

## Sand Louver in 8" (203mm) thick frame design Model V-DEM-08

**Features** – Vision proof design. Double vertical blades designed for removal of dust particles, high wind velocity storm proof capability, also provides a unit with low-pressure drop and architecturally styled design for pleasing appearance.

### STANDARD CONSTRUCTION

**FRAME**

8" (203) thick, .125" (3) extruded aluminum

**BLADES**

8" (203), .081" (2) extr alum. approx. spacing is 2" (51)

**MAXIMUM SIZE**

Unlimited, with mullions, structural bracing supplied by others

**MAXIMUM SINGLE SECTION**

120"W x 72"H or 72"W x 120"H (3048 x 1829)

(allows for best handling)

(Type of finish required may limit max. single section size)

**MULLIONS**

Visible

**MINIMUM SIZE**

12"W x 12"H (305 x 305)

**UNDERSIZED**

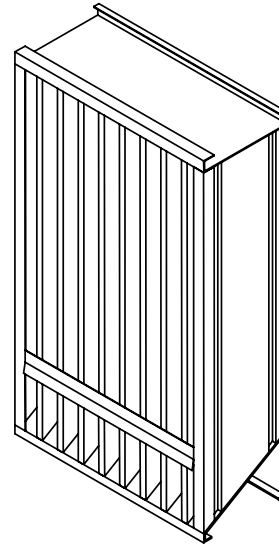
1/4" (6) under ordered size unless specified Exact or Actual

**SCREEN**

3/4" (19) flattened expanded aluminum bird screen in frame

**FINISH**

Mill



**53%  
Free Area**

### OPTIONAL CONSTRUCTION

**FRAME** – Available in a heavier extrusion of .188" thk. (5)

**BLADES** - Available in a heavier extrusion of .125" thk. (3)

**SCREENS** – Many styles available please consult screen listing

**MULLIONS** – Invisible for architectural preference

**FINISH** – Air-dry primer, polyurethane, epoxy, or enamel, Baked epoxy or enamel. Anodized or Kynar. Powder coat.

### SPECIAL PURPOSE CONSTRUCTION

Special shapes; round, triangles, diamond and etc.

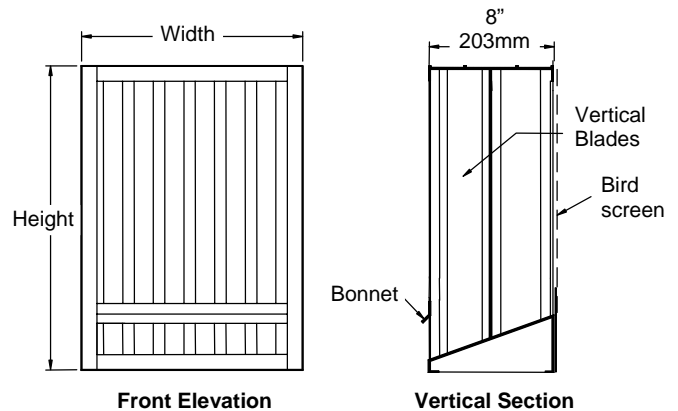
Fully welded assembly

Security bars

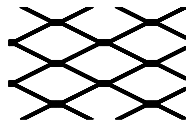
Filter racks

Hinged as walk through door or swing out access

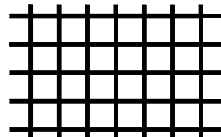
Sleeved for ductwork connection



### TYPICAL SCREEN STYLES



Expanded Aluminum  
Standard



Wire Mesh

### PERFORMANCE: (AMCA 500-L)

Point of Water Penetration  
1250 FPM (6.35 m/s)

