

# Aercol®

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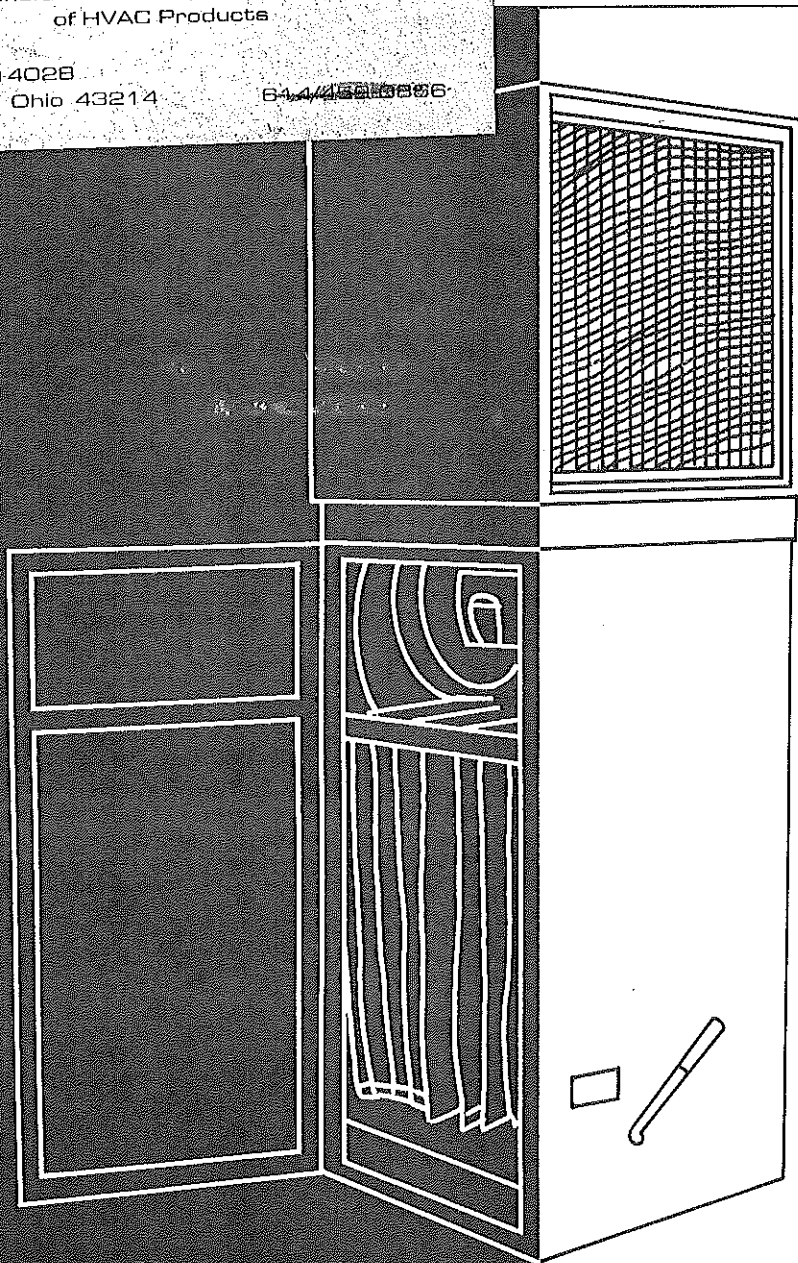
## Filter-Type Smoke Collectors

### APPROVED COMPONENTS

Manufacturer's Representatives  
of HVAC Products

P.O. Box 14028  
Columbus, Ohio 43214

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# New, High-Efficiency Filter-Type Smoke Collectors...

As an adjunct to the well-known Aercology line of mist collectors, electrostatic precipitators, and dust collectors, we have added a series of new, filter-type smoke collectors. Aercology two-stage static smoke collectors incorporate bag-type first stage filters and HEPA afterfilters to provide highly efficient in-plant air cleaning. These new smoke collectors have been specifically designed for applications involving combinations of dense smoke and heavy, dry particulate, such as production welding, plasma arc cutting, and abrasive cutoff sawing.

