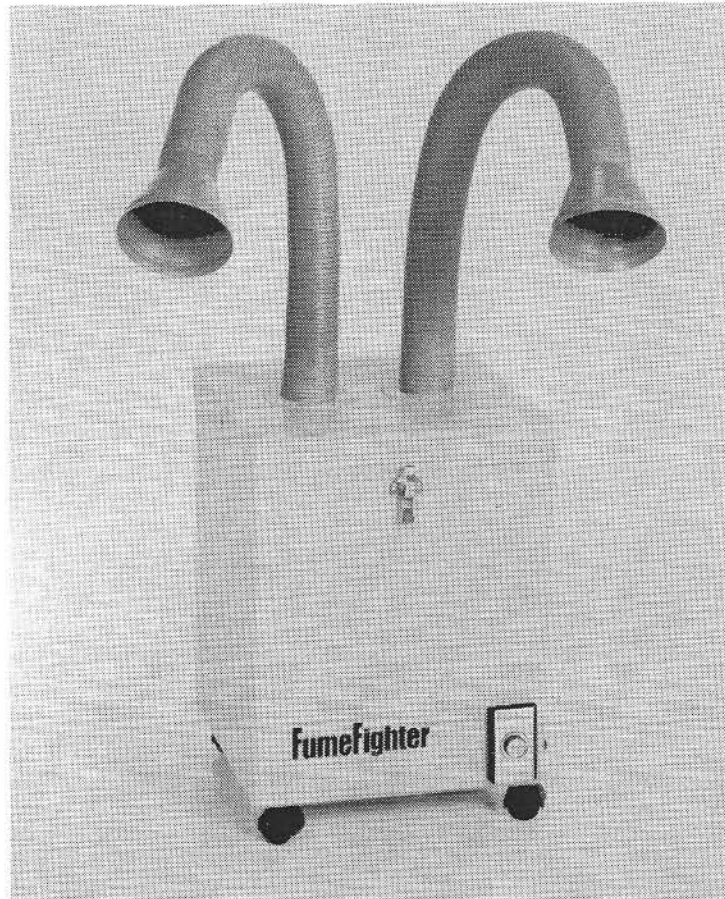

S U P P L Y I N G C L E A N A I R T O I N D U S T R Y

FumeFighter®

COMPACT HIGH EFFICIENCY FUME EXTRACTOR



The FumeFighter® high efficiency fume extractor removes harmful particulate, fumes and gases before they reach the worker's breathing zone. The FumeFighter® can help you reduce employee absenteeism, employee turnover, worker's compensation claims and lost productivity. Compact, portable and versatile, the FumeFighter® can be used in a wide variety of applications including: electronics soldering, jewelry repair brazing, cleanrooms and more!



**AIR QUALITY
ENGINEERING**

Manufacturer and Worldwide Distributor of Air Cleaning Systems for Over 25 Years

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GENERAL INFORMATION

USE OF THIS MANUAL

This manual will provide the user with the basic information to properly operate and maintain the FF-225 FumeFighter System. AIR QUALITY ENGINEERING STRONGLY RECOMMENDS THAT THE USER READ AND FULLY UNDERSTAND THIS MANUAL PRIOR TO USE OF THE SYSTEM. If you encounter any difficulty operating your system or have any questions, please contact Air Quality Engineering, Inc. at 1-800-328-0787.

INTRODUCTION

The FF-225 FumeFighter System represents the latest technology in affordable fume removal. It features a heavy-duty, maintenance-free brushless motor along with a filtration process which includes a pre-filter for coarse particle removal, and a High Efficiency Particulate Air (HEPA) cartridge for efficient filtration, and a Carbon filter cartridge. The FF-225 is ideal for use in applications where high efficiency particulate removal is required with the additional benefit of a gas media blend to neutralize and adsorb noxious gases.

The Air Quality Engineering FF-225 FumeFighter System uses specially designed accessories that can be conveniently mounted on any workbench or tabletop. The FumeFighter is designed to remove fumes from one or two workstations.

