

EME220DD, EME520DD, EME520V

Wind-Driven Rain Louver

ELF211D, ELF837

Stationary Louver

with Architectural Perforated front



STANDARD CONSTRUCTION

Architectural Perforation	Perforated Aluminum Alloy 3003 H14 Sheet Material 0.125" thk (8 Gauge) 1/4" Round on 5/16" Staggered Centers
Perforated Free Area	58% Open Area
Louver Frame	6063T6 extruded aluminum
Louver Blades	6063T6 extruded aluminum
Finish	Mill
Minimum Size	12"w x 12"h (305 x 305)
Maximum Factory Assembly Size	EME520V - 48"x120" or 120"x48"
	EME520DD - 48"x120" or 120"x48"
	EME220DD - 48"x120" or 120"x48"
	ELF211D - 48"x120" or 120"x48"
	ELF837 - 48"x120" or 120"x48"
Approximate Shipping Weight	EME520V - 8 lbs. per sq. ft. (39.1 kg/m ²)
	EME520DD - 8 lbs. per sq. ft. (39.1 kg/m ²)
	EME220DD - 5 lbs. per sq. ft. (24.3 kg/m ²)
	ELF211D - 3 lbs. per sq. ft. (14.7 kg/m ²)
	ELF837 - 5 lbs. per sq. ft. (24.3 kg/m ²)

Louvers larger than the maximum single section size will require field assembly of smaller sections.

Consult Ruskin for additional information.

FEATURES

- ▶ Closely spaced horizontal and vertical blades minimize the penetration of wind-driven rain, reducing damage and additional operating expenses.
- ▶ Louvers assemblies tested in accordance of Section 6 in AMCA-500L for Wind Driven Rain, Pressure Drop and Water Penetration Testing.
- ▶ Free Area-See Chart.
- ▶ Excellent pressure drop performance.

FRAME VARIATIONS

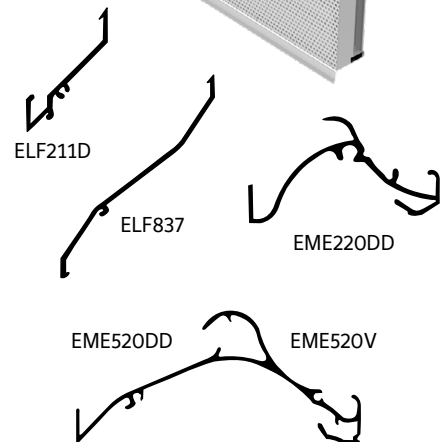
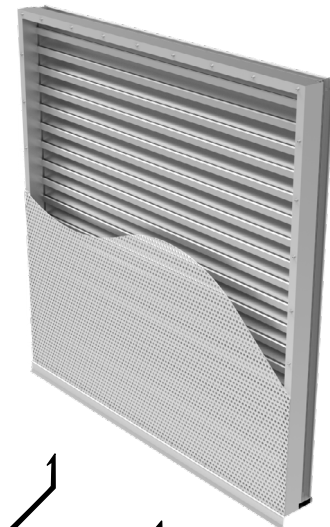
- ▶ Box Frame (BOX PERF FRM)
- ▶ Glazing frame (1"GLZ PRF FR)
- ▶ Universal Sleeve with Front Flange (UNV FF W/PREF)

VARIATIONS

- ▶ Extended sill
- ▶ Installation angles
- ▶ A variety of bird and insect screens
- ▶ Selection of finishes: prime coat, 50% PVDF (modified fluoropolymer), epoxy, Pearledize, 70% PVDF, clear and color anodize. (Some variation in anodize color consistency is possible).

NOTE:

1. Dimensions in inches, parenthesis () indicate millimeters.
2. *Units furnished 1/4" (6) smaller than given opening dimensions.



