

TERRABLOOM®

# CARBON FILTERS

## USER MANUAL



TERRABLOOM®

## GREETINGS FROM TERRABLOOM

Thank you for choosing TerraBloom carbon filters for your ventilation needs. This filter is designed to remove airborne odors, dust and volatile organic compounds in residential and commercial applications. This filter must be operated with an inline duct fan of an appropriate airflow and pressure rating. We recommend TerraBloom's EC-motor inline fans for a seamless experience.

We do our best to ensure customer satisfaction. If you have any suggestions, questions or comments, please contact us directly at [support@terra-bloom.com](mailto:support@terra-bloom.com) or through contact form at [www.terra-bloom.com](http://www.terra-bloom.com). We are located in sunny Southern California and reply to your messages Monday-Friday, 9am-5pm PST.

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## TERRABLOOM CARBON FILTER MODELS

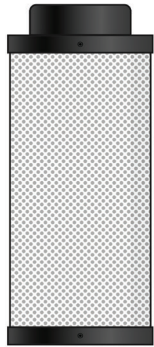
The values stated in this table are the maximum recommended airflow rates, which could be adjusted for your particular environment. Each application is different - the amount of airborne pollutants, temperature, humidity and other factors all play a role in the efficiency of your filter in your particular application. As a rule of thumb, the more pollutants and the higher the humidity, the more particles your filter will have to absorb. If you have a high concentration of pollutants or cold and humid environment you will have to replace your filter sooner than in applications with less pollutants or warmer and dryer climate.

To eliminate odors effectively all air in your room must be replaced (exhausted) or scrubbed at the rate of once per minute. The air volume of your room will determine the minimum airflow rate for fan operation with your filter. For example, if your room is 6 feet long, 4 feet wide and 8 feet tall, then it contains a total of 192 (=6x4x8) Cubic Feet of air. The minimum fan airflow rate recommended to control odor in such room is 192 CFM.

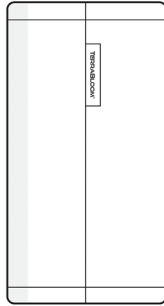
Please note that you must take into consideration the amount of pressure created by the filter to determine the true airflow of your fan when used with a carbon filter. The pressure drop of our filters is 0.5 inches W.G. You must refer to the pressure curve of your fan to determine your fan's CFM output at 0.5 inches of pressure, and ensure that it meets the minimum required CFM level for your space.

| MODEL/<br>SKU | FILTER SIZE                     | MAXIMUM<br>SCRUBBING<br>AIRFLOW<br>(CFM) | MAXIMUM<br>EXHAUST<br>AIRFLOW<br>(CFM) |
|---------------|---------------------------------|--|--|
| TB-CF-412     | Duct: 4" Length: 12"            | 200                                      | 160                                    |
| TB-CF-416     | Duct: 4" Length: 16"            | 350                                      | 270                                    |
| TB-CF-616     | Duct: 6" Length: 16"            | 400                                      | 320                                    |
| TB-CF-624     | Duct: 6" Length: 24"            | 550                                      | 440                                    |
| TB-CF-824     | Duct: 8" Length: 24"            | 750                                      | 600                                    |
| TB-CF-1024    | Duct: 10" Length: 24"           | 1110                                     | 880                                    |
| TB-CF-1030    | Duct: 10" Length: 30"           | 1350                                     | 1100                                   |
| TB-CF-1224    | Duct: 12.2" (315mm) Length: 24" | 1400                                     | 1150                                   |
| TB-CF-1230    | Duct: 12.2" (315mm) Length: 30" | 1600                                     | 1280                                   |

**PRODUCT CONTENTS**



**CARBON FILTER x 1**



**WHITE PRE-FILTER x 1**



**BLACK PRE-FILTER x 1**

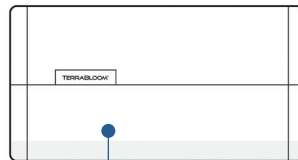
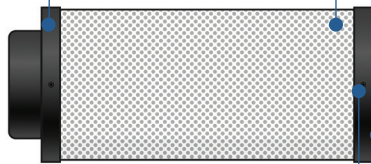
**CARBON FILTER FEATURES**

**DUCT COLLAR**

Sturdy aluminum construction for secure connection with filter or duct

**ACTIVATED CARBON**

Built with 1.8" thick premium carbon bed for efficient odor and airborne pollutant filtration



**RIVETS**

Secure permanent fasteners to avoid carbon leaks

**FILTER BASE**

Cone shaped base for efficient utilization of filter's lower section

**CLOTH PRE-FILTERS**

Machine washable pre-filters protect filters from clogging by large debris

**APPLICATION TIPS**

To ensure a longer lifespan for your carbon filter and to preserve odor absorption, your filter must be used in environments with relative humidity less than 80% at all times. The ideal humidity level is below 70%. Due to its porous composition, carbon absorbs all kinds of particles that pass through, including odor causing molecules, airborne pollutants and water. In environments with increased humidity, carbon will absorb water quickly and clump into clusters creating uneven surfaces, which will allow untreated odorous air to pass through without proper scrubbing.

