
ENVIRCO



100 PLUS

OPERATION MANUAL

LIMITED WARRANTY

Envirco warrants that all equipment manufactured by it and bearing its name will be free from defects in material and workmanship under normal use. The obligation of Envirco under this warranty is limited to the repair or replacement of any parts which are defective for a period of one year after invoice date, provided that Envirco receives written notice of such defect. For a period of 90 days after invoice date Envirco may effect such repairs or replacement, via Envirco Service personnel, at the equipment installation site provided that the equipment is located in the continental United States and that Envirco receives written notice of such defect. Excluded from this warranty are certain expendable items such as light tubes, filters, etc., as well as damage due to abuse or accident. Except for this warranty Envirco makes no warranty, expressed or implied, including but not limited to, those of description, quality merchantability, sample, fitness for a particular purpose or productiveness.



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CAUTION

The use of chemicals or solvents to clean the acrylic side windows is NOT recommended!
Alcohol or other harsh agents may cause damage to the Plexiglas.

Mild disinfectants or plain soap and water may be used.



Uncrating Instructions

A. UNCRATING INSTRUCTIONS

The EACI/Envirco equipment should be uncrated and inspected for shipping damage immediately upon arrival. If any damage is observed, a claims report should be filled out and promptly sent to the responsible carrier. Otherwise, uncrate and examine for internal damage.

If shipping damage is discovered inside the crating, file claim with the responsible carrier immediately. Shipping components list and actual material received should be compared and any shortages reported to EACI/Envirco immediately.

NOTE: Remove shipping blocks inside blower housing from motor/blower assembly(s).

CAUTION

Check to be sure plexiglas panels are removed before destroying carton.



Introduction

1.0 INTRODUCTION

The 100 Plus is a completely self-contained clean air product that provides a bio-clean, Class 100 environment (Federal Standard 209D) within its work area. The unit is designed so that surrounding particulate contamination cannot reach the work area within the Module. At the same time, airborne contamination generated within the work area is swept away by the unique laminar airflow pattern.

Air enters the Module through a prefilter in the top of the cabinet. A blower then supplies air to the work area through a High Efficiency Particulate Air (HEPA) filter. The HEPA filter removes all particles 0.3 microns and larger in size with an efficiency of 99.99%. Air moves uniformly through the work area at a velocity of 90 feet per minute ($\pm 20\%$) and exits at the front of the Module.



Features of the 100 - Plus

2.0 FEATURES OF THE 100 - PLUS:

- 2.1 Meets requirements of Federal Standard 209B, 90 fpm \pm 20% at static pressures of 0.5" W.G. to 1.3" W.G. "Class 100" air.
- 2.2 Washable polyurethane foam prefilter.
- 2.3 "HEPA" final filter, 99.99% efficient on particulate 0.3 microns and larger.
- 2.4 Quiet operation at 65 + 3 DBA operators station with a 52 DBA ambient.
- 2.5 Vibration level is less than 30 micro inches.
- 2.6 Statically and dynamically balanced direct drive blower.
- 2.7 Motor is continuous duty with sealed-for-life bearings and built-in thermal overload protection.
- 2.8 Solid state speed control provides rate of flow adjustment from 40 fpm to 130 fpm. Speed control is factory set at 90 fpm to comply with Federal Standard 209B.
- 2.9 Three prong grounded electrical plug for standard 110 v receptacle.
- 2.10 20 gauge steel polyurethane painted cabinet. White is standard with other colors available upon request.
- 2.11 Multiple units can be bolted together to form a continuous work area in increments of 24" long, i.e. two units equals 48" long, three units equals 72" long, etc.
- 2.12 Single receptacle on front face of blower box.
- 2.13 Clear plexiglas panels on all four sides for complete containment of clean air flow. The front plexiglas has a 12" opening for access to work area.
- 2.14 All units are factory tested before shipment.
- 2.15 Designed for easy conversion (either horizontal or vertical flow) utilizing existing work surface.



Assembly

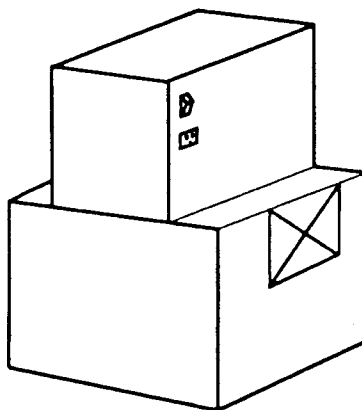
3.0 ASSEMBLY INSTRUCTIONS

All 100-PLUS components are contained in a single carton. Carefully remove all components from carton before beginning assembly.