Free Area, 16 sf unit, (1.50 sm)  
**53%**

Pressure Drop  
.20" WC. @ 1000 fpm  
5mm WC. @ 5.08 m/s

DATE	ARCHITECT			CUSTOMER
PROJECT				
ITEM	QTY	W	H	DESCRIPTION



DEPENDABLE PRODUCTS SINCE 1955

**SAFE-AIR OF ILLINOIS INC.**

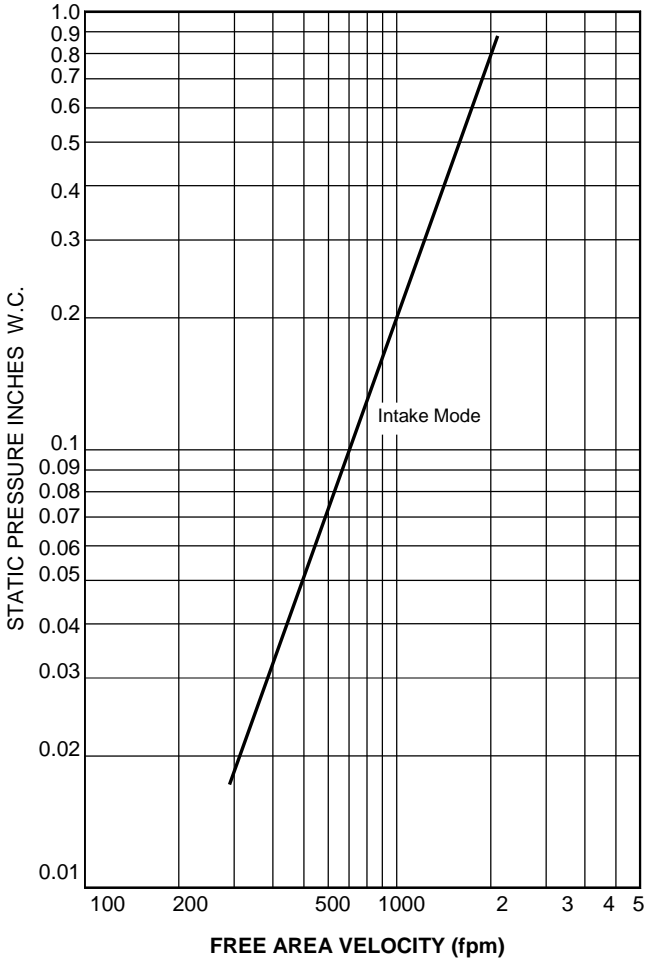
*Engineering and General Offices*

1855 South 54<sup>th</sup> Avenue, Cicero, Illinois 60804

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All tests performed at an independent laboratory and based on AMCA 500-L standards for air performance, water penetration and wind-driven rain test.

### 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

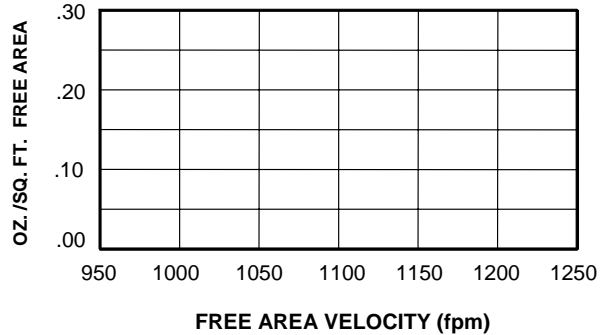
### CALCULATING MAXIMUM AIRFLOW BEFORE WATER PENETRATION

The "free area flow rate" at which water penetration commences (.01 oz. of water) is established at, 1250 fpm for VDEM-08, and will vary depending upon actual weather conditions. The "water penetration" graph illustrates the results of actual laboratory test on a 48" x 48" 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

Beginning of water penetration = 1250 FPM  
(15 minutes duration)



