



EXTRUDED ALUMINUM STATIONARY HYBRID LOUVER
HIGH VELOCITY WIND-DRIVEN RAIN AND IMPACT RESISTANT
9" (229) DEEP • HORIZONTAL AND VERTICAL BLADE
MODEL: DEM-09

QUALIFICATIONS:

- AMCA 500-L (Wind-Driven Rain, Water Penetration, Air Performance).
- AMCA 540 (Wind-Borne Debris Impact Test [Enhanced "Level E" Protection]).
- AMCA 550 (High Velocity Wind-Driven Rain Resistance Test).
- Wind load rating ± 70 PSF.

STANDARD CONSTRUCTION:

- FRAME:** **Front:** 4" (102) deep, Type 6063-T6 extruded aluminum, .080" (2.03) nominal wall thickness. Integral caulking slot provided.
Rear: 5" (127) deep, Type 6063-T6 extruded aluminum, .080" (2.03) nominal wall thickness. Integral downspouts provided.
- BLADES:** **Front:** Horizontal Type 6063-T6 extruded aluminum, .080" (2.03) nominal wall thickness, with reinforcing bosses. J style. Fixed at 37 degrees.
Rear: Vertical Type 6063-T6 extruded aluminum, .060" (1.52) nominal wall thickness, with reinforcing bosses.
- BLADE SPACING:** **Front:** Approximately 4" (102) on centers.
Rear: Approximately 1 1/2" (38) on centers.
- BLADE SUPPORT** **Front:** Concealed type, factory installed on rear of louver on maximum 60" (1524) centers.
Rear: 2.5" (64) strap every 60" (1524) or less in height.
- SCREEN:** 3/4" x .050 (19 x 1.3) expanded, flattened aluminum bird screen in removable frame, inside (rear) mount (adds approximately 3/8" [10] to louver depth).
- SILL PAN:** Aluminum sill pan with end dams. (louver width undersized an additional 1/4" (6) to accommodate sill pan).
- FINISH:** Mill.
- MINIMUM SIZE:** 12" W x 12" H (305 x 305).
- MAX. SINGLE SECTION SIZE:** 60" W x 120" H (1524 x 3048). 50 sq. ft. (4.6 m²). Larger louvers will require field assembly of smaller sections.
- MAXIMUM SIZE:** Unlimited Width x 120" H (3048).

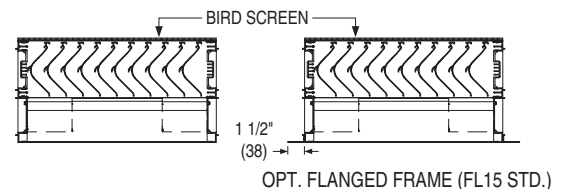
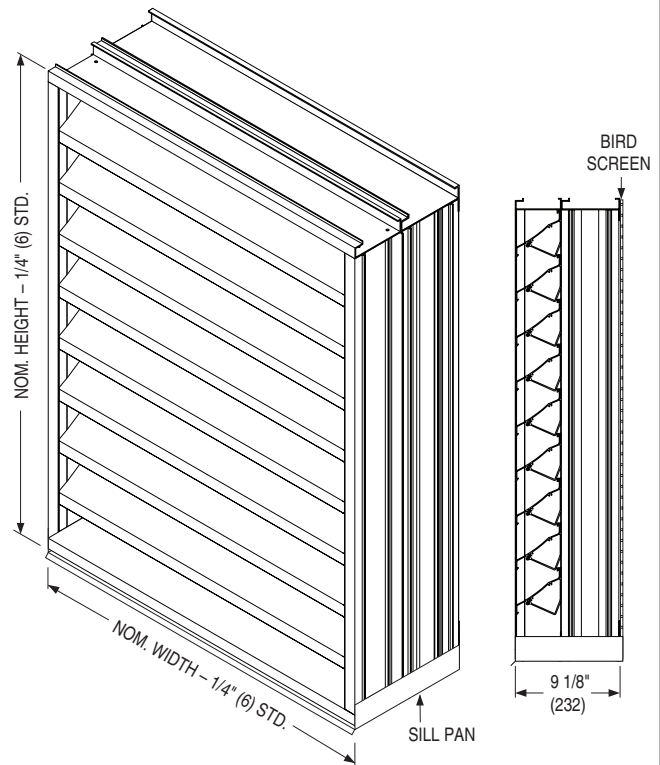
OPTIONS:

- ☐ **BSSS** Type 304 S.S. Bird Screen.
- ☐ **BSN** No Bird Screen.
- ☐ **ISSS** Type 304 S.S. Insect Screen.
- ☐ **ISA** Aluminum Insect Screen.
- ☐ **FL15** Flanged Frame, 1 1/2" (38).
- ☐ **FL20** Flanged Frame, 2" (51).
- ☐ **PAAA** Perimeter Anchor Angles (Aluminum, Continuous).
- ☐ Other: _____.

OPTIONAL FINISHES:

- ☐ **PC3** Powder Coat AAMA 2603. Color: _____.
- ☐ **PC4** High Performance Powder Coat AAMA 2604 (Equivalent to 50% Kynar®). Color: _____.
- ☐ **PC5** Fluoropolymer Powder Coat AAMA 2605 (Equivalent to 70% Kynar®). Color: _____.
- ☐ **PCC** Prime Coat.
- ☐ **AN04** Clear Anodized 204-R1.
- ☐ **AN15** Clear Anodized 215-R1.

- ☐ **ANLB** Light Bronze.
- ☐ **ANMB** Medium Bronze.
- ☐ **ANDB** Dark Bronze.
- ☐ **ANBK** Black.



SCHEDULE TYPE:

PROJECT:

ENGINEER:

CONTRACTOR:

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Dimensions are in inches (mm).

DATE	B SERIES	SUPERSEDES	DRAWING NO.
1 - 29 - 26	1600M	3 - 14 - 23	DEM-09



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FREE AREA in Square Feet and Square Meters

		Width in Inches and Meters								
		12	18	24	30	36	42	48	54	60
Height in Inches and Meters	12	0.21	0.39	0.56	0.73	0.90	1.07	1.24	1.41	1.58
	0.30	0.02	0.04	0.05	0.07	0.08	0.10	0.12	0.13	0.15
	18	0.42	0.76	1.10	1.44	1.78	2.12	2.46	2.80	3.13
	0.46	0.04	0.07	0.10	0.13	0.17	0.20	0.23	0.26	0.29
	24	0.63	1.14	1.65	2.15	2.66	3.17	3.67	4.18	4.69
	0.61	0.06	0.11	0.15	0.20	0.25	0.29	0.34	0.39	0.44
	30	0.84	1.52	2.19	2.87	3.54	4.21	4.89	5.56	6.24
	0.76	0.08	0.14	0.20	0.27	0.33	0.39	0.45	0.52	0.58
	36	1.05	1.89	2.74	3.58	4.42	5.26	6.10	6.95	7.79
	0.36	0.10	0.18	0.25	0.33	0.41	0.49	0.57	0.65	0.72
	42	1.26	2.27	3.28	4.29	5.30	6.31	7.32	8.33	9.34
	1.07	0.12	0.21	0.30	0.40	0.49	0.59	0.68	0.77	0.87
	48	1.47	2.65	3.83	5.00	6.18	7.36	8.53	9.71	10.89
	1.22	0.14	0.25	0.36	0.46	0.57	0.68	0.79	0.90	1.01
	54	1.68	3.03	4.37	5.72	7.06	8.41	9.75	11.09	12.44
	1.37	0.16	0.28	0.41	0.53	0.66	0.78	0.91	1.03	1.16
	60	1.89	3.40	4.92	6.43	7.94	9.45	10.97	12.48	13.99
	1.52	0.18	0.32	0.46	0.60	0.74	0.88	1.02	1.16	1.30
	66	2.10	3.78	5.46	7.14	8.82	10.50	12.18	13.86	15.54
	1.68	0.20	0.35	0.51	0.66	0.82	0.98	1.13	1.29	1.44
	72	2.31	4.16	6.01	7.85	9.70	11.55	13.40	15.24	17.09
	1.83	0.21	0.39	0.56	0.73	0.90	1.07	1.24	1.42	1.59
	78	2.52	4.53	6.55	8.57	10.58	12.60	14.61	16.63	18.64
	1.98	0.23	0.42	0.61	0.80	0.98	1.17	1.36	1.54	1.73
	84	2.73	4.91	7.10	9.28	11.46	13.64	15.83	18.01	20.19
	2.13	0.25	0.46	0.66	0.86	1.06	1.27	1.47	1.67	1.88
	90	2.94	5.29	7.64	9.99	12.34	14.69	17.04	19.39	21.75
	2.29	0.27	0.49	0.71	0.93	1.15	1.36	1.58	1.80	2.02
	96	3.15	5.67	8.19	10.70	13.22	15.74	18.26	20.78	23.30
	2.44	0.29	0.53	0.76	0.99	1.23	1.46	1.70	1.93	2.16
	102	3.36	6.04	8.73	11.42	14.10	16.79	19.47	22.16	24.85
	2.59	0.31	0.56	0.81	1.06	1.31	1.56	1.81	2.06	2.31
	108	3.57	6.42	9.27	12.13	14.98	17.84	20.69	23.54	26.40
	2.74	0.33	0.60	0.86	1.13	1.39	1.66	1.92	2.19	2.45
	114	3.78	6.80	9.82	12.84	15.86	18.88	21.91	24.93	27.95
	2.90	0.35	0.63	0.91	1.19	1.47	1.75	2.04	2.32	2.60
	120	3.99	7.18	10.36	13.55	16.74	19.93	23.12	26.31	29.50
	3.05	0.37	0.67	0.96	1.26	1.56	1.85	2.15	2.44	2.74



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AIRFLOW/WATER PENETRATION DATA
for 48" x 48" (1219 x 1219) Louver Size

Free Area %	53%
Free Area sq. ft. (sq. m.)	8.53 (0.79)
Free Area Velocity at Point of Beginning Water Penetration at .01 oz./sq. ft. (3 ml/sq. m) (15 min. test duration)	1011 fpm (308 m/min.)
Air Volume at 1011 fpm	8,624 cfm (4070 l/s)
Free Area Velocity	
Pressure Drop @ 1011 fpm	.34 in. w.g. (85 Pa)

NOTE: To minimize water penetration when sizing intake louvers, select a Free Area Velocity that is **below** the beginning point of water penetration.

WIND DRIVEN RAIN PERFORMANCE

Core Ventilation	0	99	198	297	393	494	590	690	789	889	985
Rate in fpm (m/s)	(0.00)	(0.50)	(1.01)	(1.51)	(2.00)	(2.51)	(3.00)	(3.51)	(4.01)	(4.52)	(5.00)
Free Area Ventilation	0	187	374	560	742	932	1113	1302	1489	1677	1858
Rate in fpm (m/s)	(0.00)	(0.95)	(1.90)	(2.84)	(3.77)	(4.73)	(5.65)	(6.61)	(7.56)	(8.52)	(9.44)
Effectiveness Ratio (%)	100	100	100	100	100	100	100	100	100	100	99.9
Penetration Class	A	A	A	A	A	A	A	A	A	A	A

Test was based on a 39.375" x 39.375" (1.0 m x 1.0 m) core area louver tested at a rainfall rate of 3" per hour (76 mm/hour) with a wind velocity of **29 mph (13 m/s)**.

Core Ventilation	0	96	197	288	396	482	593	691	793	894	988
Rate in fpm (m/s)	(0.00)	(0.49)	(1.00)	(1.46)	(2.01)	(2.45)	(3.01)	(3.51)	(4.03)	(4.54)	(5.02)
Free Area Ventilation	0	181	372	543	747	909	1119	1304	1496	1687	1864
Rate in fpm (m/s)	(0.00)	(0.92)	(1.89)	(2.76)	(3.79)	(4.62)	(5.68)	(6.62)	(7.60)	(8.57)	(9.47)
Effectiveness Ratio (%)	100	100	100	100	100	100	99.8	99.6	99.1	98.5	97.9
Penetration Class	A	A	A	A	A	A	A	A	A	B	B

Test was based on a 39.375" x 39.375" (1.0 m x 1.0 m) core area louver tested at a rainfall rate of 8" per hour (203 mm/hour) with a wind velocity of **50 mph (22 m/s)**.

Wind Driven Rain Penetration Classes	
Class	Effectiveness
A	1 to 0.99
B	0.989 to .95
C	0.949 to .80
D	Below 0.80

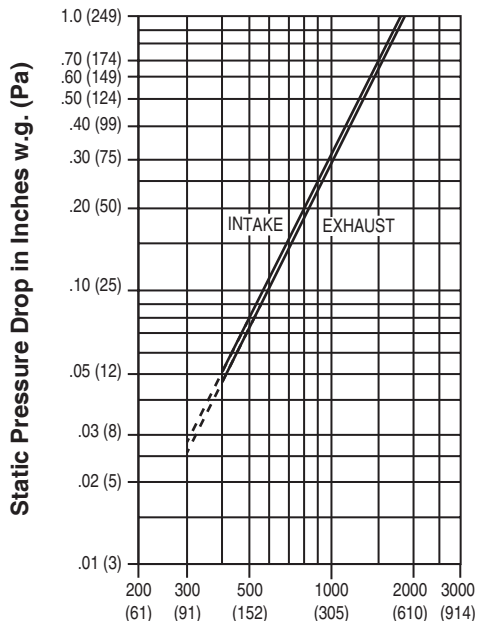


Safe-Air certifies that the Model DEM-09 shown herein is licensed to bear the AMCA Certified Ratings Program seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 511 and comply with the requirements of the AMCA Certified Ratings Program. The AMCA Certified Ratings Program seal applies to Water Penetration, Wind Driven Rain, and Air Performance ratings.

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



PRESSURE DROP



Air Velocity in Feet (Meters) Per Minute
Through Free Area

Louver test size: 48" x 48" (1219 x 1219 mm).

Standard air density @ 0.075 lbs/ft³.

Tested to AMCA Fig. 5.5 – 6.5.



HIGH VELOCITY RAIN
RESISTANT WITH BLADES
FULLY OPEN AND
IMPACT RESISTANT LOUVER
Enhanced Protection Level E

See www.AMCA.org for all certified or listed products

This label does not signify
AMCA airflow performance
certification.

Safe-Air certifies that the DEM-09 shown herein is approved to bear the AMCA International Listing Label. The ratings shown are based on tests and procedures performed in accordance with AMCA publications and comply with the requirements of the AMCA International Listing Label program. The AMCA International Listing Label applies to pressure cycle tested wind borne debris impact resistant louvers rated for 'Enhanced Protection' and +/- 70PSF with a minimum blade span of 12 in. (305mm) and a maximum unsupported blade span of 59 in. (1499 mm) and to High Velocity Wind-Driven Rain Resistant Louvers tested in the fully open position that permits airflow through a louver.

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