



# **IP Systems, LLC**

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## **Installation and Operating Manual**

**Model F8210C  
Model F8220C  
Model F8230C  
Model F8240C**

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# 1. Safety Precautions

\*\*READ AND SAVE THESE INSTRUCTIONS\*\*

## **CAUTION:**

*When using electrical devices, the following basic safety measures must be followed to prevent shock, injury, or fire.*

Read and follow these instructions before using the filter unit

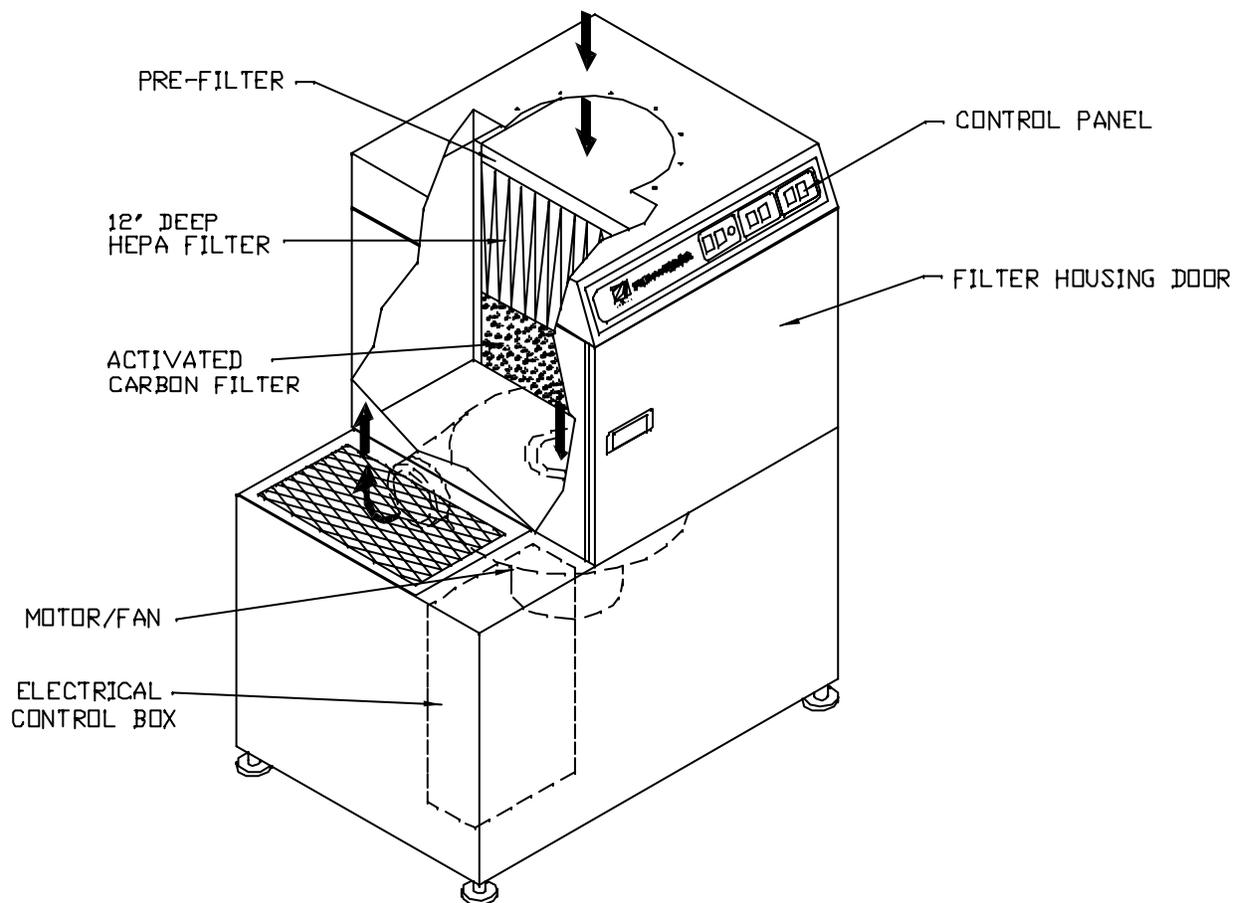
- \* Keep this Installation and Operation Manual handy
- \* Do not use the unit to extract easily flammable or explosive gases
- \* Do not use the unit to extract aggressive agents
- \* Do not expose the connecting cable to heat, oil, or sharp edges
- \* Make sure the unit stands stable and secure
- \* Use only original equipment filters
- \* **Always disconnect the unit before opening the filter housing door or front cover**
- \* Never cover intake or exhaust openings
- \* Protect the unit from dampness
- \* Have only a certified electrician open the electrical access panel in the front of the Unit
- \* **Do not use the filter unit as an *all-purpose filter unit* or extraction device. Improper use may result in damaging the filter media and / or returning non-filtered and toxic fumes into the general work area. Consult the factory if you have any questions.**
- \* **WARNING: This system is equipped with automatic reset overload protection (thermal switch or overload relay) which may cause the unit to restart automatically.**

## 2. Filtration Method

The contaminated air is drawn in by the exhaust hood and passes through the exhaust arm to the filter.