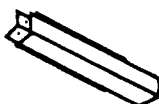
STEP 1 Check components

Check if all components listed below have been enclosed.

(1) Blower box and filter plenum assembly.



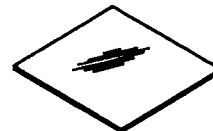
(4) Legs



(4) Leg Caps



(3) Plexiglas Panels: Sides and Back. 22 1/4" X 22 3/4" X 1/8"



(1) Plexiglas Panel: Front 12" X 22 1/4" X 1/8"





(I) Hardware package (Diagrams are actual size)

(16) No. 6-32 x 1/2" Pan Head Machine Screws



(8) No. 6 Hex Nuts



(8) No. 6 Lock Washers

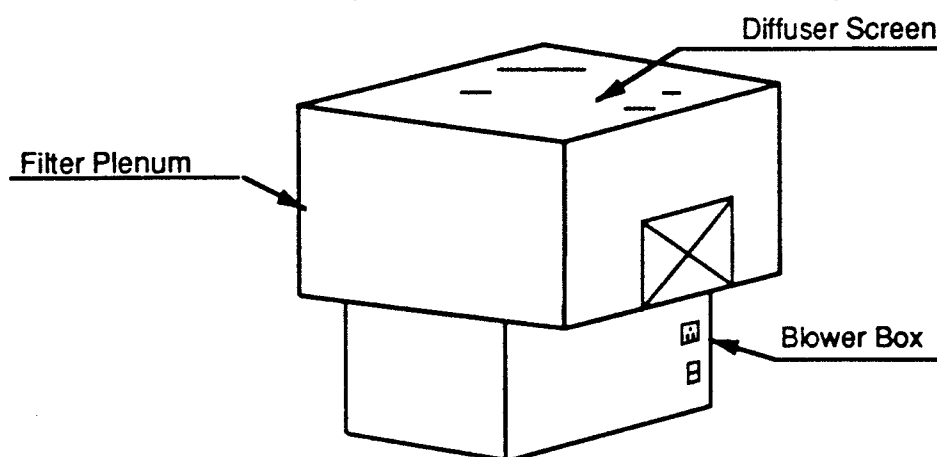


(8) No. 6 Acorn Nuts



Step 2 Turn unit upside down

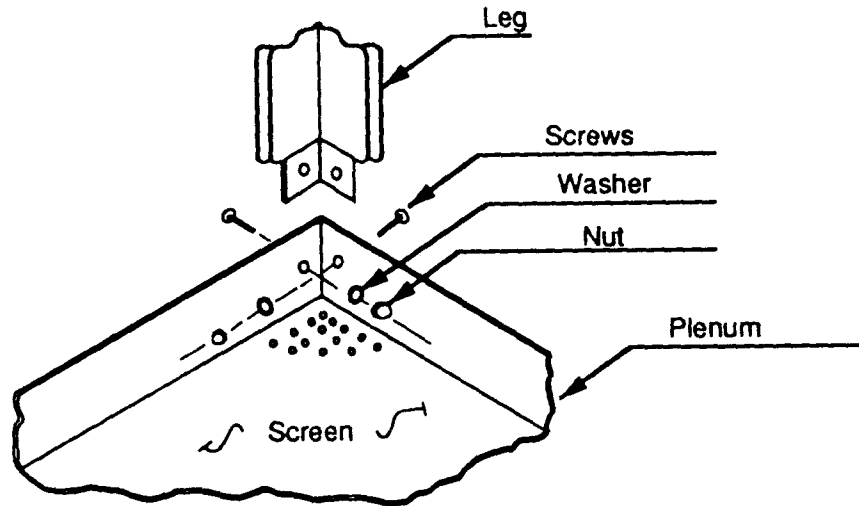
Turn unit upside down for ease of assembly.