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CERTIFIED

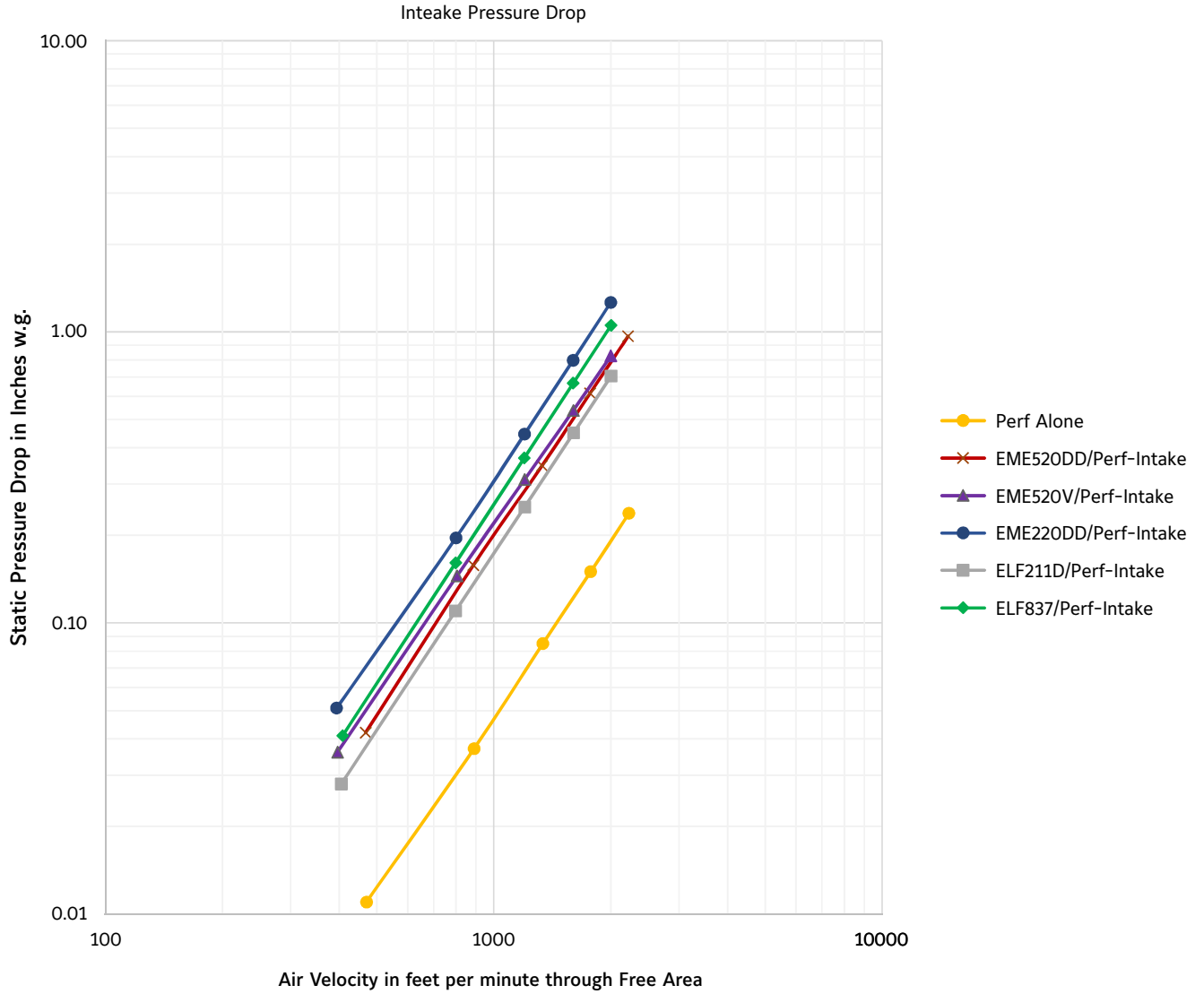


FRAME CONSTRUCTION



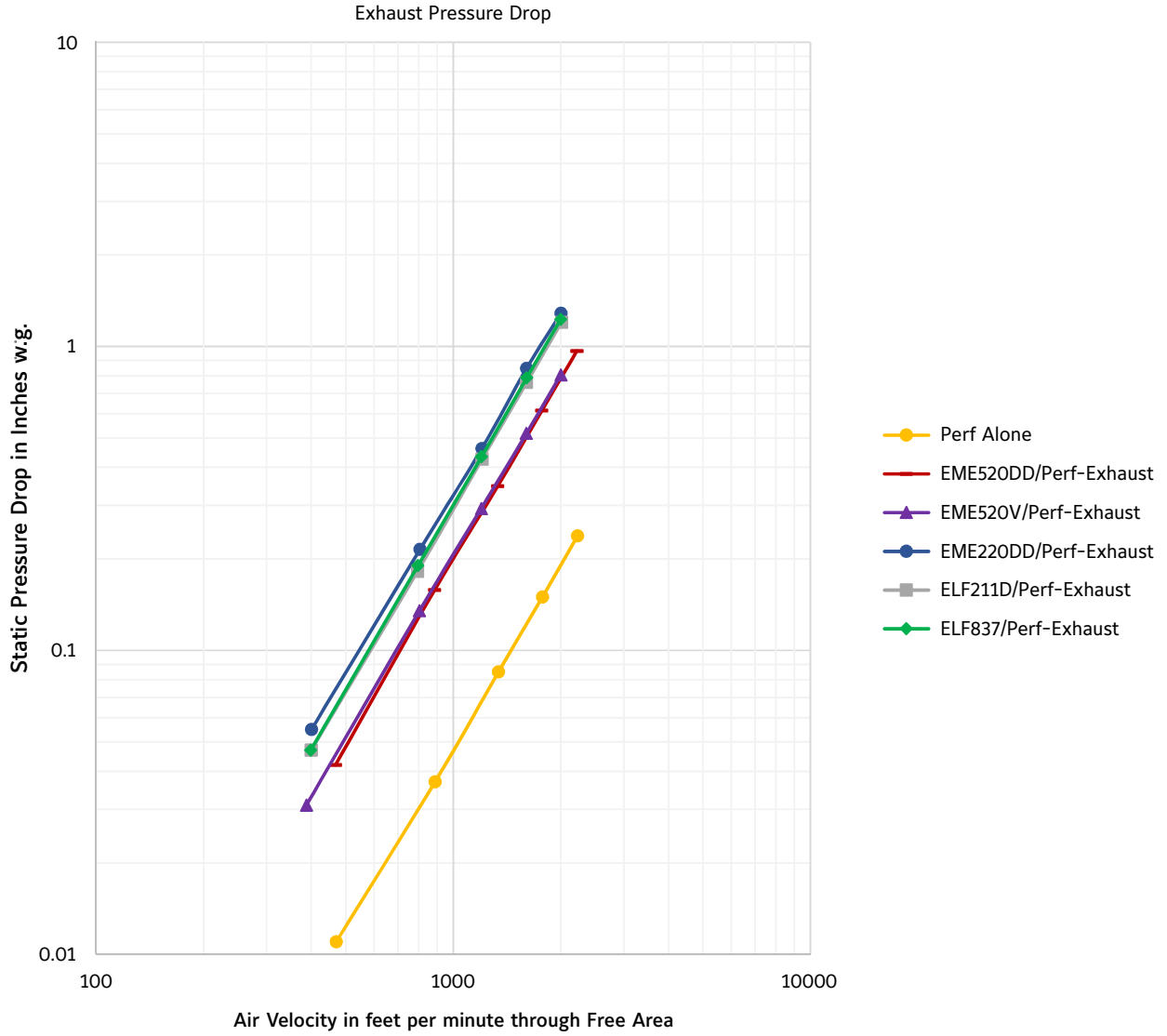
PRESSURE DROP WITH PERFORATED FRONT

Pressure Drop testing performed on 48" x 48" (1219 x 1219) unit.



PRESSURE DROP WITH PERFORATED FRONT

Pressure Drop testing performed on 48" x 48" (1219 x 1219) unit.



FREE AREA GUIDE

Free Area Guide shows free area in ft² and m² for various sizes of EME520V. Width – Inches and 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	0.11 0.01	0.24 0.02	0.37 0.03	0.50 0.05	0.63 0.06	0.76 0.07	0.83 0.08	1.02 0.09	1.11 0.10	1.24 0.12	1.37 0.13	1.50 0.14	1.63 0.15	1.76 0.16	1.89 0.18	2.02 0.19	2.15 0.20	2.28 0.21	2.41 0.22
18 0.46	0.26 0.02	0.56 0.05	0.87 0.08	1.17 0.11	1.47 0.14	1.78 0.17	2.08 0.19	2.38 0.22	2.58 0.24	2.89 0.27	3.19 0.30	3.49 0.33	3.80 0.35	4.10 0.38	4.40 0.41	4.71 0.44	5.01 0.47	5.31 0.49	5.62 0.52
24 0.61	0.37 0.03	0.80 0.07	1.24 0.12	1.67 0.16	2.10 0.20	2.54 0.24	2.97 0.28	3.40 0.32	3.69 0.34	4.13 0.38	4.56 0.42	4.99 0.46	5.43 0.50	5.86 0.54	6.29 0.59	6.73 0.63	7.16 0.67	7.59 0.71	8.03 0.75
30 0.76	0.48 0.04	1.04 0.10	1.61 0.15	2.17 0.20	2.73 0.25	3.30 0.31	3.86 0.36	4.42 0.41	4.80 0.45	5.36 0.50	5.93 0.55	6.49 0.60	7.05 0.66	7.62 0.71	8.18 0.76	8.74 0.81	9.31 0.87	9.87 0.92	10.43 0.97
36 0.91	0.59 0.06	1.29 0.12	1.98 0.18	2.67 0.25	3.37 0.31	4.06 0.38	4.75 0.44	5.45 0.51	5.91 0.55	6.60 0.61	7.29 0.68	7.99 0.74	8.68 0.81	9.37 0.87	10.07 0.94	10.76 1.00	11.45 1.07	12.15 1.13	12.84 1.19
42 1.07	0.70 0.07	1.53 0.14	2.35 0.22	3.17 0.30	4.00 0.37	4.82 0.45	5.64 0.52	6.47 0.60	7.02 0.65	7.84 0.73	8.66 0.81	9.49 0.88	10.31 0.96	11.13 1.04	11.96 1.11	12.78 1.19	13.60 1.27	14.43 1.34	15.25 1.42
48 1.22	0.85 0.08	1.85 0.17	2.84 0.26	3.84 0.36	4.84 0.45	5.83 0.54	6.83 0.64	7.83 0.73	8.49 0.79	9.49 0.88	10.49 0.98	11.48 1.07	12.48 1.16	13.48 1.25	14.47 1.35	15.47 1.44	16.47 1.53	17.46 1.62	18.46 1.72

FREE AREA GUIDE

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

	6	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	102	108	114	120
	0.15	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
6 0.15	0.04 0.00	0.11 0.01	0.18 0.02	0.25 0.03	0.32 0.04	0.39 0.04	0.46 0.04	0.53 0.05	0.60 0.06	0.67 0.07	0.74 0.08	0.82 0.08	0.89 0.09	0.96 0.10	1.03 0.10	1.10 0.11	1.17 0.11	1.24 0.12	1.31 0.12	1.38 0.13
12 0.30	0.10 0.01	0.28 0.03	0.46 0.04	0.64 0.06	0.82 0.08	1.00 0.09	1.18 0.11	1.36 0.13	1.54 0.14	1.72 0.16	1.90 0.18	2.08 0.19	2.26 0.21	2.44 0.23	2.62 0.24	2.80 0.26	2.98 0.28	3.16 0.29	3.34 0.31	3.52 0.33
18 0.46	0.17 0.02	0.48 0.04	0.78 0.07	1.09 0.10	1.40 0.13	1.71 0.16	2.01 0.19	2.32 0.22	2.63 0.24	2.94 0.27	3.24 0.30	3.55 0.33	3.86 0.36	4.17 0.39	4.47 0.42	4.78 0.44	5.09 0.47	5.40 0.50	5.70 0.53	6.01 0.56
24 0.61	0.24 0.02	0.67 0.06	1.11 0.10	1.54 0.14	1.98 0.18	2.41 0.22	2.85 0.26	3.28 0.31	3.72 0.35	4.15 0.39	4.59 0.43	5.02 0.47	5.45 0.51	5.89 0.55	6.32 0.59	6.76 0.63	7.19 0.67	7.63 0.71	8.06 0.75	8.50 0.79
30 0.76	0.30 0.03	0.84 0.08	1.39 0.13	1.93 0.18	2.48 0.23	3.02 0.28	3.56 0.33	4.11 0.38	4.65 0.43	5.20 0.48	5.74 0.53	6.29 0.58	6.83 0.64	7.37 0.69	7.92 0.74	8.46 0.79	9.01 0.84	9.55 0.89	10.10 0.94	10.64 0.99
36 0.91	0.37 0.03	1.04 0.10	1.71 0.16	2.38 0.22	3.05 0.28	3.73 0.35	4.40 0.41	5.07 0.47	5.74 0.53	6.41 0.60	7.08 0.66	7.76 0.72	8.43 0.78	9.10 0.85	9.77 0.91	10.44 0.97	11.11 1.03	11.78 1.10	12.46 1.16	13.13 1.22
42 1.07	0.43 0.02	1.21 0.05	1.99 0.08	2.77 0.11	3.55 0.14	4.33 0.17	5.12 0.20	5.90 0.23	6.68 0.26	7.46 0.29	8.24 0.32	9.02 0.36	9.80 0.39	10.58 0.42	11.37 0.45	12.15 0.48	12.93 0.51	13.71 0.54	14.49 0.57	15.27 0.60
48 1.22	0.50 0.05	1.41 0.13	2.31 0.22	3.22 0.30	4.13 0.38	5.04 0.47	5.95 0.55	6.86 0.64	7.77 0.72	8.67 0.81	9.58 0.89	10.49 0.98	11.40 1.06	12.31 1.14	13.22 1.23	14.12 1.31	15.03 1.40	15.94 1.48	16.85 1.57	17.76 1.65

