



Bringing clean air to life:

High Purity Filtration Solutions

**High Efficiency HEPA/ULPA
Terminal Filter Housings**

**AstroHood® II PHG
Terminal Filter Housing with replaceable HEPA/ULPA Filter**



AstroHood[®] PHG

TERMINAL FILTER HOUSING WITH REPLACEABLE HEPA/ULPA FILTER

Product description

The AstroHood PHG terminal filter modules are equipped with gel seal and replaceable HEPA/ULPA filters. The housings are made of corrosion resistant steel with a white powder coated epoxy finish and are fitted with a 4-way diffuser, swirl diffuser or perforated plate diffuser, finished in a matching white gloss. For neat appearance, the module has a concealed grille fixing. To accommodate different installation situations with existing ducts on site the housing is available with a circular top inlet in DN 150 mm size or AstroHood II PHG is in addition available with a circular side and a rectangular side inlet. A differential pressure connection is included for room side testing. The module is available in mild steel as standard. A stainless steel execution, AISI 304L or AISI 316L is available as an option.

Features and Benefits

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

Applications

The AstroHood II housings are designed to accommodate gel seal HEPA/ULPA filters with depths of 80 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. The housings have a single knife edge that forms an airtight seal as the knife edge interfaces with the gel (Type PHG).



Microelectronics



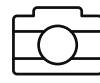
Pharmaceuticals



Aerospace



Biotechnology



Optics



Medical devices

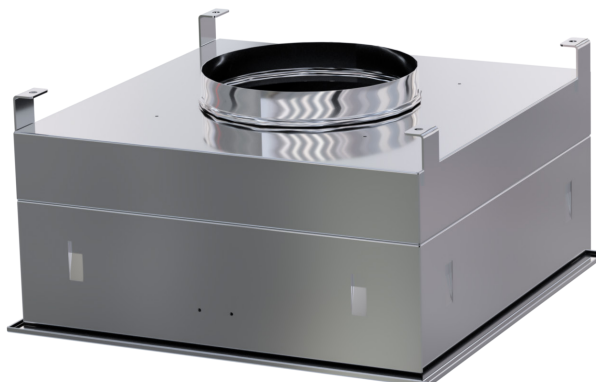


Healthcare



Food & Beverage

AstroHood II PHG



Filter Housing configuration AstroHood II PHG

Housing material	Single main Housing manufactured from 1.2 mm powder coated RAL 9010 mild steel
Construction	Air tight welded construction
Duct connection	Circular top, circular side or rectangular side connectionw
Gel Seal	Housing fitted with an AstroGel II or MEGAcel II ME filter
Filter Clamping	Filter is easily clicked in place with spring clips. The filter is clamped upwards into the knife edge with a clamping bar.
ΔP pressure points	Included
Inlet flow diffuser	Included

Standard Sizes and Ratings AstroHood II PHG

Style Code	Nominal Module Dimensions ¹⁾ W x L x H (mm)	H Side inlet (mm)	Circular Top/Side Inlet Dia. (mm)	Filter Size W x L x D (mm)	Capacities in m ³ /s @ Initial Pressure ³⁾	
					125 Pa	250 Pa
PHG 12-12-2	321 x 321 x 300	440	150	305 x 305 x 80	0,04	0,07
PHG 12-12-4	321 x 321 x 348	488	150	305 x 305 x 128	0,06	0,11
PHG 18-18-2	473 x 473 x 300	440	200	457 x 457 x 80	0,09	0,17
PHG 18-18-4	473 x 473 x 348	488	200	457 x 457 x 128	0,14	0,26
PHG 24-24-2	626 x 626 x 300	440	200	610 x 610 x 80	0,16	0,32
PHG 24-24-4	626 x 626 x 348	538	250	610 x 610 x 128	0,25	0,48

Notes

- 1) The height of the module is based on top inlet.
- 2) 15 mm flanges undrilled.
- 3) Based on filters, 99,995% efficiency at MPPS (H14 acc. to EN1822:2009).
- 4) Other sizes are available on request.
- 5) Please add 15 Pa for internal pressure drop inside the housing.