SPECIFICATIONS

Environmental

Ambient Operating Temperature:	32°F to 122°F (0°C to 50°C)
Storage Temperature:	-40°F to 257°F (-40°C to 125°C)
Ambient Operating Humidity:	90% relative humidity maximum non-condensing
Storage Humidity:	90% relative humidity maximum non-condensing

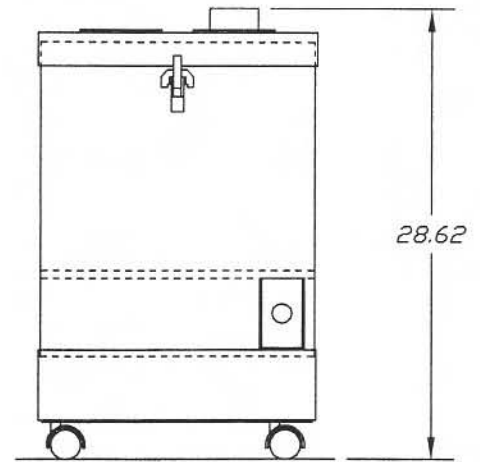
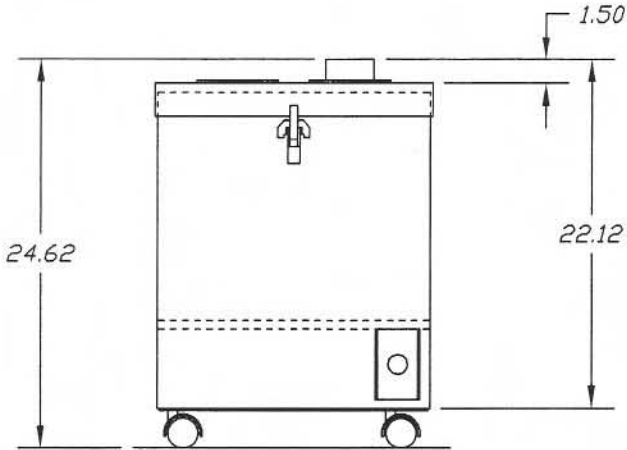
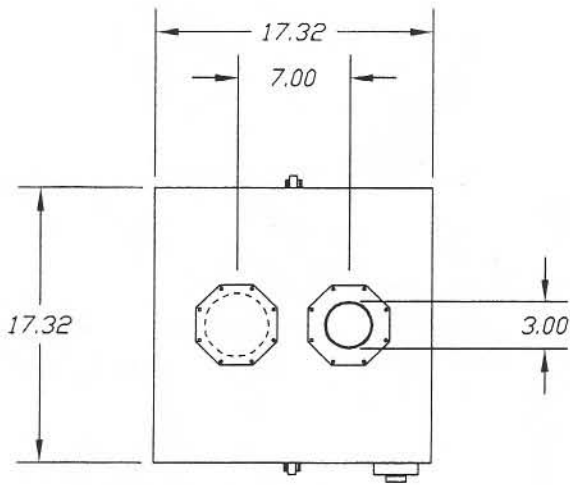
GENERAL INFORMATION

FF-225 SPECIFICATIONS

Size	17" x 17" x 21.6" (432mm x 432mm x 548mm)
Weight	70 lbs. (32.0 kg)
Flow Rate (Dual Inlet)	195 cfm (331 m ³ /h)
Flow Rate (Single Inlet)	175 cfm (297 m ³ /h)
Motor Type	Single Backward Curved Pump
Pre-Filter Type	Non-Woven Polyester Media Pad
Pre-Filter Dimensions	15" dia x 14" x .25" (381mm dia x 356mm x 6.4mm)
HEPA Cartridge Dimensions	14 3/4" dia x 14" x 1.2" (375mm dia x 356mm x 30mm)
HEPA Filter Rating	99.97% Overall Efficiency
HEPA Filter Media Surface	82 sq. ft. (7.62m ²)
Carbon Gas Filter	15 lbs. Sorbent media 100% of activated carbon
Carbon Gas Filter Cartridge Dimensions	11 7/8" dia x 14" x 1.4" (302mm dia x 356mm x 36mm)
Gas Filter Rating	95% Overall Efficiency
Inlets	Two 3" (75mm)
Ducting Style	3" (75mm) flexible hose
Housing	18 gauge steel
Noise Level at 2 m (6.5 feet)	67 dBA
Optional Silencer at 2 m (6.5feet)	62 dBA

