PARAMOUNT® FILTERED ENCLOSURE

INSTRUCTION MANUAL

Models

6910000	6910001	6910100	6910101
6910002	6910003	6910102	6910103
6910004	6910005	6910104	6910105
6910006	6910007	6910106	6910107
6910010	6910011	6910110	6910111
6910012	6910013	6910112	6910113
6910014	6910015	6910114	6910115
6910016	6910017	6910116	6910117

Product designs are subject to change without notice

69226 Revision K, ECO B926

For more information, please contact us:

ExpotechUSA
10700 Rockley Road
Houston, Texas 77099
USA

281-496-0900 [voice]

281-496-0400 [fax]

E-mail: sales@expotechusa.com

Website: www.ExpotechUSA.com

TABLE OF CONTENTS

PREFACE

Thank you for displaying confidence in us by selecting a Labconco Paramount® Filtered Enclosure. Our design engineers, assemblers and inspectors have utilized their skills and years of experience to ensure that the new Labconco Paramount® Filtered Enclosure meets our high standards of quality and performance.

IMPORTANT NOTICE

This manual should be read carefully by all the end users in order to become familiar with the operation of the Paramount® Filtered Enclosure. Recommendations are made within the manual to help you obtain maximum performance and life from your product.

We have included sections on initial set up, operation, maintenance and troubleshooting to provide you with all the tools necessary to achieve maximum performance.

Components Shipped

Carefully check the contents of the carton for damage that might have occurred in transit. Do not discard the carton or packing material until all components have been checked against the following component list and the equipment has been installed and tested.

As shipped, the carton should contain one of the following:

Catalog #	Description
6910000	Paramount Filtered Enclosure with Organic Vapor Sensors, 115V, 60 Hz.
6910001	Paramount Filtered Enclosure with Organic Vapor Sensors, 230V, 50 Hz
6910002	Paramount Filtered Enclosure with Organic Vapor Sensors, Double-Wide 115V, 60 Hz
6910003	Paramount Filtered Enclosure with Organic Vapor Sensors, Double-Wide 230V, 50 Hz
6910004	Paramount Transparent Back Filtered Enclosure with Organic Vapor Sensors, 115V, 60 Hz.
6910005	Paramount Transparent Back Filtered Enclosure with Organic Vapor Sensors, 230V, 50 Hz
6910006	Paramount Transparent Back Filtered Enclosure with Organic Vapor Sensor Double-Wide 115V, 60 Hz
6910007	Paramount Transparent Back Filtered Enclosure with Organic Vapor Sensor Double-Wide 230V, 50 Hz
6910010	Paramount Carbon/HEPA Filtered Enclosure with Organic Sensors, 115V, 60 Hz
6910011	Paramount Carbon/HEPA Filtered Enclosure with Organic Sensors, 230V, 50 Hz
6910012	Paramount Carbon/HEPA Filtered Enclosure with Organic Sensors, 115V Double-Wide
6910013	Paramount Carbon/HEPA Filtered Enclosure with Organic Sensors, 230V Double-Wide
6910014	Paramount Transparent Back, Carbon/HEPA Filtered Enclosure with Organic Sensors, 115V, 60 Hz
6910015	Paramount Transparent Back, Carbon/HEPA Filtered Enclosure with Organic Sensor, 230V, 50 Hz
6910016	Paramount Transparent Back, Carbon/HEPA Filtered Enclosure with Organic Sensor, 115V, 60 Hz Double-Wide
6910017	Paramount Transparent Back, Carbon/HEPA Filtered Enclosure with Organic Sensor, 230V, 50 Hz Double-Wide
6910100	Paramount Filtered Enclosure without Organic Vapor Sensors, 115V, 60 Hz
6910101	Paramount Filtered Enclosure without Organic Vapor Sensors, 230V, 50 Hz
6910102	Paramount Filtered Enclosure without Organic Vapor Sensors, Double-Wide 115V, 60 Hz
6910103	Paramount Filtered Enclosure without Organic Vapor Sensors, Double-Wide 230V, 50 Hz
6910104	Paramount Transparent Back Filtered Enclosure without Organic Vapor Sensor, 115V, 60 Hz
6910105	Paramount Transparent Back Filtered Enclosure without Organic Vapor Sensors, 230V, 50 Hz

.

6910106	Paramount Filtered Enclosure Transparent Back Filtered Enclosure without Organic Vapor Sensors, Double-Wide 115V, 60 Hz
6910107	Paramount Filtered Enclosure Transparent Back Filtered Enclosure without Organic Vapor Sensors, Double-Wide 230V, 50 Hz
6910110	Paramount Carbon/HEPA Filtered Enclosure without Organic Sensors, 115V, 60 Hz
6910111	Paramount Carbon/HEPA Filtered Enclosure without Organic Sensors, 230V, 50 Hz
6910112	Paramount Filtered Enclosure Carbon/HEPA Filtered Enclosure without Organic Sensors, Double-Wide 115V, 60 Hz
6910113	Paramount Filtered Enclosure Carbon/HEPA Filtered Enclosure without Organic Sensors, Double-Wide 230V, 50 Hz
6910114	Paramount Transparent Back, Carbon/HEPA Filtered Enclosure without Sensor, 115V, 60 Hz
6910115	Paramount Transparent Back, Carbon/HEPA Filtered Enclosure without Sensor, 230V, 50 Hz
6910116	Paramount Filtered Enclosure Transparent Back, Carbon/HEPA Filtered Enclosure without Sensor, Double-Wide, 115V, 60 Hz
6910117	Paramount Filtered Enclosure Transparent Back, Carbon/HEPA Filtered Enclosure without Sensor, Double-Wide, 230V, 50 Hz
6911000	Prefilters, Roughing, installed, 2 each, or 4 each on 6' wide
6924900	Syringe Kit

General Description

The Labconco Paramount Filtered Enclosures are carbon or carbon/HEPA filtered enclosures that conform to ANSI/AIHA Z 9.5 – 1992, ETL and ETL-C, ASHRAE 110-95, and NFPA-45 (except carbon filters). In addition, the 230V, 50 Hz models carry the CE mark.

This manual covers all of the 69100 models with organic vapor sensors and the 69101 models without organic vapor sensors.

The Paramount Filtered Enclosure protects the operator from specified vapors and/or particulates released during chemical or biological procedures performed within the enclosure. For biological work the enclosure must be equipped with a HEPA filter. The sash provides containment, and the air barrier formed across the face of the work access opening. As the air moves through the enclosure, vapors or particulates on HEPA filtered models, emitted within the enclosure are drawn through a rear baffle, where they are mixed with and diluted by room air. Purified air is drawn from the filters, through the fan, and returned to the room. On transparent backed models, the baffle and back are glass, giving a 360° view. Unlike laboratory fume hoods, which exhaust to the outside, the filtered enclosure does not exhaust tempered air from the room.

Vapors are adsorbed on filters of activated carbon or treated with impregnated carbon. In addition, on HEPA Filtered Enclosures entrapment of the particulates occurs. Each filter has a working carbon portion (75%) and a back-up carbon portion (25%). The reserve portion gives the user ample time to complete work in process before changing the filters. This early warning system is accomplished by measuring the concentration of contaminants at a given level in the carbon either by electronic or manual means. On those models with the Safety-First™ Vapor Sensor, the primary sensor located in the Color-Smart™ Filter Cell will give early indication of high concentration of organic vapors. Primary sensor not applicable to HEPA Filtered Enclosures. The secondary sensor, located in the exhaust air stream checks overall organic vapor levels and provides back up detection to the primary sensor, and primary protection on HEPA filtered models.

Impregnated carbon chemically treats contaminants, exhausting purified air into the room. These impregnated filters are designed in the same manner as the organic vapor filters, each having a working portion and a reserve of impregnated carbon. The reserve allows time to change the filters when the working portion of carbon becomes exhausted. The Safety-First™ Vapor Sensor is **NOT** intended to be used with treated carbons.

The HEPA filters can be installed before or after the carbon filters depending on the application. For biological type applications the HEPA filters are installed before the carbon filters and for clean room applications the HEPA filters are installed after the carbon filters.

Labconco has designed the Paramount Filtered Enclosure around the proven design of a vented fume hood. Like a vented fume hood, each enclosure incorporates a front airfoil and a rear baffle to ensure proper containment of contaminants. Diffusers are placed behind the rear baffle to provide mixing of the contaminant vapors and air, resulting in even loading of the carbon filters. The sash, made of 3/16" (4.8 mm) thick tempered safety glass, swings up to give full access to the work area for cleaning and transfer of materials. Sides, back, and baffle on the transparent backed models are also made of 3/16" (4.8 mm) tempered safety glass. The glass baffle swings down for easy cleaning. Lighting to the interior of the enclosure is from two 20-watt fluorescent bulbs.

Access holes with plugs in the lower rear are provided for service utilities to pass through. Figure 1 shows the 3-foot model.

Figure 1

Component Identification

1. **Prefilters.** Two required (Four required on 6-foot models). Standard roughing filters for general dust removal are provided with the enclosure. Optional electrostatic prefilters are used in lieu of the roughing filters for the removal of aerosols, mists and fine particles. Electrostatic prefilters must be ordered separately. (Prefilters **MUST** be in place to insure proper airflows).
2. **Color Smart™ Filter Cells**. Each unit requires a matching pair of Filter Cells. (Four required on 6-foot wide models). (Refer to filter section of this manual). These filters are easily installed above the prefilters, or above or below the HEPA filters. Filter Cells must be ordered separately.
3. **Filter Clamping Device**: The floating clamping device provides easy opening and uniform pressure across entire top surface of the filter cells. The filter compartment is under negative pressure to prevent contaminant leakage.
4. **Detector Tube Sampling Port:** Tube allows air sampling to check filter condition using gas sampling detector tubes.
5. **Secondary Sensor.** Detects overall organic vapor level in the exhaust stream to provide back up detection to the primary sensor. (The primary sensor on HEPA filtered models).
6. **Primary Sensor**. Detects high levels of organic vapors within the filter cell. (Not applicable on HEPA filtered models).
7. **Filter Compartment Side Panels:** These panels cover the filter compartment and can be removed for access to the compartment.
8. **Gas Spring:** Provides the force for sealing the clamping device to the filters. Also, aids in the opening and support of the device during filter changes.
9. **Sensor Well:** Allows sensor to penetrate into the carbon to give early warning of high concentrations, (>50 ppm) of organic vapors at that level of the carbon. (Penetration of sensor not applicable on HEPA filtered models).
10. **HEPA Filters:** Each HEPA Filtered Enclosure requires a matching pair of HEPA filters. (Four filters required on 6-foot wide models). These filters are easily installed above or below the carbon filters depending on the application. Refer to Filters and Monitoring section of this manual for filter installation. Figure 2 shows the 3-foot wide model.

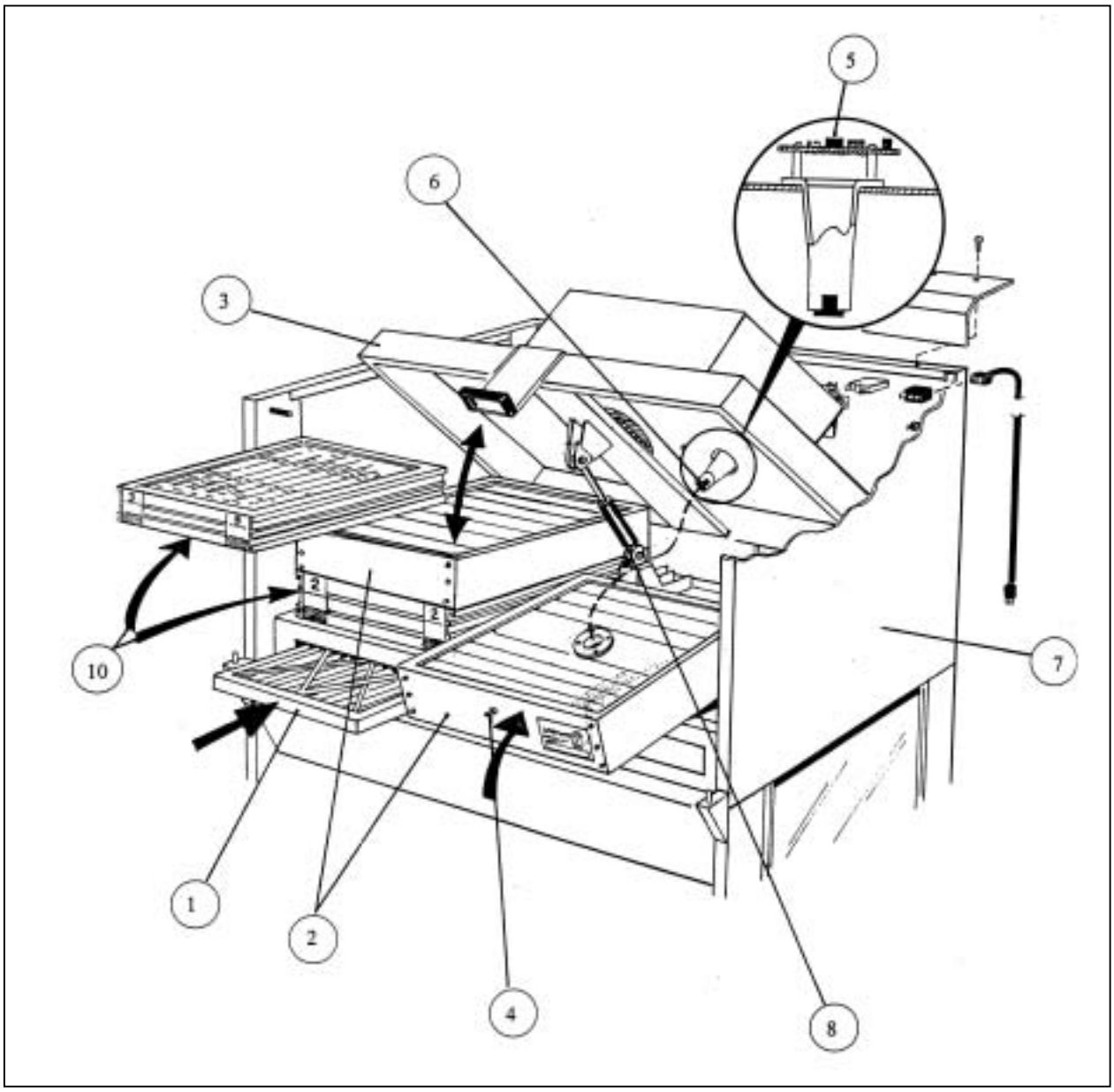


Figure 2

10a. **Lamp Starter(s):** The lamp starters for the fluorescent lamps are located behind the control panel.

11. **Front Panel**: Covers the filter and motorized impeller cover. Remove by lifting up to release from upper clips.

12. **Motor Bracket**: Provides support for the motorized impeller.

13. **Motorized Impeller Cover**: Covers the blower and directs exhaust air upwards.

14. **Motorized Impeller**: The enclosure is equipped with an impeller driven by a non-sparking motor.

> **WARNING**: High speed impeller. **DO NOT** operate with housing removed.

15. **Fluorescent Lamp**: The lamps are located behind a 1/8 inch (3.18 mm) thick tempered safety glass sealed to prevent penetration by vapors and fumes.

16. **Front Control Panel**: The panel is lowered, by releasing the quarter turn fasteners, located on the upper corners of the panel. (Two additional fasteners are located at the center of the panel on 6-foot wide models). The front panel must first be removed to expose the fasteners. This panel provides access to the fluorescent lamps and electronics.

