EME220DD

Wind-Driven Rain Resistant Stationary Louver
Extruded Aluminum

RUSKIN
AUTHORITY IN AIR CONTROL

APPLICATION

The EME220DD is a stationary wind driven rain louver with a 2" deep frame and sightproof blades. This model is ideal for glazing applications and is cost effective with high performance.

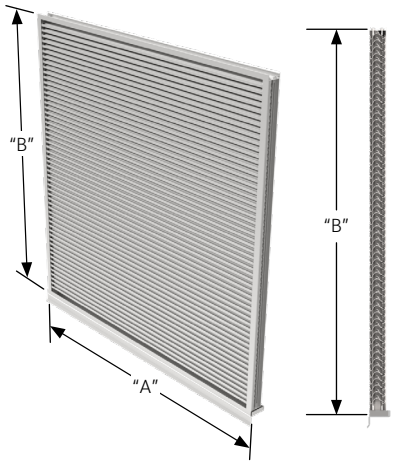
STANDARD CONSTRUCTION

Frame	2" (51) deep, 6063T6 extruded aluminum with 0.070" (1.8) nominal wall thickness.
Blades	6063T6 extruded aluminum .040" (1.02) nominal wall thickness. Double drainable blades are sightproof.
Screen	5/8" x .040" (16 x 1) expanded flattened aluminum bird screen in removable frame. Screen adds approximately 1/2" (13) to louver depth.
Finish	Mill.
Minimum Size	6"w x 6"h (152 x 152)
Approximate Shipping Weight	4 lbs. per sq. ft. (19.4 kg/m²)
Maximum Factory Assembly Size	Single sections shall not exceed 90"w x 120"h (2286 x 3048) or 120"w x 90"h (3048 x 2286). Louvers larger than the maximum single section size will require field assembly of smaller sections.
Supports	Louvers may be provided with rear mounted blade supports that increase overall louver depth depending on louver size, assembly configuration or windload.

Consult Ruskin for additional information.

FEATURES

- Closely spaced horizontal blades minimize the penetration of wind-driven rain, reducing damage and additional operating expenses
- Tested in the AMCA 511 Wind-Driven Rain Penetration Test
- Published performance ratings based on testing in accordance with AMCA Publication 511
- 43% Free Area
- Excellent pressure drop performance
- Aluminum construction for low maintenance and high resistance to corrosion



AMCA WORLDWIDE CERTIFIED RATINGS — WATER PENETRATION, AIR PERFORMANCE, WIND DRIVEN RAIN

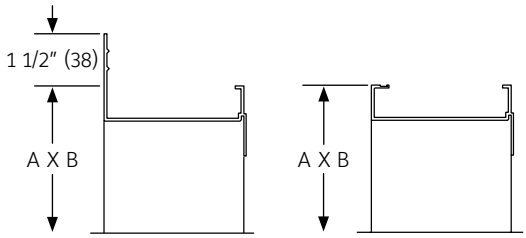
ISO9001 CERTIFIED

5 YEAR LIMITED WARRANTY

VARIATIONS

- Extended sill
- Hinged frame
- Front or rear security bars
- Filter racks
- Installation angles
- A variety of bird and insect screens
- Optional finishes available at additional cost. Please see Paint Finishes and Color Guide and Finish Type Model Chart for more details. Contact louversales@ruskin.com with questions

FRAME CONSTRUCTION OPTIONS



INTEGRAL FLANGE STANDARD

Please reference our website www.ruskin.com for up to date LEED® information

NOTES:
- Dimensions in inches, parenthesis ( ) indicate millimeters.
- Units can be furnished actual size or with size deducts.

FREE AREA GUIDE

Free Area Guide shows free area in ft² and m² for various sizes of EME220DD.

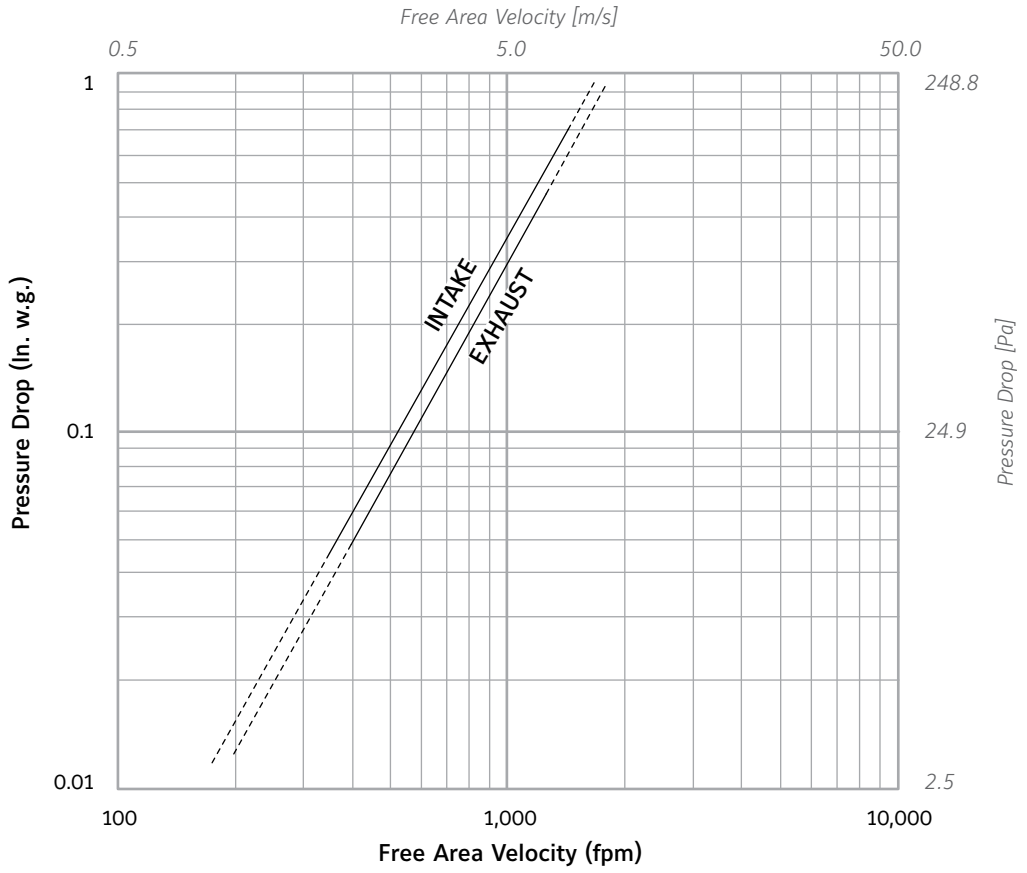
Width – Inches and Meters

Height – Inches and Meters

HEIGHT	12 0.30	18 0.45	24 0.60	30 0.75	36 0.90	42 1.05	48 1.20	54 1.35	60 1.50	66 1.65	72 1.80	78 1.95	84 2.10	90 2.25	96 2.40	102 2.55	108 2.70	114 2.85	120 3.00
12 0.30	**0.30** 0.03	**0.48** 0.04	**0.66** 0.06	**0.84** 0.08	**1.01** 0.09	**1.19** 0.11	**1.37** 0.13	**1.55** 0.14	**1.73** 0.16	**1.91** 0.18	**2.09** 0.19	**2.27** 0.21	**2.45** 0.23	**2.63** 0.24	**2.80** 0.26	**2.98** 0.28	**3.16** 0.29	**3.34** 0.31	**3.52** 0.33
18 0.45	**0.52** 0.05	**0.82** 0.08	**1.13** 0.11	**1.44** 0.13	**1.75** 0.16	**2.06** 0.19	**2.37** 0.22	**2.68** 0.25	**2.99** 0.28	**3.30** 0.31	**3.61** 0.34	**3.92** 0.36	**4.22** 0.39	**4.53** 0.42	**4.84** 0.45	**5.15** 0.48	**5.46** 0.51	**5.77** 0.54	**6.08** 0.57
24 0.60	**0.71** 0.07	**1.13** 0.10	**1.55** 0.14	**1.97** 0.18	**2.40** 0.22	**2.82** 0.26	**3.24** 0.30	**3.67** 0.34	**4.09** 0.38	**4.51** 0.42	**4.94** 0.46	**5.36** 0.50	**5.78** 0.54	**6.20** 0.58	**6.63** 0.62	**7.05** 0.66	**7.47** 0.70	**7.90** 0.73	**8.32** 0.77
30 0.75	**0.89** 0.08	**1.43** 0.13	**1.97** 0.18	**2.51** 0.23	**3.04** 0.28	**3.58** 0.33	**4.12** 0.38	**4.65** 0.43	**5.19** 0.48	**5.73** 0.53	**6.26** 0.58	**6.80** 0.63	**7.34** 0.68	**7.88** 0.73	**8.41** 0.78	**8.95** 0.83	**9.49** 0.88	**10.02** 0.93	**10.56** 0.98
36 0.90	**1.11** 0.10	**1.78** 0.17	**2.45** 0.23	**3.11** 0.29	**3.78** 0.35	**4.45** 0.41	**5.11** 0.48	**5.78** 0.54	**6.45** 0.60	**7.12** 0.66	**7.78** 0.72	**8.45** 0.79	**9.12** 0.85	**9.78** 0.91	**10.45** 0.97	**11.12** 1.03	**11.79** 1.10	**12.45** 1.16	**13.12** 1.22
42 1.05	**1.30** 0.12	**2.08** 0.19	**2.86** 0.27	**3.64** 0.34	**4.43** 0.41	**5.21** 0.48	**5.99** 0.56	**6.77** 0.63	**7.55** 0.70	**8.33** 0.77	**9.11** 0.85	**9.89** 0.92	**10.67** 0.99	**11.45** 1.07	**12.24** 1.14	**13.02** 1.21	**13.80** 1.28	**14.58** 1.36	**15.36** 1.43
48 1.20	**1.49** 0.14	**2.39** 0.22	**3.28** 0.31	**4.18** 0.39	**5.07** 0.47	**5.97** 0.55	**6.86** 0.64	**7.76** 0.72	**8.65** 0.80	**9.55** 0.89	**10.44** 0.97	**11.34** 1.05	**12.23** 1.14	**13.13** 1.22	**14.02** 1.30	**14.91** 1.39	**15.81** 1.47	**16.70** 1.55	**17.60** 1.64
54 1.35	**1.71** 0.16	**2.73** 0.25	**3.76** 0.35	**4.78** 0.44	**5.81** 0.54	**6.83** 0.64	**7.86** 0.73	**8.88** 0.83	**9.91** 0.92	**10.93** 1.02	**11.96** 1.11	**12.98** 1.21	**14.01** 1.30	**15.03** 1.40	**16.06** 1.49	**17.08** 1.59	**18.11** 1.68	**19.13** 1.78	**20.16** 1.87
60 1.50	**1.90** 0.18	**3.04** 0.28	**4.18** 0.39	**5.32** 0.49	**6.45** 0.60	**7.59** 0.71	**8.73** 0.81	**9.87** 0.92	**11.01** 1.02	**12.15** 1.13	**13.29** 1.24	**14.43** 1.34	**15.57** 1.45	**16.70** 1.55	**17.84** 1.66	**18.98** 1.77	**20.12** 1.87	**21.26** 1.98	**22.40** 2.08
66 1.65	**2.12** 0.20	**3.38** 0.31	**4.65** 0.43	**5.92** 0.55	**7.19** 0.67	**8.46** 0.79	**9.73** 0.90	**11.00** 1.02	**12.27** 1.14	**13.54** 1.26	**14.81** 1.38	**16.08** 1.50	**17.34** 1.61	**18.61** 1.73	**19.88** 1.85	**21.15** 1.97	**22.42** 2.09	**23.69** 2.20	**24.96** 2.32
72 1.80	**2.31** 0.21	**3.69** 0.34	**5.07** 0.47	**6.45** 0.60	**7.84** 0.73	**9.22** 0.86	**10.60** 0.99	**11.99** 1.11	**13.37** 1.24	**14.75** 1.37	**16.14** 1.50	**17.52** 1.63	**18.90** 1.76	**20.28** 1.89	**21.67** 2.02	**23.05** 2.14	**24.43** 2.27	**25.82** 2.40	**27.20** 2.53
78 1.95	**2.49** 0.23	**3.99** 0.37	**5.49** 0.51	**6.99** 0.65	**8.48** 0.79	**9.98** 0.93	**11.48** 1.07	**12.97** 1.21	**14.47** 1.35	**15.97** 1.48	**17.46** 1.62	**18.96** 1.76	**20.46** 1.90	**21.95** 2.04	**23.45** 2.18	**24.95** 2.32	**26.45** 2.46	**27.94** 2.60	**29.44** 2.74
84 2.10	**2.71** 0.25	**4.34** 0.40	**5.97** 0.55	**7.59** 0.71	**9.22** 0.86	**10.85** 1.01	**12.47** 1.16	**14.10** 1.31	**15.73** 1.46	**17.36** 1.61	**18.98** 1.77	**20.61** 1.92	**22.24** 2.07	**23.86** 2.22	**25.49** 2.37	**27.12** 2.52	**28.75** 2.67	**30.37** 2.82	**32.00** 2.98
90 2.25	**2.90** 0.27	**4.64** 0.43	**6.38** 0.59	**8.12** 0.76	**9.87** 0.92	**11.61** 1.08	**13.35** 1.24	**15.09** 1.40	**16.83** 1.57	**18.57** 1.73	**20.31** 1.89	**22.05** 2.05	**23.79** 2.21	**25.53** 2.37	**27.28** 2.54	**29.02** 2.70	**30.76** 2.86	**32.50** 3.02	**34.24** 3.18
96 2.40	**3.09** 0.29	**4.95** 0.46	**6.80** 0.63	**8.66** 0.81	**10.51** 0.98	**12.37** 1.15	**14.22** 1.32	**16.08** 1.50	**17.93** 1.67	**19.79** 1.84	**21.64** 2.01	**23.50** 2.19	**25.35** 2.36	**27.20** 2.53					
102 2.55	**3.31** 0.31	**5.29** 0.49	**7.28** 0.68	**9.26** 0.86	**11.25** 1.05	**13.23** 1.23	**15.22** 1.42	**17.20** 1.60	**19.19** 1.78	**21.17** 1.97	**23.16** 2.15	**25.14** 2.34	**27.13** 2.52	**29.11** 2.71					
108 2.70	**3.50** 0.33	**5.60** 0.52	**7.70** 0.72	**9.80** 0.91	**11.89** 1.11	**13.99** 1.30	**16.09** 1.50	**18.19** 1.69	**20.29** 1.89	**22.39** 2.08	**24.49** 2.28	**26.59** 2.47	**28.69** 2.67	**30.78** 2.86					
114 2.85	**3.72** 0.35	**5.94** 0.55	**8.17** 0.76	**10.40** 0.97	**12.63** 1.17	**14.86** 1.38	**17.09** 1.59	**19.32** 1.80	**21.55** 2.00	**23.78** 2.21	**26.01** 2.42	**28.24** 2.63	**30.46** 2.83	**32.69** 3.04					
120 3.00	**3.91** 0.36	**6.25** 0.58	**8.59** 0.80	**10.93** 1.02	**13.28** 1.23	**15.62** 1.45	**17.96** 1.67	**20.31** 1.89	**22.65** 2.11	**24.99** 2.32	**27.34** 2.54	**29.68** 2.76	**32.02** 2.98	**34.36** 3.20					