Table 1 Central Filtration Unit Specifications

GENERAL INFORMATION



W/OPTIONAL SILENCER

Figure 1 FF-225 Dimensions

GENERAL INFORMATION

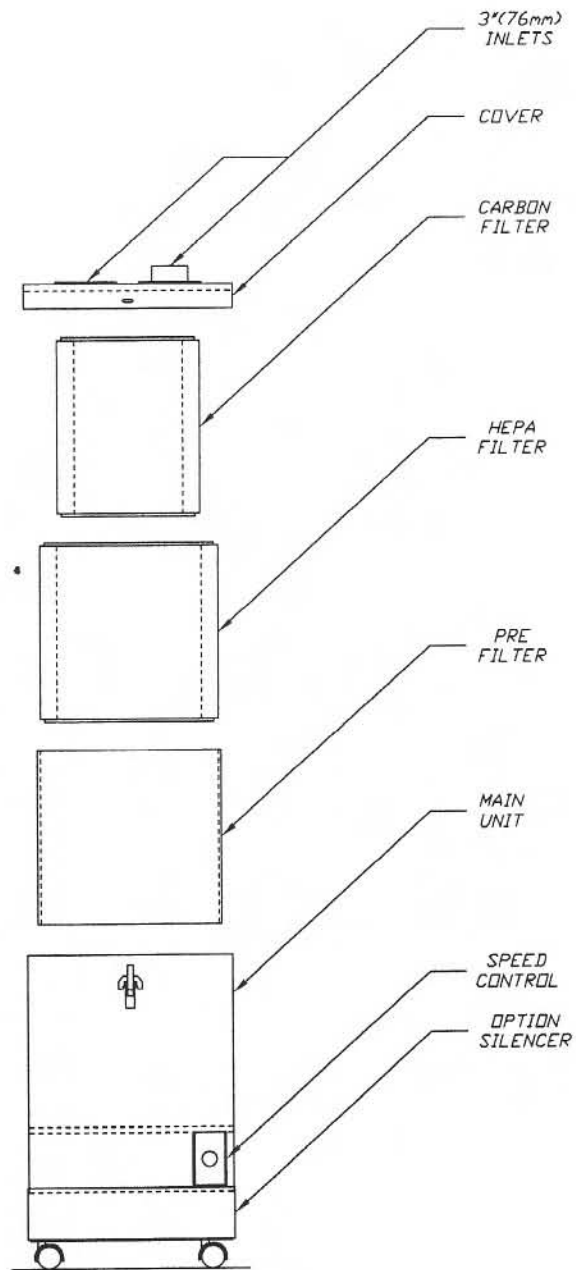


Figure 2. FF-225 Parts Identification

SAFETY AND APPLICATIONS INFORMATION

Air Quality Engineering's FF-225 FumeFighter System is designed to reduce the level of harmful contaminants from the work environment and to assist in the achievement of recommended health and safety requirements for local exhaust ventilation and contaminant removal. Be sure to follow all Application and Maintenance guidelines contained herein and precautions contained in other relevant product safety literature (i.e., Material Safety Data Sheets) provided with the substances and equipment producing the fumes to be extracted.

DISCLAIMER

Air Quality Engineering hereby disclaims all responsibility for any personal injury, property damage, fine, citation or penalty imposed by any government or private entity which results from any use, misuse or mis-application of this product, failure of the user to regularly maintain the product according to the recommended guidelines, or failure to adequately monitor FumeFighter exhaust air and the ambient workplace air for the presence of harmful levels of gases, fumes and particulates.