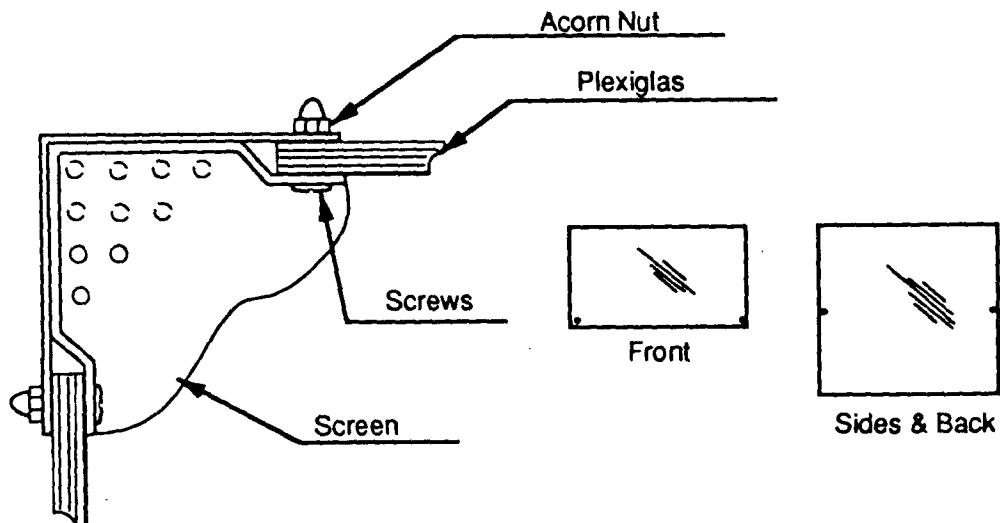
STEP 3 Leg Assembly

Insert one leg into a corner of the filter plenum. Slip two 6-32 x 1/2" pan head machine screws through filter plenum and then through leg. Fasten with one lock washer and one hex nut per screw. **DO NOT TIGHTEN.** Repeat procedure for other three legs.



STEP 4 Plexiglas Assembly

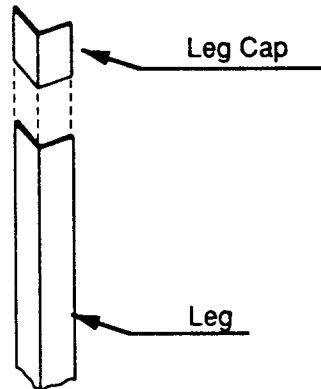
Remove brown protective paper from all four pieces of plexiglas. Begin with front piece by sliding in place between slots in legs. Proceed with sides and back in the same manner. Be sure top of plexiglas is at top of legs. Screws holding legs to filter plenum may be tightened at this time. Insert (2) per leg, No. 6-32 x 1/2" pan head machine screws from inside of unit out. Secure with acorn nuts.





STEP 5 Leg Caps

Slip leg caps onto bottom of legs. You may have to tap slightly with a hammer to make sure leg caps seat so unit will sit level.



STEP 6 Operation

Carefully turn unit right side up. Place on work surface where unit is to be used and plug into 115 volt outlet. Using a lint free cloth, wipe clean the entire interior surfaces of the work area.

Turn unit on and allow to run for a few minutes to purge work area of particles. It will then be ready to use as a clean environment.

Unit should never be turned off unless it will not be used for an extended period of time. If unit must be shut down, repeat cleaning procedure before using unit as a clean environment.

NOTE

If you encounter any problems or need technical assistance, please call (800) 545-6598 or (505) 345-3561 and ask for the Customer Service Department.

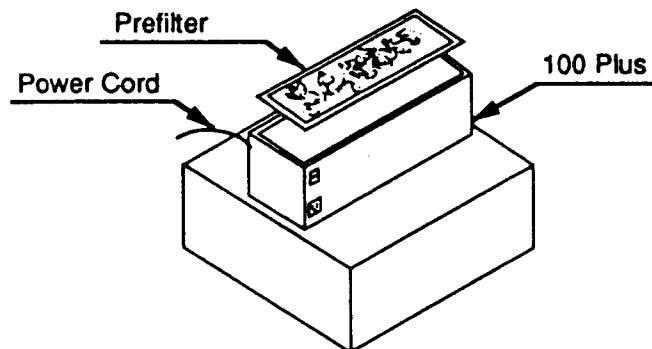


Service Instructions

4.0 SERVICE INSTRUCTIONS

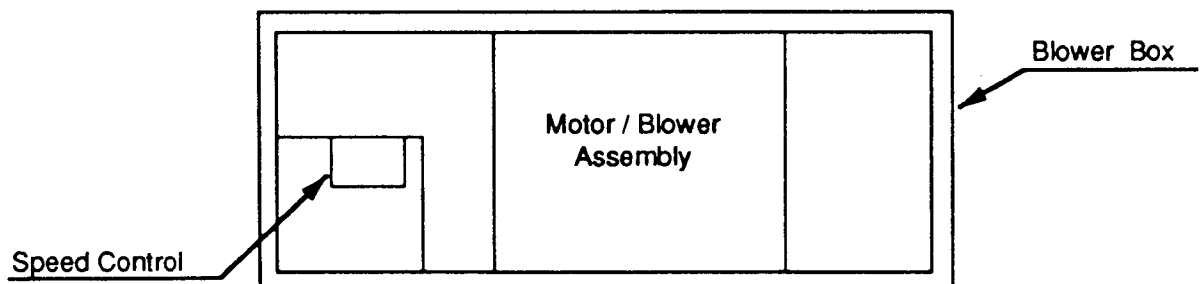
4.1 Prefilter Cleaning

- a) Disconnect electrical cord.
- b) Lift foam prefilter up and out.
- c) Vacuum clean or wash with soap and water.
- d) Replace by reversing the above procedure.



