Canopy Connection for the XPert Filtered Balance System. The Canopy Connection aids in connecting to a remote blower or house exhaust for the removal of chemicals or applications where a higher degree of powder and particulate removal is required.

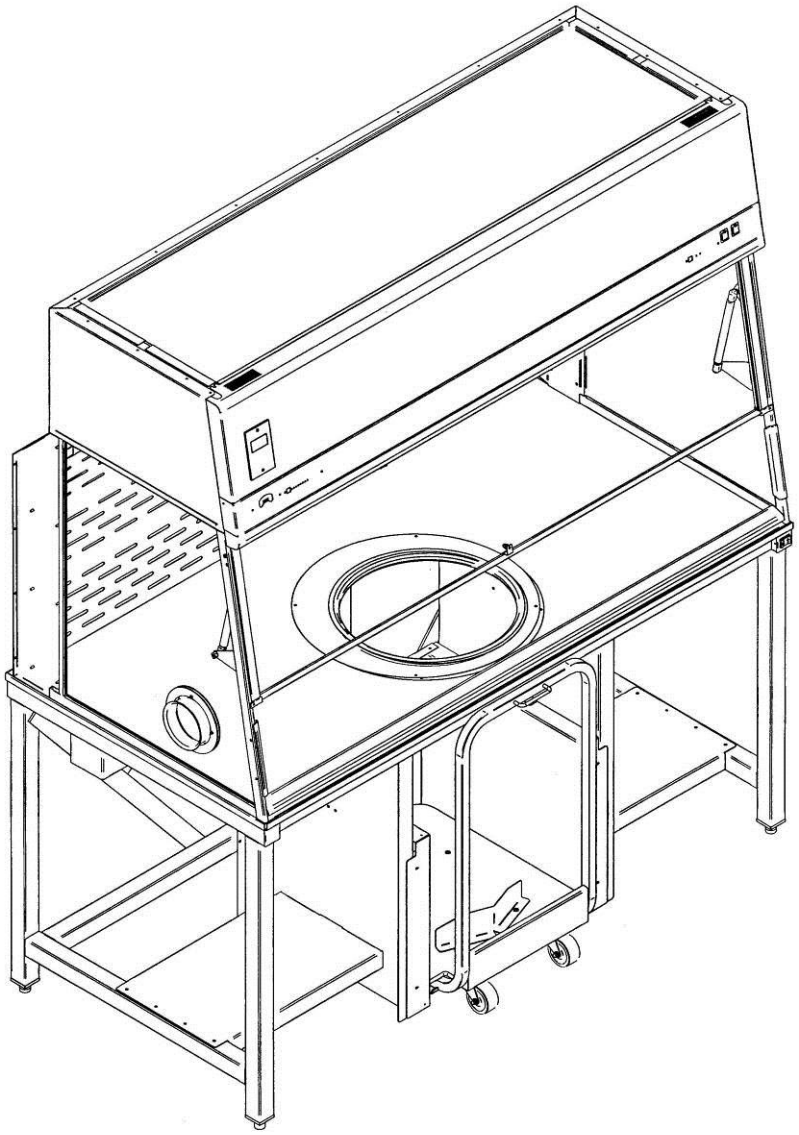


Figure 3-5
XPert Bulk Powder Filtered System exhausted to room
(Includes built-in motorized impeller and HEPA filter)

Connecting the Electrical Supply

A four-plex electrical box with four outlets is located under the stainless work surface. It is rated at 115V, 12 amps or 230V, 6 amps. The four-plex electrical box is a convenience for connecting the upper XPert Filtered Balance System or Station, the main electrical hydraulic lift, accessory FilterMate Portable Exhausters, airflow monitor, balance and other accessories. Simply connect the electrical box power inlet to a standard duplex receptacle located nearby. Please review Chapter 2 for electrical prerequisites. See Figure 3-1 for location.

All wiring for the building requires a licensed electrician and should conform to all local codes.

Do not use any detachable power cord that is not adequately rated for the unit.

Ne pas utliser un fil électrique amovible qui n'est pas du tension nominale de l'appareil.

Setting the Face Velocity

The face velocity should be adjusted from 60 to 100 fpm for all weighing operations. Consult your safety officer for airflow recommendations for your applications. Refer to the manual for your particular model. Depending on your specific model, face velocities can be set in numerous ways such as through the remote blower, accessory FilterMate Portable Exhausters for the XPert Bulk Powder Enclosure or through the built-in motorized impeller for the XPert Bulk Powder System.

Sealing the Upper Enclosure to the Work Surface

When the upper enclosure has been set in place, ducted (if necessary) and wired, it **must** be sealed at the work surface to prevent spilled materials from collecting under the walls. A clear bead of silicone sealant is recommended to seal the enclosure to the work surface. The sealant also provides support.

Validating the Bulk Powder Enclosure

The XPert Bulk Powder Enclosure has been tested at the factory per ASHRAE 110-1995. All enclosures achieve an "as manufactured rating" of less than 0.05 part per million (ppm) at 4 liters per minute (lmp); AM <0.05 (consult Labconco for individual ratings). For additional validation, Labconco had independent testing performed to validate the enclosures using sodium naproxen powder for containment. For copies of these independent validation reports, contact Labconco.

Face velocity profiles and smoke testing should be performed frequently per your organization's quality system to ensure safe performance.

Chapter 4:
High Performance Features and Safety Precautions

The patented* XPert Bulk Powder Enclosure features the containment- enhancing features of the XPert Balance Enclosure along with the ergonomic features of the automatic hydraulic lift and transfer cart. The XPert Bulk Powder Enclosure provides a revolutionary way to seal the source container to the stainless work surface. The XPert Bulk Powder Enclosure is unique, providing unmatched containment, safety and ergonomics all in one complete system.

High Performance Features

1. **Barrier Containment Air Foils**

   The containment-enhancing and aerodynamic design of the upper sash foil, side air foils and lower Clean Sweep™ air foil all prevent escape of powder concentrations along the perimeter of the sash opening.

2. **Rear Perforated Baffle**

   The rear perforated baffle promotes horizontal laminar air streams through three zones that increasingly provide more airflow at the lower work surface. This smooth airflow minimizes the forward air roll preventing contaminated powders from moving toward the sash opening. The concentrated powders are primarily removed on the first pass through the chamber. The rear perforated baffle also pivots down for ease in cleaning.

3. **Upper Dilution Air Supply**

   The upper dilution air supply constantly bathes the sash interior and reduces stagnant air pockets in the upper interior of the enclosure thereby reducing concentrated powders.

*U.S. Patent No. 6,461,233

4. **Transfer Cart with Transfer Plate**

   The transfer cart engages automatically to the lift stand and the transfer plate lifts off the cart with the source container. The transfer cart does not interfere with the weighing process because it is stored under the stand and latched in place. The transfer cart and transfer plate keeps the container in place and locates it properly.

5. **Automated Lift**

   The automated lift securely lifts the transfer plate and source container to the correct height. A photoelectric eye automatically stops the source container below the work surface at the correct height where it is easy to see and access the powder (12" travel and 350 pounds capacity).

6. **Retaining Rings (Required Accessories)**

   Retaining rings are used to secure the inner source container bags to the work surface. The retaining rings are available in various diameters up to 19.6" dia. A lower retaining ring may be used to secure the safety sleeve on the source container when the inner source container bags are undersized.

7. **Safety Sleeve**

   The safety sleeve is a disposable (or can be cleaned) polyethylene bag, open on both ends, that secures the outer diameter of the source container to the work surface. It provides an additional level of safety from spills and/or residual powders inside the source container. The safety sleeve is reusable and easily cleaned. It is attached to the source container and lower retaining ring creating a seal between the work surface. Square or round containers are easily fitted with the safety sleeve. See Chapter 5 for illustrations.

