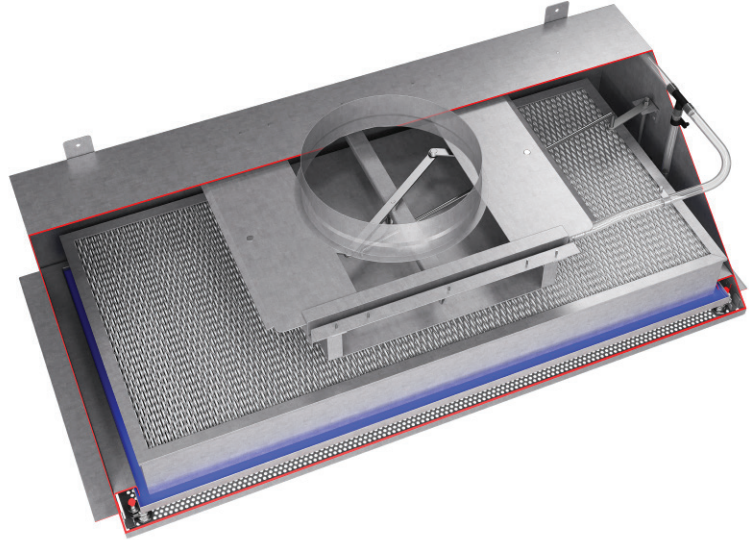


AstroHood® S-II

HEPA DUCTED CEILING MODULE

Benefits

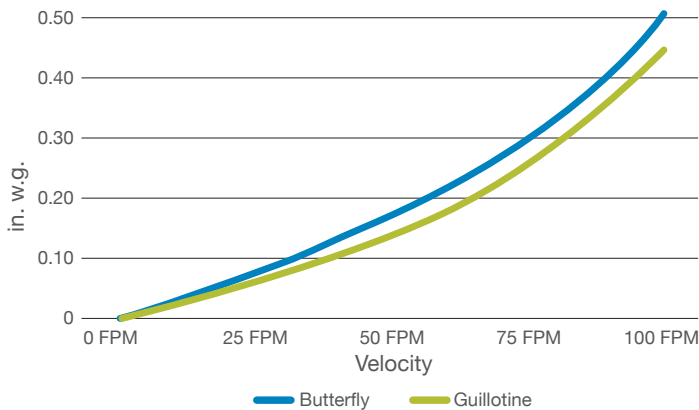
- Welded, Leak-Free Construction for Life
- Low Operating Cost
- Compliant with Industry Requirements
- Validated Room Side Testing Capability
- Fully Room Side Serviceable
- Guaranteed Reliable Operation



Maximize System Economy and System Integrity

The filter housing and damper system are major contributors to overall system resistance. The AstroHood® S-II guillotine damper delivers low operating costs, and its zero-pressure boundary penetration design achieves maximum protection and risk mitigation for critical environments by eliminating all potential leak paths.

AstroHood® S-II Guillotine Damper Airflow Resistance vs. Face Velocity



AstroHood® S-II with HEPA 99.99% @ 0.3µm, Guillotine Damper Full Open

Initial (clean) Resistance (in w.g.)		
	Glass 2" Pack	Glass 4" Pack
0	0	0
25	0.19	0.16
50	0.37	0.27
75	0.49	0.35
100	0.68	0.48
125	0.80	0.62
150	0.89	0.80

AstroHood® HEPA Ducted Ceiling Module

Basic Housing

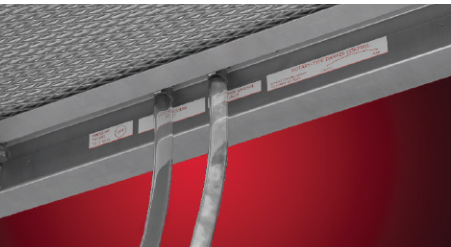
All AstroHood S-II housings are welded.

Materials of Construction

AstroHood S-II housings are constructed of either 16 ga. 304 SS or equivalent aluminum options.

Pressure Testing

All AstroHood housings are tested and certified to 3" pressure. Units are serialized and labeled with test criteria.