4.2 Solid State Speed Control Replacement

- a) Disconnect electrical cord.
- b) Remove prefilter. (See Section 4.1)
- c) Speed control is located inside the blower box in electrical chase. Remove screws holding cover.
- d) Remove two wires connected to speed control.
- e) Remove knob, then remove the screws holding the speed control.
- f) Replace with new speed control by reversing the above procedure.



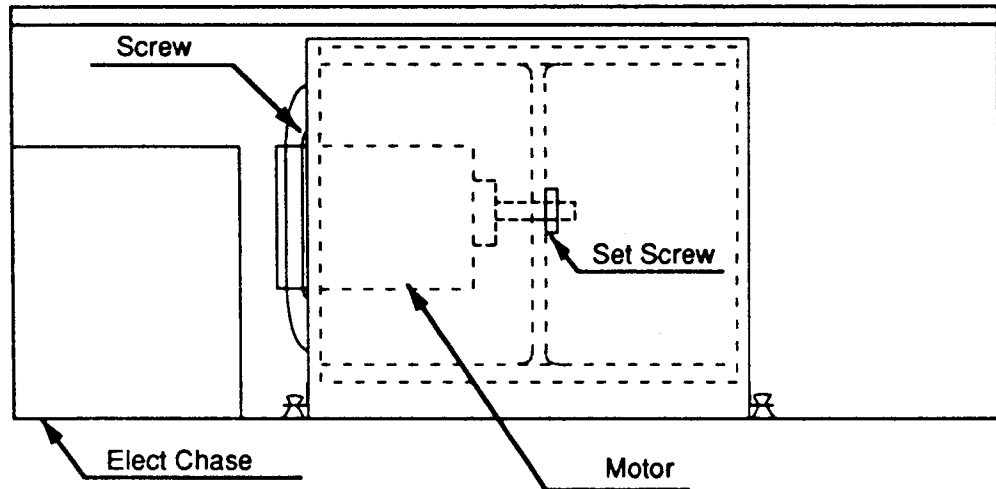
NOTE

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4.3 Blower/Motor Replacement

- a) Disconnect electrical cord.
- b) Remove prefilter. (See Section 4.1)
- c) Disconnect two black wires and one green wire at wire nuts in electrical chase.
- d) Remove four nuts connecting blower to vibration isolators.
- e) Lift out blower/motor combination.
- f) To separate blower from motor, remove three screws holding motor in position and loosen set screw on shaft.
- g) Replace new blower and/or motor by reversing the above procedure.



