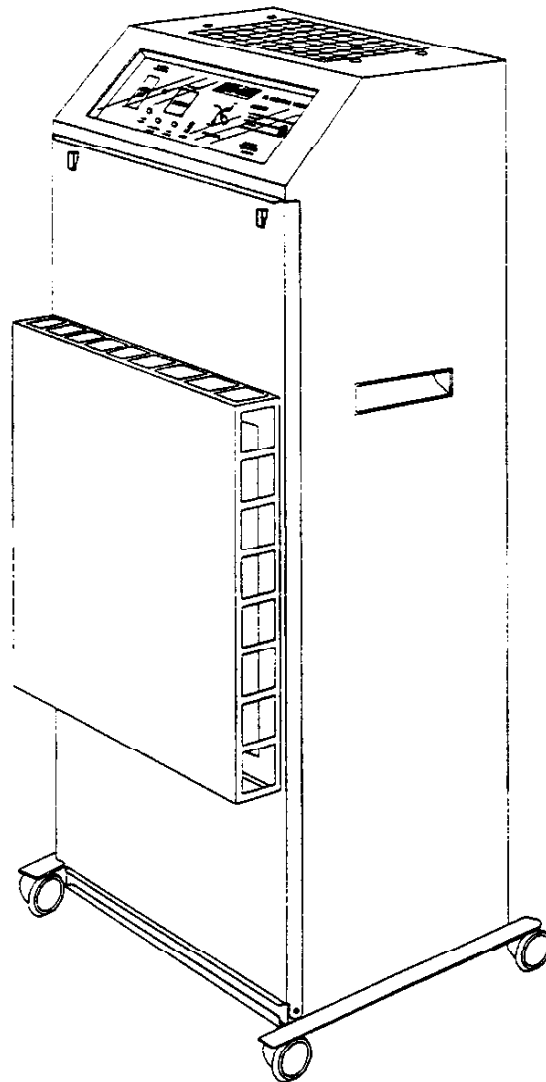


# **AmericanAirFilter®**

## **HEPA FILTRATION SYSTEM**

### OPERATING MANUAL



AAF International  
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Suite 600  
Louisville, KY 40223-6169

## **AmericanAirFilter® HEPA Filtration Systems**

**MODELS:**     HFS400C-CEILING/DUCT MOUNTED  
                 HFS800F-FREE STANDING/PORTABLE  
                 HFS800C-CEILING/DUCT MOUNTED

### **OPERATING INSTRUCTIONS**

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**NOTE: Read and understand all operating instructions before using this product. Save this instruction manual for future reference.**

This instruction manual provides important information on the use and care of the AmericanAirFilter® HEPA Filtration Systems. These instructions must be carefully followed in order to operate the units safely and correctly. If you have any questions regarding the use or care of these products, call AAF at 800-AAF-2003.

AAFIInternational strongly recommends users of AmericanAirFilter® HEPA Filtration Systems and accessories to follow the most recent indoor air quality standards published by the Occupational Safety and Health Administration, Centers for Disease Control and Prevention, and Environmental Protection Agency.

### **GENERAL INFORMATION**

The AmericanAirFilter® HEPA Filtration Systems incorporate HEPA (High Efficiency Particulate Air) filtration which provides the most effective mechanical filtration method available. HEPA filters are individually tested and certified by the filter manufacturer to remove 99.99% of airborne particles which are 0.3 microns or larger in size. In addition to providing HEPA filtration, the AmericanAirFilter® HEPA Filtration Systems units can also be used in a negative pressure and/or recirculation mode. A negative pressure condition is created in order to contain contaminated airborne particles. This condition exists when the static pressure inside the room containing the unit(s) is lower relative to the pressure of the environment outside the room. The static pressure differential is created and maintained by continuously exhausting air out of a given room at a faster rate than air enters the room from all other sources.

### **FUNCTION OF KEY COMPONENTS**

#### **Filters**

**Prefilter** - has an ASHRAE efficiency rating of 30% in removing particles which are 1 micron or larger in size. Protects and extends the life of the more expensive HEPA filter. Optional prefilters are available which are capable of removing various gases and odors. Refer to section entitled "Ordering Information."

**HEPA** - has an efficiency rating of 99.99% in removing 0.3 micron size particles. Incorporates a special gel seal to prevent leakage.

**Motorized Impeller Assemblies** - pull air through a clean set of filters (prefilter and HEPA).

#### **Control Panels and their Components:**

1. **Ground Fault Circuit Interrupt (GFCI)** - An electrical safety device that will trip and stop the flow of electricity if any significant leakage of current is detected.
2. **Circuit Breaker** - 15 amp circuit breaker provides protection for the unit's electrical components.
3. **Filter Loading Indicator** - Amber light which indicates excessive loading of the filters and that filter change procedures should be followed.

4. **Power Indicator** - Green light which indicates normal operation.
5. **Speed Control ON/OFF Switch** - A variable speed switch which serves as the main Power On/Off switch and controls the operation rate of the motorized impeller.
6. **Hour Meter** - Provides a count of the total operating hours. The gage displays one decimal place in red print for tenths of an hour. For example, 120.5 indicates 120 and 1/2 hours.
7. **Power Switch** - Rocker-arm style ON/OFF power switch.
8. **Variac Speed Control Switch** - A variable speed switch which controls the operation rate of the motorized impellers.

## **ELECTRICAL REQUIREMENTS**

The AmericanAirFilter® HEPA Filtration Systems require a minimum of 110 volts AC to operate properly; however, maximum airflow performance requires 120 volts AC. Extension cords used must be the number 14-3 AWG 3 wire type and be equipped with hospital grade plugs. They must be in good condition and should not exceed a total of 25 feet in length. Make certain that any extension cords used do not reduce power to the unit to less than 110 volts. Use of a voltmeter to confirm adequate voltage is recommended. To reduce risk of fire or electrical shock, do not use the AmericanAirFilter® HEPA Filtration Systems with any solid state speed control device. Do not use in a cooking area.

## **LOCATION AND INSTALLATION OF UNITS**

**CAUTION NOTE:** The AmericanAirFilter® HEPA Filtration Systems are designed for indoor and for general ventilating use only. Do not use to exhaust hazardous or explosive materials and vapors.

