GREENHECK

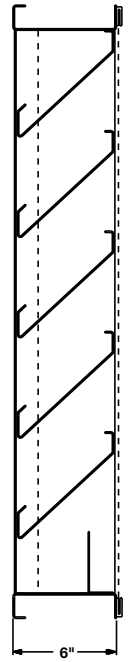
Dampers & Louvers

FDS-602 High Performance Drainable Blade

Fabricated Construction

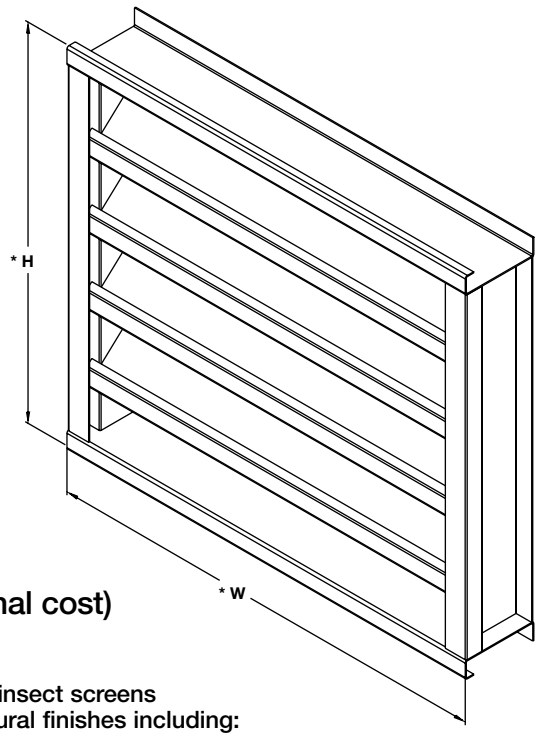
Application and Design

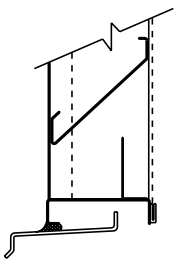
FDS-602 is a weather louver designed to protect air intake and exhaust openings in building exterior walls. Design incorporates drain gutters in the head member and horizontal blades to channel water to the louver side frames or jambs where water is further channeled through vertical downspouts and out at the louver sill. The FDS-602 is an extremely efficient louver with **AMCA LICENSED PERFORMANCE DATA** enabling designers to select and apply with confidence.



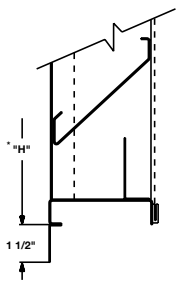
Standard Construction

Frame:	16 gauge galvanized steel, 6 in. deep
Blades:	Drainable design, 20 gauge galvanized steel, positioned at 45° angles on approximately 6" centers
Birdscreen:	1/2 in. x 1/2 in. mesh, 19 gauge galvanized in removable frame. Screen is mounted on inside (rear)
Finish:	Mill galvanized
Minimum Size:	12 in.W x 16 in.H
Maximum Size:	60 in.W x 96 in.H Larger sizes made in multiple sections (see page 4)





OPTIONAL EXTENDED SILL



OPTIONAL FLANGE

Options (at additional cost)

- Flanged frame
- Extended sill
- A variety of bird and insect screens
- A variety of architectural finishes including:
  - Baked enamel
  - Kynar
  - Epoxy
- Heavier gauge construction
- Stainless steel construction
- Filter racks
- Security Bars