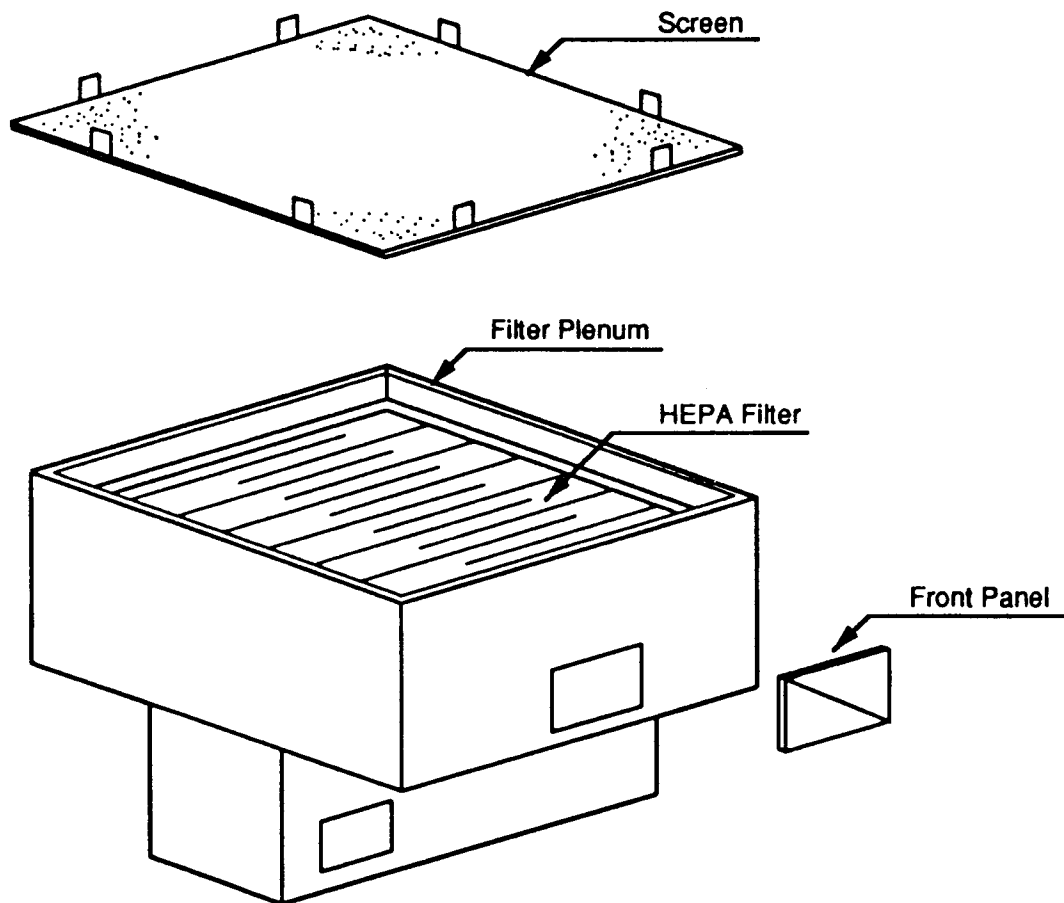
4.4 HEPA Filter Replacement

(Before replacement of HEPA filter, turn speed control clockwise to speed up blower. When on full and you cannot obtain the rate of flow desired, then the filter is no longer good and should be replaced with a new filter.)

- a) Disconnect electrical cord.
- b) Place unit on table with legs facing up.
- c) Remove legs, with plexiglas still attached, by removing two screws at top of each leg. Be careful not to twist leg and plexiglas assembly when removing.
- d) Remove perforated diffuser screen, (8) screws, two on each side of filter plenum.



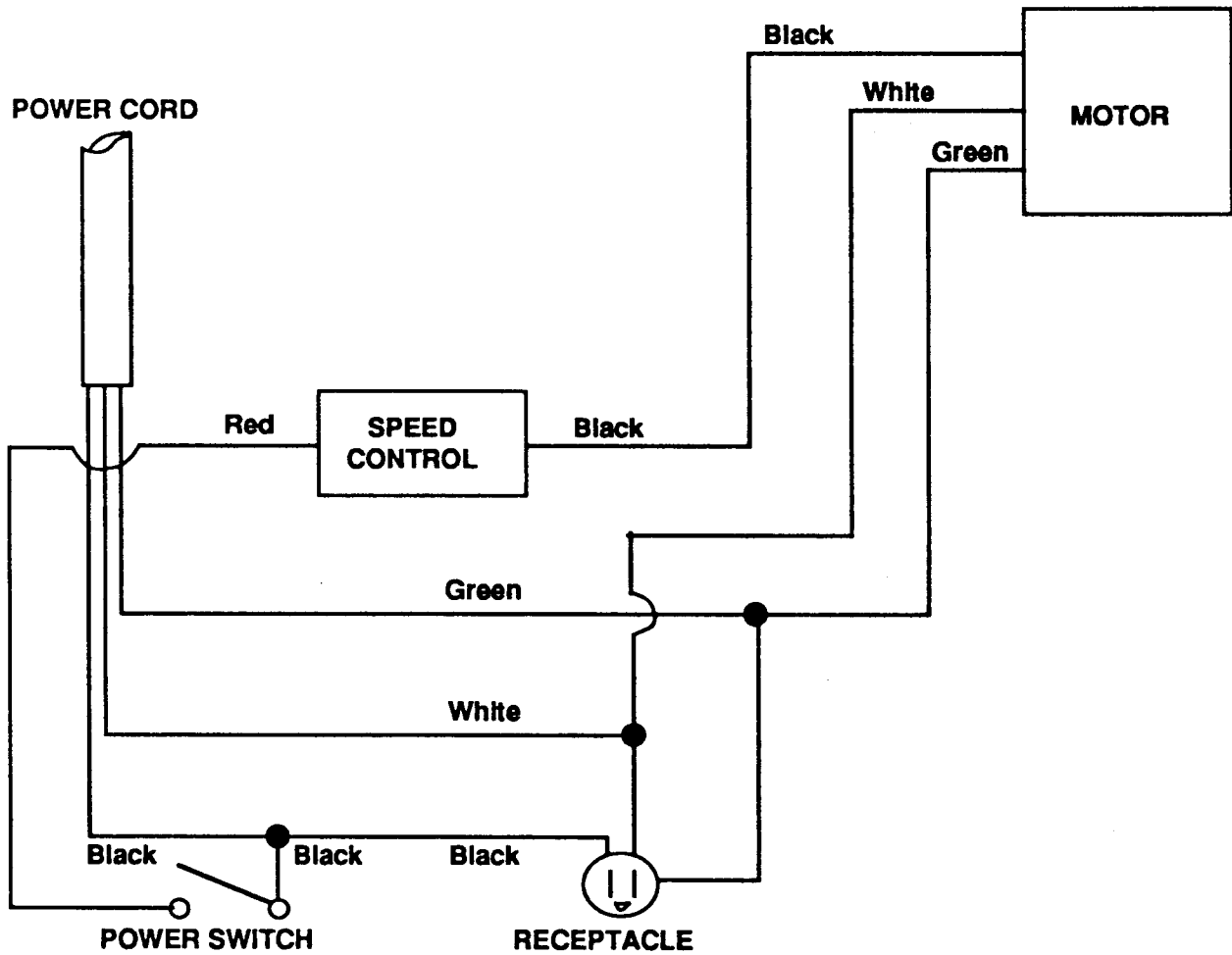
- e) Remove front panel, this is done to enable you to get your hand inside cabinet to help loosen filter if necessary.
- f) Remove four filter retaining brackets.
- g) Lay filter plenum on its side and pull filter straight out.
- h) Clean out inside of cabinet before installing new filter.
- i) Replace new HEPA filter and reassemble unit by reversing the above procedure.