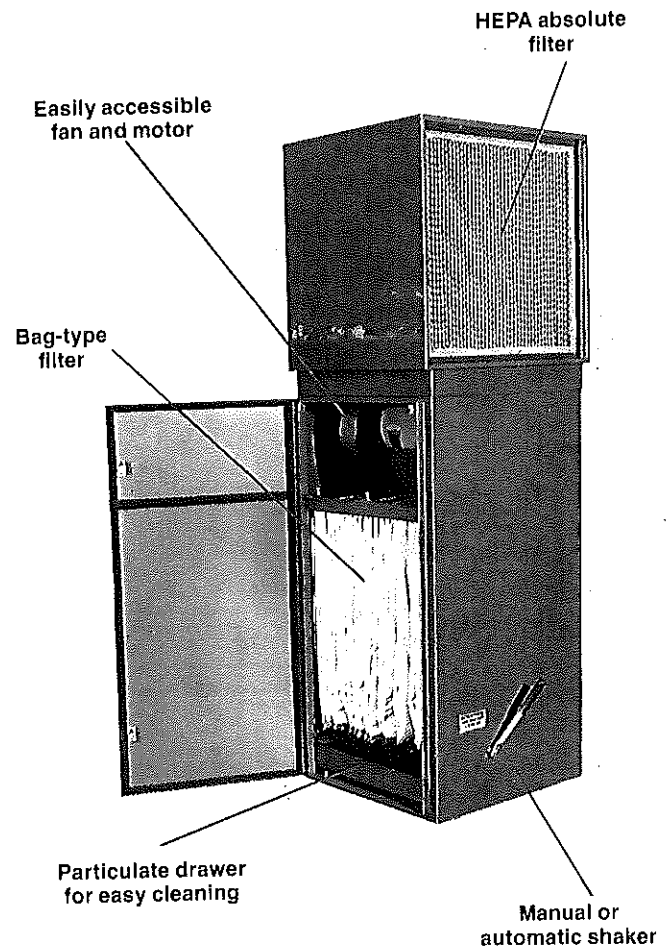
Both manual and automatic shaker systems are available with these smoke collectors to speed and simplify maintenance. Standard smoke collector capacities range from 500 to 1500 cfm. **Routine maintenance is limited to an occasional shaking of the bags.**

Offered in both stationary and portable configurations, Aercology filter-type smoke collectors meet the widest possible variety of applications with **efficiency guaranteed at 99.97% at 0.3 micron.** Stationary collectors are ducted for direct source capture; portable models are described on the next page.

## Smoke Collector versus Precipitator

There is a definite place for both precipitators and filter-type smoke collectors in the industrial marketplace, and both types are highly efficient down in the sub-micron particle range. Aercology provides each type specifically because one can be used in certain applications in which the other is less than totally satisfactory. The following table compares the two types of filters:

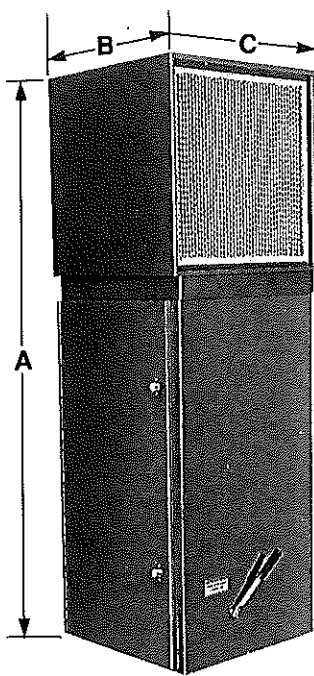
Features	Smoke Collector	Precipitator
CFM Range	500-1500	1300-5200
Suited for Ducted (source capture)	yes	yes
Suited for Unducted (free hanging)	no	yes
Suited for Dry Particulate	yes	yes
Suited for Wet Particulate	no	yes
Automatic Cleaning Available	yes	yes (dry only)
Particulate Storage (loading) Capacity	high	low
Sustained Efficiency with Usage	increases	decreases
Available Voltage	220/440 VAC, 3-phase	110 VAC, 1-phase 220/440 VAC, 3-phase
Replacement Filters	yes (non-routine)	no
Available in Portable	yes	yes