8. **Retaining Bands**

   The elastic retaining bands secure the safety sleeve and inner source bags to the work surface. The retaining band also secures the safety sleeve to the outer perimeter of the drum. These retaining bands are reusable and easily cleaned. See Chapter 5 for illustrations.

9. **Stainless Steel Work Surface with Trough**

   The easy-to-clean stainless steel work surface incorporates a front spill trough to prevent escape of contaminants.

10. **Increased Depth and Height**

    The XPert Bulk Powder Enclosure has a 30" interior depth and 32" interior height for large equipment.

11. HEPA Filtration

XPert Bulk Powder Systems include HEPA filtration with a built-in motorized impeller. XPert Bulk Powder Stations have HEPA filtration and require an external blower. XPert Bulk Powder Enclosures may be connected to multiple FilterMate Portable Exhausters to provide HEPA filtration. All HEPA filters include a true Bag–In/Bag–Out filter change system.

12. Waste Chute

The waste chute provides convenient trash and glove disposal without removing hands from the enclosure. Hazardous waste bags need to be a minimum of 8-1/2" wide x 11" long and may be obtained from many different sources.

13. Four-Plex Electrical Box (J-Box)

The four-plex electrical box (J-Box) with four electrical outlets allows the user to conveniently plug-in electrical cords from one location underneath the work surface. See Figure 3-1.

Safety Precautions

Although the enclosure has been engineered to maintain optimum operator safety, caution should always be used while working. Prior to using the enclosure, check to make sure that the exhaust blower and air monitor is operating correctly and that air is entering the enclosure at its specified face velocity. The airflow monitor alerts the user if there is a problem with airflow.

Use good work techniques at all times. Clean up spills immediately. (Clean enclosure interior according to protocol).

Do not overload the work surface with equipment or work material. A safe operation of the enclosure is based upon having proper airflow through the structure. Do not place large, bulky objects directly on the work surface. Instead, elevate the object 1/4" - 3/4" to allow a flow of air under the object and into the rear baffle exhaust slots. Ensure the equipment is level and secured in place.

Blocking large portions of the rear baffle will change the airflow pattern in the enclosure causing turbulence and poor containment. (Do not store containers or supplies against the rear baffle, as this will affect airflow.)

Always work with your hands as far back in the enclosure as possible. It is best to keep all powders, chemicals and equipment behind the lower air foil of the enclosure.

Do not work with chemicals in this enclosure without the exhaust system running.

Perchloric acid use in this enclosure is prohibited.

High-level radioisotope materials are prohibited in this enclosure.

Avoid cross drafts and limit traffic in front of the enclosure. Air disturbances around the enclosure may draw contaminants out of the work area.

A qualified technician should certify the XPert Bulk Powder Enclosure, System or Station before its initial use. The enclosure should be validated whenever it is relocated or serviced and at least annually thereafter.

The use of safety goggles, protective clothing, sleeve covers, double gloves and any other personal protective equipment recommended by your safety officer should be used.

The sash should remain in the down position while performing procedures in the enclosure.

Proper operation of the enclosure depends largely upon the operator's work habits. Consult the independent validation report.

Chapter 5:
Using Your Enclosure

Please see Figures 5-1 through 5-9 for using your XPert Bulk Powder Enclosure effectively.

Planning

- Thoroughly understand procedures and the equipment required before beginning work.
- Arrange for minimal disruptions, such as room traffic or entry into the room while the enclosure is in use.

Start-up

- Turn on exhaust system and light if so equipped.
- Only raise the sash for loading the enclosure and then return sash to the working position.
- Allow the enclosure to operate for 1 minute prior to starting procedures.
- Wear a long sleeved lab coat, sleeve covers and double gloves. Use protective eyewear. Wear a protective mask if appropriate. Consult your Safety Officer for additional personal protective equipment recommendations.

Loading Materials and Equipment

- For hazardous powders, prepare the source container with the safety sleeve and retaining band as shown in Figure 5-1 and 5-2.
- Position all sizes against the stop.
- Push cart into lift until it is latched. (Figure 5-2)

Figure 5-1

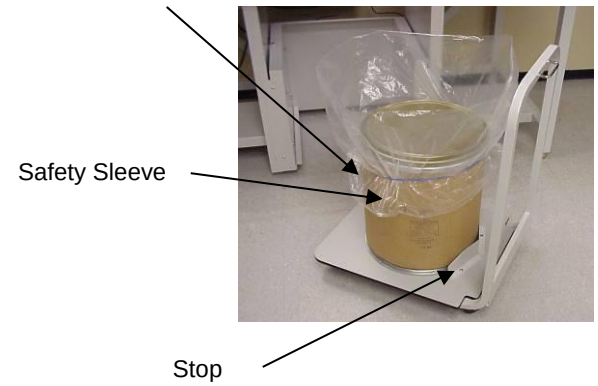
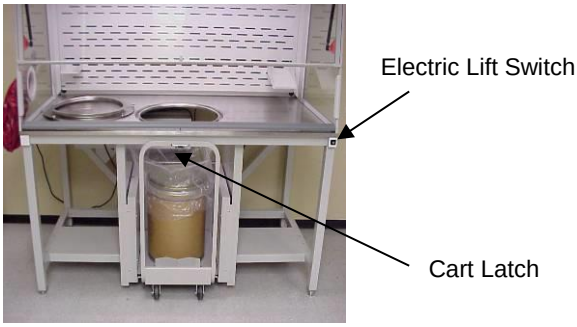


Figure 5-2



- Raise and secure the top of the safety sleeve on the source container to the work surface with a retaining band as shown in Figure 5-3, 5-4 and 5-5.

Figure 5-3

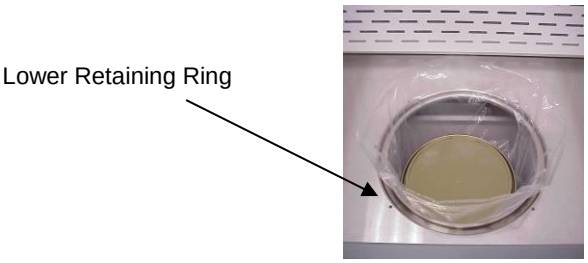


Figure 5-4

Figure 5-5

- Select a retaining ring (up to 19.62" dia.), which is slightly larger than the diameter of your container. Fasten the retaining ring to the work surface with the 1/4 turn fasteners. Secure it with a retaining band as shown in Figure 5-6 and 5-7. If source lid is too large, remove before installing retaining ring.