Compliance with all applicable environmental and personnel safety regulations is the sole responsibility of the user and adequate self-monitoring of exhaust air released into the atmosphere or the workplace as well as monitoring of the ambient workplace air is strongly recommended.

Warning

FAILURE TO COMPLY WITH THE APPLICATION AND MAINTENANCE GUIDELINES, FILTER REPLACEMENT SCHEDULES, MONITORING RECOMMENDATIONS AND SAFETY GUIDELINES CONTAINED HEREIN AND IN OTHER RELEVANT PRODUCT SAFETY LITERATURE (I.E., MATERIAL SAFETY DATA SHEETS) PROVIDED WITH THE SUBSTANCES AND EQUIPMENT PRODUCING THE FUMES TO BE EXTRACTED COULD RESULT IN RISK OF SERIOUS INJURY, FIRE OR EXPLOSION

To insure continued effective performance, the following guidelines must be followed.

HEPA and Gas Filter Cartridges

Your FF-225 comes standard with the HEPA and Gas Filter Cartridge. The HEPA and Gas Filter Cartridges are designed to capture particulates and noxious gases and odors that are present in the air being filtered. Over time, the HEPA filter cartridge will gradually become clogged, impeding airflow through the system, and the capacity of the gas filter cartridge will be decreased, reducing its ability to continue to adsorb noxious gases and odors.

HEPA and Gas Filter Cartridges *must be replaced at regular intervals* to ensure that the Fume-Fighter is operating effectively. These intervals will vary depending on the type of work being performed, the level of use, and the amount and composition of airborne contaminants produced.

SAFETY AND APPLICATIONS INFORMATION

CAUTION

To ensure the highest level of performance, use only genuine Air Quality Engineering replacement filter cartridges in your FF-225.

The exhaust air stream from the central filtration unit as well as the ambient air in the workplace should be monitored with the appropriate and adequate measuring/detection device to assure compliance with all applicable health and safety regulations.

Flammable vapors and gases (e.g. Isopropyl Alcohol) are removed by and accumulate in the HEPA and Gas filter cartridges presenting a potential fire hazard. Therefore, the user must exercise appropriate precautions when extracting such fumes or when handling and disposing of filter cartridges containing such flammable substances. Follow *all fire safety and personnel protection guidelines* contained in the Material Safety Data Sheet (MSDS) for the substance(s) producing the extracted vapors and gases (fumes).

DANGER

AIR QUALITY ENGINEERING FUMEFIGHTERS ARE NOT INTENDED TO BE USED AS A SUBSTITUTE FOR DEVICES SUCH AS PERSONAL PROTECTIVE RESPIRATORS WHICH ARE DESIGNED TO REMOVE POORLY ADSORBED SUBSTANCES INCLUDING CARBON MONOXIDE, METHANE, HYDROGEN, ACETYLENE AND OTHER GASES. RISK OF SERIOUS INJURY OR DEATH, FIRE OR EXPLOSION MAY RESULT FROM IMPROPER USE. IF IN DOUBT, CONSULT WITH YOUR INDUSTRIAL HYGIENIST OR AIR QUALITY ENGINEERING.

When disposing of used filter cartridges, extreme care must be taken to comply with *all* applicable environmental regulations. Carefully consult the MSDS supplied with the material(s) producing the fume. If in doubt, check with your local environmental authority.

Extreme care must be exercised when disposing of a used HEPA and Gas filter cartridge containing potentially hazardous substances. When disposing of filter cartridges, appropriate and adequate personal protective equipment (i.e. gloves, respirators, plastic containment bags, etc.) must be used when hazardous substances such as asbestos, lead, radioactive or biohazard materials may be present. Consult the Material Safety Data Sheet (MSDS) of the materials generating the extracted fume.

