

Storm Resistant Drainable Blade Louver in 8" thick design Model DEM-08

Design Features – High performance patented horizontal dual blade design with multiple functions such as: weather protection, sight-proof and wind-driven rain resistant design. Test modeled after HEVAC and BSRIA.

STANDARD CONSTRUCTION

ALL MATERIAL – EXTRUDED ALUMINUM Alloy (6063-T5), (6063-T6) or (6061-T6)

FRAME

DEM-08 – 8" deep, .081" wall thickness
extruded aluminum in style #3.

BLADES

DEM-08 – 8" deep, .081" wall thickness extruded
aluminum, spaced approx. 2-3/4" on centers

FASTENERS

Stainless steel screws

MAXIMUM SIZE

Unlimited, with mullions, structural bracing supplied by others

MAXIMUM FACTORY ASSEMBLY SIZE

120" w x 84" h" or 84" w x 120" h
(Type of finish may limit maximum single section)

MULLION

Visible

MINIMUM SIZE

12" x 12"

UNDERSIZED

1/4" under ordered size unless specified Exact or Actual

SCREEN

3/4" x .051" flattened expanded aluminum bird
screen in extruded aluminum frame.

FINISH

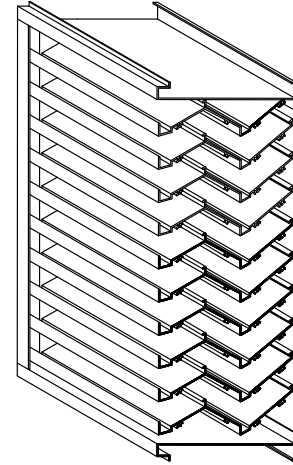
Mill

OPTIONAL CONSTRUCTION

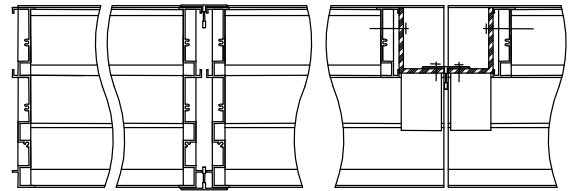
SCREEN - Many styles available please consult screen listing

FINISH – Air-dry primer, polyurethane, epoxy, or enamel, baked epoxy or
enamel, Kynar, or Powder coat.

MULLION – Invisible for architectural preference



ISOMETRIC VIEW



Visible Mullion

Invisible Mullion

HORIZONTAL SECTION

SPECIAL PURPOSE CONSTRUCTION

Special shapes: Triangle, Round, Trapezoid, etc.
Fully welded construction
Security bars
Filter racks

AIR PERFORMANCE

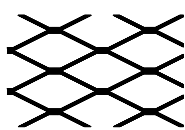
Free Area:
48% - 48 x 48 unit
(1219 x 1219)

Pressure Drop:
0.28" w.g. @ 1000 fpm
(7.11mm wg. @ 5.08 mps)

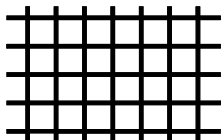
WIND DRIVEN RAIN TEST (AMCA 500 L-99)

Rainfall inch/hour: 3" (76 mm)
Wind Velocity: 30 mph (48.27 kph)
Core Velocity: 690 fpm (210.3 m/min)
Water Flow: 112 gph (424 lph)
Water Penetration: .56 gph (.212 lph)
Efficiency: 99%

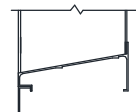
TYPICAL SCREEN STYLES



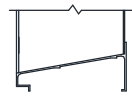
Expanded Aluminum
Standard



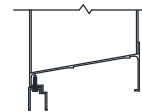
Wire Mesh



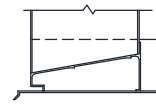
1- Flange (1.5")



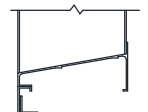
3 - Box



4 - Glazing
Adapter



8- Box with
Sill Extension



9 - Flange
w/ Sub Frame

| | | | | | | |
|---------|-----|-----------|---|-------------|----------|--|
| DATE | | ARCHITECT | | | CUSTOMER | |
| PROJECT | | | | | | |
| ITEM | QTY | W | H | DESCRIPTION | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
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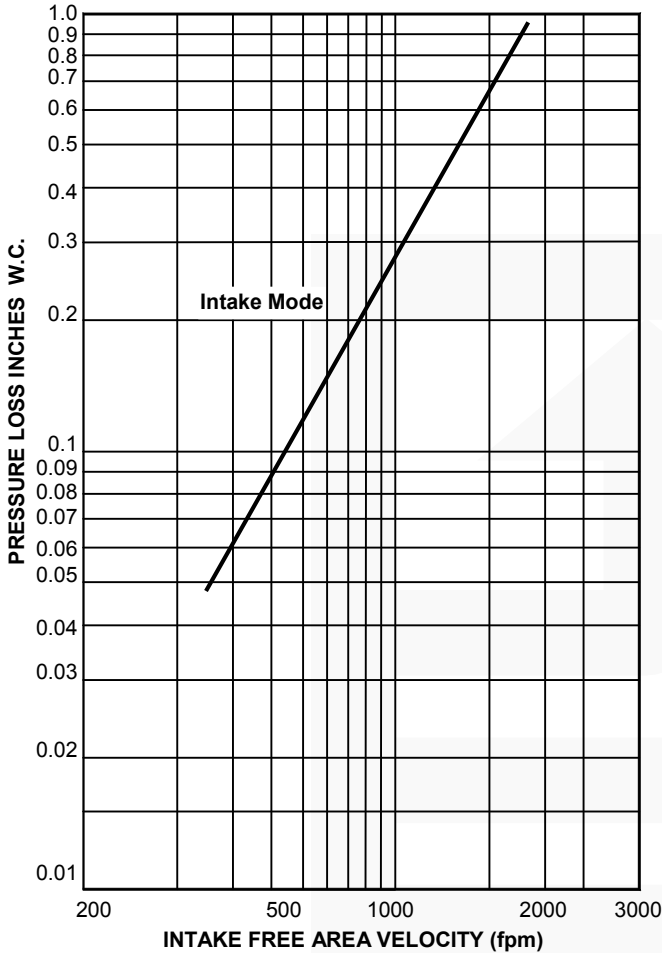
A division of Safe Air of Illinois
DEPENDABLE PRODUCTS SINCE 1955
DOWCO PRODUCTS GROUP

Engineering and General Offices
1855 South 54th Avenue, Cicero, Illinois 60804
Phone 708-652-9100 FAX 708-652-9158

DEM-08 PERFORMANCE SPECIFICATIONS

All tests performed at an independent laboratory and based on AMCA standard 511 – 91 for air performance and water penetration.

AIR PERFORMANCE



CALCULATING PRESSURE LOSS

Based upon a given flow rate (in CFM), the flowing pressure loss may be determined from the "air performance" graph, knowing the sq. ft. of free area of the louver. Alternately, the free area may be determined based upon a volumetric flow rate and a maximum pressure loss utilizing the "air performance" graph.

_____ in. W.C. Max. Pressure Loss Intake or Exhaust

_____ FPM (Free Area Velocity from "Air Performance" Graph)

_____ CFM / _____ FPM Free Area Velocity = _____ Sq. Ft. Free Area

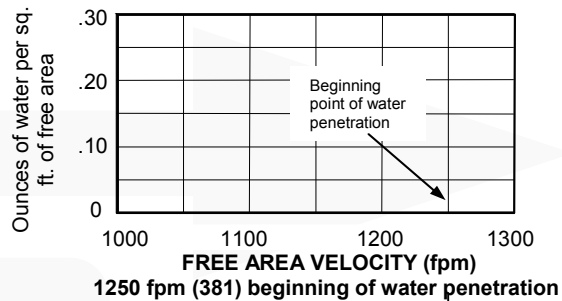
CALCULATING MAXIMUM AIRFLOW BEFORE WATER PENETRATION

The "free area flow rate" at which water penetration commences (.01 oz. of water) is established at 1250 fpm (381) and will vary depending upon actual weather conditions. The "water penetration" graph illustrates the results of actual laboratory test on a 48" x 48" (1219 x 1219) test sample subjected to hypothetical rainfall conditions. To determine the free area (in sq. ft.) based on upon a known volumetric flow rate in CFM;

_____ CFM / _____ FPM = _____ SQ. FT. FREE AREA
(System Requirements)

Water Penetration Graph
in oz. of water per sq. ft. of free area over a 15 min. test period

| | | | | | |
|------|-----|-----|-----|-----|-----------|
| .01 | .02 | .05 | .1 | .2 | .3 (H2O) |
| 1250 | n/a | n/a | n/a | n/a | n/a (fpm) |



This test was produced on a wind velocity of 50 mph (23.3 m/s) directly at the face of the louver, with a rainfall rate of 3" per hour (75 mm/hr). The data illustrates the water penetration effectiveness

WIND DRIVEN PERFORMANCE

| | | | | | | | | | | | |
|-------------------------------------|--------------|-----|------------------|-----|-----|------------------|------|------|--------------|------|------|
| Ventilation Air Velocity (m/s) | 0.0 | 0.5 | 1.0 | 1.5 | 2.0 | 2.5 | 3.0 | 3.5 | 4.0 | 4.5 | 5.0 |
| Core Ventilation Rate (ft/min) | 0 | 101 | 199 | 302 | 398 | 497 | 592 | 683 | 782 | 878 | 983 |
| Free Area Ventilation Rate (ft/min) | 0 | 182 | 357 | 526 | 704 | 883 | 1058 | 1212 | 1382 | 1567 | 1751 |
| Rating Effectiveness | A | A | A | A | A | A | A | A | C | C | C |
| Effectiveness Rating | A = 1 - 0.99 | | B = 0.989 - 0.95 | | | C = 0.949 - 0.80 | | | D = 0.80 - 0 | | |

WIDTH

FREE AREA CALCULATIONS IN SQ. FT.

| | | | | | | | | | | | | | | | | | | | |
|--------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Inches | 12 | 18 | 24 | 30 | 36 | 42 | 48 | 54 | 60 | 66 | 72 | 78 | 84 | 90 | 96 | 102 | 108 | 114 | 120 |
| 12 | 0.24 | 0.38 | 0.53 | 0.67 | 0.81 | 0.96 | 1.10 | 1.25 | 1.39 | 1.53 | 1.68 | 1.82 | 1.96 | 2.11 | 2.25 | 2.40 | 2.54 | 2.68 | 2.83 |
| 18 | 0.48 | 0.77 | 1.05 | 1.34 | 1.63 | 1.92 | 2.20 | 2.49 | 2.78 | 3.07 | 3.35 | 3.64 | 3.93 | 4.22 | 4.50 | 4.79 | 5.08 | 5.37 | 5.65 |
| 24 | 0.72 | 1.15 | 1.58 | 2.01 | 2.44 | 2.88 | 3.31 | 3.74 | 4.17 | 4.60 | 5.03 | 5.46 | 5.89 | 6.33 | 6.76 | 7.19 | 7.62 | 8.05 | 8.48 |
| 30 | 0.96 | 1.53 | 2.11 | 2.68 | 3.26 | 3.83 | 4.41 | 4.98 | 5.56 | 6.13 | 6.71 | 7.28 | 7.86 | 8.43 | 9.01 | 9.58 | 10.16 | 10.73 | 11.31 |
| 36 | 1.20 | 1.92 | 2.64 | 3.35 | 4.07 | 4.79 | 5.51 | 6.23 | 6.95 | 7.67 | 8.39 | 9.10 | 9.82 | 10.54 | 11.26 | 11.98 | 12.70 | 13.42 | 14.14 |
| 42 | 1.44 | 2.30 | 3.16 | 4.03 | 4.89 | 5.75 | 6.61 | 7.48 | 8.34 | 9.20 | 10.06 | 10.93 | 11.79 | 12.65 | 13.51 | 14.38 | 15.24 | 16.10 | 16.96 |
| 48 | 1.68 | 2.68 | 3.69 | 4.70 | 5.70 | 6.71 | 7.71 | 8.72 | 9.73 | 10.73 | 11.74 | 12.75 | 13.75 | 14.76 | 15.76 | 16.77 | 17.78 | 18.78 | 19.79 |
| 54 | 1.96 | 3.13 | 4.30 | 5.48 | 6.65 | 7.83 | 9.00 | 10.17 | 11.35 | 12.52 | 13.70 | 14.87 | 16.04 | 17.22 | 18.39 | 19.57 | 20.74 | 21.91 | 23.09 |
| 60 | 2.24 | 3.58 | 4.92 | 6.26 | 7.60 | 8.94 | 10.29 | 11.63 | 12.97 | 14.31 | 15.65 | 16.99 | 18.34 | 19.68 | 21.02 | 22.36 | 23.70 | 25.04 | 26.39 |
| 66 | 2.52 | 4.03 | 5.53 | 7.04 | 8.55 | 10.06 | 11.57 | 13.08 | 14.59 | 16.10 | 17.61 | 19.12 | 20.63 | 22.14 | 23.65 | 25.16 | 26.67 | 28.18 | 29.68 |
| 72 | 2.80 | 4.47 | 6.15 | 7.83 | 9.50 | 11.18 | 12.86 | 14.53 | 16.21 | 17.89 | 19.57 | 21.24 | 22.92 | 24.60 | 26.27 | 27.95 | 29.63 | 31.31 | 32.98 |
| 78 | 3.07 | 4.92 | 6.76 | 8.61 | 10.45 | 12.30 | 14.14 | 15.99 | 17.83 | 19.68 | 21.52 | 23.37 | 25.21 | 27.06 | 28.90 | 30.75 | 32.59 | 34.44 | 36.28 |
| 84 | 3.35 | 5.37 | 7.38 | 9.39 | 11.40 | 13.42 | 15.43 | 17.44 | 19.45 | 21.47 | 23.48 | 25.49 | 27.50 | 29.52 | 31.53 | 33.54 | 35.55 | 37.57 | 39.58 |

