

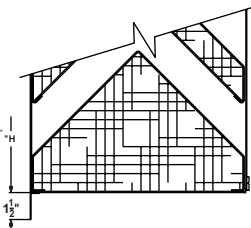
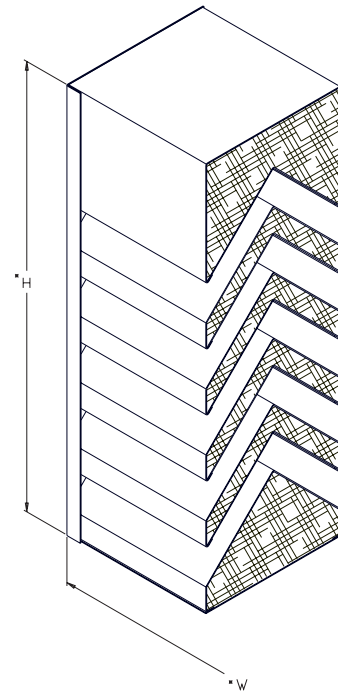
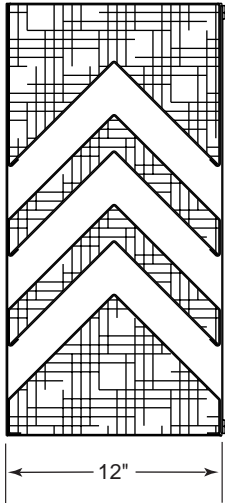


**Application and Design**

AFS-120 is an acoustical weather louver designed to protect air intake and exhaust openings in building exterior walls. Design incorporates sightproof style Acoustical blades and high free area to provide maximum resistance to rain and weather while providing minimum resistance to airflow. The AFS-120 is an extremely efficient louver with **AMCA LICENSED PERFORMANCE DATA** enabling designers to select and apply with confidence.

**Standard Construction**

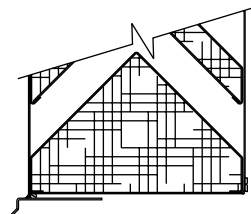
- Frame: Heavy gauge 0.080" thick formed aluminum
- Blades: Heavy gauge 0.080" thick formed aluminum
- Birdscreen: 3/4" x .051" flattened expanded aluminum in removable frame. Screen is mounted on inside (rear)
- Acoustical Insulation: Fiberglass Insulation
- Finish: Mill
- Minimum Size: 12"W x 15"H
- Maximum Size: 60"W x 96"H  
Larger sizes made in multiple sections (see page 4)



OPTIONAL FLANGE

**Options (at additional cost)**

- Flanged frame
- Extended sill
- A variety of bird and insect screens
- A variety of architectural finishes including:
  - Clear anodize
  - Integral color anodize
  - Baked enamel
  - Kynar
- Galvanized Construction



OPTIONAL EXTENDED SILL

\* W & H Dimensions furnished approximately 1/4" under size.

Quantity	Size		
	W Width	H Height	
Project			Location
Contractor			Architect/Engineer

# AFS-120 Louver Performance Data

**AMCA  
CERTIFIED  
RATINGS**

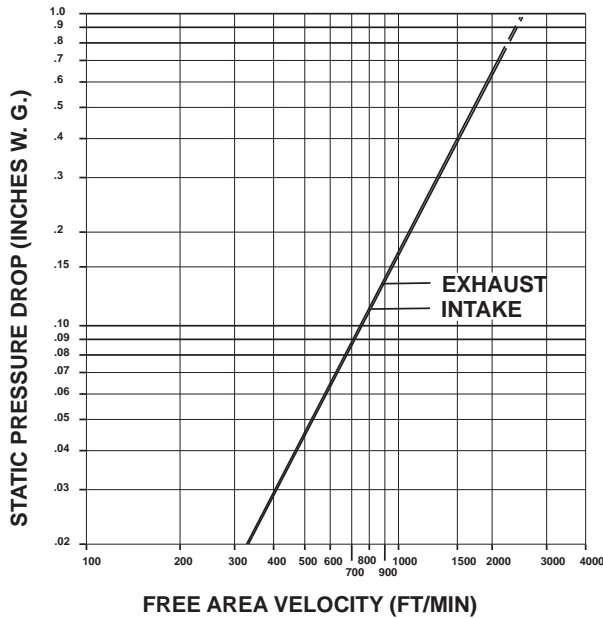
**WATER  
PENETRATION  
AIR  
PERFORMANCE**