FREE AREA GUIDE

Free Area Guide shows free area in ft² and m² for various sizes of EME520DD. Width – Inches and 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	0.10 0.01	0.16 0.01	0.22 0.02	0.28 0.03	0.34 0.03	0.40 0.04	0.45 0.04	0.51 0.05	0.57 0.05	0.63 0.06	0.69 0.06	0.75 0.07	0.81 0.08	0.87 0.08	0.93 0.09	0.99 0.09	1.05 0.10	1.11 0.10	1.17 0.11
18 0.46	0.34 0.03	0.55 0.05	0.76 0.07	0.96 0.09	1.17 0.11	1.38 0.13	1.58 0.15	1.79 0.17	1.99 0.19	2.20 0.20	2.41 0.22	2.61 0.24	2.82 0.26	3.03 0.28	3.23 0.30	3.44 0.32	3.64 0.34	3.85 0.36	4.06 0.38
24 0.61	0.59 0.05	0.94 0.09	1.30 0.12	1.65 0.15	2.00 0.19	2.35 0.22	2.71 0.25	3.06 0.28	3.41 0.32	3.77 0.35	4.12 0.38	4.47 0.42	4.83 0.45	5.18 0.48	5.53 0.51	5.89 0.55	6.24 0.58	6.59 0.61	6.95 0.65
30 0.76	0.92 0.09	1.46 0.14	2.01 0.19	2.56 0.24	3.11 0.29	3.66 0.34	4.21 0.39	4.76 0.44	5.31 0.49	5.86 0.54	6.41 0.60	6.96 0.65	7.50 0.70	8.05 0.75	8.60 0.80	9.15 0.85	9.70 0.90	10.25 0.95	10.80 1.00
36 0.91	1.16 0.11	1.86 0.17	2.55 0.24	3.25 0.30	3.94 0.37	4.64 0.43	5.34 0.50	6.03 0.56	6.73 0.63	7.42 0.69	8.12 0.76	8.82 0.82	9.51 0.88	10.21 0.95	10.91 1.01	11.60 1.08	12.30 1.14	12.99 1.21	13.69 1.27
42 1.07	1.41 0.13	2.25 0.21	3.09 0.29	3.93 0.37	4.78 0.44	5.62 0.52	6.46 0.60	7.31 0.68	8.15 0.76	8.99 0.84	9.84 0.91	10.68 0.99	11.52 1.07	12.36 1.15	13.21 1.23	14.05 1.31	14.89 1.39	15.74 1.46	16.58 1.54
48 1.22	1.65 0.15	2.64 0.25	3.63 0.34	4.62 0.43	5.61 0.52	6.60 0.61	7.59 0.71	8.58 0.80	9.57 0.89	10.56 0.98	11.55 1.07	12.54 1.17	13.53 1.26	14.52 1.35	15.51 1.44	16.50 1.53	17.49 1.63	18.48 1.72	19.47 1.81
54 1.37	1.89 0.18	3.03 0.28	4.17 0.39	5.31 0.49	6.44 0.60	7.58 0.70	8.72 0.81	9.85 0.92	10.99 1.02	12.13 1.13	13.26 1.23	14.40 1.34	15.54 1.45	16.67 1.55	17.81 1.66	18.95 1.76	20.09 1.87	21.22 1.97	22.36 2.08

