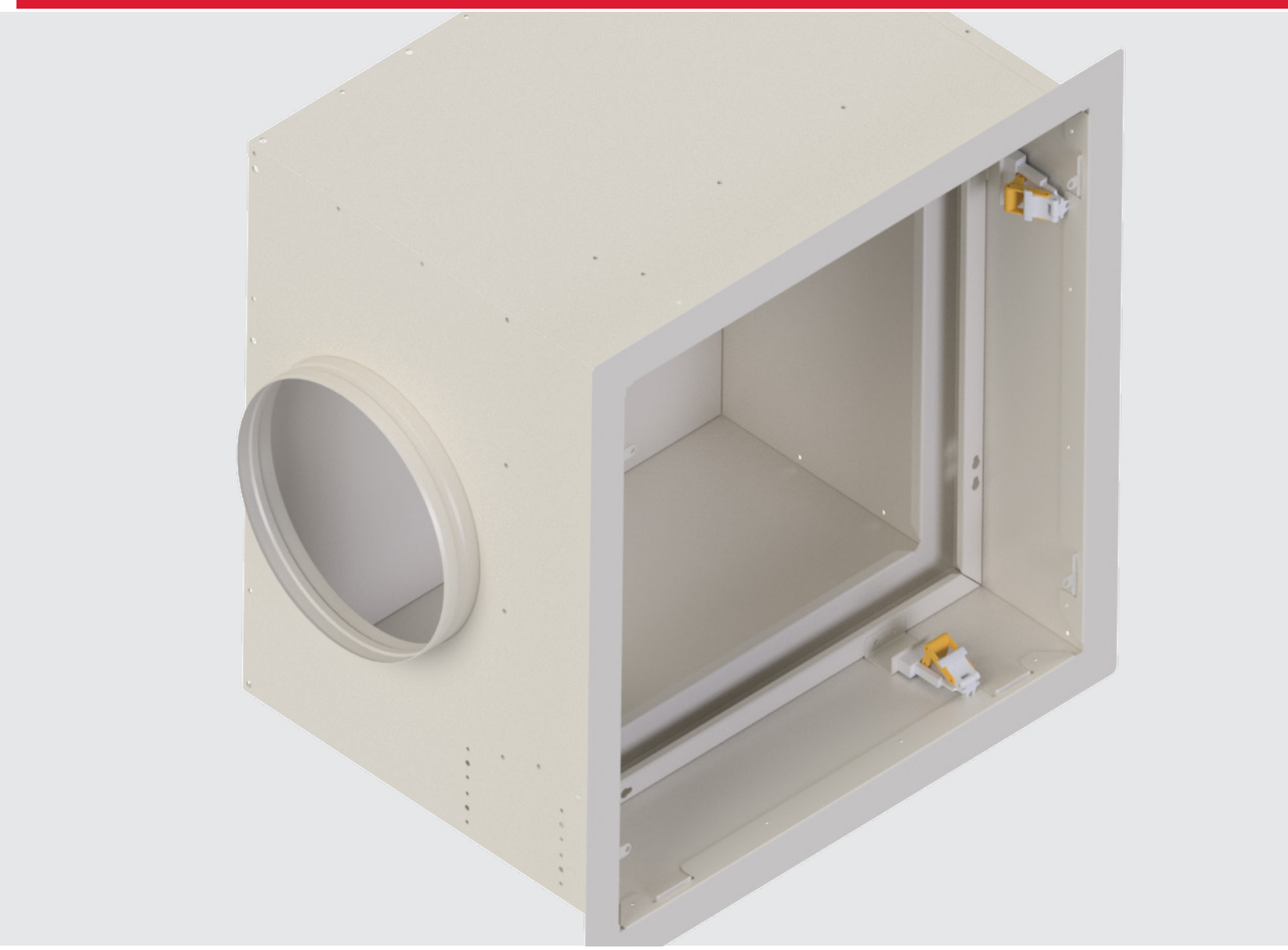
# High Purity Filtration Solutions

## AstroHood ® II
## Terminal Filter Housing with replaceable HEPA/ULPA Filter



AAF INTERNATIONAL®
Bringing clean air to life.®

# AstroHood II®

## TERMINAL FILTER HOUSING WITH REPLACEABLE HEPA/ULPA FILTER

### Product description

The AstroHood II terminal filter modules are terminal housing featuring replaceable HEPA/ULPA filters. The housings are made from corrosion resistant steel with a white powder coated epoxy finish and are fitted with either 4-way throw diffuser, swirl diffuser or perforated plate diffuser, finished in a matching white gloss. For neat appearance, the module has a concealed diffuser fixing. To accommodate different installation situations with existing ducts on site the housing is available with a circular top inlet, circular side or rectangular side inlet. A differential pressure connection is included for room side testing. The AstroHood II is available in three levels of construction from the cost effective Lite model to the fully welded Plus model suitable for ISO 6 environments. A stainless steel executions in AISI 304L or AISI 316L are available as options.

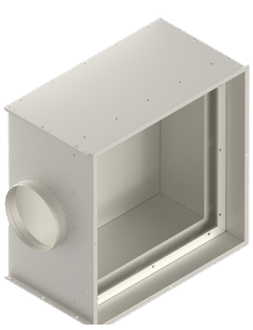
### Features and Benefits

- Designed for use in cleanrooms
- Available in gel or dry seal execution
- Wide range of sizes available
- 3 inlet designs: circular top, circular side, rectangular side
- Differential pressure connection for filter integrity testing according 14644-3 from the cleanroom side

