SCIENTIFIC AIR SOLUTIONS

MB-2 Air Sampler – **Instructions**

All operations are carried out by use of the **five buttons** on the front of the unit.

On/Off

After pressing once to turn the unit **on**, the display shows the distributor name. The first Menu item **"Take sample"** is displayed. By pressing the **Menu** button the five **Main Menu Options** appear sequentially.

Main Menu Options, press the MB-2 **On/Off** button once to turn the unit **On**:

1. Press the **Menu** button once; **"Take Sample?"** appears
2. Press the **Menu** button twice; **"Time Delay?"** appears
3. Press the **Menu** button three times; **"Preset volume?"** appears.
4. Press the **Menu** button four times; **"Charge battery?"** appears.
5. Press the **Menu** button five times; **"Battery Test"** appears, **"E<□□□□□□□□□□□□>F"**

Control Buttons

The **"Start"**, **"+"** and **"-"** buttons are used to operate the MB-2 within each **Menu** option.

1. "**Start**" use this button to:
   a. **"Start"** all menu options.
   b. **"Start"** the fan running once the chosen volume (or preset volume) of air is shown on the display.
   c. **"Start"** the battery charging.
   d. Stop the alarm from sounding once the fan has stopped.
2. **"+"** use this button to: increase the value of the **Volume**, **Preset Volume** or **Time Delay**.
3. **"-"** use this button to: decrease the value of the **Volume**, **Preset Volume** or **Time Delay**.

Menu

Press **Menu** and "**Take Sample?**" will appear on the screen.

1. Press **Start** to show a preset volume of (25 to 1000 liters) on the screen.
2. Press **Menu** if you want to use a volume other than the preset, press the **"+"** button, each press of the **"+"** increases the set point in 25 liter increments.
3. Once you have the set point of your choice, press **Menu.**

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Press **Menu** again and **"Time Delay?"** will appear on the screen.

1. A 15 second delay is recommended to allow the placement of the unit and enough time for the technician to move from the sampling area. Also, the user may wish to take samples remotely. Select from 15 seconds to 5 minutes before the MB-2 will start sampling.
2. To invoke the delay, press **Start**, "**Delay 0**" appears.
3. Press the **"+"** for 15 second increments, use the "-" button if you pass your intended value.
4. Once you've arrived at the "**Time Delay**" of your choice press the **Start** button.

Press **Menu** again and **"Preset Volume?"** will appear on the screen.

1. For almost all sampling the volume of air sampled should be the same. This menu item the user can set a Preset Volume which remains as a stored value even when the unit is turned off.
2. To invoke the Preset volume, press **Start**, "**Preset: 50**" appears
3. Press the **"+"** for 25 liter increments, use the "-" button if you pass your intended value.
4. Once you've arrived at the "**Preset Volume**" of your choice press the **Start** button.

Press **Menu** again and **"Charge battery?"** will appear on the screen.

1. To invoke the Charge battery?, press **Start**, the display will show the number of minutes the charger has to go to complete the needed charging time (14 hours).
2. When charging is complete an internal switch will turn off the power to the batteries to prevent overcharging, and the display will indicate charging complete.

Press **Menu** again and **"Battery test? E<□□□□□□□□□□□□>F"** will appear on the screen.

1. To invoke the Battery test?, press **Start**, the display will show the current battery level in a bar graph.
2. The unit should be recharged when the battery level is 25% or less, e.g., Battery test **E<■■■□□□□□□□□□>F**
3. Batteries, the batteries are held in a small compartment in the back of the unit. The MB-2 comes supplied with four AA NiMH high capacity batteries. The user can replace these batteries at any time, with either similar NiMH or NiCd batteries.
4. Non-rechargeable Alkaline batteries can be used, however, **DO NOT ATTEMPT TO RECHARGE ALKALINE BATTERIES**, using the MB-2 charger.

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MB-2 Air Sampler – **Directions for Use**

Principle of Operation

The MB-2 is designed to collect airborne microorganisms onto a agar (contact) plate. Air is aspirated through a detachable cover with small holes (1mm). The laminar air flow that is created by the design impels microorganisms onto the surface of the contact plate. After exposure to the air stream for a fixed period of time, the contact plate is removed and incubated (incubation times will vary according to the media used). From the flow rate 50 to 1000 liters (in 25 liter increments) the concentration of microorganisms in the sampled air can be calculated.

Operation

1. Remove sampling cover and disinfect (sterile alcohol wipes are preferred).
2. Place pre-filled contact plate onto the supports, and remove the contact plate cover.
3. Replace sterile sampling cover.
    a. Be careful not to contaminate the sampling cover with your hands.
4. Press the MB-2 **Start** button, **"Take Sample ?"** appears
5. Press the MB-2 **Start** button again, "**Preset (XX liter)?** (XX = the preset volume you've previously stored, see **Instructions** for specifics.)
6. Press the MB-2 **Start** button, a third time **"Take Sample? Delay**" appears. If a delay value has been entered, then the MB-2 will countdown (15 second increments) and then start (the small red light next to the power plug will go **on**)
7. Once the sample volume is achieved, the aspirating fan stops (the small red light next to the power plug will go **off**)
8. Remove sampling cover, replace the contact plate cover, remove the contact plate, disinfect (sterile alcohol wipes) and prepare for the next sample.
9. Incubate the contact plate at the appropriate time and temperature (specific to media used).
10. Count colonies on each contact plate (apply count correction, see **Correction Tables**).
    a. Divide the count by the known sample volume to calculate the colony forming units (CFU's) per cubic meter of air.
11. Enter data on sampling report.

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