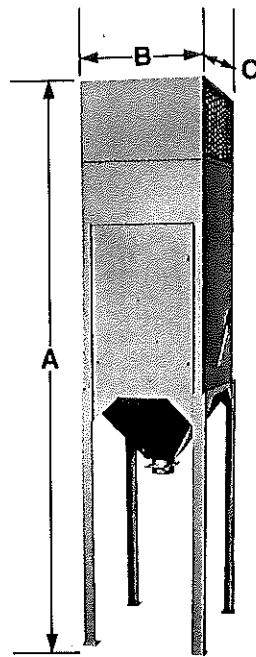
## Typical Applications

- Production Welding
- Abrasive Cutoff Sawing
- Plasma Arc Cutting
- Ultra Fine Dust

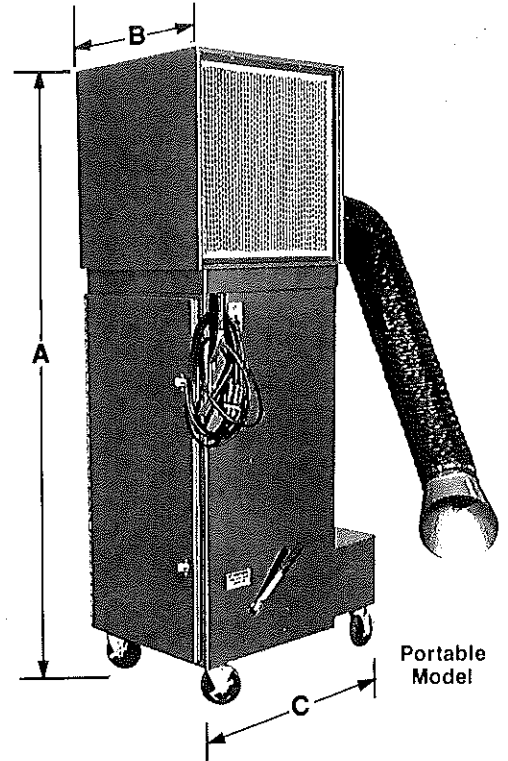
# Specifications and Overall Dimensions



Standard Model



Hopper Model



Portable Model

## Portable filter-type smoke collectors

There are many industrial situations where stationary filter-type smoke collectors will not provide the flexibility required in non-repetitive or low production operations. For such applications, Aercology offers a portable filter-type smoke collector which can be easily moved directly to the source of airborne contaminants for maximum direct source capture.

The basic model SF-800P consists of an 8" flexible, adjustable hose-arm assembly, pickup hood and 5" heavy duty casters; the balance of the unit is identical to the standard SF-800 model. Portable filter-type smoke collectors provide all of the environmental and economic benefits of non-portable models, plus added operating convenience.

## Features

**Five inch casters** plus convenient power cord storage handle for pushing allow easy and efficient portability.

**Flexible hose arm assembly** with eight foot swing radius and ball joint adjustment allows proper positioning of the conical inlet hood right at the pollution source.

**Pull-out drawer** in the base of the unit means easy maintenance and dust removal.

**Hose support arm** with self-adjusting, non-slip joints and without springs is mounted inside the hose.

**Manual contactor** provided standard. Magnetic motor starter with overload protection optional. Call factory for details.

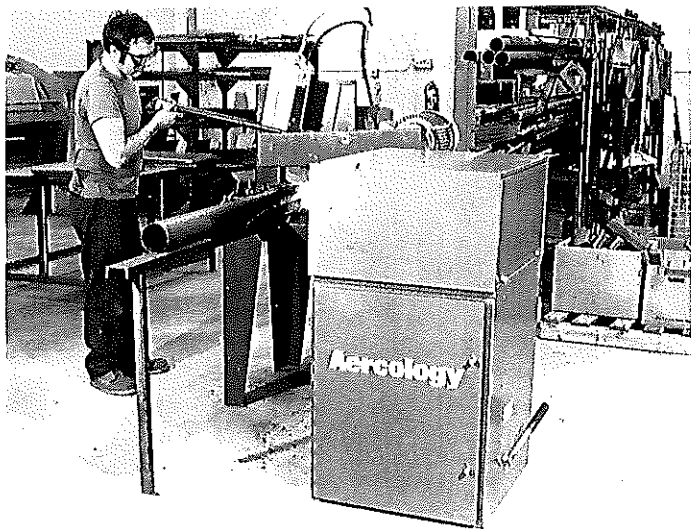
Note: Special models can be developed to meet unique user specifications. Consult the factory for details.

