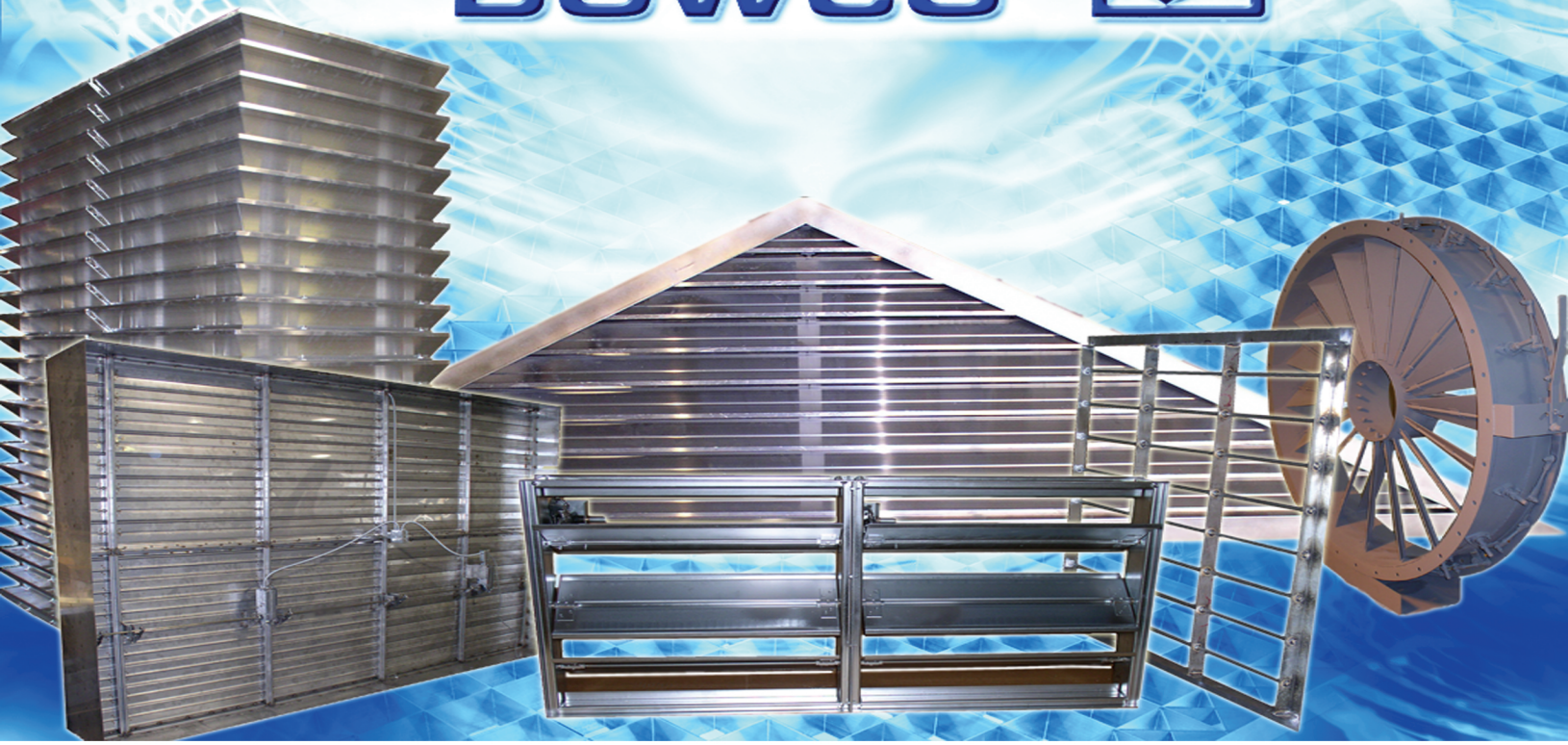
Safe-Air DOWCO

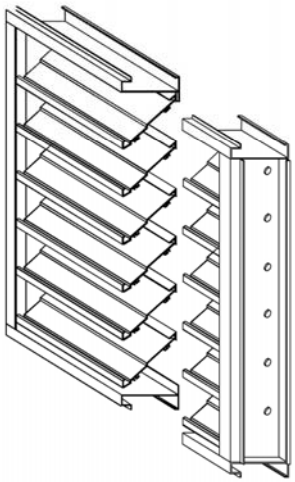


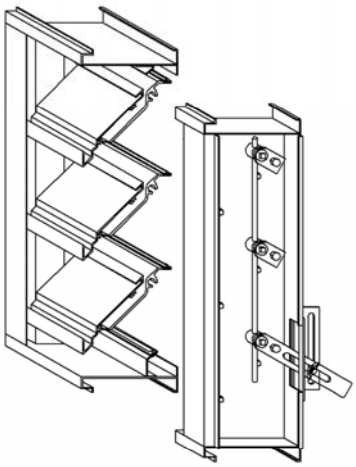
Product Catalog

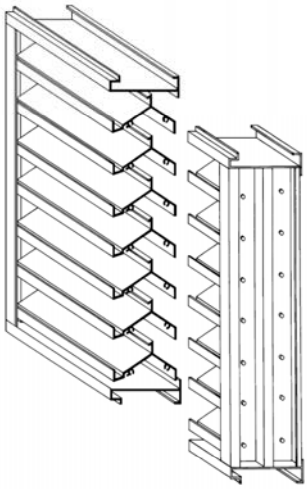
Dependable Products Since 1955

LOUVERS

Architectural and mechanical louvers express strength and durability. Creatively applied, louvers visually reaffirm or harmonize with the aesthetic integrity of any structure. They are utilitarian by nature and provide free air volume, weatherprotection and natural light by design.







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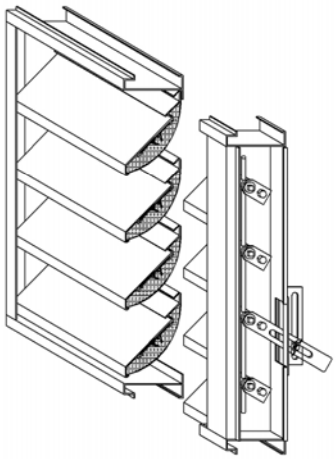


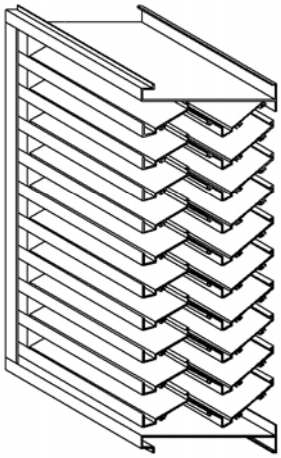


Table Of Contents

LOUVERS - FIELD ASSEMBLY AND INSTALLATION INSTRUCTIONS

RECEIVING/INSPECTION

Upon receiving your louver shipment, inspect the crates carefully. If there is visible damage, contact the freight company immediately so a freight claim can be filed if necessary. Caution should be used when removing the louvers from the crates. Once uncrated, the louvers should be checked for proper size, finish, frame style, screen actuator and overall appearance. Any discrepancies should be reported to **DOWCO** immediately.

STORAGE

Store in an orderly manner at a safe location away from construction traffic, material, etc. to prevent damage. Cover with plastic sheeting to protect from excessive moisture, dirt and debris.

PRE-ASSEMBLY

1. Remove the louver from the shipping container and inspect for damage. Care must be taken handling a louver. **Lift by the frame or brace and not by the blade.** Do not drop, drag, step on or apply excessive force on louver.

2. Inspect opening where louvers are to be installed. Opening should be ¼" larger or more than louver dimensions plus any expansion spacing required. If installing adjustable louvers, check the linkage thoroughly and test if blades will open and close. If problems occur do not install them and call **DOWCO** immediately. Normally, pre-testing is conducted prior to shipping.

MULTIPLE SECTION ASSEMBLY

1. Position louver sections together. Align and match frame markings or labels on adjacent sections as indicated in the shop drawings.

2. On multiple section assemblies with visible mullions, install the louver section within the t-mullion, align and match frame markings or labels on adjacent sections. Normally t-mullions are factory mounted to front and back of each sections.

3. Align t-mullions on adjacent frames. Fasten together with self-tapping screws sp. approx. @ 18" o.c. (Note: Field installation where self-tapping screws are required not supplied by Dowco)

4. On multiple section assemblies with invisible mullions, **remove all factory-mounted side plates held with screws**, align blades from the exterior side and match frame markings or labels on adjacent sections, fasten the two angles together with ¼"-20 x 1" lg. HH bolts & nuts leaving 1/8" or more for expansion joint.

5. On multiple stackable section assemblies with concealed mullions in height due to paint size limitation or shipping, splice plates are factory mounted to the outer side of louver jamb or angle brace, fasten together with self-tapping screws.

6. Use appropriate shims between louver frames and opening structure to prevent distortion of louver frame.

7. Individual sections of multiple assemblies, as well as the entire assembly, must be square and free from racking. Measure diagonally from upper corners to opposite lower corners of each section. Both dimensions bust equal 1/8 inch + or -.

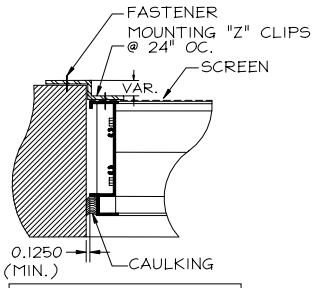
8. Multiple section louver assemblies may require structural bracing to support the weight of the assembly and specified wind loads.

RECOMMENDED INSTALLATION OF LOUVERS

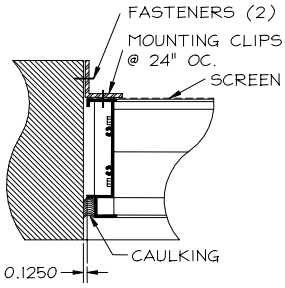
1. Louvers must be plumb and square, and install within the opening using clips angles or approved equal positioned @ every 18" or 24" on center. Mounting clips must be without pilot holes.

2. Clip angles with self-drilling screws (2 per clip) and extended sills are available as options. Use #10-16 x 1" lg. HWH for self-tapping screws. Wall trim, caulk, and any other fasteners are by others.

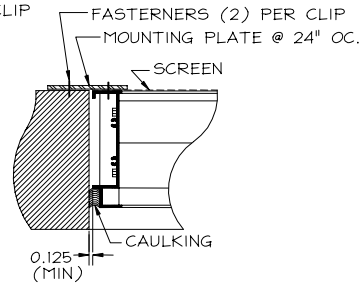
LOUVER INSTALLATION INSTRUCTIONS



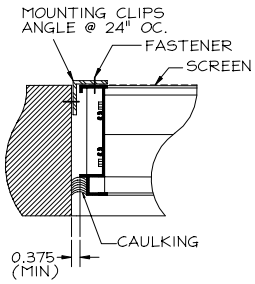
JAMB - "Z" CLIP



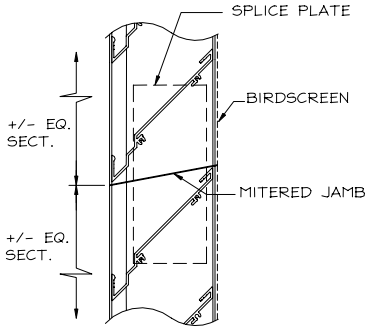
JAMB - STD CLIP



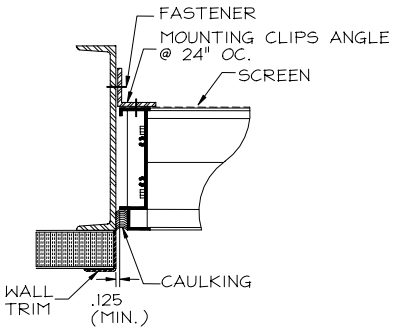
JAMB - MOUNTING PLATE



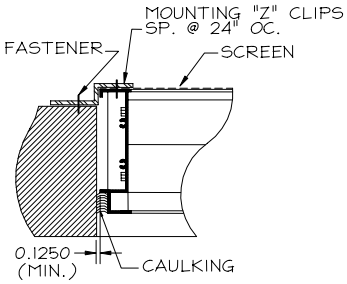
JAMB - ANGLE CLIP



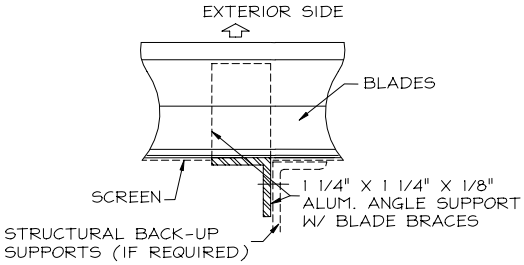
STACKABLE JAMB



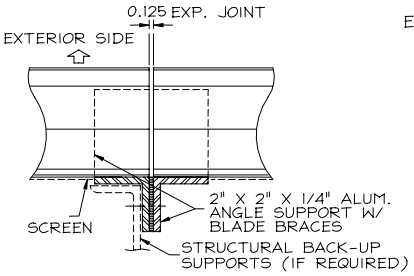
JAMB - STD CLIP



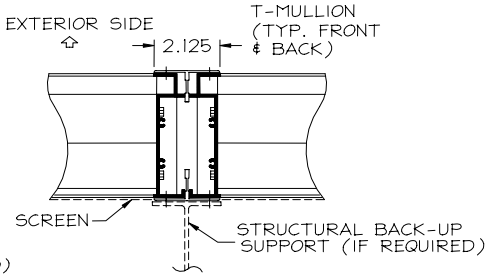
JAMB - "Z" CLIP



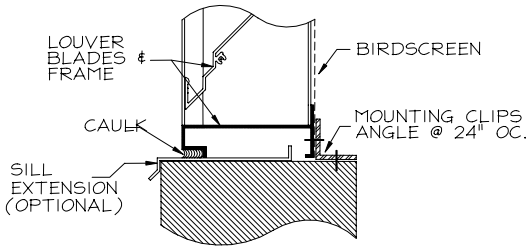
BACK BRACE SUPPORT



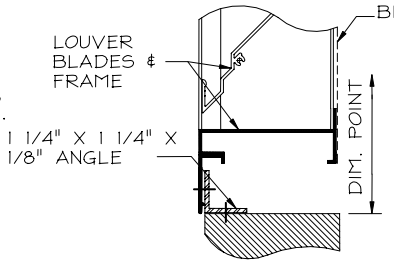
INVISIBLE MULLION



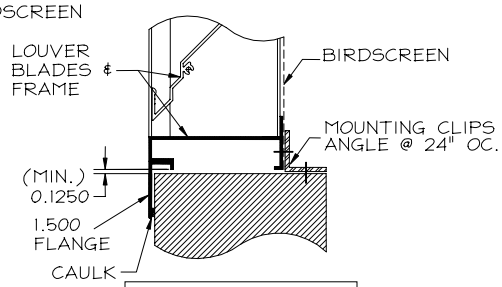
VISIBLE MULLION



SILL EXTENSION



FLANGE W/ SUBFRAME

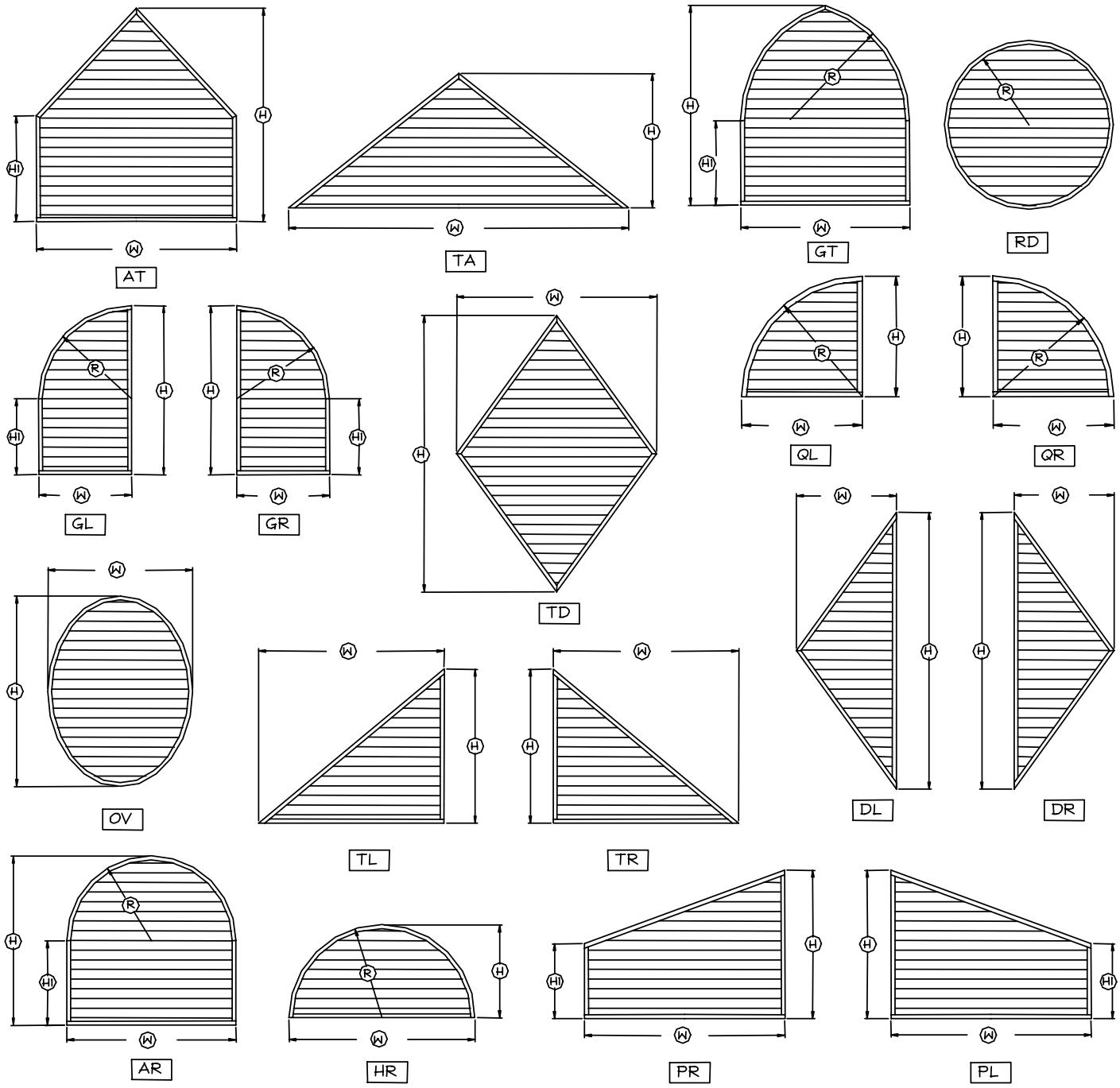


FLANGE FRAME

Special Shapes

DEPENDABLE PRODUCTS SINCE 1955

Stationary Extruded Aluminum or Galvanized Steel Louvers



DATE	ARCHITECT	CUSTOMER
PROJECT		

ITEM	QTY	W	H	H1	R	CODE	MODEL / DESCRIPTIONS

DEPENDABLE PRODUCTS SINCE 1955

SAFE-AIR OF ILLINOIS INC.

Engineering and General Offices

1855 South 54th Avenue, Cicero, Illinois 60804

Phone 708-652-9100 FAX 708-652-9158

Louver Contents

Galvanized Louvers

Stationary Louvers

MODEL	Blade Style	Blade Angle	Blade Spacing	Blade Guage	Frame Guage	Free Area (48" x 48")	Max. Free Area Velocity FPM	
1"-3" Depth (Thin-Line)								
DWF-02	Straight	45	2-1/2"	20 Ga.	20 Ga.	58%	n/a	
LFC-02	Straight	45	2"	20 Ga.	20 Ga.	55%	n/a	
LFF-02	Straight	30	1-1/2"	20 Ga.	20 Ga.	60%	n/a	
4" Depth								
DBF-04	Drainable	40	3"	20 Ga.	20 Ga.	58%	973	
DWF-04	Drainable	45	4-1/2"	20 Ga.	20 Ga.	58%	822	
LFA-04	Step	45	5-3/8"	20 Ga.	20 Ga.	50%	672	
LFC-04	Straight	45	4-3/8"	20 Ga.	20 Ga.	53%	n/a	
LFD-04	Chevron	45	2-1/2"	20 Ga.	20 Ga.	45%	n/a	
LFF-04	Straight	30	3"	20 Ga.	20 Ga.	56%	n/a	
LFG-04	Step	20	3-5/8"	20 Ga.	20 Ga.	60%	n/a	
WFA-04	Step	45	5"	20 Ga.	20 Ga.	31%	n/a	
WFC-04	Straight	45	5"	20 Ga.	20 Ga.	39%	n/a	
6' Depth								
DBF-06	Drainable	35	3-1/2"	20 Ga.	20 Ga.	60%	1010	
DWF-06	Drainable	45	6-3/8"	20 Ga.	20 Ga.	57%	821	
LFA-06	Step	45	6-1/2"	20 Ga.	20 Ga.	48%	n/a	
LFC-06	Straight	45	6"	20 Ga.	20 Ga.	53%	n/a	
LFD-06	Chevron	45	3"	20 Ga.	20 Ga.	51%	n/a	
LFF-06	Straight	35	4"	20 Ga.	20 Ga.	61%	n/a	
LFG-06	Step	30	5"	20 Ga.	20 Ga.	60%	n/a	

Adjustable Louvers

4" Depth								
A-DBF-04	Drainable	40	n/a	20 Ga.	18 Ga.	56%	973	
A-DWF-04	Drainable	45	n/a	20 Ga.	18 Ga.	51%	822	
AFC-04	Step	45	n/a	20 Ga.	18 Ga.	46%	n/a	
AFF-04	Step	30	n/a	20 Ga.	18 Ga.	53%	n/a	
6" Depth								
A-DBF-06	Drainable	35	n/a	20 Ga.	18 Ga.	58%	1010	
A-DWF-06	Drainable	45	n/a	20 Ga.	18 Ga.	52%	821	
AFC-06	Step	45	n/a	20 Ga.	18 Ga.	46%	n/a	
AFF-06	Step	30	n/a	20 Ga.	18 Ga.	58%	n/a	
AFI-06	Insulated	0	n/a	20 Ga.	18 Ga.	70%	n/a	
Combination Louvers								
C-DWF-46	Drainable	45	5-1/2"	20 Ga./16 Ga.	18 Ga.	49%	983	

Acoustical Louvers

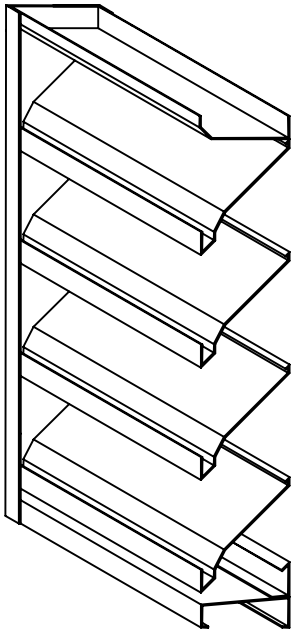
UFA-08	Airfoil	45	6"	18 Ga./22 Ga.	16 Ga.	30%	980	
UFA-12	Airfoil	45	10"	18 Ga./22 Ga.	16 Ga.	30%	1077	
UFC-4	Straight	45	5"	18 Ga./22 Ga.	16 Ga.	38%	707	
UFC-6	Straight	45	6"	18 Ga./22 Ga.	16 Ga.	40%	875	
UFC-8	Straight	45	8"	18 Ga./22 Ga.	16 Ga.	29%	980	
UFC-12	Straight	45	12"	18 Ga./22 Ga.	16 Ga.	26%	1140	
UFC-29	Straight	45	12"	18 Ga./22 Ga.	16 Ga.	18%	1250	
UFD-12	Chevron	45	12"	18 Ga./22 Ga.	16 Ga.	29%	855	
UFF-12	Sightproof	n/a	12"	18 Ga./22 Ga.	16 Ga.	31%	n/a	
Sand Louver								
GSF-35	Vertical	n/a	n/a	18 GA.	18 GA.	31%	760	

Louver Contents

FORMED LOUVER

Drainable Blade Louver in 2” deep frame design Model DWF-02

Design Features – High performance patented design allowing maximum airflow with minimum outside element or water penetration.



STANDARD CONSTRUCTION

FRAME
20 gauge galvanized steel in style #3.
BLADES
20 gauge galvanized steel, approx. spacing is 2-1/ 2” o.c. @ 45º
MAXIMUM SIZE
Unlimited, with mullions, structural bracing supplied by others
MAXIMUM FACTORY ASSEMBLY SIZE
120” w x 84 h” or vice-versa
(Type of finish may limit maximum single section)
MULLION
Visible
MINIMUM SIZE
12” x 12”
UNDERSIZED
3/8” under ordered size unless specified Exact or Actual
SCREEN
1/2” wire mesh 19 gauge galvanized bird screen no frame
FINISH
Mill

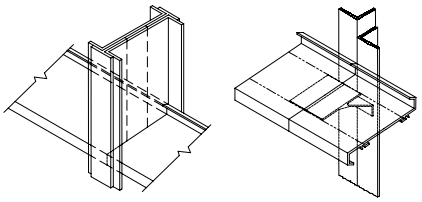
OPTIONAL CONSTRUCTION

SCREEN - Many styles available please consult screen listing
FINISH – Air-dry primer, polyurethane, epoxy, or enamel, baked epoxy or enamel, or Powder coat.
MULLION – Visible for architectural preference

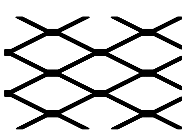
SPECIAL PURPOSE CONSTRUCTION

Special shapes: Triangle, Round, Trapezoid, etc.
Fully welded construction
Security bars
Hinged as walk through door or swing out access
Filter racks
Sleeved for ductwork connection
** Consult SAFE-AIR/DOWCO for additional technical information.