17. **Glass Side Panels**: Sides are made of 3/16" (4.8 mm) thick tempered safety glass.

18. **Service Utility Access**: Provide holes for utilities entrance.

19. **Rear Baffle**: Provides rapid air movement at the work surface for heavier than air vapors and also dilutes and mixes the contaminants with air to give uniform loading of filters. Back and baffle are made of 3/16" (4.8 mm) thick tempered safety glass on transparent back models.

20. **Electronic Message Center**: Provides continuous filter status reports and displays messages.

21. **Airfoil**: Directs airflow into the enclosure to sweep work surfaces reducing turbulence to ensure contaminant containment.

22. **Adjustable Glass Sash**: The sash is made of 3/16" (4.8 mm) thick tempered safety glass and is adjustable to give 80 feet per minute face velocity in the upper position or 100 feet per minute face velocity in the lower position (0.41 upper or 0.51 meters/second lower). Also provides a full opening for easy access to the working interior for loading and cleaning.

23. **HEPA Filters**: Each HEPA filtered enclosure requires a matching pair of HEPA filters. (Four filters required on 6-foot wide models). These filters are easily installed above or below the carbon filters depending on the application. Refer to Installation, and Filters & Monitoring sections of this manual for filter installation.

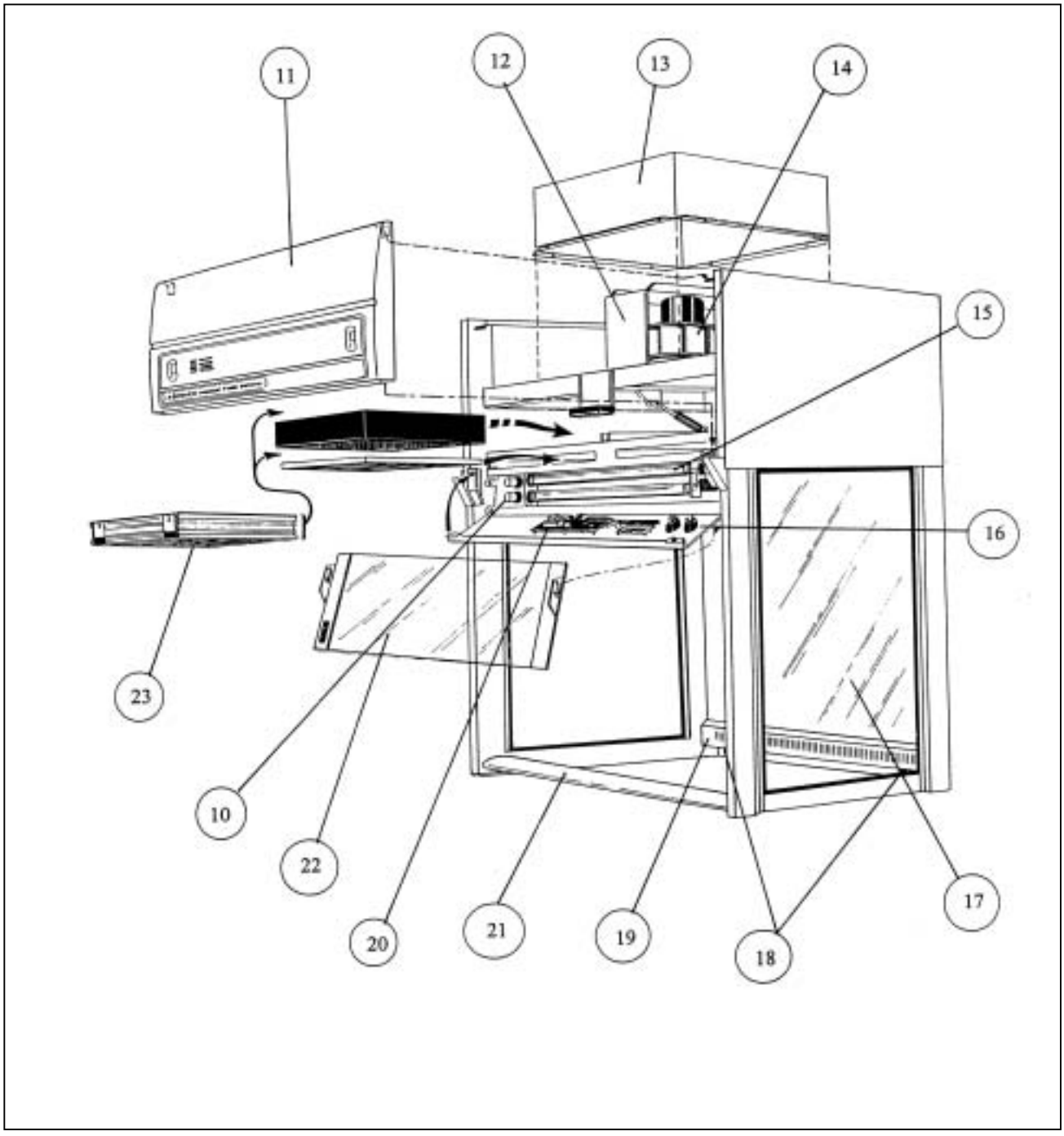


Figure 3

Preparation

Remove carton and all packing materials from the Paramount. **DO NOT** remove the Paramount from its shipping skid until it is ready to be placed in its final location. Move the enclosure by placing a flat, low dolly under the skid. **DO NOT** move the enclosure by tilting it onto a hand truck.

> **CAUTION**: The Paramount is top heavy. **DO NOT** lift using the airfoil across the front. Lift on the sides of the enclosure.

The Paramount Filtered Enclosure is shipped fully assembled with the exception of the Color Smart™ Filter Cells, and HEPA filters for HEPA filtered models. Filter Cells and HEPA filters are shipped separately and must be installed prior to active use.

Location

The Paramount should be located away from drafts, traffic patterns, doors, fans, ventilation registers, fume hoods, and any other air-handling device that could disrupt its airflow patterns. All windows in the room adjacent to the Paramount should be closed. Figure 4 shows the optimum location for the Paramount.

There should be a minimum clearance of 12 inches (305 mm) between the exhaust outlet on top of the enclosure and any overhead obstructions. The Paramount should be placed on a sturdy level surface.

Air Exchanges – Accumulation of contaminants from the exhaust of the Paramount can only occur when the Rate of Generation exceeds the Rate of Room Exhaust. For a saturated filter the mathematical equation can be used:

Inlet Concentration (PPM) x Paramount Air Flow (275 CFM)<TWA (PPM) x Room Exhaust (CFM)

By equating both sides of the equation, the unknown will be the maximum allowed inlet concentration, not to exceed the TWA for the chemical.

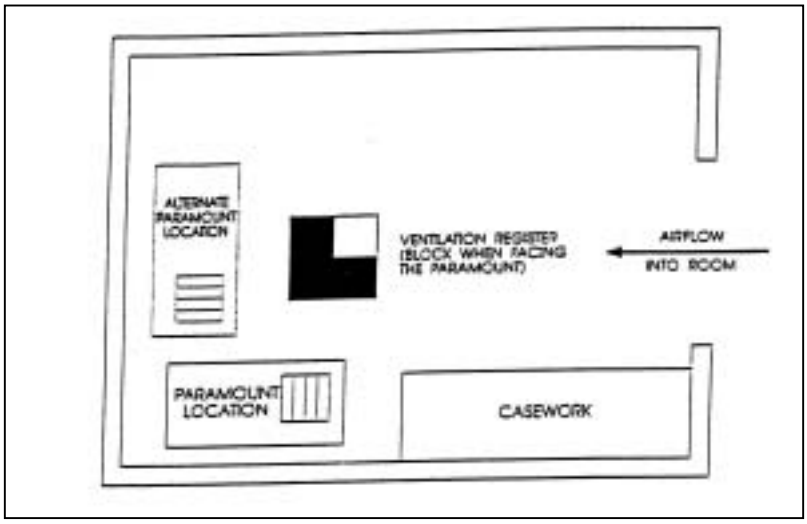


Figure 4

Installing the Paramount on an Existing Work Surface

When installing the Paramount onto an existing work surface or bench top, ensure that the structure can safely support the combined weight of the 370 pounds (168 Kg), 700 pounds for 6-foot wide models (318 Kg), enclosure and any related equipment. The work surface should be at least 36 inches (.91 m) wide (72 inches – 1.83 m for 6-foot wide models) by 30 inches (.76 m) deep to properly support the unit.

The work surface should be smooth and durable. The surface should be nonporous and resistant to the chemicals used in conjunction with the Paramount. These criteria will allow a proper seal between the bottom of the Paramount and the work surface.

Installing the Paramount on the Work Surface, Base Cabinet, Mobile Base Stand or Optional Labconco Base Cabinet

The Work Surface, Base Cabinet or Mobile Base Stand to support the Paramount are to be ordered separately. The Work Surface 6910600, Mobile Base Stand 6910700, and Base Cabinet 6910800 for 3-foot models and 6935000, 6934000, and two 6910800 Base Cabinets for 6-foot models are installed in the same manner. For further information regarding the Paramount Base Cabinet or other accessories, please contact Labconco Customer Service Department at 1-800-821-5525 or 1-816-333-8811 week days, between the hours of 7:00 a.m. and 6:00 p.m. CST.

CAUTION: THE PARAMOUNT IS TOP HEAVY, USE EXTREME CAUTION WHEN LIFTING THE UNIT OR PLACING IT ON THE WORK SURFACE, BASE CABINET OR MOBILE STAND. DO NOT LIFT USING THE AIR FOIL ACROSS THE FRONT. LIFT UNDER THE SIDES OF THE UNIT.

.

1. The Mobile Stand is shipped with the work surface installed. If you ordered the Base Cabinet, place the work surface on the cabinet and align the front and side edges with the cabinet top, and attach with the #10 screws and washers provided. If you have the work surface only, place the surface on a flat surface that can support the weight - 370 pounds (168 Kg) or 740 pounds (336 Kg) for 6-foot wide models.

   Place the Paramount onto the work surface; align screw holes located on the back flange of the unit and the 2 holes at each end of the airfoil with the #10 screws and washers provided. Pivoting the airfoil forward on its hinges as shown in Figure 5 exposes the holes under the airfoil.

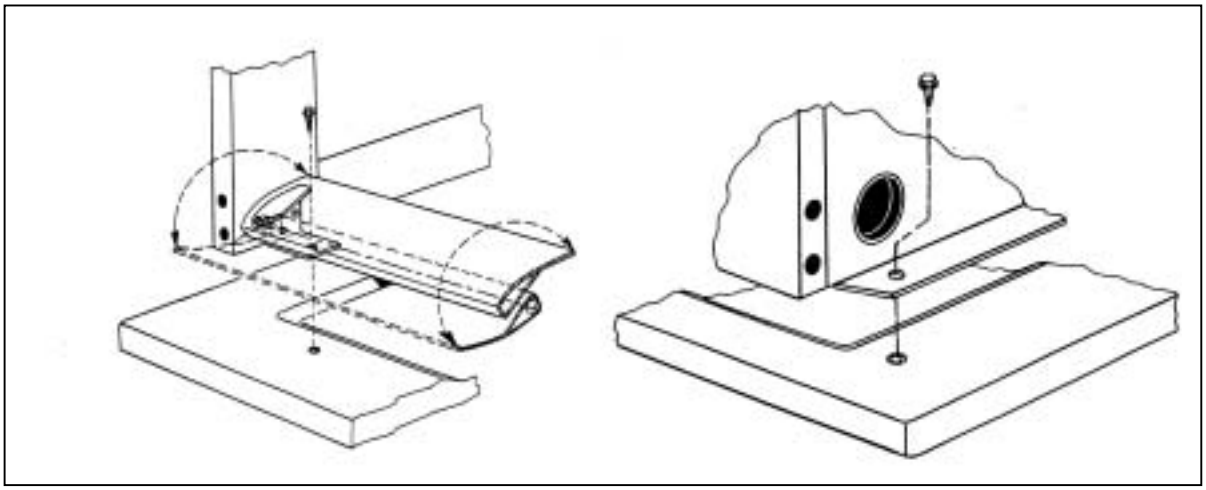


Figure 5 **Figure 6**

Installation of Color Smart™ Filter Cells

Filter Cells are ordered and shipped separately. **DO NOT** attempt to operate without Filter Cells or HEPA filters on HEPA filter models.

Install the correct filter for the application. Color and number coding are given on the front panel for various chemical types and must match color and number coding on the filter. HEPA filter color coding labels are provided in the envelope containing the manual behind the back panel. Refer to Filter and Applications sections of this manual.

Caution should be used when installing and removing filters from the unit. Filter Cells weigh approximately 40 lbs (18.1 Kg). Installation and removal can be best accomplished on a ladder or stool that places the installer at a level where reaching upward is not required. To install, remove the front panel(s) by lifting up past retainer clips. Raise the filter-clamping device by pushing handle upward. Grab the Filter Cell with both hands with gasket side UP and rest the filter on the compartment ledge. Move into the compartment by placing the filter in a horizontal position and pushing all the way in. Refer to Figure 7. On 6-foot models, the two filters containing the sensor wells and marked right side filter must be installed in the inner position.

When installing HEPA filters, use care not to allow hands to contact filter media. The glass micro fiber pleats are extremely fragile. Install HEPA filters above or below the carbon filters depending on the application. All filters are installed with the gaskets facing up. Place one filter squarely on top of the other and make sure that all sides of both filters are even with each other. Lift both filters onto the filter shelf and slide both filters together all the way back. Do not slide one filter on the gasket of the other filter.

IMPORTANT NOTE: The filter with the sensor well is installed on the right hand side of the filter compartment, and the filter without sensor well is installed on the left hand side. If left hand filter is installed on the right hand side and the clamping device lowered, damage to the sensor will occur. For 6-foot wide models, install the filters with the sensor wells in the two inside positions.

Close the filter compartment-clamping device.

CAUTION: The filters weigh approximately 40 pounds (18.1 Kg) each and may require 2 people for installation.

CAUTION: When handling HEPA filters, use care not to allow hands to contact filter media. The glass micro filter pleats are extremely fragile. Any slight contact can puncture the pleats and destroy filtering capability.