FREE AREA GUIDE

Free Area Guide shows free area in ft² and m² for various sizes of ELF211D. Width – Inches and 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	0.47	0.65	0.82	0.99	1.16	1.33	1.51	1.68	0.85	2.02	2.19	2.37	2.54	2.71	2.88	3.05	3.23	3.40
0.30	0.03	0.04	0.06	0.08	0.09	0.11	0.12	0.14	0.16	0.17	0.19	0.20	0.22	0.24	0.25	0.27	0.28	0.30	0.32
18	0.53	0.84	1.14	1.45	1.75	2.05	2.36	2.66	2.97	3.27	3.58	3.88	4.18	4.49	4.79	5.10	5.40	5.71	6.01
0.46	0.05	0.08	0.11	0.13	0.16	0.19	0.22	0.25	0.28	0.30	0.33	0.36	0.39	0.42	0.45	0.47	0.50	0.53	0.56
24	0.66	1.04	1.42	1.79	2.17	2.55	2.93	3.31	3.68	4.06	4.44	4.82	5.19	5.57	5.95	6.33	6.71	7.08	7.46
0.61	0.06	0.10	0.13	0.17	0.20	0.24	0.27	0.31	0.34	0.38	0.41	0.45	0.48	0.52	0.55	0.59	0.62	0.66	0.69
30	0.89	1.40	1.91	2.42	2.93	3.44	3.95	4.46	4.97	5.48	5.99	6.50	7.01	7.52	8.03	8.54	9.05	9.56	10.07
0.76	0.08	0.13	0.18	0.23	0.27	0.32	0.37	0.42	0.46	0.51	0.56	0.60	0.65	0.70	0.75	0.79	0.84	0.89	0.94
36	1.02	1.60	2.19	2.77	3.36	3.94	4.52	5.11	5.69	6.27	6.86	7.44	8.02	8.61	9.19	9.77	10.36	10.94	11.52
0.91	0.09	0.15	0.20	0.26	0.31	0.37	0.42	0.47	0.53	0.58	0.64	0.69	0.75	0.80	0.85	0.91	0.96	1.02	1.07
42	1.25	1.97	2.68	3.40	4.12	4.83	5.55	6.26	6.98	7.70	8.41	9.13	9.84	10.56	11.27	11.99	12.71	13.42	14.14
1.07	0.12	0.18	0.25	0.32	0.38	0.45	0.52	0.58	0.65	0.72	0.78	0.85	0.92	0.98	1.05	1.12	1.18	1.25	1.31
48	1.38	2.17	2.96	3.75	4.54	5.33	6.12	6.91	7.70	8.48	9.27	10.06	10.85	11.64	12.43	13.22	14.01	14.80	15.59
1.22	0.13	0.20	0.28	0.35	0.42	0.50	0.57	0.64	0.72	0.79	0.86	0.94	1.01	1.08	1.16	1.23	1.30	1.38	1.45

