HEPA Filter Module

Applications

Email Air Handling HEPA filter modules are designed for use in critical applications where product or personnel protection requires an environment free of airborne contaminants.
- Operating theatres
- Clean room facilities
- Pharmaceutical manufacture
- Electronics industry
- Food processing
- Optics

Description

The HEPA filter module is fully manufactured in Australia to conform with the performance requirements of AS 1386. It comprises a HEPA filter in a galvabond housing with an attractively styled fascia and the option of an integral fan/blower.

Construction

Housing: Constructed from quality galvabond.
Fascia: Filter guard is satin polished 304# stainless steel or white painted finish.
Fan: A variable speed direct drive blower that enables airflow adjustment as required.
Filter: HEPA type, strictly conforming with AS 4260.
Power: Provided via a single phase 240 V, 10 amp 3 pin plug.
Filter seals: Modules can be supplied with either gasket or fluid seal HEPA filters.

Performance

Email Air Handling HEPA filters are individually tested on a NATA accredited Hot DOP test rig to AS 4260 and filter efficiency is always guaranteed. To pass inspection each filter must achieve an efficiency of 99.99%.

Modules are individually tested to conform with AS 1386 - sound level not exceeding 62dBA on a free field basis.

Standard specification

HEPA filter modules shall conform with AS 1386. A NATA accredited laboratory shall test modules and the manufacturer shall provide a certificate showing test results for the purpose of establishing full compliance with AS 1386. Individual HEPA filters shall be tested to AS 4260.

Installation

HEPA filter modules must be supported independently from the ceiling structure. The module's power supply must be interlocked with the air conditioning unit in such a way as to start the module fan before starting the air conditioner fan.
Construction

<table>
<thead>
<tr>
<th><strong>HOUSING</strong></th>
<th>Constructed from quality galvalbond.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>FASCIA</strong></td>
<td>Filter guard is satin polished 304# stainless steel or white painted finish.</td>
</tr>
<tr>
<td><strong>FAN</strong></td>
<td>A variable speed direct drive blower that enables airflow adjustment as required.</td>
</tr>
<tr>
<td><strong>FILTER</strong></td>
<td>HEPA type, strictly conforming with AS 4260.</td>
</tr>
<tr>
<td><strong>POWER</strong></td>
<td>Provided via a single phase 240 V, 10 amp 3 pin plug.</td>
</tr>
<tr>
<td><strong>FILTER SEALS</strong></td>
<td>Modules can be supplied with either gasket or fluid seal HEPA filters.</td>
</tr>
</tbody>
</table>

Maintenance and Service

To ensure conformity with AS 1386, HEPA filter modules should be inspected and tested on site:
- before use
- on at least an annual basis
- after modification
- after relocation
- when HEPA filter is renewed

On Site Testing

All HEPA filters shall be tested to AS 1807.6 or 1807.7 by AES Environmental or other NATA accredited laboratory.

AES Environmental maintains an ISO 9001:2008 quality management system to ensure process and product conformance.
Gel Seal Filter Frame Sealant

Gel-Seal is a unique, ice-blue silicone gel specifically designed to create and preserve an airtight seal between high-efficiency particulate air filters and their holding frames or housings.

The gel is factory-installed and factory-cured in the perimeter channels of filters designed for fluid seal applications. The cured gel has the self-healing qualities of a liquid while retaining the stability and non-flow characteristics of a solid.

These properties are maintained at both high and low temperature extremes and are not lost even when aged continuously at high temperatures. Gel-Seal exhibits excellent bonding characteristics to many materials, it is also highly self-adhesive, allowing knife edges and filter skirts to be cleanly withdrawn. The hydrophobic nature of the gel makes it ideally suited for applications that require long-term sealing against moisture and other atmospheric contaminates.
HEPA Media Construction

The glass-paper filtering medium is pleated into a narrow vee formation and held in place by corrugated aluminum separators inserted between the pleats. This forms the filter element which is bonded into a rigid corrosion-resistant steel frame with all joints encapsulated and sealed in a special urethane elastomer.
Performance Data

Low Profile Fluid Seal Fanless Filter Module
(Filter accessible from room)

