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# MICROCON® AS

## Instructions & Service Manual

### OVERVIEW

The MICROCON® AS (Air Scrubber) is a high capacity HEPA filtered air scrubber designed primarily to exhaust air to provide a pressurized space. The space is usually under a negative pressurization to provide containment of airborne contamination. The contamination may be in the form of airborne mold, bacteria, construction dust and other potential hazardous particulates that are evident during construction, reconstruction and renovation projects.

### PLACEMENT

The intake is the end with the 10" duct collar. Attach a flex duct to the collar or attach the collar directly through an opening in the room to be pressurized. Air is exhausted through the rectangular exhaust duct on the rear of the unit. Note that the longer the duct run and the more bends, the more airflow resistance and therefore decreased airflow volume will be the result.

It is suggested the unit be placed outside the restricted area for easier accessibility and maintenance. However, it can be placed inside the room with a provision for the exhaust duct to be sealed to the exhaust opening in the barrier wall.

### START-UP

Once the location is established and the duct connection made between the room and the unit, the MICROCON AS can be activated by pressing the two-speed fan switch on the recessed panel. The unit can be placed on the floor or rested on a raised surface. Four attached nylon feet protect the surface area. The differential pressure is measured by in the Minihelic gauge reading. In the event the amount of exhaust on either speed setting is too high additional air can be brought into the unit by opening the rear intake door slightly. This will decrease the amount of air pulled directly from the room by supplementing or balancing it with air from outside the room. All air intake is passed through the HEPA filter regardless if it comes directly through the 10" collar. Protect unit from standing water or spray during operation

## SPEED SETTING

The black rocker switch under the Minihelic gauge (labeled) is a two speed setting with the "off" in the middle position. When the rocker switch is activated there will be a pressure differential reading evident on the Minihelic gauge. The higher the needle registers the more cfm is being provided. The Minihelic gauge registers pressure in inches of water (W.G.). It is advisable to record the pressure reading on either speed setting when the unit is new. A filter maintenance label is attached to the unit. The "high" fan speed delivers about 500 cfm while the 'low' speed setting is about 425 cfm.

## PRE-FILTER RENEWAL

**(Replacement Part No: RP-EXB002)**

The pre-filter should be changed when the pressure gauge increases .10" WG or one graduation mark on the Minihelic gauge. The synthetic internal wire ring pre-filter is designed for compatibility with the HEPA filter in both efficiency and performance. Proper maintenance of the pre-filter will extend the life of the HEPA filter. Pre-filters are available 12 to a case.

## INSTALLING NEW PRE-FILTER

It is advisable to shut-off the power when changing the pre-filter. The rear swing open door is secured by an internal catch latch. Slight pressure on the left side of the door will dislodge the clasp and the door will easily swing open. Depending upon the length of ducting attached to the 10" inlet collar you may or may not need to disconnect it prior to opening the door. Depending upon the contamination on the pre-filter face, it may be advisable to wear proper respiratory protection or gloves when renewing the pre-filter. Also, as an additional precaution a plastic bag can be slid over the rear of the cabinet encapsulating the pre-filter so it slides directly into a bag without human contact. The bag can then be sealed and properly disposed of. Check with your local authorities to determine the means of disposal for the contaminated filter or if it is considered 'hazardous waste' material. This would also apply to the HEPA filter.

## REPLACING THE HEPA FILTER

**(Replacement Part No. HF-AS002)**

**Note: Used HEPA filter – Treat as Contaminated Substance.**

The HEPA filter should be renewed when the pressure drop increases to about 1.25" WG. With a clean pre-filter in place. A similar procedure should be followed to renew the HEPA filter. After the pre-filter has been removed, unscrew the two thumb screws on the threaded rods securing the HEPA in place. Slide the filter jacks off the two rods and remove the HEPA filter. Depending upon the longevity of its use and condition of the gaskets it may require slight pressure to dislodge it from its sealed and seated position.