Model*	Nominal Air Flow CFM	Ext. S.P. In. W.G.	Bag Filter Area (Sq. Ft.)	Motor 230/460V. 3 Phase/ 60Hz.	DIM. A	DIM. B	DIM. C	Std. Inlet**	Gauge Constr.	Wt. Lb.	Dust Cap. (Cu. Ft.)
SF-500	500	2.5	60	¾ H.P.	43¼"	23⅝"	26¼"	4"	16	240	.90
SF-500H	500	2.5	60	¾ H.P.	104¼"	23⅝"	26¼"	4"	16	340	1.8
SF-800	800	4.0	160	2 H.P.	74¼"	23⅝"	26¼"	6"	16	365	.90
SF-800H	800	4.0	160	2 H.P.	135¼"	23⅝"	26¼"	6"	16	465	1.8
SF-1500	1500	2.0	190	3 H.P.	80"	28½"	32¾"	8"	14	525	2.0
SF-1500H	1500	2.0	190	3 H.P.	141"	28½"	32¾"	8"	14	645	3.0
SF-800P (portable)	800	free flow	160	2 H.P.	79¾"	23⅝"	35"	8"	16	430	.90

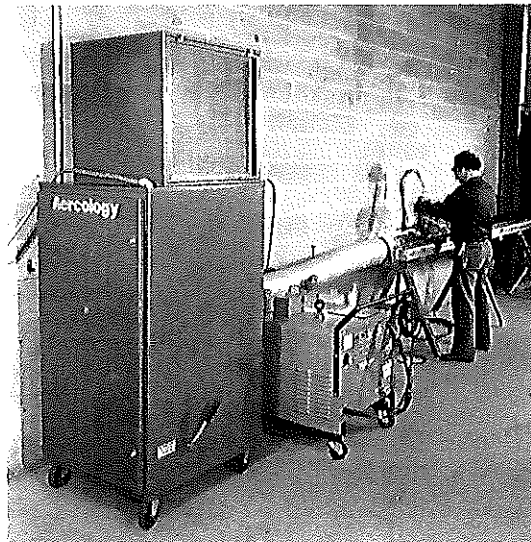
\*For added dust storage capacity, add suffix "H" for unit with hopper (e.g. Model SF-500H).

\*\*Standard inlet located on rear surface.

# Typical Applications

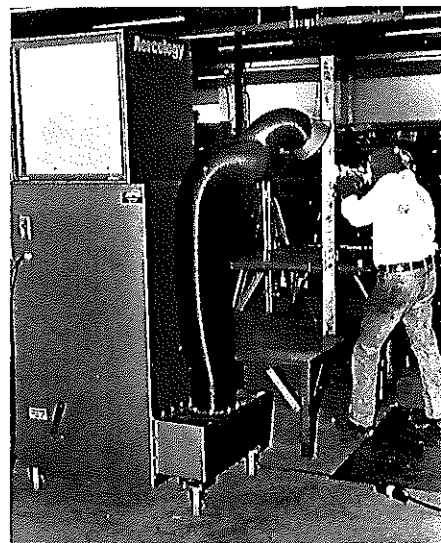
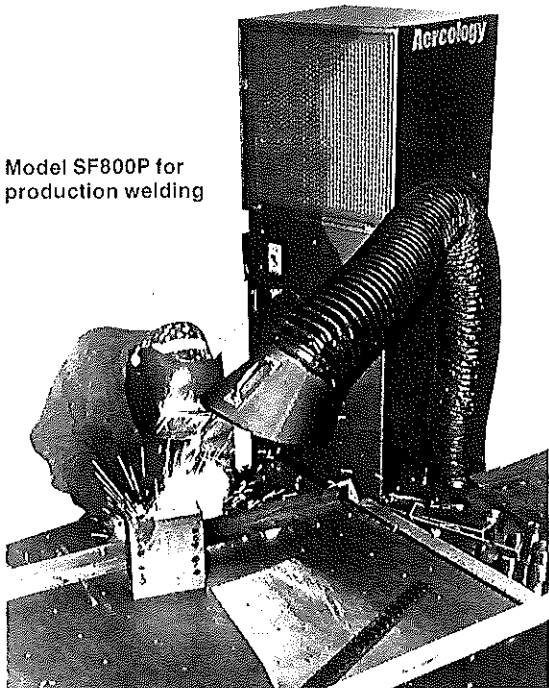


