IP Systems, LLC

Installation and Operating Manual

Model 1520C
Model 1540C
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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 in order to prevent shock, injury, or fire.

Read and follow these instructions before operating the FilterMate Filter Unit.

* Keep this Installation and Operating Manual handy.
* Do not use the Unit to extract easily flammable or explosive gases.
* Do not use the Unit to extract corrosive substances.
* 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.
* Do not operate the Unit without filter inserts. Contaminants in the extracted air will damage the blower.
* Always disconnect the power supply before servicing the unit.
* Never cover intake or exhaust openings.

• WARNING: This system is equipped with automatic reset overload protection (thermal switch or overload relay) which may cause the unit to restart automatically. See page 5.
2. Filtration Method

The FilterMate 1500 Series removes airborne contaminates by extracting air close to the source of particulates and vapors. The air is collected by a funnel-shaped nozzle or hood and routed, through hose or duct, to the filter unit.

Filtering is accomplished in stages:

* The *Pre-Filter Mats* and *Pleated Pre-Filter* (optional) remove coarse particles such as dust, prolonging the lifetime of the HEPA Filter.

* The *HEPA Filter* removes very small particles. The standard filter has a 95% ASHRAE efficiency. An optional HEPA Filter with an efficiency of 99.97% at 0.3 microns is also available.

* The *Activated Carbon Mat* absorbs gases and odors.

After the air is filtered it is directed out the exhaust vent at rear of the unit.
3. Thermal Overload Protection

The filter unit motor is equipped with factory installed automatic thermal overload protection. In case of overheating, the motor is automatically turned off, preventing premature burnout of the motor windings.

CAUTION:
Motor may start up automatically - the automatic thermal overload protection will turn the motor on automatically as soon as the motor cools down again.

Overheating of the motor can result from the following:

* Saturated filter – An accumulation of contaminants clogs the filter and the air volume decreases. This results in insufficient air available for cooling, and therefore overheating results.

   SOLUTION: *Change filter inserts regularly!*

* Blocked Flow - Insufficient air volume due to other reasons, such as a bent connection hose or foreign matter obstructing the air flow.

   SOLUTION: *Straighten hoses and check air passage for foreign material.*
4. **Installation and Start-up Instructions**

**Installation and Connection**

In order to properly install the FilterMate, the following procedure should be followed:

4.1 **Hose Connection**

* Attach a flexible hose to the air inlet port(s) on the lid. If the some of the ports are not being used, keep them closed with a blind cover.

* Attach the other end of the hose to a suction nozzle, exhaust arm or matching duct.

* Assure that all duct and hose connections are airtight. Leakage will result in decreased performance.

* Check filters for proper seating.

4.2 **Electrical Connection**

* Connect the Unit to the Power Supply.
5. Control Panel

1. Main Switch

This switch is used to turn the Unit on. It has an internal neon light (green), which will light up with the switch in “ON” position.

2. Filter Monitor

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

When the pressure drop reaches a pre-defined level, filter maintenance should be performed (refer to page 7). This is generally the point where airflow is inadequate.
6. Maintenance

6.1 Filter Unit

The filter unit does not need any special maintenance, except for filter replacement as described below.

The installed motor is a brushless type and made for continuous use. To protect the motor in an overload situation, the motor is equipped with a thermal overload protection as described on page 5.

6.2 Filter Replacement

As the filter insert becomes increasingly saturated, the exhaust capacity of the Unit decreases. When the pressure gauge reaches a factory pre-set level (red mark), the airflow approaches a minimum and filters should be replaced.

Filter Replacement Procedure:

To replace the filters:

* Turn the Unit off at the Main Switch.
* Open the Unit's top cover by releasing the four latches and removing the lid.

* Remove and / or replace
  * Pre-filter
  * Pleated Filter (optional)
  * HEPA Filter
  * Activated Carbon Mats

* Reinstall the Unit's top cover and secure the four latches.

* Turn the Unit on.

* Do not operate the filter system without filters installed.

Sequence of Replacement:
  • Initially clean or replace the Pre-filter Mat and / or the Pleated
Pre-filter (optional).
- If the differential pressure gauge still displays approximately the same pressure level after the above steps, also replace the main HEPA Filter.
- Activated Carbon filters should be replaced with the main HEPA filter.

CAUTION: Do not clean the HEPA Filter (main filter). Cleaning the HEPA Filter by batting or using compressed air destroys the filter. Always use a new replacement filter!

7. Technical Data

The following data is a review of the most commonly sought information regarding the FilterMate Fume Filter Unit.

<table>
<thead>
<tr>
<th>Model:</th>
<th>F1520C</th>
<th>F1540C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voltage:</td>
<td>115 V / 1Ph</td>
<td>115 V / 1Ph</td>
</tr>
<tr>
<td></td>
<td>60 Hz</td>
<td>60 Hz</td>
</tr>
<tr>
<td>Current:</td>
<td>7A</td>
<td>9A</td>
</tr>
<tr>
<td>Motor Power:</td>
<td>½ HP</td>
<td>¾ HP</td>
</tr>
<tr>
<td>Fan Capacity (free blowing):</td>
<td>500 cfm</td>
<td>700 cfm</td>
</tr>
<tr>
<td>System Capacity:</td>
<td>300 cfm</td>
<td>400 cfm</td>
</tr>
<tr>
<td>Max. Static Pressure:</td>
<td>3”WC</td>
<td>3.5” WC</td>
</tr>
</tbody>
</table>

8. Replacement Filter List

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Part No.</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 a</td>
<td>Pre-filter Mat (10 per set)</td>
<td>FIL15M050</td>
<td>FIL15M050</td>
</tr>
<tr>
<td>1 b</td>
<td>Pre-filter, Pleated (6 per set)</td>
<td>FIL15P030</td>
<td>FIL15P030</td>
</tr>
<tr>
<td></td>
<td>(Optional)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 a</td>
<td>Main filter, HEPA, 95%</td>
<td>FIL15H040</td>
<td>FIL15H040</td>
</tr>
<tr>
<td>b</td>
<td>Main filter, HEPA, 99.97%</td>
<td>FIL15H020</td>
<td>FIL15H020</td>
</tr>
<tr>
<td></td>
<td>(Optional)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 a</td>
<td>Activated Carbon Filter mat</td>
<td>FIL15C010</td>
<td>FIL15C010</td>
</tr>
</tbody>
</table>

For units with customized filters please refer to back of this page for parts list.

9. Customer Service Address

For additional assistance regarding the FilterMate Fume Filter Unit, please contact: