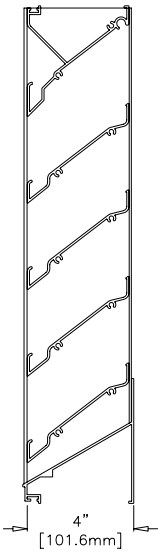
ESD-435

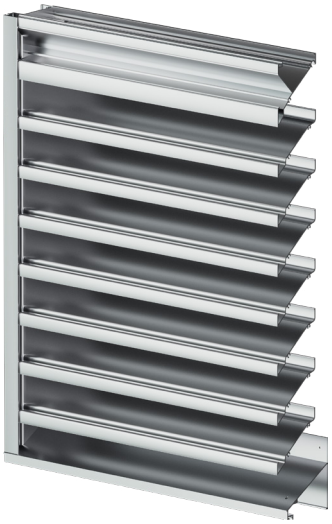
Stationary Louver, Drainable Blade

Extruded Aluminum

Standard Construction

Frame	Heavy gauge extruded 6063-T5 aluminum, 4 in. (102 mm) x 0.081 in. (2 mm) nominal wall thickness
Blades	Drainable design, heavy gauge extruded 6063-T5 aluminum, 0.081 in. (2 mm) nominal wall thickness, positioned 37.5° on approximately 3-1/4 in. (83 mm) centers
Louver Depth	4 in. (102 mm)
Construction	Mechanically fastened
Finish	Mill
Minimum Size	12 in. W x 9 in. H (305 mm W x 229 mm H)
Maximum Single Section Size	120 in. W x 120 in. H (3048 mm W x 3048 mm H) Limited to 70 sq. ft. (6.5 sq. m)
Wind Load	25 PSF (1.2 kPa)





Performance Ratings

Greenheck Fan Corporation certifies that the ESD-435 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 Water Penetration and Air Performance ratings.

Louvers were tested in accordance with AMCA Standard 500-L.

Performance of 48 in. x 48 in. (1219 mm x 1219 mm) Louver

Free Area	
Area	8.92 sq. ft. (0.829 sq. m)
Percent	55.8%
Performance at Beginning Point of Water Penetration	
Free Area Velocity	989 fpm (5.024 m/s)
Max Intake Volume	8,822 cfm (4.163 m^3/s)
Performance at 6,000 CFM (2.832 m^3/s) Intake	
Pressure Drop	0.073 in. wg (0.018 kPa)

Options and Accessories

- Bird Screen
- Blank Off Panels
- Extended Sill
- Filter Rack/Filter
- Flange Frame
- Glazing Frame
- Hinged Frame
- Insect Screen
- Mounting Angles
- Security Bars
- Variety of Architectural Finishes
- Welded Construction
- 0.125 in. (3 mm) Nominal Frame and/or Blade Thickness

Document Links

- ESD-435 Specification
- ESD-435 Environmental Product Declaration
- Louver Finishes & Colors
- Louver Product Selection Guide
- Louver Products Catalog
- Louver Warranty Statement

Standard Details

ESD-435 Standard Details

Structural reinforcing members may be required to adequately support and install multiple louver sections within a large opening. Structural reinforcing members along with any associated installation hardware is not provided by Greenheck unless indicated otherwise by Greenheck. Options and accessories including, but not limited to, screens, filter racks, louver doors, and blank off panels are not subject to structural analysis unless indicated otherwise by Greenheck.

Free Area Chart

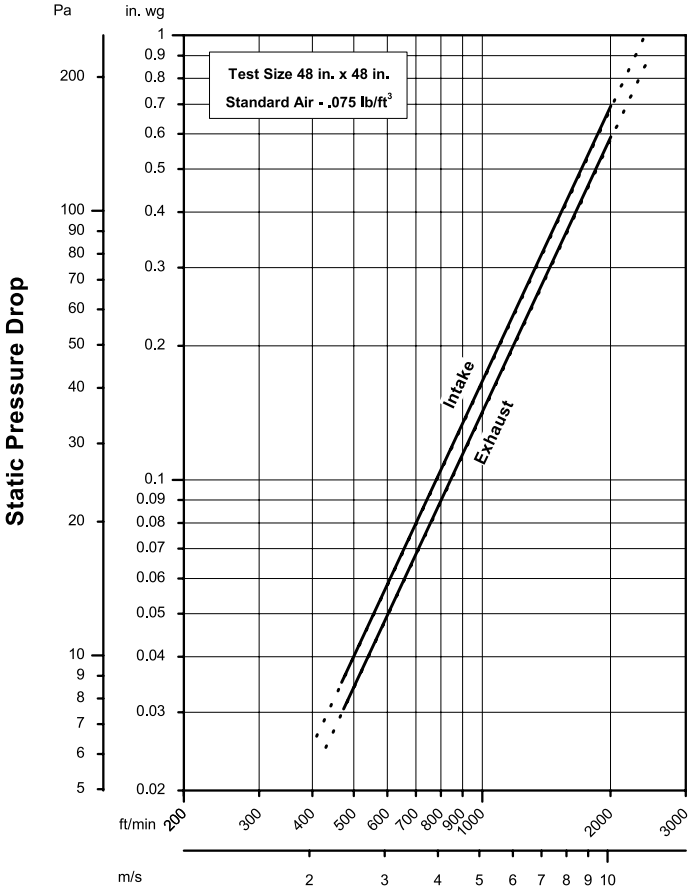
Free Area Chart shows free area in square feet and square meters.

Louver Height Inches (Meters)	Louver Width in Inches (Meters)																		
	12	**18**	**24**	**30**	**36**	**42**	**48**	**54**	**60**	**66**	**72**	**78**	**84**	**90**	**96**	**102**	**108**	**114**	**120**
	0.30	0.46	0.61	0.76	0.91	1.07	1.22	1.37	1.52	1.68	1.83	1.98	2.13	2.29	2.44	2.59	2.74	2.90	3.05
12	**0.30**	**0.49**	**0.68**	**0.87**	**1.07**	**1.26**	**1.45**	**1.59**	**1.79**	**1.98**	**2.17**	**2.36**	**2.56**	**2.70**	**2.89**	**3.08**	**3.28**	**3.47**	**3.66**
0.30	0.03	0.05	0.06	0.08	0.10	0.12	0.13	0.15	0.17	0.18	0.20	0.22	0.24	0.25	0.27	0.29	0.30	0.32	0.34
18	**0.54**	**0.88**	**1.23**	**1.58**	**1.93**	**2.28**	**2.62**	**2.88**	**3.23**	**3.58**	**3.93**	**4.28**	**4.62**	**4.88**	**5.23**	**5.58**	**5.93**	**6.28**	**6.62**
0.46	0.05	0.08	0.11	0.15	0.18	0.21	0.24	0.27	0.30	0.33	0.37	0.40	0.43	0.45	0.49	0.52	0.55	0.58	0.62
24	**0.79**	**1.30**	**1.81**	**2.32**	**2.83**	**3.33**	**3.84**	**4.23**	**4.74**	**5.25**	**5.76**	**6.27**	**6.78**	**7.16**	**7.67**	**8.18**	**8.69**	**9.20**	**9.71**
0.61	0.07	0.12	0.17	0.22	0.26	0.31	0.36	0.39	0.44	0.49	0.54	0.58	0.63	0.67	0.71	0.76	0.81	0.85	0.90
30	**1.04**	**1.71**	**2.38**	**3.06**	**3.73**	**4.40**	**5.08**	**5.58**	**6.26**	**6.93**	**7.60**	**8.28**	**8.95**	**9.45**	**10.13**	**10.80**	**11.47**	**12.15**	**12.82**
0.76	0.10	0.16	0.22	0.28	0.35	0.41	0.47	0.52	0.58	0.64	0.71	0.77	0.83	0.88	0.94	1.00	1.07	1.13	1.19
36	**1.29**	**2.13**	**2.97**	**3.81**	**4.65**	**5.49**	**6.33**	**6.96**	**7.80**	**8.64**	**9.48**	**10.31**	**11.15**	**11.78**	**12.62**	**13.46**	**14.30**	**15.14**	**15.98**
0.91	0.12	0.20	0.28	0.35	0.43	0.51	0.59	0.65	0.72	0.80	0.88	0.96	1.04	1.09	1.17	1.25	1.33	1.41	1.48
42	**1.55**	**2.55**	**3.55**	**4.56**	**5.56**	**6.56**	**7.57**	**8.32**	**9.32**	**10.32**	**11.33**	**12.33**	**13.33**	**14.09**	**15.09**	**16.09**	**17.10**	**18.10**	**19.10**
1.07	0.14	0.24	0.33	0.42	0.52	0.61	0.70	0.77	0.87	0.96	1.05	1.15	1.24	1.31	1.40	1.49	1.59	1.68	1.77
48	**1.82**	**3.01**	**4.19**	**5.37**	**6.55**	**7.74**	**8.92**	**9.81**	**10.99**	**12.17**	**13.35**	**14.54**	**15.72**	**16.61**	**17.79**	**18.97**	**20.16**	**21.34**	**22.52**
1.22	0.17	0.28	0.39	0.50	0.61	0.72	0.83	0.91	1.02	1.13	1.24	1.35	1.46	1.54	1.65	1.76	1.87	1.98	2.09
54	**2.08**	**3.44**	**4.79**	**6.14**	**7.49**	**8.85**	**10.20**	**11.21**	**12.56**	**13.92**	**15.27**	**16.62**	**17.97**	**18.99**	**20.34**	**21.69**	**23.04**	**24.40**	**25.75**
1.37	0.19	0.32	0.45	0.57	0.70	0.82	0.95	1.04	1.17	1.29	1.42	1.54	1.67	1.76	1.89	2.02	2.14	2.27	2.39
60	**2.33**	**3.85**	**5.36**	**6.87**	**8.39**	**9.90**	**11.42**	**12.55**	**14.06**	**15.58**	**17.09**	**18.61**	**20.12**	**21.26**	**22.77**	**24.28**	**25.80**	**27.31**	**28.82**
1.52	0.22	0.36	0.50	0.64	0.78	0.92	1.06	1.17	1.31	1.45	1.59	1.73	1.87	1.98	2.12	2.26	2.40	2.54	2.68
66	**2.58**	**4.26**	**5.94**	**7.61**	**9.29**	**10.97**	**12.64**	**13.90**	**15.58**	**17.25**	**18.93**	**20.60**	**22.28**	**23.54**	**25.21**	**26.89**	**28.57**	**30.24**	**31.92**
1.68	0.24	0.40	0.55	0.71	0.86	1.02	1.17	1.29	1.45	1.60	1.76	1.91	2.07	2.19	2.34	2.50	2.65	2.81	2.97
72	**2.84**	**4.68**	**6.52**	**8.36**	**10.20**	**12.05**	**13.89**	**15.27**	**17.11**	**18.95**	**20.79**	**22.64**	**24.48**	**25.86**	**27.70**	**29.54**	**31.38**	**33.22**	**35.07**
1.83	0.26	0.43	0.61	0.78	0.95	1.12	1.29	1.42	1.59	1.76	1.93	2.10	2.27	2.40	2.57	2.74	2.92	3.09	3.26
78	**3.09**	**5.10**	**7.10**	**9.11**	**11.11**	**13.12**	**15.12**	**16.63**	**18.63**	**20.64**	**22.65**	**24.65**	**26.66**	**28.16**	**30.17**	**32.17**	**34.18**	**36.18**	**38.19**
1.98	0.29	0.47	0.66	0.85	1.03	1.22	1.40	1.54	1.73	1.92	2.10	2.29	2.48	2.62	2.80	2.99	3.18	3.36	3.55
84	**3.35**	**5.53**	**7.70**	**9.88**	**12.05**	**14.23**	**16.40**	**18.03**	**20.21**	**22.38**	**24.56**	**26.73**	**28.91**	**30.54**	**32.71**	**34.89**	**37.06**	**39.23**	**41.41**
2.13	0.31	0.51	0.72	0.92	1.12	1.32	1.52	1.68	1.88	2.08	2.28	2.48	2.69	2.84	3.04	3.24	3.44	3.64	3.85
90	**3.64**	**6.00**	**8.37**	**10.73**	**13.09**	**15.45**	**17.82**	**19.59**	**21.95**	**24.31**	**26.67**	**29.04**	**31.40**						
2.29	0.34	0.56	0.78	1.00	1.22	1.44	1.66	1.82	2.04	2.26	2.48	2.70	2.92						
96	**3.88**	**6.40**	**8.92**	**11.44**	**13.95**	**16.47**	**18.99**	**20.88**	**23.40**	**25.91**	**28.43**	**30.95**	**33.47**						
2.44	0.36	0.59	0.83	1.06	1.30	1.53	1.76	1.94	2.17	2.41	2.64	2.88	3.11						
102	**4.13**	**6.81**	**9.49**	**12.17**	**14.85**	**17.53**	**20.21**	**22.22**	**24.90**	**27.58**	**30.26**	**32.94**	**35.62**						
2.59	0.38	0.63	0.88	1.13	1.38	1.63	1.88	2.06	2.31	2.56	2.81	3.06	3.31						
108	**4.38**	**7.23**	**10.07**	**12.91**	**15.76**	**18.60**	**21.44**	**23.58**	**26.42**	**29.26**	**32.11**	**34.95**	**37.79**						
2.74	0.41	0.67	0.94	1.20	1.46	1.73	1.99	2.19	2.45	2.72	2.98	3.25	3.51						
114	**4.64**	**7.65**	**10.66**	**13.67**	**16.68**	**19.68**	**22.69**	**24.95**	**27.96**	**30.97**	**33.98**	**36.99**	**40.00**						
2.90	0.43	0.71	0.99	1.27	1.55	1.83	2.11	2.32	2.60	2.88	3.16	3.44	3.72						
120	**4.89**	**8.07**	**11.24**	**14.41**	**17.58**	**20.76**	**23.93**	**26.31**	**29.48**	**32.66**	**35.83**	**39.00**	**42.18**						
3.05	0.45	0.75	1.04	1.34	1.63	1.93	2.22	2.44	2.74	3.03	3.33	3.62	3.92						