AAF International has published the following documents to assist healthcare facility personnel in the effective use of air filtration devices to prevent the transmission of TB: Using AmericanAirFilter® HEPA Filtration Systems to meet the 1994 CDC TB Guidelines, and AmericanAirFilter® HEPA Filtration Systems User Application Guide. Healthcare facility personnel are urged to read these documents thoroughly and save them for reference purposes.

### **Negative Pressure Installations**

Optional adapter plates with either square/rectangular or round exhaust collars are available to fit onto the exhaust outlet(s) of all AmericanAirFilter® HEPA Filtration Systems models. These adapter plates slide in over the recirculation grill(s) and are secured by offset tabs and sheet metal screws.

Plates with rectangular collars for 8" x 12" rigid exhaust ducting fit all models. Plates with round collars are used with 8" diameter rigid, semi-rigid or flexible ducting.

As with any air filtration system, airflow losses not attributable to the AmericanAirFilter® HEPA Filtration Systems will reduce the airflow of the system. The following recommendations can facilitate user installation and minimize airflow losses created by external static resistance.

1. Always use the minimum length of ducting possible with the fewest possible number of turns or bends.
2. Use the rectangular or square outlet collars and rigid ducting whenever possible. The use of 8" diameter round ducting, which has a much smaller cross-sectional area, can result in airflow reductions of 15% to 25%.
3. Regardless of the type of ducting used, rigid "sweep" type, radiused connections should be used for all turns and bends.

4. Use "Y" connections whenever possible when connecting AmericanAirFilter® HEPA Filtration Systems exhaust ducting into a main exhaust trunk.
5. If round ducting is used, solid metal ducting will create less turbulence than flexible ducting.
6. If flexible ducting is used, it must be kept as taut as possible to avoid "pancaking" or flattening.
7. Louvers, dampers and other external control devices should be sized to provide the equivalent open area to the cross sectional area of the exhaust duct.
8. When utilizing the dual outlet HFS800C, HFS400C, and HFS800F models for negative pressure applications, airflow and air changes per hour are maximized by utilizing both exhaust outlets. The second outlet can either be equipped with an adapter plate (for maximum negative pressure) or allowed to recirculate approximately 50% of the filtered air back into the room.
9. For negative pressure applications the air supply to the room should be limited as follows:
  - a) limit supply to 75-100 cfm (max) for the HFS400C models.
  - b) limit supply to 150-200 cfm (max) for HFS800F and HFS800C models.If the air supply to the room is not controlled, sufficient negative pressure might not be achieved.

#### **HFS800F Free Standing/Portable Unit**

The HFS800F should be positioned at a maximum distance from the main door to the room in which it is used. The unit can be mounted directly on the floor or on its portable caster cart. See Figure B1. The HFS800F has 2 exhaust outlets and can be operated in a mode whereby the filtered air is recirculated or exhausted through one or both outlets, or exhausted through one outlet and recirculated back into the room through the other outlet. If the HFS800F is being used primarily for creating and maintaining a negative pressure condition, the unit can be exhausted above the ceiling, into a return air duct or to an external environment; the other exhaust outlet (on top or rear panel) can be sealed with the solid adapter cover plate, used as a second exhaust outlet, or used to recirculate approximately 50% of the filtered air back into the room.

#### **HFS800C Ceiling/Duct Mounted Unit**

The HFS800C is designed to be suspended in a standard 2 ft. x 4 ft. drop ceiling grid. Installation should be performed only by qualified maintenance and electrical personnel using the following general guidelines:

1. Remove the back panel of the HFS800C (which is held in place by Phillips head screws) to gain access to the unit's electrical wiring. Knockouts are provided on the unit's cabinet.
2. The unit must be hard-wired by a qualified electrician to the remote control panel box and the building electrical system in accordance with the most current electrical code requirements. Refer to the HFS800C - Installation Wiring Diagram. As a minimum requirement, 14-gage wire should be used. Upon completion of the hard-wiring, the rear panel must be reassembled to the unit.
3. The HFS800C should be located as far as possible from the air supply to minimize "short circuiting" of air. Suspend the unit from the support beams above the ceiling by connecting suitable wire or chain (which is in conformance with local building codes) to the 6 suspension tabs which are attached to the unit. If permitted by building codes, turnbuckles and "S" hooks can be used to connect the wire or chain to suspension tabs. The connection sequence would be as follows: suspension wire (or chain) from support beam to turnbuckle, turnbuckle to "S" hook and "S" hook to unit suspension tab. The use of turnbuckles facilitates the "fine tuning" of the unit's position within a 2' x 4' ceiling grid. In positioning the unit, be sure that the door panel rests below the level of the drop ceiling (if applicable); this will facilitate filter changes.
4. The remote control panel box should be securely mounted to a wall at a height of no less than 48" above the floor.

The HFS800C has 2 exhaust outlets and can be operated in a mode whereby the filtered air is recirculated or exhausted through one or both outlets or exhausted through one outlet and recirculated back into the room through the other outlet.

### **HFS400C Ceiling/Duct Mounted Unit**

The HFS400C is designed to be suspended in a 2 ft x 2 ft ceiling or wall mounted air return grill opening, and allows for direct connection into an existing exhaust duct.

1. Remove the back panel of the HFS400C (which is held in place by Phillips head sheet metal screws) and remove the motor channel cover (also held in place by Phillips head screws) to gain access to the unit's electrical wiring. Knockouts are provided on the unit's cabinet.
2. The unit must be hard-wired by a qualified electrician to a standard 2-way, on/off wall switch in accordance with the most current electrical code requirements. An optional locking wall switch is available. Refer to the HFS400C-Installation Wiring Diagram. As a minimum requirement, 14-gage wire should be used. Upon completion of the hard-wiring, place the wire nut connectors under the motor channel cover and reassemble the cover to the motor channel; the rear panel must also be reassembled to the unit prior to operation.
3. The HFS400C should be located as far as possible from the air supply to minimize "short circuiting" of air. Suspend the unit from the support beams above the ceiling by connecting suitable wire or chain (which is in conformance with local building codes) to the 6 suspension tabs which are attached to the unit. If permitted by building codes, turnbuckles and "S" hooks can be used to connect the wire or chain to suspension tabs. The connection sequence would be as follows: suspension wire (or chain) from support beam to turnbuckle, turnbuckle to "S" hook and "S" hook to unit suspension tab. The use of turnbuckles facilitates the "fine tuning" of the unit's position within a 2' x 2' ceiling grid. In positioning the unit, be sure that the door panel rests below the level of the drop ceiling (if applicable); this will facilitate filter changes.