WARNING

Use with inappropriate chemicals or substances, failure to provide regular maintenance or other misuse of your FumeFighter may result in contaminated air being recirculated into the work environment.

INSTALLATION

DANGER

Never use the FF-225 to remove fumes from highly flammable liquids and gases such as ether, gasoline (petrol) and others. Risk of serious injury, death, fire or explosion may result.

GENERAL

The FF-225 has been designed with maximum installation flexibility in mind. A number of configurations may be used. (See the "Configurations" section.) The FF-225 is designed to be used with *one or two* flex arms. The following are recommended guidelines for setting up your FF-225. If you have any specific questions that this section does not cover, please consult your Air Quality Engineering, Inc. Representative.

1. Placement

There are three major considerations that need to be addressed for proper placement of the central filtration unit.

- **Exhaust Port:** The exhaust port is located on the bottom of the filtration unit. When positioning the unit, make sure that the exhaust port is *not* blocked or that airflow from the exhaust port is not restricted in any way. Additionally, the on/off switch must be readily accessible.
- **Unit Location:** The filtration unit should be located so that it will not block aiseways or impede normal operating traffic or material handling pathways. It is important to position the unit in such a way that allows for proper clearance to remove the filter access cover and replace the filters as needed.
- **Proximity to the work area:** The filtration unit should be placed as close to the work area as possible. If using a flex hose, it is advantageous to keep the length of flex hose as short as possible. **Do not** kink or create any sharp bends in the flex hose as this will reduce airflow.

SETUP

2. Power

The FF-225 will plug into a standard 110 Volt electrical outlet. Be sure the filtration unit is plugged into 110 Volt power supply. If your unit is a 220 Volt, be sure to plug the fume fighter into the correct outlet for the unit you purchased.

WARNING

Failure to supply the correct voltage to the unit will result in damage to the motor.

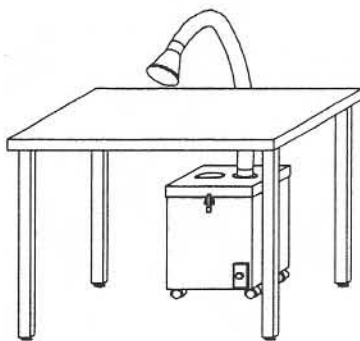
3. Media Filter

To use the prefilter, remove the standard HEPA filter cartridge and install the Particulate Filter around the outside of the HEPA filter cartridge. Before operating the unit, make sure the filter is correctly positioned. The pre-filter is always on the outside of the HEPA and Gas Filters.

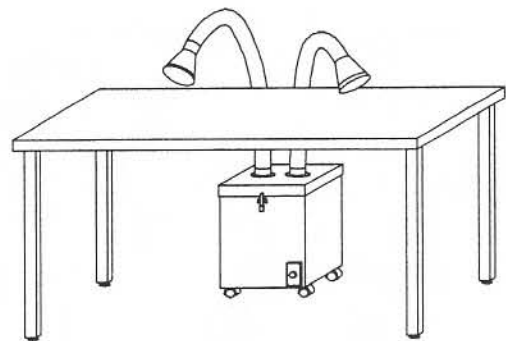
CONFIGURATIONS

Connecting One or Two Flex Arms (Optional)

- 1) Slide either end of the Flex Arm over one inlet port.
- 2) Secure the Flex Arm to the inlet with the Flex Arm clamp (provided).
- 3) Secure the intake hood on to the other end of the flex arm using the rubber band (provided).
- 4) Position the Flex Arm for maximum extraction performance.
- 5) If using one Flex Arm, make sure the inlet cover is secured to the other inlet.
- 6) Repeat steps 1 through 3 to attach second arm.