Wiring Diagram

5.0 WIRING DIAGRAM





Parts List - 100 - PLUS

6.0 PARTS LIST 100 - PLUS

See next page for locations

Location	Part Number	Description	Qty per Unit
A	60043	Prefilter	1
B	60451	Blower	1
C	62653	Motor	1
D	62642	Vibration Isolators	4
E	61775	Solid State Speed Control	1
F	62673	Power Cord	1
G	61869	On-Off Switch	1
H	60055	Outlet	1
I	6031	Side/Back Plexiglas	3
J	6030	Front Plexiglas	1
K	23027	Leg	4
L	62644	Leg Cap	4
M	69072P	HEPA Filter (23 3/4" X 23 3/4" X 6")	1
N	23023	Diffuser Screen	1
Optional Accessories - Parts List (See Page 16)			
O	62735	Fluorescent Light Assembly (includes ballast)	1
P	61916	Fluorescent Light Tube	2
Q	E0004	Light Switch	1

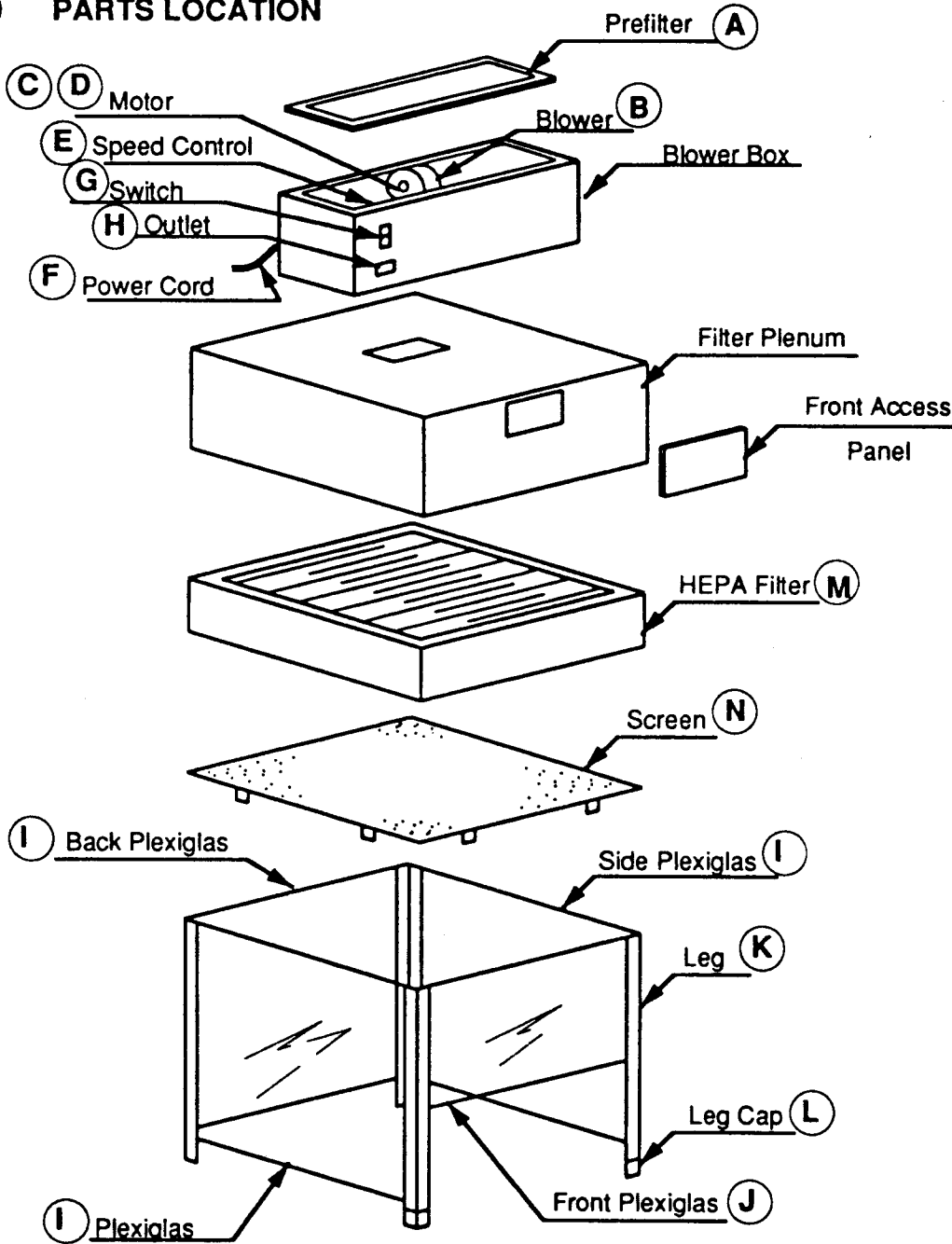
To place a direct order call:

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Toll-Free 800-545-6598



Parts Location

7.0 PARTS LOCATION

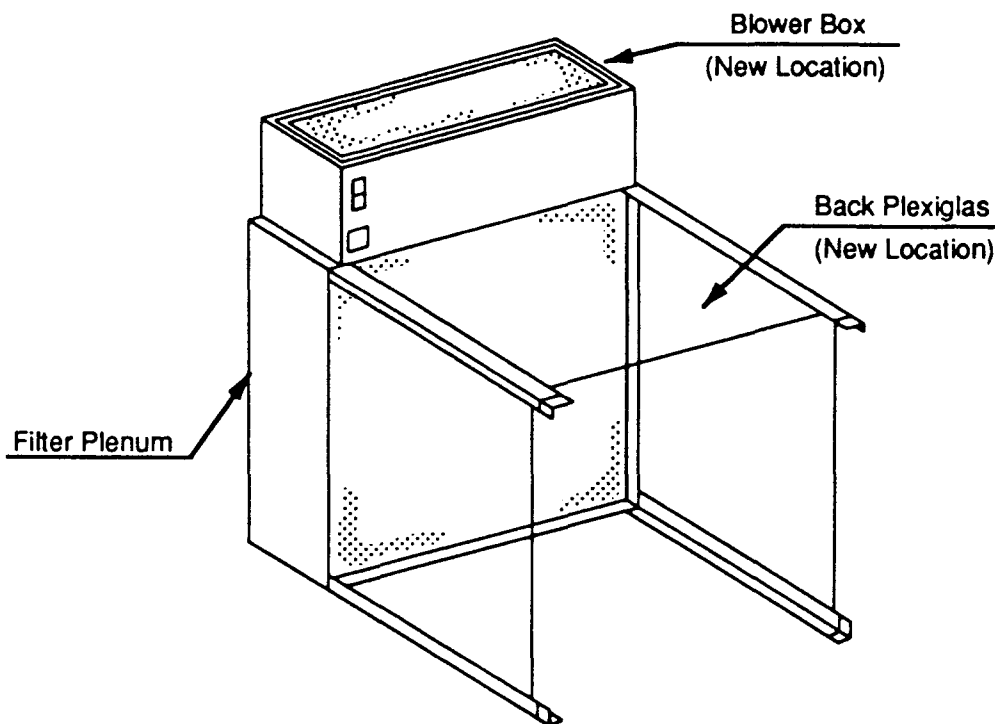




Conversion from Vertical Flow to Horizontal Flow

8.0 CONVERSION FROM VERTICAL FLOW TO HORIZONTAL FLOW

- 8.1 Unplug the unit.
- 8.2 Remove cover plate from front of unit.
- 8.3 Remove back plexiglas panel.
- 8.4 Remove front plexiglas panel and replace with back plexiglas panel.
- 8.5 Remove blower box from filter plenum.
- 8.6 Turn filter plenum on its back.
- 8.7 Place blower box on top and screw in place. Be sure blower matches opening in filter plenum.
- 8.8 Locate cover plate over hole on back of unit.
- 8.9 Plug in electrical cord and unit is ready for operation.