The HFS400C has two exhaust outlets and can be operated in a mode whereby the filtered air is recirculated or exhausted through one or both outlets, or exhausted through one outlet and recirculated back into the room through the other outlet.

### **USE OF THE AmericanAirFilter® HEPA Filtration Systems**

Once the unit has been installed in the proper location it should be started as follows:

For HFS800F, HFS800C Models:

Turn the Variac speed control switch to the "High" speed setting (maximum motor speed). Turn the power switch to the "ON" position.

The HFS400C is not equipped with a speed control switch. To start the unit, turn the wall mounted on/off switch to the "ON" position; the green power indicator will light, indicating normal operation.

**NOTE:** It is recommended that the units be operated at HIGH speed whenever possible to maximize filtration, air changes and/or negative pressure conditions. The HFS400C operates at a single, HIGH speed.

The AmericanAirFilter® HEPA Filtration Systems have an automatic re-start feature. If there is a temporary loss of electrical power, the units will automatically re-start as soon as power is restored.

### **OPERATING ACCESSORIES**

If the AmericanAirFilter® HEPA Filtration Systems is being used to create and maintain a negative pressure condition, the static pressure differential (between the room containing the unit and the environment outside the room) should be monitored with a calibrated instrument as per OSHA/CDC requirements.

## **Filter Loading Indicator**

If the amber light turns "ON," this indicates that the filters are loaded. Refer to "Filter Replacement" section.

## **Filter Replacement**

The size and concentration of airborne contaminants, temperature and humidity conditions, and duration of use determine how often filters need replacement. As the filters become loaded with particulate matter, the airflow capacity of the unit decreases and the static pressure differential across the filters increases. If the amber filter loading indicator turns on, the prefilter and/or HEPA filter should be replaced.

**NOTE: Do not operate unit unless both prefilter and HEPA filter are installed and door panel is closed. The prefilter and HEPA filters are not reusable, therefore, do not attempt to clean and reuse them.**

**NOTE: PERSONNEL RESPONSIBLE FOR CHANGING FILTERS ARE URGED TO WEAR NIOSH APPROVED RESPIRATORS AND OTHER PERSONAL PROTECTIVE EQUIPMENT IN ACCORDANCE WITH EMPLOYER, STATE AND FEDERAL REGULATIONS.**

**CAUTION: AmericanAirFilter® HEPA Filtration Systems are designed to meet or exceed standards for high efficiency air filtration equipment. Use only AmericanAirFilter® parts, including replacement prefilters and HEPA filters. Use of non-AmericanAirFilter® parts and filters voids the product warranty and all performance claims.**

## **FILTER CHANGE PROCEDURE**

To Change the Prefilter:

1. Use the 1/4" hex key (provided with unit) to unlock and loosen the metal cap screw on the door. Pull up on the two door latches and open the door panel. On the HFS800C and HFS400C, pull up on the two door latches and let the door panel swing down until it is in the vertical position.
2. Remove the prefilter from the filter retention channel mounted on the inside of the door. The filter slides out toward the top of the door. Dispose of the filter as medical waste.
3. Install a new prefilter and check to ensure that it is properly seated at the bottom of the retention channel.
4. Close the door panel and lock it in this position by pushing down on the latches, and locking the cap screw with the hex key.

If the filter loading indicator remains "ON" after changing the prefilter(s), the HEPA filter should be replaced.

To change HEPA filter in the HFS800F:

1. Turn the unit off, disconnect the power cord from the power supply outlet, and open the door panel.
2. The HEPA filter is held in place by spring-loaded swivel brackets. Grasp each spring loaded knob and slide it away from the unit housing until it disengages and rotate the bracket away from the filter (toward the outside of the unit). Upper brackets rotate "up" and lower brackets rotate "down."
3. Remove the HEPA filter and dispose of it as medical waste. The HEPA filter has a gel seal and fits snugly against the mounting frame. When removing the filter there will be some resistance felt while pulling it away from the mounting frame.
4. Take a new HEPA filter and orient it so that the gel seal surface is facing the inside of the unit. Position the filter against the filter guides attached to the unit housing and slide it inward until it is flush against the mounting frame.
5. Rotate the swivel filter mounting brackets back into their locked position, making sure that each knob snaps

securely into the unit housing.

6. Close the door panel and lock it in position by pushing down on the latches and locking the cap screw with the hex key.

**To Change HEPA Filter in the HFS400C and HFS800C:**

1. Turn the unit off and open the door panel.
2. Disengage the two spring-loaded swivel brackets located at one end of the unit and rotate them away from the filter. The HEPA filter will slowly drop down away from the mounting frame and will be retained by the tabs on the swivel brackets.
3. Disengage the two swivel brackets at the opposite end of the unit and rotate them completely away from the filter until they touch the unit housing.
4. Remove the HEPA filter and dispose of it as medical waste. The HEPA filter has a gel seal and fits snugly against the mounting frame. When removing the filter there will be some resistance felt while pulling it away from the mounting frame.
5. Position a new, properly oriented HEPA filter against the filter guides and slide it up into the unit until it is flush against the mounting frame. Hold the filter in place with one hand and with the free hand rotate the swivel mounting brackets back into their locked position, making sure that each knob snaps securely into the unit housing.
6. Close the door panel and lock it in position by pushing down on the latches and locking the cap screw with the hex key.