FREE AREA GUIDE

Free Area Guide shows free area in ft² and m² for various sizes of ELF837. Width – Inches and 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	0.34	0.54	0.74	0.95	1.15	1.35	1.56	1.76	1.96	2.16	2.37	2.57	2.77	2.98	3.18	3.38	3.58	3.79	3.99
0.30	0.03	0.05	0.07	0.09	0.11	0.13	0.14	0.16	0.18	0.20	0.22	0.24	0.26	0.28	0.30	0.31	0.33	0.35	0.37
18	0.61	0.97	1.34	1.70	2.06	2.43	2.79	3.16	3.52	3.89	4.25	4.62	4.98	5.34	5.71	6.07	6.44	6.80	7.17
0.46	0.06	0.09	0.12	0.16	0.19	0.23	0.26	0.29	0.33	0.36	0.40	0.43	0.46	0.50	0.53	0.56	0.60	0.63	0.67
24	0.79	1.27	1.75	2.22	2.70	3.18	3.65	4.13	4.61	5.08	5.56	6.04	6.51	6.99	7.47	7.94	8.42	8.90	9.37
0.61	0.07	0.12	0.16	0.21	0.25	0.30	0.34	0.38	0.43	0.47	0.52	0.56	0.61	0.65	0.69	0.74	0.78	0.83	0.87
30	1.06	1.70	2.34	2.98	3.62	4.25	4.89	5.53	6.17	6.81	7.44	8.08	8.72	9.36	10.00	10.63	11.27	11.91	12.55
0.76	0.10	0.16	0.22	0.28	0.34	0.40	0.45	0.51	0.57	0.63	0.69	0.75	0.81	0.87	0.93	0.99	1.05	1.11	1.17
36	1.33	2.13	2.93	3.73	4.53	5.33	6.13	6.93	7.73	8.53	9.33	10.13	10.93	11.73	12.53	13.33	14.12	14.92	15.72
0.91	0.12	0.20	0.27	0.35	0.42	0.50	0.57	0.64	0.72	0.79	0.87	0.94	1.02	1.09	1.16	1.24	1.31	1.39	1.46
42	1.60	2.56	3.52	4.48	5.45	6.41	7.37	8.33	9.29	10.25	11.21	12.17	13.13	14.09	15.06	16.02	16.98	17.94	18.90
1.07	0.15	0.24	0.33	0.42	0.51	0.60	0.69	0.77	0.86	0.95	1.04	1.13	1.22	1.31	1.40	1.49	1.58	1.67	1.76
48	1.79	2.86	3.93	5.01	6.08	7.15	8.23	9.30	10.37	11.45	12.52	13.59	14.67	15.74	16.81	17.89	18.96	20.03	21.11
1.22	0.17	0.27	0.37	0.47	0.57	0.67	0.77	0.86	0.96	1.06	1.16	1.26	1.36	1.46	1.56	1.66	1.76	1.86	1.96

WIND-DRIVEN RAIN PERFORMANCE AND PENETRATION WITH PERFORATED FRONT

Test size is 1m x 1m (39" x 39") core area.

29 MPH (47 kPH) WIND AND 3" (76) PER HOUR RAIN CONDITIONS

EME520V (29mph/3"/hr)												
FAV										787	886	984
m/s	0	0.5	1	1.5	2	2.5	3	3.5	4	4.5	5	
%	100	100	100	100	100	100	100	100	100	99.9	99.6	
Class	A	A	A	A	A	A	A	A	A	A	A	A

EME220DD (29mph/3"/hr)												
FAV					394	492						
m/s	0	0.5	1	1.5	2	2.5	3	3.5	4	4.5	5	
%	100	100	100	100	99.7	99.1						
Class	A	A	A	A	A	A						

EME520DD (29mph/3"/hr)												
FAV	0	226	389	583	778	972	1167	1361				
m/s	0	0.5	1	1.5	2	2.5	3	3.5	4	4.5	5	
%	99.9	99.9	99.9	99.9	99.9	99.9	99.8	99.7				
Class	A	A	A	A	A	A	A	A				

50 MPH (80 kPH) WIND & 8" (203) PER HOUR RAIN CONDITIONS

EME520V (50mph/8"/hr)												
FAV										787	886	984
m/s	0	0.5	1	1.5	2	2.5	3	3.5	4	4.5	5	
%	100	100	100	100	100	100	100	100	100	99.9	99.5	
Class	A	A	A	A	A	A	A	A	A	A	A	A

EME220DD (50mph/8"/hr)												
FAV					394							
m/s	0	0.5	1	1.5	2	2.5	3	3.5	4	4.5	5	
%	100	100	100	100	99.2							
Class	A	A	A	A	A							

EME520DD (50mph/8"/hr)											Beginning Point of Water			
FAV	0	226	389	583	778								EME520V	1017FPM
m/s	0	0.5	1	1.5	2	2.5	3	3.5	4	4.5	5		EME520DD	1244FPM
%	99.4	99.3	99.2	99.9	99.9								EME220DD	1173FPM
Class	A	A	A	A	A								ELF211D	1197FPM
													ELF837	828FPM