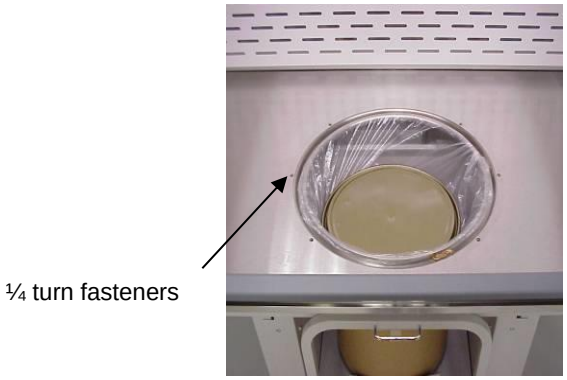


Figure 5-6

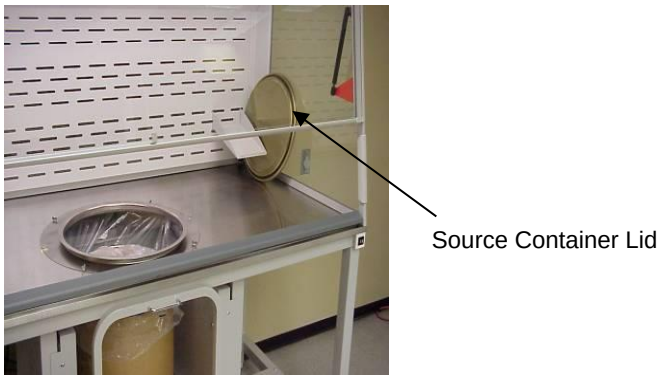
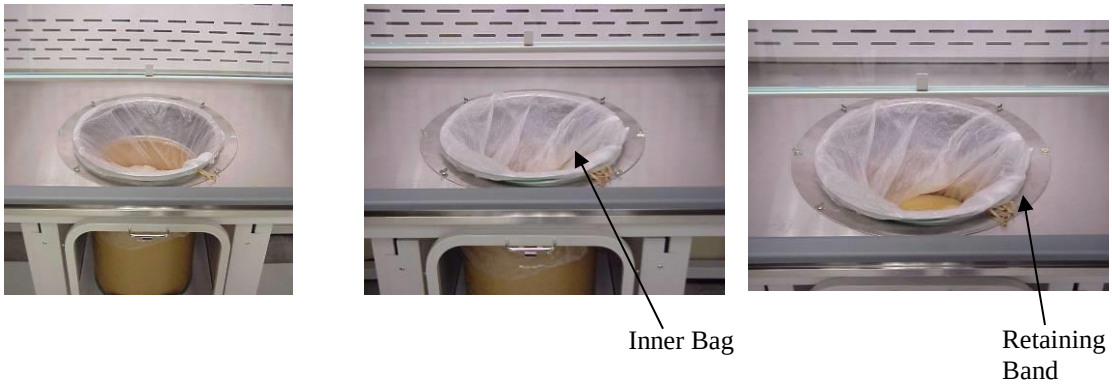


Figure 5-7

- Only load materials required for the procedure. Do not overload the enclosure with obstructions that might disrupt airflow.
- Large objects should not be placed close together and should be elevated at least ¼" above the work surface to permit airflow to sweep under the equipment.
- Secure both inner bags of the source container to the retaining ring with retaining bands as shown in Figure 5-8.

Figures 5-8



- After loading and attaching the bags, wait 15 seconds to purge airborne contaminants from the work area. Do not remove your hands from the enclosure.
- For small containers, install the access opening cover in place of the retaining ring.

Work Techniques

- Keep all materials behind the lower air foil, and perform all contaminated operations as far to the rear of the work area as possible.
- Segregate all clean and contaminated materials in the work area.
- Avoid using techniques or procedures that disrupt the airflow pattern in the enclosure.

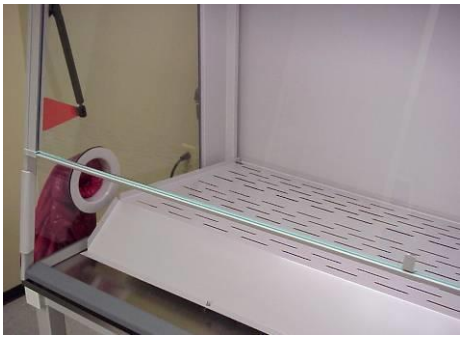
Work Procedure

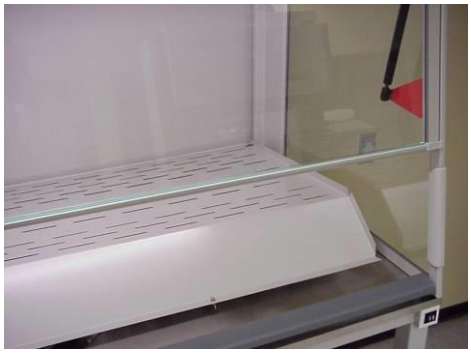
- Carefully transfer powder from the source container with scoop properly sized for the receiving container.
- When the desired amount is reached, close the receiving containers and place to the side. Repeat process for each. The user may either wipe container and lid after each transfer or when all transfers are complete.

Unloading Materials and Clean Up

- Objects in contact with contaminated material must be surface decontaminated with an appropriate solvent before removal from the enclosure.
- The perforated baffle may be tilted down to clean behind it as shown in Figure 5-9.

Figures 5-9

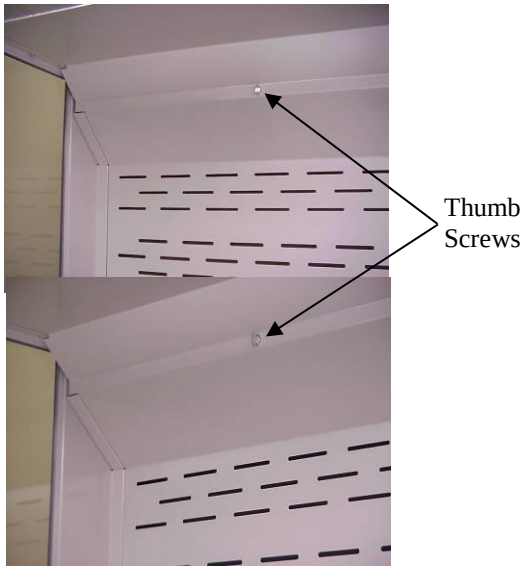




- All open trays, weigh vessels or containers should be covered and wiped down before being removed from the enclosure.
- Wipe down work surface, retaining rings and bands.
- Upon completion of work, the enclosure should be allowed to operate for two minutes undisturbed, to purge airborne contaminants from the work area.
- With the pad soaked in a decontamination solution, a duster may be used to access hard to reach places.

Shutdown

- Return the perforated baffle to the up position and fasten with two thumbscrews securely.
- Turn off the exhaust system and light if provided.



Chapter 6:
Maintaining Your Enclosure

Now that you have an understanding of how to work in the enclosure, we will review the suggested routine maintenance schedule.

Only trained and experienced certification technicians should perform some of the service operations after the enclosure has been properly decontaminated.

DO NOT attempt to perform these operations if you are not properly trained.

Routine Maintenance Schedule

Weekly

- Clean the enclosure interior with a decontamination solution appropriate for the application.
- Operate the exhaust system noting the airflow velocity. Airflow alarm is used for constant monitoring.

Monthly (or more often as required)

- **Verify the face velocity through the sash opening of the enclosure. (Use calibrated thermal anemometer or other approved apparatus.) Airflow alarm is provided for constant monitoring.**
- Using a cloth and glass cleaner, clean the exterior surfaces to remove any accumulated dust and increase visibility.

Annually

- Replace the fluorescent lamps as required.
- Have the enclosure validated by a qualified certification technician.
- Verify airflows and monitor calibration.
- Check HEPA filter for loading.
- Scan filters for leaks.
- If exhausted remotely, check for proper damper operation and balancing.

Programming the Guardian 1000 Digital Alarm

Set the desired face velocity of the enclosure with the sash in the down position using an average face velocity of readings from a thermal anemometer.

a. 2 ft enclosure – 2 readings
b. 3 ft enclosure – 3 readings
c. 4 ft enclosure – 4 readings

Configure Alarm

To successfully calibrate the airflow monitor, it will be necessary to change the face velocity by adjusting the airflow exhaust volume. The exhaust volume can be adjusted using the speed control located behind the front panel on the XPert Filtered System or on the back of the FilterMate. For the XPert Filtered Station, the exhaust volume is adjusted through a damper in the building exhaust system.

The following inflow face velocity speeds are recommended to successfully calibrate. To begin, determine what the low airflow, low warning airflow, normal airflow, and high airflow shall be.

Low Air Alarm Set Point (user defined)	Enclosure Operating Inflow Speed	Low Calibration Set Point (user defined)	High Calibration Set Point (user defined)
40 – 50 fpm	60 fpm	40 – 60 fpm	100 – 120 fpm
60 – 70 fpm	80 fpm	50 – 90 fpm	100 – 150 fpm
80 - 90 fpm	100 fpm	50 – 110 fpm	100 – 170 fpm

NOTE: ENTER button stores information
+/- Buttons allow for scrolling.