**WARNING: USE ONLY AmericanAirFilter® PREFILTERS, HEPA FILTERS, AND REPLACEMENT PARTS. SUBSTITUTE FILTERS AND PARTS VOID THE WARRANTY, JEOPARDIZE WORKER AND ENVIRONMENTAL SAFETY, AND ADVERSELY AFFECT ENGINEERED PERFORMANCE LEVELS.**

## AmericanAirFilter® HEPA Filtration Systems Specifications

FEATURE	HFS400C	HFS800F	HFS800C
Net weight with filters:	42lbs.	HFS800F=79lbs., Cart=15lbs.	HFS800C=71lbs., control panel=12lbs.
Shipping Weight:	51 lbs.	109lbs.	HFS800=86lbs, control panel=17lbs.
Dimensions: Control WidthxDepthxHeight	23.5"Wx16"Dx23.5"H	21"Wx18"Dx47.5"H	HFS800=23.5"Wx16"Dx47"H panel=10.25"Wx4.75"Dx13"H
Electrical power rating:	115 volts, 60hz. 1.4 amps	115 volts, 60hz., 2.8 amps	115 volts, 60 hz., 2.8 amps
Motorized Impeller:	600 cfm @ 0" of water column (WC) static pressure, 2700 rpm, 175 watts, variable speed, thermal overload protection with automatic reset, 60hz., single phase	Equipped with two each of the same motorized impeller assembly used in the HFS400C, airflow is 1200 cfm @ 0" of WC	Same as HFS800F
Automatic restart-unit will automatically restart itself after temporary power interruption:	Yes	Yes	Yes
Peaking operating airflow- Low/Med/High- *See Note below:	125/250/325cfm	250/500/700cfm	250/500/700cfm
Cabinet material:	.050" thick powder coated aluminum	Same	Same
Cabinet seams:	Assembled with solid rivets & sealed	Same	Same
Noise level:	45-55dBA	49-59dBA	49-59dBA
Control panel:	None	Modular design which is removable from unit in case servicing is required. Control panel is protected by a clear, hinged polycarbonate cover that can be locked with a 1/4" hex key.	Remote control panel which is constructed from 18-gauge steel (.052" thick,) and is protected by a hinged polycarbonate cover that can be locked with a 1/4" hex key.



## AmericanAirFilter® HEPA Filtration Systems Specifications

FEATURE	HFS400C	HFS800F	HFS800C
Soundbaffle/Prefilter shield	Yes	Yes	Yes
15 amp circuit breaker:	Yes	Same	Same
Built-in Ground Fault Circuit Interrupt (GFCI)	No	Yes	Yes
Power Indicator:	Yes	Yes	Yes
Filter loading indicator:	Yes	Yes	Yes
Speed control/power switch:	No	Variable	Variable
Power cord:	Unit designed to be hard wired to a standard wall-mounted on/off switch	6ft. , 3 prong, hospital grade	Unit is designed to be hard wired
Primary filter:	2" pleated, 30% ASHRAE efficiency against 1 micron particles, treated with an EPA registered antimicrobial agent p/n HC1802	Same	Same
HEPA filter:	Laminar flow, 100 % DOP tested and certified to be 99.99% efficient against 0.3 micron size particles, equipped with silicone gel, knife edge seal p/n HFS1818-99	Laminar flow, 100 % DOP tested certified to be 99.99% efficient against 0.3 micron size particles, equipped with gel seal, p/n HFS 1836-99	Same as HFS800F
Location of exhaust outlet:	Corner/side panel of unit	Top and/or back panel	2 on side panels
Accessories included with unit:	None	One solid exhaust cover plate and portable cart with casters	One solid exhaust cover plate

NOTE: Airflow ratings are at low, medium and high speed settings with clean filters and no exhaust collars or external attachments. Ratings for HFS800C and HFS800F are with both exhaust outlets open. All AmericanAirFilter® HEPA Filtration Systems models are CSA Certified and UL listed.

## TROUBLE SHOOTING GUIDE

<b>PROBLEM</b>	<b>POSSIBLE CAUSE</b>	<b>SOLUTION</b>
Unit won't start when power switch is turned on	Power cord	Check all connections and condition of cords(s). <b>DO NOT OPERATE UNIT WITH DAMAGED POWER CORD(S)</b>
	Wiring	Check all connections on hard-wired units.
	Tripped circuit breaker	Reset building breaker. Reset 15 amp breaker on control panel
	Tripped GFCI	Reset GFCI on control panel (HFS800F, HFS800C units only) and/or at power source
	Thermal overload on motorized impeller has tripped	Turn unit "OFF", wait 20-30 minutes and restart
Amber filter loading indicator is "ON"	Loaded filters	Refer to Filter Change Procedures

**NOTE:** If the unit does not start or malfunctions after carefully following the Trouble Shooting Guide, call AAF International at 888-AAF-2003 for assistance.

## COMPONENT REPLACEMENT

Occasionally a defective component will cause the unit to operate improperly or not at all. Any electrical component can fail. Refer to the **WIRING DIAGRAMS** and **ELECTRICAL SCHEMATICS** to diagnose the failure of any component. Diagnostics should only be performed by a qualified technician.

## REMOVAL OF MODULAR CONTROL PANELS FOR SERVICING

**CAUTION: ALWAYS TURN UNIT OFF AND DISCONNECT IT FROM THE POWER SOURCE BEFORE REMOVING THE CONTROL PANEL OR REPLACING THE HEPA FILTER.**

The control panels of all the HFS800F and HFS800C AmericanAirFilter® units are modular allowing for easy access and replacement. All control panel components are wired with 1/4" quick connect terminals.

## CARE OF THE UNIT

The AmericanAirFilter® HEPA Filtration Systems cabinet is powder coated and should be cleaned with a damp cloth or a water-based cleaner/sanitizer. Do not use harsh chemicals, solvents or detergents (particularly on polycarbonate control panel cover) to clean the unit.

Keep all the unit's electrical components dry as their exposure to liquids poses a safety hazard and can damage components.

The AmericanAirFilter® HEPA Filtration Systems have been certified by the Canadian Standards Association (CSA) and Underwriters Laboratories (UL).

CSA is recognized as a Nationally Recognized Testing Laboratory (NRTL) by the U.S. Occupational Safety and Health Administration (OSHA).

## LIMITED WARRANTY

AmericanAirFilter® HEPA Filtration Systems are manufactured by Abatement Technologies, Inc. and warranted by AAF International to the original user, against defects in materials and workmanship for a period of 2 years after the date of purchase. This warranty does not guarantee a useful life of the filters. Our only obligation shall be, at our option, to repair or replace the defective component(s) or make a suitable adjustment for such defect(s) upon timely notification thereof, provided the unit has been used, maintained and handled in accordance with Operating Instructions.