Model SF500 for abrasive cutoff operations.



Model SF800P portable for plasma arc cutting.

Model SF800P for production welding



Model SF800P for maintenance-type welding.

Aercology representatives, strategically located worldwide, are anxious to help you solve your in-plant air pollution problems. Why not give them a chance?

## **Aercology**

Aercology Incorporated  
Old Saybrook, Connecticut 06475  
(203) 399-7941 Telex 643-325

**Aercology®**

Standard  
Dust Collector  
and SF Series  
Collector

**INSTALLATION AND SERVICE MANUAL**



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## INSTALLATION & MAINTENANCE INSTRUCTIONS FOR STANDARD DA & SF SERIES COLLECTORS AND FOR UNITS WITH HOPPER OR BIN

Place hopper or base bin in desired location on level ground and fasten legs. Put a bead of caulking on the inside flange of the base and raise the cabinet onto it. (Electrical: see below)

### DA SERIES

Locate dust collector as near to dust source as possible. Hook up electricals per instructions below. Hook up ducts or hose from machines to collector and unit is ready for service.

Electrical wiring and hook up should be done by a qualified electrician, following the wiring diagram on the motor. Be sure to include a starter with proper size overload heaters. Check blower rotation. Standard Aercology fans are designed to operate clock wise viewing fan inlet.

### MAINTENANCE

Filter cleaning: Extent of filter cleaning required depends on the specific application and can be established after an initial period of use. In the average situation 4 or 5 shakes of the manual shaker are required after 4 hours of use. Blower should be shut down during shaking operation, in addition, the bags should be inspected and brushed periodically. If replacement filter bags are required, be sure to show serial number and job number on inquiry.

### POST INSTALLATION CHECK OUT

There are a few but very important checks to be made on every system or machine before putting into service.

The first thing to check is the voltage of the system. Make sure that at the motor, the incoming voltage corresponds to the motor label. A maximum of 10% variation is permissible.

The second check item is the rotation of the fan. A decal with an arrow pointing towards the fan discharge is on every fan that leaves Aercology, but should the arrow be lost, remember that the fan blade should turn in the direction of the fan outlet. (To reverse fan rotation interchange any two input power leads.)

The third thing to check is whether all dampers or blast gates in the system (if any) are in the position required. When a system is checked out, as a rule all dampers in the system, except perhaps the blower discharge control damper (if so supplied) should be fully open.

NOTE:

All Aercology equipment is tested before leaving the factory, but field conditions vary, and sometimes things get damaged in transport. It is therefore important to check out every installation and make adjustments if necessary.