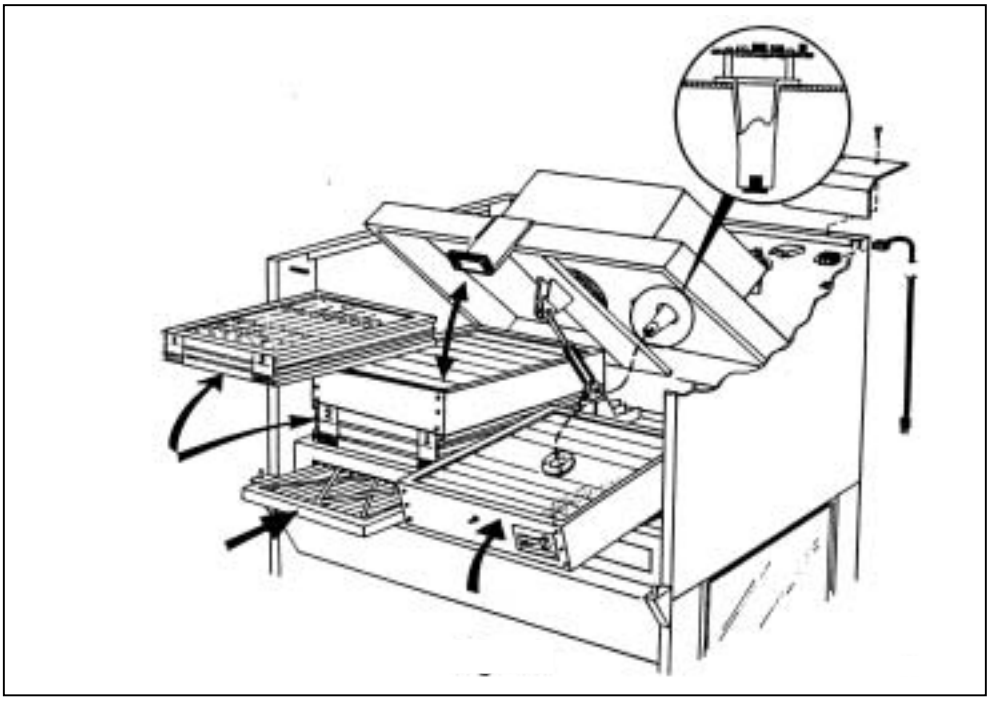


Figure 7

Electrical Connections

All Paramount's with model numbers ending in -00, -04, -06, -10, -14, -16 are designed for operation at 115 volts alternating current and 60 Hz with a current rating of 3 amps. Model numbers ending in -02 and -12 are designed for operation at 115 volts alternating current and 60 Hz with current rating of 6 amps. To connect the Paramount to electrical service, plug the power cord into the socket located on the right rear side of the Paramount. Plug the other end of the cord into an appropriate grounded electrical wall socket rated for 15 amps service.

Paramount's with model numbers ending in -01, -05, -07, -11, -15, -17 are designed for operation at 230 volts alternating current and 50 Hz with a current rating of 1.5 amps. Model numbers ending in -03 and -13 are designed for operation at 230 volts alternating current and 50 Hz with current rating of 3 amps. To connect the Paramount to electrical service, attach the appropriate type of plug to the end of the power cord. Plug the power cord into the socket located on the right rear side of the Paramount.

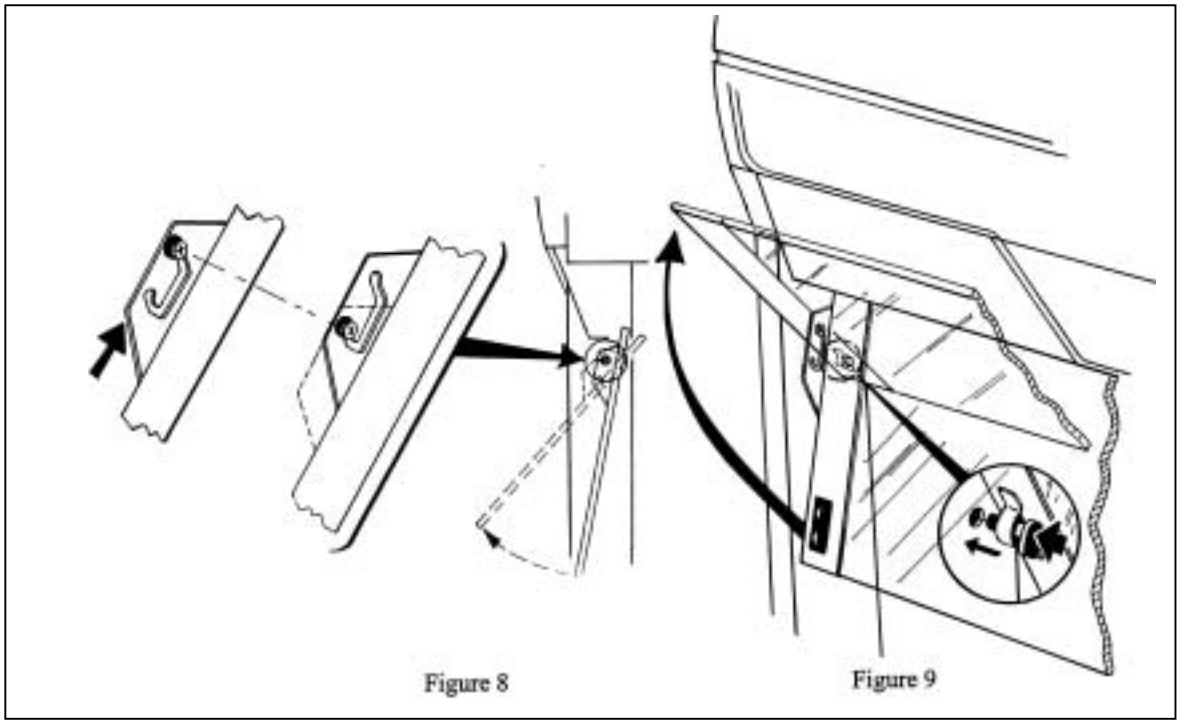
CAUTION: This equipment must be grounded, (earthed).

Ground Fault Interrupter

NOTE: When connecting the Paramount to a Ground Fault Interrupter Circuit (GFIC), ensure that the circuit is rated for 15 amps load and is functioning correctly. Connection of the Paramount to a lower capacity or defective GFIC may result in excessive activation of the GFIC, cutting power to the Paramount while it is operating.

Sash Adjustment

The sash can be set in three different positions. The lower position sets the face velocity to 100 lfpm (0.51 m/s) and the upper position to 80 lfpm (0.41 m/s). The position can easily be changed, by pulling out the bottom of the sash slightly, and moving the sash up or down, depending on the setting required. The label on the left side of the sash gives position indication. The sash can also be latched in the full open position for loading or cleaning. Full containment is not possible with the sash lifted in the full open position. Refer to Figures 8 and 9.



Removal of Service Utility Ports

1. These plugs are located in the rear corners, also center of the 6-foot models, of each unit and when removed, provide passage for the entrance of utilities such as electrical power and water.
2. Remove these plugs by pressing the plugs from the holes. Refer to Figure 10.

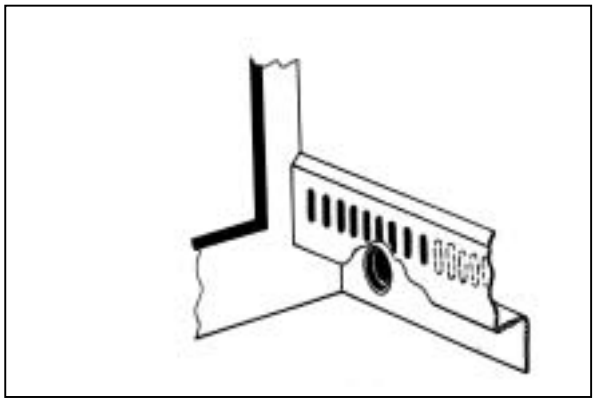


Figure 10

Installation of the Optional Exhaust Duct Collar

If conditions exist where it is necessary to vent the enclosure to the outside, the optional duct collar can be ordered.

Install the collar by placing the collar over the exhaust opening located on top of the filter-clamping device. Attach with the (4) screws provided. It will be necessary to provide a flexible piece of duct between the collar and rigid ductwork. On 6-foot models, 2 exhaust collars and flexible duct pieces are required.

CAUTION: CARBON FILTERS AND HEPA FILTERS ON HEPA FILTERED UNITS, MUST BE INSTALLED WHEN THE ENCLOSURE HAS BEEN DUCTED TO PREVENT DAMAGE TO THE MOTORIZED IMPELLER. ATTACHING THE DUCT COLLAR TO MORE THAN 25 EQUIVALENT FEET OF 6" DUCT, WILL REDUCE AIR FLOW INTO THE ENCLOSURE, AND MAY REDUCE CONTAINMENT OF CONTAMINANTS.

After installing the proper Filter Cells and connecting the electrical supply, the enclosure is ready for programming prior to operation. Turn on the blower and lights. The display will read "Sensor Warm-up" if unit is equipped with an organic Safety First™ Vapor Sensor. The time required for sensor warm-up is 7 minutes. Following is a description of the keypad operation and how to program.

NOTE: Units with Safety First™ Vapor Sensor will require a "warm-up" period. When new, or if the enclosure has been idle for an extended period of time, the sensor may alarm until purging of contaminants. This process requires for the unit to run for an extended period of time, which varies for different units, depending on what the filters have been exposed to. It may require allowing the unit to run overnight. If the alarm continues after an overnight purging process, check filter or other environmental factors affecting the filter, such as chemicals stored in the fume hood or chemical fumes in the laboratory. Labconco Product Service can assist you in monitoring the Safety First™ Vapor Sensor readings in a troubleshooting mode by first holding down the Event Timer START/STOP switch, and then turning on the blower switch. You will observe two readings on the display, 1) for primary sensor S1, into the filter well, 2) for secondary sensor S2, in the exhaust. A value of 0560 indicates (560 millivolts) and corresponds to a concentration of the organic chemical in the well S1 or in the exhaust S2 of approximately 50 ppm or greater. The 50 ppm with a reading of 0560 (560 millivolts) is based on ethyl alcohol and the sensitivity of the sensors differs for each chemical. The end user can always obtain an accurate sampling of the filters by checking the filter through the detector tube-sampling port and using gas sampling detector tubes specifically for the organic chemical.

Programming the Paramount:

The "SET FILTER TIME" key allows access to the internal timer in a fixed sequence shown below:

NOTE: The question mark "??" at the end of the LCD message indicates a YES or NO key response is needed. A number at the end of the LCD display indicates that the up arrow or down arrow keys can be used to adjust the value, or the "ENTER" key may be used to store the number and exit the sequence.

FILTER HISTORY??	--Yes – Show the number of hours the last three filters were in service before changing. (not applicable at initial setup).
ACCESS CODE: (----)	--This code allows the user to limit access to program entries. Your present access code is 0246. Use UP/DOWN keys to select this value and then press ENTER.
FILTER TYPE: (--)	--Select filter type 01, 02, 03 or 04 corresponding to the installed Filter Cells. Press ENTER, (See the "Filter" section of this manual).
NEW FILTER??	--YES or NO
ELAPSED TIME 00?	--This message will only appear if a new filter has been installed. Reset the amount of time the filter has been used by pressing YES.
SET CHECK TIME??	--YES – This sets the time interval (in hours) for an alarm to alert the user to check for filter saturation.
CHECK TIME: (# HOURS)	--Set intervals as recommended in Routine Maintenance section of this manual. ENTER.
SET FINAL TIME??	--YES – Enter a time (in hours) that the filters have been estimated to last. Contact Labconco at 1-800-821-5525 for an estimate on final time to enter for your specific application.
FINAL TIME: (#HOURS)	--Set estimated filter life. ENTER.
EVENT TIMER START/STOP	--Pressing this button will allow the user to start the event timer from zero. The event counter will count up in 1-second increments. When this button is pressed while the timer is running, the count will stop. If the button is then pressed again, the count will restart from zero. **NOTE:** This timer has nothing to do with any hood controls; it merely operates as an independent laboratory timer.

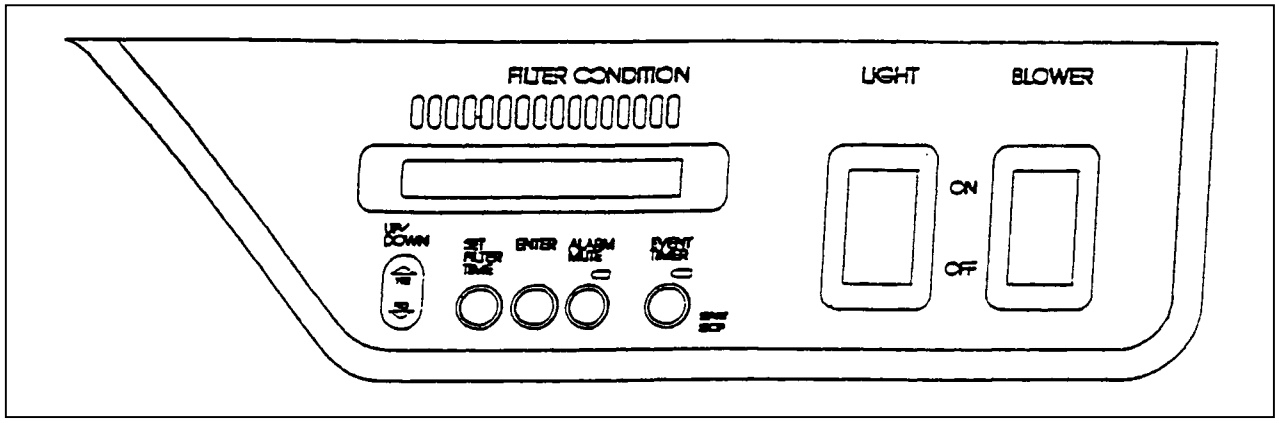


Figure 11

Alarm Signal Set Up

The Paramount controller will provide an alarm signal output that can interface with a commercially available telephone dialer to call a particular number when either the organic Safety First™ Vapor Sensor indicates high concentrations or when the filter time alarm has been activated.

ERROR MESSAGES

"AIR FLOW ERROR" – Indicates the optional airflow monitor has detected low airflow.

"SENSOR 1 ALARM" – Sensor in carbon filter has detected a high level of organics. Sample, with detector tube, to confirm breakthrough. Sensor 1 is not applicable with HEPA filter units.

"SENSOR 2 ALARM" – Indicates the sensor detects high levels of organics in the exhaust ducting.

"SENSOR WARM-UP" – Sensor heater is warming up.

"MEMORY ERROR" – Indicates the filter hours and other stored times were not stored correctly in memory. Reprogram the Paramount.

Suitable Applications

NIOSH (National Institute for Occupational Safety and Health, USA) has established guidelines for chemical cartridge and HEPA filtered respirators. Suitable applications for the Paramount are based on these guidelines. As with respirators, contaminants are adsorbed or treated by carbon and particulates filtered by the HEPA filter before air is returned to the breathing area.

Application for the Paramount include:

- Release of low concentration of vapors effectively adsorbed or treated in carbon base filters or release of particulates and vapors on HEPA filtered models.
- Treatment of specific chemicals that are carcinogens or suspected carcinogens. **See section on carcinogens**.
- Procedures that may have traditionally been done on the open bench. (Low levels).
- Odoriferous chemicals that are an unpleasant nuisance.

Other applications, not fitting the above guidelines, would be better suited in a ducted fume hood or device that allows for exhausting to the outside. With all applications, the Paramount should be used in areas where only knowledgeable users have access to the enclosure.

NOTE: References to NIOSH or OSHA guidelines and regulations apply to any workplace under the jurisdiction of the U.S. Department of Labor. Other countries outside the U.S. have established standards, which may differ slightly from those used as guidelines for this product. It is the users responsibility to become aware of local regulations governing the safe use and disposal of chemicals.

Knowledge of established safe exposure levels is imperative to the proper use of filtered enclosures.

Definition of Terms

- **NIOSH** – National Institute for Occupational Safety and Health/Mine Safety and Health Administration. (U.S.A.)
- **TWA** – Recommended Exposure Limits expressed as a Time Weighted Average. The exposure limit for that chemical for up to a 10-hour workday, 40 hours a week.
- **Odor Threshold** – The value in parts per million for which one might expect to smell a chemical's presence in the air. This value is very subjective and detection will vary with the sensitivity of one's nose. The period of time until the odor threshold is reached in the exhaust stream can be estimated from Labconco exclusive computerized filter modeling program.
- **Saturation Level or Time** – There is a limit to the amount of chemical that can be adsorbed by activated carbon, or neutralized by chemically treated carbon. Once the capacity of the carbon is reached, it is considered to be saturated and will adsorb (or neutralize) no further material; the outlet concentration of the chemical will equal the inlet concentration from that point until the filter is replaced. (Note that the capacity of actuated carbon is not a constant, but varies with the inlet concentration). Labconco Technical

specialists can determine with the computerized carbon-modeling program the estimated time to saturation for a particular chemical, free of charge.