Engineering data

<table>
<thead>
<tr>
<th>Clean capacity (Ls)</th>
<th>Filter plenum static pressure (Pa)</th>
<th>AS1386</th>
<th>Flow direction</th>
<th>Filter seal*</th>
<th>Nominal size (mm)</th>
<th>Spigot location</th>
<th>Spigot dia (mm)**</th>
<th>Installed weight (kg)</th>
<th>Part number</th>
</tr>
</thead>
<tbody>
<tr>
<td>340</td>
<td>300</td>
<td>175</td>
<td>Supply Fluid</td>
<td>610 610 500</td>
<td>Side</td>
<td>300 300</td>
<td>40</td>
<td>1667-1706/1</td>
<td></td>
</tr>
<tr>
<td>445</td>
<td>275</td>
<td>370</td>
<td>Supply Fluid</td>
<td>610 610 500</td>
<td>Top</td>
<td>300 300</td>
<td>40</td>
<td>1667-1706/4</td>
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<tr>
<td>545</td>
<td>300</td>
<td>175</td>
<td>Supply Fluid</td>
<td>1210 610 500</td>
<td>Top</td>
<td>300 300</td>
<td>40</td>
<td>1667-1706/5</td>
<td></td>
</tr>
<tr>
<td>645</td>
<td>275</td>
<td>370</td>
<td>Supply Fluid</td>
<td>610 610 500</td>
<td>Top</td>
<td>300 300</td>
<td>40</td>
<td>1667-1706/6</td>
<td></td>
</tr>
<tr>
<td>545</td>
<td>275</td>
<td>370</td>
<td>Supply Fluid</td>
<td>910 610 500</td>
<td>End</td>
<td>300 300</td>
<td>40</td>
<td>1667-1706/5</td>
<td></td>
</tr>
<tr>
<td>645</td>
<td>300</td>
<td>175</td>
<td>Supply Fluid</td>
<td>1210 610 500</td>
<td>End</td>
<td>300 300</td>
<td>40</td>
<td>1667-1706/6</td>
<td></td>
</tr>
<tr>
<td>545</td>
<td>275</td>
<td>370</td>
<td>Supply Fluid</td>
<td>910 610 500</td>
<td>Side</td>
<td>300 300</td>
<td>40</td>
<td>1667-1706/4</td>
<td></td>
</tr>
<tr>
<td>645</td>
<td>275</td>
<td>370</td>
<td>Supply Fluid</td>
<td>910 610 500</td>
<td>Side</td>
<td>300 300</td>
<td>40</td>
<td>1667-1706/2</td>
<td></td>
</tr>
</tbody>
</table>

*AS1386: Capacity @ 0.6m³/s face velocity. * Standard petroleum jelly or optional Bu jelly seal. ** Length varies for 190mm long rectangular spigots, 90mm (mm). Ceiling opening sizes are 685x685, 985x685, 1285x685.
Low Profile Fluid Seal Fan Filter Module
(Filter, fan and controls accessible from room)

Acoustic Fluid Seal Fan Filter Module
(Filter, fan and controls accessible from room)

Engineering data

<table>
<thead>
<tr>
<th>Clean capacity (L/s)</th>
<th>125Pa capacity (L/s)</th>
<th>Capacity# (AS1386)</th>
<th>Flow direction</th>
<th>Filter seal*</th>
<th>Nominal size (mm)</th>
<th>Spigot location</th>
<th>Spigot dia. (mm)**</th>
<th>Installed weight (kg)</th>
<th>Part number</th>
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<tbody>
<tr>
<td>340</td>
<td>240</td>
<td>175</td>
<td>Supply</td>
<td>Fluid</td>
<td>610</td>
<td>Side</td>
<td>300</td>
<td>87</td>
<td>1667-1704/1</td>
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<tr>
<td>445</td>
<td>320</td>
<td>272</td>
<td>Supply</td>
<td>Fluid</td>
<td>610</td>
<td>Side</td>
<td>300</td>
<td>100</td>
<td>1667-1704/2</td>
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<tr>
<td>545</td>
<td>390</td>
<td>370</td>
<td>Supply</td>
<td>Fluid</td>
<td>610</td>
<td>Side</td>
<td>300</td>
<td>100</td>
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<tr>
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<td>240</td>
<td>175</td>
<td>Supply</td>
<td>Fluid</td>
<td>610</td>
<td>Side</td>
<td>300</td>
<td>100</td>
<td>1667-1704/4</td>
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<tr>
<td>445</td>
<td>320</td>
<td>272</td>
<td>Supply</td>
<td>Fluid</td>
<td>610</td>
<td>Side</td>
<td>300</td>
<td>100</td>
<td>1667-1704/5</td>
</tr>
<tr>
<td>545</td>
<td>390</td>
<td>370</td>
<td>Supply</td>
<td>Fluid</td>
<td>610</td>
<td>Side</td>
<td>300</td>
<td>100</td>
<td>1667-1704/6</td>
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<tr>
<td>340</td>
<td>240</td>
<td>175</td>
<td>Exhaust</td>
<td>Fluid</td>
<td>610</td>
<td>End</td>
<td>300</td>
<td>87</td>
<td>1667-1704/7</td>
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<tr>
<td>445</td>
<td>320</td>
<td>272</td>
<td>Exhaust</td>
<td>Fluid</td>
<td>610</td>
<td>End</td>
<td>300</td>
<td>87</td>
<td>1667-1704/8</td>
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<tr>
<td>545</td>
<td>390</td>
<td>370</td>
<td>Exhaust</td>
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<td>610</td>
<td>End</td>
<td>300</td>
<td>100</td>
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</tr>
</tbody>
</table>