Injection and Sample Ports

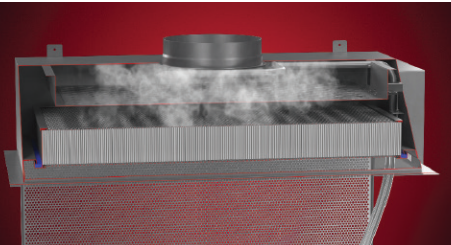
3/8" NPT plug for injection tube is standard. Chrome plated brass 3/8" quick disconnects are optional.

Hinged Grill Option

Standard grill is removable and made of 40% open area SS. Grill is mounted to the housing using 4 SS acorn nuts. Optional SS removable hinged grill with 2 quarter-turn fasteners and safety chains available.

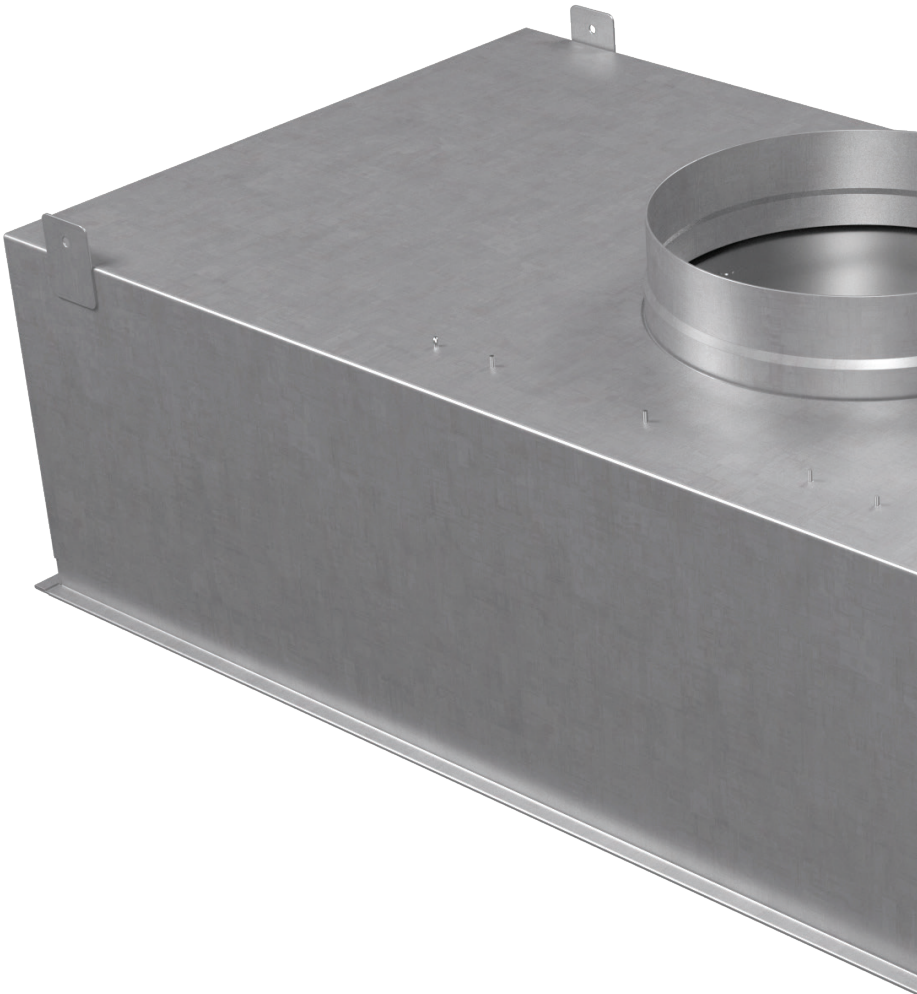
Filter Guides

Supplied as standard and constructed of same material as the hood.