Airflow Resistance

Standard Air - 0.075 lb/ft³ (1.2 kg/m³)

Test size 48 in. x 48 in. (1219 mm x 1219 mm)

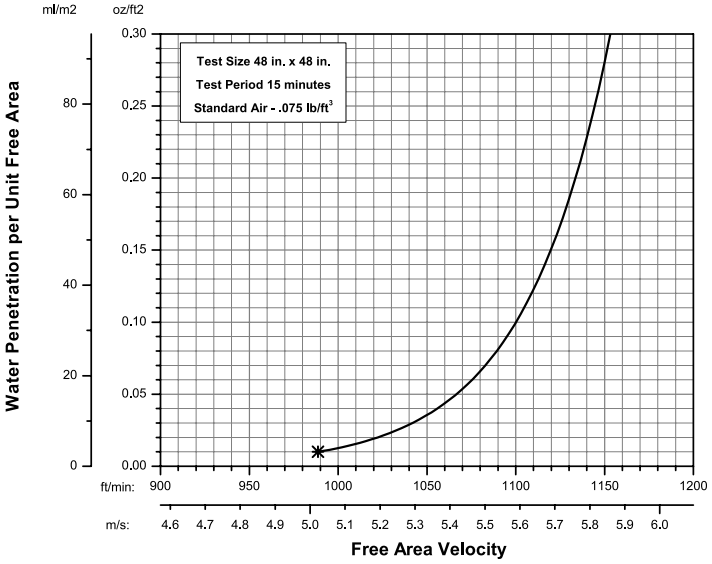


Model ESD-435 resistance to airflow (pressure drop) varies depending on louver application (air intake or air exhaust). Free area velocities (shown) are higher than average velocity through the overall louver size. See louver selection information. (Test Figure 5.5-6.5)

Water Penetration

Standard Air - 0.075 lb/ft³ (1.2 kg/m³)

Test size 48 in. x 48 in. (1219 mm x 1219 mm) Test duration of 15 min.



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 0.01 oz. (3 g) of water (penetration) per sq. ft. (m^2) of louver free area. ⁎**The beginning point of water penetration for Model ESD-435 is 989 fpm (5.024 m/s) 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.

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