FF-225 fitted with one Flex Arm

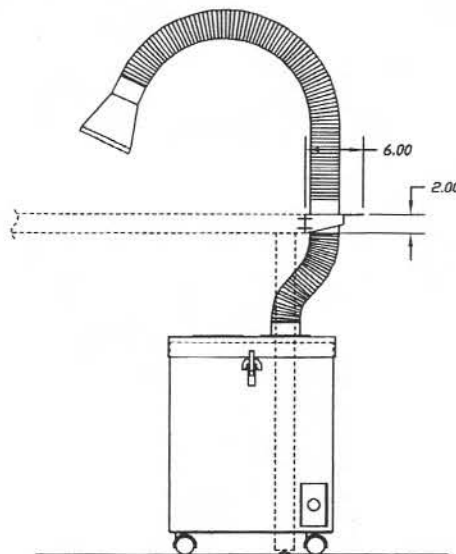


FF-225 fitted with two Flex Arms

INSTALLATION

Connecting One or Two Bench Mounted Flex Arms (optional)

- 1) To mount the Flex Arm to a bench or tabletop, the optional Bench Mounting Kit (P/N 70081) is required.
- 2) Position the bench-mounting bracket on the tabletop and secure it with the two screws provided.
- 3) Slide one end of the flex hose over an inlet port on the FF-225 and secure it with a hose clamp (provided).
- 4) Connect the other end of the flex hose to the bottom of the bench-mounting bracket and secure it with the other hose clamp.
- 5) Slide the Flex Arm over the top of the bench-mounting bracket and secure it to the bracket with the Flex Arm clamp (provided).
- 6) Position the Flex Arm for maximum removal performance.
- 7) If using one Flex Arm, make sure the inlet cap covers the unused inlet.
- 8) Repeat steps 1 through 6 to attach second arm.



FF-225 fitted with one Flex Arm
and Bench Mounting Kit

The FF-225 Flex Arm

The Flex Arm is constructed of a slotted, flexible plastic strip, wound to form the tube length. This construction permits variable arm placement. Frequent adjustments of the arm can cause the arm to lose its ability to stay in position.

To restore the Flex Arm, first compress the tube by pressing down from the top of the arm towards the mounting bracket. Next, tighten the tube by twisting in a COUNTER-CLOCKWISE direction. Once tightened, adjust the arm to the desired position. *Do not twist the arm in a clockwise direction!*

WARNING

Unwinding the Flex Arm (twisting in a clockwise direction) may cause the arm windings to separate.

INSTALLATION

Connecting the Silencer

- 1) Turn off power, and unplug from line-in source.
- 2) Remove the bottom grille plate with the casters on it. Position self-adhesive foam to the inside center of the grille plate (opposite side of the casters).
- 3) Attach the new supplied grille plate to the bottom of the unit (with foam to the out side), using only the center holes on each side.
- 4) Secure the four angle brackets to the bottom of the unit, using the remaining holes on the bottom of the unit.
- 5) Reattach the bottom grille plate with the casters on it, to the silencers bottom edge with the screws provided.
- 6) Slide the silencer over the angle bracket and bottom edge of the unit, secure with the screws provided three screws per side.

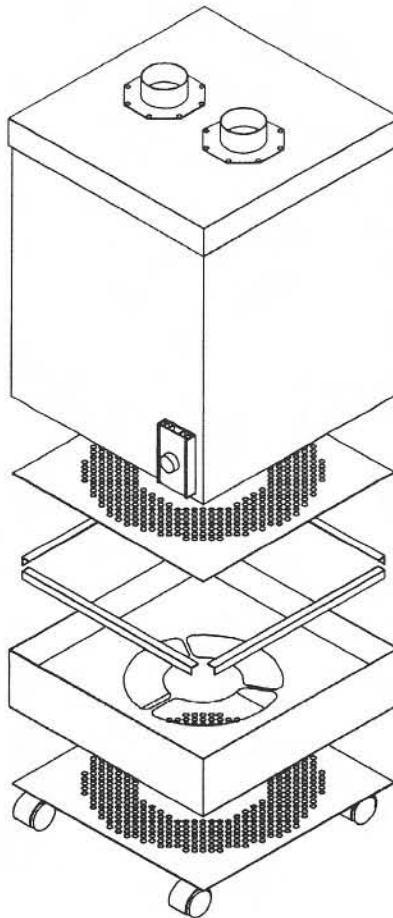


Figure 7. FF-225 Silencer Part Identification

OPERATION

The following information provides the user with the operating instruction for normal use.