Aerosol Dispersion System

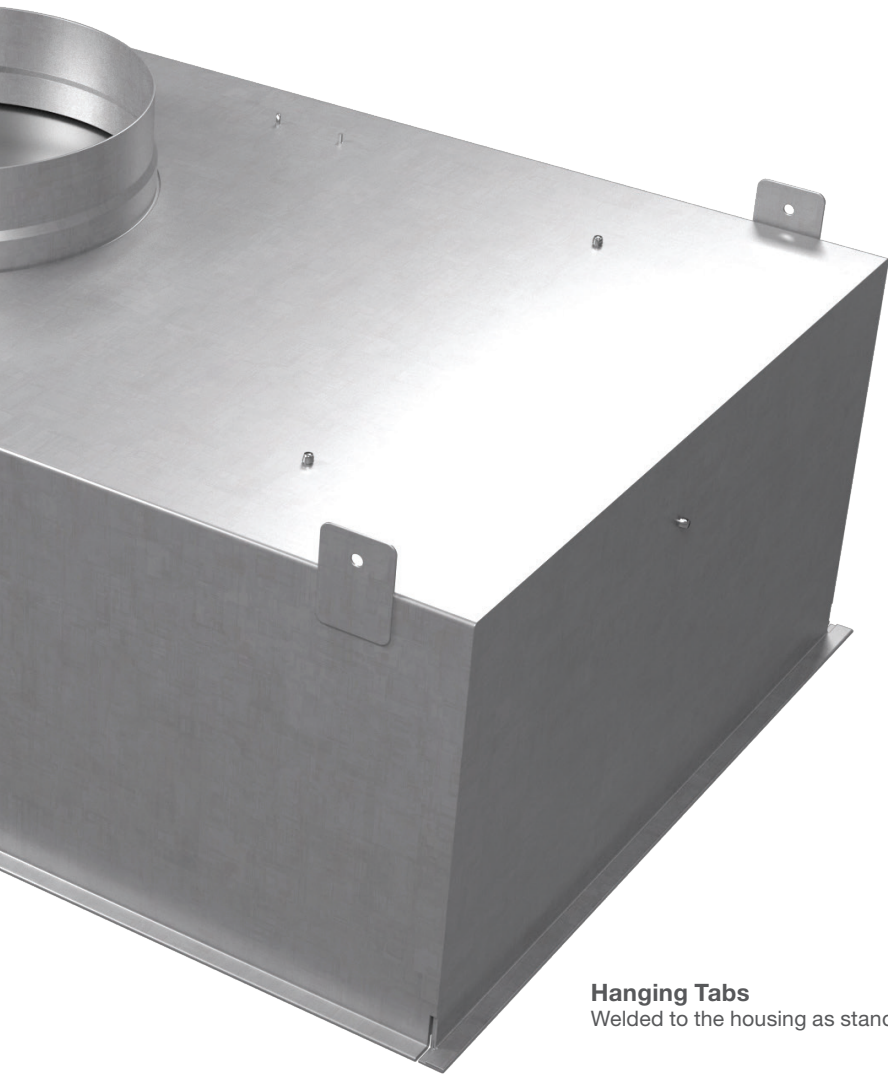
Assembly is the same material as the hood and has been validated to deliver guaranteed aerosol uniformity.



Unit Basics				
Nominal Size	Actual Body Size*	Rated Airflow	Alum Weight	S/S Weight
2x2	22-11/16" x 22-11/16" x 10"	230 CFM	25 lbs.	30 lbs.
2x3	22-11/16" x 34-11/16" x 10"	390 CFM	35 lbs.	40 lbs.
2x4	22-11/16" x 46-11/16" x 10"	550 CFM	40 lbs.	45 lbs.

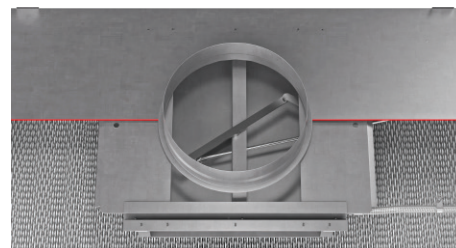
*Add additional 1" for 1/2" trim or 3" for 1-1/2" trim.

Proposal drawings and detailed specifications for all housing and filter options are available upon request from your local AAF office.



