

## **O & M INSTRUCTION**

### **PRODUCT GROUP 1835 - TERMINAL HOUSINGS** **TERMINAL HOUSING-LIQUID SEAL Page 3**

#### **Safety**

It is recommended that industrial gloves, overalls, eye protection and nuisance dust masks are utilised when changing filters which have been subjected to natural air, as opposed to air drawn from processes, where full risk assessments should be performed prior to changing. For some filters, an assessment regarding manual handling will need to be made.

Changing of filters should be carried out by experienced or trained personnel, in accordance with safety requirements as defined by the "Control of Substances Hazardous to Health (COSHH) Regulations. ie. someone who fully understands the design, operation and implications of the product and its use

#### **Description**

The Absolair High Efficiency Particulate Arrestor Terminal Housing, can be built into a conventional plasterboard ceiling or fitted into a lay in tile type grid ceiling. The grille is designed to overlap the flange of the housing by a few millimetres to provide a "clean" appearance to the unit and allow a mastic seal to be made between grille and the ceiling for easy cleaning of the final facility.

#### **Installation**

The Casing will be supplied separately from the HEPA Filter, but will include the grille fitted to its retaining frame and a pack(s) of Filter retaining clips.

It is recommended that before installation commences the grilles, frames and retaining clips are removed and stored in a safe place.

The casing and filter can weigh between 10 and 40kg, depending upon the size of the unit. For this reason the Casing is fitted with Support Lugs, which should be secured back to a structural member using M8 Zinc Plated studding or similar. The duct should be fitted to the casing in such a manner that no additional holes or fixings are made in the casing beyond those of the fixing flange or the spigot. No part of the casing/filter weight should be carried by the ceiling.

When locating the casing in its final position, allowance should be made for the sealing of the case to the ceiling, to eliminate any air induction caused by the normal air flow operation. The grille will extend beyond the flange by a few millimetres and this should be allowed for.

#### **Filter Installation**

Prior to the filter being fitted the ductwork should be cleaned, blown through and a duct balance performed to provide the correct airflow when the filters are installed. It is essential that the filters do not pass more than their rated airflow at any time.

Clean the Terminal Housing, filter clamps, retaining frame and grille to remove all traces of dust and debris.

Inspect the Filter box for any signs of damage. If the box does show signs of abuse or damage, the filter should be returned to the supplier for retesting. Inspect the filter sealing knife edge and the polyurethane seal of the knife to the housing, ensuring that it is flat and straight.

Unpack the Filter, by opening the lid of the box, bending the flaps back along the sides of the box, gently laying the filter end over until it is upside down. Open the lid of the box as it is now, which was the bottom, and slide the cardboard box off the filter. Inspect the Filter faces and case for damage. If there is no apparent damage, and installation is imminent the polythene cover can be removed.

The filter should now be examined carefully, paying particular attention to the filter faces, the gaskets and the case joints. The Factory Efficiency Testing of the HEPA Filter only tests the air passed through the Filter media, ensuring that it has an overall average efficiency of that required.

Using the Serial Number Identity Label ensure the Filter is of the correct efficiency and construction for the application.

Make yourself familiar with the fitting of the Filter retaining clips in their locations, easing the clip within the terminal Housing if necessary to accommodate the tab of the clip. The retaining bolts are M8, and it is recommended that a socket and speed brace is used to secure these.

The filter retaining frame will have been removed from the grille during cleaning, it should now be located under the filter and used as a lifting cradle for the filter.

Lift, (preferably using two persons), the Filter up into the Terminal Housing, ensuring that it does not come into contact with the Terminal Housing until it is within the housing. As the filter is brought into contact with the filter sealing knife edge ensure that the filter is central in the housing, which will assist in the final sealing of the Filter.

Locate the Filter retaining clips in their respective positions and tighten in a clockwise motion equally, until the filter is firmly in position, tighten one half of a turn further on each bolt.

The gasket of the filter needs to be compressed, but not cut through.

### **Filter Testing**

All filters within the system should be installed prior to air being turned on again. Final Balancing of the filters should now be performed. The in Situ Leak Test described in the American or British standard can then be performed if applicable.

Should a leak be found which is deemed to be between the filter and the housing then a further one half of a turn on each bolt may be carried out and the test repeated.

This remedial action should only be performed twice, after which the filter should be removed and inspected. If the gasket has been damaged then a new filter should be fitted, as described.

### **Grille Fitting**

Once the filter/housing has passed the in-situ leak test, the grille outer should be located in position and the M8 Bolt located and tightened in the nut of the Filter retaining frame. The centre core of the grille can then be fitted into the outer of the grille.

The grille should then be wiped clean and a mastic seal made if required, between the grille and the ceiling.

### **Disposal of Air Filters Including Personal Protective Equipment**

- Filters and PPE have been damaged prior to use can be disposed of as normal industrial waste.
- Filters and PPE soiled with exterior air can be disposed of as normal industrial waste.
- Filters and PPE soiled by process air, bacterial, toxic and/or radioactive matter must be disposed of as Hazardous Waste in accordance with local regulations of the site and Environmental Health. Legislation prohibits removal of this waste from the site location.