There are two common ways of using carbon filters for odor control:

- "Scrubbing" method in which the air in your grow space is being continuously circulated through the filter. When using this method, the air is being passed through the filter multiple times, therefore you can use a faster airflow rate. Please refer to the recommended airflow rates for continuous scrubbing applications stated in the table at the beginning of this instruction manual.
- "Exhaust" method in which the polluted air is pulled through the filter once and expelled outside. When exhausting air outside, it is recommended to have the filter suspended over the canopy of your grow space to capture odor more efficiently. Since this method requires the filter to eliminate odor and pollutants in one passing, it is recommended to use a slower fan speed for such applications. Please refer to the recommended airflow rates for exhaust applications stated in the table at the beginning of this instruction manual.

## NOTE ON STATIC PRESSURE AND PRESSURE DROPS

To achieve optimal results, you must take static pressure into consideration when selecting the inline duct fan to use with your filter.

Each duct fan has a maximum pressure rating it can create, which equals to the maximum static pressure it can counteract in order to move a certain volume of air.

The CFM rate stated on the fan is called the “nominal” airflow rate and is applicable only when the amount of static pressure in the system is zero, or when no additional equipment is attached to the fan.

When equipment is attached to the fan (i.e. ducts, filters, splitters, elbows) you are introducing static pressure, an obstacle in the path of the airflow which will cause the final amount of airflow to be lower than the nominal airflow.

A pressure drop is the amount of static pressure introduced by a filter or any equipment attached to the fan.

To find the precise value of airflow for a particular application, refer to the pressure curve of the fan which shows the CFM output at different pressure levels. Once you calculate the pressure drop caused by the filter and all attached equipment, locate that pressure level on the pressure curve to pinpoint the corresponding CFM output.

If the pressure drop and/or pressure curves are not available, assume that the carbon filter will reduce the amount of airflow by 30-40% from the nominal airflow rate stated on the fan. The thicker the carbon bed, the higher the pressure drop.

**Do not use the carbon filter with weak duct “booster” fans which are designed to increase existing airflow, as they do not have enough power to counteract the pressure drop caused by the filter. Such units will not perform well with filters and will lose significant output.**

## WARRANTY

TerraBloom’s EC-motor based inline fans (ECMF series) are optimized for use with carbon filters. For a seamless experience, please refer to the table below for recommended fan and filter model pairings. Each ECMF series fan comes with a speed controller allowing you to choose the output level that fits your application.

## TERRABLOOM FILTER AND FAN PERFORMANCE

TerraBloom’s EC-motor based inline fans (ECMF series) are optimized for use with carbon filters. For a seamless experience, please refer to the table below showing recommended fan and filter model pairings. Each ECMF series fan comes with a speed controller allowing you to select the output level that fits your application.

| FILTER MODEL | RECOMMENDED FAN MODEL | FAN MAXIMUM AIRFLOW WITHOUT FILTER (CFM) | FAN MAXIMUM AIRFLOW WITH FILTER (Pressure = 0.5 in W.G.) |
|--------------|-----------------------|--|--|
| TB-CF-412    | ECMF-100 (4")         | 160                                      | 108  |
| TB-CF-416    | ECMF-100 (4")         | 160                                      | 108  |
| TB-CF-616    | ECMF-150 (6")         | 350                                      | 265  |
| TB-CF-624    | ECMF-150 (6")         | 350                                      | 265  |
| TB-CF-824    | ECMF-200 (8")         | 710                                      | 625  |
| TB-CF-1024   | ECMF-250 (8")         | 1065                                     | 880  |
| TB-CF-1030   | ECMF-250 (8")         | 1065                                     | 880  |
| TB-CF-1224   | ECMF-315 (12.3")      | 1700                                     | 1440   |
| TB-CF-1230   | ECMF-315 (12.3")      | 1700                                     | 1440   |

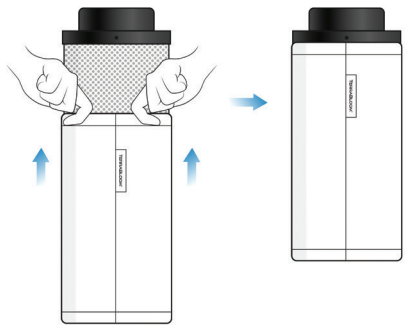
When using ducts to connect fan and filter, please factor an additional airflow reduction of 3% (smooth metal duct) to 7% (flexible ribbed duct) for every 25 feet of duct. 90° turns in ducting cause an additional 1%-4% reduction in airflow loss.

## INSTALLATION

### STEP 1

Inspect the filter upon arrival to ensure that all parts are intact. Pierced, heavily dented or crushed units may leak carbon and require replacement. Contact TerraBloom customer support if shipping damage has occurred to your filter.