- **IDLH (Immediately Dangerous to Life and Health)** – An atmosphere that poses an immediate hazard to life or produces immediate irreversible health effects. IDLH concentrations should not be approached in the Paramount Enclosure.

Appropriate Chemicals

A copy of the most recent Paramount Chemical Guide should always be kept behind the front panel of the Paramount. Up-to-date copies will be available, free of charge, from the Labconco Technical Specialist. The latest revision of the Guide will be included in each filter replacement carton. When receiving replacement filters, replace the guide behind the front panel with the latest revision. Below is a general set of rules to determine appropriateness of chemical usage.

- Selected organic chemicals considered to be occupational carcinogens by NIOSH can be used in the Paramount under rigid restrictions. **See separate discussion on carcinogens for special instructions**.
- Organics must have time weighted exposure limits (TWA) of 1 ppm or greater.
- Chemicals must have a detectable odor at concentrations below the TWA for the chemical.
- Chemicals must be designated by NIOSH guidelines as acceptable for use with chemical cartridge type respirators, (the exception is formaldehyde). Chemicals not listed by NIOSH Pocket Guide, or Paramount Chemical Guide must be approved by Labconco Technical Specialist (or Engineering).
- Inlet concentration must never exceed the IDLH (Immediately Dangerous to Life and Health) concentrations.
- Chemicals having a recommendation by NIOSH of at least “Escape GMFOV” (gas mask full face respirator).
- When evaporating a mixture of chemicals, the chemical having the lowest TWA will be used to determine if the mixture meets the guidelines.
- Call a Labconco Product Specialist at 1-800-821-5525 for assistance in chemical appropriateness.

Use of Chemical Carcinogens in the Paramount

The Paramount Chemical Guide will include a separate chart that lists selected carcinogens, which under the following restrictions, may be used safely in the Paramount.

- The use of a vented hood is always the preferred method when working with carcinogens. The Paramount should only be used as a last resort when vented hoods are not an option.
- The potential carcinogens are listed in the NIOSH Pocket Guide to Chemical Hazards as “Ca”. Each potential carcinogen must have a TWA of 1 or greater; have minimum respirator recommendation of Escape GMFOV, and an odor threshold significantly lower than the TWA for the chemical.

- The inlet concentration or the evaporation rate of the chemical must never exceed the TWA for the chemical.
- The Paramount Chemical Guide chart provides estimated saturation times up to the TWA concentration for the Chemical.

In addition to the above, all other guidelines for chemical use in the Paramount apply.

Combination of Acids and Organics

When applications require the filtration of both acids and organics, please note these facts.

The Acid Filter Cells, 6910300, have the ability to effectively treat acid fumes as well as low levels of organic vapors. The organics must follow the guidelines stated earlier and be noted in the Paramount Chemical Guide as acceptable for use. The Acid Filter Cells capacity for organics is approximately one-third to one-half the capacity of the Organic Filter Cells. For a combination of Acid and Organics, order the Acid Filter and estimate the life to be 1/3 the time shown for organics in the Paramount Chemical Guide.

NOTICE: The following safety precautions must be strictly followed. Refer to Application Section and Chemicals Appropriate for Use for additional safety information.

- Ensure that the enclosure is connected to an electrical service in accordance with local and national electrical codes. Failure to do so may create a fire or electrical hazard. Do not remove or service any electrical components without first disconnecting the Paramount from electrical service.

- Use of an open flame must be avoided in the Paramount. Open flames may disrupt the airflow patterns in the cabinet and cause a fire hazard with volatile solvents.
- Change the prefilters every three months or more frequently if dusty conditions exist. Failure to do so will reduce the performance of the unit and possibly cause loss of contaminant containment.
- The Filter Cells used in this unit are heavy and require care when installing and removing. Refer to Installation Instructions in this manual for proper handling of Filter Cells.
- Exhausted carbon filters and HEPA filters are to be disposed of as hazardous waste. The user is responsible for recording the chemicals adsorbed or removed by the filters and disposing of the cells properly.
- Use in areas where only trained users have access to the enclosure. Any new users must be trained and should also read this Instruction Manual.
- Do not use the Paramount in a poorly ventilated area. If the Paramount is to be used in a confined space, make sure the space is well ventilated and the concentration of toxic contaminants cannot accumulate greater than the TWA.
- Proper operation of the enclosure depends largely upon the enclosure location and the operator's work habits. The Paramount should be located away from traffic patterns, doors, fans, ventilation registers, fume hoods, and any other air-handling device that could disrupt its airflow patterns. Consult the Installation and Normal Operation sections of this manual for further details.
- The warning properties (i.e., odor, taste) of the volatile organic compounds or other material being used in the enclosure must be adequate to provide an early indication that the Filter Cell may be saturated.
- Highly toxic vapors, unknown reaction, hazardous particulate, or processes generating high levels of contaminants are not intended for use in the Paramount.
- Refer to the Paramount Chemical Guide located behind the front panel of the Paramount to verify that the chemical(s) to be used is compatible with, and will be effectively adsorbed/treated by the specific charcoal based Filter Cell installed in the enclosure. Labconco Filter Cells are color coded to match NIOSH respirator types. Only chemicals, which can be safely adsorbed/treated with the specific carbon based filters installed or removed by HEPA filters are appropriate for use in this enclosure.
- Use the smallest possible quantity of chemical(s) within the enclosure and never exceed the amount, which can be effectively adsorbed by the Filter Cell before breakthrough.
- Adjust sash position to provide 100 lfpm (0.51 m/s) for chemicals with TWA's below 50 ppm to provide the best containment possible.
- Leave the blower on for at least one minute after work in the enclosure has been completed.
- If a chemical is spilled on the work surface **DO NOT** switch off the blower until all traces of the chemical has been removed.

- Make sure Filter Cells are installed prior to each use.
- Never operate without prefilter in place. Proper airflows and containment may be compromised.
- If the blower fails during use, chemical processes should cease and the area should be vacated and ventilated before replacing the blower.
- Always refer to the Paramount Chemical Guide located behind the front panel and/or the NIOSH Pocket Guide to Chemical Hazards before proceeding. For additional help with filter and chemical selection contact Labconco at 1-800-821-5525 or 1-816-333-8811.

For HEPA Filtered Models

The Enclosure will provide personnel and environmental protection from particulate matter. Because room air is drawn over the work surface during operation, this enclosure should not be used for operations requiring product protection from environmental contamination.

HEPA filters are only effective for entrapment of particulate matter. Manipulations, which generate gases or vapors, i.e., toxic chemicals or radio nuclides, must be evaluated carefully from the standpoint of buildup to dangerous levels, the decontamination of the cabinet, and compliance with applicable regulations.

The surface of the HEPA filters is fragile and should not be touched. Care must be taken to avoid puncturing the HEPA filter during installation or normal operation. If you suspect that a HEPA filter has been damaged **DO NOT** use the enclosure; contact a local certification agency or Labconco.

The HEPA filter in the Enclosure will gradually accumulate airborne particulate matter from the room and from work performed in the cabinet. The rate of accumulation will depend upon the cleanliness of the room air, the amount of time the cabinet is operating, and the nature of work being done in the cabinet. With normal usage, the HEPA filters will last two to five years before requiring replacement.

Misapplications that could result in a hazardous situation

There is one scenario where the Paramount's misapplication would be a part of a hazardous condition. That situation is where;

1. The inlet concentration is greater than the TWA.
2. The filter becomes saturated.
3. The user continues to operate.
4. The ventilation of the room is insufficient to dilute the exhaust of the Paramount to below the TWA for the chemical.

When the inlet concentration is greater than the TWA, extra measures must be taken to monitor the number of air room exchanges.

Monitoring and changing the filters is the primary maintenance required with this enclosure.

Under normal operation, your Paramount will require little routine maintenance. The following maintenance schedule is recommended:

Weekly

- Using an appropriate glass cleaner, clean the sash and sides. Wipe down the interior surfaces of the unit using a damp cloth.
- Clean the exterior surfaces of the unit, particularly the front and top to remove any accumulated dust.

Monthly (or more often as required)

- Test filter condition using a gas detector tube at intervals of 20% of the total estimated time. The exception to the 20% recommendation is formaldehyde or any carcinogen or suspected carcinogen. These hazardous chemicals must be checked at least every 10% of the total estimated time. Gas detector tubes for the specific chemicals that are being used in the enclosure can be obtained from your laboratory supply dealer.
- Check face velocity on HEPA filtered models. Change HEPA filter when face velocity drops below 90 feet per minute.
- Replace filters when chemical breakthrough is indicated by odor, time, detector tube, vapor sensor or for some chemicals, analytical instrumentation.
- The Safety First™ Vapor Sensor does NOT eliminate the need to sample with detector tubes. The sensor is capable of detecting organics in the range of 50 ppm. Your chemicals may have TWA's less than 50 ppm.
- See "Filter" section of manual.

Quarterly

- Change the prefilters every three months or more frequently if dusty conditions exist.
- On transparent backed models the baffle can be lowered for cleaning by removing the two screws located in the upper corners of the baffle and allowing the top of the baffle to pivot forward. Glass back can also be cleaned when baffle is lowered.

Prefilters

The roughing prefilters installed in your Paramount should be replaced every three months, or more frequently if the unit is operated in dusty conditions. Optional electrostatic prefilters can be ordered to replace the roughing filters for the removal of aerosols, mists and fine particles. See "Accessories" section of manual.

WARNING: Never operate the Paramount without prefilters in place. Prefilters must measure 15.5" (39.4 cm) x 24.5" (62.2 cm) x 0.75" (1.9 cm) to properly fit into the space. Filters that do not fit will reduce the face velocity to a level that containment of contaminants will not be achieved.

PLEASE NOTE: Prefilters are not sealed and therefore not intended for the ultimate removal of toxic particulates from the air stream.

Color-Smart™ Filter Cells

Color-Smart™ Filter Cells are engineered to the National Institute for Occupational Safety and Health (NIOSH) guidelines for respirators as defined in the NIOSH Pocket Guide to Chemical Hazards. A free copy can be requested by calling NIOSH at 202-783-3238. Carbon-based and HEPA filters are color coded in the same fashion as respirator cartridge filter types for at-a-glance recognition from the front of the enclosure.

On HEPA filtered models colored labels are provided with each pair of HEPA filters. Follow the instructions on the label for placement of the identifying colors depending on whether the HEPA filters are installed on the top or the bottom of the HEPA filters.

FILTERS ARE INSTALLED IN PAIRS, DO NOT MIX FILTER TYPES!
ALWAYS REPLACE BOTH FILTER CELLS AT THE SAME TIME.

Filter Cells for organic vapors are filled with activated carbon with the very highest adsorption capacity. This adsorption capacity varies with each chemical and should be determined before use. Contact Labconco for information. Gases and vapors passing through activated carbon are attracted and held to the surface of the carbon. Impregnated carbon Filter Cells are required for acid gases, formaldehyde, ammonia and low molecular weight amines. A chemical reaction and/or adsorption occur in impregnated carbon.

Unlike mechanical filters, carbon filters **DO NOT** become more efficient with use. Their chemical reaction and/or adsorption capacity is limited. When one detects any taste, odor or irritation, contaminant generation should be halted and the filter checked for saturation. The contaminated area should be vacated and ventilated before changing the carbon filters.

Any re-circulating carbon filtering device such as the Paramount will significantly reduce, but will not completely eliminate contaminants released into the room. When working with materials that are highly toxic or working on unknown reactions, a vented laboratory hood is the preferred method.

Determination of when to Replace Filters (Non HEPA Filtered models)

The filters **MUST** be replaced when any one of the following three conditions are met:

1. The concentration of the chemical in the sensor well is equal to or greater than the TWA. (The positioning of the sensor provides the user an additional 1" thickness of carbon filter after this point before the outlet concentration reaches the TWA).
2. The Paramount outlet (exhaust) concentration approaches the inlet concentration, indicating filter saturation.
3. The odor in the work area becomes intolerable or the concentration of the chemical in the work area is greater than the TWA.

There are five means of determining when its time to change the filters (not shown in the order of preference). Methods of detection are displayed in order of preference in the Paramount Chemical Guide located behind the front panel of your enclosure, and included in each Filter Cell carton.

Odor – A person's sensitivity to odor, tolerance of odor and their comfort level under odoriferous conditions vary with the individual. While odor is an indicator that chemicals are passing through the filter, several points need to be understood:

- Odor within the room is not necessarily an indication of saturation or hazardous exposure concentrations.
- Odor can be used as a prompt to sample the chemical concentration in the filter well.
- Organic chemicals approved for use in the Paramount (included in the Chemical Guide), have odors that are detectable before reaching the time weighted exposure limits.

Safety-First™ Sensor – For organics only. For use with filter Type 1. Electronic sensors will signal when the concentration of the organic chemical in the well or in the exhaust is approximately 50 ppm or greater, (sensor response based on ethyl alcohol). The sensitivity of the sensors differs for each chemical. <u>The sensors **DO NOT** alert users of filter "saturation" in every application</u>.

- The use of the sensor **NOT recommended** for the determination of filter saturation when the TWA for the chemical is below 50 ppm. Other detection methods must be implemented.
- Where the inlet concentrations are less than 50 ppm, other detection means are necessary. (For those applications, sensors should be considered as a warning system only in the event the enclosure is misused and receives a heavy dose of chemicals unbeknown to the primary user).

Detection Tubes – Color change indicators can be used to measure the concentration of the chemical at the 3" level of the carbon bed, (or in the exhaust if desired). A kit including syringe pump and tubing is included with each Paramount. Labconco Customer Service Representatives are supplied with detector tube catalog numbers for as many chemicals as possible in the Paramount Chemical Guide, as well as phone numbers to direct customers where to purchase these items.

A starter kit of detector tubes for the measurement of ammonia, acid gases, and formaldehyde are provided with the respective filters. For Organic Filter Cells chemical specific detector tubes should be purchased when installing fresh filters. Each kit contains instructions on how many strokes of the syringe is required to obtain the stated sensitivity. The sampling syringe is connected to the sampling port by first removing the front panel and connecting the syringe as shown in Figure 12. Figure 12 shows sampling for 3-foot models. On 6 foot models two sampling ports are provided when filters with sampling wells are installed in the two center positions. Pull the air through the tube with the syringe. Each stroke of the syringe represents 100 ml sample and corresponds to the number of strokes necessary to give the indicated color changes.

Due to the wide variety of organics and varying TWA's, it is recommended that specific detector tubes be purchased directly from Sensidyne or Draeger. The vast majority of detector tubes available start measuring at the TWA. When a user observes a color change in the tube, they should replace the filter immediately. If no detector tube for your specific chemical is available, other means of detection must be used.

Time – For applications that have very consistent inlet concentrations and operating time, "Time" can be used to anticipate saturation or TWA levels based on prior experience. However, this does not replace the need for sampling. Detector tubes, Safety First™ Vapor Sensors or analytical instrumentation should always be used to determine concentrations in the filter well. While not a definitive method of detection, the "Time" function serves the purpose of providing a basis for setting check intervals and illustrates, through the display, the relative age of the filter. Initial programming of the times should be based on estimates from Labconco Technical Specialist. It is recommended that the filters be checked with detector tubes or other means at intervals of 20% of the total estimated life. The exception to the 20% recommendation is formaldehyde and any carcinogen or suspected carcinogen. These more hazardous chemicals must be checked at least every 10% of the total estimated time.

