IMPORTANT USER GUIDANCE

NPU - NEGATIVE PRESSURE AIR FILTRATION UNITS

[BS8520:2 2009 & PAS 60:2 2004]

SI 800 / 2300 / 5000, E-VAC 400 / 1800 / 2300 / 5400 Models

READ ALL THE INSTRUCTIONS BEFORE USING THIS EQUIPMENT

General Specification: portable negative pressure air-filtration units designed for the capture of fine airborne particulate dusts down to 0.3 micron diameter, at an efficiency of >99.995% retention of particulates.

Filtration: 3-stages of filtration when used with standard pre-filter housing - comprising: pre-filter EU4 (user-changeable), long-life intermediate M5/F6 (not user changeable), and final stage absolute HEPA Filter (not user-changeable).

For projects which involve high dust loadings (e.g. blast-cleaning) 4-stage filtration is optional, using multi-pocket bag filters to capture coarse and medium size dust particles before they reach the HEPA filter [see photo overleaf]; these bag filters are available in a range of filtration grades and pocket sizes to suit diverse applications – please enquire.

Power: 110v single phase electric motor(s), connection via trailing 110v 16A plug(s), operating power loads detailed overleaf. This product range is for air extraction and filtration applications in the range: 0 – 5400 M3/Hr (0 – 3170 CFM).

1. Installation: the equipment is designed to be installed on the outside of an enclosed (normally polythene tented) work area (see schematic) with the inlet spigot protruding into the work area. Once in place connect the machine to a power supply, switch on and only then remove the circular transit cap.

   • the detachable pre-filter housing (ONLY) may be placed in the working area and coupled either direct to the inlet spigot, or using intervening flexible ducting to allow the head to “rove” to different locations within the work enclosure.

   The filtered air must be allowed to freely discharge from the exhaust spigot, preferably to the outside atmosphere; this may be achieved through ducting if required but remember that long runs of ducting will reduce the achieved air-movement capacity of the equipment. Ensure there is no obstruction in suction or discharge ducting.

   The Negative Pressure Unit must NEVER be placed inside the working enclosure.

2. Operation: insert pre-filters into pre-filter housing (good quality pleated pre-filters are recommended; the use of flat panel-filters is a false economy and will result in high manometer readings and reduced airflow). The pre-filters remove coarse dust particles; it is advisable that pre-filters are changed at least daily, or more frequently where dust levels are high.

   • FLOW Indicator: each machine is fitted with a flow indicator - this is a manometer guage; the normal operating range for each machine type is listed in the table overleaf; as the filter system progressively blocks, causing a reduction in air-flow, the dial reading will increase. If the manometer reading is outside the normal range listed in the tables overleaf then check the following:

   **READING TOO HIGH - POSSIBLE CAUSE**
   - Transit cap not removed?
   - Roving ducting obstructed/collapsed/too long?
   - Pre-filter blocked or wet?
   - Intermediate or HEPA filter wet or blocked?

   **SOLUTION**
   - Remove cap
   - Re-align ducting, reduce length
   - Replace new, avoid spraying liquids
   - Refer to supplier for service

   **READING TOO LOW - POSSIBLE CAUSE**
   - Slow running motor
   - Only one motor running (where two fitted)
   - Low Supply Voltage
   - Exhaust Discharge Restricted

   **SOLUTION**
   - Turn up variable flow (if fitted)
   - Check power supply / switch
   - Reduce cable run distance
   - Use as a minimum 2.5mm2 cables
   - Use large(r) diameter ducting
   - Reduce ducting length.

Note: the final stage absolute (HEPA) filter is protected within the casing of the NPU; in no circumstances should the HEPA filter-media be touched – it is not a user serviceable item. Should the machine casing suffer penetrating mechanical damage the NPU must be taken out of service, and returned for inspection.
3. On Completion: of work dispose of pre-filters as contaminated waste. Envirogard’s standard detachable pre-filter housings are a non-returnable, disposable component – this is identified on their labelling; dispose of these responsibly as contaminated waste – do not return. Consider any ducting used for a roving head as contaminated and treat accordingly.

- if the detachable pre-filter housing is not the disposable type [e.g. a special housing for 4-stage filtration] it will carry clear alternative directions (normally red on white); for these the user must thoroughly clean & fully decontaminate the housing, and seal in polythene prior to return.
- finally, thoroughly vacuum off and wipe down any remaining parts of the machine which are inside the work area; refit the transit cover - only then switch the machine off.