# AS1386: Capacity @ 1.5m/s face velocity. * Standard petroleum jelly or optional Blu-Jel sealing medium. ** Spigots are 130mm long.
Ceiling opening sizes are 650x650, 950x650, 1250x650.

Engineering data

<table>
<thead>
<tr>
<th>Capacity (L/s)</th>
<th>Capacity# (AS1386)</th>
<th>Flow direction</th>
<th>Filter seal*</th>
<th>Nominal size (mm)</th>
<th>Spigot location</th>
<th>Spigot dia. (mm)**</th>
<th>Installed weight (kg)</th>
<th>Part number</th>
</tr>
</thead>
<tbody>
<tr>
<td>290</td>
<td>290</td>
<td>Supply</td>
<td>Fluid</td>
<td>1210</td>
<td>End</td>
<td>300</td>
<td>110</td>
<td>1667-1706/1</td>
</tr>
<tr>
<td>290</td>
<td>290</td>
<td>Exhaust</td>
<td>Fluid</td>
<td>1210</td>
<td>End</td>
<td>300</td>
<td>110</td>
<td>1667-1706/2</td>
</tr>
</tbody>
</table>

# AS1386: Capacity @ 0.47m/s face velocity and is limited to limit noise levels to 50dBA at 1 metre free field.
** Standard petroleum jelly or optional Blu-Jel sealing medium. ** Spigots are 130mm long.
Ceiling opening sizes are 650x650, 950x650, 1250x650.
Standard Gasket Seal Fan Filter Module
(Filter access from above only)

Engineering data

<table>
<thead>
<tr>
<th>Clean capacity (L/s)</th>
<th>Capacity# (AS1366)</th>
<th>Flow direction</th>
<th>Filter seal*</th>
<th>Nominal size (mm)</th>
<th>Spigot location</th>
<th>Spigot dia.(mm)**</th>
<th>Installed weight (kg)</th>
<th>Part number</th>
</tr>
</thead>
<tbody>
<tr>
<td>345</td>
<td>245</td>
<td>Supply</td>
<td>Gasket</td>
<td>630 715 725</td>
<td>Top</td>
<td>300</td>
<td>61</td>
<td>1687-1520/5</td>
</tr>
<tr>
<td>345</td>
<td>245</td>
<td>Supply</td>
<td>Gasket</td>
<td>630 715 725</td>
<td>Side</td>
<td>300</td>
<td>61</td>
<td>1687-1520/6</td>
</tr>
<tr>
<td>345</td>
<td>245</td>
<td>Exhaust</td>
<td>Gasket</td>
<td>630 715 725</td>
<td>Side</td>
<td>300</td>
<td>61</td>
<td>1687-1520/8E</td>
</tr>
<tr>
<td>560</td>
<td>475</td>
<td>Supply</td>
<td>Gasket</td>
<td>1227 715 725</td>
<td>Top</td>
<td>300</td>
<td>91</td>
<td>1687-1520/7</td>
</tr>
<tr>
<td>560</td>
<td>475</td>
<td>Supply</td>
<td>Gasket</td>
<td>1227 715 725</td>
<td>Side</td>
<td>300</td>
<td>91</td>
<td>1687-1520/8</td>
</tr>
<tr>
<td>345</td>
<td>245</td>
<td>Supply</td>
<td>Gasket</td>
<td>630 715 725</td>
<td>End</td>
<td>300</td>
<td>61</td>
<td>1687-1520/9</td>
</tr>
<tr>
<td>560</td>
<td>475</td>
<td>Supply</td>
<td>Gasket</td>
<td>1227 715 725</td>
<td>End</td>
<td>300</td>
<td>91</td>
<td>1687-1520/10</td>
</tr>
<tr>
<td>345</td>
<td>245</td>
<td>Supply</td>
<td>Gasket</td>
<td>630 715 725</td>
<td>Both ends</td>
<td>300</td>
<td>61</td>
<td>1687-1520/11</td>
</tr>
<tr>
<td>560</td>
<td>475</td>
<td>Supply</td>
<td>Gasket</td>
<td>1227 715 725</td>
<td>None</td>
<td>300</td>
<td>91</td>
<td>1687-1520/12</td>
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<tr>
<td>560</td>
<td>475</td>
<td>Recirc</td>
<td>Gasket</td>
<td>1227 715 725</td>
<td>None</td>
<td>300</td>
<td>91</td>
<td>1687-1520/13</td>
</tr>
</tbody>
</table>