Analytical Instrumentation – This is the most accurate means of measuring concentrations of any chemical. It is the method of choice when no detector tubes are available or the tubes or sensors are not sensitive enough to measure at the TWA concentration for the chemical. This method is also to be used to determine saturation when the chemical concentration is below the measurement range of detector tubes and sensors.

Determination of when to Replace Filters on HEPA Filtered Models

The HEPA filters in the enclosure will gradually accumulate airborne particulate matter from the room. The rate of accumulation will depend upon the cleanliness of the room air, the amount of time the enclosure is operating, and the nature of work being done in the enclosure. In typical installations and usage, the HEPA filters will last two to five years before requiring replacement. Replace HEPA filters when face velocity drops below 90 feet per minute.

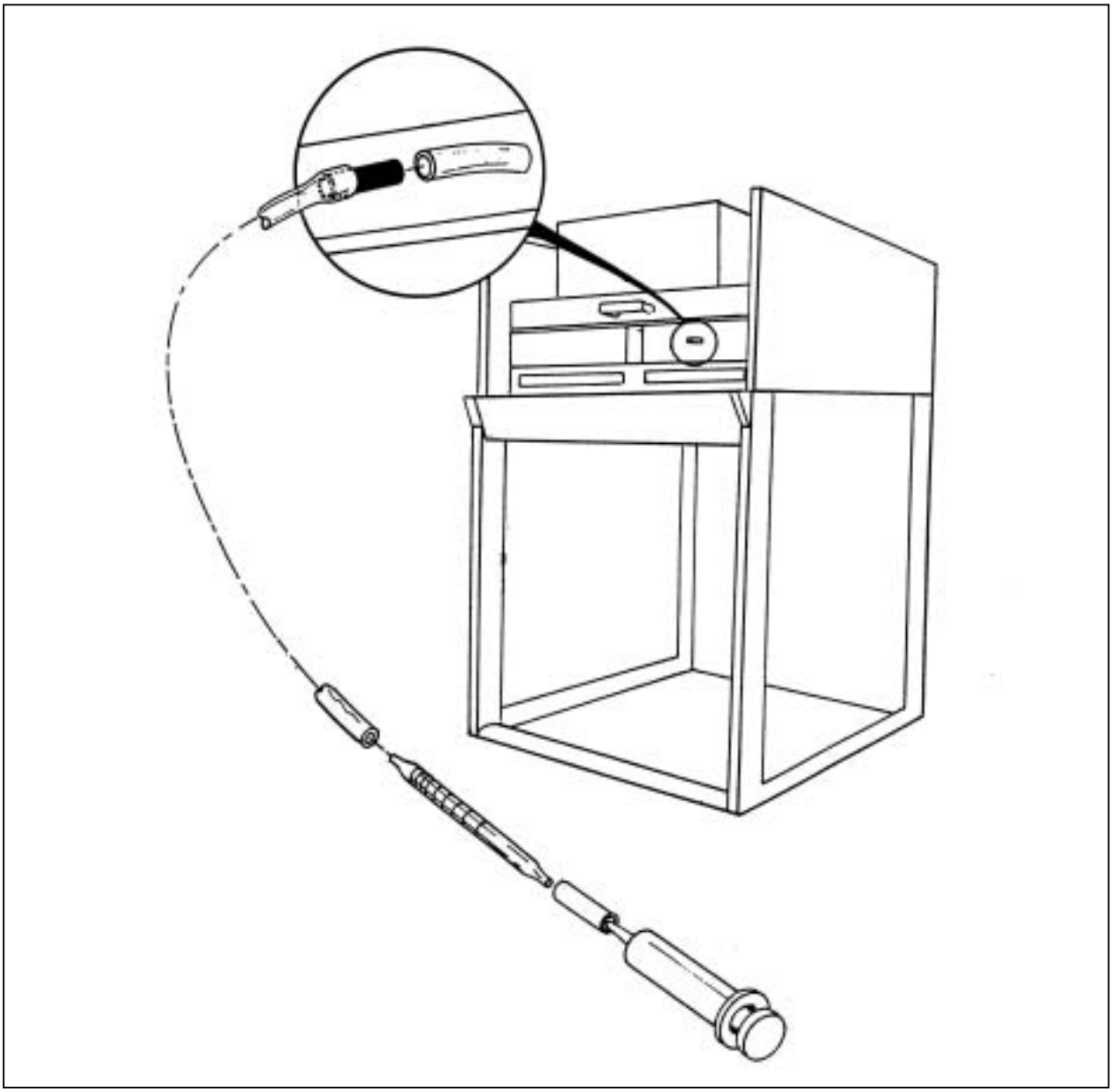


Figure 12

Carbon Filter	*No. Code	Color Code	Appropriate Use
Organic Vapor	01	Black	Organic compounds designated by NIOSH guidelines as acceptable for use with chemical cartridge type respirators. Concentrations in the enclosure's work area must not exceed the IDLH for the chemical and the exhaust from the enclosure must not exceed the TWA.
Ammonia and Amines	02	Bright Green	Ammonia, low molecular weight amines and other bases designated by NIOSH as acceptable for use with ammonia cartridge type respirators. Concentrations in the enclosure's work area must not exceed the IDLH for the chemical and the exhaust from the enclosure must not exceed the TWA.
Acid Gases	03	White	Acid gases designated by NIOSH as acceptable for use with acid gas cartridge type respirators. Concentrations in the enclosure's work area must not exceed the IDLH for the chemical and the exhaust from the enclosure must not exceed the TWA.
Formaldehyde (Formalin)	04	Drab Olive	Formaldehyde requires the use of an impregnated carbon for the treatment of formaldehyde. Concentrations in the enclosure's work area must not exceed the IDLH for the chemical and the exhaust from the enclosure must not exceed the TWA.
HEPA		Purple	HEPA filters are high-efficiency particulate air filters having a minimum particle removed efficiency of 99.9% for particles with a diameter of 0.3 micron or greater. Filters have expanded metal screen on upstream side for filter protection.

*This code must be entered into the microprocessor. See Filter Type page 16 of manual

Front Panel

Remove the front panel (5) by lifting up past the retainer clips located on top of the panel. (Refer to Figure 13). The front panel must be removed for prefilter replacement, filter cell replacement and to lower the control panel.

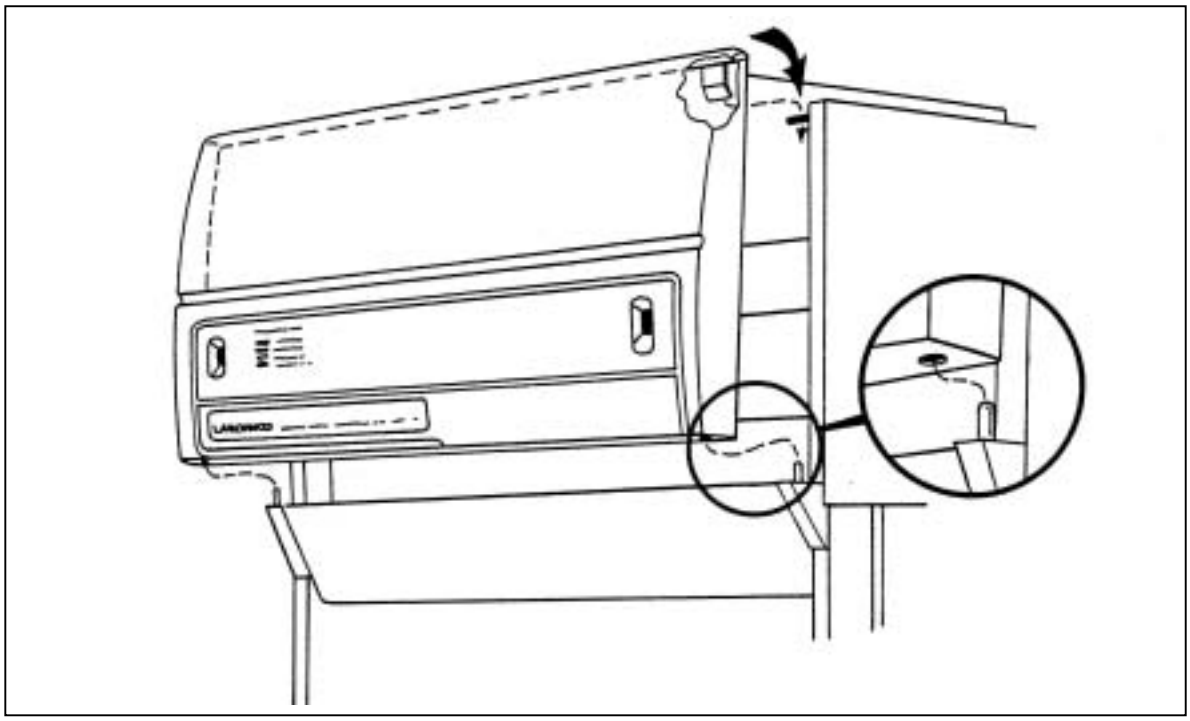


Figure 13

Control Panel

The control panel is lowered to expose the two 20 fluorescent lamps, 4 lamps on 6-foot models, and the electronic components. Lowering of this panel is accomplished by using a screwdriver to release the quarter turn fasteners at the outer top edge, and center for 6-foot models, of the panel. Refer to Figure 3 item 16 for location under component location on page 8.

Changing the Fluorescent Lamp(s)

1. Remove the front panel and lower the control panel as explained above.
2. Remove the fluorescent lamp(s) by rotating, and pull the lamp(s) straight out of the sockets. See Figure 3 item 15, page 8.
3. Install new lamps by reversing the removal procedure.

Opening the Filter Clamping Device

1. Remove front panel.
2. Grasp handle and lift device to upper position. See Figure 14.

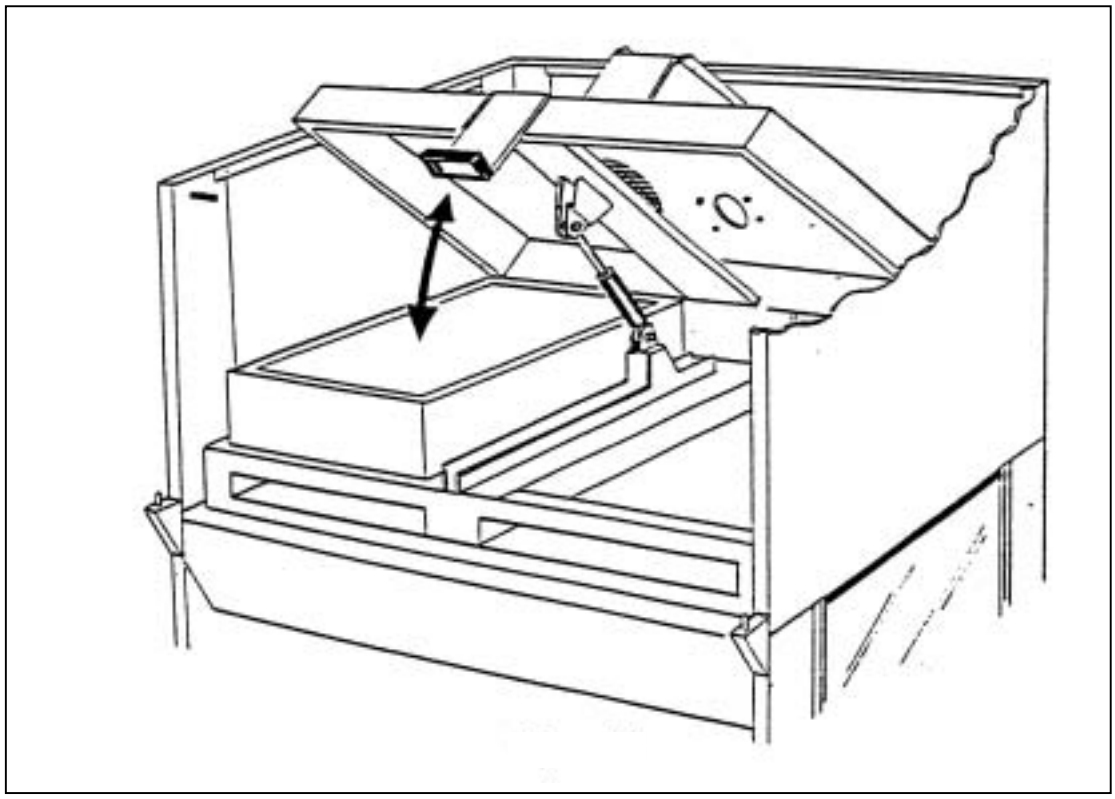


Figure 14

Replacing Sensor(s)

1. With power shut off to the unit. Remove front panel.
2. Open filter clamping device.
3. Locate sensor(s) by referring to Figure 2, items 5 and 6 on page 6. (Sensor on 6-foot models is located in the left hand clamping device).
4. Repair defective sensor(s) by replacing entire Sensor Assembly. Remove small rectangular cover to the right of the blower housing. Sensors and circuit boards are calibrated in pairs.
5. Disconnect wire harness to the circuit board. Pull rubber tube off the black Sensor mounting cone.
6. Unscrew four screws and lift cone and circuit board out of the clamping device.
7. Install new Sensor assembly by reversing the procedure.
8. **NOTE:** New Sensors may require a "burn-in" period of 15 to 20 minutes. If alarm sounds in the first 10 minutes of operation, reset the alarm by shutting the blower OFF momentarily.

Side Glass Replacement

1. Insert screwdriver blade between black plastic retainer strip and the corner post. Carefully pry plastic strip from its groove.
2. Remove glass and insert new one.
3. Press plastic strip into groove between glass and corner posts using finger pressure. Refer to Figure 15.

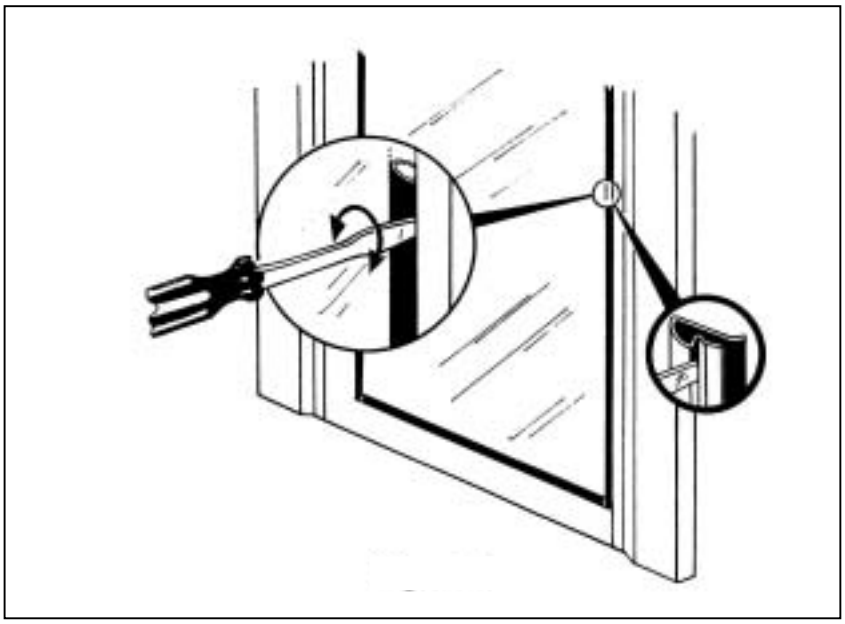


Figure 15

Prefilter Replacement

1. Remove front panel.
2. Pull out prefilter and discard. Replace with 16" x 25" x 1" roughing prefilter, actual measurements of 15.5" x 24.5" x 0.75" (39.4 cm x 62.2 cm x 1.9 cm) or accessory electrostatic prefilter.