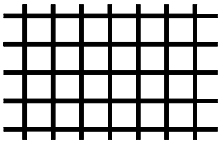
MULLION STYLES



Visible Invisible

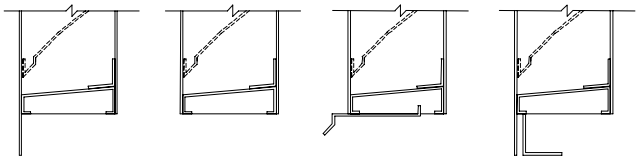


Expanded Aluminum



Wire Mesh
Standard

FRAME STYLES



(1) - Flange 1-1/2” (3) - Box Standard (8) - Box and Sill Extension (9) - Flange w/ sub frame

DATE	ARCHITECT			CUSTOMER
PROJECT				
ITEM	QTY	W	H	DESCRIPTION

DEPENDABLE PRODUCTS SINCE 1955

SAFE-AIR/DOWCO

Engineering and General Offices

1855 South 54th Avenue, Cicero, Illinois 60804

Phone 708-652-9100 FAX 708-652-9158

Galvanized Chart **Louver Contents**

DWF-02 PERFORMANCE SPECIFICATIONS

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

WIDTH **FREE AREA CALCULATIONS IN SQ. FT.**

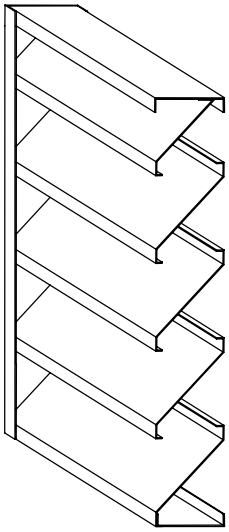
HEIGHT

Inches	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	102	108	114	120
12	.35	.54	.74	.94	1.14	1.33	1.53	1.73	1.93	2.13	2.32	2.52	2.72	2.92	3.11	3.31	3.51	3.71	3.91
18	.63	1.00	1.36	1.73	2.09	2.45	2.82	3.18	3.54	3.91	4.27	4.64	5.00	5.36	5.73	6.09	6.45	6.82	7.18
24	.84	1.33	1.82	2.30	2.79	3.27	3.76	4.24	4.73	5.21	5.70	6.18	6.66	7.15	7.63	8.12	8.60	9.09	9.57
30	1.13	1.78	2.43	3.08	3.73	4.38	5.02	5.67	6.32	6.97	7.62	8.27	8.91	9.56	10.21	10.86	11.51	12.16	12.80
36	1.38	2.17	2.95	3.74	4.53	5.32	6.10	6.89	7.68	8.47	9.26	10.04	10.83	11.62	12.41	13.19	13.98	14.77	15.56
42	1.62	2.54	3.47	4.39	5.32	6.24	7.17	8.09	9.02	9.94	10.87	11.79	12.72	13.64	14.57	15.49	16.42	17.34	18.27
48	1.91	3.00	4.09	5.18	6.27	7.36	8.45	9.54	10.63	11.72	12.81	13.91	15.00	16.09	17.18	18.27	19.36	20.45	21.54
54	2.12	3.33	4.54	5.76	6.97	8.18	9.39	10.60	11.81	13.03	14.24	15.45	16.66	17.87	19.09	20.30	21.51	22.72	23.93
60	2.41	3.78	5.16	6.53	7.91	9.28	10.66	12.03	13.41	14.79	16.16	17.54	18.91	20.29	21.66	23.04	24.41	25.79	27.16
66	2.65	4.17	5.68	7.20	8.71	10.22	11.74	13.25	14.77	16.28	17.80	19.31	20.83	22.34	23.86	25.37	26.89	28.40	29.92
72	2.89	4.54	6.19	7.85	9.50	11.15	12.80	14.45	16.11	17.76	19.41	21.06	22.71	24.37	26.02	27.67	29.32	30.97	32.63
78	3.18	5.00	6.82	8.63	10.45	12.27	14.09	15.90	17.72	19.54	21.36	23.18	24.99	26.81	28.63	30.45	32.26	34.08	35.90
84	3.39	5.33	7.27	9.21	11.15	13.09	15.03	16.97	18.90	20.84	22.78	24.72	26.66	28.60	30.54	32.48	34.41	36.35	38.29
90	3.68	5.78	7.88	9.99	12.09	14.19	16.29	18.40	20.50	22.60	24.70	26.81	28.91	31.01	33.11	35.22	37.32	39.42	41.52
96	3.92	6.16	8.41	10.65	12.89	15.13	17.37	19.62	21.86	24.10	26.34	28.58	30.82	33.07	35.31	37.55	39.79	42.03	44.28
102	4.16	6.54	8.92	11.30	13.68	16.06	18.44	20.82	23.20	25.57	27.95	30.33	32.71	35.09	37.47	39.85	42.23	44.61	46.98
108	4.45	7.00	9.54	12.09	14.63	17.18	19.72	22.27	24.81	27.36	29.90	32.45	34.99	37.54	40.08	42.62	45.17	47.71	50.26
114	4.67	7.33	10.00	12.66	15.33	18.00	20.66	23.33	25.99	28.66	31.32	33.99	36.66	39.32	41.99	44.65	47.32	49.99	52.65
120	4.95	7.78	10.61	13.44	16.27	19.10	21.93	24.76	27.59	30.42	33.25	36.08	38.91	41.74	44.57	47.40	50.22	53.05	55.88

FORMED LOUVER

Weather Protective Blade Louver in 2”, 4” or 6” thick frame design Model LFC

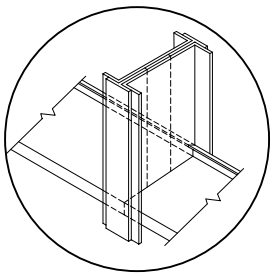
Features – Traditional design with blades fixed at a 45° angle in a clean architecturally appealing style.



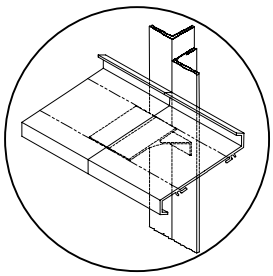
STANDARD CONSTRUCTION

FRAME
LFC-02” (51) thick, is 20 gauge (1.0) galvanized steel in style #2
LFC-04” (102) thick, is 20 gauge (1.0) galvanized steel in style #2
LFC-06” (152) thick, is 20 gauge (1.0) galvanized steel in style #2
BLADES
LFC- 02”, (51) are 20 gauge (1.0) galv. steel, approx. spacing is 2” (51) @ 45°
LFC- 04”, (102) are 20 gauge (1.0) galv. steel, approx. spacing is 4 3/8” (111) @ 45°
LFC- 06”, (152) are 20 gauge (1.0) galv. steel, approx. spacing is 6” (152) @ 45°
MAXIMUM SIZE
Unlimited, with mullions, structural bracing supplied by others
MAXIMUM SINGLE SECTION
120”w x 84”h or 84”w x 120”h
(allows for best handling)
MULLIONS
Visible
MINIMUM SIZE
12” W x 12” H (305 x 305)
UNDERSIZED
3/8” (10) under ordered size unless specified Exact or Actual
SCREEN
½” (13) wire mesh 19 gauge (1.1) galvanized bird screen no frame
FINISH
Mill

MULLION STYLES



Visible



Invisible

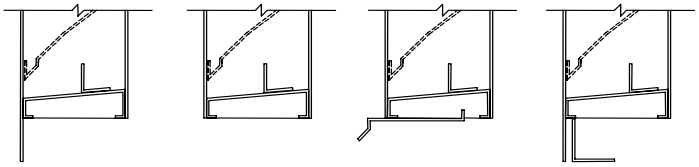
OPTIONAL CONSTRUCTION

FRAME – Available in a heavier construction up to 10 gauge (3.5)
BLADES - Available in a heavier construction up to 12 gauge (2.7)
SPECIFIED MATERIAL – Aluminum, Stainless or as requested
SCREENS - Many styles available please consult screen listing
MULLIONS – Invisible for enhanced architectural appearance.
FINISH – Air-dry primer, polyurethane, epoxy, or enamel. Baked epoxy or enamel. Kynar (Kynar limitations on steel.)

SPECIAL PURPOSE CONSTRUCTION

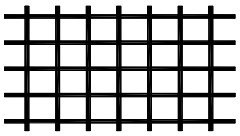
Special shapes; Round, Triangle, Trapezoid, Octagon, etc.
Fully welded assembly
Security bars
Filter racks
Hinged as walk through door or for swing out access
Sleeved for ductwork connection

FRAME STYLES



1- Flange (1.5”) | 2 – Channel | 7- Channel with Sill Extension | 9 - Flange with Sub Frame

TYPICAL SCREEN STYLE



Wire Mesh
Standard

DATE	ARCHITECT			ENGINEER
PROJECT				
ITEM	QTY	W	H	DESCRIPTION

DEPENDABLE PRODUCTS SINCE 1955

SAFE-AIR OF ILLINOIS INC.

Engineering and General Offices

1855 South 54th Avenue, Cicero, Illinois 60804

Phone 708-652-9100 FAX 708-652-9158

LFC PERFORMANCE SPECIFICATIONS

All free area calculations made in accordance with AMCA standards.

FREE AREA CALCULATIONS IN SQ. FT.

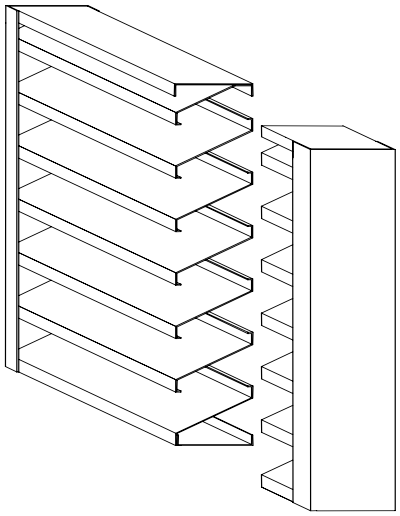
WIDTH

HEIGHT INCHES	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96
12 -02	.43	.66	.89	1.12	1.35	1.59	1.82	2.05	2.28	2.51	2.75	2.98	3.21	3.44	3.68
-04	.30	.48	.65	.82	1.00	1.17	1.34	1.52	1.69	1.86	2.04	2.21	2.39	2.56	2.73
-06	.29	.46	.63	.79	.96	1.13	1.29	1.46	1.63	1.79	1.96	2.13	2.29	2.46	2.63
18 -02	.68	1.05	1.42	1.79	2.17	2.54	2.91	3.28	3.65	4.02	4.39	4.76	5.13	5.51	5.88
-04	.61	.96	1.31	1.65	2.00	2.35	2.70	3.05	3.39	3.74	4.09	4.44	4.79	5.13	5.48
-06	.56	.89	1.21	1.53	1.86	2.18	2.50	2.82	3.15	3.47	3.79	4.12	4.44	4.76	5.08
24 -02	.95	1.47	1.99	2.51	3.03	3.55	4.07	4.59	5.11	5.63	6.15	6.67	7.19	7.71	8.23
-04	.81	1.28	1.74	2.20	2.67	3.13	3.60	4.06	4.52	4.99	5.45	5.92	6.38	6.85	7.31
-06	.84	1.32	1.80	2.27	2.75	3.23	3.71	4.19	4.67	5.15	5.63	6.11	6.58	7.06	7.54
30 -02	1.25	1.93	2.61	3.29	3.97	4.65	5.33	6.01	6.69	7.37	8.05	8.73	9.41	10.09	10.77
-04	1.12	1.75	2.39	3.03	3.67	4.30	4.94	5.58	6.22	6.85	7.49	8.13	8.77	9.40	10.04
-06	1.11	1.75	2.38	3.02	3.65	4.29	4.92	5.55	6.19	6.82	7.46	8.09	8.73	9.36	210.0
36 -02	1.48	2.29	3.09	3.90	4.71	5.51	6.32	7.13	7.94	8.74	9.55	10.36	11.16	11.97	12.78
-04	1.42	2.23	3.05	3.86	4.67	5.48	6.29	7.11	7.92	8.73	9.54	10.36	11.17	11.98	12.79
-06	1.38	2.17	2.97	3.76	4.55	5.34	6.13	6.92	7.71	8.50	9.29	10.08	10.87	11.67	12.46
42 -02	1.79	2.76	3.74	4.71	5.68	6.66	7.63	8.61	9.58	10.56	11.53	12.51	13.48	14.45	15.43
-04	1.62	2.55	3.48	4.41	5.34	6.27	7.19	8.12	9.05	9.98	10.91	11.83	12.76	13.69	14.62
-06	1.66	2.60	3.55	4.50	5.44	6.39	7.34	8.29	9.23	10.18	11.13	12.07	13.02	13.97	14.91
48 -02	2.04	3.15	4.27	5.38	6.50	7.61	8.72	9.84	10.95	12.06	13.18	14.29	15.40	16.52	17.63
-04	1.93	3.03	4.13	5.23	6.33	7.44	8.54	9.64	10.74	11.84	12.94	14.05	15.15	16.25	17.35
-06	1.93	3.03	4.14	5.24	6.34	7.44	8.55	9.65	10.75	11.86	12.96	14.06	15.16	16.27	17.37
54 -02	2.31	3.58	4.84	6.10	7.36	8.62	9.88	11.15	12.41	13.67	14.93	16.19	17.46	18.72	19.98
-04	2.23	3.51	4.79	6.06	7.34	8.61	9.89	11.17	12.44	13.72	15.00	16.27	17.55	18.83	20.10
-06	2.20	3.46	4.72	5.98	7.24	8.50	9.76	11.02	12.27	13.53	14.79	16.05	17.31	18.57	19.83
60 -02	2.61	4.03	5.45	6.88	8.30	9.72	11.15	12.57	13.99	15.41	16.84	18.26	19.68	21.11	22.53
-04	2.44	3.83	5.22	6.61	8.01	9.40	10.79	12.18	13.57	14.97	16.36	17.75	19.14	20.54	21.93
-06	2.49	3.91	5.34	6.76	8.18	9.61	11.03	12.45	13.88	15.30	16.72	18.14	19.57	20.99	22.41
66 -02	2.84	4.39	5.94	7.49	9.04	10.59	12.14	13.69	15.23	16.78	18.33	19.88	21.43	22.98	24.53
-04	2.74	4.31	5.87	7.44	9.00	10.57	12.13	13.70	15.27	16.83	18.40	19.96	21.53	23.10	24.66
-06	2.80	4.40	6.00	7.60	9.21	10.81	12.41	14.01	15.61	17.21	18.81	20.41	22.01	23.61	25.22
72 -02	3.15	4.86	6.58	8.30	10.01	11.73	13.45	15.17	16.88	18.60	20.32	22.03	23.75	25.47	27.18
-04	3.05	4.79	6.53	8.27	10.01	11.75	13.49	15.23	16.97	18.71	20.45	22.19	23.93	25.67	27.41
-06	3.11	4.89	6.67	8.45	10.23	12.01	13.79	15.57	17.34	19.12	20.60	22.68	24.46	26.24	28.02
78 -02	3.40	5.26	7.11	8.97	10.83	12.68	14.54	16.39	18.25	20.11	21.96	23.82	25.67	27.53	29.38
-04	3.25	5.11	6.96	8.82	10.67	12.53	14.39	16.24	18.10	19.96	21.81	23.67	25.53	27.38	29.24
-06	3.42	5.38	7.34	9.29	11.25	13.21	15.16	17.12	19.08	21.04	22.99	24.95	26.91	28.86	30.82
84 -02	3.67	5.68	7.68	9.69	11.69	13.70	15.70	17.70	19.71	21.71	23.72	25.72	27.73	29.73	31.73
-04	3.55	5.58	7.61	9.64	11.67	13.70	15.73	17.76	19.79	21.82	23.85	25.88	27.91	29.94	31.97
-06	3.74	5.87	8.00	10.14	12.27	14.41	16.54	18.68	20.81	22.85	25.08	27.22	29.35	31.49	33.62
90 -02	4.00	6.19	8.37	10.55	12.73	14.92	17.10	19.28	21.47	23.65	25.83	28.02	30.20	32.38	34.57
-04	3.86	6.06	8.27	10.47	12.68	14.88	17.08	19.29	21.49	23.70	25.90	28.11	30.31	32.52	34.72
-06	4.03	6.33	8.63	10.93	13.23	15.53	17.84	20.14	22.44	24.74	27.04	29.34	31.65	33.95	36.25
96 -02	4.20	6.49	8.78	11.08	13.37	15.66	17.95	20.24	22.53	24.83	27.12	29.41	31.70	33.99	36.28
-04	4.06	6.38	8.70	11.02	13.34	15.66	17.98	20.30	22.62	24.95	27.27	29.59	31.91	34.23	36.55
-06	4.30	6.76	9.22	11.67	14.13	16.59	19.05	21.50	23.96	26.42	28.88	31.33	33.79	36.25	38.71

FORMED LOUVER

Weather Protective Blade Louver in 2”, 4” or 6” thick frame design Model LFF

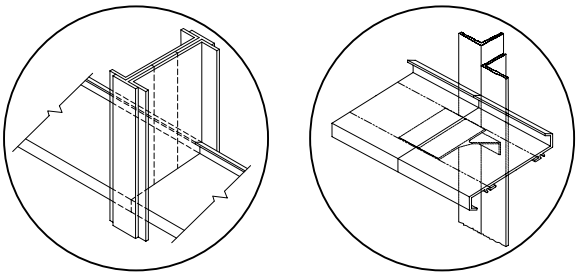
Features – Traditional design with blades fixed at a 30° angle in a clean architecturally appealing style.



STANDARD CONSTRUCTION

FRAME
LFF-02” (51) thick, is 20 gauge (1.0) galvanized steel in style #2
LFF-04” (102) thick, is 20 gauge (1.0) galvanized steel in style #2
LFF-06” (152) thick, is 20 gauge (1.0) galvanized steel in style #2
BLADES
LFF- 02”, (51) are 20 gauge (1.0) galvanized steel, approx. spacing is 1 1/2” (38) @ 30°
LFF- 04”, (102) are 20 gauge (1.0) galvanized steel, approx. spacing is 3” (76) @ 30°
LFF- 06”, (152) are 20 gauge (1.0) galvanized steel, approx. spacing is 4” (102) @ 30°
MAXIMUM SIZE
Unlimited, with mullions, structural bracing supplied by others
MAXIMUM SINGLE SECTION
120”w x 84”h or 84”w x 120”h
(allows for best handling)
MULLIONS
Visible
MINIMUM SIZE
12” W x 12” H (305 x 305)
UNDERSIZED
3/8” (10) under ordered size unless specified Exact or Actual
SCREEN
½” (13) wire mesh 19 gauge (1.1) galvanized bird screen no frame
FINISH
Mill

MULLION STYLES



Visible Invisible

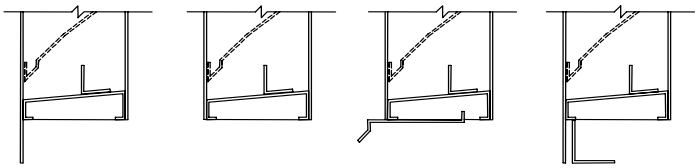
OPTIONAL CONSTRUCTION

FRAME – Available in a heavier construction up to 10 gauge (3.5)
BLADES - Available in a heavier construction up to 12 gauge (2.7)
SPECIFIED MATERIAL – Aluminum, Stainless or as requested
SCREENS - Many styles available please consult screen listing
MULLIONS – Invisible for enhanced architectural appearance.
FINISH – Air-dry primer, polyurethane, epoxy, or enamel. Baked epoxy or enamel. Kynar (Kynar limitations on steel.)

SPECIAL PURPOSE CONSTRUCTION

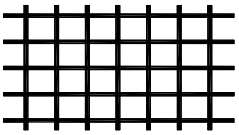
Special shapes; Round, Triangle, Trapezoid, Octagon, etc.
Fully welded assembly
Security bars
Filter racks
Hinged as walk through door or for swing out access
Sleeved for ductwork connection

FRAME STYLES



1- Flange (1.5”) 2 – Channel 7- Channel with Sill Extension 9 - Flange with Sub Frame

TYPICAL SCREEN STYLE



Wire Mesh
Standard

DATE	ARCHITECT			ENGINEER
PROJECT				
ITEM	QTY	W	H	DESCRIPTION

DEPENDABLE PRODUCTS SINCE 1955

SAFE-AIR OF ILLINOIS INC.

Engineering and General Offices

1855 South 54th Avenue, Cicero, Illinois 60804

Phone 708-652-9100 FAX 708-652-9158

LFF PERFORMANCE SPECIFICATIONS

All free area calculations made in accordance with AMCA standards.

FREE AREA CALCULATIONS IN SQ. FT.

WIDTH

HEIGHT

INCHES	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96
12 -02	.44	.69	.93	1.17	1.41	1.66	1.90	2.14	2.38	2.63	2.87	3.11	3.35	3.60	3.84
-04	.39	.61	.83	1.05	1.27	1.49	1.71	1.93	2.15	2.37	2.59	2.81	3.03	3.25	3.47
-06	.38	.60	.82	1.03	1.25	1.47	1.69	1.91	2.12	2.34	2.56	2.78	2.99	3.21	3.43
18 -02	.77	1.18	1.60	2.02	2.43	2.85	3.27	3.69	4.10	4.52	4.94	5.36	5.77	6.19	6.61
-04	.66	1.03	1.40	1.78	2.15	2.53	2.90	3.28	3.65	4.03	4.40	4.78	5.15	5.52	5.90
-06	.63	.99	1.35	1.71	2.07	2.43	2.79	3.15	3.51	3.86	4.22	4.58	4.94	5.30	5.66
24 -02	1.04	1.61	2.18	2.75	3.32	3.89	4.45	5.02	5.59	6.16	6.73	7.30	7.87	8.43	9.00
-04	.93	1.45	1.98	2.51	3.04	3.57	4.10	4.63	5.16	5.68	6.21	6.74	7.27	7.80	8.33
-06	.98	1.54	2.11	2.67	3.23	3.79	4.35	4.91	5.48	6.04	6.60	7.16	7.72	8.28	8.84
30 -02	1.35	2.09	2.83	3.57	4.31	5.04	5.78	6.52	7.26	8.00	8.73	9.47	10.21	10.95	11.69
-04	1.20	1.88	2.56	3.24	3.93	4.61	5.29	5.98	6.66	7.34	8.02	8.71	9.39	10.07	10.76
-06	1.23	1.94	2.64	3.34	4.05	4.75	5.46	6.16	6.86	7.54	8.27	8.98	9.68	10.38	11.09
36 -02	1.65	2.55	3.45	4.35	5.25	6.15	7.05	7.95	8.85	9.75	10.65	11.55	12.45	13.35	14.25
-04	1.46	2.30	3.14	3.98	4.81	5.65	6.49	7.32	8.16	9.00	9.84	10.67	11.51	12.35	13.18
-06	1.58	2.49	3.40	4.30	5.21	6.11	7.02	7.92	8.83	9.73	10.64	11.54	12.45	13.35	14.26
42 -02	1.94	3.00	4.06	5.12	6.18	7.24	8.29	9.35	10.41	11.47	12.53	13.59	14.65	15.71	16.76
-04	1.73	2.73	3.72	4.71	5.70	6.69	7.68	8.67	9.66	10.66	11.65	12.64	13.63	14.62	15.61
-06	1.85	2.90	3.96	5.02	6.07	7.13	8.18	9.24	10.30	11.35	12.41	13.46	14.52	15.58	16.63
48 -02	2.26	3.49	4.72	5.95	7.19	8.42	9.65	10.88	12.11	13.35	14.58	15.81	17.04	18.27	19.51
-04	2.00	3.15	4.30	5.44	6.59	7.73	8.88	10.02	11.17	12.31	13.46	14.60	15.75	16.89	18.04
-06	2.19	3.44	4.68	5.93	7.18	8.43	9.68	10.93	12.18	13.43	14.68	15.93	17.18	18.43	19.67
54 -02	2.53	3.91	5.29	6.67	8.05	9.43	10.81	12.19	13.57	14.94	16.32	17.70	19.08	20.46	21.84
-04	2.27	3.57	4.87	6.17	7.47	8.77	10.07	11.37	12.67	13.97	15.27	16.57	17.87	19.17	20.47
-06	2.46	3.87	5.28	6.69	8.10	9.50	10.91	12.32	13.73	15.14	16.54	17.95	19.36	20.77	22.18
60 -02	2.85	4.40	5.96	7.51	9.07	10.62	12.18	13.73	15.29	16.84	18.39	19.95	21.50	23.06	24.61
-04	2.54	4.00	5.45	6.91	8.36	9.81	11.27	12.72	14.17	15.63	17.08	18.54	19.99	21.44	22.90
-06	2.79	4.38	5.97	7.57	9.16	10.75	12.35	13.94	15.53	17.13	18.72	20.31	21.90	23.50	25.09
66 -02	3.13	4.83	6.54	8.24	9.95	11.66	13.36	15.07	16.77	18.48	20.18	21.89	23.60	25.30	27.01
-04	2.81	4.42	6.03	7.64	9.25	10.85	12.46	14.07	15.68	17.29	18.89	20.50	22.11	23.72	25.33
-06	3.08	4.84	6.60	8.36	10.12	11.88	13.64	15.40	17.16	18.92	20.68	22.44	24.20	25.96	27.72
72 -02	3.44	5.31	7.19	9.06	10.94	12.81	14.69	16.56	18.44	20.31	22.19	24.07	25.94	27.82	29.69
-04	3.08	4.85	6.61	8.37	10.13	11.89	13.66	15.42	17.18	18.94	20.70	22.47	24.23	25.99	27.75
-06	3.39	5.33	7.26	9.20	11.14	13.07	15.01	16.95	18.88	20.82	22.76	24.69	26.63	28.57	30.50
78 -02	3.74	5.77	7.81	9.85	11.88	13.92	15.96	18.00	20.03	22.07	24.11	26.15	28.18	30.22	32.26
-04	3.35	5.27	7.19	9.10	11.02	12.93	14.85	16.77	18.68	20.60	22.52	24.43	26.35	28.27	30.18
-06	3.70	5.81	7.92	10.03	12.14	14.26	16.37	18.48	20.59	22.70	24.82	26.93	29.04	31.15	33.27
84 -02	4.03	6.22	8.42	10.61	12.81	15.01	17.20	19.40	21.59	23.79	25.99	28.18	30.38	32.57	34.77
-04	3.62	5.69	7.76	9.83	11.91	13.98	16.05	18.12	20.19	22.26	24.33	26.40	28.47	30.54	32.61
-06	3.99	6.27	8.55	10.83	13.11	15.39	17.67	19.96	22.24	24.52	26.80	29.08	31.36	33.64	35.92
90 -02	4.34	6.71	9.08	11.45	13.82	16.19	18.56	20.93	23.30	25.66	28.03	30.40	32.77	35.14	37.51
-04	3.89	6.12	8.34	10.57	12.79	15.02	17.24	19.47	21.69	23.91	26.14	28.36	30.59	32.81	35.04
-06	4.31	6.78	9.24	11.70	14.17	16.63	19.10	21.56	24.02	26.49	28.95	31.42	33.88	36.35	38.81
96 -02	4.61	7.13	9.65	12.16	14.68	17.20	19.71	22.23	24.75	27.26	29.78	32.30	34.81	37.33	39.85
-04	4.16	6.54	8.92	11.30	13.68	16.06	18.44	20.81	23.19	25.57	27.95	30.33	32.71	35.09	37.47
-06	4.59	7.22	9.84	12.47	15.09	17.71	20.34	22.96	25.59	28.21	30.84	33.46	36.09	38.71	41.33

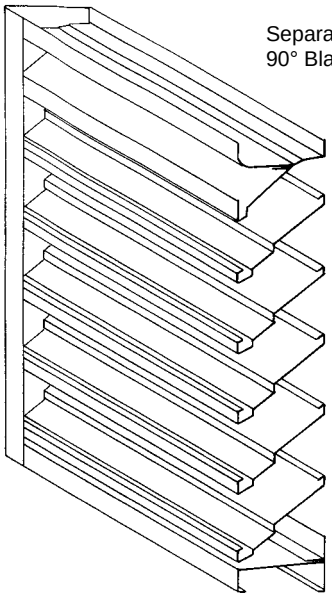
FORMED LOUVER

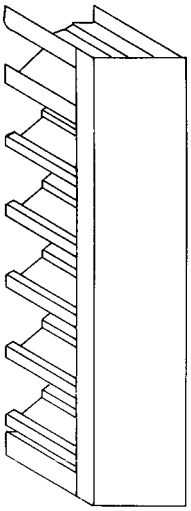
Drainable Blade Louver in 4” thick frame design – Model DBF- 04

Features – High Performance patented design allowing maximum airflow with minimum outside element or water penetration

STANDARD CONSTRUCTION

FRAME
DBF- 04” (102) thick, is 20 gauge (1.0) galvanized steel in style #3
BLADES
DBF- 04”, (102) are 20 gauge (1.0) galv. steel, approx. spacing is 3” (76) @ 39°
MAXIMUM SIZE
Unlimited, with mullions, structural bracing supplied by others
MAXIMUM SINGLE SECTION
120” W x 84” H or 84” W x 120” H
(allows for best handling)
MULLIONS
Visible
MINIMUM SIZE
12” W x 12” H (305 x 305)
UNDERSIZED
3/8”(10) under ordered size unless specified Exact or Actual
SCREEN
½” (13) wire mesh 19 gauge (1.1) galvanized bird screen no frame
FINISH
Mill





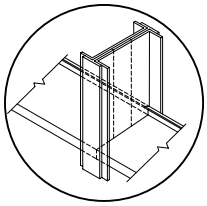
OPTIONAL CONSTRUCTION

FRAME – Available in a heavier construction up to 10 (3.5) gauge
BLADES - Available in a heavier construction up to 16 (1.6) gauge
SPECIFIED MATERIAL – Aluminum, Stainless or as requested
SCREENS - Many styles available please consult screen listing
MULLIONS – Invisible please consult factory
FINISH – Air-dry primer, polyurethane, epoxy, or enamel. Baked epoxy or enamel. Kynar (Kynar limitations on steel.)