1. Push the ENTER button on the face of the alarm until the Set-Up Menu is displayed.
2. Scroll to SET UP and hit ENTER.
3. The PASSWORD MENU displays (The Password is 0000). Press the ENTER button repeatedly until the CAL CONFIG MENU is displayed.
4. In the CAL CONFIG MENU set for the following:

CALIBRATION CONFIG MENU	SETTINGS
DISPLAY UNITS	OFF
LOW AIR ALARM	SEE CHART ABOVE – LOW AIR ALARM
LOW AIR CUTOFF	OFF
LOW AIR CUTOFF	SEE CHART ABOVE – LOW AIR ALARM
WARNING AIR ALARM	SEE CHART ABOVE – LOW CALIBRATION SET POINT
WARNING AIR RESET	3 FPM
HIGH AIR ALARM	OFF
HIGH AIR ALARM	SEE CHART ABOVE – HIGH CALIBRATION
LOWER AIR SAMPLE FLUCTUATIONS	3%
HIGHER AIR SAMPLE FLUCTUATIONS	3%
LOWER/HIGHER AIR SAMPLE DIFFERENCE	10 FPM
WARN TO ALARM AIR TIME	10 SECONDS
ALARM TO WARN AIR TIME	3 SECOND
SHOW AIR FLOW	ON
SHOW TIME LINE OFF = DISPLAYS BAR GRAPH	OFF
AUDIBLE ALARM	ENABLED
SENSOR DIFFERENCE	2%

5. To complete the CAL CONFIG, be sure to enter "DONE". You are returned to the Main Menu.

Calibrate Alarm

1. Scroll to CALIBRATE and hit ENTER.
2. The PASSWORD MENU displays (The Password is 0000). Press the ENTER button repeatedly until the next menu is displayed.
3. Adjust the speed of the fan until the low airflow velocity is reached. Use your thermal anemometer readings to determine the low air velocity.
4. Enter the value of your low airflow velocity using your +/- scroll keys. Be sure the front panel is installed, if so equipped. Step out of the way, wait approximately 30 seconds for air currents to settle and hit ENTER. The airflow alarm will sample the airflow.
5. Adjust the speed of the fan until the high airflow velocity is reached using the readings from the thermal anemometer. Then re-install the front panel, if so equipped.
6. Enter the value of your high airflow velocities. Step out of the way, wait approximately 30 seconds for air currents to settle and hit ENTER. The airflow alarm will sample the airflow.
7. The set up menu is displayed. Select DONE and hit ENTER.
8. The main menu will be displayed. Select RUN and hit ENTER.

You have successfully configured and calibrated your Guardian 1000 Digital Airflow Monitor.

Chapter 7:
Accessorizing Your Enclosure

There are several ways to accessorize the XPert Bulk Powder Enclosure for your individual requirements. These accessories include the addition of safety sleeves, retaining bands, retaining rings, fluorescent light kits, exhaust transition adapters, remote blowers, exhaust dampers, FilterMate Portable Exhausters, filters, canopy connections, additional transport carts, shelf kits and ductwork hoses.

1. **Safety Sleeves**

   Polyethylene safety sleeve is used to provide an extra barrier between the source container and work surface (36" dia. x 18" long x .0015" thick). One size fits all source containers.

Catalog #	Description
3981100	Pkg. of 100 Safety Sleeves
3981101	Pkg. of 500 Safety Sleeves

2. **Retaining Bands**

   Retaining bands are used to secure the safety sleeves and inner source container bags to the retaining rings on the work surface. They fit all sizes and can be discarded or cleaned and reused.

Catalog #	Description
3981200	Pkg. of 5 Retaining Bands

3. **Retaining Rings**

   Retaining rings mount to the work surface to secure the inner source container bags and/or safety sleeve. They are manufactured from type 304 stainless steel and are easily cleaned. Ideally, the inner diameter of the retaining ring should be slightly larger than the diameter of the source container to permit lid removal in the enclosure and a minimum of 2" smaller than the source container's inner bag diameter.

Catalog #	Description
3981300	Retaining Ring 19.62" ID
3981301	Retaining Ring 17.50" ID
3981302	Retaining Ring 14.50" ID
3981303	Retaining Ring 11.50" ID
3981304	Access Opening Cover (Provides a solid work surface)

4. Fluorescent Light Kits

A fluorescent task light rests on top of the enclosure; more than one may be used. It is only for use on XPert Bulk Powder Enclosures. (XPert Bulk Powder Filtered Systems and Stations already have a built-in fluorescent light).

Catalog #	Description
3909200	18" W x 10.12" D x 3" H Light Kit, 115V 60Hz
3909201	18" W x 10.12" D x 3" H Light Kit, 230V 50Hz

Hg

THE LAMP(S) IN THIS PRODUCT CONTAIN MERCURY

Manage in accordance with local disposal laws. DO NOT place lamps in trash. Dispose as a hazardous waste. For information regarding safe handling, recycling and disposal, consult www.lamprecycle.org

CETTE LAMPE DANS CE PRODUIT CONTIENT DU MERCUE

Éliminez ou recyclez conformément aux lois applicables. Pour de l'information concernant des pratiques de manipulation sécuritaires et l'élimination sécuritaire et le recyclage, veuillez consulter www.lamprecycle.org

5. Exhaust Transition Adapters

Exhaust transition adapters connect to the top of the XPert Bulk Powder Enclosures without built-in HEPA filters. A dual exhaust connector is available for connecting multiple exhaust connections (8" x 6" x 6" Tee) for the 8' units since the 8' models use two exhaust outlets. See Chapter 3 for a view of these exhaust transition adapters. Figure 3-2 and Figure 3-3.

Catalog #	Description
3912401	Upper Exhaust Transition, 6.03" ID, 6.09" OD molded polyethylene
3912400	Upper Exhaust Transition, 4.94" OD molded polyethylene used to connect FilterMates. Each FilterMate supplied with one.
3981600	Dual Exhaust Tee 6" x 6" x 8", for use on 8' models to convert the two 6" exhaust outlets to one 8". Used in combination with two 3912401 Upper Exhaust Transitions.

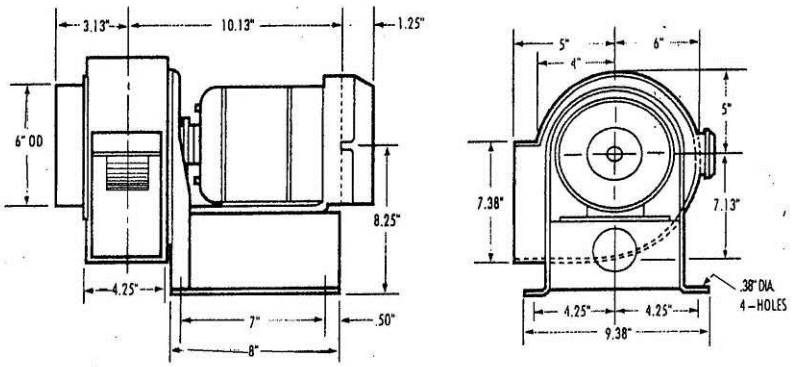
6. Remote Blowers

The Remote Blower has a ¼ hp direct drive motor and corrosion-resistant phenolic coated steel housing and wheel with blower inlet of 6.00" ID. Outlet dimensions are 4.25" x 7.38" OD.