Filtration is accomplished in two or three stages (depending on Model):

- \* The pre-filter (1) removes coarse particles such as dust.
- \* The main-particle filter (2) removes the fine and small particles from dust, fumes, etc. The efficiency of this filter depends on the filter type installed.



## 3. Installation and Start-up Instructions

**WARNING – To reduce the risk of fire, electrical shock, or injury to persons, observe the following:**

- a) Installation work and electrical wiring must be done by qualified persons (s) in accordance with all applicable codes and standards, including fire-rated construction.
- b) When cutting or drilling into walls or ceiling, do not damage electrical wiring and other hidden utilities.
- c) Ducted fans must always be vented to the outdoors.

**3.1 Mounting the filter unit to ductwork**

- Position the filter unit onto a level floor.
- Air Inlet Connection:  
The filter unit is available with various top covers for 8", 10" and 14" dia. inlet flanges. Connect the ductwork or flexible hoses to the air inlet flange(s).
- Exhaust:  
The filter unit has a standard exhaust grill for venting the filtered air back into the facility. For venting the exhaust air into a duct system, an optional exhaust cover is available.

**3.2 Electrical Connection**

**CAUTION: The following to be done only by a certified electrician.**

**230 V, 3-Phase Power Supply**

Connect the extraction and filter unit to the power supply as per the attached wiring diagram. Make sure that the circuit breaker and disconnect is designed to handle the required amperage as indicated on the Serial No. Plate of the unit and that the impeller/fan rotates in the correct direction.

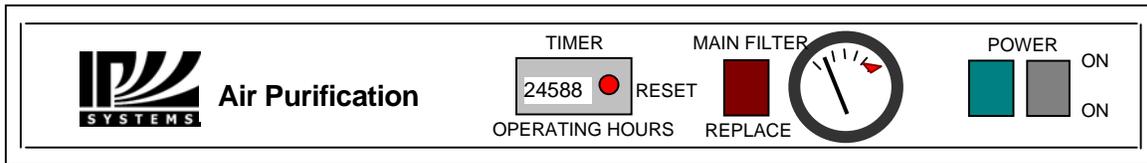
**3.3 Verification of Fan Rotation**

**CAUTION: To be done only by a certified electrician.**

- Open the filter housing door and remove the filters carefully.
- Turn the unit on and immediately off again.
- Now look into the filter housing and monitor the rotation of the impeller below the safety grid. The impeller-wheel needs to rotate into the direction indicated by the arrow-marking on the air inlet cone.
- If the impeller does not rotate in the direction as indicated, reverse the motor direction by exchanging two phases on the power supply.
- Replace filter inserts carefully and close the filter housing door.

The filter unit can be directly connected to ductwork.

**4. Control Panel - Operating Functions**



#### **4.1 On/Off**

By toggling the power switch, the unit is switched on or off. The green power indicator light will indicate if the unit is turned “on”.

#### **4.2 Filter Monitor Particulate Filter: Diff. Pressure Gauge / “Replace” Indicator Light**

The differential pressure gauge and filter replacement indicator light monitor the filter condition by measuring the pressure difference upstream and downstream of the particulate filters (pressure drop). As filter saturation increases, the pressure drop increases and the airflow decreases.

When the pressure drop reaches a pre-defined level (red mark on gauge), the “Replace” indicator light is activated. This is generally the point where airflow falls below the system capacity. At this point filter maintenance must be performed (refer to Chapter 5).

#### **4.3 Filter Monitor Gas-Phase Filter: Timer (Totalizer)**

There is no gas monitoring system such as gas detecting sensors installed in this model. The monitoring of the exhaust air according to Indoor Air Quality Standards remains the responsibility of the operator. However, filter media (activated carbon, etc.) is generally replaced on an elapsed time basis. The timer on the control panel tracks the operating hours and therefore can be used to schedule the replacement of the filter media (activated carbon, etc. ).