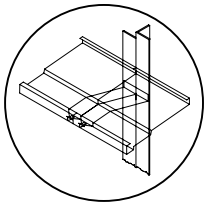
SPECIAL PURPOSE CONSTRUCTION

Special shapes; Triangle, Trapezoid, etc.
Fully welded assembly
Security bars
Filter racks
Hinged as walk through door or for swing out access
Sleeved for ductwork connection

MULLION STYLES



Visible



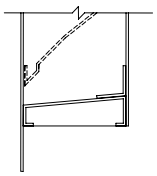
Invisible

PERFORMANCE

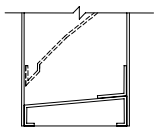
Point of
water penetration
973 fpm (297)

Free area
48 x 48 section
58%

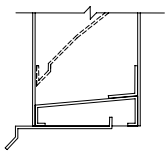
FRAME STYLES



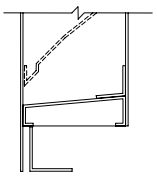
1- Flange (1.5”)



3 – Box

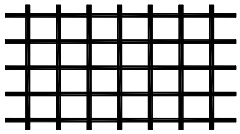


8- Box with
Sill Extension



9 - Flange
with Sub Frame

TYPICAL SCREEN STYLE



Wire Mesh - Standard

DATE	ARCHITECT	ENGINEER
PROJECT		

ITEM	QTY	W	H

SAFE-AIR / DOWCO certifies that the DBF -04 louver shown herein are 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 and water penetration ratings.

DEPENDABLE PRODUCTS SINCE 1955

SAFE-AIR OF ILLINOIS, INC.

Engineering and General Offices

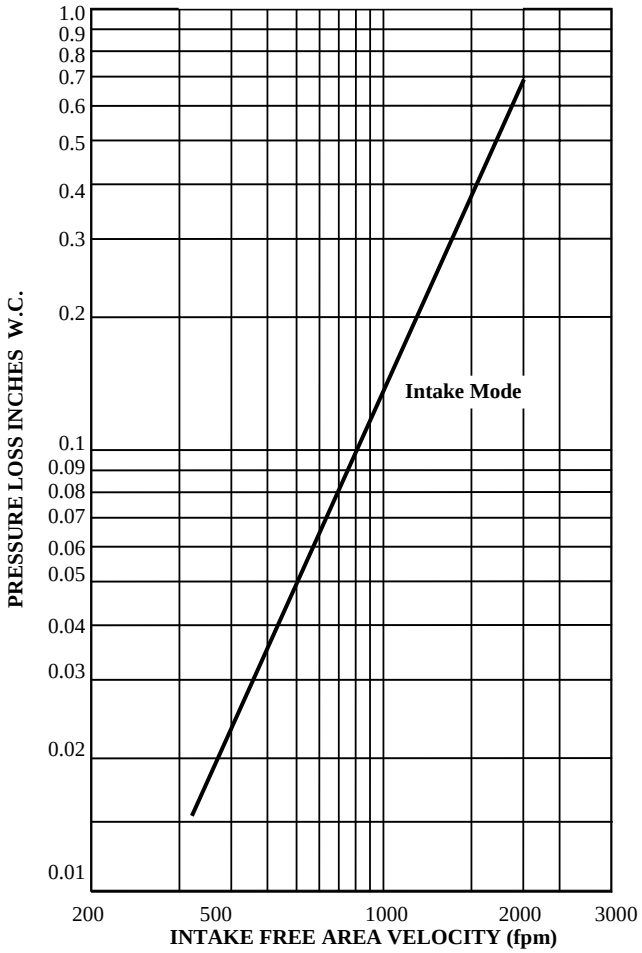
1855 South 54th Avenue, Cicero, Illinois 60804

Phone 708-652-9100 FAX 708-652-9158

DBF-04 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

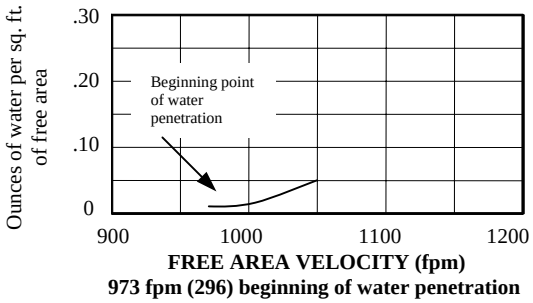
The "free area flow rate" at which water penetration commences (.01 oz. of water) is established at, 973 fpm (296) for DBF-04, and will vary depending upon actual weather conditions. The "water penetration" graph illustrates the results of actual laboratory test on a 48" x 48" (1219 x 1219) test sample subjected to hypothetical rainfall conditions. To determined 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	(H20)
973	1004	1046	n/a	n/a	n/a	(fpm)



973 fpm (296) beginning of water penetration

WIDTH

FREE AREA CALCULATIONS IN SQ. FT.

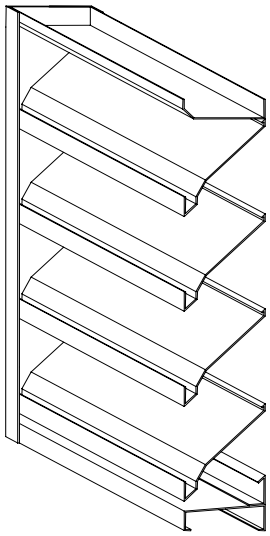
INCHES	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	102	108	114	120
12	.35	.54	.74	.94	1.14	1.34	1.53	1.73	1.93	2.13	2.33	2.52	2.72	2.92	3.12	3.32	3.51	3.71	3.91
18	.64	1.00	1.37	1.73	2.10	2.46	2.83	3.19	3.55	3.92	4.28	4.65	5.01	5.38	5.74	6.11	6.47	6.84	7.20
24	.93	1.46	1.99	2.52	3.05	3.59	4.12	4.65	5.18	5.71	6.24	6.77	7.30	7.84	8.37	8.90	9.43	9.96	10.49
30	1.22	1.92	2.62	3.32	4.01	4.71	5.41	6.11	6.80	7.50	8.20	8.90	9.60	10.29	10.99	11.69	12.39	13.09	13.78
36	1.51	2.38	3.24	4.11	4.97	5.84	6.70	7.57	8.43	9.29	10.16	11.02	11.89	12.75	13.62	14.48	15.35	16.21	17.08
42	1.80	2.84	3.87	4.90	5.93	6.96	7.99	9.02	10.05	11.09	12.12	13.15	14.18	15.21	16.24	17.27	18.30	19.34	20.37
48	2.10	3.29	4.49	5.69	6.89	8.09	9.28	10.48	11.68	12.88	14.08	15.27	16.47	17.67	18.87	20.07	21.26	22.46	23.66
54	2.39	3.75	5.12	6.48	7.85	9.21	10.58	11.94	13.30	14.67	16.03	17.40	18.76	20.13	21.49	22.88	24.22	25.59	26.95
60	2.68	4.21	5.74	7.27	8.80	10.34	11.87	13.40	14.93	16.46	17.99	19.52	21.05	22.59	24.12	25.65	27.18	28.71	30.24
66	2.97	4.67	6.37	8.07	9.76	11.46	13.16	14.86	16.55	18.25	19.95	21.65	23.35	25.04	26.74	28.44	31.14	31.84	33.53
72	3.26	5.13	6.99	8.86	10.72	12.59	14.45	16.32	18.18	20.04	21.91	23.77	25.64	27.50	29.37	31.23	33.10	34.96	36.83
78	3.35	5.59	7.62	9.65	11.68	13.71	15.74	17.77	19.80	21.84	23.87	25.90	27.93	29.96	31.99	34.02	36.05	38.09	40.12
84	3.85	6.04	8.24	10.44	12.64	14.84	17.03	19.23	21.43	23.63	25.83	28.02	30.22	32.42	34.62	36.82	39.01	41.21	43.41
90	4.14	6.50	8.87	11.23	13.60	15.96	18.33	20.69	23.05	25.42	27.78	30.15	32.51	34.88	37.24	39.61	41.97	44.34	46.70

HEIGHT

FORMED LOUVER

Drainable Blade Louver in 4” thick frame design – Model DWF- 04

Features – High Performance patented design allowing maximum airflow with minimum outside element or water penetration



STANDARD CONSTRUCTION

FRAME
DWF- 04” (102) thick, is 20 gauge (1.0) galvanized steel in style #3
BLADES
DWF- 04”,(102) are 20 (1.0) gauge galvanized steel, approx. spacing is 4-1/2” (114) @ 45°
MAXIMUM SIZE
Unlimited, with mullions, structural bracing supplied by others
MAXIMUM SINGLE SECTION
120”w x 84”h or 84”w x 120”h
(allows for best handling)
MULLIONS
Visible
MINIMUM SIZE
12” W x 12” H (305 x 305)
UNDERSIZED
3/8” (10) under ordered size unless specified Exact or Actual
SCREEN
½” (13) wire mesh 19 gauge (1.1) galvanized bird screen no frame
FINISH
Mill

PERFORMANCE

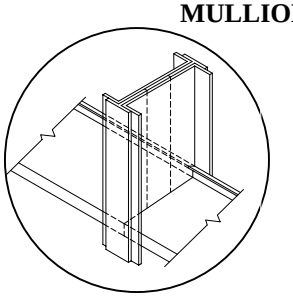
Point of water penetration
822 fpm (251)

Free area
48 x 48 section
58%

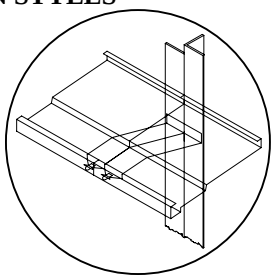
OPTIONAL CONSTRUCTION

FRAME – Available in a heavier construction up to 10 gauge (3.5)
BLADES - Available in a heavier construction up to 16 gauge (1.6**)**
SPECIFIED MATERIAL – Aluminum, Stainless or as requested
SCREENS - Many styles available please consult screen listing
MULLIONS – Invisible please consult factory
FINISH – Air-dry primer, polyurethane, epoxy, or enamel. Baked epoxy or enamel. Kynar (Kynar limitations on steel.)

MULLION STYLES



Visible

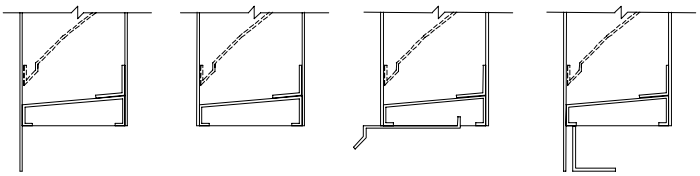


Invisible

SPECIAL PURPOSE CONSTRUCTION

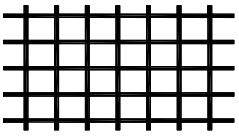
Special shapes; Triangle, Trapezoid, etc.
Fully welded assembly
Security bars
Filter racks
Hinged as walk through door or for swing out access
Sleeved for ductwork connection

FRAME STYLES



1- Flange (1.5”) | 3 – Box | 8- Box with Sill Extension | 9 - Flange with Sub Frame

TYPICAL SCREEN STYLE



Wire Mesh
Standard

DATE	ARCHITECT		ENGINEER
PROJECT			

ITEM	QTY	W	H

SAFE-AIR/DOWCO certifies that the DWF-04 louver shown herein are 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 and water penetration ratings.

DEPENDABLE PRODUCTS SINCE 1955

SAFE-AIR OF ILLINOIS INC.

Engineering and General Offices

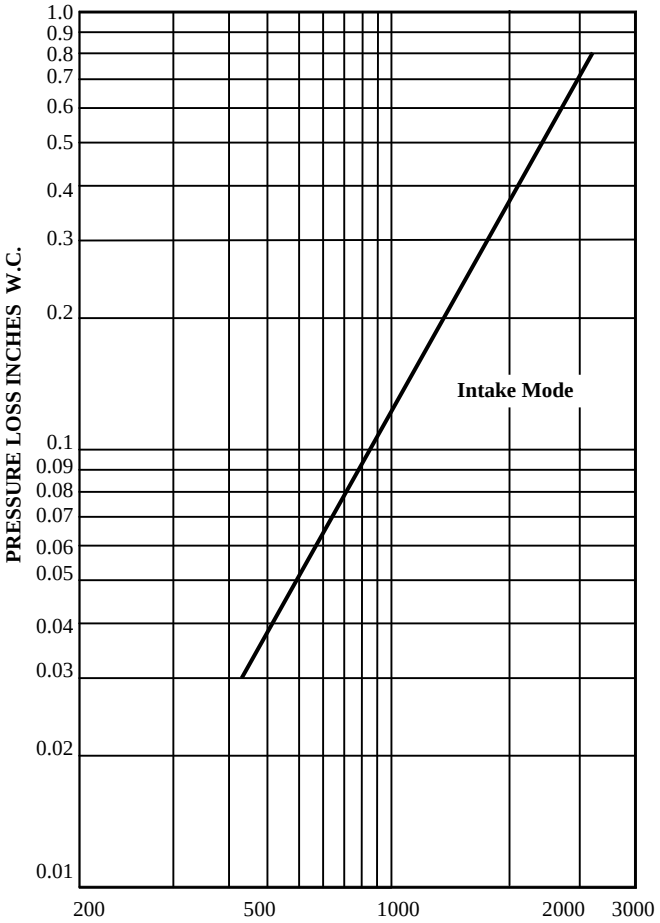
1855 South 54th Avenue, Cicero, Illinois 60804

Phone 708-652-9100 FAX 708-652-9158

DWF-04 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

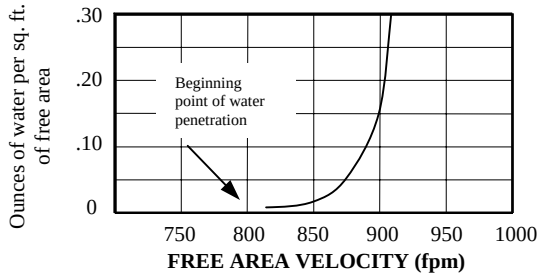
CALCULATING MAXIMUM AIRFLOW BEFORE WATER PENETRATION

The "free area flow rate" at which water penetration commences (.01 oz. of water) is established at, 822 fpm (251) for DWF-04, 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 determined 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	(H20)
822	842	868	887	907	918	(fpm)



822 fpm (251) beginning of water penetration

FREE AREA CALCULATIONS IN SQ. FT.

W I D T H

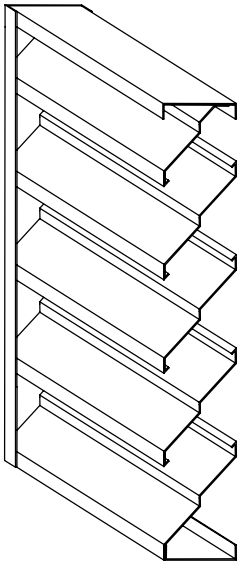
INCHES	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	102	108	114	120
12	.33	.52	.71	.90	1.09	1.27	1.46	1.65	1.84	2.03	2.22	2.41	2.60	2.78	2.97	3.16	3.35	3.54	3.73
18	.66	1.03	1.41	1.79	2.16	2.54	2.92	3.29	3.67	4.05	4.42	4.80	5.17	5.55	5.93	6.30	6.68	7.06	7.43
24	.89	1.40	1.90	2.41	2.92	3.43	3.94	4.44	4.95	5.46	5.97	6.47	6.98	7.49	8.00	8.51	9.01	9.52	10.03
30	1.21	1.89	2.58	3.27	3.96	4.65	5.34	6.03	6.72	7.40	8.09	8.78	9.47	10.16	10.85	11.54	12.23	12.91	13.60
36	1.52	2.38	3.25	4.12	4.99	5.85	6.72	7.59	8.46	9.32	10.19	11.06	11.92	12.79	13.66	14.53	15.39	16.26	17.13
42	1.75	2.75	3.75	4.76	5.76	6.76	7.76	8.76	9.76	10.76	11.77	12.77	13.77	14.77	15.77	16.17	17.77	18.77	19.78
48	2.08	3.27	4.46	5.65	6.84	8.02	9.21	10.40	11.59	12.78	13.97	15.16	16.35	17.53	18.72	19.91	21.10	22.29	23.48
54	2.36	3.70	5.05	6.40	7.74	9.09	10.43	11.38	13.13	14.47	15.82	17.17	18.51	19.86	21.21	22.55	23.90	25.24	26.59
60	2.71	4.13	5.63	7.13	8.63	10.13	11.64	13.14	14.64	16.14	17.64	19.14	20.64	22.14	23.65	25.15	26.65	28.15	29.65
66	2.96	4.64	6.33	8.02	9.71	11.40	13.09	14.78	16.47	18.15	19.84	21.53	23.22	24.91	26.60	28.29	29.98	31.66	33.35
72	3.19	5.02	6.85	8.67	10.50	12.32	14.15	15.97	17.80	19.62	21.45	23.28	25.10	26.93	28.75	30.58	32.40	34.23	36.05
78	3.50	5.50	7.50	9.51	11.51	13.51	15.51	17.51	19.51	21.51	23.52	25.52	27.52	29.52	31.52	33.52	35.52	37.52	39.53
84	3.82	6.01	8.19	10.38	12.56	14.75	16.93	19.12	21.30	23.49	25.67	27.86	30.04	32.23	34.41	36.60	38.78	40.97	43.15
90	4.05	6.36	9.68	10.99	13.30	15.62	17.93	20.25	22.56	24.87	27.19	29.50	31.81	34.13	36.44	38.76	41.07	43.38	45.70
96	4.38	6.88	9.38	11.88	14.38	16.88	19.39	21.89	24.39	26.89	29.39	31.89	34.39	36.89	39.40	41.90	44.40	46.90	49.40

H E I G H T

FORMED LOUVER

Weather Protective Blade Louver in 4” thick frame design – Model LFA- 04

Features – Traditional design with center blade baffle for improved weather protection.



STANDARD CONSTRUCTION

FRAME
LFA- 04” (102) thick, is 20 gauge (1.0) galvanized steel in style #2
BLADES
LFA- 04”, (102) are 20 gauge (1.0) galvanized steel, approx. spacing is 5 3/8” (137) @ 45°
MAXIMUM SIZE
Unlimited, with mullions, structural bracing supplied by others
MAXIMUM SINGLE SECTION
120”w x 84”H or 84”w x 120”H
(allows for best handling)
MULLIONS
Visible
MINIMUM SIZE
12” W x 12” H (305 x 305)
UNDERSIZED
3/8” (10) under ordered size unless specified Exact or Actual
SCREEN
½” (13) wire mesh 19 gauge (1.1) galvanized bird screen no frame
FINISH
Mill

PERFORMANCE

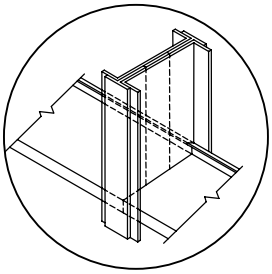
Point of water penetration
672 fpm (205)

Free area
48 x 48 section
50%

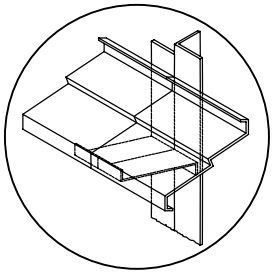
OPTIONAL CONSTRUCTION

FRAME – Available in a heavier construction up to 10 gauge (3.5)
BLADES - Available in a heavier construction up to 12 gauge (2.7)
SPECIFIED MATERIAL – Aluminum, Stainless or as requested
SCREENS - Many styles available please consult screen listing
MULLIONS – Invisible for enhanced architectural appearance.
FINISH – Air-dry primer, polyurethane, epoxy, or enamel. Baked epoxy or enamel. Kynar (Kynar limitations on steel.)

MULLION STYLES



Visible

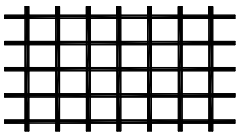


Invisible

SPECIAL PURPOSE CONSTRUCTION

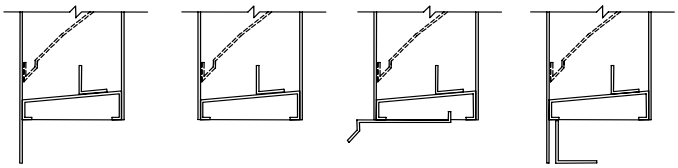
Special shapes; Round, Triangle, Trapezoid, Octagon, etc.
Fully welded assembly
Security bars
Filter racks
Hinged as walk through door or for swing out access
Sleeved for ductwork connection

TYPICAL SCREEN STYLE



Wire Mesh
Standard

FRAME STYLES



1- Flange (1.5”) | 2 – Channel | 7- Channel with Sill Extension | 9 - Flange with Sub Frame

DATE	ARCHITECT		ENGINEER
PROJECT			

ITEM	QTY	W	H

SAFE-AIR / DOWCO certifies that the LFA -04 louver shown herein are 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 and water penetration ratings.

DEPENDABLE PRODUCTS SINCE 1955

SAFE-AIR OF ILLINOIS INC.

Engineering and General Offices

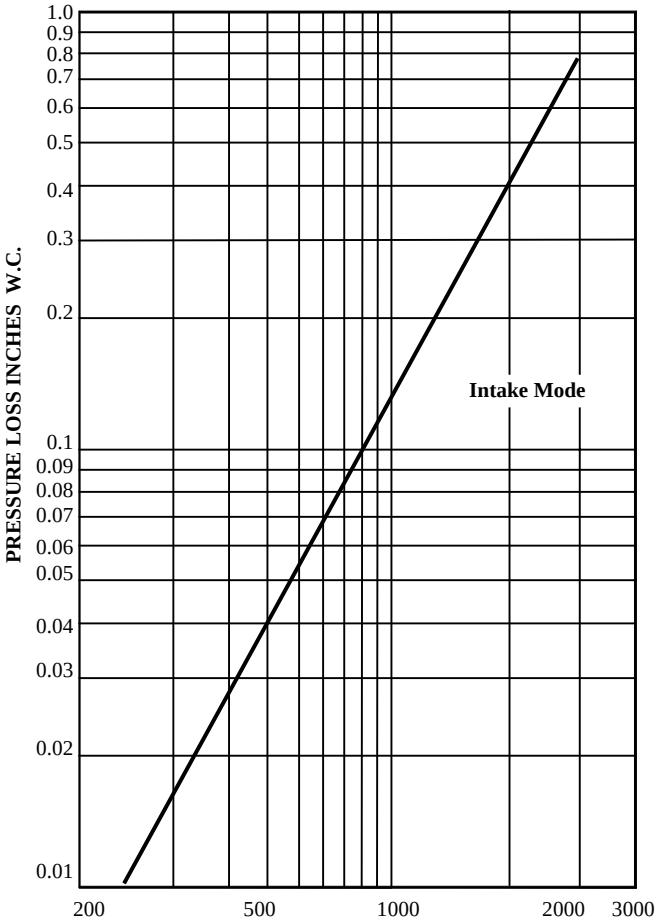
1855 South 54th Avenue, Cicero, Illinois 60804

Phone 708-652-9100 FAX 708-652-9158

LFA-04 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

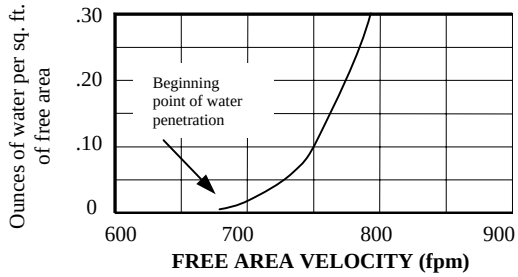
CALCULATING MAXIMUM AIRFLOW BEFORE WATER PENETRATION

The "free area flow rate" at which water penetration commences (.01 oz. of water) is established at, 672 fpm (205) for LFA-04, 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 determined 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	(H20)
672	696	726	750	773	786	(fpm)



672 fpm (205) beginning of water penetration

FREE AREA CALCULATIONS IN SQ. FT.

W I D T H

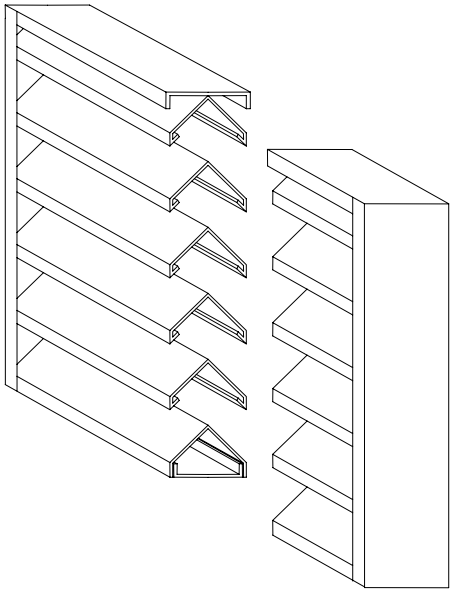
INCHES	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	102	108	114	120
12	.34	.53	.72	.92	1.11	1.30	1.49	1.69	1.88	2.07	2.26	2.46	2.65	2.84	3.04	3.23	3.42	3.61	3.81
18	.55	.86	1.17	1.48	1.80	2.11	2.42	2.73	3.05	3.36	3.67	3.98	4.30	4.61	4.92	5.23	5.55	5.86	6.17
24	.76	1.19	1.62	2.05	2.49	2.92	3.35	3.78	4.21	4.65	5.08	5.51	5.94	6.38	6.81	7.24	7.67	8.11	8.54
30	.98	1.55	2.11	2.67	3.23	3.80	4.36	4.92	5.48	6.05	6.61	7.17	7.73	8.30	8.86	9.42	9.98	10.55	11.11
36	1.25	1.97	2.69	3.40	4.12	4.83	5.55	6.27	6.98	7.70	8.41	9.13	9.85	10.56	11.28	12.00	12.71	13.43	14.14
42	1.52	2.39	3.26	4.13	5.00	5.87	6.74	7.61	8.48	9.35	10.22	11.09	11.96	12.83	13.70	14.57	15.44	16.31	17.18
48	1.79	2.81	3.84	4.86	5.88	6.91	7.93	8.96	9.98	11.00	12.03	13.05	14.07	15.10	16.12	17.14	18.17	19.19	20.21
54	2.01	3.17	4.32	5.47	6.62	7.77	8.92	10.07	11.22	12.37	13.52	14.68	15.83	16.98	18.13	19.28	20.43	21.58	22.73
60	2.22	3.49	4.77	6.04	7.31	8.58	9.85	11.12	12.39	13.66	14.93	16.20	17.47	18.74	20.02	21.29	22.56	23.83	25.10
66	2.43	3.82	5.21	6.61	8.00	9.39	10.78	12.17	13.56	14.95	16.34	17.73	19.12	20.51	21.90	23.29	24.68	26.07	27.46
72	2.70	4.24	5.78	7.32	8.86	10.41	11.95	13.49	15.03	16.57	18.11	19.66	21.20	22.74	24.28	25.82	27.36	28.91	30.45
78	2.97	4.66	6.36	8.05	9.75	11.44	13.14	14.83	16.53	18.22	19.92	21.62	23.31	25.01	26.70	28.40	30.09	31.79	33.48
84	3.24	5.08	6.93	8.78	10.63	12.48	14.33	16.18	18.03	19.88	21.73	23.57	25.42	27.27	29.12	30.97	32.82	34.67	36.52
90	3.48	5.47	7.46	9.45	11.44	13.43	15.42	17.41	19.40	21.39	23.38	25.37	27.36	29.35	31.34	33.33	35.32	37.30	39.29
96	3.69	5.80	7.91	10.02	12.13	14.24	16.35	18.46	20.57	22.68	24.79	26.89	29.00	31.11	33.22	35.33	37.44	39.55	41.66

H E I G H T

FORMED LOUVER

Chevron Blade Louver in 4” or 6” thick frame design Model LFD

Features – Sightproof design.