Maximized Flexibility

MEETING REQUIREMENTS DURING INSTALLATION AND OPERATION

Maximizing 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.

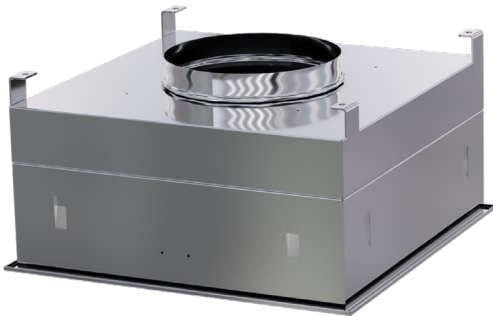
When it comes to system economy, the whole is truly the sum of its parts, including the housing, damper, media type, media construction, and diffuser.

Besides the high quality of the housing itself, AstroHood II housings provide a wide range of duct connection and diffuser options that contribute to full system integrity and economy.

Duct connections

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

AstroHood II PHG with Circular Top inlet



AstroHood II PHG with Rectangular Side inlet



AstroHood II PHG with Circular Side inlet



Diffusers

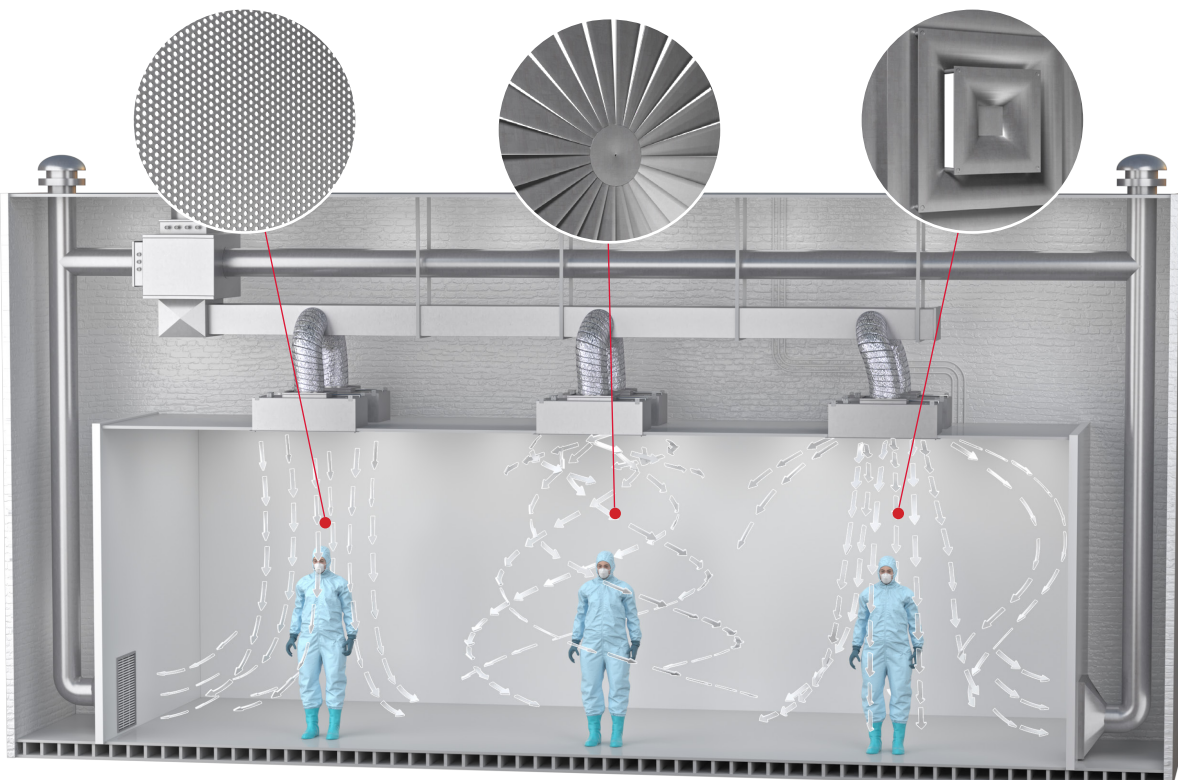
The airflow pattern in the room is depending of the airflow rate, temperature, distances, throw requirements and assured to stay within the requested sound level. AAF has a wide variety of diffusers with fixed or adjustable blades for the housings. The selection can be made for:

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

The Perforated plate is mostly used for the exhaust filter housing or in those occasions where the air needs to be directed in a straight flow down towards from the installed AstroHood II

Swirl Diffusers filters create a rotary swirling motion of the air discharge, induction of 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 Diffuser induce the air towards the ceiling which created a smooth spread airflow moving downwards. This creates the possibility to induce high airflows with limited temperature difference. For return air solutions, selection is often made for the special designed perforated plates that are designed with special perforation to create an opening area that complies to maximum performance of the system.



Filter Recommendations

PROVIDING HIGH-EFFICIENCY

Filter options

Cell sides	Anodized extruded aluminum
Filter Pack	Mini-pleat pack folded from a continuous sheet of media
Pack depth	50 mm
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
Integral faceguard	2 sides
Gasket	Polyurethane Gel seal on the air entry side of the filter.



ePTFE 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

eFRM 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 photometric test methods

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 ePTFE	Glass fibre
Outside filter dimensions (mm)	305 x 305 x 80	305 x 305 x 80	305 x 305 x 80
Tolerance outside filter dimensions (mm)	+ 1.5	+ 1.5	+ 1.5
Nominal air volume (m ³ /hr)	150 m ³ /h	150 m ³ /h	150 m ³ /h
Pressure drop of the filter (Pa)	45 Pa	50 Pa	125 Pa
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

Astro Hood PHG

HOUSING AND FILTER SELECTION

Selection Table - How to order

Item	AH II	AstroHood II housing for HEPA / ULPA filters												
A	Type of Filter	PHG = Gel Seal Filter												
B	Filter Size	<table border="0"> <tr> <td>305x305x80 mm</td> <td>305x305x128 mm</td> </tr> <tr> <td>457x457x80 mm</td> <td>457x457x128 mm</td> </tr> <tr> <td>610x610x80 mm</td> <td>610x610x128 mm</td> </tr> <tr> <td>610x915x80 mm</td> <td>610x915x128 mm</td> </tr> <tr> <td>915x915x80 mm</td> <td>915x915x128 mm</td> </tr> <tr> <td>610x1220x80 mm</td> <td>610x1220x128 mm</td> </tr> </table>	305x305x80 mm	305x305x128 mm	457x457x80 mm	457x457x128 mm	610x610x80 mm	610x610x128 mm	610x915x80 mm	610x915x128 mm	915x915x80 mm	915x915x128 mm	610x1220x80 mm	610x1220x128 mm
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610x915x80 mm	610x915x128 mm													
915x915x80 mm	915x915x128 mm													
610x1220x80 mm	610x1220x128 mm													
C	Connection	TC = Top Circular SC = Side Circular (only for Type PHG) SR = Side Rectangular (only for Type PHG)												
D	Material	P = Galvanized steel, coated RAL 9010 with a disinfectant paint layer												
E	Welding	SW = Spot Welded FW = Fully Welded												
F	Diffuser type	To be ordered separately												
G	Recommended filter	MEGAcel II (to be ordered separately)												

How to order

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

Item	A	B	C	D	E
Component Definition	PHG	305x305x80 mm	TC	P	SW

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



AAF International Plant Locations

AAF, the world's largest manufacturer of air filtration solutions, operates production, warehousing and distribution facilities in 22 countries across four continents. With its global headquarters in Louisville, Kentucky, AAF is committed to protecting people, processes and systems through the development and manufacturing of the highest quality air filters, filtration equipment, and associated housing and hardware available today.

Contact your local AAF representative for a complete list of AAF Air Filtration Product Solutions.

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Trencin, Slovakia
Olaine, Latvia
Horndal, Sweden
Kinna, Sweden
Vantas, Finland

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Shah Alam, Malaysia
Suzhou, China
Shenzhen, China
Miaoli, Taiwan
Bangalore, India
Noida, India
Yuki, Japan (Nippon Muki)



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