**AIR  
MOVEMENT  
AND CONTROL  
ASSOCIATION, INC.**

MEMBER SINCE 1981 OF AMCA

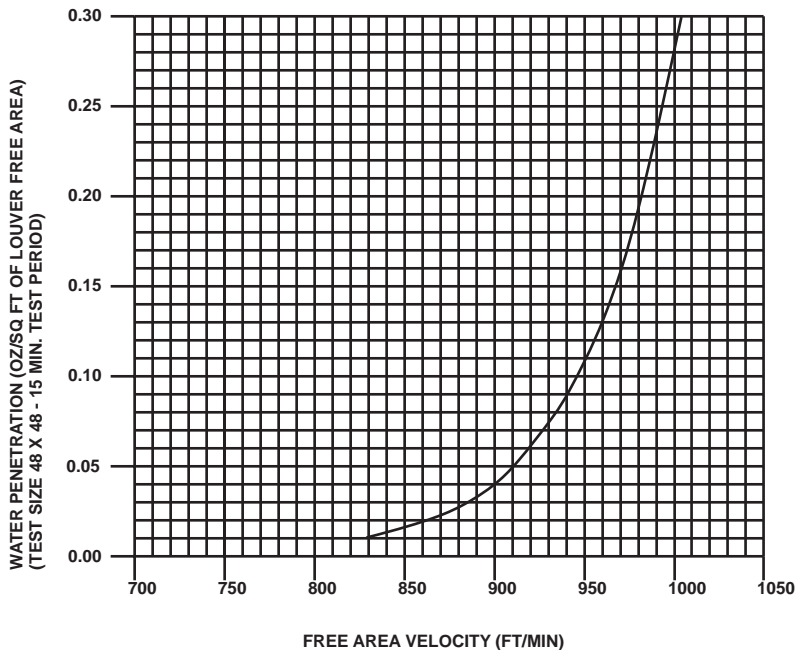
Greenheck certifies that the AFS-120 louvers shown herein are licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 511 and comply with the requirements of the AMCA Certified Ratings Program. The AMCA Certified Ratings Seal applies to air performance and water penetration ratings.

## Airflow Resistance ( Standard Air - .075 lb/ft<sup>3</sup>)



Model AFS-120 resistance to airflow varies depending on louver application (air intake or air exhaust). Free area velocities (shown) are higher than average velocity through the overall louver size. See louver selection information.

## Water Penetration ( Standard Air - .075 lb/ft<sup>3</sup>)



The AMCA Water Penetration Test provides a method for comparing various louver models and designs as to their efficiency in resisting the penetration of rainfall under specific laboratory test conditions. The beginning point of water penetration is defined as that velocity where the water penetration curve projects through .01 oz. of water (penetration) per sq. ft. of louver free area. **\*The beginning point of water penetration for Model AFS-120 is 830 fpm free area velocity.** These performance ratings do not guarantee a louver to be weatherproof or stormproof and should be used in combination with other factors including good engineering judgement in selecting louvers.

# Louver Selection and Application

Application of any louver involves selecting an airflow velocity through the louver free area (free area velocity in fpm) that produces an acceptable pressure drop and for intake applications minimizes carry through of normally encountered rain water. No louver manufacturer warrants their louver to prevent water penetration under all possible combinations of wind and rain. Water penetration through Model AFS-120 begins at 830 fpm free area velocity. Intake air louver selection using free area velocity below 930 fpm is recommended. Louver selection involves the following two steps, and depending on given conditions, either step may come first.

## Select Free Area Velocity:

Using the **Airflow Resistance Chart**, select a free area velocity that produces an acceptable pressure drop with minimal water penetration. (Water penetration need not be considered when selecting exhaust louvers.)

## Determine Louver Free Area:

Using the free area velocity from previous step and total cfm, determine Louver Free Area required. Using **Louver Free Area Chart**, select a louver with the required free area. If louver size is given, determine free area from chart and work backwards to determine maximum airflow. See examples below.