TROUBLE SHOOTING

PROBLEM

REMEDY

- |  |   |
|--|---|
| 1. Motor wouldn't start.   | 1. Check if overload heaters are in the starter. If all switches are ON, push the reset button on starter.  |
| 2. Motor starts with a whine, and does not reach full speed.     | 2. Stop motor immediately. It is single phasing, and will burn out fast if not stopped.<br><br>Check fuses and/or wires for a break in one of the lines. The motor is getting current on 2 legs only.                     |
| 3. Motor makes a scraping or knocking noise.                     | 3. Check motor cooling fan and its cover. It may have been damaged or shifted in transit and motor fan is rubbing.<br><br>Fan blade may be loose. Check and tighten set screws.   |
| 4. No suction or pressure, or some suction, but not as required. | 4. Check rotation of fan.<br><br>Check system for blockage in suction and/or discharge lines.   |
| 5. Excess vibration.   | 5. Check structural support members. Tighten all bolts on legs and cross braces. Make sure entire structure is solid.<br><br>Check fan blade for damage. If damaged and out of balance return to factory for replacement. |
| 6. Motor doesn't work at all.                                    | 6. Take to nearest motor manufacturers' Rep. for evaluation.<br><br>Or return it to Aercology, we will check it out and repair or replace it.   |

## DUST BAG REPLACEMENT

### A. Bag Removal

1. Disconnect unit from electrical power source. Open front door and disconnect wiring at motor conduit box (on units with a conduit box on top cover, it will not be necessary to disconnect motor leads).
2. Lift top cover assembly and set aside. Observe closely how bags are installed in unit.
3. Remove six (6) hold-down bolts.
4. Remove the two hold-down channels. It may be necessary to use a pry bar to break the adhesive bond.
5. Bags may now be pried loose and discarded.

### B. Bag Replacement

1. Remove all old adhesive sealer from tracks.
2. Bags are placed on the track one at a time. Before each bag is installed a continuous bead of sealer is placed around the bag outlet along the felt seal (close to the upper edge).
3. Sealer should also be placed on each track so that a seal is formed when the bags are installed.
4. After last bag is inserted, sealant is forced between the two end bags and the side walls of the cabinet.
5. Notice where the front and rear hold-down channels will clamp the bag ends and place a bead of sealer along this edge of the bags. Examine the four corners and insert sealer as necessary.
6. Replace the two hold-down channels and clamp firmly in place with the bolts.
7. Replace top. (if the adhesive backed seal along top of unit has been damaged, it should be replaced. Take care that no gaps exist where seal ends butt.)
8. Rewire motor leads and close door.

## SF - SERIES

The SF Unit consists of a HEPA Cabinet Assembly in series with a DA-Collector. All of the previous instructions for installation, maintenance dust bag replacement and trouble shooting apply for the SF unit as well.

Under normal conditions the HEPA filter will last about twelve (12) months. If however one of the dust bags is ripped and develops a leak, the HEPA filter will plug prematurely; it is therefore important to check on the condition of the bags periodically. By opening the upper door, the blower compartment may be inspected. The presence of excessive dust in this area is an indication of a leak which might be caused by a torn bag or by-pass between bags. It is important that this condition be corrected as soon as feasible to avoid drastically reducing the life of the HEPA filter.