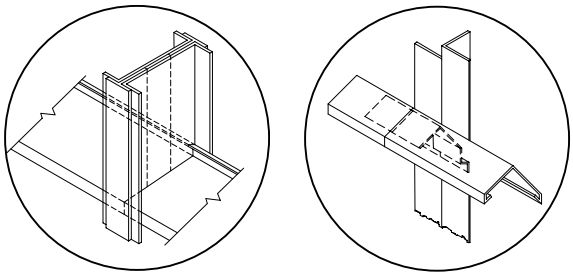
STANDARD CONSTRUCTION

FRAME
LFD-04” (102) thick, is 20 gauge (1.0) galvanized steel in style #2
LFD-06” (152) thick, is 20 gauge (1.0) galvanized steel in style #2
BLADES
LFD- 04”, (102) are 20 gauge (1.0) galv. steel, approx. spacing is 2 1/2” (64) @ 45°
LFD- 06”, (152) are 20 gauge (1.0) galv. steel, approx. spacing is 3” (76) @ 45°
MAXIMUM SIZE
Unlimited, with mullions, structural bracing supplied by others
MAXIMUM SINGLE SECTION
120”w x 84”h or 84”w x 120”h
(allows for best handling)
MULLIONS
Visible
MINIMUM SIZE
12” W x 12” H (305 x 305)
UNDERSIZED
3/8” (10) under ordered size unless specified Exact or Actual
SCREEN
½” (13) wire mesh 19 gauge (1.1) galvanized bird screen no frame
FINISH
Mill

OPTIONAL CONSTRUCTION

FRAME – Available in a heavier construction up to 10 gauge (3.5)
BLADES - Available in a heavier construction up to 16 gauge (1.6)
SPECIFIED MATERIAL – Aluminum, Stainless or as requested
SCREENS - Many styles available please consult screen listing
MULLIONS – Invisible for enhanced architectural appearance.
FINISH – Air-dry primer, polyurethane, epoxy, or enamel. Baked epoxy or enamel. Kynar (Kynar limitations on steel.)

MULLION STYLES

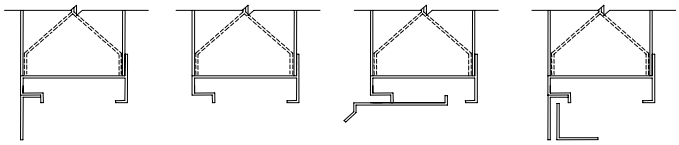


Visible Invisible

SPECIAL PURPOSE CONSTRUCTION

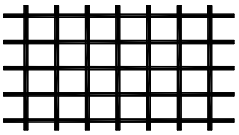
Special shapes; Round, Triangle, Trapezoid, Octagon, etc.
Fully welded assembly
Security bars
Filter racks
Hinged as walk through door or for swing out access
Sleeved for ductwork connection

FRAME STYLES



1- Flange (1.5”) 2 – Channel 7- Channel with Sill Extension 9 - Flange with Sub Frame

TYPICAL SCREEN STYLE



Wire Mesh
Standard

DATE	ARCHITECT			ENGINEER
PROJECT				
ITEM	QTY	W	H	DESCRIPTION

DEPENDABLE PRODUCTS SINCE 1955

SAFE-AIR OF ILLINOIS INC.

Engineering and General Offices

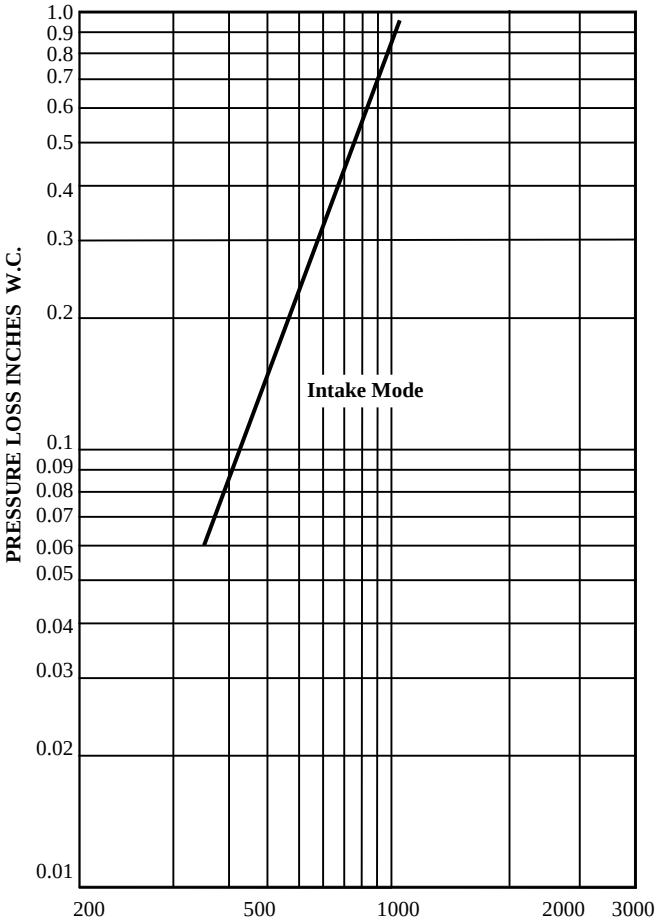
1855 South 54th Avenue, Cicero, Illinois 60804

Phone 708-652-9100 FAX 708-652-9158

LFD-04 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

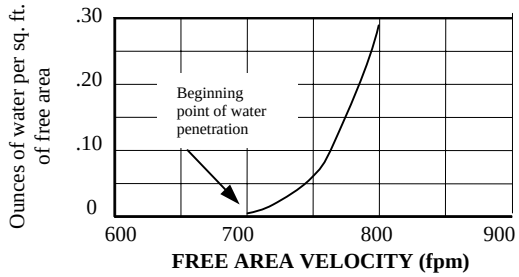
CALCULATING MAXIMUM AIRFLOW BEFORE WATER PENETRATION

The "free area flow rate" at which water penetration commences (.01 oz. of water) is established at, 701 fpm (205) for LFD-04, 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 determined 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	(H20)
701	720	750	762	790	800	(fpm)



701 fpm (205) beginning of water penetration

WIDTH

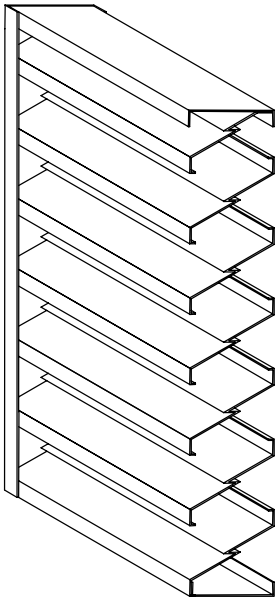
HEIGHT

Inches	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96
12	0.29	0.48	0.67	0.86	1.05	1.24	1.43	1.63	1.82	2.04	2.23	2.42	2.61	2.81	3.00
18	0.48	0.80	1.12	1.44	1.76	2.08	2.40	2.72	3.04	3.41	3.73	4.05	4.37	4.69	5.01
24	0.66	1.09	1.53	1.97	2.40	2.84	3.28	3.72	4.15	4.66	5.10	5.54	5.97	6.41	6.85
30	0.88	1.46	2.05	2.63	3.22	3.81	4.39	4.98	5.56	6.24	6.83	7.42	8.00	8.59	9.17
36	1.04	1.73	2.43	3.12	3.81	4.51	5.20	5.89	6.59	7.40	8.09	8.78	9.48	10.17	10.86
42	1.25	2.08	2.91	3.74	4.57	5.40	6.23	7.07	7.90	8.87	9.70	10.53	11.36	12.19	13.02
48	1.44	2.40	3.36	4.32	5.28	6.24	7.20	8.16	9.12	10.24	11.20	12.16	13.12	14.08	15.04
54	1.62	2.69	3.77	4.85	5.92	7.00	8.08	9.16	10.23	11.49	12.57	13.64	14.72	15.80	16.87
60	1.84	3.06	4.29	5.51	6.74	7.97	9.19	10.42	11.64	13.07	14.30	15.52	16.75	17.97	19.20
66	2.00	3.33	4.67	6.00	7.33	8.67	10.00	11.33	12.67	14.22	15.56	16.89	18.22	19.56	20.89
72	2.21	3.68	5.15	6.62	8.09	9.56	11.03	12.51	13.98	15.69	17.16	18.64	20.11	21.58	23.05
78	2.40	4.00	5.60	7.20	8.80	10.40	12.00	13.60	15.20	17.07	18.67	20.27	21.87	23.47	25.07
84	2.58	4.29	6.01	7.73	9.44	11.16	12.88	14.60	16.31	18.32	20.03	21.75	23.47	25.18	26.90
90	2.80	4.66	6.53	8.39	10.26	12.13	13.99	15.86	17.72	19.90	21.76	23.63	25.49	27.36	29.22
96	2.96	4.93	6.91	8.88	10.85	12.83	14.80	16.77	18.75	21.05	23.02	25.00	26.97	28.94	30.92
102	3.17	5.28	7.39	9.50	11.61	13.72	15.83	17.95	20.06	22.52	24.63	26.74	28.85	30.97	33.08
108	3.36	5.60	7.84	10.08	12.32	14.56	16.80	19.04	21.28	23.89	26.13	28.37	30.61	32.85	35.09
114	3.54	5.89	8.25	10.61	12.96	15.32	17.68	20.04	22.39	25.14	27.50	29.86	32.21	34.57	36.93
120	3.76	6.26	8.77	11.27	13.78	16.29	18.79	21.30	23.80	26.72	29.23	31.74	34.24	36.75	39.25

FORMED LOUVER

Weather Protective Blade Louver in 4” or 6” thick frame design Model LFG

Features – Traditional design with center blade baffle for improved weather protection.



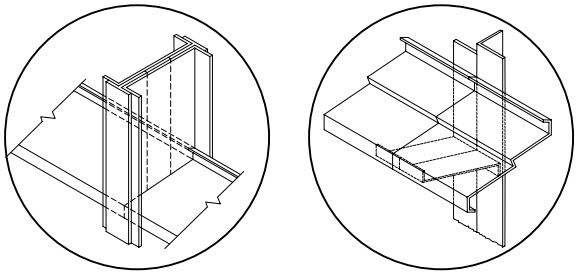
STANDARD CONSTRUCTION

FRAME
LFG-04” (102) thick, is 20 gauge (1.0) galvanized steel in style #2
LFG-06” (152) thick, is 20 gauge (1.0) galvanized steel in style #2
BLADES
LFG- 04”, (102) are 20 gauge (1.0) galv. steel, approx. spacing is 3 5/8” (92) @ 30°
LFG- 06”, (152) are 20 gauge (1.0) galv. steel, approx. spacing is 5” (127) @ 30°
MAXIMUM SIZE
Unlimited, with mullions, structural bracing supplied by others
MAXIMUM SINGLE SECTION
120”w x 84”h or 84”w x 120”h
(allows for best handling)
MULLIONS
Visible
MINIMUM SIZE
12” W x 12” H (305 x 305)
UNDERSIZED
3/8” (10) under ordered size unless specified Exact or Actual
SCREEN
½” (13) wire mesh 19 gauge (1.1) galvanized bird screen no frame
FINISH
Mill

OPTIONAL CONSTRUCTION

FRAME – Available in a heavier construction up to 10 gauge (3.5)
BLADES - Available in a heavier construction up to 16 gauge (1.6)
SPECIFIED MATERIAL – Aluminum, Stainless or as requested
SCREENS - Many styles available please consult screen listing
MULLIONS – Invisible for enhanced architectural appearance.
FINISH – Air-dry primer, polyurethane, epoxy, or enamel. Baked epoxy or enamel. Kynar (Kynar limitations on steel.)

MULLION STYLES

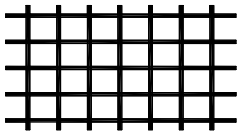


Visible Invisible

SPECIAL PURPOSE CONSTRUCTION

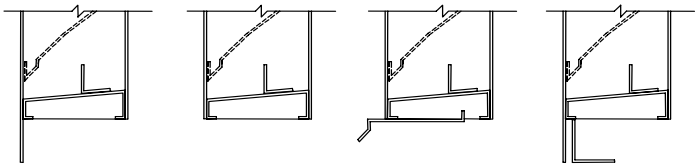
Special shapes; Round, Triangle, Trapezoid, Octagon, etc.
Fully welded assembly
Security bars
Filter racks
Hinged as walk through door or for swing out access
Sleeved for ductwork connection

TYPICAL SCREEN STYLE



Wire Mesh
Standard

FRAME STYLES



1- Flange (1.5") 2 – Channel 7- Channel with Sill Extension 9 - Flange with Sub Frame

DATE	ARCHITECT			ENGINEER
PROJECT				
ITEM	QTY	W	H	DESCRIPTION

DEPENDABLE PRODUCTS SINCE 1955

SAFE-AIR OF ILLINOIS INC.

Engineering and General Offices

1855 South 54th Avenue, Cicero, Illinois 60804

Phone 708-652-9100 FAX 708-652-9158

LFG PERFORMANCE SPECIFICATIONS

All free area calculations made in accordance with AMCA standards.

FREE AREA CALCULATIONS IN SQ. FT.

WIDTH

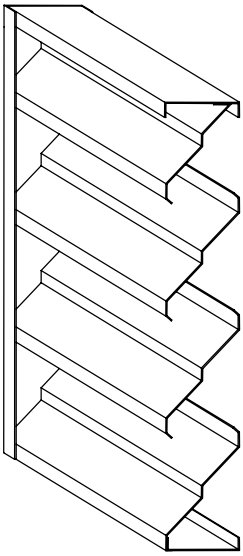
HEIGHT

INCHES	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96
12 -04	.39	.62	.84	1.07	1.29	1.51	1.74	1.96	2.19	2.41	2.64	2.78	3.08	3.31	3.53
-06	.32	.51	.69	.88	1.06	1.25	1.43	1.62	1.80	1.99	2.17	2.36	2.54	2.73	2.91
18 -04	.68	1.07	1.46	1.85	2.24	2.63	3.02	3.41	3.80	4.19	4.58	4.97	5.36	5.75	6.14
-06	.65	1.03	1.40	1.77	2.14	2.52	2.89	3.26	3.63	4.01	4.48	4.75	5.13	5.50	5.87
24 -04	.98	1.54	2.10	2.66	3.23	3.79	4.35	4.91	5.47	6.03	6.59	7.15	7.71	8.27	8.83
-06	.98	1.54	2.10	2.66	3.22	3.79	4.35	4.91	5.47	6.03	6.59	7.15	7.71	8.27	8.83
30 -04	1.27	2.00	2.72	3.45	4.18	4.90	5.63	6.36	7.08	7.81	8.54	9.26	9.99	10.72	11.44
-06	1.29	2.02	2.76	3.49	4.23	4.96	5.70	6.43	7.17	7.90	8.64	9.37	10.11	10.84	11.58
36 -04	1.57	2.47	3.37	4.26	5.16	6.06	6.95	7.85	8.75	9.65	10.54	11.44	12.34	13.24	14.13
-06	1.54	2.43	3.31	4.19	5.07	5.95	6.84	7.72	8.60	9.48	10.36	11.25	12.13	13.01	13.89
42 -04	1.86	2.92	3.99	5.05	6.11	7.18	8.24	9.30	10.37	11.43	12.49	13.55	14.62	15.68	16.74
-06	1.84	2.89	3.94	4.99	6.04	7.09	8.14	9.19	10.24	11.29	12.34	13.39	14.44	15.49	16.54
48 -04	2.16	3.39	4.63	5.86	7.10	8.33	9.56	10.80	12.03	13.26	14.50	15.73	16.97	18.20	19.43
-06	2.17	3.41	4.64	5.88	7.12	8.36	9.60	10.84	12.07	13.31	14.55	15.79	17.03	18.27	19.50
54 -04	2.45	3.85	5.25	6.65	8.05	9.45	10.85	12.25	13.65	15.05	16.45	17.85	19.25	20.64	22.04
-06	2.50	3.92	5.35	6.78	8.20	9.63	11.05	12.48	13.91	15.33	16.76	18.19	19.61	21.04	22.47
60 -04	2.75	4.32	5.89	7.46	9.03	10.60	12.17	13.74	15.31	16.88	18.45	20.02	21.59	23.16	24.73
-06	2.83	4.44	6.05	7.67	9.28	10.90	12.51	14.13	15.74	17.35	18.97	20.58	22.20	23.81	25.43
66 -04	3.04	4.77	6.51	8.25	9.98	11.72	13.46	15.19	16.93	18.66	20.40	22.14	23.87	25.61	27.34
-06	3.09	4.85	6.62	8.38	10.14	11.91	13.67	15.44	17.20	18.96	20.73	22.49	24.26	26.02	27.78
72 -04	3.34	5.24	7.15	9.06	10.97	12.87	14.78	16.69	18.59	20.50	22.41	24.31	26.22	28.13	30.03
-06	3.35	5.27	7.18	9.10	11.02	12.93	14.85	16.76	18.68	20.60	22.51	24.43	26.34	28.26	30.18
78 -04	3.63	5.70	7.77	9.85	11.92	13.99	16.06	18.14	20.21	22.28	24.35	26.43	28.50	30.57	32.65
-06	3.68	5.79	7.89	9.99	12.10	14.20	16.31	18.41	20.51	22.62	24.72	26.83	28.93	31.03	33.14
84 -04	3.93	6.17	8.41	10.66	12.90	15.14	17.39	19.63	21.87	24.12	26.36	28.60	30.85	33.09	35.34
-06	4.01	6.30	8.59	10.89	13.18	15.47	17.76	20.05	22.35	24.64	26.93	29.22	31.51	33.81	36.10
90 -04	4.22	6.63	9.03	11.44	13.85	16.26	18.67	21.08	23.49	25.90	28.31	30.72	33.13	35.54	37.95
-06	4.34	6.82	9.30	11.78	14.26	16.74	19.22	21.70	24.18	26.66	29.14	31.62	34.10	36.58	39.06
96- 04	4.52	7.10	9.68	12.26	14.84	17.42	20.00	22.58	25.16	27.74	30.32	32.90	35.48	38.06	40.64
-06	4.63	7.28	9.92	12.57	15.21	17.86	20.51	23.15	25.80	28.44	31.09	33.74	36.38	39.03	41.67

FORMED LOUVER

Weather Protective Blade Louver in 4” thick frame design Model WFA

Features – Traditional design with center blade baffle for improved weather protection.



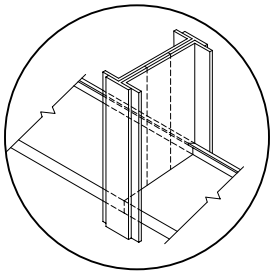
STANDARD CONSTRUCTION

FRAME
WFA-04” (102) thick, is 20 gauge (1.0) galvanized steel in style #2
BLADES
WFA- 04”, (102) are 20 gauge (1.0) galv. steel, approx. spacing is 5” (127) @ 45°
MAXIMUM SIZE
Unlimited, with mullions, structural bracing supplied by others
MAXIMUM SINGLE SECTION
120”w x 84”h or 84”w x 120”h
(allows for best handling)
MULLIONS
Visible
MINIMUM SIZE
12” W x 12” H (305 x 305)
UNDERSIZED
3/8” (10) under ordered size unless specified Exact or Actual
SCREEN
½” (13) wire mesh 19 gauge (1.1) galvanized bird screen no frame
FINISH
Mill

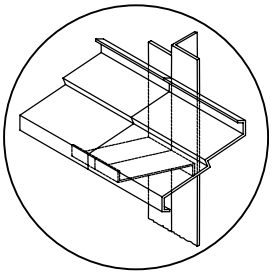
OPTIONAL CONSTRUCTION

FRAME – Available in a heavier construction up to 10 gauge (3.5)
BLADES - Available in a heavier construction up to 12 gauge (2.7)
SPECIFIED MATERIAL – Aluminum, Stainless or as requested
SCREENS - Many styles available please consult screen listing
MULLIONS – Invisible for enhanced architectural appearance.
FINISH – Air-dry primer, polyurethane, epoxy, or enamel. Baked epoxy or enamel. Kynar (Kynar limitations on steel.)

MULLION STYLES



Visible

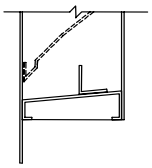


Invisible

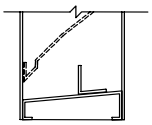
SPECIAL PURPOSE CONSTRUCTION

Special shapes; Round, Triangle, Trapezoid, Octagon, etc.
Fully welded assembly
Security bars
Filter racks
Hinged as walk through door or for swing out access
Sleeved for ductwork connection

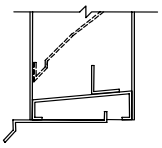
FRAME STYLES



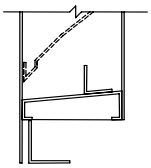
1- Flange (1.5”)



2 – Channel

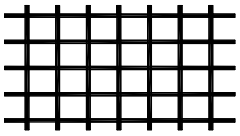


7- Channel with Sill Extension



9 - Flange with Sub Frame

TYPICAL SCREEN STYLE



Wire Mesh
Standard

DATE	ARCHITECT			ENGINEER
PROJECT				
ITEM	QTY	W	H	DESCRIPTION

DEPENDABLE PRODUCTS SINCE 1955

SAFE-AIR OF ILLINOIS INC.

Engineering and General Offices

1855 South 54th Avenue, Cicero, Illinois 60804

Phone 708-652-9100 FAX 708-652-9158

WFA PERFORMANCE SPECIFICATIONS

All calculations made in accordance with AMCA standards for Free-Area.

FREE AREA CALCULATIONS IN SQ. FT.

WIDTH

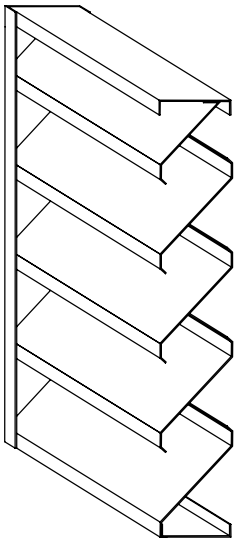
HEIGHT

INCHES	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96
12	.14	.22	.30	.38	.46	.54	.62	.70	.78	.84	.92	1.00	1.09	1.17	1.25
18	.28	.45	.62	.78	.95	112	1.28	1.45	1.62	1.74	1.91	2.07	2.24	2.41	2.57
24	.49	.78	1.07	1.36	1.64	1.93	2.22	2.51	2.80	3.02	3.31	3.60	3.88	4.17	4.46
30	.68	1.09	1.49	1.89	2.30	2.70	3.10	3.51	3.91	4.21	4.62	5.02	5.42	5.83	6.23
36	.82	1.30	1.79	2.27	2.76	3.24	3.72	4.21	4.69	5.06	5.54	6.02	6.51	6.99	7.48
42	.95	1.52	2.08	2.65	3.21	3.78	4.34	4.91	5.47	5.90	6.46	7.03	7.59	8.16	8.72
48	1.10	1.75	2.40	3.05	3.70	4.35	5.01	5.66	6.31	6.80	7.45	8.10	8.75	9.40	10.05
54	1.31	2.08	2.85	3.63	4.40	5.17	5.95	6.72	7.49	8.07	8.85	9.62	10.39	11.17	11.94
60	1.50	2.39	3.28	4.16	5.05	5.94	6.83	7.72	8.60	9.27	10.16	11.05	11.93	12.82	13.71
66	1.64	2.60	3.57	4.54	5.51	6.48	7.45	8.42	9.39	10.11	11.08	12.05	13.02	13.99	14.95
72	1.77	2.82	3.87	4.92	5.97	7.02	8.07	9.12	10.17	10.95	12.00	13.05	14.10	15.15	16.20
78	1.92	3.05	4.19	5.32	6.46	7.59	8.73	9.86	10.99	11.85	12.99	14.12	15.26	16.39	17.53
84	2.12	3.38	4.64	5.90	7.15	8.41	9.67	10.93	12.19	13.13	14.39	15.64	16.90	18.16	19.42
90	2.32	3.69	5.06	6.43	7.81	9.18	10.55	11.92	13.29	14.32	15.70	17.07	18.44	19.81	21.19
96	2.45	3.91	5.36	6.81	8.27	9.72	11.17	12.62	14.08	15.17	16.62	18.07	19.53	20.98	24.32

FORMED LOUVER

Weather Protective Blade Louver in 4” thick frame design Model WFC

Features – Traditional design with blades fixed at a 45° angle, and wide blade ends for improved weather design.



STANDARD CONSTRUCTION

FRAME
WFC-04” (102) thick, is 20 gauge (1.0) galvanized steel in style #2
BLADES
WFC- 04”, (102) are 20 gauge (1.0) galv. steel, approx. spacing is 5” (127) @ 45°
MAXIMUM SIZE
Unlimited, with mullions, structural bracing supplied by others
MAXIMUM SINGLE SECTION
120”w x 84”h or 84”w x 120”h
(allows for best handling)
MULLIONS
Visible
MINIMUM SIZE
12” W x 12” H (305 x 305)
UNDERSIZED
3/8” (10) under ordered size unless specified Exact or Actual
SCREEN
½” (13) wire mesh 19 gauge (1.1) galvanized bird screen no frame
FINISH
Mill

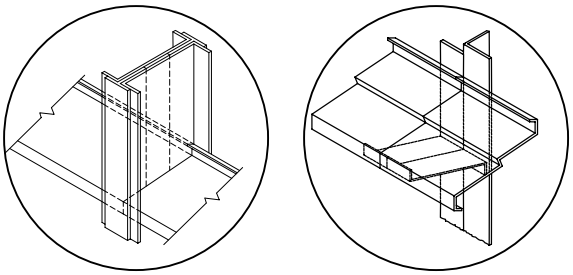
OPTIONAL CONSTRUCTION

FRAME – Available in a heavier construction up to 10 gauge (3.5)
BLADES - Available in a heavier construction up to 12 gauge (2.7)
SPECIFIED MATERIAL – Aluminum, Stainless or as requested
SCREENS - Many styles available please consult screen listing
MULLIONS – Invisible for enhanced architectural appearance.
FINISH – Air-dry primer, polyurethane, epoxy, or enamel. Baked epoxy or enamel. Kynar (Kynar limitations on steel.)

SPECIAL PURPOSE CONSTRUCTION

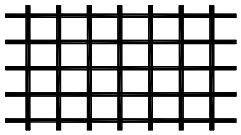
Special shapes; Round, Triangle, Trapezoid, Octagon, etc.
Fully welded assembly
Security bars
Filter racks
Hinged as walk through door or for swing out access
Sleeved for ductwork connection

MULLION STYLES



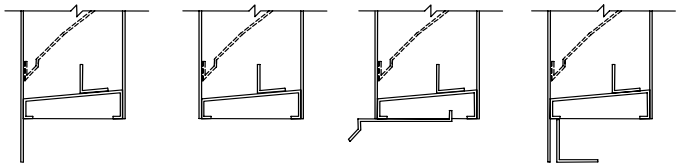
Visible Invisible

TYPICAL SCREEN STYLE



Wire Mesh
Standard

FRAME STYLES



1- Flange (1.5”) 2 – Channel 7- Channel with Sill Extension 9 - Flange with Sub Frame

DATE	ARCHITECT			ENGINEER
PROJECT				
ITEM	QTY	W	H	DESCRIPTION

DEPENDABLE PRODUCTS SINCE 1955

SAFE-AIR OF ILLINOIS INC.

Engineering and General Offices

1855 South 54th Avenue, Cicero, Illinois 60804

Phone 708-652-9100 FAX 708-652-9158

WFC PERFORMANCE SPECIFICATIONS

All calculations made in accordance with AMCA standards for Free-Area.

FREE AREA CALCULATIONS IN SQ. FT.