Install a new HEPA (pleats running in a vertical format) by sliding it on the filter alignment base until it seats against the filter frame being cautious when installing the HEPA that the filter media is not damaged by the extended threaded rods. The gasketed end should be seated first. Replace the filter clamping jacks and reinstall the threaded thumb screws. Make screws hand-tight so gasket is slightly compressed providing a leak-free seal. Place new pre-filter upstream of HEPA and close swing door in place.

## ADJUSTING HOUR METER

The hour meter offers an additional means to determine filter change outs based upon your operating conditions. Instead of monitoring the pressure gauge if you determine you are changing the pre-filter after every 40 hours of use, as an example, it will provide a good single source of operational time as a supplemental control to the pressure gauge reading. If you determine the HEPA lasts for 500 hours it will identify the precise operational usage. Filter longevity will depend upon operational conditions, length of use, particle size and degree of concentrations of contaminants.

The electronic hour meter is equipped with an external re-set button. Pressing this button clears the numerical readout and resets it back to zero. If you are interested in maintaining a "total usage" compilation you would be advised to record on the filter label the last reading in the event the button is inadvertently pressed.

## CLEANING

The Surface of the AS is baked on powder coated enamel, similar to the finish on appliances. It is very durable but abuse can damage it. Harsh detergents or solvents can discolor it. The lens of the Minihelic gauge is Plexiglas so certain chemicals should not come in contact with it. Other than wiping the unit down when required, there are few maintenance requirements.

## MAINTENANCE

Other than the filter change outs, there are no requirements. The motor is permanently sealed and requires no adjustment. Timely renewal of the pre-filters and HEPA will extend the motor life and provide the optimum airflow and efficiency guaranteeing years of trouble-free operation.

## RETURNING MODULES TO FACTORY

Before shipping any component to the factory, a Return Material Authorization must be issued by the factory for units under warranty. For units out of warranty, a written purchase order must be issued to Biological Controls prior to return. The factory will NOT accept and will refuse any merchandise returned without the proper written authorization. Factory is not responsible for any damage to the unit during return shipping.

DO NOT return any used filter modules or pre-filters to the factory under any circumstances.

## SPECIFICATIONS FOR MICROCON AS

### **Cabinet:**

Dimensions: 13.5" (W) x 13.5" (H) x 32" (L)

Material: Steel construction with baked enamel finish

Weight: 61 lbs.

Pressure Monitoring: Minihelic gauge 0.0" to 2.0" WG

Rocker switch: 2 position locking - HIGH, OFF, LOW

Exhaust duct opening: 6" x 9 7/8"

Hour Meter: Electronic, re-settable

**Blower:**

Blower: Low noise performance  
Blower: High efficiency, double inlet, PSC forward curved  
Blower: 1/5 HP 50/60 Hz  
Free Air CFM: 760 High, 545 Low  
CFM capacity delivered: 500 High, 425 Low  
Speed Control: 2 Speed  
RMP: 1450 High, 1100 Low  
Electrical: 115V, 3.90 amps  
Electrical: 10', 3 prong plug  
Heat overload: Auto reset thermal protection

**Filtration:**

HEPA: 99.99% on 0.3 micron size  
Pre-filter: Synthetic 30% efficient  
Synthetic internal ring panel  
Change-out: Bag-out change  
Dimensions: 12¼" (W) x 12¼" (H) x 12" (D)

**LIMITED WARRANTY**

Biological Controls Inc. (BCI) warrants to its purchasers that all products sold by it will be free of manufacturing and material defects. Any defective product will be replaced, free of any charge if a claim is brought to BCI's attention in writing, within ONE year following the date of shipment by BCI. BCI will not be responsible for any installation costs involved in such replacement. Replacement will include shipment cost within the continental United States. This warranty is IN LIEU OF any other warranty, express or implied, including, but not limited to, any implied **WARRANTY OF MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.** BCI's liability under this warranty is limited to replacement and does not include any responsibility for incidental or consequential damages of any nature.

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