For further information please contact Airclean Ltd

## **O & M INSTRUCTION**

### **PRODUCT GROUP 1835A - TERMINAL HOUSING-LIQUID SEAL**

#### **Safety**

It is recommended that industrial gloves, overalls, eye protection and nuisance dust masks are utilised when changing filters which have been subjected to natural air, as opposed to air drawn from processes, where full risk assessments should be performed prior to changing. For some filters, an assessment regarding manual handling will need to be made.

Changing of filters should be carried out by experienced or trained personnel, in accordance with safety requirements as defined by the "Control of Substances Hazardous to Health (COSHH) Regulations. ie. someone who fully understands the design, operation and implications of the product and its use

#### **Description**

The Airclean High Efficiency Particulate Arrestor Terminal Housing, can be built into a conventional plasterboard ceiling or fitted into a lay in tile type grid ceiling.

The outer part of the grille is designed to overlap the flange of the housing, providing a "clean" appearance to the unit and allowing a mastic seal to be made between grille and the ceiling for easy cleaning of the final facility.

#### **Installation**

The Casing will be supplied separately from the HEPA Filter, but will include the grille fitted to the housing.

It is recommended that before installation commences the centre core of the grille is removed and stored in a safe place.

The casing and filter can weigh between 10 and 40kgf, depending upon the size of the unit. For this reason the Casing is fitted with Support Lugs, which should be secured back to a structural member using M8 Zinc Plated studding or similar. The duct should be fitted to the casing in such a manner that no additional holes or fixings are made in the casing beyond those of the fixing flange or the spigot. No part of the casing/filter weight should be carried by the ceiling.

When locating the casing in its final position, allowance should be made for the sealing of the case to the ceiling, to eliminate any air induction caused by the normal air flow operation. The grille extends beyond the housing which should be allowed for in the installation.

#### **Filter Installation**

Prior to the filter being fitted, the ductwork should be cleaned, blown through and a duct balance performed to provide the correct airflow when the filters are installed. It is essential that the filters do not pass more than their rated airflow at any time.

Clean the Terminal Housing, and grille to remove all traces of dust and debris.

Inspect the Filter box for any signs of damage. If the box does show signs of abuse or damage, the filter should be returned to the supplier for retesting. Inspect the filter sealing knife edge and the seal of the knife to the housing, ensuring that it is flat and straight.

Unpack the Filter, by opening the lid of the box, bending the flaps back along the sides of the box, gently laying the filter end over until it is upside down. Open the lid of the box as it is now, which was the bottom, and slide the cardboard box off the filter. Inspect the Filter faces, liquid seal and case for damage. If there is no apparent damage, and installation is imminent the polythene cover can be removed.

The filter should now be examined carefully, paying particular attention to the filter faces, the liquid seal and the casing joints. The Factory Efficiency Testing of the HEPA Filter only tests the air passed through the Filter media, ensuring that it has an overall average efficiency of that required.

Using the Serial Number Identity Label ensure the Filter is of the correct efficiency and construction for the application.

Make yourself familiar with the operation of the Filter retaining clips in their locations, rotating the clips within the terminal housing if necessary releasing the bolt slightly to accommodate the filter.

Lift, (preferably using two persons), the Filter up into the Terminal Housing, ensuring that it does not come into contact with the Terminal Housing until it is within the housing. As the filter is brought into contact with the filter sealing knife edge ensure that the filter is central in the housing, which will assist in the final sealing of the Filter.

Locate the Filter such that the retaining clips can be rotated to support the filter, once fitted tighten the screws to support the filter if necessary. The filter does not need to be clamped tightly into position.

It is the liquid seal which provides the seal, and this is achieved by the knife edge locating in the liquid seal to a depth of 5mm, in a "central" position within the liquid seal.

### **Filter Testing**

All filters within the system should be installed prior to air being turned on again. Final Balancing of the filters should now be performed. The in Situ Leak Test described in the American or British standard can then be performed if applicable.

Should a leak be found which is deemed to be between the filter and the housing then a further one half of a turn on each clamp may be carried out and the test repeated.

This remedial action should only be performed twice, after which the filter should be removed and inspected. If the liquid seal has been damaged then a new filter should be fitted, as described.

### **Grille Fitting**

Once the filter/housing has passed the in-situ leak test, the inner core of the grille should be located in position, and the unit cleaned.

The grille should then be wiped clean and a mastic seal made if required, between the grille and the ceiling.

### **Disposal of Air Filters Including Personal Protective Equipment**

- Filters and PPE have been damaged prior to use can be disposed of as normal industrial waste.
- Filters and PPE soiled with exterior air can be disposed of as normal industrial waste.
- Filters and PPE soiled by process air, bacterial, toxic and/or radioactive matter must be disposed of as Hazardous Waste in accordance with local regulations of the site and Environmental Health. Legislation prohibits removal of this waste from the site location.

For further information please contact Airclean Ltd