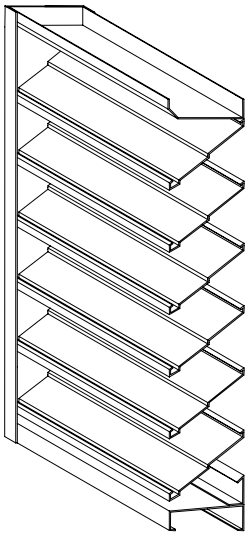
WIDTH

HEIGHT INCHES	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96
12	.16	.26	.36	.45	.55	.64	.74	.84	.93	1.01	1.10	1.20	1.30	1.39	1.49
18	.38	.60	.83	1.05	1.27	1.50	1.72	1.95	2.17	2.34	2.56	2.79	3.01	3.23	3.46
24	.61	.97	1.34	1.70	2.06	2.42	2.78	3.15	3.51	3.78	4.14	4.50	4.80	5.23	5.59
30	.75	1.19	1.63	2.08	2.52	2.96	3.40	3.85	4.29	4.62	5.06	5.51	5.95	6.39	6.84
36	.98	1.55	2.13	2.71	3.29	3.87	4.44	5.02	5.60	6.03	6.61	7.20	7.77	8.35	8.93
42	1.14	1.81	2.49	3.16	3.84	4.51	5.19	5.86	6.53	7.04	7.71	8.06	8.39	9.74	10.31
48	1.35	2.16	2.96	3.76	4.56	5.36	6.17	6.97	7.77	8.37	9.17	9.98	10.78	11.58	12.38
54	1.59	2.53	3.47	4.41	5.35	6.29	7.23	8.17	9.11	9.81	10.75	11.69	12.63	13.57	14.51
60	1.79	2.85	3.91	4.97	6.03	7.09	8.15	9.21	10.27	11.06	12.12	13.18	14.24	15.30	16.36
66	1.95	3.11	4.26	5.42	6.58	7.73	8.89	10.05	11.20	12.07	13.23	14.38	15.54	16.69	17.85
72	2.11	3.37	4.62	5.87	7.12	8.38	9.63	10.88	12.14	13.07	14.33	15.58	16.83	18.08	19.34
78	2.33	3.71	5.09	6.47	7.85	9.23	10.61	11.99	13.37	14.41	15.79	17.17	18.55	19.93	21.31
84	2.56	4.08	5.60	7.12	8.64	10.15	11.67	13.19	14.71	15.85	17.37	18.88	20.40	21.92	23.44
90	2.76	4.40	6.04	7.68	9.32	10.95	12.59	14.23	15.87	17.10	18.74	20.37	22.01	23.69	25.29
96	2.93	4.66	6.40	8.13	9.86	11.60	13.33	15.07	16.80	18.10	19.84	21.57	23.31	25.04	26.77

FORMED LOUVER

Drainable Blade Louver in 6” thick frame design – Model DBF- 06

Features – High Performance patented design allowing maximum airflow with minimum outside element or water penetration



STANDARD CONSTRUCTION

FRAME
DBF- 06” (152) thick, is 20 gauge (1.0) galvanized steel in style #3
BLADES
DBF- 06”, (152) are 20 gauge (1.0) galvanized steel, approx. spacing is 3-1/2” (89) @ 36°
MAXIMUM SIZE
Unlimited, with mullions, structural bracing supplied by others
MAXIMUM SINGLE SECTION
120”w x 84”h or 84”w x 120”h
(allows for best handling)
MULLIONS
Visible
MINIMUM SIZE
12” W x 12” H (305 x 305)
UNDERSIZED
3/8” (10) under ordered size unless specified Exact or Actual
SCREEN
½” (13) wire mesh 19 gauge (1.1) galvanized bird screen no frame
FINISH
Mill

PERFORMANCE

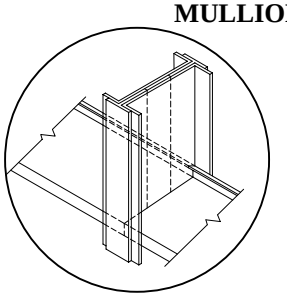
Point of water penetration
1010 fpm (308)

Free area
48 x 48 section
60%

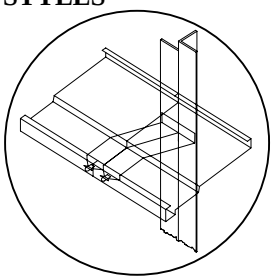
OPTIONAL CONSTRUCTION

FRAME – Available in a heavier construction up to 10 gauge (3.5)
BLADES - Available in a heavier construction up to 16 gauge (1.6)
SPECIFIED MATERIAL – Aluminum, Stainless or as requested
SCREENS - Many styles available please consult screen listing
MULLIONS – Invisible please consult factory
FINISH – Air-dry primer, polyurethane, epoxy, or enamel. Baked epoxy or enamel. Kynar (Kynar limitations on steel.)

MULLION STYLES



Visible

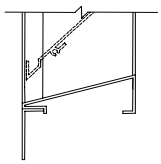


Invisible

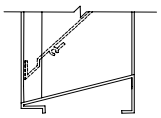
SPECIAL PURPOSE CONSTRUCTION

Special shapes; Triangle, Trapezoid, etc.
Fully welded assembly
Security bars
Filter racks
Hinged as walk through door or for swing out access
Sleeved for ductwork connection

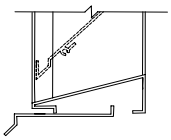
FRAME STYLES



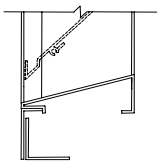
1- Flange (1.5”)



3 – Box

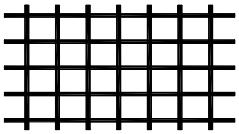


8- Box with Sill Extension



9 - Flange with Sub Frame

TYPICAL SCREEN STYLE



Wire Mesh
Standard

DATE	ARCHITECT		ENGINEER
PROJECT			

ITEM	QTY	W	H

SAFE-AIR / DOWCO certifies that the DBF -06 louver shown herein are 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 and water penetration ratings.

DEPENDABLE PRODUCTS SINCE 1955

SAFE-AIR OF ILLINOIS INC.

Engineering and General Offices

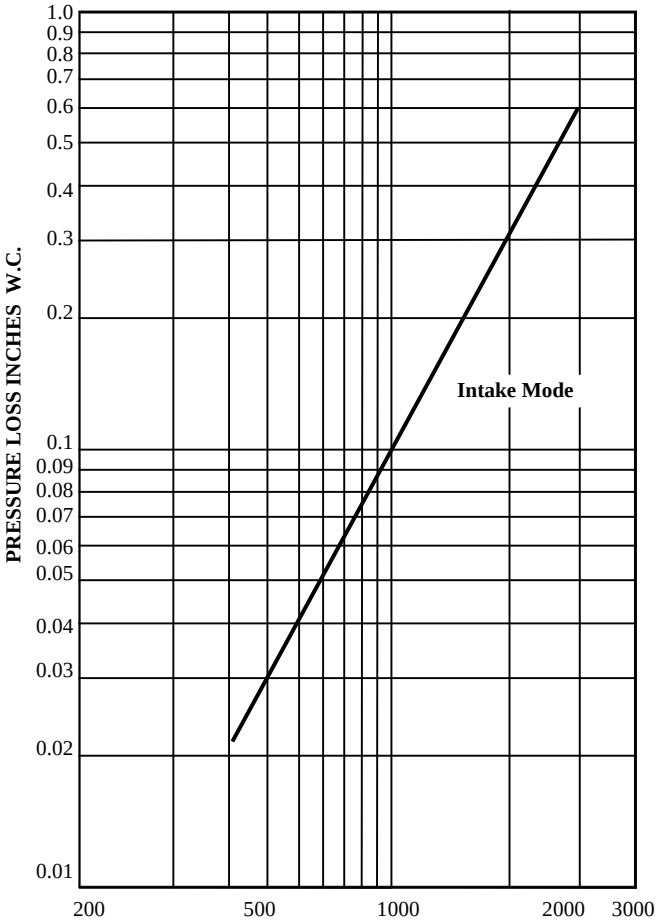
1855 South 54th Avenue, Cicero, Illinois 60804

Phone 708-652-9100 FAX 708-652-9158

DBF-06 PERFORMANCE SPECIFICATIONS

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

AIR PERFORMANCE



INTAKE FREE AREA VELOCITY (fpm)

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

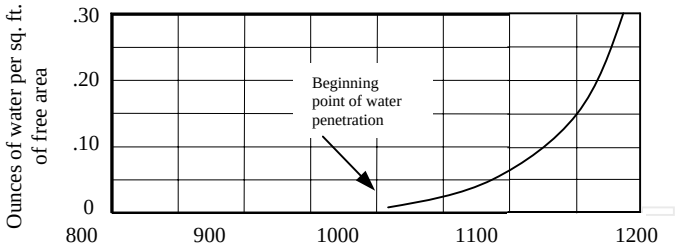
CALCULATING MAXIMUM AIRFLOW BEFORE WATER PENETRATION

The "free area flow rate" at which water penetration commences (.01 oz. of water) is established at, 1010 fpm (308) for DBF-06, 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 determined 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	(H20)
1010	1045	1090	1125	1159	1179	(fpm)



FREE AREA VELOCITY (fpm)
1010 fpm (308) beginning of water penetration

FREE AREA CALCULATIONS IN SQ. FT.

W I D T H

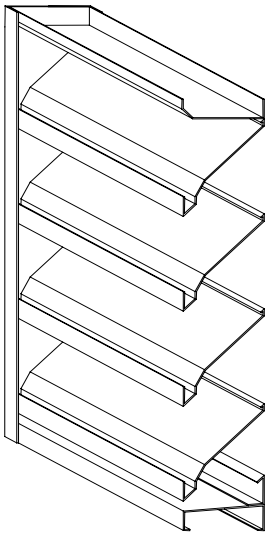
INCHES	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	102	108	114	120
12	.31	.49	.67	.86	1.04	1.22	1.41	1.59	1.78	1.96	2.14	2.33	2.51	2.69	2.88	3.06	3.24	3.43	3.61
18	.63	1.00	1.38	1.76	2.13	2.51	2.88	3.26	3.64	4.01	4.39	4.76	5.14	5.52	5.89	6.27	6.64	7.02	7.40
24	.94	1.50	2.06	2.62	3.19	3.75	4.31	4.87	5.44	6.00	6.56	7.12	7.69	8.25	8.81	9.37	9.94	10.50	11.06
30	1.21	1.94	2.67	3.39	4.12	4.85	5.58	6.30	7.03	7.76	8.49	9.21	9.94	10.67	11.40	12.12	12.85	13.58	14.31
36	1.50	2.39	3.29	4.19	5.09	5.99	6.88	7.78	8.68	9.58	10.48	11.37	12.27	13.17	14.07	14.97	15.86	16.76	17.66
42	1.84	2.95	4.06	5.16	6.27	7.38	8.48	9.59	10.69	11.80	12.91	14.01	15.12	16.23	17.33	18.44	19.54	20.65	21.76
48	2.12	3.39	4.66	5.93	7.20	8.48	9.75	11.02	12.29	13.56	14.83	16.10	17.37	18.65	19.92	21.19	22.46	23.73	25.00
54	2.39	3.83	5.27	6.70	8.14	9.58	11.01	12.45	13.88	15.32	16.76	18.19	19.63	21.07	22.50	23.94	25.38	26.81	28.25
60	2.71	4.34	5.97	7.60	9.23	10.86	12.49	14.12	15.74	17.37	19.00	20.63	22.26	23.89	25.52	27.14	28.77	30.40	32.03
66	3.03	4.84	6.66	8.47	10.29	12.10	13.92	15.73	17.55	19.36	21.18	22.99	24.81	26.62	28.44	30.25	32.07	33.88	35.70
72	3.30	5.28	7.26	9.24	11.22	13.20	15.18	17.16	19.14	21.12	23.10	25.08	27.06	29.04	31.02	33.00	34.98	36.96	38.94
78	3.58	5.74	7.89	10.04	12.19	14.31	16.49	18.64	20.79	22.94	25.09	27.24	29.39	31.54	33.69	35.84	38.00	40.15	42.30
84	3.93	6.29	8.65	11.01	13.37	15.73	18.08	20.44	22.80	25.16	27.52	29.88	32.24	34.60	36.96	39.32	41.67	44.03	46.39
90	4.21	6.73	9.25	11.78	14.30	16.83	19.35	21.87	24.40	26.92	29.45	31.97	34.49	37.02	39.54	42.07	44.59	47.11	49.64
96	4.48	7.17	9.86	12.55	15.24	17.93	20.62	23.30	25.99	28.68	31.37	34.06	36.75	39.44	42.13	44.82	47.51	50.19	52.88

H E I G H T

FORMED LOUVER

Drainable Blade Louver in 6” thick frame design – Model DWF- 06

Features – High Performance patented design allowing maximum airflow with minimum outside element or water penetration



STANDARD CONSTRUCTION

FRAME
DWF- 06” (152) thick, is 20 gauge(1.0) galvanized steel in style #3
BLADES
DWF- 06”,(152) are 20 gauge (1.0) galvanized steel, approx. spacing is 6-3/8” (162) @ 45°
MAXIMUM SIZE
Unlimited, with mullions, structural bracing supplied by others
MAXIMUM SINGLE SECTION
120”w x 84”h or 84”w x 120”h
(allows for best handling)
MULLIONS
Visible
MINIMUM SIZE
12” W x 12” H (305 X 305)
UNDERSIZED
3/8” (10) under ordered size unless specified Exact or Actual
SCREEN
½” (13) wire mesh 19 gauge (1.1) galvanized bird screen no frame
FINISH
Mill

PERFORMANCE

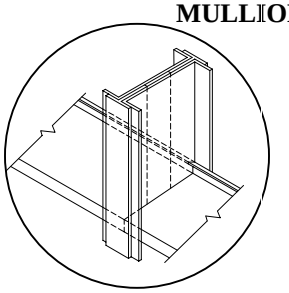
Point of water penetration
821 fpm (250)

Free area
48 x 48 section
57%

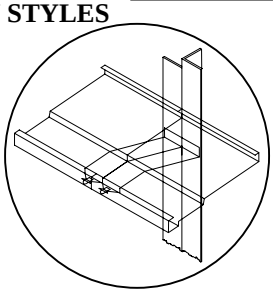
OPTIONAL CONSTRUCTION

FRAME – Available in a heavier construction up to 10 gauge (3.5)
BLADES - Available in a heavier construction up to 16 gauge (1.6)
SPECIFIED MATERIAL – Aluminum, Stainless or as requested
SCREENS - Many styles available please consult screen listing
MULLIONS – Invisible please consult factory
FINISH – Air-dry primer, polyurethane, epoxy, or enamel. Baked epoxy or enamel. Kynar (Kynar limitations on steel.)

MULLION STYLES



Visible

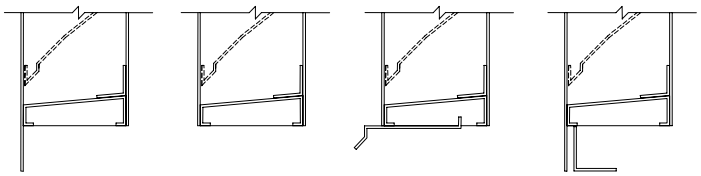


Invisible

SPECIAL PURPOSE CONSTRUCTION

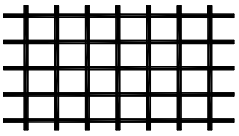
Special shapes; Triangle, Trapezoid, etc.
Fully welded assembly
Security bars
Filter racks
Hinged as walk through door or for swing out access
Sleeved for ductwork connection

FRAME STYLES



1- Flange (1.5”) | 3 – Box | 8- Box with Sill Extension | 9 - Flange with Sub Frame

TYPICAL SCREEN STYLE



Wire Mesh
Standard

DATE	ARCHITECT		ENGINEER
PROJECT			

ITEM	QTY	W	H

amca CERTIFIED RATINGS — WATER PENETRATION — AIR PERFORMANCE — AIR MOVEMENT AND CONTROL ASSOCIATION, INC.

SAFE-AIR / DOWCO certifies that the DWF-06 louver shown herein are 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 and water penetration ratings.

DEPENDABLE PRODUCTS SINCE 1955

SAFE-AIR OF ILLINOIS INC.

Engineering and General Offices

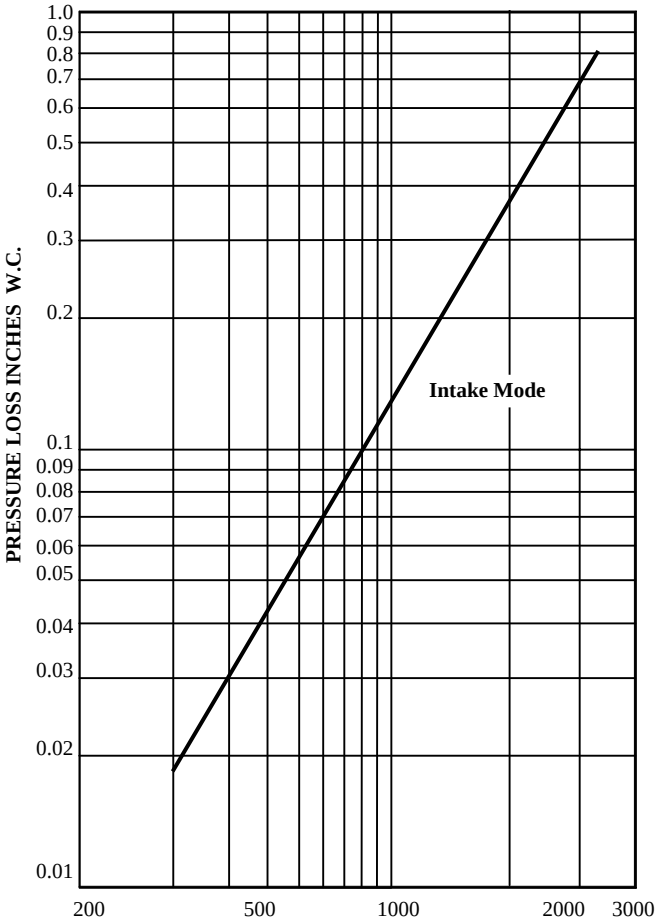
1855 South 54th Avenue, Cicero, Illinois 60804

Phone 708-652-9100 FAX 708-652-9158

DWF-06 PERFORMANCE SPECIFICATIONS

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

AIR PERFORMANCE



INTAKE FREE AREA VELOCITY (fpm)

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

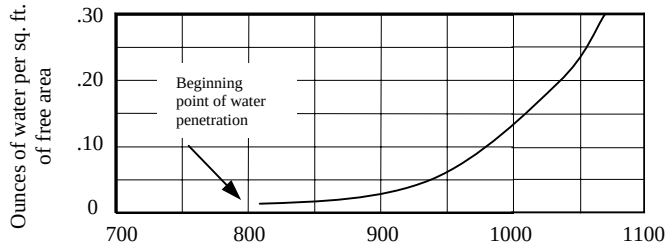
The "free area flow rate" at which water penetration commences (.01 oz. of water) is established at, 821 fpm (250) for DWF-06, and will vary depending upon actual weather conditions. The "water penetration" graph illustrates the results of actual laboratory test on a 48" x 48" (1219 x 1219) test sample subjected to hypothetical rainfall conditions. To determined 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	(H20)
821	872	939	990	1041	1071	(fpm)



FREE AREA VELOCITY (fpm)

821 fpm (250) beginning of water penetration

FREE AREA CALCULATIONS IN SQ. FT.

WIDTH

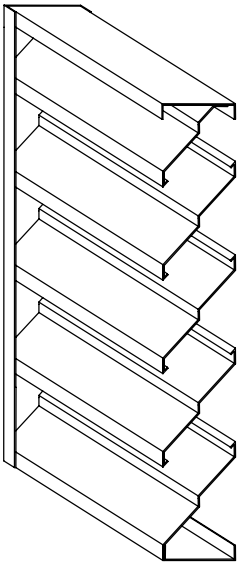
INCHES	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	102	108	114	120
12	.28	.44	.60	.76	.92	1.08	1.24	1.40	1.57	1.73	1.89	2.05	2.21	2.37	2.53	2.69	2.85	3.01	3.17
18	.56	.89	1.21	1.53	1.85	2.17	2.50	2.82	3.14	3.46	3.78	4.11	4.43	4.75	5.07	5.39	5.72	6.04	6.36
24	.85	1.33	1.81	2.30	2.78	3.26	3.75	4.23	4.71	5.20	5.68	6.16	6.65	7.13	7.61	8.10	8.58	9.06	9.55
30	1.13	1.77	2.42	3.06	3.71	4.35	5.00	5.64	6.29	6.93	7.58	8.22	8.87	9.51	10.16	10.80	11.45	12.09	12.74
36	1.43	2.24	3.06	3.87	4.69	5.50	6.32	7.13	7.95	8.76	9.58	10.39	11.21	12.02	12.84	13.65	14.47	15.28	16.10
42	1.74	2.73	3.72	4.71	5.71	6.70	7.69	8.68	9.67	10.67	11.66	12.65	13.64	14.64	15.63	16.62	17.61	18.60	19.60
48	2.05	3.22	4.38	5.55	6.72	7.89	9.06	10.23	11.40	12.57	13.74	14.91	16.08	17.25	18.42	19.59	20.75	21.92	23.09
54	2.36	3.70	5.05	6.40	7.74	9.09	10.43	11.78	13.13	14.47	15.82	17.17	18.51	19.86	21.21	22.55	23.90	25.24	26.59
60	2.67	4.19	5.71	7.24	8.76	10.28	11.81	13.33	14.85	16.38	17.90	19.42	20.95	22.47	23.99	25.52	27.04	28.56	30.09
66	2.98	4.68	6.38	8.08	9.78	11.48	13.18	14.88	16.58	18.28	19.98	21.68	23.38	25.08	26.78	28.48	30.18	31.89	33.59
72	3.26	5.13	6.99	8.85	10.72	12.58	14.44	16.31	18.17	20.03	21.90	23.76	25.63	27.49	29.35	31.22	33.08	34.94	36.81
78	3.54	5.57	7.59	9.62	11.64	13.67	15.69	17.72	19.74	21.77	23.80	25.82	27.85	29.87	31.90	33.92	35.95	37.97	40.00
84	3.83	6.01	8.20	10.39	12.57	14.76	16.95	19.13	21.32	23.51	25.69	27.88	30.07	32.25	34.44	36.63	38.81	41.00	43.19
90	4.11	6.46	8.81	11.15	13.50	15.85	18.20	20.55	22.89	25.24	27.59	29.94	32.29	34.63	36.98	39.33	41.68	44.03	46.37
96	4.39	6.90	9.41	11.92	14.43	16.94	19.45	21.96	24.47	26.98	29.49	32.00	34.51	37.02	39.52	42.03	44.54	47.05	49.56

HEIGHT

FORMED LOUVER

Weather Protective Blade Louver in 6” thick frame design – Model LFA- 06

Features – Traditional design with center blade baffle for improved weather protection.



STANDARD CONSTRUCTION

FRAME
LFA- 06” (152) thick, is 20 gauge (1.0) galvanized steel in style #2
BLADES
LFA- 06”, are 20 (1.0) gauge galv. steel, approx. spacing is 6-1/2” (165) @ 45°
MAXIMUM SIZE
Unlimited, with mullions, structural bracing supplied by others
MAXIMUM SINGLE SECTION
120”w x 84”h or 84”w x 120”h
(allows for best handling)
MULLIONS
Visible
MINIMUM SIZE
12” W x 12” H (305 x 305)
UNDERSIZED
3/8” (10) under ordered size unless specified Exact or Actual
SCREEN
½” (13) wire mesh 19 gauge (1.1) galvanized bird screen no frame
FINISH
Mill

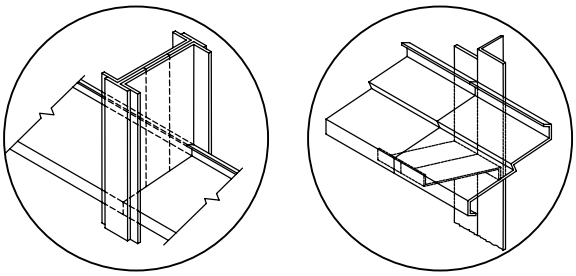
OPTIONAL CONSTRUCTION

FRAME – Available in a heavier construction up to 10 gauge (3.5)
BLADES - Available in a heavier construction up to 12 gauge (2.7)
SPECIFIED MATERIAL – Aluminum, Stainless or as requested
SCREENS - Many styles available please consult screen listing
MULLIONS – Invisible for enhanced architectural appearance.
FINISH – Air-dry primer, polyurethane, epoxy, or enamel. Baked epoxy or enamel. Kynar (Kynar limitations on steel.)

SPECIAL PURPOSE CONSTRUCTION

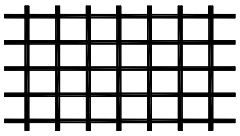
Special shapes; Round, Triangle, Trapezoid, Octagon, etc.
Fully welded assembly
Security bars
Filter racks
Hinged as walk through door or for swing out access
Sleeved for ductwork connection

MULLION STYLES



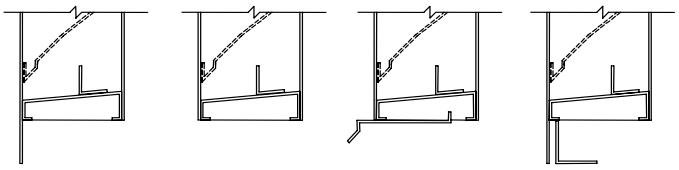
Visible Invisible

TYPICAL SCREEN STYLE



Wire Mesh
Standard

FRAME STYLES



1- Flange (1.5”) 2 – Channel 7- Channel with Sill Extension 9 - Flange with Sub Frame

DATE	ARCHITECT			ENGINEER
PROJECT				
ITEM	QTY	W	H	DESCRIPTION

DEPENDABLE PRODUCTS SINCE 1955

SAFE-AIR OF ILLINOIS INC.
Engineering and General Offices
1855 South 54th Avenue, Cicero, Illinois 60804
Phone 708-652-9100 FAX 708-652-9158

Galvanized Chart | Louver Contents

LFA-06 PERFORMANCE SPECIFICATIONS

All calculations made in accordance with AMCA standards for Free-Area.

FREE AREA CALCULATIONS IN SQ. FT.

WIDTH

HEIGHT

INCHES	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	102	108	114	120
12	.26	.42	.57	.72	.87	1.02	1.17	1.32	1.48	1.63	1.78	1.93	2.08	2.23	2.38	2.54	2.69	2.84	2.99
18	.51	.80	1.09	1.38	1.67	1.96	2.25	2.54	2.83	3.12	3.41	3.70	3.99	4.28	4.57	4.86	5.15	5.44	5.73
24	.75	1.18	1.61	2.04	2.47	2.90	3.33	3.76	4.18	4.61	5.04	5.47	5.90	6.33	6.76	7.19	7.62	8.05	8.48
30	.99	1.56	2.13	2.70	3.27	3.83	4.40	4.97	5.54	6.11	6.68	7.24	7.81	8.38	8.95	9.52	10.08	10.65	11.22
36	1.24	1.94	2.65	3.36	4.07	4.77	5.48	6.19	6.89	7.60	8.31	9.01	9.72	10.43	11.14	11.84	12.55	13.26	13.96
42	1.48	2.33	3.17	4.02	4.86	5.71	6.56	7.40	8.25	9.09	9.94	10.79	11.63	12.48	13.32	14.17	15.01	15.86	16.71
48	1.75	2.74	3.74	4.74	5.74	6.73	7.73	8.73	9.73	10.72	11.72	12.72	13.72	14.71	15.71	16.71	17.71	18.70	19.70
54	2.04	3.20	4.36	5.53	6.69	7.86	9.02	10.18	11.35	12.51	13.67	14.84	16.00	17.17	18.33	19.49	20.66	21.82	22.98
60	2.33	3.66	4.99	6.32	7.65	8.98	10.31	11.64	12.97	14.30	15.63	16.96	18.29	19.62	20.95	22.28	23.61	24.94	26.27
66	2.63	4.11	5.61	7.11	8.60	10.10	11.60	13.09	14.59	16.08	17.58	19.08	20.57	22.07	23.57	25.06	26.56	28.05	29.55
72	2.91	4.57	6.23	7.90	9.56	11.22	12.88	14.55	16.21	17.87	19.53	21.20	22.86	24.52	26.18	27.85	29.51	31.17	32.83
78	3.16	4.96	6.76	8.56	10.37	12.17	13.97	15.78	17.58	19.38	21.18	22.99	24.79	26.59	28.40	30.20	32.00	33.81	35.61
84	3.40	5.34	7.58	9.22	11.17	13.11	15.05	16.99	18.93	20.87	22.82	24.76	26.70	28.64	30.58	32.53	34.47	36.41	38.35
90	3.64	5.72	7.80	9.88	11.96	14.05	16.13	18.21	20.29	22.37	24.45	26.53	28.61	30.69	32.77	34.85	36.93	39.01	41.09
96	3.88	6.10	8.32	10.54	12.76	14.98	17.20	19.42	21.64	23.86	26.08	28.30	30.52	32.74	34.96	37.18	39.40	41.62	43.84
102	4.13	6.49	8.84	11.20	13.56	15.92	18.28	20.64	23.00	25.35	27.71	30.07	32.43	34.79	37.15	39.51	41.86	44.22	46.58
108	4.37	6.87	9.37	11.86	14.36	16.86	19.36	21.85	24.35	26.85	29.35	31.84	34.34	36.84	39.34	41.83	44.33	46.83	49.33
114	4.66	7.32	9.98	12.64	15.30	17.96	20.62	23.28	25.94	28.60	31.26	33.92	36.58	39.24	41.90	44.56	47.22	49.88	52.54
120	4.95	7.77	10.60	13.42	16.25	19.08	21.60	24.73	27.56	30.38	33.21	36.06	38.86	41.69	44.51	47.34	50.17	52.99	55.82

ADJUSTABLE FORMED LOUVER

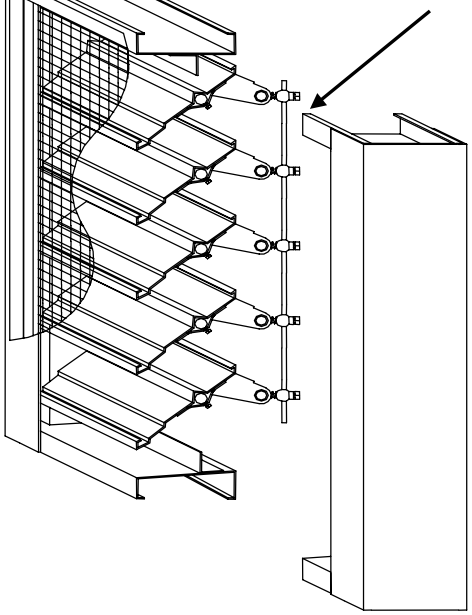
Drainable Blade Louver in 4” or 6” thick frame design Model A - DBF

Features – High performance adjustable design to satisfy systems requiring periodic operation.