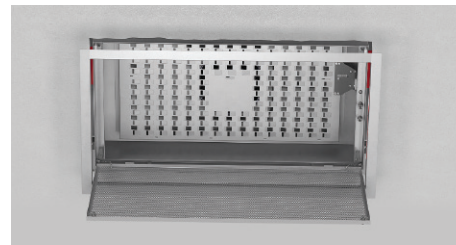
Inlet Collar Location

Unit can have its air inlet mounted on top, long side, or short side.



Guillotine Damper

Offers lower resistance option to conventional butterfly dampers.



Field-Installed Sealed Swirl Perimeter Trim

Field-installed trim is 18 gauge SS with rounded edges. Holes for attachment of field-installed options are predrilled and sealed. Available in 1/2" and 1-1/2" options for finishing of hard ceiling. Optional ESD damper shown.

Hanging Tabs

Welded to the housing as standard.

Insulation Options

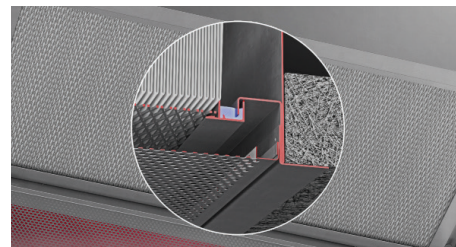
Standard option is 2" foil backed insulation; Armaflex also available.

Side Inlet Option

Unique configuration allows for side fed supply air to accommodate minimal overhead space requirements.

Various Height Options

Standard height is 10". Other heights are available subject to options and filter selection.



Seal Welded Knife-Edge and Roomside Flange

Permanent trim has rounded edges, 100% seal welded. Stainless steel trim is machine polished to a No. 3 finish.

Part Number System

AS2A – E F 22 10R – PS 1 0 – 3 0 0 1

(1) (2) (3) (4) (5) (6) (7) (8) (9) (10) (11) (12)

(1) PRODUCT TYPE	(2) DAMPER TYPE	(3) SEAL TYPE	(4) HOOD SIZE	(5) INLET SIZE	(6) GRILLE TYPE	(7) GRILLE OPTIONS	(8) MOUNTING TYPE	(9) TRIM TYPE	(10) INSULATION	(11) FINISH	(12) FITTINGS										
<div><div>(1) Product Type:</div><div>AS2A – AstroHood S-II Aluminum AS2S – AstroHood S-II Stainless Steel</div></div> <div><div>Example:</div><div>AS2A-EF2210R-PS10-3001</div></div>						<div><div>(8) Mounting Type:</div><div>0 – Hanging Tabs 1 – Mounting Pads 2 – Clean Ceiling Angles 2" 3 – Clean Ceiling Angles 3"</div></div> <div><div>(9) Trim Type:</div><div>1" - ½" Flange for Grid Mount (316L Grille) 2 - ½" Field Installed 304 SST Flange 3 - 1-½" Field Installed 304 SST Flange 4" - ½" Flange for Grid Mount (304 Grille or Painted**)</div><div>5 - ½" Field Installed 316L SST Flange 6 - 1-½" Field Installed 316L SST Flange *Flange is same material as housing (integral) **Dependent on PS or PP chosen as grill type</div></div> <div><div>(10) Insulation:</div><div>0 – None 1 – 2v Foilback 2 – 1" Armaflex</div></div> <div><div>(11) Finish:</div><div>0 – No Finish 1 – Powder Coated</div></div> <div><div>(12) Fittings:</div><div>0 – 3/8" Female NPT 1 – 3/8" Colder Fitting Quick Disconnects</div></div>															
<div><div>(2) Damper Type:</div><div>G – Guillotine (STD) E – ESD B – Butterfly</div></div>																					
<div><div>(3) Seal Type:</div><div>F – Fluid</div></div>																					
<div><div>(4) Hood Size:</div><div>14 – 1x4 (10-11/16" x 46-11/16") 22 – 2x2 (22-11/16" x 22-11/16") 23 – 2x3 (22-11/16" x 34-11/16") 24 – 2x4 (22-11/16" x 46-11/16")</div></div>																					
<div><div>(5) Inlet Size:</div><div>08R – 8" Round 08S – 8" x 8v Square 08R_S – 8" Round ____ Side 10R – 10" Round 10S – 10v x 10" Square 08S_S – 8" Square ____ Side 12R – 12" Round 12S – 12" x 12" Square 14R – 14" Round 14S – 14" x 14v Square *Long Side is ALWAYS on Hanging Side (8" round inlet on short side of housing)</div></div>																					
<div><div>(6) Grille Type:</div><div>PS* - 40% Perf SST PP - 40% Perf Painted *Grade Selected by Trim</div></div>						<div><div>Applicable Duct Sizes</div><table><thead><tr><th>Hood Size</th><th>Duct Size</th></tr></thead><tbody><tr><td>14 – 1x4</td><td>08R/S</td></tr><tr><td>22 – 2x2</td><td>08R/S 10R/S</td></tr><tr><td>23 – 2x3</td><td>10R/S 12R/S</td></tr><tr><td>24 – 2x4</td><td>10R/S 12R/S 14R/S</td></tr></tbody></table></div>						Hood Size	Duct Size	14 – 1x4	08R/S	22 – 2x2	08R/S 10R/S	23 – 2x3	10R/S 12R/S	24 – 2x4	10R/S 12R/S 14R/S
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<div><div>(7) Grill Options:</div><div>0 – Acorn Nuts (STD) 1 – Hinged w/ ¼ Turn Fasteners and Safety Cables</div></div>																					