We make this warranty to the commercial user in lieu of warranties of merchantability, fitness for particular purpose, and all other warranties, expressed or implied.

## LIMITATION OF LIABILITY

Except as provided above, AAF International shall not be liable for any loss or damage, whether direct, indirect, incidental, special or consequential, arising out of the sale, use or misuse of AmericanAirFilter® products or the user's inability to use such products. The remedies set forth herein are exclusive.

For warranty information and assistance contact AAF International Customer Service Department at 888-AAF-2003.

## ORDERING INFORMATION - AmericanAirFilter® HEPA Filtration Systems

PART NO.	DESCRIPTION
HFS400C	AmericanAirFilter® Ceiling/Duct-Mounted Model, 99.99% HEPA filtration.
HFS800C	AmericanAirFilter® Ceiling Model, 99.99% HEPA filtration, complete with wall-mounted remote control panel.
HFS800F	AmericanAirFilter® Free Standing Model, 99.99% HEPA filtration, complete with transport cart.
HFSVW8-C	Supply Air Diffuser with Plenum, 2' x 2', 4 way air pattern. 8" inlet collar.
HFS1802*	30% Efficiency, 2" Pleated Prefilter, treated with an anti-microbial agent.
HFS1818-99	99.99% Efficiency Gel Seal HEPA Filter, for HFS400C.
HFS1836-99	99.99% Efficiency Gel Seal HEPA Filter for HFS800F, HFS800C.
HFS2002	Remote Control Switch for HFS400C, includes 2 keys, 1/case.
HFS2003	Combination Security Lock for AAF International control panels (customer installed).- See Fig D
HFS2235-08	Adapter Plate with 8" diameter Round Exhaust Collar for HFS400C, HFS800F and HFS800C units.
HFS2235-12	Adapter Plate with 8" x 12" Rectangular Exhaust Collar for HFS400C, HFS800F and HFS800C units.
HFS2237	Transitional Collar, from 8" x 12" rectangular to 10" round (fits HFS400C, HFS800F. and HFS800C units), includes locking clamp, 1/cs.
HFS2030-08-12	Clear PVC Flex Duct, wire reinforced, 8" diameter x 12' length.
HFS2030-08	Clear PVC Flex Duct, wire reinforced, 8" diameter x 25' length.
HFS2030-10-8	Clear PVC Flex Duct, wire reinforced, 10" diameter x 8' length for HFS2237, 1/case.
HFS2050-08-8-1	Corrugated Aluminum, Semi-Rigid Ducting, 8" diameter x 8' long.
HFS2050-10-8	Corrugated Aluminum, Semi-Rigid Ducting, 10" diameter x 8' long for HFS2237, 1/case.
HFS2240-08	Quick-Connect Collar for attaching 8" diameter duct to a flat surface. Includes locking attachment clamp, 1/case.
HFS2308-08	Duct Hose Joint, for connecting two sections of 8" diameter flex duct.

\* Standard on all models.