### FREE AREA CALCULATIONS IN SQ. FT.

		WIDTH																		
		12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	102	108	114	120
HEIGHT	Inches	0.21	0.34	0.47	0.60	0.73	0.85	0.98	1.11	1.24	1.37	1.49	1.62	1.75	1.88	2.01	2.13	2.26	2.39	2.52
	12	0.48	0.77	1.06	1.35	1.64	1.93	2.22	2.51	2.80	3.09	3.38	3.67	3.96	4.25	4.54	4.83	5.12	5.41	5.70
	18	0.75	1.20	1.66	2.11	2.56	3.01	3.46	3.91	4.36	4.82	5.27	5.72	6.17	6.62	7.07	7.52	7.98	8.43	8.88
	24	1.02	1.64	2.25	2.86	3.47	4.09	4.70	5.31	5.93	6.54	7.15	7.77	8.38	8.99	9.61	10.22	10.83	11.45	12.06
	30	1.29	2.07	2.84	3.62	4.39	5.17	5.94	6.72	7.49	8.27	9.04	9.82	10.59	11.37	12.14	12.92	13.69	14.46	15.24
	36	1.56	2.50	3.43	4.37	5.31	6.24	7.18	8.12	9.05	9.99	10.93	11.86	12.80	13.74	14.67	15.61	16.55	17.48	18.42
	42	1.83	2.93	4.03	5.13	6.22	7.32	8.42	9.52	10.62	11.72	12.81	13.91	15.01	16.11	17.21	18.31	19.40	20.50	21.60
	48	2.10	3.36	4.62	5.88	7.14	8.40	9.66	10.92	12.18	13.44	14.70	15.96	17.22	18.48	19.74	21.00	22.26	23.52	24.78
	54	2.37	3.79	5.21	6.63	8.06	9.48	10.90	12.32	13.74	15.17	16.59	18.01	19.43	20.85	22.27	23.70	25.12	26.54	27.96
	60	2.64	4.22	5.81	7.39	8.97	10.56	12.14	13.72	15.31	16.89	18.47	20.06	21.64	23.22	24.81	26.39	27.98	29.56	31.14
	66	2.91	4.65	6.40	8.14	9.89	11.63	13.38	15.13	16.87	18.62	20.36	22.11	23.85	25.60	27.34	29.09	30.83	32.58	34.32
	72	3.18	5.09	6.99	8.90	10.81	12.71	14.62	16.53	18.43	20.34	22.25	24.15	26.06	27.97	29.88	31.78	33.69	35.60	37.50
78	3.45	5.52	7.59	9.65	11.72	13.79	15.86	17.93	20.00	22.07	24.13	26.20	28.27	30.34	32.41	34.48	36.55	38.61	40.68	
84	3.72	5.95	8.18	10.41	12.64	14.87	17.10	19.33	21.56	23.79	26.02	28.25	30.48	32.71	34.94	37.17	39.40	41.63	43.86	
90	3.99	6.38	8.77	11.16	13.56	15.95	18.34	20.73	23.12	25.52	27.91	30.30	32.69	35.08	37.48	39.87	42.26	44.65	47.04	
96	4.26	6.81	9.36	11.92	14.47	17.03	19.58	22.13	24.69	27.24	29.79	32.35	34.90	37.46	40.01	42.56	45.12	47.67	50.22	
102	4.53	7.24	9.96	12.67	15.39	18.10	20.82	23.53	26.25	28.97	31.68	34.40	37.11	39.83	42.54	45.26	47.97	50.69	53.41	
108	4.80	7.67	10.55	13.43	16.30	19.18	22.06	24.94	27.81	30.69	33.57	36.45	39.32	42.20	45.08	47.95	50.83	53.71	56.59	
114	5.06	8.10	11.14	14.18	17.22	20.26	23.30	26.34	29.38	32.42	35.45	38.49	41.53	44.57	47.61	50.65	53.69	56.73	59.77	

All tests performed at an independent laboratory and based on ASHRAE Standards 52.1 - 1992.

## SUGGESTED SPECIFICATION

Furnish and install, Dowco Products Sand Louver, Model VDEM-08 at locations where indicated on drawings or according to louver schedule, Sand Louvers shall be 8" deep with 53% free area on 48" x 48" louver section.

Frame shall be .125" thick material extruded aluminum, alloy 6063-T5 and .081" thk. extruded aluminum blades, alloy 6063-T5 spaced @ 2" oc. and shall be provided with horizontal bonnet. Sand louvers shall be furnished with standard 3/4" x .050 expanded aluminum bird screen in extruded aluminum frame in the interior side.

Sand louvers shall be designed to withstand (+/-) 30 psf of wind pressure at delta L/180 deflection. (Consult Dowco if higher wind pressure is required).

Sand Louver shall be tested for sand removal efficiency in accordance with ASHRAE Standards 52.1-1992.

Test ratings shall be based on test and procedures in accordance with AMCA 500-L for Water Penetration, Wind-driven Rain Test and Air Performance.

## SAND REMOVAL EFFICIENCY

Pressure Drop	.10" wg.	.20" wg.	.30" wg.
Free Area Velocity	700 fpm	1000 fpm	1400 fpm
Sand Particle Size	Removal Efficiency	Removal Efficiency	Removal Efficiency
1-100 MICRON	96 %	86 %	75%
1100 – 1500 MICRON	99.90%	99.80%	99.3%
24" x 24" Test Sample			

## SAND REMOVAL EFFICIENCY