AstroHood® S-II Specifications

1.0 Construction

1.1 Housing shall:

- 1.1.1 Be constructed of 16 gauge 304 SST (knife-edge for fluid seal). Aluminum in equivalent thickness is an option. White powder coating is an option.
- 1.1.2 Have all joints and seams fully welded and shall be leak free.
- 1.1.3 Include a completely sealed, integral knife-edge to mate with a HEPA filter fluid seal sealing surface formed into the end and side panels. Tack welding and caulked knife edges with potential leak points are not acceptable.
- 1.1.4 Include side walls with swirled, factory predrilled holes to accept perimeter trim connecting pop rivets for field installed trim.
- 1.1.5 Incorporate a validated room side accessible aerosol injection system which shall:
 - 1.1.5.1 Be constructed of the same material as the housing's knife edge, flexible Tygon tubing, and 3/8" female NPT fitting as standard. Optional 3/8" chrome plated "Colder" quick disconnect fitting with "BUNA-N" ring seals and snap-in barbed connector is available.
 - 1.1.5.2 Have aerosol uniformity upstream of the damper with standard deviation of no more than +/- 25%, when supplied with standard guillotine style damper. Reports should be provided.

1.2 Damper Shall:

- 1.2.1 Be factory installed Guillotine Damper as standard. Butterfly and ESD Dampers are optional.

1.2.2 Be operable from room side by means of control rod and SST mechanical rod linkage assembly.

1.2.3 Fully open/close with a quarter revolution of the assembly and lockable with set screw.

1.3 There shall be a labeled test port, accessible from the room side, to measure static pressure and upstream aerosol concentration.

1.4 The unit shall have hanging tabs at each of the housings four (4) corners that are continuously welded to the housing.

1.5 Housings shall include filter alignment tabs welded in place to center the filter onto the hood knife-edge.

1.6 Grille shall be 20 gauge SST, No. 3 finish, perforated with 40% free area, flush-mounted with four 3/8" acorn nuts as standard.

2.0 Performance and Testing

2.1 Each hood shall be fully leak tested. The sealing surface shall be sealed with a jig and the hood plenum area pressurized to 3.0" w.g. All welds and all penetrations shall be bubble tested for leaks and must meet a zero leak criteria.

2.2 Each hood shall have a serial number allowing for full traceability. Each hood shall be individually serialized and traceable to the specified leak test procedure.

2.3 Each HEPA filter is supplied in accordance with applicable standard and specifications.

3.0 Labeling and Reporting

3.1 Each AstroHood® S-II shall contain a label affixed to the unit with a stamped area ensuring pressure testing pass/fail criteria. Test reports provided upon request.