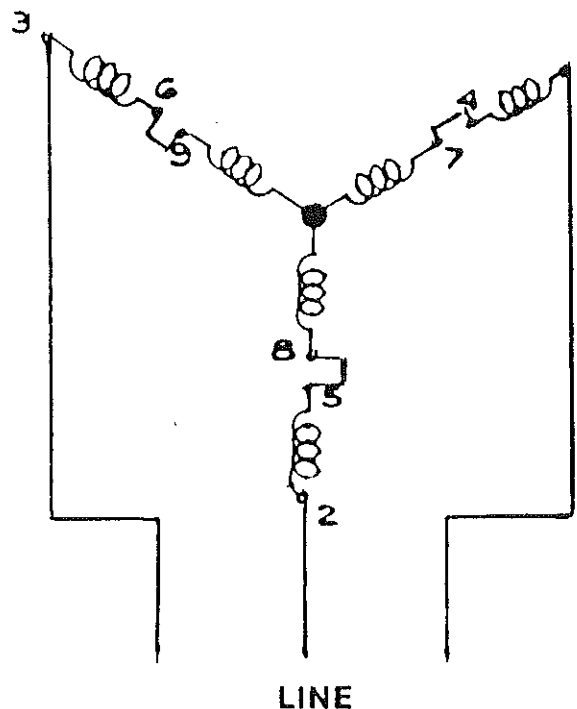
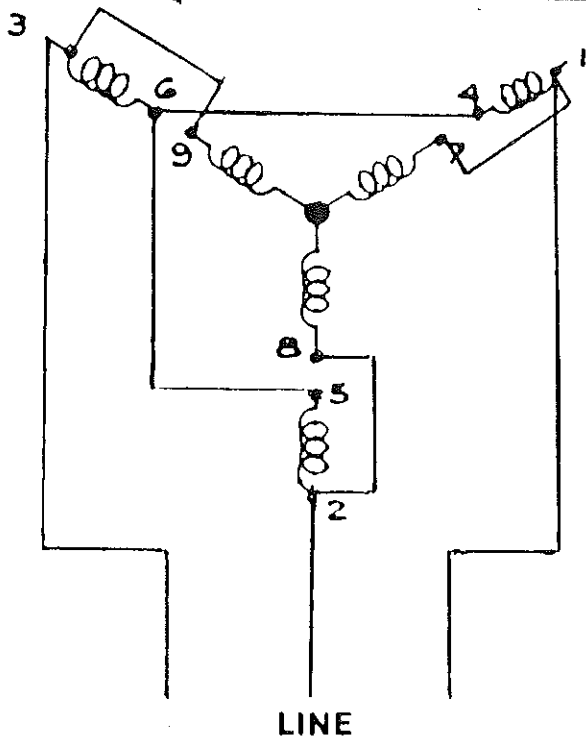
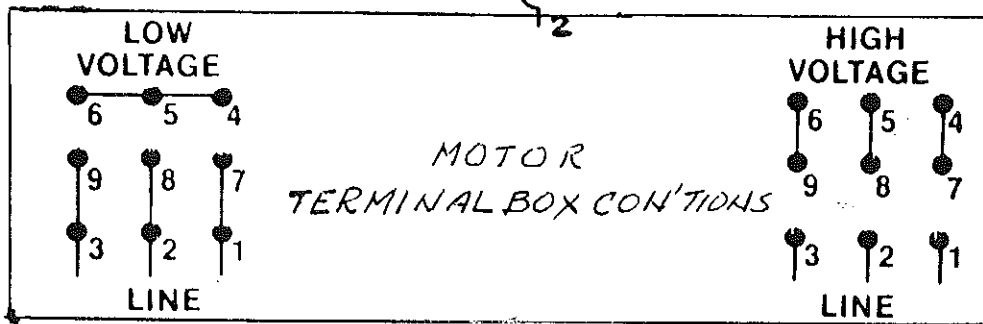
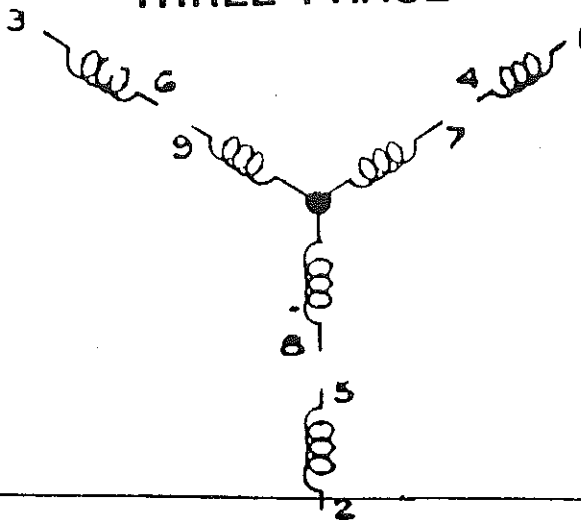
Replacing the HEPA filter is a simple operation consisting of removing the outlet grille by turning two latches, then removing the upper and lower clamping bars and sliding out the filter. The new filter is slid into place, the clamping bars are re-installed and the grille is replaced.

**CAUTION:** While the outer frame of the HEPA filter is quite sturdy, the front and back faces may be easily damaged if they are bumped. Extreme care must therefore be exercised in handling the filter during replacement.

DIAGRAM 10275

WYE Wound — Dual Voltage — Nine Lead

THREE PHASE



TO REVERSE ROT. INTERCHANGE ANY TWO LINE WIRES