FIG. A HFS400C

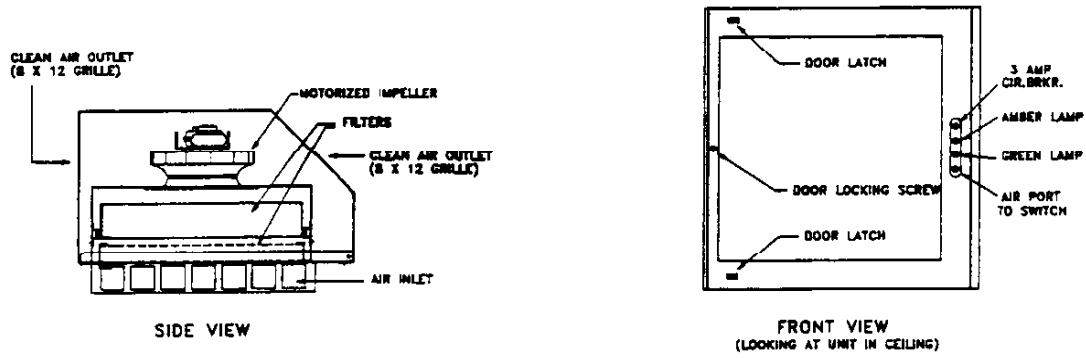


FIG. B HFS800F

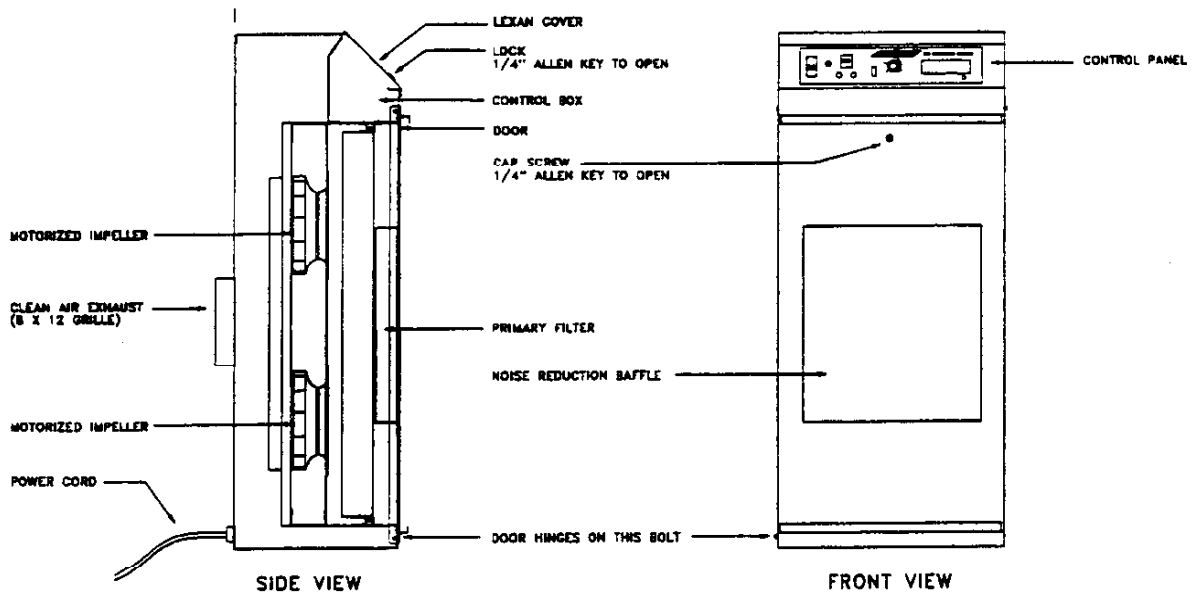
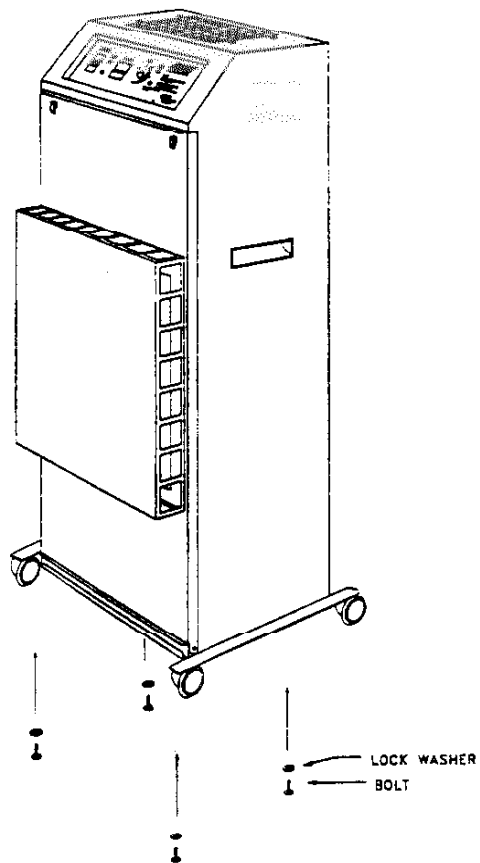
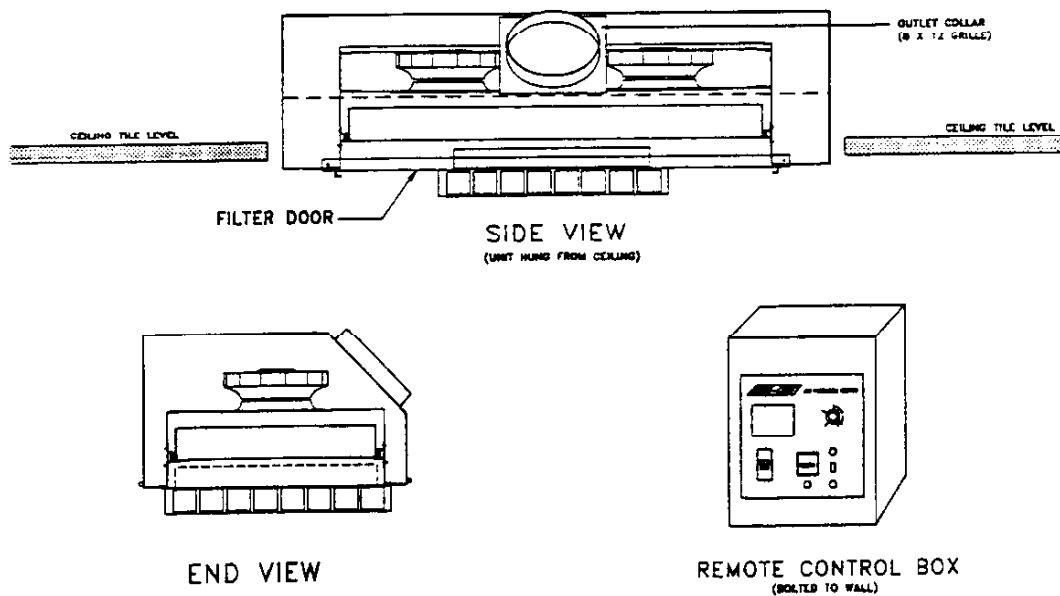