CFM @ Static Pressure-Inches of H_2O						
S.P.	0.0"	0.125"	0.25"	0.50"	0.75"	0.87"
CFM	595	560	515	420	300	167

Catalog #	Description for 6" inlet	Shipping Wt. (lbs. /kg.)	Used with
4863500	Remote Blower, 115V, 60Hz, 4.4 amps	35/16	5' & 6' XPert Bulk Powder Enclosures at 60-80 fpm
4863501	Remote Blower, 115/230V, 50Hz, 5.6/2.8 amps	35/16	
7053501	Explosion-Proof Remote Blower, 115V 60Hz, 4.4 amps	40/18	

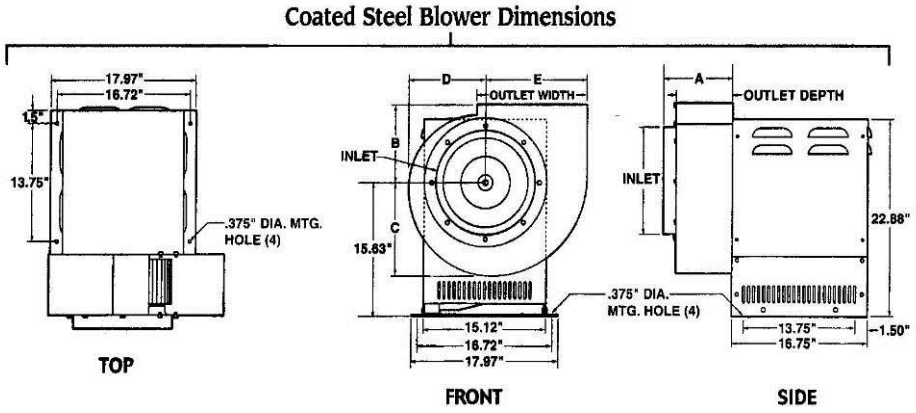
Dimensions of 4863500, 4863501 and 7053501 Blowers



Catalog #	Description for 10" inlet	Used with
7068200	Remote Blower, 115V, 60Hz, 4.4 amps	5', 6', & 8' XPert Bulk Powder Enclosures
7068300	Explosion-Proof Remote Blower EP, 115V, 60Hz, 4.5 amps	

CFM @ Static Pressure-Inches of H_2O					
S.P.	.25"	.38"	.50"	.62"	.75"
CFM @ RPM	540 @ 800 720 @ 950	410 @ 800 760 @ 1050	350 @ 870 710 @ 1060	390 @ 970 620 @ 1060	430 @ 1060

Dimensions of 7068200 and 7068300 Blowers



Dimension	Models 70682003 and 7068300
A	7.16"
B	7.00"
C	8.13"
D	6.81"
E	9.25"
Inlet	10.87 ID
Outlet	5.5" x 10.00" W
Wheel	9.19" x 4.25" W

7. Exhaust Dampers

Exhaust dampers allow adjustments to maintain proper airflow for roof-mounted blowers or house exhaust systems and can be located anywhere in the exhaust.

Catalog #	Description
3924000	6" Epoxy Coated Steel In-Line adjustable damper
4724200	6" PVC In-line adjustable damper
4741300	8" PVC In-line adjustable damper
5983400	10" PVC In-line adjustable damper

8. FilterMate Portable Exhausters and Filters

For filtered exhaust, Labconco offers FilterMate Portable Exhausters capable of exhausting up to 280 cfm of HEPA filtered air or up to 220 cfm of combination HEPA/Carbon filtered air when connected to enclosure.

Catalog #	Voltage	Filter	Exhaust Connection	Exhaust Airflow (cfm)
3970000	115 Volt/60 Hz	HEPA	None	280
3970001	115 Volt/60 Hz	Carbon	None	280
3970002	115 Volt/60 Hz	HEPA	Thimble to outside	280
3970003	115 Volt/60 Hz	HEPA/Carbon	None	220
3970004	115 Volt/60 Hz	Carbon/Carbon	None	220
3970020	230 Volt/50 Hz	HEPA	None	280
3970021	230 Volt/50 Hz	Carbon	None	280
3970022	230 Volt/50 Hz	HEPA	Thimble to outside	280
3970023	230 Volt/50 Hz	HEPA/Carbon	None	220
3970024	230 Volt/50 Hz	Carbon/Carbon	None	220

When using multiple FilterMates, airflow face velocity must be balanced.

Filters for FilterMate

HEPA Part #3707900 is 99.99% efficient on particles 0.3 micron.

PLEKX Part #3707904 is 99.97% efficient on particles 0.3 micron with 1.7 lbs. of organic vapor carbon for trace odors.

ULPA Part #3885700 is 99.999% efficient on particles 0.12 micron.

Bag for FilterMate

Bag #3776002 helps contain hazardous particulate matter during filter changing operations.

Carbon Filter for FilterMate

Provides granular activated carbon or impregnated carbon to adsorb or treat chemical vapors.

Filter Classification	Part #	Contains	Special Notes
Organic	3923400	12.0 lbs. activated carbon	Activated carbon adsorbs hydrochloric acid and nitric acid, but not sulfuric acid.
Formaldehyde	3923401	14.0 lbs. impregnated carbon	
Ammonia	3923402	16.0 lbs. impregnated carbon	

9. HEPA and Trace Odor Control Filters for XPert Filtered Balance Systems/Stations

- HEPA filters remove 99.99% of 0.3-micron particles.
- Trace odor control filters remove odors from organics, formaldehyde or ammonia/amines.
- PLEKX filters remove 99.97% of 0.3 micron particles with some carbon for trace odors.
- ULPA filters remove 99.999% of 0.12 micron particles.

Catalog #	Description
3707903	Filter, HEPA 18 x 24 x 3.3 (Two required for 5' unit)
3776006	Bag for 18 x 24 x 3.3 (Two required for 5' unit)
3707901	Filter, HEPA 18 x 30 x 3.3 (Two required for 6' unit)
3776004	Bag for 18 x 30 x 3.3 HEPA (Two required for 6' unit))
3981400	Trace Odor Carbon, Organic 18 x 24 x 1 (Two required for 5' unit)
3981401	Trace Odor Carbon, Formaldehyde 18 x 24 x 1 (Two required for 5' unit)
3981402	Trace Odor Carbon, Ammonia 18 x 24 x 1 (Two required for 5' unit)
3937300	Trace Odor Carbon, Organic 18 x 30 x 1 (Two required for 6' unit)
3937301	Trace Odor Carbon, Formaldehyde 18 x 30 x 1 (Two required for 6' unit)
3937302	Trace Odor Carbon, Ammonia 18 x 30 x 1 (Two required for 6' unit)
3937303	Trace Odor Carbon, Acid Sulfur 18 x 30 x 1 (Two required for 6' unit)
3981403	Trace Odor Carbon, Acid Sulfur 18 x 24 x 1 (Two required for 5' unit)
3885701	ULPA Filter, 18 x 30 x 3.3 (Two required for 6' unit)
3885703	ULPA Filter, 18 x 24 x 3.3 (Two required for 5' unit)
3707905	PLEKX, 99.97% efficient HEPA with 2.9 lbs. Carbon (Two required for 6' unit)
3707907	PLEKX, 99.97% efficient HEPA with 2.3 lbs. Carbon (Two required for 5' unit)

10. Canopy Connections

Canopy Connection is sealed to the top of XPert Filtered Balance System so exhaust can be routed outside the building. The Canopy is sealed with silicone sealant to prevent leaks.

Catalog #	Description
3924403	5' x 10" Canopy Connection
3924404	6' x 10" Canopy Connection
3924413	5' x 10" Canopy Connection Double HEPA
3924414	6' x 10" Canopy Connection Double HEPA

11. Additional Transport Cart

One transport cart comes standard with all XPert Bulk Powder Enclosures, Systems or Stations. It may be beneficial to add a second one for source container retrieval.

Catalog #	Description
3961300	Transport cart for source container

12. Shelf Kits

Various shelf kits are available to hold items inside the enclosure. The shelf kits also aid in securing the source container lid against the sidewall of the enclosure. All shelves hang from the rear baffle slots.

Catalog #	Description
3925000	Utility Shelf Kit includes three shelves for printer, weigh spatulas and miscellaneous brushes and can be used to secure the source container lid.
3927700	Bottle Holder
3927800	Tissue Holder

13. Double HEPA Filtration Kit

For field installation atop XPert Balance Filtered Systems and XPert Bulk Powder Filtered Systems. Provides a second level of HEPA Filtration for added safety to meet USP <800> standards for redundant HEPA Filter in series. Contact Labconco for information on factory-installed second HEPA Filter. Kit includes one HEPA Filter, set of bag and straps for bag-in/bag-out system, and entire metal support system along with instructions for a certifier to follow. Adds 12.9" to height of existing system.