We recommend to replace the gas-phase filter as soon as an odor on the exhaust side is noticeable or based on the determination of its life-span by a safety engineer. As most gas-phase filter media can achieve saturation by absorbing moisture from ambient air, we recommend to replace the filter media at least every 6 months.

## **5. Maintenance**

### **5.1 Pre-Filter**

The pre-filter frame comes with a replaceable filter mat. Frequent changing of this filter mat significantly prolongs the life of the main filter. The filter mat in the pre-filter frame should be changed more frequently than the main filter.

Replace the pre-filter:

- on a preventive maintenance schedule, when a visual inspection shows that the filters are becoming clogged or that the filters no longer retain dust
- or when the filter monitor light is activated and the pre-filters are no longer in a good condition.

We recommend initially scheduling a weekly preventive maintenance program. This interval between pre-scheduled filter changes can be increased or decreased, depending on hours of operation and fume intensity.

To change the mat, follow these steps:

- \* Turn the unit off and open the filter housing door
- \* Pull out the pre-filter frame
- \* Take out the old filter mat and replace it with the new one
- \* Reinsert the filter frame, close the filter housing door, and turn the unit on.

### **5.2 Main Filter**

It is not possible to clean the particulate filter. It must be replaced when it becomes saturated.

Replace these filters when:

- the filter monitor light is activated, and replacing the pre-filters does not result in a significant reduction of pressure drop as indicated by the differential pressure gauge.

Follow these steps when changing the filter:

- \* Turn the filter unit off
- \* Open the filter housing door
- \* Remove the pre-filter frame
- \* Replace the particulate filter with a new one and reinstall the pre-filter frame
- \* Close the filter housing door and turn the unit on.

**CAUTION:** *Do not clean the filter. Shaking it or using compressed air will destroy the filter material. Contaminants will re-enter the room.*

### **5.3 Gas-Phase Filter**

- \* Turn the filter unit off

- \* Open the filter housing door
- \* The gas-phase filter media is located in the lower part of the filter compartment.

**For activated carbon filter mats:**

- \* Pull the filter frame out of the filter housing
- \* Remove the screws on the front and back of the frame
- \* Remove the upper filter frame and replace the saturated activated carbon mats with new ones.
- \* Reinstall the upper filter frame and tighten the two screws.
- \* Reinstall the carbon filter frame.

**For replacement of complete filter with granular gas-phase filter media:**

- \* Remove complete gas-phase filter and replace with new one

**For refilling granular gas-phase filter media in filter housing:**

- \* Pull out gas-phase filter housing
- \* Open / remove plugs (caps) in filter frame
- \* Discard spent filter media and replace with new filter media
- \* Re-install plugs (caps) into fill openings
- \* Re-install complete gas-phase filter into filter unit
- \* Close filter housing door and turn unit on

## 6. Technical Data

Model	F8210C	F8220C	F8230C	F8240C
Voltage:	230V/60Hz	230V/60Hz	230V/60Hz	230V/60Hz
Current:	3-ph	3-ph	3-ph	3-ph
Power consumption:	4.4 Amps	5.8 Amps	8.2 Amps	14.2 Amps
Motor Power:	1.5 HP	2 HP	3 HP	5 HP
Fan Capacity ( free blowing):	1400 cfm	1600 cfm	2200 cfm	3200 cfm
System Capacity at 4" W.G.	700 cfm	900 cfm	1400 cfm	2000 cfm
Dimensions:	39"W x 26"D x 52"H			

**Note:** The voltage may vary from the above specification, if the equipment was purchased with a different power supply option. Please refer to the serial number plate for the actual voltage.

For further technical information, please refer to the serial number plate on the side of the Unit.

## 7. Replacement Filter List

The following table is a listing of "standard" filters. If you have a customized filter combination, please refer to the filter parts number listing located at the inside of the filter housing door.

Item	Description	Part No.	Part No.	Part No.	Part No.
1-1	Pre-filter Mat (set of 5)	Optional	Optional	FIL0067	FIL0067
1	Pre-filter, Pleated (set of 3)	FIL0031	FIL0031	FIL0031	FIL0031
2	Main filter HEPA, 12" Hi-Capacity	FIL0020	FIL0020	FIL0020	FIL0020
3a	Activated Carbon Cartridge (20 lbs.)	FIL0083	FIL0083	N/A	N/A
3b	Activated Carbon Mats (CW) (set of 2 )	Optional	Optional	FIL0077	FIL0077

## 8. Customer Service Address

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