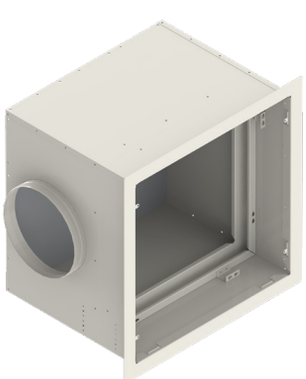
### Applications

The AstroHood II housings are designed to accommodate gel or dry seal HEPA/ULPA filters with depths of 69, 80, 117 or 128 mm. Depending on the application, filters with efficiencies of 99,995% (at MPPS), or optional ULPA filters with an efficiency of 99,9995% (at MPPS) or better can be used. For ease of installation and maintenance, the AstroHood II design enables filter installation and exchange from the room side. Gel seal housings have a single knife edge that forms an airtight seal as the knife edge interfaces with the gel, whilst dry seal options include filters with a seamless polyurethane foam gasket for optimal sealing.

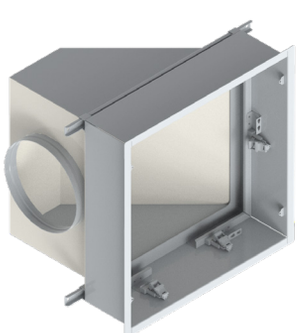
### AstroHood II Lite



### AstroHood II



### AstroHood II Plus



## Filter Housing configuration AstroHood II

| | |
|---|---|
| Housing material | Single main housing manufactured from powder coated RAL 9010 mild steel. Stainless steel options are available on request |
| Construction | - AstroHood II Plus: Fully welded construction |
| | - AstroHood II: Sealed construction, airtight to 1000Pa |
| | - AstroHood II Lite: Sealed construction |
| Duct connection | Circular top, circular side or rectangular side connection |
| Filter options | Housing fitted with an AstroCel II or MEGAcel II filter |
| Filter clamping | Height adjustable, tool-less clamping system |
| ΔP pressure points | Included |