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

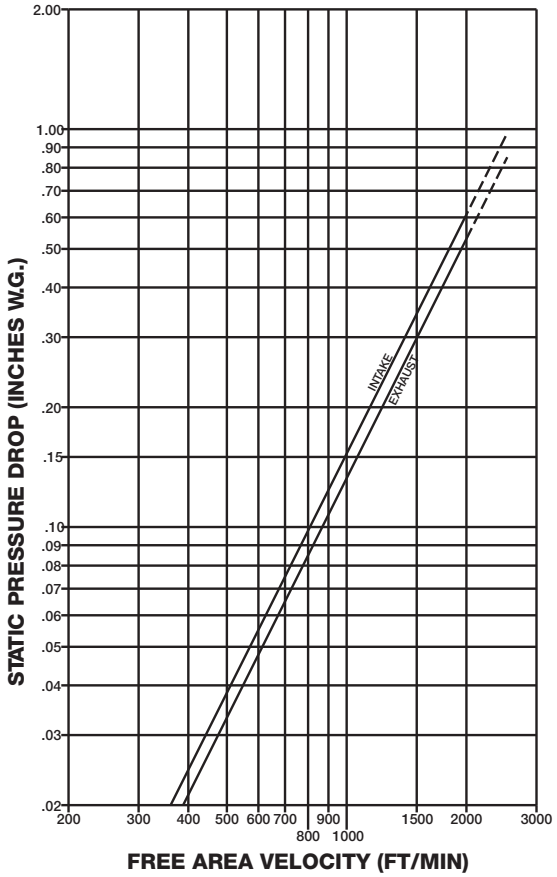
Quantity	Size		
	W Width	H Height	

Project	Location
Contractor	Architect/Engineer

FDS-602 Louver Performance Data

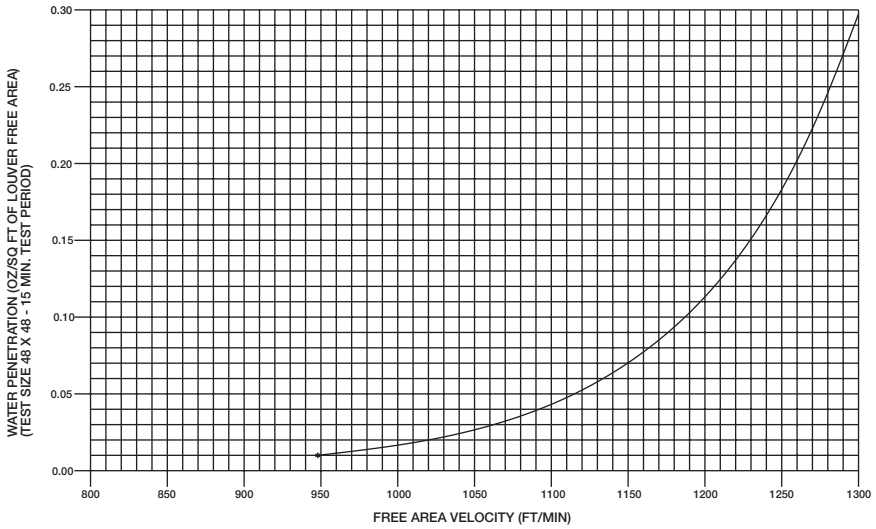
Greenheck certifies that the FDS-602 louvers shown herein are licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 511 and comply with the requirements of the AMCA Certified Ratings Program. The AMCA Certified Ratings Seal applies to air performance and water penetration ratings.

Airflow Resistance (Standard Air - .075 lb/ft³)



Model FDS-602 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/ft³)