WARNING: Filters that do not fit properly into the space provided will cause the face velocity to be reduced to a level that containment of contaminants will not be achieved.

Filter Cell Replacement

Refer to Installation Figure 7, page 12.

Motorized Impeller Replacement

The motorized impeller must be replaced as a complete unit. When the motorized impeller is replaced, the capacitor should also be replaced.

1. Unplug unit from the electrical outlet.
2. Remove front panel.
3. Remove the screws in the motorized impeller cover and remove the cover. Refer to item 13, Figure 3, page 8.
4. Remove 4 screws in the motor bracket. Item 12, Figure 3, page 8.
   4a. Replace the motor bracket if replacing a Fasco motor. See Replacement Parts page 33.

WARNING: High speed blower. Never operate impeller with housing off.

5. Disconnect all wires leading to the motor. Be sure to connect wires on the new motor in the same positions as old motor was wired. Refer to wiring diagram located on the unit.
6. Remove motorized impeller from the bracket by removing the 4 nuts and washers holding the motor to the bracket.
7. Replace the capacitor with a new one of equal voltage and capacity.
8. Reassemble the new motorized impeller by reversing the assembly steps.

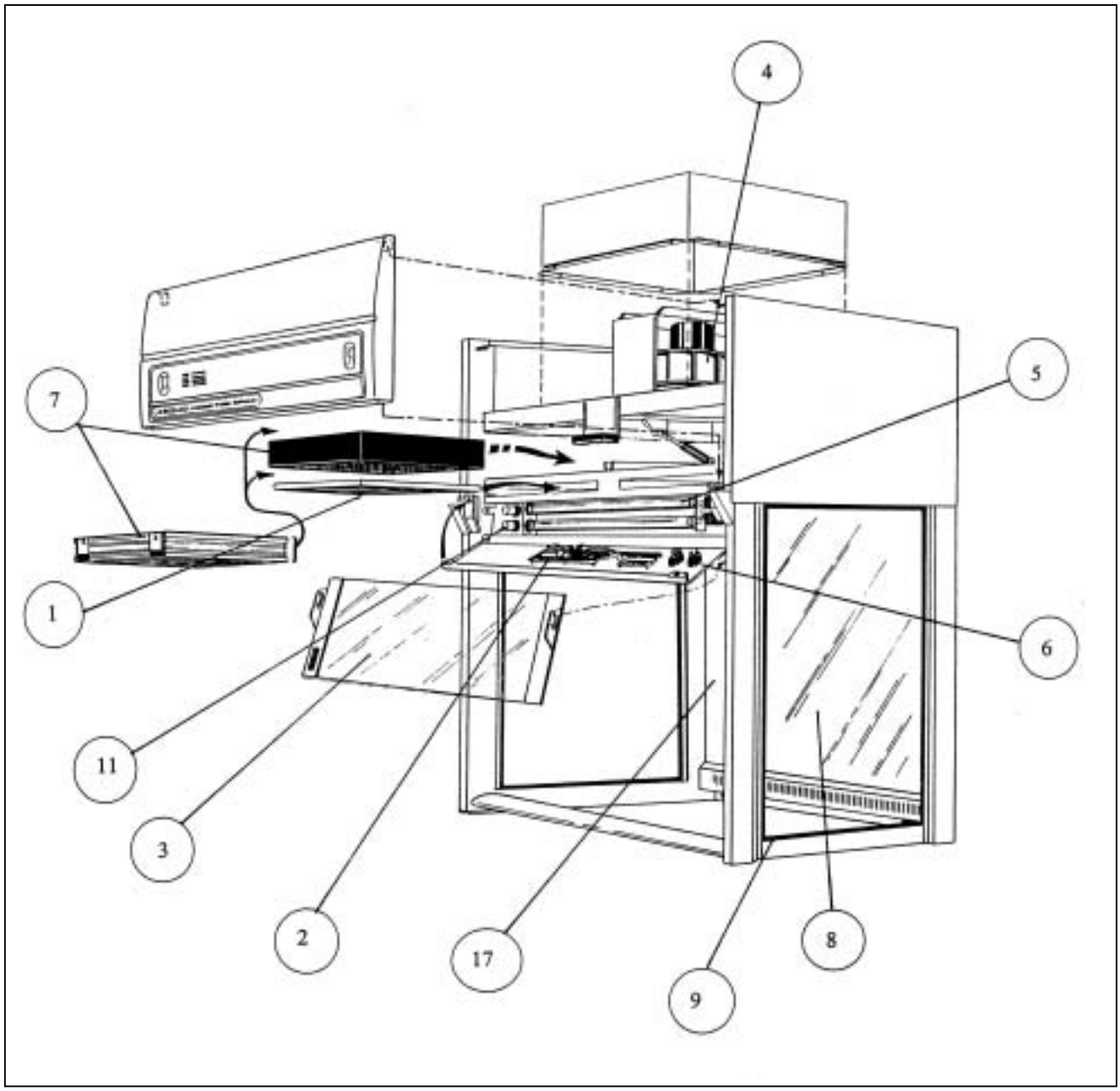
Sash Replacement

The sash is replaced as one-piece assembly including glass end brackets and sash gaskets.

1. Remove 2 screws on each side of the sash. Keep the washers and bushings to use on the new sash. Refer to item 22, Figure 3, page 8.
2. Install new sash by reversing the disassembly steps.

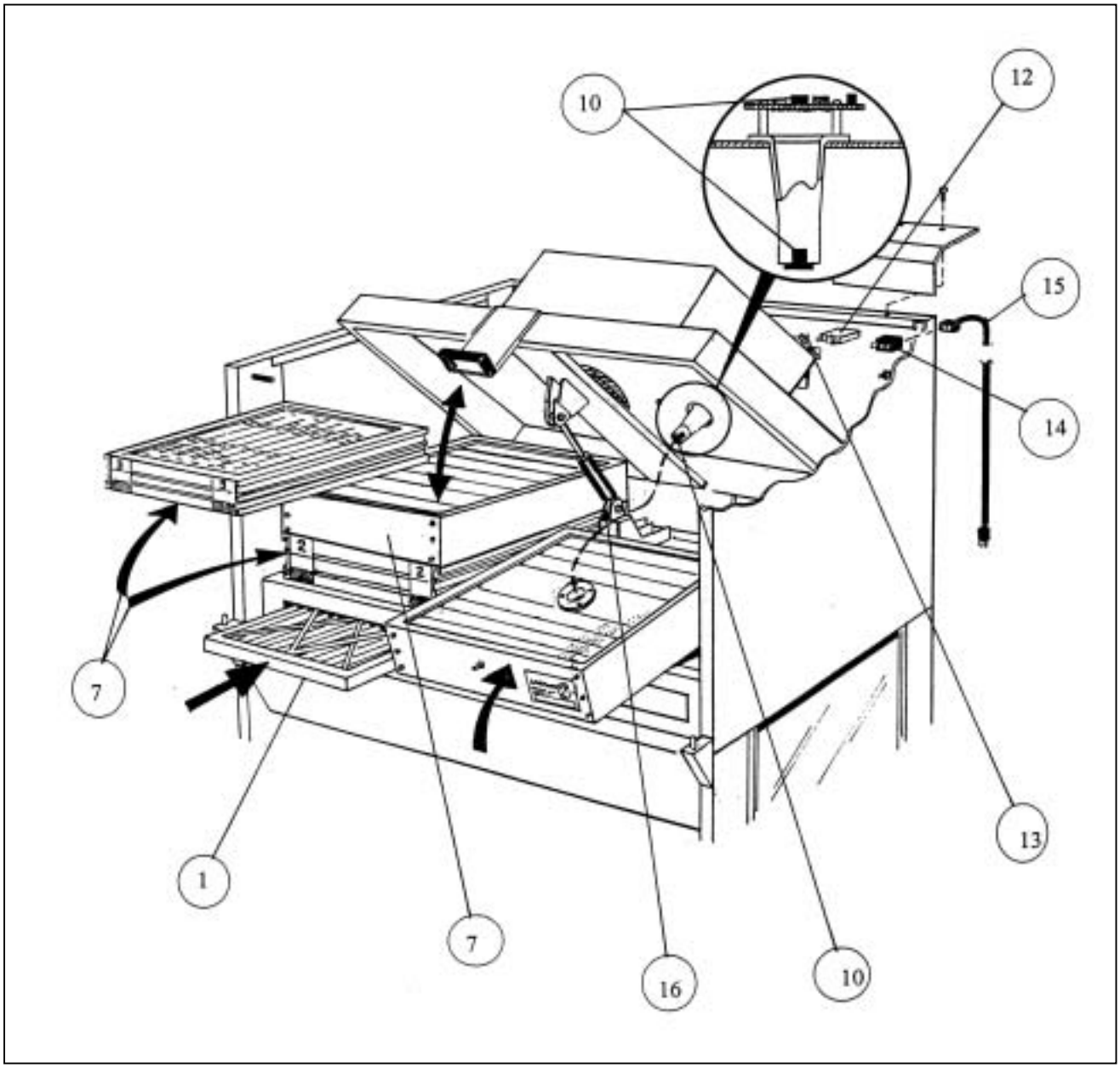
WARNING: Sash must always remain on unit to ensure face velocities and containment.

Ref. #	Catalog #	Description
1	6911000	Prefilters, Roughing – 4 required on 6 foot model
1A	6912000	Prefilters, Electrostatic (Optional) – 4 required on 6 foot model
2	6913100	P.C. Board Assembly – Controller
3	6917200	Sash Assembly
3A	6908800	Sash Assembly, 6 foot
4	6938000	Motorized Impeller (115V), 6919700 Old Fasco
4A	6938001	Motorized Impeller (230, 6919800 Old Fasco
4B	6933600	Motorized Impeller (115V) HEPA filter models only
4C	6933700	Motorized Impeller (230V) HEPA filter models only
4D	6937600	Bracket, Impeller EBM
5	1271700	Lamp, Fluorescent
6	1302300	Switch – Rocker
7	6910200	Filter Cells, Ammonia – Pkg. of 2
7A	6910300	Filter Cells, Acid Gases – Pkg. of 2
7B	6910400	Filter Cells, Organic Vapors – Pkg. of 2
7C	6910500	Filter Cells, Formaldehyde – Pkg. of 2
7D	6933200	HEPA Filter Cells – Pkg. of 2
8	4888012	Glass Sides 31.38 x 20.75
9	6914600	Retainer – Glass (Extrusion)
10	6918500	Sensors – HEPA filter models have one sensor
11	1271800	Starter
12	1327200	Circuit Breaker (115V)
12A	1327505	Circuit Breaker (230V)
Not Shown	6924900	Syringe Kit
13	1300900	Capacitor, 115V – 6924100 for Old Fasco
13A	6933500	Capacitor HEPA filtered models only, 115V
13B	1304700	Capacitor, 230V
13C	6933501	Capacitor HEPA filtered models only, 230V
14	1333800	Receptacle (115V)
14A	1339200	Receptacle (230V)
15	1334500	Power Cord (115V)
15A	1334100	Power Cord (230V)
16	6913000	Gas Spring
17	6931300	Assembly Transparent Baffle
Not Shown	4888018	Rear Glass
Not Shown	6925700	Detector Tubes – Ammonia – Pkg. of 3
Not Shown	6925800	Detector Tubes – Acid – Pkg. of 3
Not Shown	6926000	Detector Tubes – Formaldehyde – Pkg. of 3



3' Model Shown

Figure 16



3' Model Shown

Figure 17

SPECIFICATIONS/ELECTRICAL DATA TABLE

	Paramount Model	Electrical Requirements
6910000	Paramount w/ Sensors	115 VAC – 60 Hz 1 Phase – 3 Amps
6910001	Paramount w/ Sensors	230 VAC – 50 Hz 1 Phase – 1.5 Amp
6910002	Paramount w/ Sensors – Double Wide	115 VAC – 60 Hz 1 Phase – 6 Amps
6910003	Paramount w/ Sensors – Double Wide	230 VAC – 60 Hz 1 Phase – 3 Amps
6910004	Paramount Transparent Back w/ Organic Vapor Sensors	115 VAC – 60 Hz 1 Phase – 3 Amps
6910005	Paramount Transparent Back w/ Organic Vapor Sensors	230 VAC – 50 Hz 1 Phase – 1.5 Amps
6910006	Paramount Transparent Back w/ Organic Vapor Sensors – Double Wide	115 VAC – 60 Hz – 1 Phase – 6 Amps
6910007	Paramount Transparent Back w/ Organic Vapor Sensors – Double Wide	230 VAC – 50 Hz – 1 Phase – 3 Amps
6910010	Paramount Carbon/HEPA Filtered Enclosure w/ Organic Sensors	115 VAC – 60 Hz – 1 Phase – 3 Amp
6910011	Paramount Carbon/HEPA Filtered Enclosure w/ Organic Sensors	230 VAC – 50 Hz – 1 Phase – 1.5 Amps
6910012	Paramount Carbon/HEPA Filtered Enclosure w/ Organic Sensors – Double Wide	115 VAC – 60 Hz – 1 Phase – 6 Amps
6910013	Paramount Carbon/HEPA Filtered Enclosure w/ Organic Sensors – Double Wide	230 VAC – 50 Hz – 1 Phase – 3 Amps
6910014	Paramount Transparent Back, Carbon/HEPA Filtered Enclosure w/ Organic Sensor	115 VAC – 60 Hz - 1 Phase – 3 Amps
6910015	Paramount Transparent Back Carbon/HEPA Filtered Enclosure w/ Organic Sensor	230 VAC – 50 Hz – 1 Phase – 1.5 Amps
6910016	Paramount Transparent Back Carbon/HEPA Filtered Enclosure w/ Organic Sensors – Double Wide	115 VAC – 60 Hz – 1 Phase – 6 Amps
6910017	Paramount Transparent Back Carbon/HEPA Filtered Enclosure w/ Organic Sensors – Double Wide	230 VAC – 50 Hz – 1 Phase – 3 Amps
6910100	Paramount without Sensors	115 VAC – 60 Hz - 1 Phase – 3 Amps
6910101	Paramount without Sensors	230 VAC – 50 Hz – 1 Phase – 1.5 Amps
6910102	Paramount without Sensors – Double Wide	115 VAC – 60 Hz – 1 Phase – 6 Amps
6910103	Paramount without Sensors – Double Wide	230 VAC – 50 Hz – 1 Phase – 3 Amps
6910104	Paramount Transparent Back without Organic Vapor Sensors	115 VAC – 60 Hz – 1 Phase – 3 Amps
6910105	Paramount Transparent Back without Organic Vapor Sensors	230 VAC – 50 Hz – 1 Phase – 1.5 Amps
6910106	Paramount Transparent Back without Organic Vapor Sensors, Double Wide	115 VAC – 60 Hz – 1 Phase – 6 Amps
6910107	Paramount Transparent Back without Organic Vapor Sensors, Double Wide	230 VAC – 50 Hz – 1 Phase – 3 Amps
6910110	Paramount Carbon/HEPA Filtered Enclosure without Organic Sensors	115 VAC – 50 Hz – 1 Phase – 3 Amps
6910111	Paramount Carbon/HEPA Filtered Enclosure without Organic Sensors	230 VAC – 50 Hz – 1 Phase – 1.5 Amps
6910112	Paramount Carbon/HEPA Filtered Enclosure without Organic Sensors – Double Wide	115 VAC – 60 Hz – 1 Phase – 6 Amps
6910113	Paramount Carbon/HEPA Filtered Enclosure without Organic Sensors – Double Wide	230 VAC – 60 Hz – 1 Phase – 3 Amps
6910114	Paramount Transparent Back, Carbon/HEPA Filtered Enclosure without Organic Sensor	115 VAC - 60 Hz – 1 Phase – 3 Amps
6910115	Paramount Transparent Back Carbon/HEPA Filtered Enclosure without Organic Sensor	230 VAC – 50 Hz – 1 Phase – 1.5 Amps
6910116	Paramount Transparent Back Carbon/HEPA Filtered Enclosure without Organic Sensor – Double Wide	115 VAC – 60 Hz. – 1 Phase – 6 Amps
6910117	Paramount Transparent Back Carbon/HEPA Filtered Enclosure without Organic Sensor – Double Wide	230 VAC – 50 Hz – 1 Phase – 3 Amps
6911000	Prefilters, Roughing, installed, 2 each, or 4 each on 6' wide	
6924900	Syringe Kit	