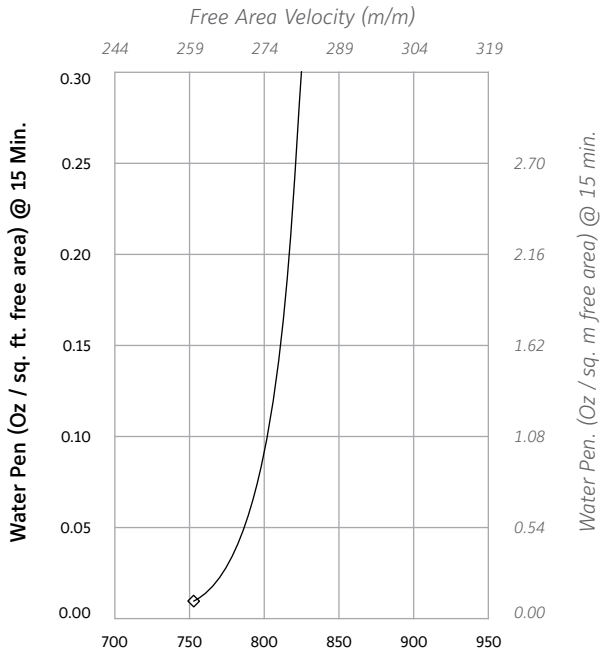
PRESSURE DROP

Air Performance (Pressure Drop) per AMCA 511 – Test Size 48" x 48" (1,220 mm x 1,220 mm). Tested per AMCA 500L (Test figures 6.5 & 5.5) without any screens or sill pan options. Results corrected to standard air density 0.075 lbs./ft^3 (1.2 kg/m^3)



WATER PENETRATION GRAPH

Test size 48" wide x 48" high (1219 X 1219) **Beginning point of water penetration at .01 oz. /sq. ft. is 752 fpm** (266229 m/min).