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 FDS-602 is 948 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 FDS-602 begins at approximately 948 fpm free area velocity. Intake air louver selection using free area velocity below 948 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
	8	12	18	24	30	36	42	48	54	60	
12	0.1	0.18	0.29	0.41	0.52	0.63	0.75	0.86	0.98	1.09	12
18	0.24	0.41	0.67	0.93	1.18	1.44	1.7	1.96	2.22	2.48	18
24	0.37	0.64	1.04	1.45	1.85	2.25	2.66	3.06	3.46	3.86	24
30	0.53	0.91	1.49	2.07	2.65	3.22	3.8	4.38	4.96	5.53	30
36	0.68	1.18	1.92	2.66	3.41	4.15	4.89	5.63	6.38	7.12	36
42	0.83	1.44	2.35	3.26	4.16	5.07	5.98	6.89	7.8	8.71	42
48	0.98	1.7	2.78	3.85	4.92	6	7.07	8.15	9.22	10.3	48
54	1.14	1.96	3.2	4.44	5.68	6.92	8.16	9.4	10.64	11.88	54
60	1.29	2.23	3.63	5.04	6.44	7.85	9.25	10.66	12.06	13.47	60
66	1.43	2.47	4.03	5.6	7.16	8.72	10.28	11.84	13.4	14.97	66
72	1.56	2.7	4.41	6.11	7.82	9.53	11.23	12.94	14.65	16.35	72
78	1.7	2.93	4.78	6.63	8.48	10.34	12.19	14.04	15.89	17.74	78
84	1.83	3.16	5.16	7.15	9.15	11.14	13.14	15.14	17.13	19.13	84
90	1.96	3.39	5.53	7.67	9.81	11.95	14.09	16.23	18.38	20.52	90
96	2.12	3.67	5.98	8.3	10.61	12.92	15.24	17.55	19.87	22.18	96
Louver Free Area in Square Feet											

FDS-602 Selection and Examples

Example 1:

Airflow given as 9000 cfm – select louver size.

A. Determine louver free area by dividing airflow by free area velocity (do not exceed 948 fpm on intake louver application).

9000 (Airflow) cfm ÷ 948 (Free Area Velocity) fpm = 9.49 (Required Louver Free Area) $ft.^2$

B. Select a louver with at least the required louver free area from **Free Area Chart** above.

36 in. W x 72 in. H

9.53 $ft.^2$ free area

944 fpm free area velocity (9000 cfm ÷ 9.53 $ft.^2$ F.A.)

(Other selections available – See **Free Area Chart** above.)

C. Check the pressure drop of the selected louver at the given airflow (**Airflow Resistance Chart** on Page 2).

Δ P at 944 (Free Area Velocity) fpm = 0.15 (Pressure Drop) in. wg

Example 2:

Louver size given as 48 x 48 – determine maximum airflow.

A. Use **Free Area Chart** to determine Free Area = 8.16 $ft.^2$

B. Multiply Free Area x Free Area Velocity (Do not exceed 948 fpm on intake louver applications).

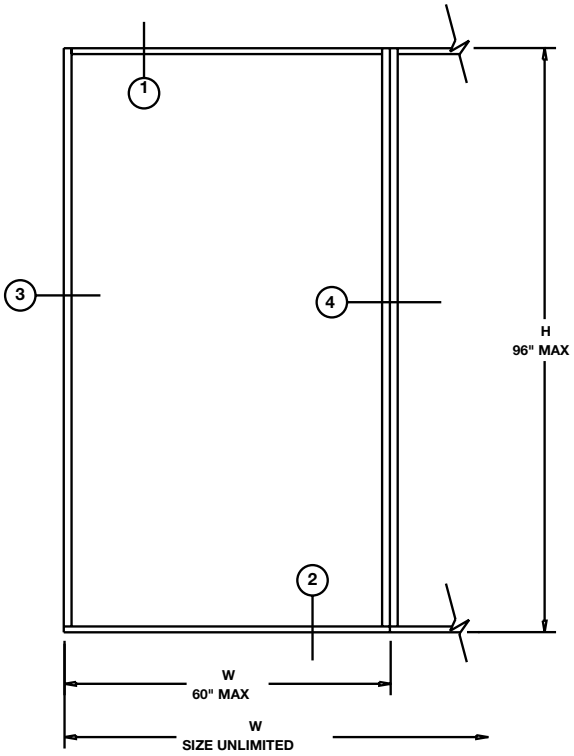
8.16 ($ft.^2$ Free Area) x 948 (Free Area Velocity) fpm = 7,736 (Maximum Airflow) cfm