Procedure

- 1) Turn on the FF-225 with the Speed Control knob.
- 2) Position the Flex Arm in a convenient and effective extraction location.
- 3) Set the Speed Control to your desired application for best extraction.

General Tips

- Before opening the FF-225, turn off the power source.
- The FF-225 must not be used without filters. Impurities in the extracted air could damage the motor pump.
- Do not allow the FF-225 or Flex Arm(s) to become blocked.
- Do not extract corrosive compounds without checking with Air Quality Engineering, Inc.

MAINTENANCE

FF-225

Pre-Filter

The Pre-Filter removes coarse particles from the air. In general, the pre-filter must be changed on a semi-annual basis. However, depending on your particular process, the filter may need to be changed more or less frequently. A visual inspection on a monthly basis is recommended.

Replacing the Pre-Filter

- 1) Remove the filter access cover
- 2) Remove the old Pre-Filter from around the HEPA filter cartridge
- 3) Install a new Pre-Filter around the HEPA filter cartridge and tape
- 4) Attach the filter access cover
- 5) Dispose of the used Pre-Filter properly

HEPA Cartridge

The HEPA (High Efficiency Particulate Air) filter removes particulate from the air down to .03 microns. In general, the filter cartridge must be changed every 18 to 24 months. However, depending on your particular process, the filter cartridge may need to be changed more or less frequently.

Replacing the HEPA Cartridge

- 1) Remove the filter access cover
- 2) Remove the old larger diameter filter cartridge
- 3) Install new filter cartridge
- 4) Attach filter access cover
- 5) Dispose of old filter properly

Gas Filter Cartridge

The Gas filter cartridge captures noxious odors and gases. In general, the filter cartridge must be changed every 18 to 24 months. However, depending on your particular process, the filter cartridge may need to be changed more or less frequently.

Replacing the Gas Filter Cartridge

- 1) Remove the filter access cover
- 2) Remove the old inside smaller diameter filter cartridge
- 3) Install the new filter cartridge
- 4) Replace filter access cover
- 5) Dispose of old filter properly

MAINTENANCE AND REPLACEMENT PARTS

WARNING

Do not attempt to clean the pre-filters, HEPA or Gas filters for reuse. Cleaning the filters will severely damage the filter media and consequently, the filter's performance. This will result in unfiltered, contaminated air being returned to the working environment. Unfiltered air can also damage the motorized impeller.

Motor

It is important that FumeFighter filters are changed on a regular basis to protect the motor impellers from pollutants.

FF-225 ACCESSORIES

Monthly cleaning of the FF-225 Accessories is recommended. When cleaning accessories, use a non-aggressive cleaning solvent or detergent only. Make sure the accessories are completely dry before reuse.

REPLACEMENT FILTERS

<u>Model</u>	<u>Pre-Filter</u>	<u>Standard HEPA Filter Cartridge</u>	<u>Carbon Filter Cartridge</u>
FF-225	41174	41164	41163

Table 2 Replacement Filters

FF-225 Flex Arm (P/N 70082)

- 30" (750mm) long x 3" (75mm) diameter stay-put flex arm
- Fume collection canopy
- Constructed of interlocked Polypropylene
- Optional Bench Mounting Kit (P/N 70081)

Bench Mounting Kit for FF-225 Flex Arm (P/N 70081)

- Includes bench mounting bracket and 8" (203 mm) of 3" (75mm) flex hose

FF-225S Silencer (P/N 05563)

- For applications where the FF-225 will be operating in a setting with low background noise levels. Silencer reduces sound levels nearly in half.
- 4 3/8" (112mm) H x 17 3/16" (437mm) W x 17 3/16" (437mm) D