STANDARD CONSTRUCTION

FRAME
A-DBF-04” thick, is 18 gauge galvanized steel in style #3
A-DBF-06” thick, is 18 gauge galvanized steel in style #3
ADJUSTABLE BLADES
A-DBF-04”, are 20 gauge galvanized steel @ 39°
A-DBF-06”, are 20 gauge galvanized steel @ 36°
BLADES AXLES & BEARINGS
BEARINGS- ½” Bronze oil impregnated
AXLES- Plated shaft
LINKAGE
Mounted on blades at center point of width dimension
MAXIMUM SIZE
Unlimited, with mullions, structural bracing supplied by others
MAXIMUM SINGLE SECTION
60”w x 96”H (allows for best handling)
MULLIONS
Visible
MINIMUM SIZE
12” W x 12” H
UNDERSIZED
3/8” under ordered size unless specified Exact or Actual
SCREEN
½” wire mesh 19 gauge galvanized bird screen in frame on face
FINISH
Mill
OPERATOR
Wingnut Adjustment

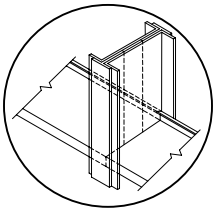
Separation drawn in a true 90° Blade Configuration



OPTIONAL CONSTRUCTION

FRAME – Available in a heavier construction up to 10 gauge
BLADES - Available in a heavier construction up to 16 gauge
SPECIFIED MATERIAL – Aluminum, Stainless or as requested
SCREENS - Many styles available please consult screen listing
LINKAGE – Concealed in jamb
FINISH – Air-dry primer, polyurethane, epoxy, or enamel. Baked epoxy or enamel. Kynar (Kynar limitations on steel.)
OPERATOR - Manual, electric or pneumatic
BLADE & JAMB SEALS – Neoprene blade edge and/or flexible metal jamb seals

MULLION STYLE



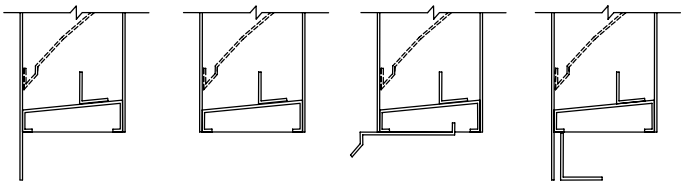
Visible

PERFORMANCE	
A-DBF-04	Pt. of Water Penetration **973 fpm** Free Area **56%** 48 x 48 unit size
A-DBF-06	Pt. of Water Penetration **1010 fpm** Free Area **58%** 48 x 48 unit size

SPECIAL PURPOSE CONSTRUCTION.

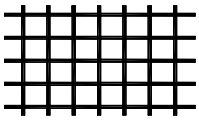
Security bars
Filter racks
Hinged as walk through door or for swing out access
Sleeved for ductwork connection

FRAME STYLES



1- Flange (1.5”) | 3 - Box | 8 - Box with Sill Extension | 9 - Flange with Sub Frame

TYPICAL SCREEN STYLE



Wire Mesh - Standard

DATE	ARCHITECT			ENGINEER
PROJECT				
ITEM	QTY	W	H	DESCRIPTION

DEPENDABLE PRODUCTS SINCE 1955

SAFE-AIR OF ILLINOIS INC.

Engineering and General Offices

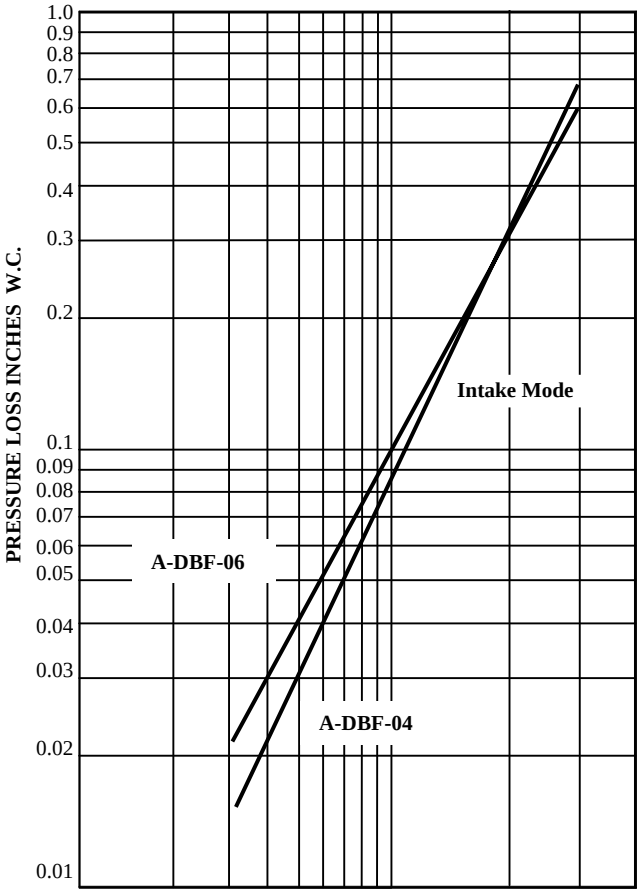
1855 South 54th Avenue, Cicero, Illinois 60804

Phone 708-652-9100 FAX 708-652-9158

A-DBF PERFORMANCE SPECIFICATIONS

All free area calculations made in accordance with AMCA standards.

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)

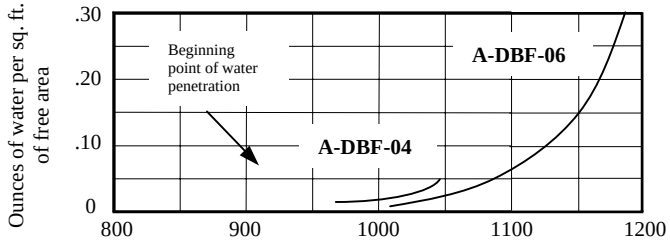
_____CFM / ____ FPM Free Area Velocity = _____Sq. Ft. Free Area

CALCULATING MAXIMUM AIRFLOW BEFORE WATER PENETRATION

The "free area flow rate" at which water penetration commences (.01 oz. of water) is established at, 973 fpm for A-DBF-04 and 1010 fpm for A-DBF-06, 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 determined 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	(H20)
A-DBF-04	973	1004	1046	n/a	n/a	n/a	(fpm)
A-DBF-06	1010	1045	1090	1125	1159	1179	(fpm)

FREE AREA CALCULATIONS IN SQ. FT.

W I D T H

INCHES	12	18	24	30	36	42	48	54	60
12 -04	.29	.46	.63	.81	.98	1.15	1.32	1.50	1.67
-06	.30	.47	.64	.82	.99	1.16	1.34	1.51	1.70
18 -04	.56	.90	1.25	1.58	1.92	2.27	2.60	2.94	3.28
-06	.60	.95	1.31	1.68	2.03	2.39	2.74	3.10	3.47
24 -04	.85	1.35	1.86	2.36	2.87	3.37	3.88	4.38	4.90
-06	.90	1.43	1.96	2.50	3.04	3.57	4.10	4.64	5.18
30 -04	1.12	1.79	2.47	3.14	3.81	4.49	5.15	5.83	6.50
-06	1.15	1.85	2.54	3.23	3.92	4.62	5.31	6.00	6.70
36 -04	1.40	2.24	3.08	3.91	4.75	5.60	6.44	7.28	8.11
-06	1.43	2.28	3.13	3.99	4.85	5.70	6.55	7.41	8.27
42 -04	1.68	2.69	3.69	4.70	5.70	6.70	7.71	8.71	9.72
-06	1.75	2.81	3.87	4.91	5.97	7.03	8.08	9.13	10.18
48 -04	1.95	3.12	4.30	5.48	6.65	7.82	8.99	10.16	11.33
-06	2.02	3.23	4.44	5.65	6.86	8.08	9.29	10.50	11.70
54 -04	2.23	3.57	4.91	6.25	7.59	8.93	10.27	11.61	12.94
-06	2.28	3.65	5.02	6.38	7.75	9.12	10.49	11.86	13.22
60 -04	2.51	4.02	5.52	7.03	8.53	10.04	11.54	13.05	14.56
-06	2.58	4.13	5.69	7.24	8.79	10.34	11.90	13.45	14.99
66 -04	2.79	4.46	6.13	7.81	9.48	11.15	12.82	14.50	16.17
-06	2.89	4.61	6.34	8.07	9.80	11.52	13.26	14.98	16.71
72 -04	3.07	4.90	6.74	8.58	10.42	12.27	14.10	15.94	17.78
-06	3.14	5.03	6.91	8.80	10.69	12.57	14.46	16.34	18.23
78 -04	3.34	5.35	7.35	9.36	11.37	13.37	15.38	17.38	19.39
-06	3.41	5.47	7.51	9.56	11.61	13.66	15.70	17.75	19.80
84 -04	3.62	5.79	7.96	10.14	12.31	14.49	16.66	18.83	21.00
-06	3.74	5.99	8.24	10.49	12.73	14.98	17.22	19.47	21.71
90 -04	3.90	6.24	8.58	10.91	13.26	15.60	17.93	20.28	22.61
-06	4.01	6.41	8.81	11.22	13.62	16.03	18.43	20.83	23.24
96- 04	4.18	6.69	9.19	11.77	14.20	16.70	19.21	21.71	24.23
-06	4.27	6.83	9.39	11.95	14.51	17.08	19.64	22.19	24.75

H E I G H T

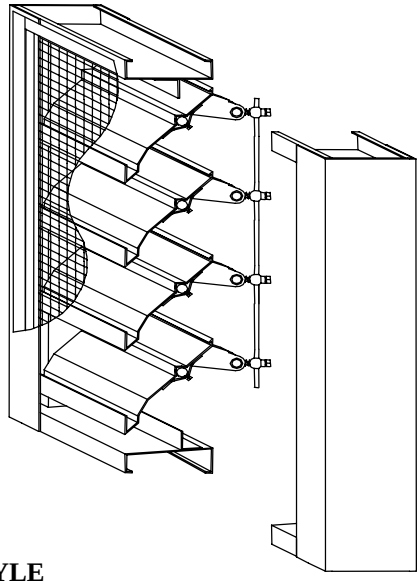
ADJUSTABLE FORMED LOUVER

Drainable Blade Louver in 4” or 6” thick frame design Model A - DWF

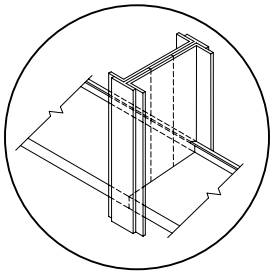
Features – High performance adjustable design to satisfy systems requiring periodic operation.

STANDARD CONSTRUCTION

FRAME
A-DWF-04” (102) thick, is 18 gauge (1.3) galvanized steel in style #3
A-DWF-06” (152) thick, is 18 gauge (1.3) galvanized steel in style #3
ADJUSTABLE BLADES
A-DWF-04”, (102) are 20 gauge (1.0) galvanized steel @ 45°
A-DWF-06”, (152) are 20 gauge (1.0) galvanized steel @ 45°
BLADES AXLES & BEARINGS
BEARINGS- ½” (13) Bronze oil impregnated
AXLES- Plated shaft
LINKAGE
Mounted on blades at center point of width dimension
MAXIMUM SIZE
Unlimited, with mullions, structural bracing supplied by others
MAXIMUM SINGLE SECTION
60”w x 96”H (1524 x 2438) (allows for best handling)
MULLIONS
Visible
MINIMUM SIZE
12” W x 12” H (305 x 305)
UNDERSIZED
3/8” (10) under ordered size unless specified Exact or Actual
SCREEN
½” (13) wire mesh 19 gauge (1.1) galvanized bird screen in frame on face
FINISH
Mill
OPERATOR
Wingnut adjustment



MULLION STYLE



Visible

PERFORMANCE	
A-DWF-04	Pt. of Water Penetration **822 fpm** Free Area **51%** 48 x 48 unit size
A-DWF-06	Pt. of Water Penetration **821 fpm** Free Area **52%** 48 x 48 unit size

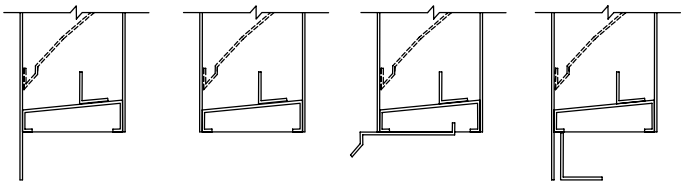
OPTIONAL CONSTRUCTION

FRAME – Available in a heavier construction up to 10 gauge (3.5)
BLADES - Available in a heavier construction up to 12 gauge (2.7)
SPECIFIED MATERIAL – Aluminum, Stainless or as requested
SCREENS - Many styles available please consult screen listing
LINKAGE – Concealed inside of jamb
FINISH – Air-dry primer, polyurethane, epoxy, or enamel. Baked epoxy or enamel. Kynar (Kynar limitations on steel.)
OPERATOR – Manual, electric or pneumatic
BLADE & JAMB SEALS – Neoprene blade edge seals and/or flexible metal jamb seals

SPECIAL PURPOSE CONSTRUCTION

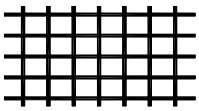
Security bars
Filter racks
Hinged as walk through door or for swing out access
Sleeved for ductwork connection

FRAME STYLES



1- Flange (1.5”) | 3 - Box | 8 - Box with Sill Extension | 9 - Flange with Sub Frame

TYPICAL SCREEN STYLE



Wire Mesh
Standard

DATE	ARCHITECT			ENGINEER
PROJECT				
ITEM	QTY	W	H	DESCRIPTION

DEPENDABLE PRODUCTS SINCE 1955

SAFE-AIR OF ILLINOIS INC.

Engineering and General Offices

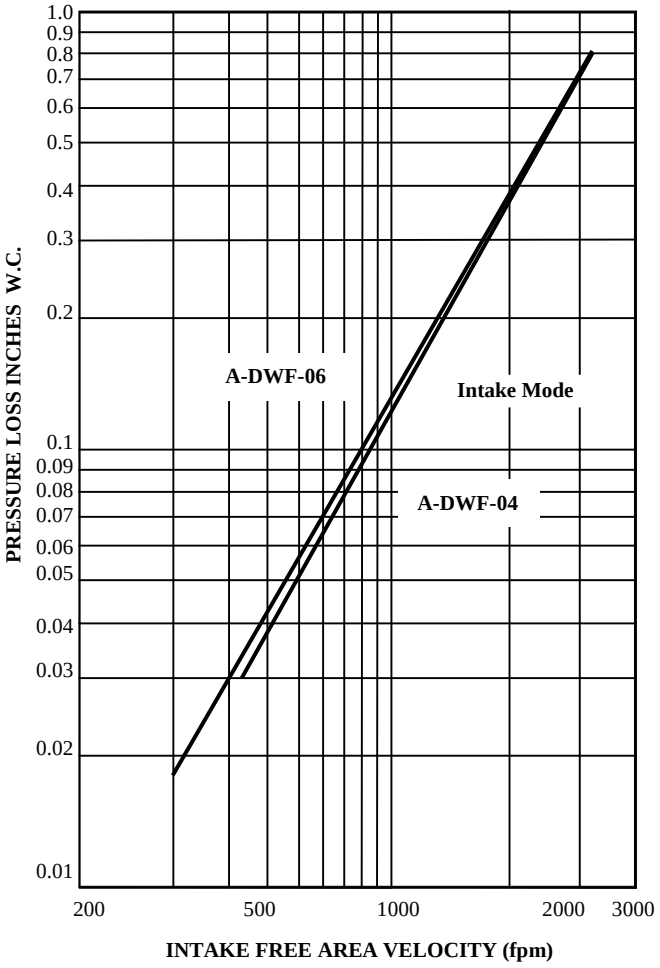
1855 South 54th Avenue, Cicero, Illinois 60804

Phone 708-652-9100 FAX 708-652-9158

A-DWF-04 & 06 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)

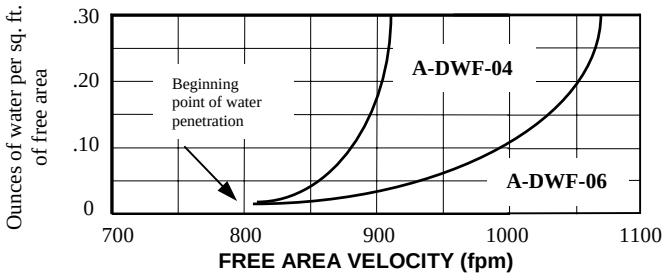
_____CFM / ____ FPM Free Area Velocity = _____Sq. Ft. Free Area

CALCULATING MAXIMUM AIRFLOW BEFORE WATER PENETRATION

The "free area flow rate" at which water penetration commences (.01 oz. of water) is established at, 822 fpm for A-DWF-04 and 821 for A-DWF-06, 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 determined 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	(H20)
A-DWF-04	822	842	868	887	907	918	(fpm)
A-DWF-06	821	872	939	990	1041	1071	(fpm)

FREE AREA CALCULATIONS IN SQ. FT.

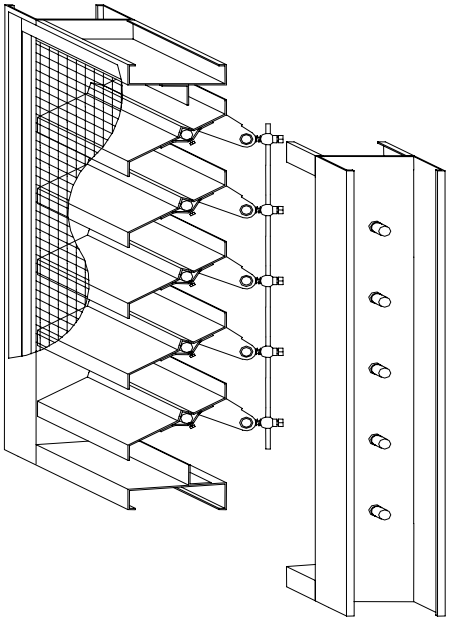
WIDTH

HEIGHT INCHES	12	18	24	30	36	42	48	54	60
12 -04	.30	.47	.64	.81	1.00	1.17	1.34	1.66	1.68
-06	.30	.47	.64	.81	.99	1.16	1.33	1.50	1.67
18 -04	.58	.91	1.24	1.58	1.90	2.23	2.57	2.90	3.23
-06	.56	.88	1.20	1.52	1.84	2.17	2.49	2.80	3.13
24 -04	.77	1.21	1.65	2.10	2.54	2.99	3.42	3.87	4.31
-06	.82	1.29	1.76	2.23	2.70	3.18	3.64	4.12	4.59
30 -04	1.07	1.69	2.30	2.92	3.54	4.15	4.77	5.39	6.00
-06	1.08	1.70	2.32	2.94	3.57	4.19	4.80	5.42	6.04
36 -04	1.35	2.13	2.90	3.67	4.45	5.22	6.00	6.77	7.55
-06	1.34	2.11	2.88	3.65	4.42	5.20	5.97	6.73	7.50
42 -04	1.55	2.43	3.31	4.20	5.08	5.97	6.85	7.74	8.62
-06	1.60	2.53	3.44	4.37	5.28	6.20	7.12	8.04	8.96
48 -04	1.84	2.91	3.97	5.02	6.08	7.14	8.20	9.25	10.31
-06	1.86	2.94	4.00	5.07	6.14	7.21	8.28	9.35	10.42
54 -04	2.13	3.34	4.56	5.78	7.00	8.20	9.42	10.64	11.86
-06	2.13	3.35	4.57	5.79	7.00	8.22	9.44	10.66	11.88
60 -04	2.32	3.64	4.98	6.30	7.62	8.96	10.28	11.61	12.94
-06	2.39	3.76	5.13	6.49	7.86	9.23	10.60	11.97	13.34
66 -04	2.62	4.12	5.62	7.12	8.62	10.13	11.62	13.13	14.62
-06	2.68	4.21	5.75	7.28	8.81	10.35	11.88	13.41	14.95
72 -04	2.90	4.56	6.21	7.88	9.54	11.20	12.85	14.52	16.18
-06	2.98	4.68	6.39	8.09	9.80	11.50	13.20	14.90	16.60
78 -04	3.09	4.86	6.63	8.40	10.18	11.94	13.71	15.48	17.25
-06	3.27	5.15	7.02	8.90	10.78	12.64	14.52	16.40	18.27
84 -04	3.40	5.34	7.28	9.22	11.17	13.11	15.05	17.00	18.94
-06	3.58	5.61	7.66	9.71	11.75	13.80	15.84	17.88	19.93
90 -04	3.67	5.78	7.88	9.98	12.08	14.19	16.28	18.39	20.49
-06	3.87	6.09	8.30	10.52	12.73	14.95	17.16	19.38	21.59
96- 04	3.87	6.08	8.29	10.50	12.72	14.93	17.14	19.36	21.57
-06	4.14	6.50	8.87	11.23	13.60	15.97	18.33	20.70	23.06

ADJUSTABLE FORMED LOUVER

Weather Protective Blade Louver in 4” or 6” thick frame design - Model AFC

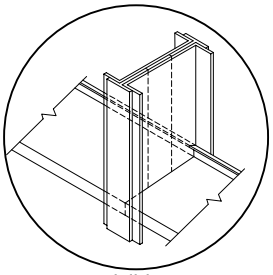
Features – Traditional adjustable design to satisfy systems requiring periodic operation.



STANDARD CONSTRUCTION

FRAME
AFC-04” thick, is 18 gauge (1.3) galvanized steel in style #3
AFC-06” thick, is 18 gauge (1.3) galvanized steel in style #3
ADJUSTABLE BLADES
AFC-04” are 20 gauge (1.0) galvanized steel, 45°
AFC-06” are 20 gauge (1.0) galvanized steel, 45°
BLADES AXLES & BEARINGS
Axles – Plated shaft
Bearings- ½” (13) Bronze oil impregnated
LINKAGE
Mounted on blades at center point of width dimension
MAXIMUM SIZE
Unlimited, with mullions, structural bracing supplied by others
MAXIMUM SINGLE SECTION
60”w x 96”H (1219 x 2438) (allows for best handling)
MULLIONS
Visible
MINIMUM SIZE
12” W x 12” H (305 x 305)
UNDERSIZED
3/8” (10) under ordered size unless specified Exact or Actual
SCREEN
½” (13) wire mesh 19 gauge (1.1) galvanized bird screen in frame on face
FINISH
Mill
OPERATOR
Wingnut adjustment

MULLION STYLE



Visible

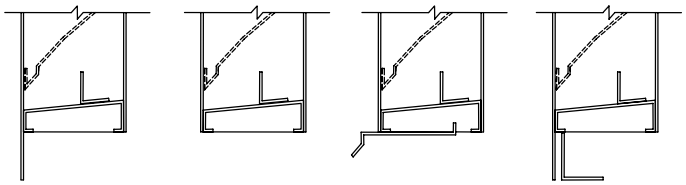
OPTIONAL CONSTRUCTION

FRAME – Available in a heavier construction up to 10 gauge (3.5)
BLADES - Available in a heavier construction up to 12 gauge (2.7)
SPECIFIED MATERIAL- Aluminum, Stainless or as requested
SCREENS - Many styles available please consult screen listing
LINKAGE- Concealed inside of jamb
OPERATOR- Manuel, electric or pneumatic
FINISH – Air-dry primer, polyurethane, epoxy, or enamel. Baked epoxy or enamel. Kynar (Kynar limitations on steel.)
BLADE & JAMB SEALS - Neoprene blade edge & or flexible metal jamb seals

SPECIAL PURPOSE CONSTRUCTION

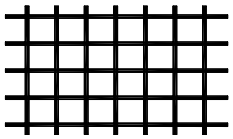
Security bars
Filter racks
Hinged as walk through door or for swing out access
Sleeved for ductwork connection

FRAME STYLES



1- Flange (1.5”) | 3 – Box | 8- Box with Sill Extension | 9 - Flange with Sub Frame

TYPICAL SCREEN STYLE



Wire Mesh
Standard

DATE	ARCHITECT			ENGINEER
PROJECT				
ITEM	QTY	W	H	DESCRIPTION

DEPENDABLE PRODUCTS SINCE 1955

SAFE-AIR OF ILLINOIS INC.

Engineering and General Offices

1855 South 54th Avenue, Cicero, Illinois 60804

Phone 708-652-9100 FAX 708-652-9158

AFC PERFORMANCE SPECIFICATIONS

All free area calculations made in accordance with AMCA standards.

FREE AREA CALCULATIONS IN SQ. FT.