Catalog #	For use with:	Shipping Wt. lbs./kg
3966105	5-ft XPert Filtered System & 5-ft XPert Bulk Powder Filtered System	8/4
3966106	6-ft XPert Filtered System & 6-ft XPert Bulk Powder Filtered System	7.5/3

14. Hose Kits, Hoses, and Hose Clamps

Catalog #	Description
4868600	8 Feet of 5" ID gray flexible polypropylene hose (included with FilterMate). General-purpose chemical resistant hose suitable in pharmaceutical applications.
1921000	5" T-Bolt Hose Clamp (two included with FilterMate)
3927500	8 Feet of 5" ID clear smooth bore static dissipation hose with two hose clamps. Suitable in clean rooms or pharmaceutical applications.
3927600	8 Feet of 6" ID black thermoplastic hose with two 6.09" ID cuffs. Includes two 6" hose clamps. Suitable for connection to house exhaust in pharmaceutical applications.
1921500	6" T-Bolt Hose Clamp
3927400	Adapter, 5" nominal dia. x 6" nominal dia. for connecting to FilterMate via 6" hose kit 3927600 and increase airflow by 15-20%.

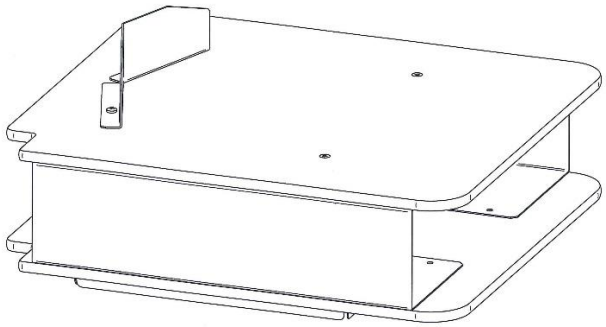
15. Caster Kit

Caster kit allows main stand to be moved or transported.

Catalog #	Description
3950000	Caster Kit, Bulk Powder Transport

16. Lift Platform Extension, Catalog #3963901

The Lift Platform Extension extends the height of the standard caddy platform by 5.4" for operators using shorter height drums. Either the standard height platform or the extended platform may be used and interchanged with ease.



Chapter 8: Troubleshooting

Refer to the following table if your XPert Bulk Powder Enclosure, System or Station fails to operate properly. If the suggested corrective actions do not solve your problem, contact Labconco for additional assistance.

PROBLEM	CAUSE	CORRECTIVE ACTION
Contamination outside of enclosure	Improper user techniques for the enclosure.	See “Using your Enclosure” Chapter 5 and “Safety Precautions” Chapter 4 sections in the manual.
	Restriction of the baffle air slots or blockage of the exhaust outlet.	Remove obstruction to ensure that all air slots and the exhaust outlet are unobstructed.
	External factors are disrupting the enclosure airflow patterns or acting as a source of contamination.	See “Location Requirements” Chapter 2, “Certifying the Enclosure” Chapter 3, and “Safety Precautions” Chapter 4 sections of this manual.
	Enclosure has improper face velocity.	Have enclosure certified and check exhaust system. Check HEPA filters for loading. Adjust enclosure speed control. Enclosure should have an average face velocity of 60-100 fpm for weighing procedures.
Blower won’t operate	Unit not plugged into outlet.	Plug the enclosure into appropriate electrical service.
	Circuit breaker(s) or Ground Fault Interrupter.	Reset circuit breaker.
	Blower wiring is disconnected.	Inspect blower wiring.
	Blower switch is defective.	Replace switch.
	Motorized impeller or blower is defective.	Replace motorized impeller or blower.
Low face velocity or poor containment of contaminants	Enclosure sash not closed.	Close sash to the lowest position.
	HEPA filter clogged.	Replace HEPA filter or increase speed.
	Carbon filter loaded with chemicals.	Replace carbon filter.
Blower and lights won’t operate	Unit not plugged into outlet.	Plug enclosure into appropriate electrical service.
	Circuit breaker(s) tripped.	Reset or replace circuit breaker.

PROBLEM	CAUSE	CORRECTIVE ACTION
Lights do not work	Lamp not installed properly.	Inspect lamp installation.
	Lamp wiring disconnected.	Inspect lamp wiring.
	Defective lamp.	Replace lamp.
	Light switch is defective.	Replace light switch.
	Defective electronic ballast.	Replace ballast.
Airflow monitor malfunction	No power. No lights. No display.	Power supply is not plugged into proper voltage; plug in power supply. Verify that airflow monitor interface cables are connected. Check fuses on FilterMate or accessory light.
	No audible alarm.	Alarm has been temporarily silenced using “test/reset” or “enter” buttons.
	Wrong alarm set point.	Airflow monitor was not properly adjusted. Repeat calibration steps outlined in the User’s Manual.
	Constant audible alarm.	Check airflow and calibration of airflow monitor.
	Continuous alarm.	Check the face velocity of the enclosure as the airflow of the system may have changed. If face velocity is correct, calibrate the airflow monitor as outlined in the User’s Manual.
	Monitor alarms; air way to airflow monitor sensor is blocked by insects, dust or debris.	Lightly clean the airway with clean air. Be careful not to touch sensitive electrical components.
	Audible disable will not stay ON.	An alarm condition must be continuously present before the audible alarm can be silenced. If flow conditions fluctuate near the alarm set point, the airflow monitor will automatically reset it. Action should be taken to bring the enclosure airflow into proper operating parameters or adjust the alarm set point lower.
Lift won’t operate or malfunctions	No power.	Lift motor is not connected to a proper outlet. Connect the plug into the four-plex electrical box located under work surface.
	Intermittent operation.	Allow lift system’s thermal override to cool for 10 minutes then adjust height.
	Photoelectric eye malfunctions.	Either adjust photoelectric eye sensitivity or replace photoelectrical eye if it malfunctions. See replacement parts.
	Hydraulic lines pinched	Replace entire lift system. See replacement parts.