NPU TECHNICAL DATA

<table>
<thead>
<tr>
<th>MODEL:</th>
<th>SI 800</th>
<th>SI 2300</th>
<th>SI 5000</th>
<th>E-VAC 400</th>
<th>E-VAC 1800</th>
<th>E-VAC 2300</th>
<th>E-VAC 5400</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAPACITY M3/HR [CLEAN] (EQUIVALENT CUBIC FEET / MIN)</td>
<td>820</td>
<td>2300</td>
<td>5200</td>
<td>400</td>
<td>1800</td>
<td>2300</td>
<td>5400</td>
</tr>
<tr>
<td>SIZE H * W * D mm</td>
<td>450x450x375</td>
<td>560x490x850</td>
<td>810x700x960</td>
<td>460x460x330</td>
<td>700x580x845</td>
<td>610x485x995</td>
<td>800x685x995</td>
</tr>
<tr>
<td>APPROX. WEIGHT KGS</td>
<td>19</td>
<td>30</td>
<td>74</td>
<td>15</td>
<td>40</td>
<td>30</td>
<td>70</td>
</tr>
<tr>
<td>POWER – CONNECTION</td>
<td>1 x 16A</td>
<td>1 x 16A</td>
<td>2 x 16A</td>
<td>1 x 16A</td>
<td>1 x 16A</td>
<td>1 x 16A</td>
<td>2 x 16A</td>
</tr>
<tr>
<td>RUNNING – VOLTS / AMPS</td>
<td>110 / 3</td>
<td>110 / 14</td>
<td>110 / 2 x 16</td>
<td>110 / 2</td>
<td>110 / 6</td>
<td>110 / 14</td>
<td>110 / 2 x 16</td>
</tr>
<tr>
<td>STANDARD PRE-FILTER SIZE mm</td>
<td>305x305x50</td>
<td>380x380x50</td>
<td>610x610x100</td>
<td>285x285x45</td>
<td>380x380x50</td>
<td>380x380x50</td>
<td>610x610x100</td>
</tr>
<tr>
<td>ROVING HEAD DUCTING DIA. mm</td>
<td>200</td>
<td>305</td>
<td>410</td>
<td>N/A</td>
<td>305</td>
<td>305</td>
<td>410</td>
</tr>
<tr>
<td>DISCHARGE – DUCTING DIA. mm</td>
<td>150</td>
<td>305</td>
<td>410</td>
<td>410</td>
<td>305</td>
<td>305</td>
<td>410</td>
</tr>
<tr>
<td>FAN CAPABILITY Pa</td>
<td>625</td>
<td>1100</td>
<td>1100</td>
<td>1100</td>
<td>375</td>
<td>800</td>
<td>1100</td>
</tr>
<tr>
<td>SOUND LEVEL dBA @ 3m</td>
<td>54.0 – 55.2</td>
<td>65.5 – 70.4</td>
<td>66.2 – 69.7</td>
<td>53.8 – 55.1</td>
<td>54.9 – 58.9</td>
<td>65.2 – 70.1</td>
<td>66.2 – 69.9</td>
</tr>
</tbody>
</table>

Multi-pocket bag filters for applications where there is a high dust loading

WARNING - THE FOLLOWING MUST BE OBSERVED AT ALL TIMES

- familiarise themselves with information & instructions (and where appropriate undertake training) concerning use of the equipment, the substance(s) for which it is to be used, and the safe method of removal and disposal of the material collected.
- make arrangements to ensure that the pre-filters can be changed while in service without causing risk to operatives or others; precautions may include use of containment facilities, PPE, and filtered local exhaust ventilation. Spent pre-filters MUST BE removed from equipment prior to its return to the supplier; they must be disposed of in accordance with national regulations appropriate to the material being collected. Non-returnable detachable pre-filter housings are the standard supply item, and should be disposed of responsibly by the user (DO NOT RETURN). If returnable polypropylene pre-filter housings are supplied these must be cleaned, decontaminated, and wrapped in an impervious plastic bag before return.
- ensure that the equipment is NOT used in areas where explosive gases, vapours or dusts are present, that the equipment is NOT used in a wet environment, and if placed outside the equipment is protected from the weather. Also please note this equipment is NOT permitted for use offshore, nor on offshore support vessels or structures.
- refer to local safety regulations applicable to the materials being collected by the equipment [for example, in the U.K. if collecting dusts containing asbestos observe the requirements of the Control of Asbestos Regulations 2012, & its supporting guidance ACOP L143 Managing & working with Asbestos. If collecting dusts containing lead please observe the requirements of the Control of Lead at Work Regulations and supporting guidance L132].
- ensure that upon conclusion of work the outside of the appliance is thoroughly vacuumed and wiped down, and the transit cover secured.

FOR MORE INFORMATION ABOUT OUR RANGE OF SPECIALIST AIR FILTRATION, VENTILATION AND VACUUM CLEANING EQUIPMENT PLEASE SEE OUR WEBSITE OR CONTACT OUR HIRE DEPOTS.