## Standard Sizes and Ratings AstroHood II

| Filter size (mm) | Rated Volumetric Flow (m3/h) | Housing Dimensions | | | Flange Dimensions | | |
|---|---|---|---|---|---|---|---|
| | | AstroHood II Plus | AstroHood II | AstroHood II Lite | Plus | Standard | Lite |
| 305 x 305 | 150 | 372 x 372 | 372 x 372 | 450 x 450 | 432x432 | 472x472 | 490x490 |
| 305 x 610 | 300 | 372 x 672 | 372 x 672 | 450 x 698 | 432x732 | 472x772 | 490x738 |
| 457 x 457 | 340 | 538 x 538 | 538 x 538 | 550 x 550 | 595x595 | 595x595 | 590x590 |
| 457 x 1057 | 780 | 538 x 1138 | 538 x 1138 | 550 x 1150 | 595x1195 | 595x1195 | 590x1190 |
| 610 x 610 | 600 | 672 x 672 | 672 x 672 | 698 x 698 | 732x732 | 772x772 | 738x738 |
| 610 x 915 | 900 | 672 x 972 | 672 x 972 | 698 x 1003 | 732x1032 | 772x1072 | 738x1043 |
| 915 x 915 | 1360 | 972 x 972 | 972 x 972 | 1003 x 1003 | 1032x1032 | 1072x1072 | 1043x1043 |
| 610 x 1220 | 1200 | 672 x 1282 | 672 x 1282 | 698 x 1308 | 732x1342 | 772x1382 | 738x1348 |
| 1220 x 1220 | 2400 | 1282 x 1282 | 1282 x 1282 | 1308 x 1308 | 1342x1342 | 1382x1382 | 1348x1348 |

**Notes**
*Other sizes are available on request.*

# Maximized Flexibility

## MEETING REQUIREMENTS DURING INSTALLATION AND OPERATION

### Maximimizing system integrity and economy

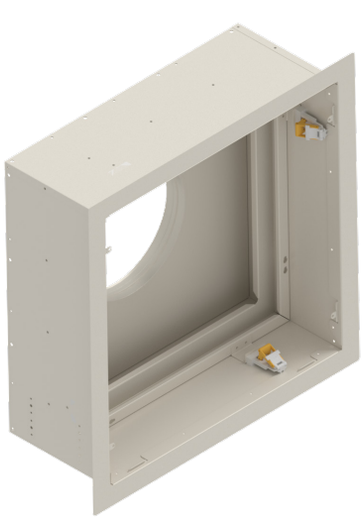
Air will always travel the path of least resistance. Therefore, every connection point and construction method used to integrate the media, seal, and housing must be carefully considered and selected to ensure full system integrity.

As with maximizing system integrity, maximizing system economy requires careful consideration of each contributing factor to total system pressure. When it comes to system economy, the whole is truly the sum of its parts, including the housing, damper, media type, media construction, and diffuser.

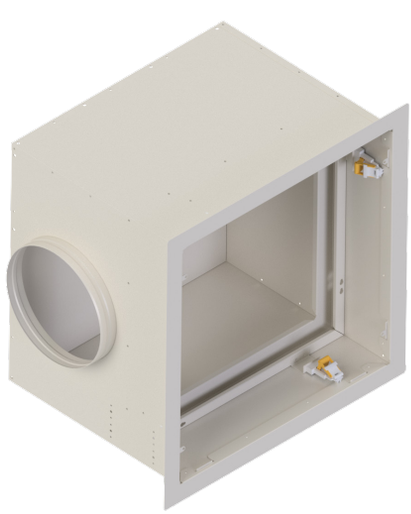
### Duct connections

All sites are different. Consequently flexibility in housing design is key to meet installation requirements. AAF provides a range of duct connections for AstroHood II housings.

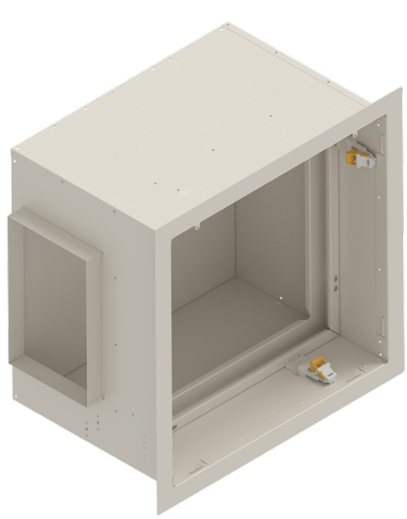
AstroHood II Top Circular Inlet



AstroHood II Side Circular Inlet



AstroHood II Side Rectangular Inlet



## Additional Features

All AstroHood II models excluding Lite variants, are available with hinged diffusers for simplified filter maintenance. Magnetic closure of the hinged diffuser is provided. All AstroHood II housings are equipped with tool free filter clamping systems. The clamping system adapts to accommodate filters of both 2 and 4” nominal depths. This allows users to adapt their filter choice for optimal performance over the life of the filter housing.