## Free Area Chart

Louver Height Inches	Louver Width in Inches									Louver Height Inches
	12	18	24	30	36	42	48	54	60	
15	0.125	0.206	0.287	0.368	0.449	0.53	0.611	0.692	0.772	15
18	0.125	0.206	0.287	0.368	0.449	0.53	0.611	0.692	0.772	18
24	0.25	0.412	0.573	0.735	0.897	1.059	1.221	1.383	1.545	24
30	0.499	0.823	1.147	1.471	1.795	2.118	2.442	2.766	3.09	30
36	0.624	1.029	1.434	1.838	2.243	2.648	3.053	3.458	3.862	36
42	0.749	1.235	1.72	2.206	2.692	3.178	3.663	4.149	4.635	42
48	0.874	1.44	2.007	2.574	3.14	3.707	4.274	4.841	5.407	48
54	0.998	1.646	2.294	2.941	3.589	4.237	4.884	5.532	6.18	54
60	1.248	2.058	2.867	3.677	4.486	5.296	6.105	6.915	7.725	60
66	1.373	2.263	3.154	4.044	4.935	5.826	6.716	7.607	8.497	66
72	1.498	2.469	3.441	4.412	5.384	6.355	7.327	8.298	9.27	72
78	1.622	2.675	3.727	4.78	5.832	6.885	7.937	8.99	10.042	78
84	1.747	2.881	4.014	5.147	6.281	7.414	8.548	9.681	10.814	84
90	1.997	3.292	4.588	5.883	7.178	8.473	9.769	11.064	12.359	90
96	2.122	3.498	4.874	6.251	7.627	9.003	10.379	11.756	13.132	96
<b>Louver Free Area in Square Feet</b>										

## Sound Transmission Class (STC)

This is a numerical two-digit figure rating derived from a standardized performance test made in accordance with ASTM E90-90 (Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions" and ASTM E413-87 ( Standard Classification for Determination of Sound Transmission Class). The number is used in evaluating the effectiveness of an assembly in isolating or reducing airborne sound transmission. Acoustic performance ratings have been determined by an independent laboratory.

## Outdoor Indoor Transmission Class (OITC)

ASTM E1332 and ASTM E966 procedures are used to determine the OITC rating of building facades relative to ground or air transportation noise.

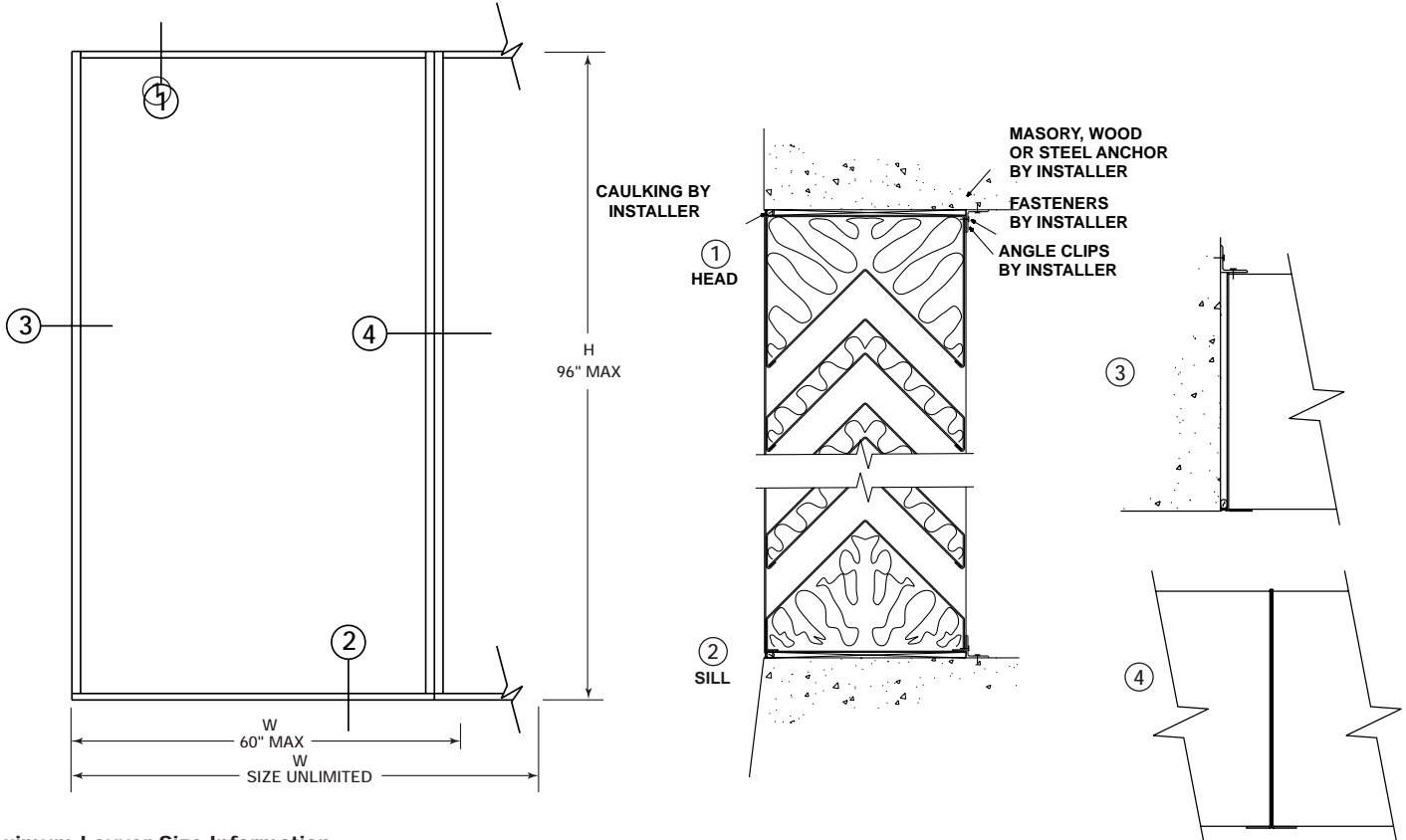
### Free Field Noise Reduction in Decibels