HEIGHT

SUGGESTED SPECIFICATIONS

LOUVER MODEL: DEM-08/ SERIES

GENERAL:

Furnish and install at locations where indicated on the drawings or as described in schedules with high performance storm-resistant drainable louver Model DEM-08/series as manufactured by DOWCO Products Group, 1855 South 54th Ave., Cicero, IL. 60804. Tel. 708-652-9100, Fax 708-652-9158 (www.safeair-dowco.com/contact.asp). All louvers shall manufactured under ARRA – American Recovery Reinvestment Act, “Buy American Stimulus Provision” and shall have a factory certified Union Label. Submit complete submittals or shop drawings to the architect/engineer for approval. All opening sizes shall be field verified prior to fabrication.

MATERIAL:

Frames and blades thickness shall be .081" (2.96mm) extruded aluminum alloy 6063-T5, T52 or T6. Dual blades shall be designed to collect and drain water to the jamb frames then down to the sill frame exterior at sill via channels in the jambs. High performance patented horizontal dual blade design shall function as: weather protection, sight-proof and wind-driven rain resistant design. Sill and jamb frames shall be caulked to prevent water penetration to interior wall construction. Blades are attached to jamb frames by means of plated steel screws. All fasteners to be aluminum, plated carbon steel, or stainless steel. Frames shall have integral caulking slot and retaining beads. Stationary louvers shall be furnished with bird and / or insect screens, supports and finishes as specified and as required for a complete installation.

PERFORMANCE:

Louvers shall be tested in accordance with AMCA Standard 500-L and licensed under the AMCA Certified Ratings Seal for both air performance and water penetration. Louvers shall be test modeled after HEVAC and BSRIA. The louvers shall have a minimum of 7.71 ft². (0.716 m²) (48%) free area on a 48 inch x 48 inch (1219 x 1219) louver. The rating shall show a maximum water penetration of .01 oz. at an air flow of 1250 FPM (6.35 m/s) free area velocity based on a 15 minutes test duration. The Static Pressure Loss shall not be more than 0.28 in. H²O of water gauge (0.07 kPa) at an air flow of 1000 FPM (5.08 m/s) free area velocity.

STRUCTURAL DESIGN CRITERIA:

Louvers shall be designed and furnished with all the supports required to withstand a negative and positive wind load of 25 psf (1.20 kPa) @ delta L/180 deflection based on the maximum single section of 120 x 84 (3048 x 2135) or 84 x 120 (2135 x 3048). Larger sizes and higher wind loads require additional structural supports. Due to the variation of job requirements and local building codes, structural supports shall be analyzed on a job to job basis.

FINISH:

All louvers shall be finished with DOWCO's Kynar 500 with 100% resin Fluoropolymer coating. Finish to adhere to a 4H hardness rating. All finishing procedures shall be one continuous operation and the coating shall meet or exceed all requirements of AAMA Specification 2605-05 "Voluntary Specification for High Performance Organic Coatings on Architectural Extrusions and Panels." Manufacturer shall supply a standard 5-year limited warranty against failure and excessive fading or upon request a 20-year limited warranty against failure and excessive fading.