FIG. B1 HFS800F

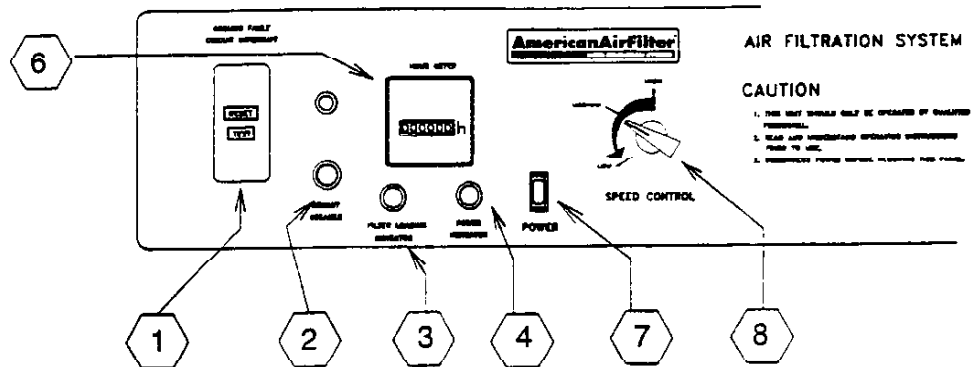


*INSTALL CART TO UNIT AS ILLUSTRATED*

FIG. C HFS800C



## CONTROL PANEL FOR HFS800F



## CONTROL PANEL HFS800C

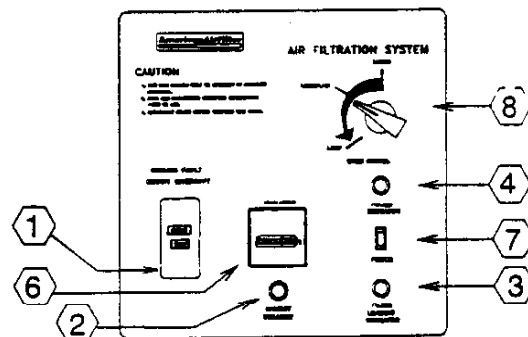


ABB ELECTRICAL ENCLOSURE

N.O. CONTACT BLOCK KEYSWITCH ACTIVATED

LAMP BLOCK

GREEN LAMP

AMBER LAMP

115 VAC/15 AMP CIRCUIT

BLACK

WHITE

GREEN

RED

TERMINAL BLOCK IN HC400C UNIT IN CENTER

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

BLACK

WHITE

BLACK

WHITE

BLACK

WHITE

GREEN

RED

MOTORIZED INPELLER

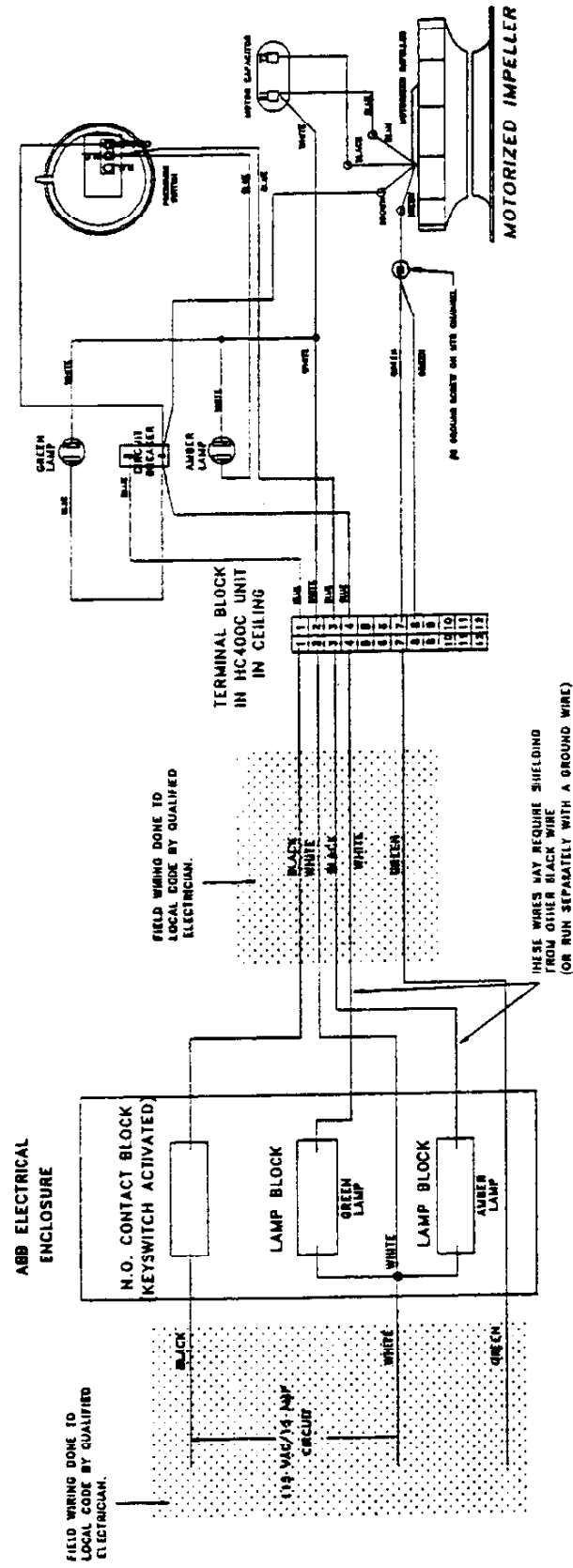
MOTORIZED INPELLER

MOTOR CAPACITOR

FIELD WIRING DONE TO LOCAL CODE BY QUALIFIED ELECTRICIAN.

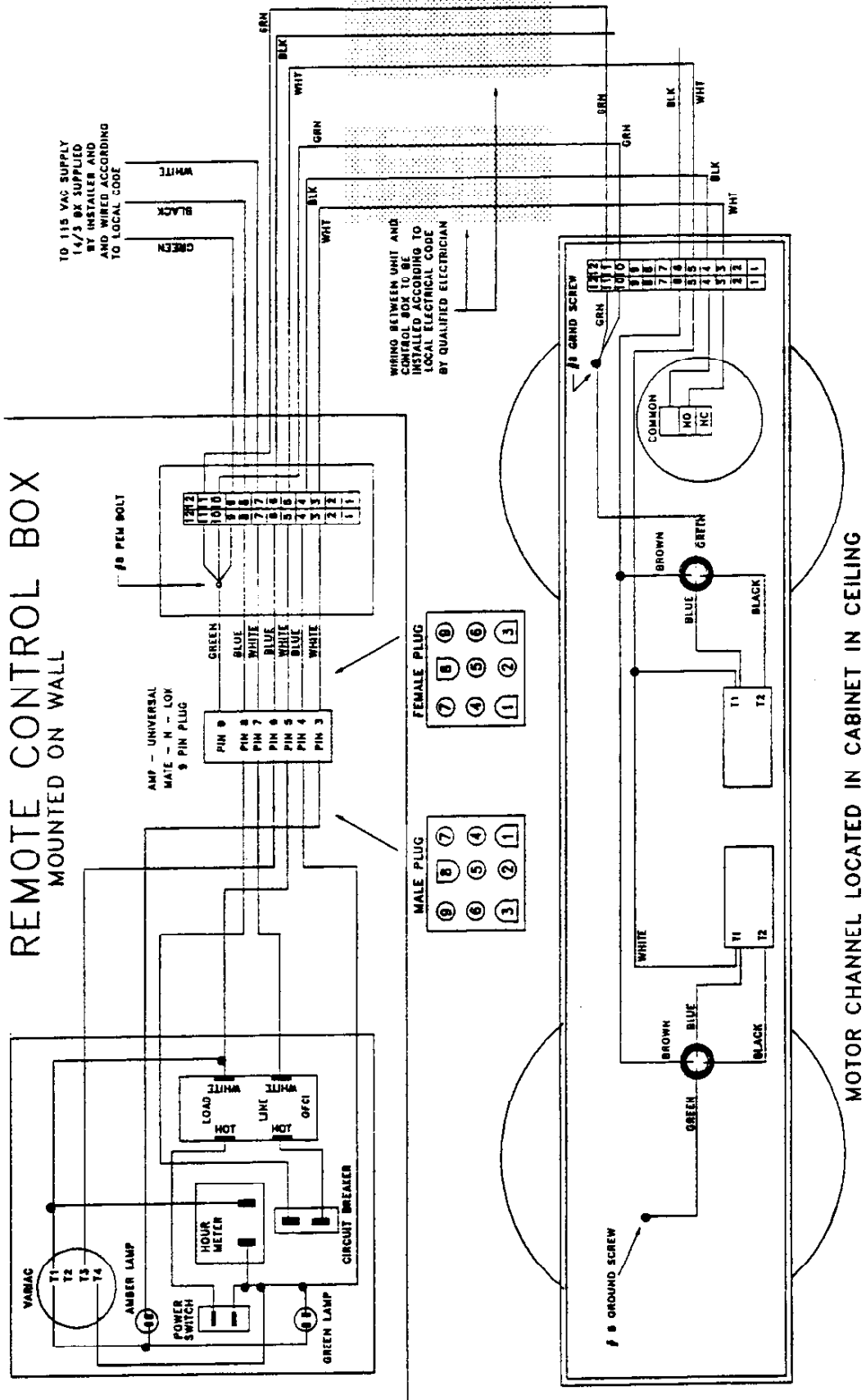
THESE WIRES MAY REQUIRE SHIELDING FROM OTHER BLACK WIRE (OR RUN SEPARATELY WITH A GROUND WIRE)