Model	Selected 1/3 Octave Band Center Frequency HZ								STC	OITC
	63	125	250	500	1000	2000	4000	8000		
AFS-120	7	13	11	18	28	35	34	32	<b>17</b>	<b>10</b>

To calculate the Transmission Loss (db), subtract 6 db from the Free Field Noise Reduction (db).

## Maximum Size and Installation Information

Maximum single section size for Model AFS-120 is 60"W x 96"H, and individual sections are designed to withstand wind loadings of 25 pounds per square foot (100 mph wind equivalent). Larger sizes require field assembly of equal size louver sections required to make up the overall louver size. Angles, clips, splice plates, bolts, and other fasteners required to install louvers and/or assemble louver sections are not provided with the louvers and must be supplied by the installing contractor. Louver assemblies (larger than 60"W x 96"H) require bracing or support from building structure at louver section joints to provide overall structural integrity. Details shown are general in nature. Additional information on louver installation may be found in AMCA Publication #501, Louver Application Manual.



### Maximum Louver Size Information

W = Overall width - unlimited

H = Overall height - unlimited

### Maximum Factory Assembled Size

60"W x 96"H

## AFS-120 Specifications

Louvers meeting the following specifications shall be furnished and installed where shown on the plans and/or as described in schedules. Each factory assembled louver section shall be designed to withstand 25 pounds per square foot (100 mph wind load equivalent). Louvers too large for complete factory assembly shall be built up by the installing contractor from factory assembled sections. Louver frames, mullions and section joints shall be adequately supported from the building structure to withstand this wind loading.

Louvers shall be Greenheck Model AFS-120 acoustical stationary sightproof blade, fabricated from aluminum. Louver frame depth shall be 12". Frame and blade material thickness shall be 0.080". Blades will be spaced on 5" centers and positioned on a 45 degree angle. Acoustical material shall be fiberglass insulation. Blades and frames will be mechanically fastened together. Each louver shall be equipped with a framed, removable, rear-mounted screen of 3/4" x 0.051" flattened expanded aluminum.

Comprehensive louver performance data including airflow

resistance, water penetration, Sound Transmission Class (STC), Outdoor Indoor Transmission Class (OITC) and free area shall be submitted for approval. Louvers must be AMCA certified for airflow resistance and water penetration. Acoustical testing must be performed by an independent laboratory.

*Specifier select one of the following finishes specifications:*

Louvers shall be supplied with standard mill finish.

Louvers shall be supplied with a baked enamel finish applied after a thorough cleaning and preparation of the metal surface. A total dry film thickness of approximately 1.2 mils shall be provided. Material preparation and paint application shall be in accordance with AAMA 603.8-92. Color shall be (specify color from standard color chart).

Louvers shall be supplied with a Kynar finish applied following a thorough cleaning and pretreatment of the metal surface. Dry film thickness of the Kynar shall be approximately 1.2 mils after baking at 450°F. Material preparation and paint application shall be in accordance with AAMA 605.2-92. Color shall be (specify color from standard color chart).