Due to prolonged shaking during transportation, your filter may have a residual amount of loose carbon particles in its packaging. Use a damp cloth to remove any loose particles before installing the filter.

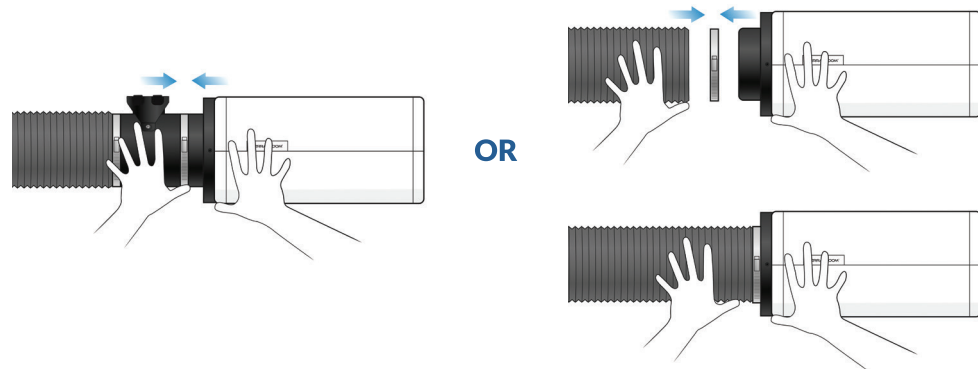


### STEP 2

Place one of the supplied cloth pre-filters onto your filter by pulling it over the filter's mesh walls. The purpose of a pre-filter is to capture dust and large debris before they reach and clog the filter.

### STEP 3

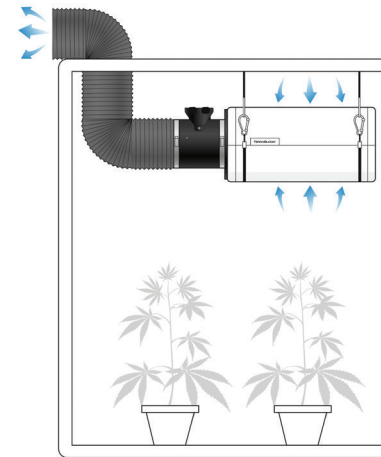
Attach the filter to the fan by securing the connection with a metal duct clamp. If desired, a duct can be installed between the filter and the fan.



## INSTALLATION

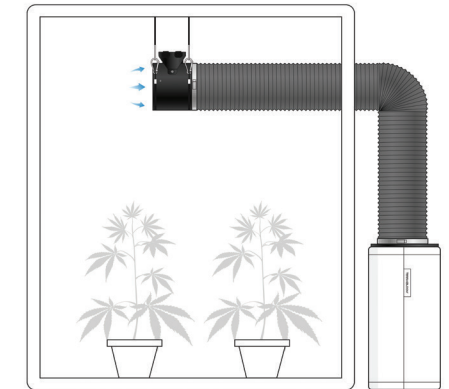
### STEP 4

Suspend the filter over the canopy in your grow space. To avoid accidents, verify that the mounting hardware used to suspend the filter is rated for the weight of the filter. Attach the fan so that the air is pulled through the filter and outside of the grow tent.



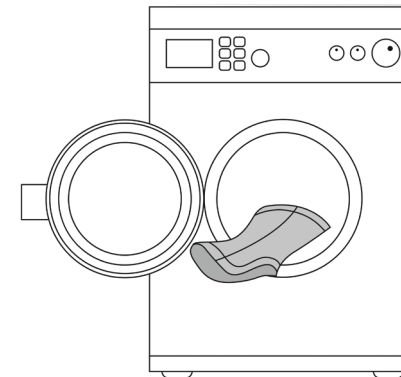
### STEP 5

As an alternative installation method, the filter can be placed outside the grow tent with the fan capturing air over the canopy and pushing it into the filter. To prevent clogging, ensure that leaves or any large debris cannot become lodged into the fan and pushed against the inside wall of the filter.



### STEP 6

Machine wash your cloth pre-filters regularly to prevent dust and debris buildup around your filter walls. Air dry cloth pre-filters to prevent shrinkage.



**CONSIDER THE FOLLOWING RELATED PRODUCTS**



**EC-MOTOR INLINE FANS**

ENERGY EFFICIENT POWERFUL FANS WITH  
0-100% VARIABLE SPEED CONTROL



**FLEXIBLE AIR DUCTS**

QUICK AND EASY TO BUILD YOUR AIR LINES  
AND CONNECT HVAC EQUIPMENT



**INDUSTRIAL STRENGTH  
TRIPLE-TAP EXTENSION CORDS**

FLEXIBLE AND RUGGED POWER EXTENSIONS  
FOR INSTALLATIONS IN HARD TO REACH PLACES