# MODEL HFS400C WIRING DIAGRAM (FOR SWITCH SUPPLIED BY INSTALLER)



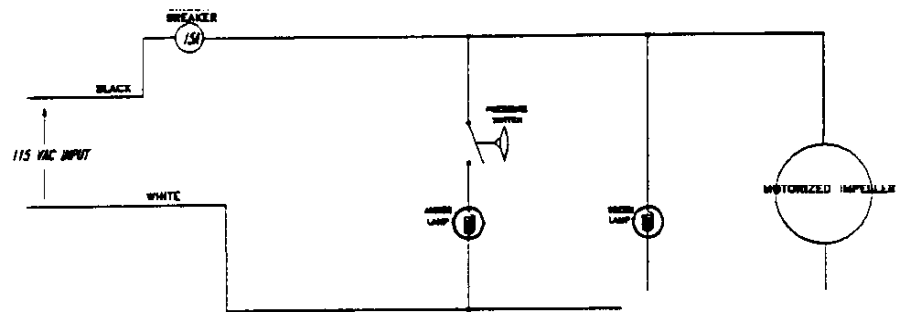


# MODEL HFS800C WIRING DIAGRAM





## ELECTRICAL SCHEMATIC DIAGRAM MODEL HFS400C



## ELECTRICAL SCHEMATIC DIAGRAM MODEL HFS800F & HFS800C

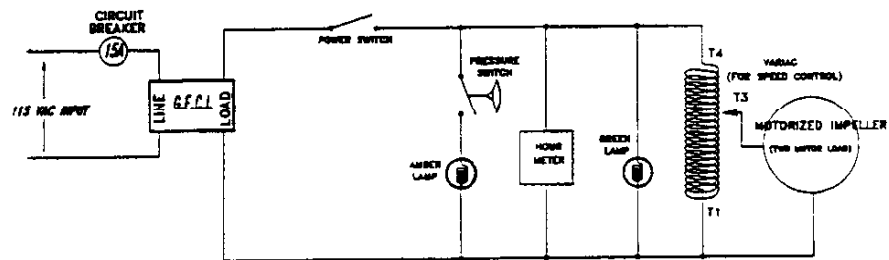
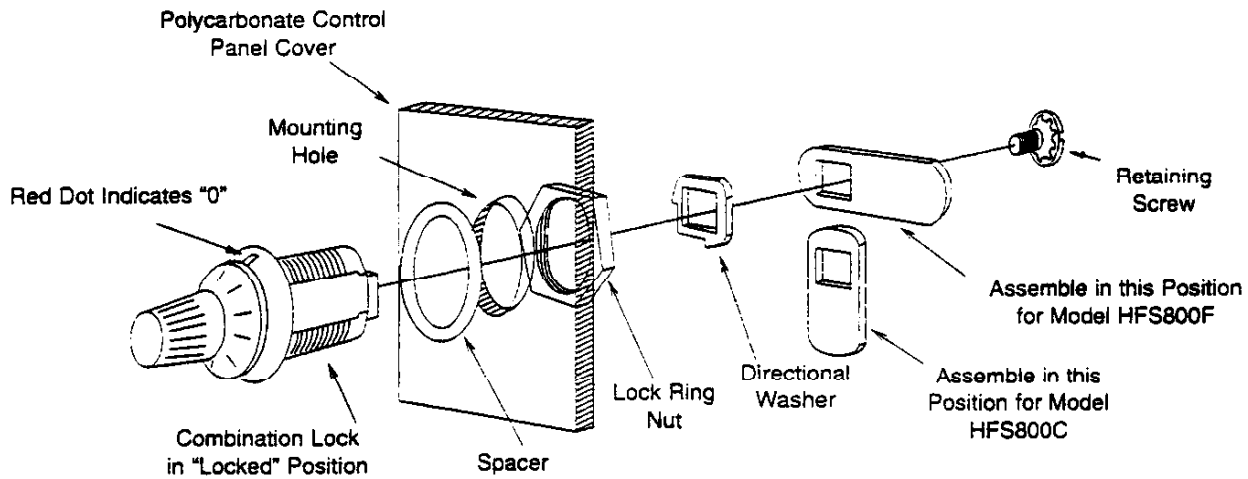


FIG. D HFS2003 COMBINATION SECURITY LOCK



**To operate Combination Lock:**

1. Push and turn dial until "0" is aligned with the red dot.
2. Turn dial right two whole turns and stop at 7. (Push dial in before turning left or right.)
3. Turn dial left one whole turn past 7 and stop at 12.
4. Turn dial right and stop at 7.

To open - Pull dial out and turn right or left depending on the locking position,

To lock - push dial in and turn to a random number.



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