Free Area Velocity in feet per minute Standard air 0.075 lb/cu. ft.

Ruskin Com pany certifies that the louver shown herein is 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 ratings, water penetration ratings and wind driven rain ratings only.

WIND-DRIVEN RAIN PERFORMANCE

Test size is 1m x 1m (39" x 39") core area, 1.04m x 1.12m (41" x 44") nominal. Free Area of test louver is 4.20 ft² (.39m²).

29 mph (75 mm/h) wind & 3" (76) per hour rain conditions				
Core Velocity$_1$ fpm (m/s)	Airflow cfm (m³/min)	Free Area Velocity$_2$ fpm (m/sec.)	Effectiveness Ratio	Class$_3$
984 (5.0)	10007 (283)	1866 (9.48)	100	A

50 mph (202 mm/h) wind & 8" (203) per hour rain conditions				
Core Velocity$_1$ fpm (m/s)	Airflow cfm (m³/min)	Free Area Velocity$_2$ fpm (m/sec.)	Effectiveness Ratio	Class$_3$
482 (2.4)	4315 (122)	804 (4.0)	99.5	A
588 (2.99)	5642 (160)	1052 (5.3)	99.3	A
691 (3.5)	6862 (194)	1280 (6.5)	99.1	A

NOTES:

1. Core area is the open area of the louver face (face area less lover frames). Core Velocity is the airflow velocity through the Core Area of the louver (1m x 1m).
2. Free Area of test size is calculated per AMCA standard 500-L.
3. Wind Driven Rain Penetration Classes:

Class	Effectiveness
A	1 to .99
B	0.989 to 0.95
C	0.949 to 0.80
D	Below 0.8

4. Intake Discharge Loss Class 2
   Discharge Loss Coefficient is calculated by dividing a louvers' actual airflow rate vs. a theoretical airflow for the opening. It provides an indication of the louvers' airflow characteristics.

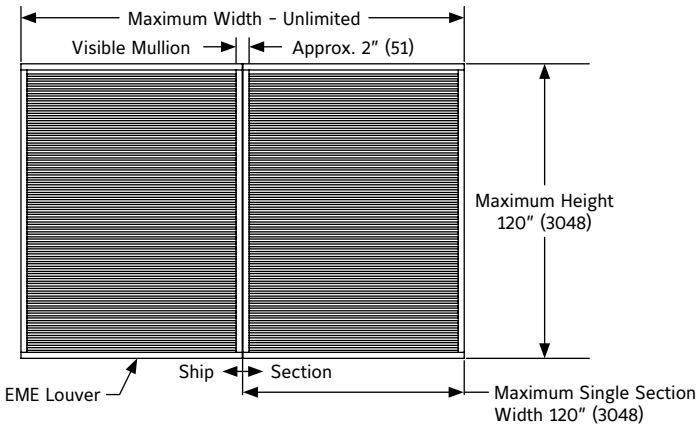
Discharge Loss Classes:

Class	Discharge Loss Coefficient
1	0.4 and above
2	0.3 to 0.399
3	0.2 to 0.299
4	0.199 and below

(The higher the coefficient, the less resistance to airflow.)

5. The AMCA Wind Driven Rain Test is performed in a laboratory environment and incorporates controlled wind, water and system airflow effects. In actual field installations, storms may create conditions not considered by the AMCA test. Penthouse and similar applications where wind can pass through multiple louvers in an enclosure is another condition that is not simulated by AMCA tests. These applications can create elevated water penetration rates through any louver. Because of these uncontrolled situations, it is recommended that provisions to manage water penetration through louvers be included in the building design.

EME220DD CONSTRUCTION INFORMATION



1. Reference separate Installation Instruction sheets for installation details. It is the responsibility of the installing contractor to properly install the louvers per the appropriate detail.
2. Louvers wider than the maximum single section width will be shipped in multiple sections and will require field assembly. Field assembly is not by Ruskin.

LINKS TO IMPORTANT DOCUMENTS

Document Title
Paint Finishes and Color Guide
Limited Warranty Document

RUSKIN®
AUTHORITY IN AIR CONTROL

3900 Doctor Greaves Road
Grandview, MO 64030
Website: www.ruskin.com
Phone: (816) 761-7476