The Paramount is designed to operate under the following conditions:

- indoor use
- altitude up to 2000m (6562 feet)
- temperature 5°C to 40°C (41° to 104°F)
- maximum relative humidity 80% for temperatures up to 30°C (88°F) decreasing linearly to 50% relative humidity at 40°C (104°F)
- main supply voltage fluctuations not to exceed ± 10% of the nominal voltage
- transient over voltages according to Installation Category II (overvoltage categories per IEC 1010)
- pollution degree 2 (normally only non-conductive foreign matter, solid liquid or gaseous (ionized gases), that may produce a reduction of dielectric strength or surface resistivity occurs. Occasionally, however, a temporary conductivity caused by condensation must be expected), in accordance with IEC 664

Paramount Weight: 300 pounds, (136 Kg)

Filter Weight: Approximately 40 pounds (18.1 Kg), depending on the Filter Cell type.

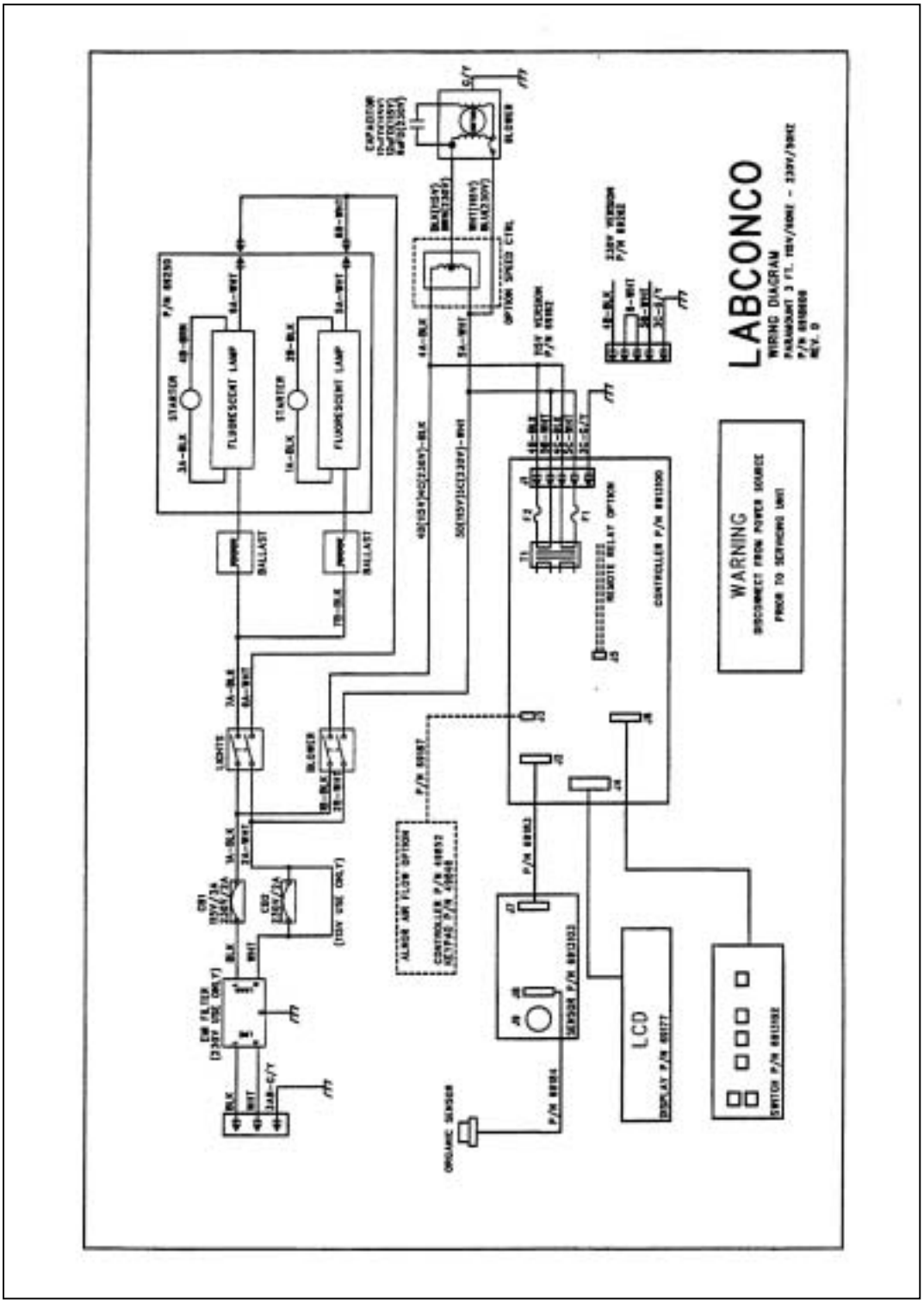


Figure 18

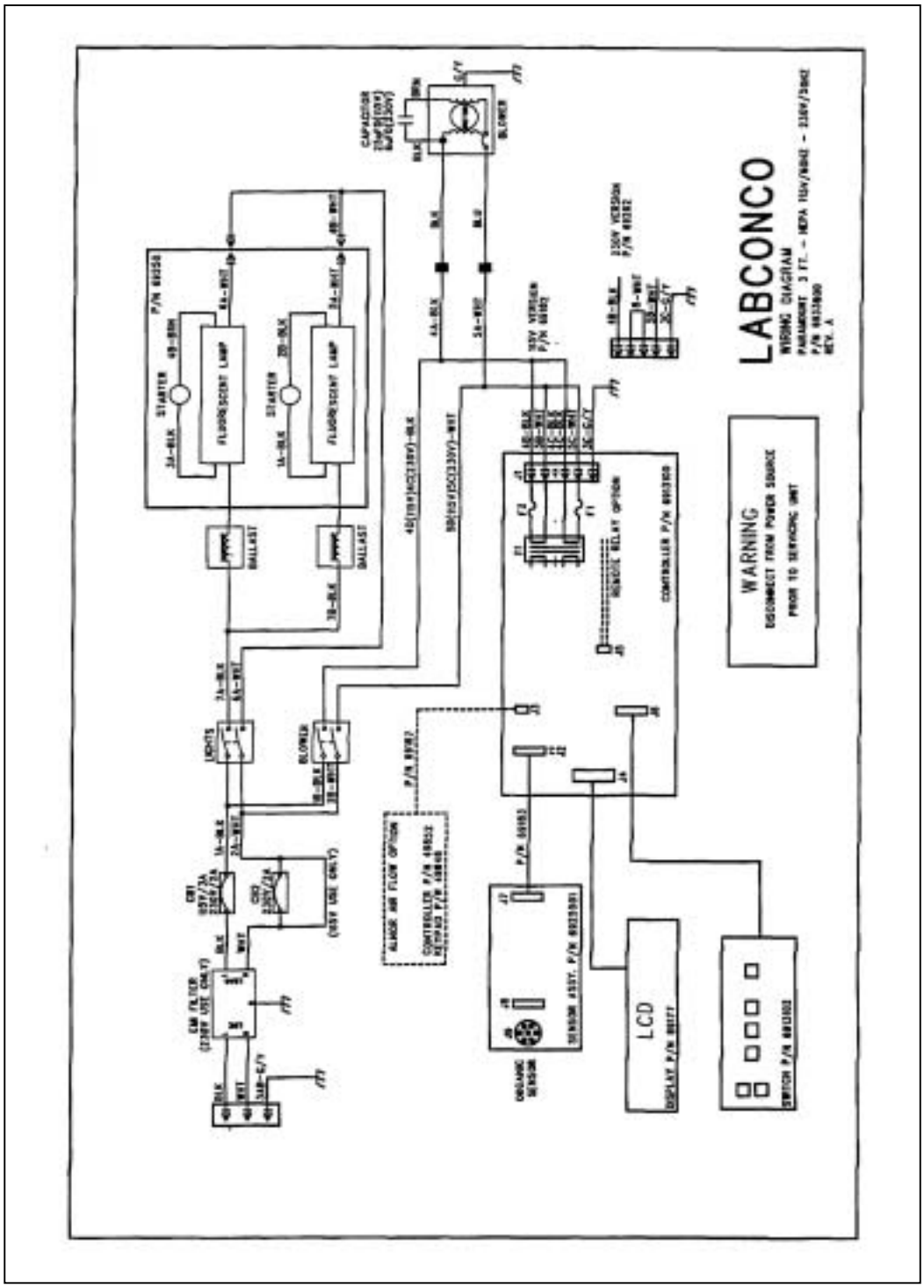


Figure 19

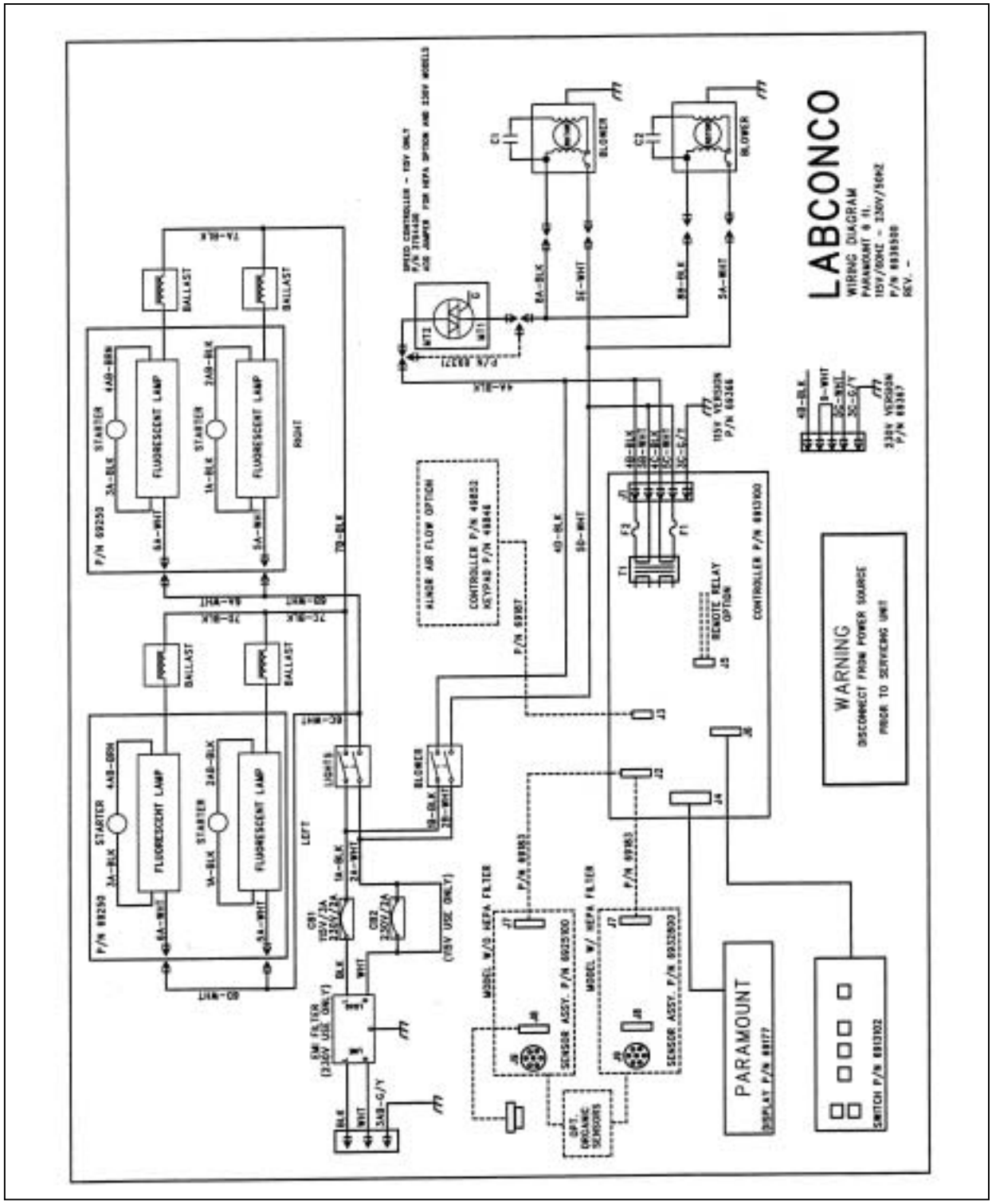
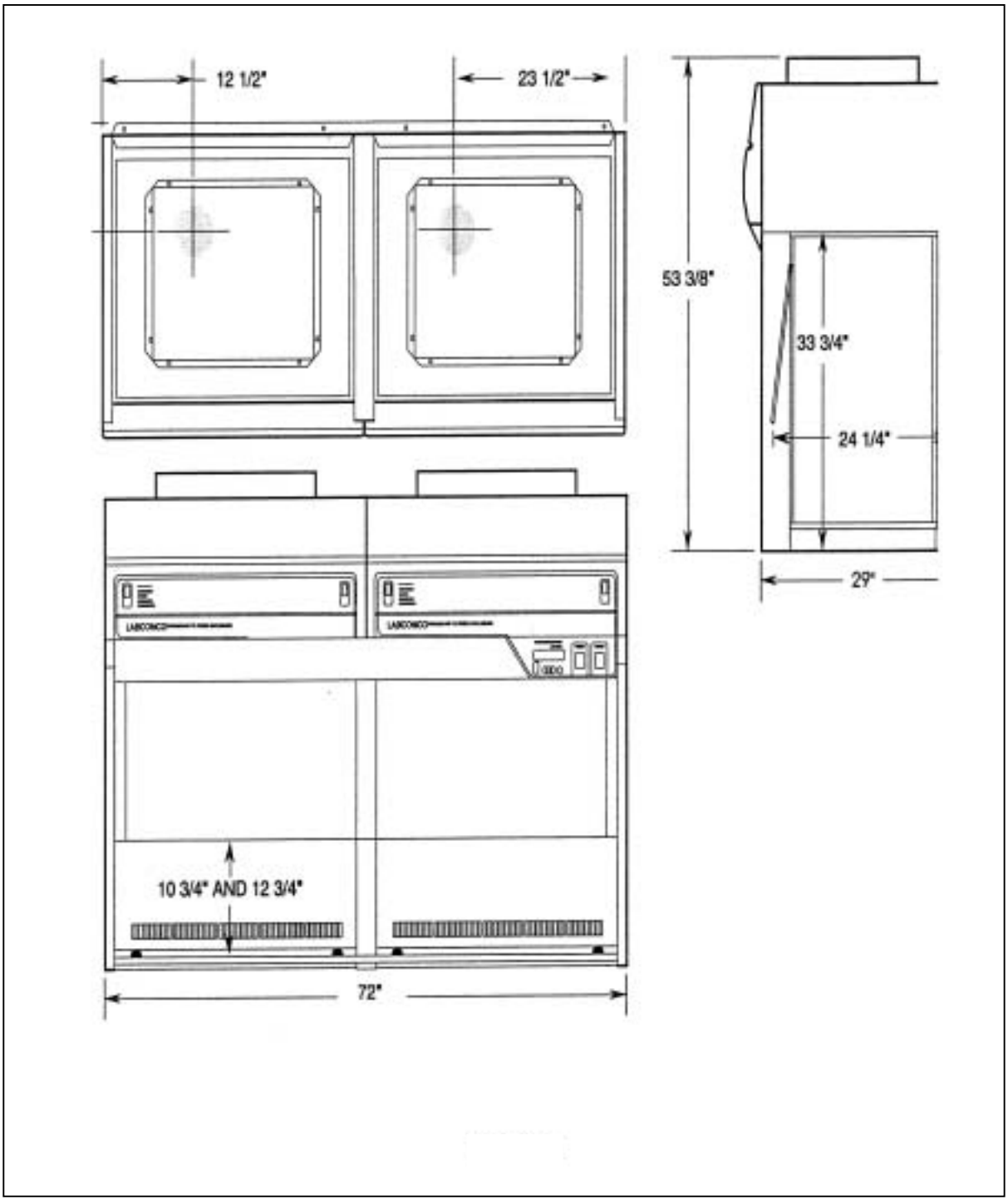
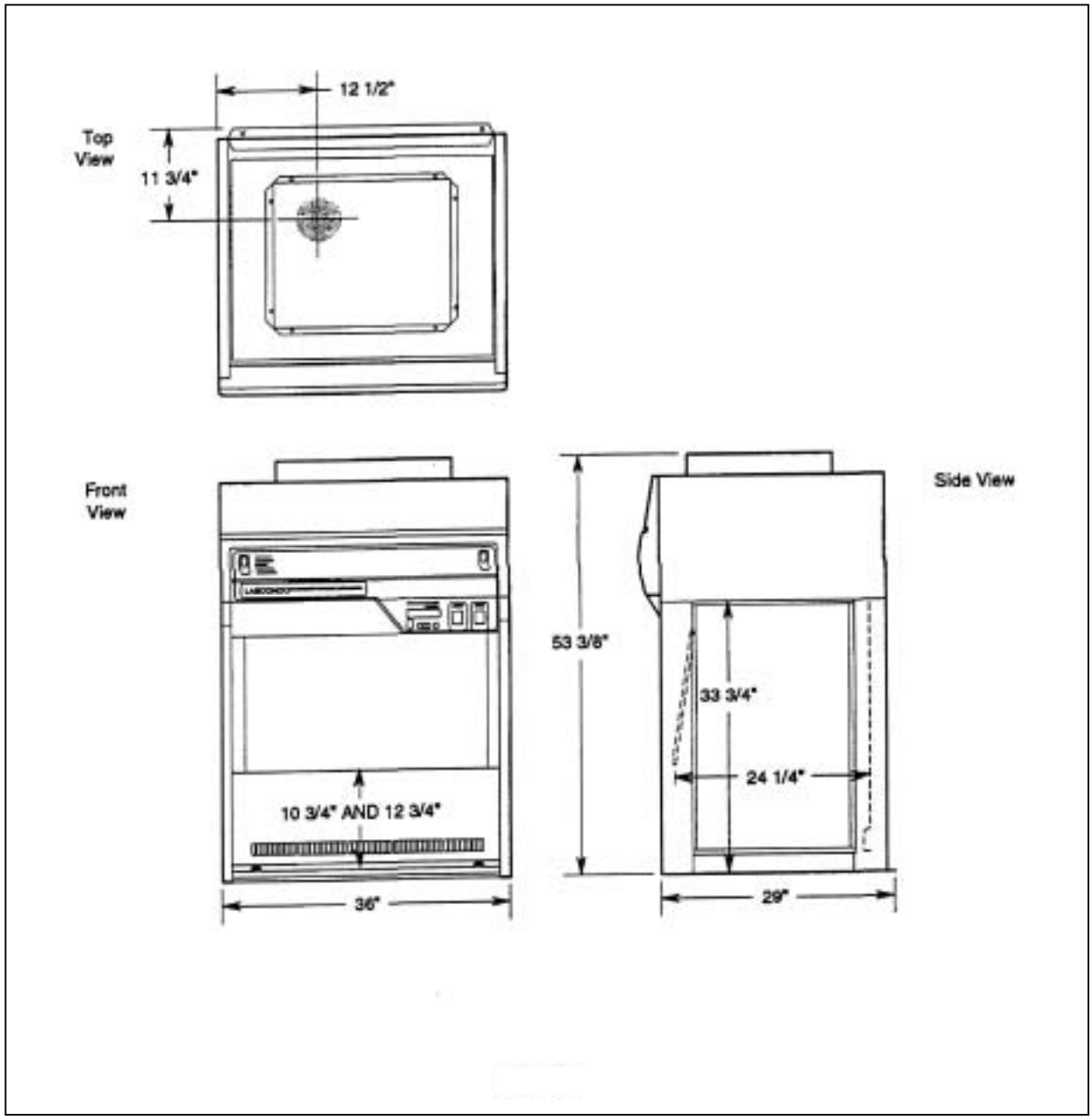

LABCONCO
WIRING DIAGRAM
PARAMOUNT II
WARNING
DISCONNECT FROM POWER SOURCE
PRIOR TO SERVICING UNIT
PARAMOUNT
BLOWER
FLUORESCENT LAMP
BALLAST
STARTER
CONTROLLER P/N 6913900
REMOTE RELAY OPTION
MODEL W/O HEPA FILTER
MODEL W/ HEPA FILTER
SENSOR ASSY. P/N 6932900
OPT. ORGANIC SENSORS
SWITCH P/N 6913702
LEFT
RIGHT

Figure 20



6' Wide

Figure 21



3' Wide

Figure 22

Paramount Filters and Accessories

Labconco #	Description
6910200	Filters Cells, Ammonia, Pkg. of 2*
6910300	Filter Cells, Acid Gases, Pkg. of 2*
6910400	Filter Cells, Organic Vapors, Pkg. of 2
6910500	Filter Cells, Formaldehyde, Pkg. of 2*
6933200	HEPA Filtered Cells, Pkg. of 2*
6911000	Prefilters, Roughing*
6912000	Prefilters, Electrostatic*
6910600	Dished Work Surface
6910700	Mobile Stand with Dished Work Surface
6910800	Base Cabinet with Dished Work Surface and Filter Storage
6910900	Exhaust Duct Collar
6914100	Organic Sensor Kit – for models 6910100 series 6910101, not applicable to HEPA filtered models

***NOTE:** All 6 foot wide models require 2 each or 4 filters.

TROUBLESHOOTING

PROBLEM	CAUSE	CORRECTIVE ACTION
Cabinet blower and lights won't turn on	Unit not plugged into outlet	Plug the Paramount into appropriate electrical service
	Circuit breaker(s) or Ground Fault Interrupter	Reset circuit breaker
Blower won't turn on but lights work	Blower wiring is disconnected	Inspect blower wiring
	Blower switch is defective	Replace blower switch – P/N 1302300
	Motorized impeller is defective	Replace motorized impeller P/N 6938000 – 115V, 60 Hz, Old 6919700 P/N 6938001 – 230V, 50 Hz, Old 6919800 P/N 6933600 – 115V, 60 Hz for HEPA filtered models only P/N 6933700 – 230V, 50 Hz for HEPA filter models only
Cabinet blower on but lights don't work	Lamp not installed	Inspect lamp installation
	Lamp wiring is disconnected	Inspect lamp wiring
	Defective lamp starters	Replace lamp starters
	Lamp is defective	Replace lamp – P/N 1271800 – P/N 1271700
	Lamp switch is defective	Replace lamp switch – P/N 1302300
	Defective lamp ballast	Replace lamp ballast P/N 6925400 – 115V, 60 Hz P/N 6925600 – 230V, 50 Hz
Blower runs, lights on, but LCD display is blank	Possible defective controller PC board or LCD Display	Contact Labconco Product Service at 800-821-5525 or 816-333-8811, Fax: 816-363-0130
LCD Display on but alarm sounds	Elapsed time on filter greater than "Set Filter Time"	Note elapsed time on filter, and then press "SET FILTER TIME". Step through to compare to the elapsed filter time to programmed final time. If elapsed filter time is greater than final time, install new filter or increase final time.
	"Check Time" has been reached	Check filter condition using appropriate gas detector tube. Alarm may be silenced by pressing "ALARM MUTE". Alarm LED may be turned off by waiting 5 seconds and again pressing "ALARM MUTE".
LCD Display on, but alarm sound due to organic sensor	Filter has loaded with organics	Change filter
Low face velocity or poor containment of contaminant	Sash not closed	Close sash to the lowest position
	Prefilters clogged	Replace Prefilters
	HEPA Filter clogged	Replace HEPA filters

Paramount®

CHEMICAL USAGE ASSESSMENT FORM

TO: FAX 816-363-0130
ATTENTION: Labconco Ventilation Specialist

Let us help you determine if the Paramount is the right equipment for your application. Complete this questionnaire and fax it to Labconco at 816-363-0130. Or submit the form from our website: **www.labconco.com/chemical_usage.html**

From:
Name: _____
Company: _____
Department: _____
Phone: _____
FAX: _____
E-MAIL: _____

1. What chemical(s) is/are being inquired about? Please indicate the percentage of each chemical in your mixture. For example, a mixture may contain 20% hexane and 80% octane. If one chemical is used, percentage is 100%.

	Chemical Name	**Percentage (total should equal 100%)**
Chemical 1		
Chemical 2		
Chemical 3		
Chemical 4		
Other		

Provide details regarding whether the chemicals will be used individually, simultaneously, or in a mixture.

_____

_____

_____

_____

2. Estimate how much of the chemical(s) is/are lost to evaporation in units of volume over time. This may be provided in many forms such as ml/minute or liters/month. For example, a 500 ml bottle of toluene is used for two hours per day and is lost over 2 weeks:

500 ml/2 weeks x 1 week/5 days x 1 day/2 hours x 1 hour/60 minutes = .41 ml/minute evaporation rate

	Chemical Name	**Evaporation Rate**
Chemical 1		
Chemical 2		
Chemical 3		
Chemical 4		
Other		

3. If evaporation rate cannot be calculated, please indicate the type(s) of container(s) that is/are normally used. A 500 ml Erlenmeyer beaker is one example. If more that one size or type of container is used, please indicate each one. If flasks and/or beakers are not used, please estimate the exposed surface area of the container used and the amount of time the container is open during use.

Type(s) and size(s) of container(s) used _____

_____

Amount of time container(s) is/are exposed during use _____

_____

4. At what temperature is/are the chemical(s) normally used? Is the chemical being boiled or heated in any way? Indicate Fahrenheit or Celsius. _____

_____

5. Other needs or concerns. _____

_____

Pocket Guide to Chemical Hazards
National Institute for Occupational Safety and Health (NIOSH)
(202) 783-3238

Draeger Safety, Inc.
101 Technology Drive
Pittsburgh, PA 15275
(412) 787-8383

Sensidyne
16333 Bay Vista Drive
Clearwater, FL 33760
(800) 451-9444

We are committed to providing our customers with quality equipment and service after the sale. Part of this objective involves keeping you informed of changes and new product additions. We, therefore, request that you take a moment to fill out the product registration card so we may know your location as well as some of the reasons that prompted you to purchase our product.

Labconco provides a warranty on all parts and factory workmanship. The warranty includes areas of defective material and workmanship, provided such defect results from normal and proper use of the equipment.

The warranty for all Labconco products will expire one year from date of installation or two years from date of shipment from Labconco, whichever is sooner, except the following:

- Purifier® Delta™ Series Biological Safety Cabinets carry a three-year warranty from date of installation or four years from date of shipment from Labconco, whichever is sooner.
- Carts carry a lifetime warranty.
- Glassware is not warranted from breakage when dropped or mishandled.

This limited warranty covers parts and labor, but not transportation and insurance charges. In the event of a warranty claim, contact Labconco Corporation or the dealer who sold you the product. If the cause is determined to be a manufacturing fault, the dealer or Labconco Corporation will repair or replace all defective parts to restore the unit to operation. Under no circumstances shall Labconco Corporation be liable for indirect, consequential, or special damages of any kind. This statement may be altered by a specific published amendment. No individual has authorization to alter the provisions of this warranty policy or its amendments. Lamps and filters are not covered by this warranty. Damage due to corrosion or accidental breakage is also not covered.

WARNING: 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 urged 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.

SHIPPING CLAIMS

If a shipment is received in visibly damaged condition, be certain to make a notation on the delivering carrier's receipt and have their agent confirm the damage on your receipt. Otherwise, the damage claim may be refused.

If concealed damage or pilferage is discovered, notify the carrier immediately and retain the entire shipment intact for inspection. Interstate Commerce Commission rules require that the claim be filed with the carrier within 15 days after delivery.

NOTE: Do not return goods. Goods returned without prior authorization will not be accepted. Labconco Corporation and its dealers are not responsible for shipping damage. The recipient must file claims directly with the freight carrier. If authorization has been received to return this product, by accepting this approval, the user assumes all responsibility and liability for biological and chemical decontamination and cleansing. Labconco reserves the right to refuse delivery of any products, which do not appear to have been properly cleaned and/or decontaminated prior to return.

DECLARATION OF CONFORMITY

Application Council Directive(s): 73/23/EEC, 89/336/EEC

Standard(s) to which conformity is declared: EN61010, EN55022, EN50082-1

Manufacturer's Name: Labconco Corporation

Manufacturer's Address: 8811 Prospect Avenue
Kansas City, MO 64132 USA

Importer's Name: See Shipping/Customs Documents*

Importer's Address: See Shipping/Customs Documents for your equipment

Type of Equipment: Laboratory Equipment – Sample Preparation

Model No.: Paramount Filtered Vapor Enclosure
69100-01, 03, 05, 07, 11, 13, 15, 17
69101-01, 03, 05, 07, 11, 13, 15, 17

Serial No.: Various – See Individual Declaration

Year of Manufacture: 1998 and Subsequent

I, the undersigned, hereby declare that the equipment specified above conforms to the above Directive(s) and Standard(s).

See individual Declaration of Conformity which will be signed by the importer for your country.

Place: _____
(Signature)

Date: _____
(Full Name)

_____
(Position)

*An individual version of this declaration is included with your shipping/customs documentation.

Labconco P/N 36960-11 Rev B ECO B296

For more information, please contact us:

ExpotechUSA
10700 Rockley Road
Houston, Texas 77099
USA

281-496-0900 [voice]

281-496-0400 [fax]

E-mail: sales@expotechusa.com

Website: www.ExpotechUSA.com