Monmouth

Circulaire

DOWNFLOW BENCH

OPERATING AND MAINTENANCE MANUAL

Monmouth Scientific

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Warning
This system must be used in compliance with these instructions and any repairs or maintenance carried out by qualified personnel.

For parts or service information please contact Monmouth Scientific on: +44 (0) 1278 458090

SECTION 1

DESCRIPTION OF THE BENCH

Monmouth Scientific Downflow Benches are designed to provide operator and environmental protection. The bench provides a downflow of air >0.4m/sec through the perforated worksurface to provide operator protection.
The contaminated air is passed through an electrostaticaly charged pre-filter to remove particulate and then through Activated Carbon main filters to remove chemical fumes before exhausting the air back to the laboratory.

A low airflow alarm constantly monitors the airflow through the bench and alerts the operator if this falls below a safe level indicating that a change of pre-filters is required.

The bench is also fitted with a filter condition alarm which constantly monitors the exhaust air from the bench.

SECTION 2

INSTALLATION

- The bench should be sited in a draught free position
- The bench is recirculating and requires no connection to ductwork

TESTING / COMMISSIONING

A factory test certificate will be supplied with airflow and electrical test results. When in position the airflow should be checked using a vane anemometer and a PAT test carried out. The results should be recorded.

THE BENCH MUST BE TESTED EVERY 14 MONTHS TO COMPLY WITH C.O.S.H.H REGULATIONS.

SECTION 3

OPERATION

To turn the bench on, press the illuminated rocker switch on the control panel. During start up, the low airflow alarm light may illuminate and sound until the airflow reaches the correct operating level.

SECTION 4

MAINTENANCE

The bench should be isolated from the electricity supply before carrying out any maintenance procedures.

FUSES

The main fuse protecting the fans and low airflow alarm is located on the control panel adjacent to the on/off switch.
Always replace the fuse with the correct type and rating. (5A Type T)

PRE-FILTERS - CHANGING

IMPORTANT: Personal Protective Equipment must be worn when changing filters as dust may inadvertently released.

1. Open the front panel using the key provided.
2. The Pre-Filters are held in position on top of the Carbon Filters by retaining frames.
3. The filters should be sealed in bags and marked for disposal as non hazardous waste.

MAIN CARBON FILTERS - CHANGING

IMPORTANT: Personal Protective Equipment must be worn when changing filters.

1. Open the front panel using the key provided.
2. Slide the filters out and seal in a marked bag for disposal as non hazardous waste.

CALIBRATION – LOW AIRFLOW ALARM

1. Open the front panel using the key provided.
2. To simulate a partially blocked filter; cover an equal area of each pre-filter using paper or similar material to achieve an average velocity at the worksurface of 0.3m/sec. (Close the front cover to check the velocity and adjust the paper until the correct airflow is achieved)
3. Turn the bench off and then on again whilst pressing the airflow alarm ‘mute’ button.
4. The red and green warning lights will flash alternately.
5. When the airflow has stabilised press the ‘mute’ button again to record the set point.
6. Remove the paper from the filters.
7. Calibration is now complete.

CALIBRATION – FILTER CONDITION ALARM

1. **New carbon filters must be fitted before calibrating the alarm.**
2. Whilst pressing and holding the ‘Mute’ button, turn on the bench. When an audio beep is heard release the button.
3. The red and green indicators will flash alternately indicating that the alarm is in calibration mode.
4. Leave the bench running for 15 minutes to allow the sensor to stabilise.
5. Press the ‘Mute’ button once. The indicators will stop flashing and the green remain on.
6. The filter condition alarm is now calibrated.

SECTION 5

SERVICING

An annual service is recommended and testing is mandatory under C.O.S.H.H regulations and will include the following points:

- Check / replace pre-filter
- Check and record downflow velocity readings
- Check airflow monitor and re-calibrate if necessary
- Inspect electrical components, lighting, cables etc.
- Check water and waste system for leaks.
- Issue test report and airflow certificate.

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