NOTE:

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

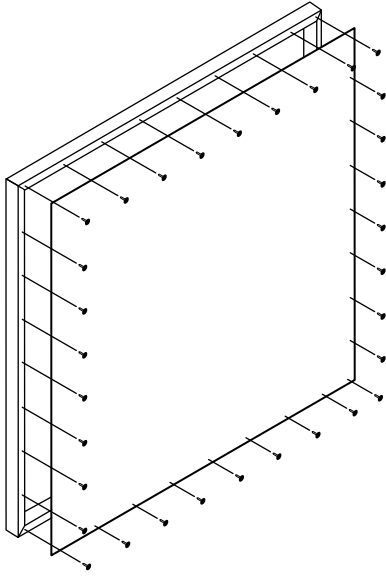
Class	Effectiveness
A	1 to .99
B	0.989 to 0.95
C	0.949 to 0.80
D	Below 0.8
- Intake Discharge Loss Class 2
Discharge Loss Coefficient is calculated by dividing a louvers' actual airflow rate vs. a theoretical airflow for the opening. It provides an indication of the louvers' airflow characteristics.

Discharge Loss Classes:

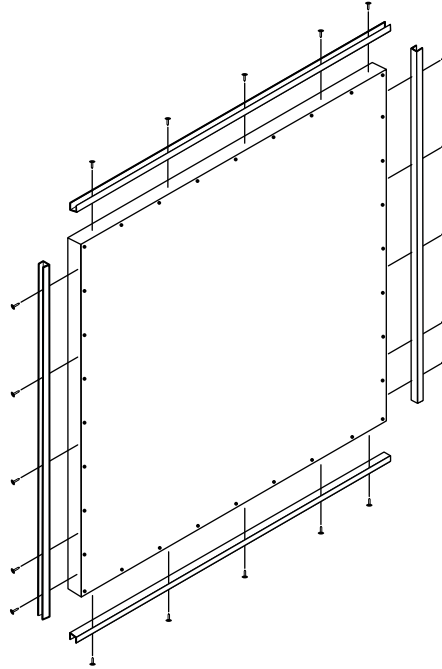
Class	Discharge Loss Coefficient
1	0.4 and above
2	0.3 to 0.399
3	0.2 to 0.299
4	0.199 and below

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

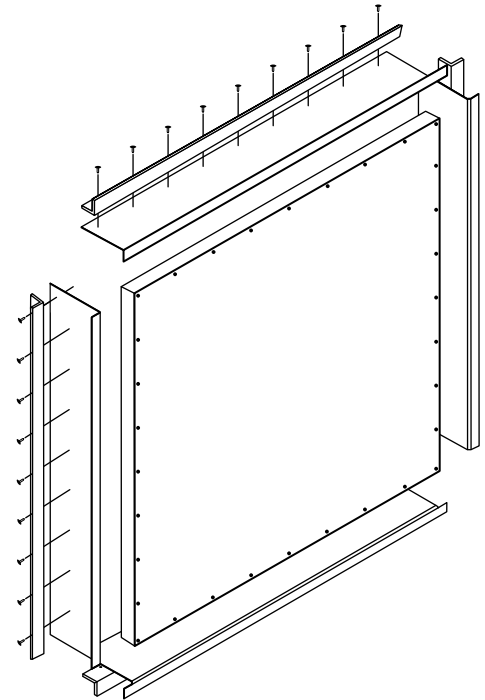
- The Wind Driven Rain Test is performed in a laboratory environment and incorporates controlled wind, water and system airflow effects. In actual field installations, storms may create conditions not considered by the WDR test. These applications can create elevated water penetration rates through any louver. Because of these uncontrolled situations, it is recommended that provisions to manage water penetration through louvers be included in the building design.



Exploded view of Perforated panel



Exploded view of perforated panel with glazing frame



Exploded view of perforated panel with universal sleeve

i LINKS TO IMPORTANT DOCUMENTS

Document Title

Paint Finishes and Color Guide

Limited Warranty Document



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