WIDTH

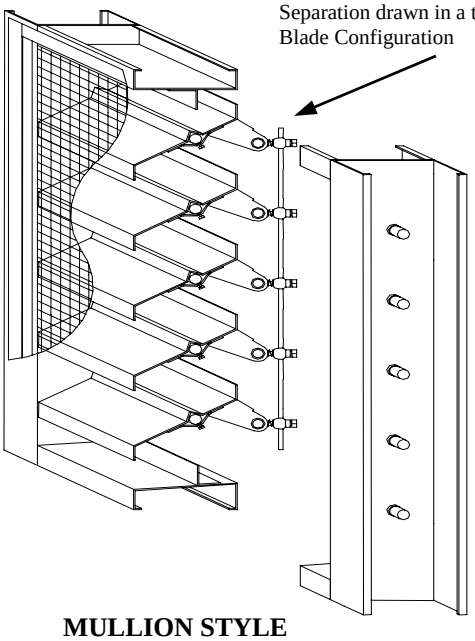
HEIGHT

INCHES	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96
12 -04	.22	.35	.49	.62	.75	.88	1.01	1.14	1.28	1.41	1.54	1.68	1.81	1.93	2.07
-06	.25	.40	.54	.69	.83	.97	1.11	1.26	1.41	1.55	1.70	1.84	1.98	2.12	2.27
18 -04	.48	.76	1.05	1.33	1.62	1.90	2.18	2.47	2.75	3.04	3.32	3.61	3.90	4.18	4.47
-06	.49	.76	1.04	1.31	1.59	1.87	2.14	2.42	2.70	2.97	3.25	3.52	3.80	4.08	4.35
24 -04	.73	1.17	1.61	2.05	2.49	2.92	3.36	3.71	4.24	4.68	5.11	5.55	5.99	6.43	6.87
-06	.71	1.12	1.53	1.94	2.35	2.76	3.17	3.58	3.98	4.39	4.80	5.21	5.62	6.03	6.44
30 -04	.92	1.49	2.04	2.60	3.15	3.71	4.27	4.82	5.38	5.93	6.50	7.05	7.61	8.16	8.71
-06	.94	1.49	2.03	2.57	3.11	3.65	4.19	4.73	5.28	5.82	6.36	6.90	7.44	7.98	8.52
36 -04	1.11	1.78	2.45	3.11	3.78	4.45	5.12	5.79	6.46	7.12	7.79	8.46	9.12	9.79	10.46
-06	1.18	1.85	2.52	3.20	3.88	4.54	5.22	5.90	6.56	7.24	7.91	8.58	9.26	9.93	10.61
42 -04	1.33	2.13	2.93	3.73	4.53	5.33	6.13	6.93	7.73	8.53	9.41	10.13	10.93	11.73	12.53
-06	1.41	2.22	3.02	3.83	4.63	5.44	6.25	7.05	7.86	8.66	9.47	10.28	11.08	11.89	12.69
48 -04	1.59	2.54	3.50	4.45	5.40	6.35	7.30	8.26	9.21	10.16	11.11	12.07	13.02	13.97	14.92
-06	1.67	2.61	3.56	4.51	5.74	6.41	7.36	8.31	9.27	10.21	11.16	12.11	13.07	14.01	14.96
54 -04	1.85	2.95	4.06	5.16	6.27	7.37	8.48	9.58	10.69	11.79	12.90	14.01	15.11	16.22	17.32
-06	1.94	3.05	4.15	5.27	6.37	7.49	8.59	9.70	10.81	11.91	13.02	14.13	15.24	16.35	17.46
60 -04	2.04	3.27	4.49	5.71	6.93	8.16	9.38	10.61	11.84	13.06	14.29	15.50	16.73	17.95	19.18
-06	2.22	3.49	4.75	6.02	7.29	8.55	9.82	11.09	12.35	13.62	14.89	16.15	17.42	18.69	19.95
66 -04	2.23	3.56	4.90	6.23	7.57	8.90	10.24	11.57	12.91	14.25	15.58	16.91	18.25	19.59	20.92
-06	2.50	3.91	5.34	6.77	8.19	9.62	11.05	12.47	13.90	15.31	16.74	18.17	19.59	21.02	22.45
72 -04	2.45	3.91	5.38	6.85	8.31	9.78	11.25	12.72	14.19	15.66	17.12	18.59	20.06	21.52	22.99
-06	2.77	4.35	5.93	7.52	9.10	10.69	12.27	13.86	15.44	17.02	18.60	20.19	21.77	23.35	24.93
78 -04	2.70	4.32	5.94	7.56	9.18	10.80	12.43	14.05	15.67	17.29	18.90	20.52	22.15	23.77	25.39
-06	3.01	4.72	6.44	8.15	9.88	11.59	13.30	15.03	16.74	18.46	20.17	21.90	23.61	25.32	27.05
84 -04	2.95	4.73	6.50	8.28	10.05	11.82	13.60	15.37	17.14	18.91	20.70	22.47	24.24	26.01	27.78
-06	3.24	5.09	6.93	8.78	10.64	12.49	14.33	16.18	18.03	19.88	21.73	23.58	25.43	27.28	29.12
90 -04	3.15	5.05	6.93	8.83	10.72	12.61	14.50	16.40	18.29	20.18	22.08	23.96	25.86	27.75	29.64
-06	3.47	5.45	7.43	9.41	11.39	13.38	15.36	17.34	19.32	21.30	23.29	25.27	27.25	29.23	31.21
96- 04	3.34	5.34	7.34	9.35	11.35	13.35	15.36	17.36	19.36	21.37	23.37	25.37	27.38	29.38	31.38
-06	3.70	5.81	7.92	10.04	12.15	14.27	16.38	18.50	20.61	22.72	24.84	26.95	29.07	31.18	33.30

ADJUSTABLE FORMED LOUVER

Weather Protective Blade Louver in 4” or 6” thick frame design - Model AFF

Features – Traditional adjustable design to satisfy systems requiring periodic operation.



STANDARD CONSTRUCTION

FRAME
AFF-04” (102) thick, is 18 gauge (1.3) galvanized steel in style #3
AFF-06” (152) thick, is 18 gauge (1.3) galvanized steel in style #3

ADJUSTABLE BLADES
AFF-04” (102) are 20 gauge (1.0) galvanized steel, 30°
AFF-06” (152) are 20 gauge (1.0) galvanized steel, 30°

BLADES AXLES & BEARINGS
Axles – Plated shaft
Bearings- ½” (13) Bronze oil impregnated

LINKAGE
Mounted on blades at center point of width dimension

MAXIMUM SIZE
Unlimited, with mullions, structural bracing supplied by others

MAXIMUM SINGLE SECTION
60”w x 96”H (1524 x 2438) (allows for best handling)

MULLIONS
Visible

MINIMUM SIZE
12” W x 12” H (305 x 305)

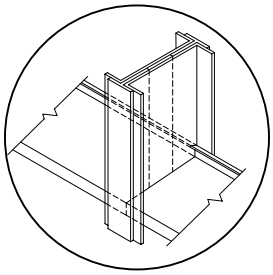
UNDERSIZED
3/8” (10) under ordered size unless specified Exact or Actual

SCREEN
½” (13) wire mesh 19 gauge (1.1) galvanized bird screen in frame on face

FINISH
Mill

OPERATOR
Wingnut Adjustment

MULLION STYLE



Visible

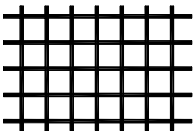
OPTIONAL CONSTRUCTION

FRAME – Available in a heavier construction up to 10 gauge (3.5)
BLADES - Available in a heavier construction up to 12 gauge (2.7)
SPECIFIED MATERIAL- Aluminum, Stainless or as requested
SCREENS - Many styles available please consult screen listing
LINKAGE- Concealed inside of jamb
OPERATOR- Manuel, electric or pneumatic
FINISH – Air-dry primer, polyurethane, epoxy, or enamel. Baked epoxy or enamel. Kynar (Kynar limitations on steel.)
BLADE & JAMB SEALS - Neoprene blade edge and/or flexible metal jamb seals

SPECIAL PURPOSE CONSTRUCTION

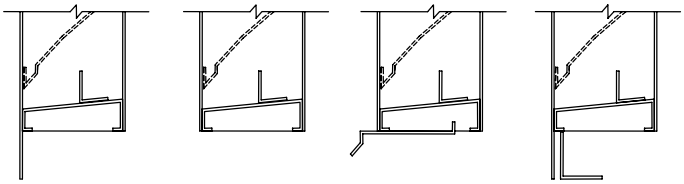
Security bars
Filter racks
Sleeved for ductwork connection
Jackshaft when required

TYPICAL SCREEN STYLE



Wire Mesh
Standard

FRAME STYLES



1- Flange (1.5”) | 3 – Box | 8- Box with Sill Extension | 9 - Flange with Sub Frame

DATE	ARCHITECT			ENGINEER
PROJECT				
ITEM	QTY	W	H	DESCRIPTION

DEPENDABLE PRODUCTS SINCE 1955

SAFE-AIR OF ILLINOIS INC.

Engineering and General Offices

1855 South 54th Avenue, Cicero, Illinois 60804

Phone 708-652-9100 FAX 708-652-9158

AFF PERFORMANCE SPECIFICATIONS

All free area calculations made in accordance with AMCA standards.

FREE AREA CALCULATIONS IN SQ. FT.

WIDTH

HEIGHT

INCHES	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96
12 -04	.37	.58	.79	1.00	1.20	1.41	1.62	1.83	2.04	2.25	2.46	2.67	2.88	3.09	3.30
-06	.36	.57	.78	.98	1.19	1.40	1.60	1.81	2.01	2.22	2.43	2.64	2.84	3.05	3.26
18 -04	.62	.98	1.33	1.69	2.04	2.40	2.76	3.12	3.47	3.83	4.19	4.55	4.90	5.25	5.61
-06	.60	.94	1.28	1.62	1.97	2.31	2.65	3.00	3.34	3.67	4.01	4.36	4.70	5.04	5.36
24 -04	.88	1.38	1.88	2.39	2.89	3.40	3.90	4.40	4.91	5.40	5.91	6.41	6.92	7.42	7.93
-06	.93	1.46	2.00	2.54	3.07	3.60	4.14	4.67	5.21	5.75	6.28	6.81	7.35	7.88	8.41
30 -04	1.14	1.79	2.43	3.08	3.74	4.39	5.03	5.69	6.34	6.99	7.63	8.29	8.94	9.59	10.24
-06	1.17	1.84	2.51	3.18	3.85	4.52	5.20	5.86	6.53	7.20	7.87	8.55	9.21	9.88	10.56
36 -04	1.39	2.19	2.99	3.79	4.58	5.38	6.18	6.97	7.77	8.57	9.37	10.16	10.96	11.76	12.55
-06	1.50	2.37	3.23	4.09	4.96	5.81	6.68	7.54	8.40	9.26	10.13	10.99	11.85	12.71	13.58
42 -04	1.64	2.60	3.54	4.48	5.42	6.37	7.31	8.25	9.20	10.15	11.09	12.03	12.98	13.92	14.86
-06	1.76	2.76	3.77	4.78	5.78	6.79	7.79	8.80	9.80	10.80	11.81	12.81	13.82	14.83	15.83
48 -04	1.90	3.00	4.09	5.18	6.27	7.36	8.45	9.54	10.63	11.72	12.81	13.90	15.00	16.08	17.18
-06	2.08	3.26	4.45	5.64	6.83	8.02	9.21	10.40	11.60	12.79	13.98	15.17	16.36	17.55	18.73
54 -04	2.16	3.40	4.63	5.87	7.11	8.35	9.59	10.82	12.06	13.30	14.54	15.78	17.01	18.25	19.49
-06	2.34	3.68	5.02	6.37	7.71	9.04	10.39	11.73	13.07	14.41	15.75	17.09	18.43	19.78	21.12
60 -04	2.41	3.80	5.19	6.58	7.96	9.34	10.73	12.11	13.49	14.88	16.26	17.65	19.03	20.41	21.80
-06	2.65	4.17	5.68	7.20	8.72	10.23	11.76	13.27	14.79	16.31	17.82	19.34	20.85	22.38	23.89
66 -04	2.67	4.20	5.74	7.27	8.80	10.33	11.86	13.40	14.93	16.46	17.99	19.52	21.05	22.59	24.12
-06	2.93	4.60	6.28	7.96	9.63	11.31	12.99	14.66	16.34	18.01	19.69	21.37	23.04	24.72	26.40
72 -04	2.93	4.61	6.29	7.97	9.64	11.32	13.00	14.68	16.36	18.03	19.71	21.40	23.07	24.75	26.42
-06	3.22	5.07	6.91	8.76	10.60	12.44	14.29	16.14	17.98	19.82	21.67	23.51	25.36	27.20	29.04
78 -04	3.19	5.01	6.84	8.66	10.49	12.31	14.14	15.97	17.79	19.61	21.44	23.26	25.09	26.92	28.74
-06	3.52	5.53	7.54	9.55	11.56	13.58	15.59	17.60	19.60	21.61	23.63	25.64	27.65	29.66	31.68
84 -04	3.44	5.41	7.39	9.36	11.34	13.31	15.28	17.25	19.22	21.20	23.17	25.14	27.11	29.08	31.05
-06	3.80	5.97	8.14	10.31	12.48	14.65	16.82	19.00	21.18	23.35	25.52	27.69	29.86	32.03	34.20
90 -04	3.70	5.82	7.94	10.06	12.18	14.30	16.41	18.54	20.65	22.77	24.89	27.00	29.13	31.24	33.37
-06	4.10	6.45	8.80	11.14	13.49	15.83	18.19	20.53	22.87	25.22	27.57	29.92	32.26	34.61	36.96
96- 04	3.96	6.22	8.49	10.76	13.02	15.29	17.56	19.81	22.08	24.35	26.61	28.88	31.15	33.41	35.68
-06	4.37	6.87	9.37	11.87	14.37	16.86	19.37	21.86	24.37	26.86	29.37	31.86	34.37	36.86	39.36

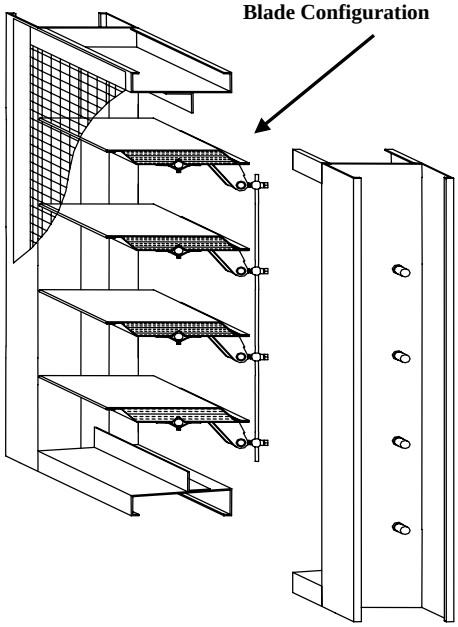
ADJUSTABLE FORMED LOUVER

Insulated Blade Louver in 6” thick frame design Model AFI - 06

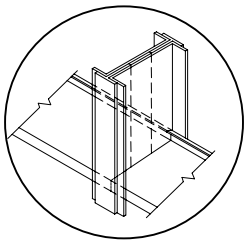
Design Features – Adjustable insulated blade design for added thermal protection or sound reduction. Adjustable feature is useful on systems requiring periodic operation or a means of further deterring the outside element of water penetration, which is made possible when the louver is closed.

STANDARD CONSTRUCTION

FRAME
16 gauge (1.6) galvanized steel in style #3
BLADES
Double skin 20 gauge (1.0) galvanized steel with fiberglass insulation, approx. spacing is 6” (152) oc. @ 90 degrees.
BLADE AXLES & BEARINGS
Axles – 1/2” (13) stub shaft, plated steel
Bearings – 1/2’ (13) dia. bronze oilite
LINKAGE
Plated steel mounted at the center point of blades
SEALS
Polyurethane foam blade and aluminum jamb seals
MAXIMUM SIZE
Unlimited, with mullions, structural bracing supplied by others
MAXIMUM SINGLE SECTION
48” W x 72”H (1219 X 1829)
MINIMUM SIZE
12” x 12” (305 X 305)
MULLION
Visible
UNDERSIZED
1/4” (6) under ordered size unless specified Exact or Actual
SCREEN
½” (13) wire mesh 19 gauge (1.1) galvanized bird screen in frame on face
FINISH
Mill
OPERATOR
Wing-nut type adjustable



MULLION STYLE



Visible

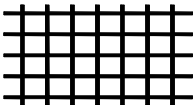
OPTIONAL CONSTRUCTION

FRAME – Available in a heavier material up to 10 gauge (3.5)
BLADES - Available in a heavier material up to 12 gauge (2.7)
BLADES & JAMB SEALS – Polyurethane blade edge and / or sstl jamb seals
SCREEN - Many styles available please consult screen listing
LINKAGE – Concealed in the jamb
FINISH – Air-dry primer, polyurethane, epoxy, or enamel, baked epoxy or enamel, Kynar, or Powder coat.
OPERATOR – Manual, Electric or Pneumatic

SPECIAL PURPOSE CONSTRUCTION

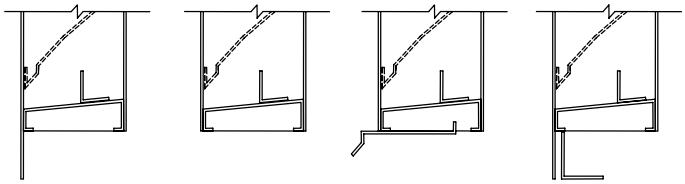
Burglar Bars
Filter racks
Sleeved for ductwork connection
Jackshaft when required

TYPICAL SCREEN STYLES



Wire Mesh
Standard

FRAME STYLES



(1) - Flange 1-1/2” | (3) - Box Standard | (8) - Box and Sill Extension | (9) - Flange w/ sub frame

DATE	ARCHITECT/ENGINEER			CUSTOMER
PROJECT				
ITEM	QTY	W	H	DESCRIPTION

DEPENDABLE PRODUCTS SINCE 1955

SAFE-AIR OF ILLINOIS INC.

Engineering and General Offices

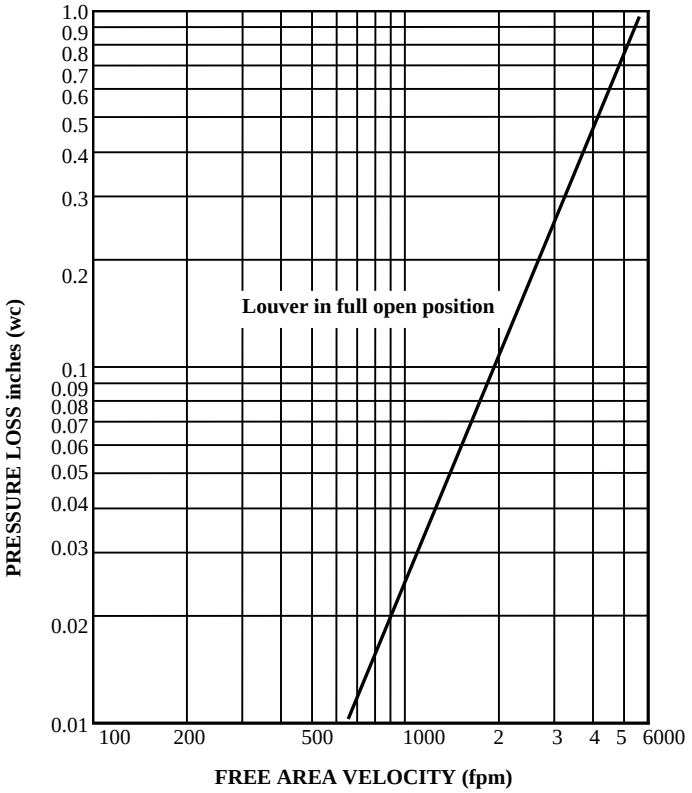
1855 South 54th Avenue, Cicero, Illinois 60804

Phone 708-652-9100 FAX 708-652-9158

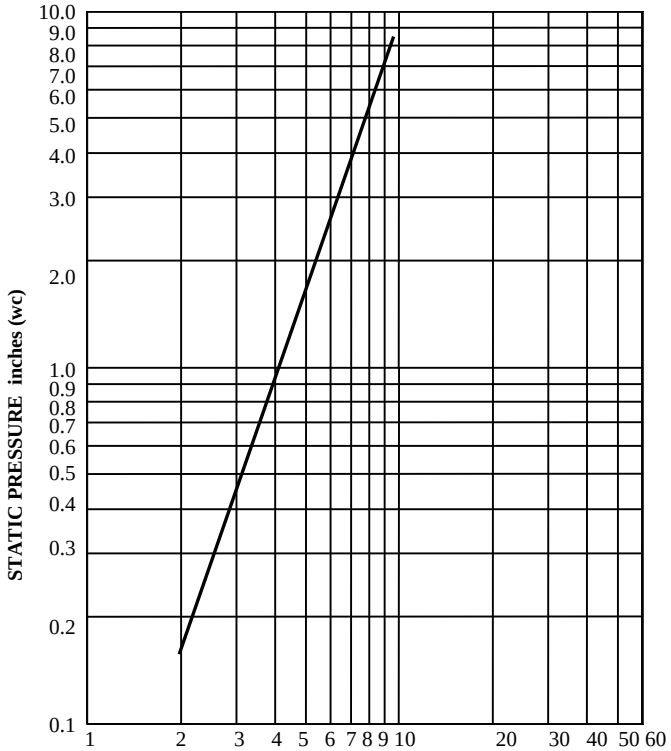
AFI – PERFORMANCE SPECIFICATIONS

All tests performed at an independent laboratory and based on AMCA standards for air performance.

AIR PERFORMANCE



AIR LEAKAGE



48” x 48” sample was tested with blade and jamb seals

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 damper. 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

TO MINIMIZE LEAKAGE

The Leakage performance of a louver will improve with size and varies with aspect ratio. Leakage may always be minimized by selecting louvers as tall as possible, minimizing width. Testing was performed at an independent laboratory using test procedures based on Industry Standards for air leakage, on a 48” x 48” (1219 x 1219) test sample.

MAXIMUM SINGLE SECTION SIZE – 48”W x 72”H (1219 x 1829)

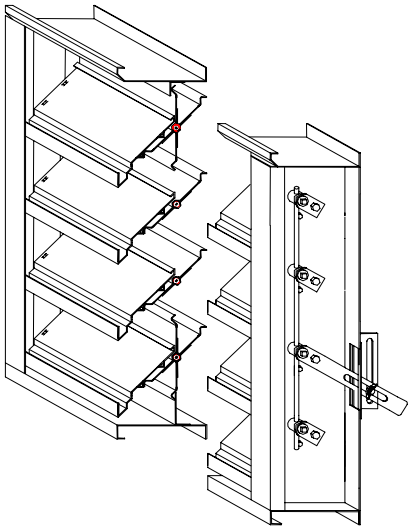
MINIMUM SINGLE SECTION SIZE – 12”W x 12”H (305 x 305)

Inches	**12**	**16**	**20**	**24**	**28**	**32**	**36**	**40**	**44**	**48**	**52**	**56**	**60**
12	0.5	0.72	0.94	1.17	1.39	1.61	1.83	2.06	2.28	2.5	2.72	2.94	3.17
16	0.69	0.99	1.3	1.6	1.91	2.22	2.52	2.83	3.13	3.44	3.74	4.05	4.35
20	0.88	1.26	1.65	2.04	2.43	2.82	3.21	3.6	3.99	4.38	4.76	5.15	5.54
24	1.13	1.63	2.13	2.63	3.13	3.63	4.13	4.63	5.13	5.63	6.13	6.63	7.13
28	1.31	1.9	2.48	3.06	3.65	4.23	4.81	5.4	5.98	6.56	7.15	7.73	8.31
32	1.5	2.17	2.83	3.5	4.17	4.83	5.5	6.17	6.83	7.5	8.17	8.83	9.5
36	1.75	2.53	3.31	4.08	4.86	5.64	6.42	7.19	7.97	8.75	9.53	10.31	11.08
40	1.94	2.8	3.66	4.52	5.38	6.24	7.1	7.97	8.83	9.69	10.55	11.41	12.27
44	2.13	3.07	4.01	4.96	5.9	6.85	7.79	8.74	9.68	10.63	11.57	12.51	13.46
48	2.38	3.43	4.49	5.54	6.6	7.65	8.71	9.76	10.82	11.88	12.93	13.99	15.04
52	2.56	3.7	4.84	5.98	7.12	8.26	9.4	10.53	11.67	12.81	13.95	15.09	16.23
56	2.81	4.06	5.31	6.56	7.81	9.06	10.31	11.56	12.81	14.06	15.31	16.56	17.81
60	3	4.33	5.67	7	8.33	9.67	11	12.33	13.67	15	16.33	17.67	19
64	3.19	4.6	6.02	7.44	8.85	10.27	11.69	13.1	14.52	15.94	17.35	18.77	20.19
68	3.44	4.97	6.49	8.02	9.55	11.08	12.6	14.13	15.66	17.19	18.72	20.24	21.77
72	3.63	5.24	6.85	8.46	10.07	11.68	13.29	14.9	16.51	18.13	19.74	21.35	22.96
76	3.81	5.51	7.2	8.9	10.59	12.28	13.98	15.67	17.37	19.06	20.76	22.45	24.15
80	4.06	5.87	7.67	9.48	11.28	13.09	14.9	16.7	18.51	20.31	22.12	23.92	25.73
84	4.25	6.14	8.03	9.92	11.81	13.69	15.58	17.47	19.36	21.25	23.14	25.03	26.92
88	4.44	6.41	8.38	10.35	12.33	14.3	16.27	18.24	20.22	22.19	24.16	26.13	28.1
92	4.69	6.77	8.85	10.94	13.02	15.1	17.19	19.27	21.35	23.44	25.52	27.6	29.69
96	4.88	7.04	9.21	11.38	13.54	15.71	17.88	20.04	22.21	24.38	26.54	28.71	30.88

FORMED LOUVER

Combination Fixed / Adjustable Drainable Blade Louver Model C-DWF-46

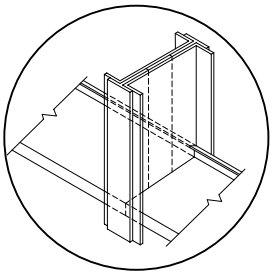
Features – High Performance patented design allowing maximum airflow with minimum outside element or water penetration



STANDARD CONSTRUCTION

FRAME
6" (152) thick, is 18 gauge (1.3) galvanized steel in style #3
BLADES
Fixed- Drainable Design 18 gauge (1.3) galv. steel, apx. spacing is 5 3/8" (137) @ 45°
Adjustable- 16 gauge (1.6) galvanized steel
BLADES AXLES & BEARINGS
Axles – 7/16" (11) Planted hex
Bearings- Bronze Oilite
LINKAGE
Concealed in jamb
BLADE & JAMB SEALS
Neoprene blade edge & aluminum jamb seals
MAXIMUM SIZE
Unlimited, with mullions, structural bracing supplied by others
MAXIMUM SINGLE SECTION
48"w x 96"H (1219 x 2438) (Over 48" (1219) wide will have double linkage)
MULLIONS
Visible
MINIMUM SIZE
12" W x 12" H (305 x 305)
UNDERSIZED
3/8" (10) under ordered size unless specified Exact or Actual
SCREEN
½" (13) wire mesh 19 gauge (1.1) galvanized bird screen no frame
FINISH
Mill

MULLION STYLE



Visible

PERFORMANCE

Point of water penetration
983 fpm (300)

Free area
48 x 48 section
49%

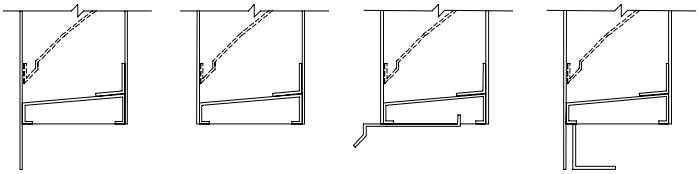
OPTIONAL CONSTRUCTION

FRAME – Available in a heavier construction up to 10 gauge (3.5)
BLADES - Available in a heavier construction up to 16 gauge (1.6)
SCREENS - Many styles available please consult screen listing
FINISH – Air-dry primer, polyurethane, epoxy, or enamel. Baked epoxy or enamel.
Kynar (Kynar limitations on steel).

SPECIAL PURPOSE CONSTRUCTION

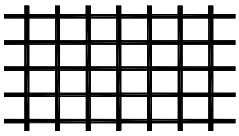
Security bars
Filter racks
Hinged as walk through door or for swing out access
Sleeved for ductwork connection

FRAME STYLES



1- Flange (1.5") | 3 – Box | 8- Box with Sill Extension | 9 - Flange with Sub Frame

TYPICAL SCREEN STYLE



Wire Mesh
Standard

DATE	ARCHITECT			ENGINEER
PROJECT				
ITEM	QTY	W	H	DESCRIPTION

DEPENDABLE PRODUCTS SINCE 1955

SAFE-AIR OF ILLINOIS INC.