Service Operating Record Log

Customer Name _____ Model Number _____

Date Installed _____ Serial Number _____

Unit Location _____

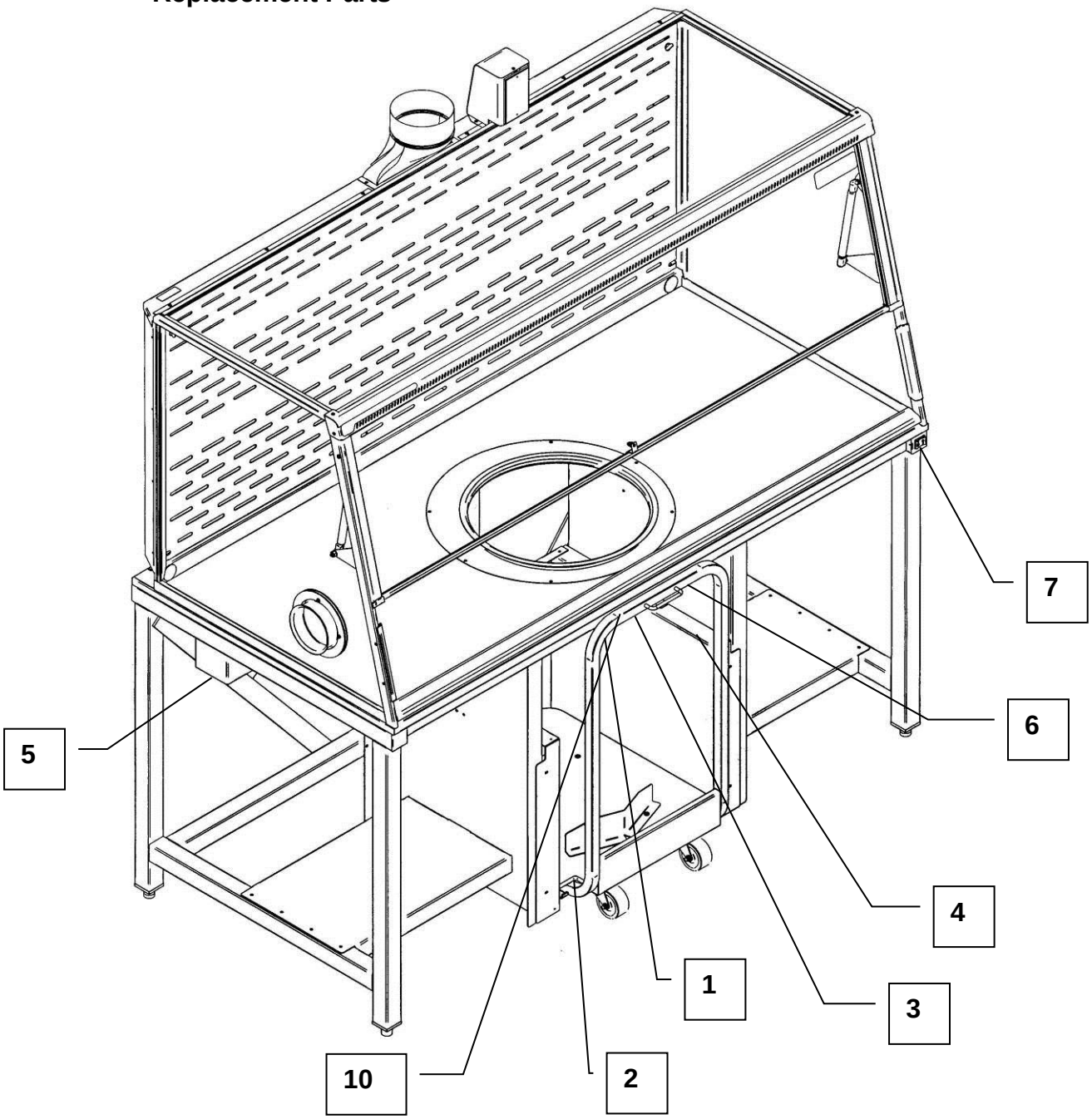
Date	Comments

Appendix A:
Replacement Parts

The following illustrations indicate the replacement parts.

Item	Qty.	Part Number	Description
1	1	3961300	Transfer Cart (entire cart)
2	1	3963900	Transfer Plate on Cart
3	1	3962800	Catch Plate on Transfer Cart
4	1	3963000	Pull Handle
5A	1	3964100	115V Hydraulic Lift System, 350 pounds, 12" travel
5B	1	3964101	230V Hydraulic Lift System, 350 pounds, 12" travel
5C	1	3975205	Wiring Harness, Lift
6	1	3995900/3995600	Photoelectric Eye Assembly
7A	1	3978200	Electric Switch
7B	1	3975204	Switch Wire Harness
7C	1	3977500	Cap, Switch
8A	1	1305800	115V, Inlet Cord to Central Location J-Box (not shown)
8B	1	1305900	230V, Inlet Cord to Central Location J-Box (not shown)
9A	1	1327207	Circuit Breaker, 15A (not shown)
9B	2	1327208	Circuit Breaker, 8A (not shown)
10	1	3964000	Latch, Lift (to latch transfer cart)
11A	1	3975202	Wiring Harness, 115V Main (not shown)
11B	1	3975203	Wiring Harness, 230V Main (not shown)

Figure A-1
Replacement Parts



8, 9, 10 and 11 not shown

Appendix B: Dimensions

See the following dimensions for all XPert Bulk Powder models.