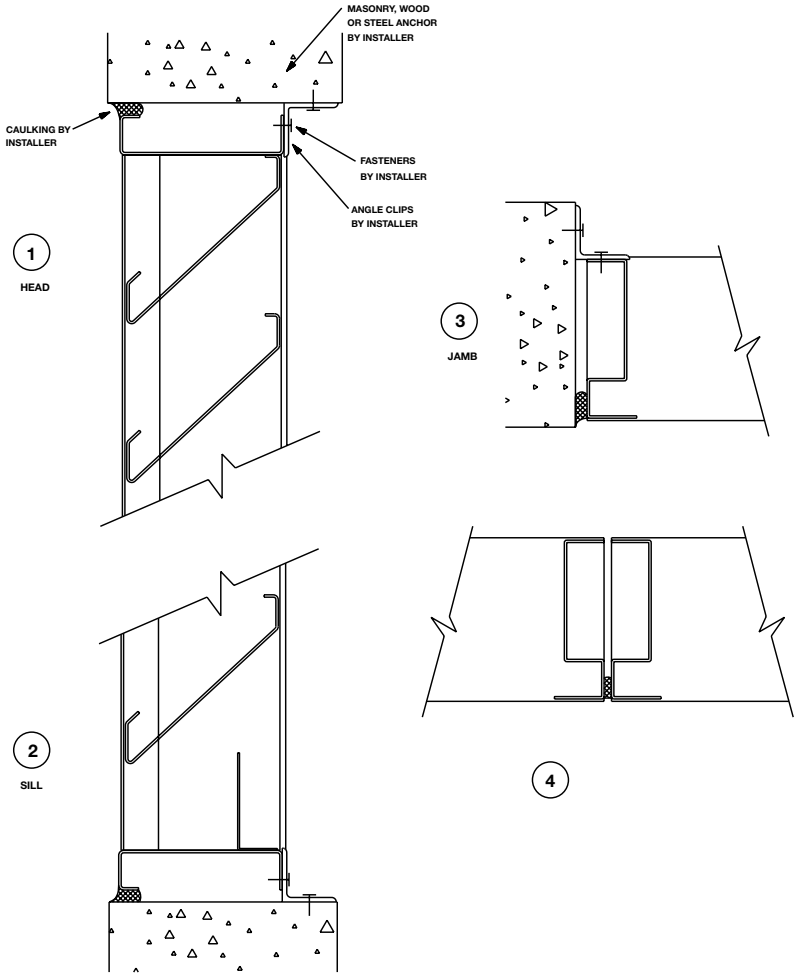
C. Check the pressure drop of the selected louver at the given airflow (**Airflow Resistance Chart** on Page 2).

Δ P at 948 (Free Area Velocity) fpm = 0.15 (Pressure Drop) in. wg

Maximum Size and Installation Information

Maximum single section size for Model FDS-602 is 60 in. W x 96 in. 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 in. W x 96 in. 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 in. W x 96 in. H

FDS-602 Specifications

Louvers meeting the following specifications shall be furnished and installed where shown on the plans and/or as described in schedules. Louvers shall be stationary drainable type J blades in a 6" louver frame. Each factory-assembled louver section shall be designed to withstand wind loadings of 25 pounds per square foot (100 mph wind equivalent). Louvers too large for complete factory assembly shall be built up by the installing contractor from factory-assembled louver sections. Louver frames, mullions, and section joints shall be adequately supported from the building structure to withstand this same wind loading.

Comprehensive louver performance data including airflow pressure loss, water penetration, and free area data shall be submitted for approval. This performance data shall demonstrate performance equal to or better than the Greenheck model specified.

Louvers shall be Greenheck Model FDS-602 stationary type fabricated from galvanized steel. Frames shall be 16 gauge and blades shall be 20 gauge positioned at 45° angles approximately on 6 in. centers. Each louver shall be equipped with a framed, removable, rear-mounted screen of 1/2 in. x 1/2 in. mesh 19 gauge galvanized wire.

Specifier select one of the following finish 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. 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. Color shall be (specify color from standard color chart).

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