## Diffusers

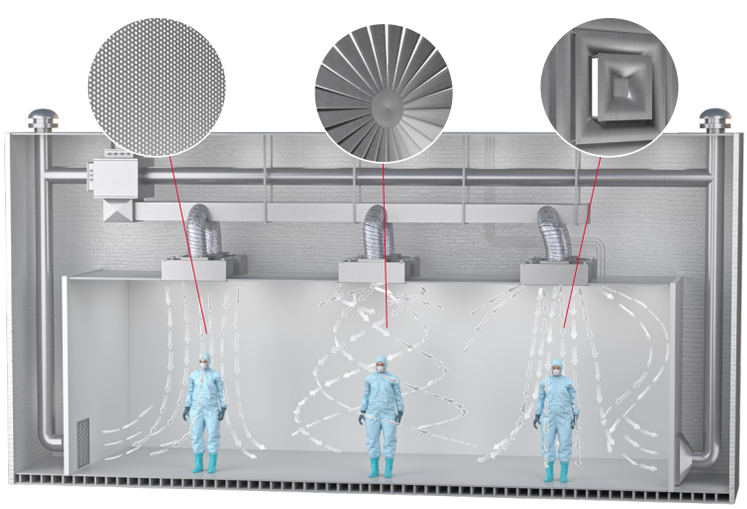
The choice of diffuser depends upon many factors including the airflow rate, temperature, room dimensions, throw requirements and required sound level. AAF has a wide variety of diffusers with fixed or adjustable blades for the housings. AstroHood II is available with a choice of:

- Swirl diffusers
- 4 – way diffusers
- Perforated plate diffusers

**The Perfored Plate** is mostly used for exhaust filter housings or in applications where the air needs to be directed in an uni-directional downward flow.

**Swirl Diffusers** filters create a rotary swirling motion of the air discharge, mixing with room air occurs very quickly, resulting in rapid decay of air velocity and temperature differential. Air changes rates of 30 per hour can be achieved with supply air of temperature differentials of +10 k to –10 K.

**The 4 Way Diffusers** provide large throw distances and good mixing with the room air, allowing for high airflows with limited temperature differences.



# Filter Recommendations

## PROVIDING HIGH-EFFICIENCY

### Filter options

| | |
|---|---|
| Cell sides | Anodized extruded aluminum |
| Filter Pack | Mini-pleat pack folded from a continuous sheet of media |
| Sealant | The media pack is bonded to the cell sides using Polyurethane |
| Testing | Filters are individual factory tested and certified in accordance with the European Standard EN 1822/ /ISO 29463 |
| Integral faceguard | 2 sides |
| Gasket | Polyurethane gel or foamed one-piece polyurethane |

**MEGAcel II ME Membrane Media**
Single layer of expanded PTFE supported by a layer of spun bonded synthetic media on the upstream and downstream side:

- Available in H13 –U17
- Standard for Microelectronic and Tool Market
- Compatible with Discrete Particle
- Counters (DPC) testing

**MEGAcel II Membrane Media**
Dual layers of expanded Fluororesinmembrane supported by a layer of spun bonded synthetic media on the upstream and downstream side:

- Available in H13 –H14
- Designed for ultra-high particulate loading, including oil-based test aerosols
- Compatible with Discrete Particle-Counters (DPC) testing and photo-metric test methods

**AstroCel II Microglass Media**
Wetlaid media made from borosilicate glass fibers and adhesive binders:

- Available in E10 –U17
- Compatible with Discrete Particle-Counters (DPC) testing and photometric test methods