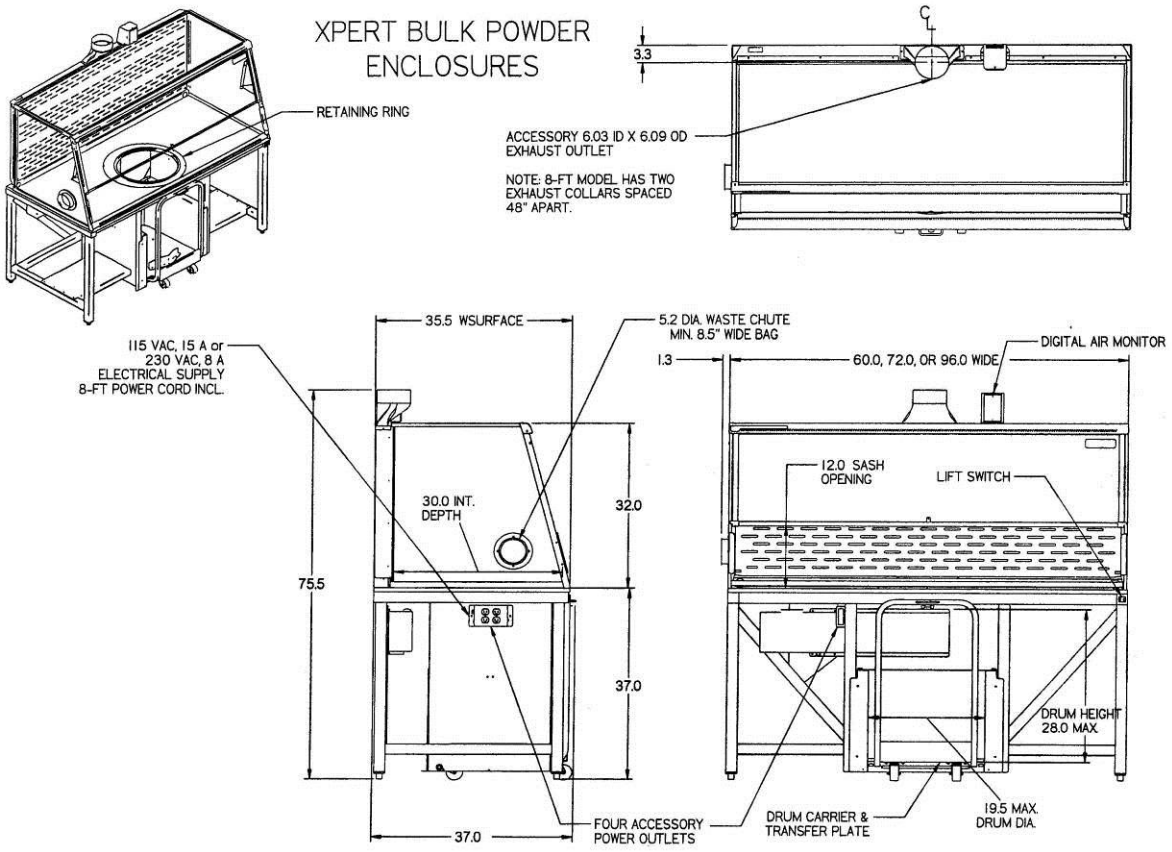


Figure B-1
XPert Bulk Powder Enclosure

Figure B-2
XPert Bulk Powder Filtered System

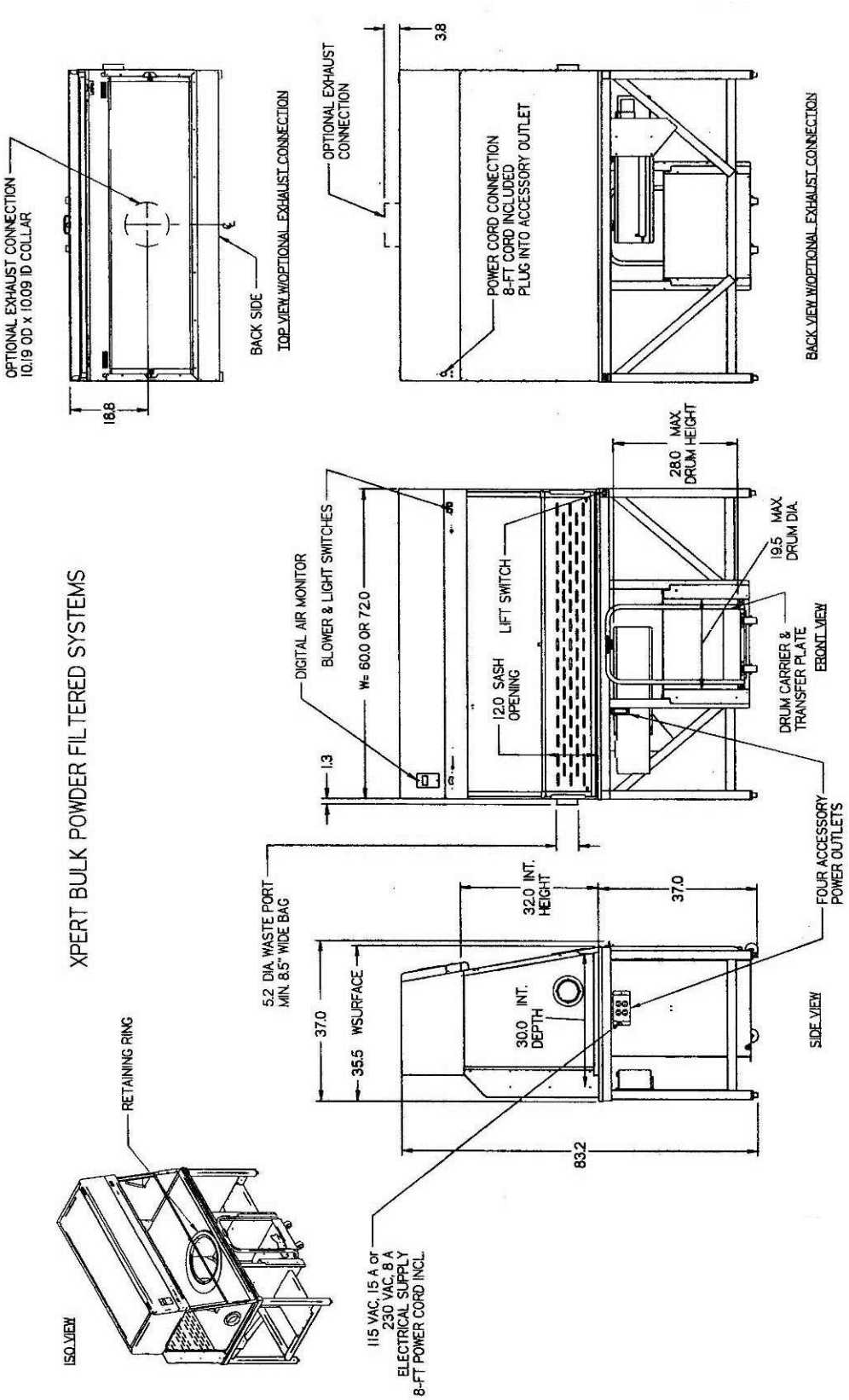
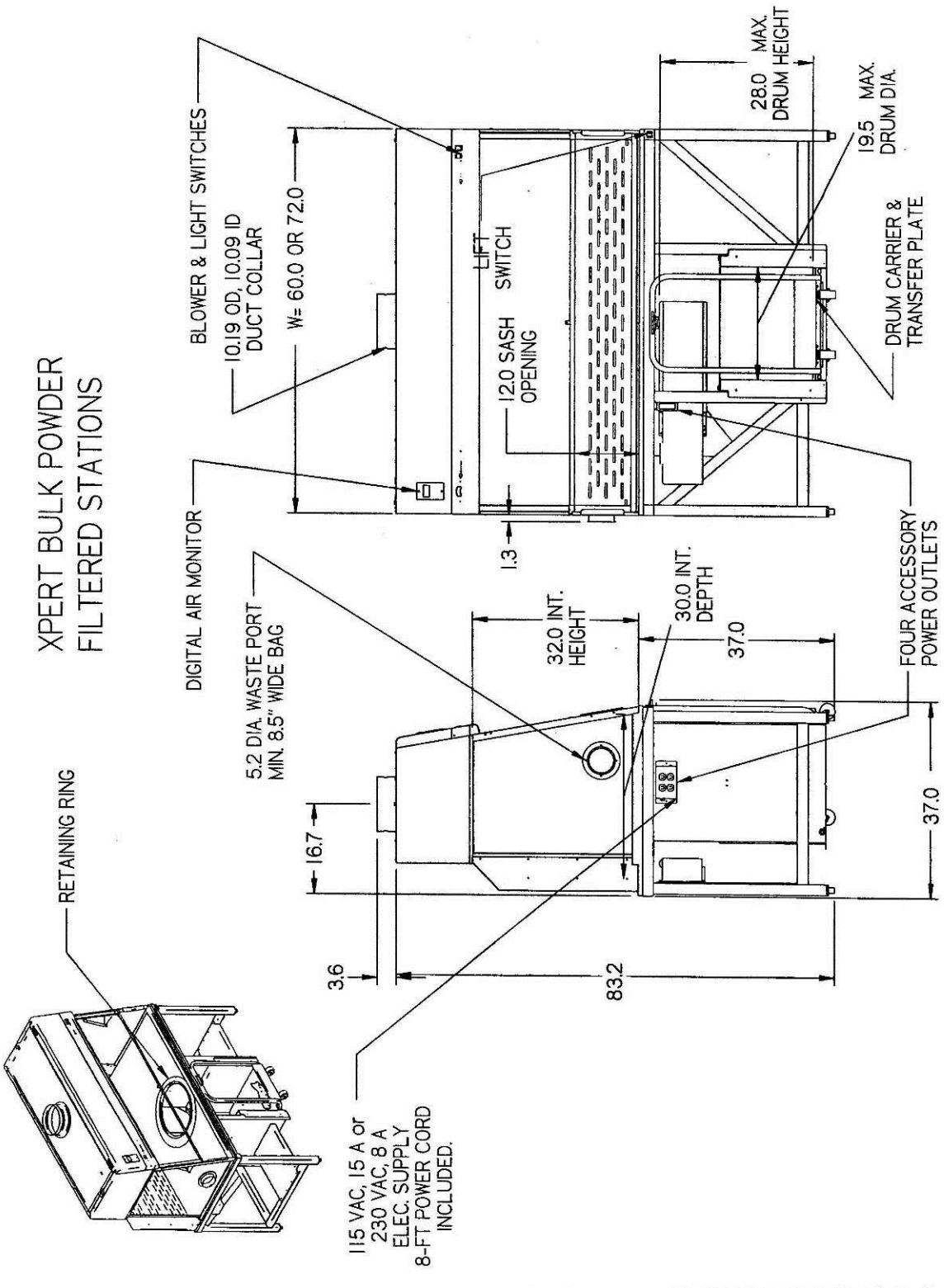


Figure B-3
XPert Bulk Powder Filtered Station



Appendix C: Specifications

Environmental Conditions

- Indoor use only.
- Maximum altitude: 6562 feet (2000 meters).
- Ambient temperature range: 41° to 104°F (5° to 40°C).
- Maximum relative humidity: 80% for temperatures up to 88°F (31°C), decreasing linearly to 50% relative humidity at 104°F (40°C).
- Main supply voltage fluctuations not to exceed ±10% of the nominal voltage.
- Transient over-voltages according to Installation Categories II (Over-voltage Categories per IEC 1010). Temporary voltage spikes on the AC input line that may be as high as 1500V for 115V models and 2500V for 230V models are allowed.
- Used in an environment of Pollution degrees 2 (i.e., where normally only non-conductive atmospheres are present). Occasionally, however, a temporary conductivity caused by condensation must be expected, in accordance with IEC 664.