# AS1366 - Capacity @ 0.6m/s face velocity. ** Spigots are 130mm long.
Ceiling opening sizes are 695x695, 965x665, 1290x665.
Nano-V™
F6, F7, F8 & F9 Rating
Sizes: 610x610 & 610x305.
Depth: 300
Xref: V-Cell, Compact Vee

Nano-P™
F6, F7, F8 & F9 Rating
Sizes: 610x610 & 610x305.
Depth: 25, 50 & 100.
Xref: P-Pleat

DY Filter™
F4 & F5 Rating
Sizes: 610x610, 610x305, 305x508, 508x508, 406x508, 406x635, 508x635 & custom.
Depth: 25 & 50.

V-Form™
F4 & F5 Rating
Sizes: 610x610, 610x305, 305x508, 508x508, 406x508, 406x635, 508x635 & custom.
Depth: 50 & 100.
Xref: Vee-form

Intervee™
95% Rating
Sizes: 610x610 & 610x305
Depth: 300

Interfold™
F4 Rating
Sizes: 610x610, 610x305, 305x508, 508x508, 406x508, 406x635, 508x635 & custom.
Depth: 25, 50 & 100.
Xref: G-Pleat

Duovee™
F4 & F5 Rating
Sizes: 610x610 & 610x305.
Depth: 400 & 600.
Xref: EX, VA320 & VA340.
Twin Cell

Fourpeak™
F4 & F5 Ratings
Sizes: 610x610 & 610x305.
Depth: 346
Xref: 4P

AIR FILTERS FOR ALL APPLICATIONS
In keeping with our policy of continuing product improvement, we reserve the right to alter specifications without notice.

THE COMPANY

AES Environmental is an Australian owned manufacturing business producing products under Clyde-Apac, Email Air Handling and Vokes brand names for industries that are as varied as industrial plants, commercial buildings, power stations, food processing, healthcare, science and electronics. AES Environmental considers the Australian Standards as a core component of its product mix and has developed an export market in 25 countries, promoting Australian Standards, engineering and manufacturing solutions. AES Environmental, a trusted manufacturer capable of delivering reliable product solutions to highly-critical applications, where the control of hazardous airborne contamination is often critical to process and personnel.

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HEPA/Absolute™
99.999% & 99.995%
Rating
Sizes: Various standard sizes & custom available on request.
Depth: 149 & 292.

Multipeak™
F4 & F5 Rating
Sizes: 610x610 & 610x305.
Depth: 570
Xref: TPAC & Tricell.

Pyracube™
F4 & F5 Ratings
Sizes: 610x610 & 610x305.
Depth: 623
Xref: EEX & ES Series.

Pyracone™
F4 & F5 Rating
Sizes: 610x610 & 610x305.
Depth: 660
Xref: EX.

Multipeak™
F4 & F5 Rating
Sizes: 610x610 & 610x305.
Depth: 570
Xref: TPAC & Tricell.

Pyracube™
F4 & F5 Ratings
Sizes: 610x610 & 610x305.
Depth: 623
Xref: EEX & ES Series.

Pyracone™
F4 & F5 Rating
Sizes: 610x610 & 610x305.
Depth: 660
Xref: EX.

Inter-Firm™
F6, F7, F8 & F9 Rating
Sizes: 610x610 & 610x305.
Depth: 150 & 300.

Interpocket™
F5, F6, F7, F8 & F9 Ratings
Sizes: 610x610 & 610x305.
Depth: 360, 560 & 720.
Xref: Multi-wedge & Univee.

Inter-Firm™
F6, F7, F8 & F9 Rating
Sizes: 610x610 & 610x305.
Depth: 150 & 300.

Interpocket™
F5, F6, F7, F8 & F9 Ratings
Sizes: 610x610 & 610x305.
Depth: 360, 560 & 720.
Xref: Multi-wedge & Univee.

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