### Filter Selection Guide

| | MEGAcel ME | MEGAcel II | AstroCel II |
|---|---|---|---|
| Filter media | ePTFE membrane | Multiple Layer Fluororesin | Glass fibre |
| Nominal face velocity (m/s) | 0.45 | 0.45 | 0.45 |
| Pressure drop of the filter (Pa) | 45 | 50 | 125 |
| Tolerance pressure drop (%) | ± 15 | ± 15 | ± 15 |
| Overall efficiency according EN 1822 | 99,995% @ MPPS | 99,995% @ MPPS | 99,995% @ MPPS |
| Filter class | H14 | H14 | H14 |
| Scan test according to EN 1822 | included | included | included |
| Test aerosol | DEHS | DEHS | DEHS |

# AstroHood II

## HOUSING AND FILTER SELECTION

### Selection Table - How to order

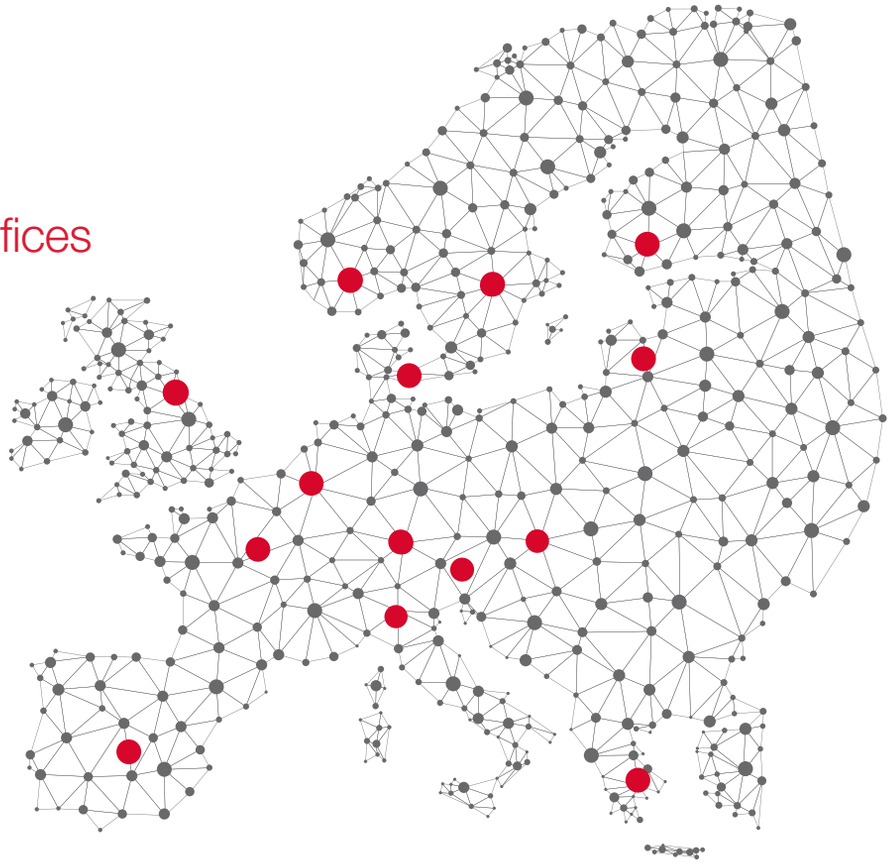
| Item | Option | Selections |
|---|---|---|
| A | Housing | **AH2 - AstroHood II** |
| B | Construction | A - Plus<br>B - (standard execution)<br>C - Lite |
| C | Filter Size | 03050305<br>03050610<br>04570457<br>04571057<br>06100610<br>06100915<br>09150915<br>06101220<br>12201220 |
| D | Connection Type | TC - Top mounted circular spigot<br>SC - Side mounted circular spigot<br>SR - Side mounted rectangular spigot |
| E | Filter Seal Type | GS - Gel seal<br>DS - Dry seal |
| F | Housing Material | P1 - Mild steel<br>S1 - Stainless steel 304<br>S2 - Stainless steel 316 |
| G | Damper | N0 - No damper fitted<br>D1 - Integrated damper fitted |

Below is a typical example of how to order a standard AstroHood II filter using the Component Code Definition System.

**AH2A-03050305-TC-GSP1N0**

*Diffusers and filters to be ordered separately, for any non-standard inquiry please contact your local sales representative*

# AAF Europe / Dinair Sales Offices



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