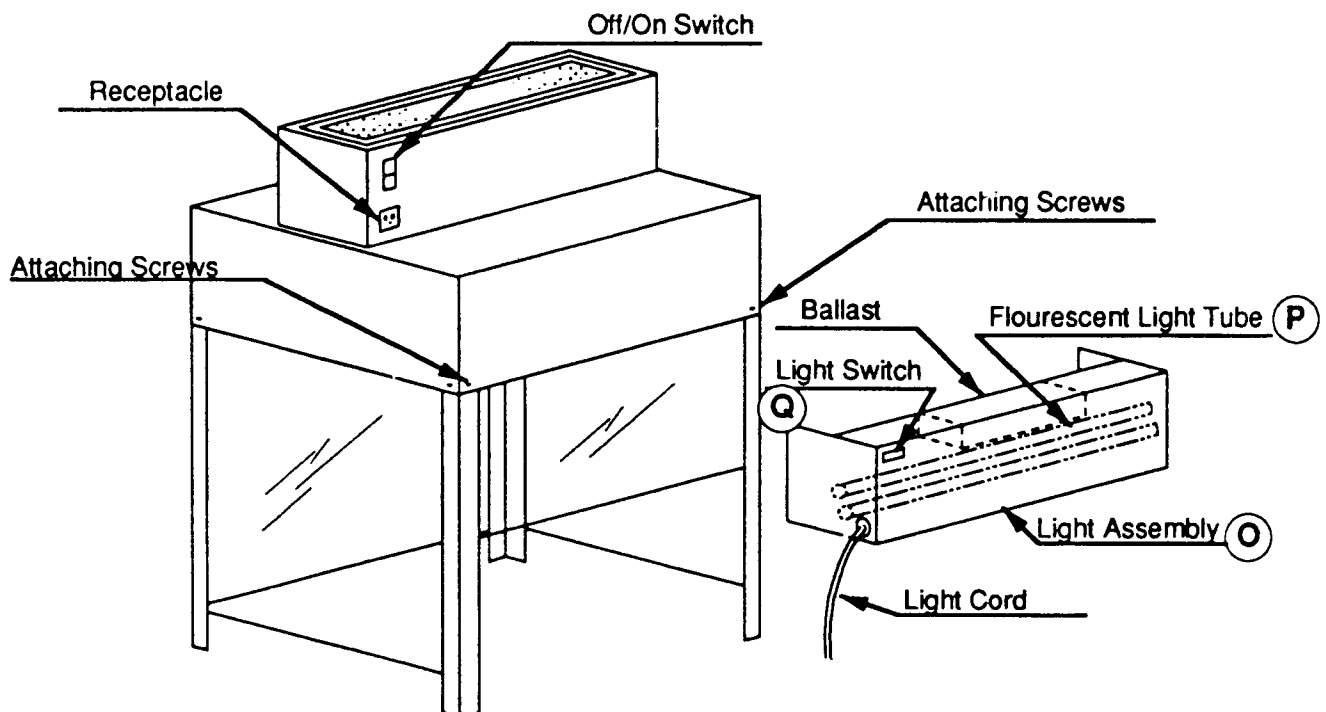




Light Installation

9.0 LIGHT INSTALLATION (OPTIONAL FEATURE)

- 9.1 The fluorescent light is installed on the 100-PLUS in the same manner whether the unit is used horizontally or vertically.
- 9.2 The light is installed on the front plexiglas panel. Follow the procedures below:
 - 9.2.1 Facing the unit, remove two (2) screws, one on each side, which hold the front legs.
 - 9.2.2 Install the light with the fluorescent lamps placed against the front plexiglas panel and ballast at top.
 - 9.2.3 Align the holes in the side flanges of the light with the leg attachment holes (one on each side).
 - 9.2.4 Replace the previously removed screws.
 - 9.2.5 Plug the light cord into the 115 volt receptacle installed on the face of the blower box.



The logo consists of a square divided into four quadrants by a cross. Each quadrant contains a stylized, abstract shape: the top-left is a semi-circle with a vertical line, the top-right is a semi-circle with a vertical line, the bottom-left is a semi-circle with a vertical line, and the bottom-right is a semi-circle with a vertical line.

ENVIRCO
C O R P O R A T I O N

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