Engineering and General Offices

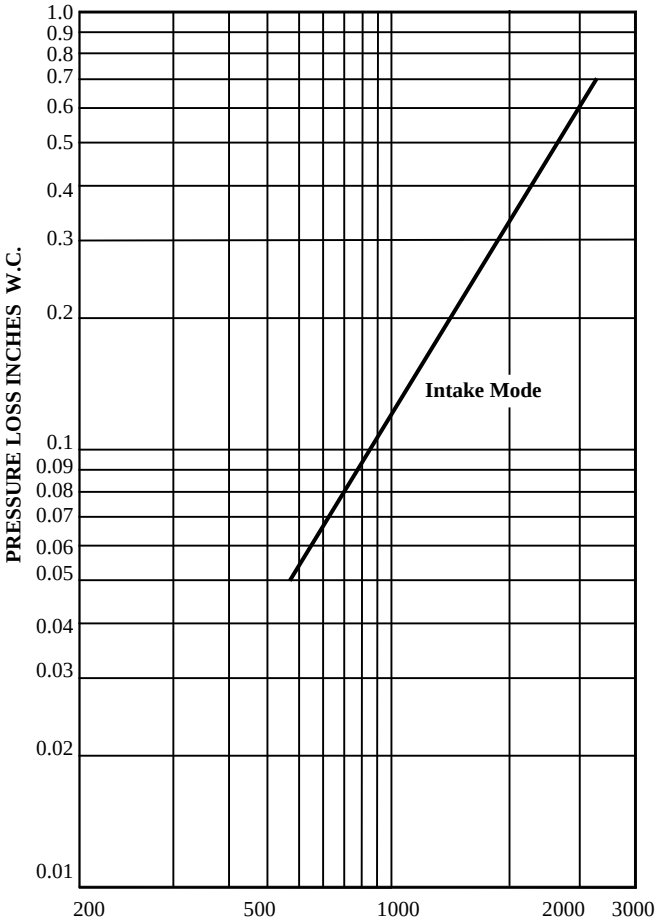
1855 South 54th Avenue, Cicero, Illinois 60804

Phone 708-652-9100 FAX 708-652-9158

C-DWF-46 PERFORMANCE SPECIFICATIONS

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

AIR PERFORMANCE



INTAKE FREE AREA VELOCITY (fpm)

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

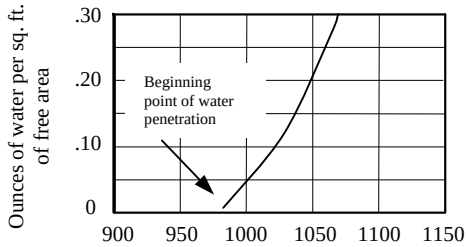
CALCULATING MAXIMUM AIRFLOW BEFORE WATER PENETRATION

The "free area flow rate" at which water penetration commences (.01 oz. of water) is established at, 983 fpm (300) for C-DWF-46, 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 determined 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	(H20)
983	999	1021	1037	1054	1063	(fpm)



FREE AREA VELOCITY (fpm)
983 fpm (300) beginning of water penetration

FREE AREA CALCULATIONS IN SQ. FT.

WIDTH

HEIGHT

INCHES	12	18	24	30	36	42	48	54	60
12	.26	.42	.57	.73	.89	1.04	1.20	1.35	1.51
18	.52	.83	1.14	1.45	1.76	2.07	2.38	2.69	3.00
24	.74	1.18	1.62	2.07	2.51	2.95	3.39	3.84	4.28
30	.96	1.53	2.11	2.69	3.26	3.84	4.41	4.99	5.56
36	1.18	1.89	2.60	3.31	4.01	4.72	5.43	6.14	6.85
42	1.43	2.29	3.15	4.01	4.87	5.73	6.59	7.45	8.31
48	1.70	2.72	3.73	4.75	5.77	6.79	7.81	8.82	9.84
54	1.96	3.14	4.32	5.49	6.67	7.85	9.02	10.20	11.38
60	2.23	3.56	4.90	6.23	7.57	8.91	10.24	11.58	12.91
66	2.49	3.99	5.48	6.98	8.47	9.97	11.46	12.95	14.45
72	2.73	4.37	6.01	7.64	9.28	10.92	12.56	14.20	15.83
78	2.95	4.72	6.49	8.26	10.03	11.81	13.58	15.35	17.12
84	3.17	5.08	6.98	8.88	10.79	12.69	14.59	16.50	18.40
90	3.40	5.44	7.48	9.52	11.55	13.59	15.63	17.57	19.71
96	3.66	5.86	8.06	10.26	12.45	14.65	16.85	19.05	21.25

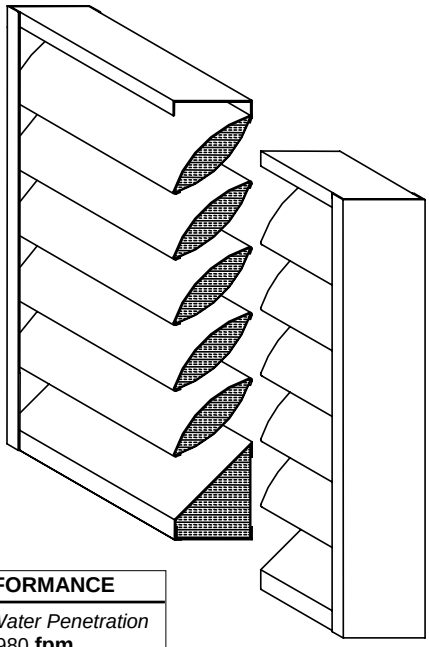
DEPENDABLE PRODUCTS SINCE 1955

Acoustical Louver - Model UFA-08

Design Features – Sound attenuating insulated blades provide a dual function of weather protection and airborne sound reduction. The airfoil shape blade reduces very high static pressure through the louver. The sound ratings are based on sound transmission standards ASTM E90-90 and ASTM E413-87.

STANDARD CONSTRUCTION

FRAME
8" deep, 16 gauge galvanized steel in style #2
BLADES
Exterior surface – 18 ga. gauge galvanized approx. spacing 6" oc.
Interior surface – 22 ga. gauge galv. perforated fastened to blade underside
SOUND INSULATION
6# density pcf mineral wool
ASSEMBLY
3/16" plated steel rivets exposed to view
MAXIMUM SINGLE SECTION
60"W x 120"H
MINIMUM SIZE
12"W x 12"H
MAXIMUM SIZE
Unlimited, with mullions, structural bracing supplied by others
MULLION
Visible
SCREEN
1/2" x 19 ga. galvanized screen in frame
UNDERSIZED
1/4" under ordered size unless specified Exact or Actual
FINISH
Mill



PERFORMANCE
Point of Water Penetration 980 **fpm**
Free Area (48 x 48) **30%**
Pressure Drop (intake) **.12" wg. @ 1000 fpm**

OPTIONAL CONSTRUCTION

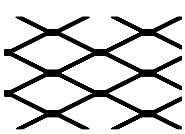
SPECIFIED MATERIAL – Heavier gauge or in Aluminum or stainless steel
SCREEN - Many styles available please consult screen listing
FINISH – Air-dry primer, polyurethane, epoxy, or enamel, baked epoxy or enamel, Kynar, or Powder coat.
SLEEVE AND DUCTWORK – 10 ga. to 20 ga. galvanized steel or aluminum to 30" in length.

Octave Bands								
Frequency (hz)	1 63	2 125	3 250	4 500	5 1000	6 2000	7 4000	8 8000
Free Field Noise Reduction (DB)	12	11	12	13	20	18	16	20
Transmission Loss (DB)	6	5	6	7	14	12	10	14

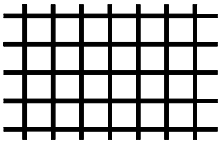
SPECIAL PURPOSE CONSTRUCTION

Fully welded construction
Security bar
Filter racks

TYPICAL SCREEN STYLES

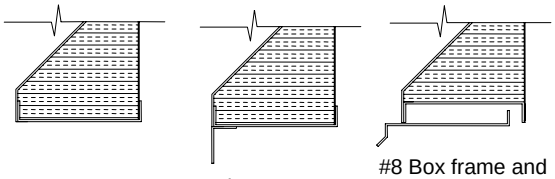


Expanded Aluminum



Wire Mesh
Standard

FRAME STYLE



#2 Box Frame

#1 Flange Frame

#8 Box frame and Sill Extension

DATE	ARCHITECT	CUSTOMER
PROJECT		

ITEM	QTY	W	H	DESCRIPTION

DEPENDABLE PRODUCTS SINCE 1955

SAFE-AIR/DOWCO

Engineering and General Offices

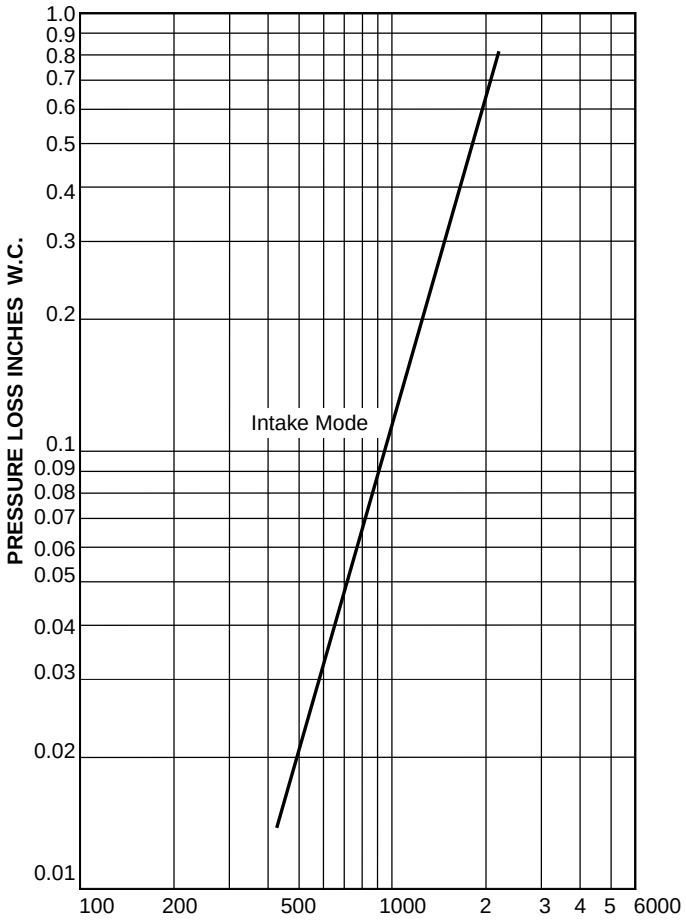
1855 South 54th Avenue, Cicero, Illinois 60804

Phone 708-652-9100 FAX 708-652-9158

UFA-08 PERFORMANCE SPECIFICATIONS

The sound ratings shown are based on sound transmission standards – ASTM E90-90 and ASTM E413-87. All tests were performed at an independent laboratory. The Air Performance and Free Area Calculations are made in accordance with AMCA 500 standards.

AIR PERFORMANCE



FREE AREA VELOCITY (fpm)

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 by utilizing the "air performance" graph.

Octave Bands								
Frequency (hz)	1 63	2 125	3 250	4 500	5 1000	6 2000	7 4000	8 8000
Free Field Noise Reduction (DB)	12	11	12	13	20	18	16	20
Transmission Loss (DB)	6	5	6	7	14	12	10	14

FREE AREA CALCULATIONS IN SQ. FT.

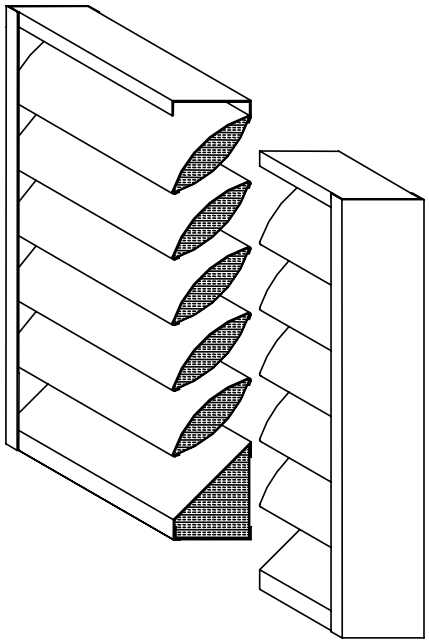
HEIGHT	WIDTH										
Inches	**12**	**18**	**24**	**30**	**36**	**42**	**48**	**54**	**60**	**66**	**72**
12	0.13	0.22	0.31	0.41	0.50	0.59	0.69	0.78	0.88	1.01	1.10
18	0.25	0.44	0.63	0.81	1.00	1.19	1.38	1.56	1.75	2.02	2.21
24	0.38	0.66	0.94	1.22	1.50	1.78	2.07	2.35	2.63	3.03	3.31
30	0.50	0.88	1.25	1.63	2.00	2.38	2.75	3.13	3.50	4.04	4.41
36	0.63	1.10	1.56	2.03	2.50	2.97	3.44	3.91	4.38	5.05	5.52
42	0.75	1.31	1.88	2.44	3.00	3.57	4.13	4.69	5.26	6.06	6.62
48	0.88	1.53	2.19	2.85	3.50	4.16	4.82	5.48	6.13	7.06	7.72
54	1.00	1.75	2.50	3.25	4.01	4.76	5.51	6.26	7.01	8.07	8.82
60	1.13	1.97	2.82	3.66	4.51	5.35	6.20	7.04	7.89	9.08	9.93
66	1.25	2.19	3.13	4.07	5.01	5.95	6.88	7.82	8.76	10.09	11.03
72	1.38	2.41	3.44	4.47	5.51	6.54	7.57	8.61	9.64	11.10	12.13
78	1.50	2.63	3.76	4.88	6.01	7.13	8.26	9.39	10.51	12.11	13.24
84	1.63	2.85	4.07	5.29	6.51	7.73	8.95	10.17	11.39	13.12	14.34
90	1.75	3.07	4.38	5.70	7.01	8.32	9.64	10.95	12.27	14.13	15.44
96	1.88	3.29	4.69	6.10	7.51	8.92	10.33	11.74	13.14	15.14	16.55
102	2.00	3.50	5.01	6.51	8.01	9.51	11.02	12.52	14.02	16.15	17.65
108	2.13	3.72	5.32	6.92	8.51	10.11	11.70	13.30	14.90	17.16	18.75
114	2.25	3.94	5.63	7.32	9.01	10.70	12.39	14.08	15.77	18.17	19.86
120	2.38	4.16	5.95	7.73	9.51	11.30	13.08	14.86	16.65	19.18	20.96

DEPENDABLE PRODUCTS SINCE 1955

Acoustical Louver - Model UFA-12

Design Features – Sound attenuating insulated blades provide a dual function of weather protection and airborne sound reduction. The airfoil shape blade reduces very high static pressure through the louver. The sound ratings are based on sound transmission standards ASTM E90-90 and ASTM E413-87.

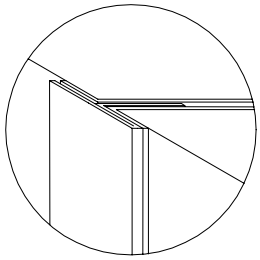
STANDARD CONSTRUCTION



FRAME
12" deep, 16 gauge galvanized steel in style #2
BLADES
Exterior surface – 18 ga. galv. approx. spacing 10" oc.
Interior surface – 22 ga. galv. perforated fastened to blade underside
SOUND INSULATION
6# density pcf mineral wool
ASSEMBLY
3/16" plated steel rivets exposed to view
MAXIMUM SINGLE SECTION
72"W x 120"H
MINIMUM SIZE
12"W x 16"H
MAXIMUM SIZE
Unlimited, with mullions, structural bracing supplied by others
MULLION
Visible
SCREEN
1/2" x 19 ga. galvanized screen in frame
UNDERSIZED
1/4" under ordered size unless specified Exact or Actual
FINISH
Mill

OPTIONAL CONSTRUCTION

SPECIFIED MATERIAL – Heavier gauge or in Aluminum or stainless steel
SCREEN - Many styles available please consult screen listing
FINISH – Air-dry primer, polyurethane, epoxy, or enamel, baked epoxy or enamel, Kynar, or Powder coat.
SLEEVE AND DUCTWORK – 10 ga. to 20 ga. galvanized steel or aluminum to 30" in length.



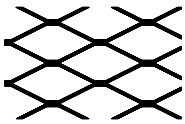
MULLION STYLE

PERFORMANCE
Point of Water Penetration 1077 **fpm**
Free Area (48 x 48) **30%**
Pressure Drop (intake) **.07" wg. @ 1000 fpm**

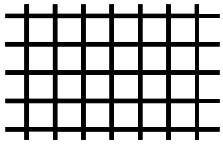
SPECIAL PURPOSE CONSTRUCTION

Fully welded construction
Security bar
Filter racks

TYPICAL SCREEN STYLES

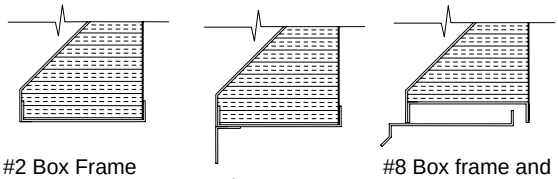


Expanded Aluminum



Wire Mesh
Standard

FRAME STYLE



#2 Box Frame
Standard

#1 Flange Frame

#8 Box frame and
Sill Extension

DATE	ARCHITECT	CUSTOMER
PROJECT		

ITEM	QTY	W	H

AMCA CERTIFIED RATINGS — WATER PENETRATION — AIR PERFORMANCE — AIR MOVEMENT AND CONTROL ASSOCIATION, INC.

SAFE-AIR/DOWCO certifies that the UFA-12 louver shown herein are 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 and water penetration ratings.

DEPENDABLE PRODUCTS SINCE 1955

SAFE-AIR/DOWCO

Engineering and General Offices

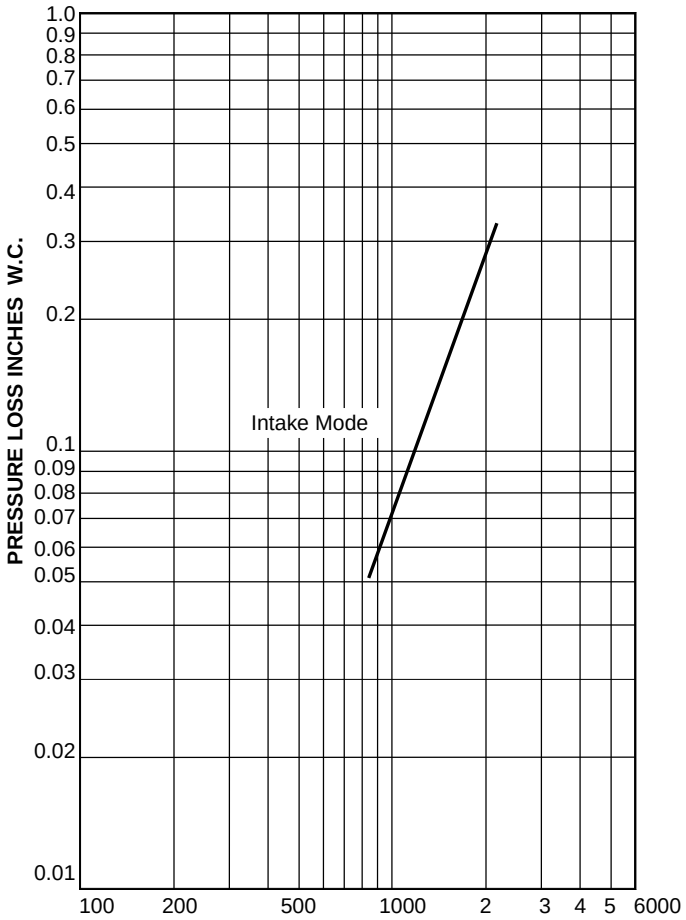
1855 South 54th Avenue, Cicero, Illinois 60804

Phone 708-652-9100 FAX 708-652-9158

UFA-12 PERFORMANCE SPECIFICATIONS

The sound ratings shown are based on sound transmission standards – ASTM E90-90 and ASTM E413-87. All tests were performed at an independent laboratory. The Air Performance and Free Area Calculations are made in accordance with AMCA 500 standards.

AIR PERFORMANCE



FREE AREA VELOCITY (fpm)

Octave Bands								
Frequency (hz)	1 63	2 125	3 250	4 500	5 1000	6 2000	7 4000	8 8000
Free Field Noise Reduction (DB)	12	11	12	13	20	18	16	20
Transmission Loss (DB)	6	5	6	7	14	12	10	14

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)

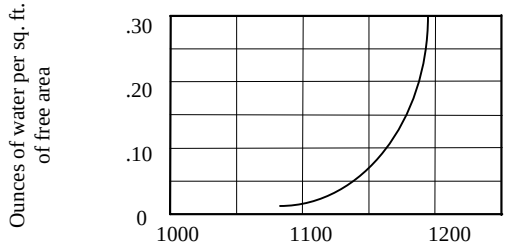
_____CFM / ____ FPM Free Area Velocity = _____Sq. Ft. Free Area

CALCULATING MAXIMUM AIRFLOW BEFORE WATER PENETRATION

The "free area flow rate" at which water penetration commences (.01 oz. of water) is established at, 1077 fpm for UFA-12, 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 determined 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 (H20)
1077	1097	1129	1152	1176	1250 (fpm)



FREE AREA VELOCITY (fpm)
1077 fpm beginning of water penetration

FREE AREA CALCULATIONS IN SQ. FT.

WIDTH

HEIGHT

INCHES	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	102	108
12	0.26	0.42	0.58	0.74	0.90	1.06	1.22	1.38	1.54	1.69	1.85	2.01	2.17	2.33	2.49	2.65	2.81
18	0.29	0.46	0.63	0.80	0.97	1.15	1.32	1.49	1.66	1.83	2.01	2.18	2.35	2.52	2.69	2.86	3.04
30	0.54	0.86	1.18	1.50	1.82	2.14	2.46	2.78	3.11	3.43	3.75	4.07	4.39	4.71	5.03	5.35	5.68
36	0.68	1.08	1.49	1.90	2.30	2.71	3.11	3.52	3.93	4.33	4.74	5.15	5.55	5.96	6.36	6.77	7.18
42	0.80	1.28	1.76	2.24	2.72	3.19	3.67	4.15	4.63	5.11	5.59	6.07	6.55	7.03	7.51	7.99	8.47
48	1.05	1.67	2.30	2.93	3.56	4.18	4.81	5.44	6.07	6.69	7.32	7.95	8.58	9.20	9.83	10.46	11.09
54	1.07	1.71	2.35	2.99	3.63	4.27	4.91	5.55	6.19	6.83	7.47	8.11	8.76	9.40	10.04	10.68	11.32
60	1.32	2.11	2.90	3.69	4.48	5.27	6.06	6.85	7.64	8.43	9.22	10.01	10.80	11.59	12.38	13.17	13.96
66	1.46	2.33	3.21	4.08	4.96	5.83	6.71	7.58	8.46	9.33	10.21	11.08	11.96	12.83	13.71	14.58	15.46
72	1.58	2.53	3.48	4.42	5.37	6.32	7.27	8.22	9.16	10.11	11.06	12.01	12.95	13.90	14.85	15.80	16.75
78	1.83	2.92	4.02	5.12	6.21	7.31	8.41	9.50	10.60	11.69	12.79	13.89	14.98	16.08	17.18	18.27	19.37
84	1.85	2.96	4.07	5.18	6.29	7.40	8.51	9.61	10.72	11.83	12.94	14.05	15.16	16.27	17.38	18.49	19.60
90	2.10	3.36	4.62	5.87	7.13	8.39	9.65	10.91	12.17	13.43	14.69	15.94	17.20	18.46	19.72	20.98	22.24
96	2.24	3.58	4.93	6.27	7.61	8.96	10.30	11.65	12.99	14.33	15.68	17.02	18.36	19.71	21.05	22.40	23.74

DEPENDABLE PRODUCTS SINCE 1955

Acoustical Louver in 4” 6” 8” & 12” deep frame design - Model UFC / Galvanized

Design Features – Sound attenuating insulated blades provide a dual function of weather protection and airborne sound reduction. The sound ratings are based on sound transmission standards ASTM E90-90 and ASTM E413-87.

STANDARD CONSTRUCTION

FRAME
4” deep, 16 gauge galvanized steel in style #2
6” deep, 16 gauge galvanized steel in style #2
8” deep, 16 gauge galvanized steel in style #2
12” deep, 16 gauge galvanized steel in style #2

BLADES
4” deep, 18 gauge galvanized steel approx. spacing 5” @ 45º
6” deep, 18 gauge galvanized steel approx. spacing 6” @ 45º
8” deep, 18 gauge galvanized steel approx. spacing 8” @ 45º
12” deep, 18 gauge galvanized steel approx. spacing 12” @ 45º
Interior surface – 22 ga. gauge galv. perforated fastened to blade underside

SOUND INSULATION
6# density pcf mineral wool

ASSEMBLY
3/16” plated steel rivets exposed to view

MAXIMUM SINGLE SECTION
60”w x 120”h

MINIMUM SIZE
4” - 12”W x 9”H **8” -** 12”W x 14”H
6” - 12”W x 12”H **12” -** 12”W x 18”H

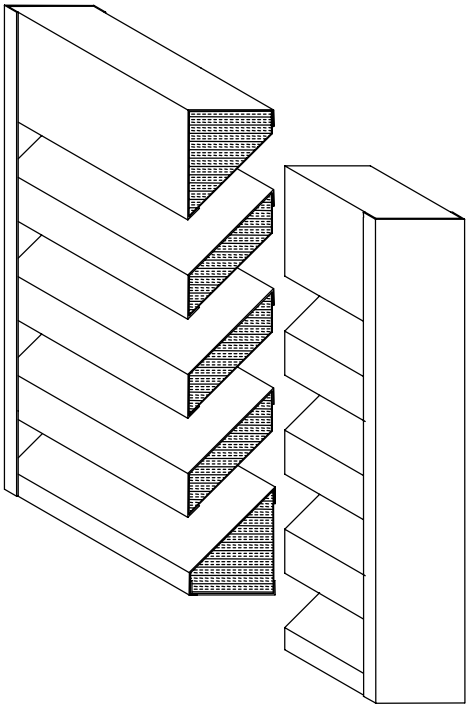
MAXIMUM SIZE
Unlimited, with mullions, structural bracing supplied by others

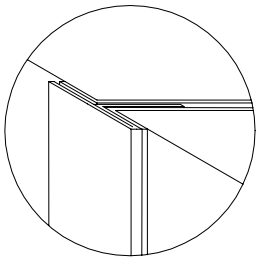
MULLION
Visible

SCREEN
1/2” x 19 ga. galvanized screen in frame

UNDERSIZED
1/4” under ordered size unless specified Exact or Actual

FINISH
Mill





MULLION STYLE

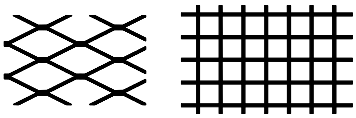
OPTIONAL CONSTRUCTION

SPECIFIED MATERIAL – Heavier gauge or in Aluminum or stainless steel
SCREEN: Many styles available please consult screen listing
FINISH – Air-dry primer, polyurethane, epoxy, or enamel, baked epoxy or enamel, Kynar, or Powder coat.
SLEEVE AND DUCTWORK – 10 ga. to 20 ga. galvanized steel or aluminum to 30” in length.

SPECIAL PURPOSE CONSTRUCTION

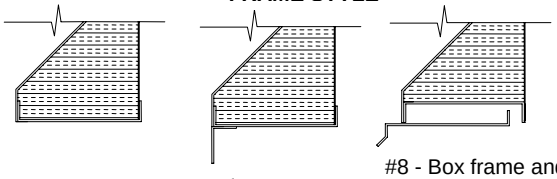
Fully welded construction
Security bar
Filter racks

TYPICAL SCREEN STYLES



Expanded Aluminum Wire Mesh Standard

FRAME STYLE



#2 - Box Frame #1- Flange Frame #8 - Box frame and Sill Extension

DATE	ARCHITECT	CUSTOMER
PROJECT		

ITEM	QTY	W	H	DESCRIPTION

DEPENDABLE PRODUCTS SINCE 1955

SAFE-AIR/DOWCO

Engineering and General Offices

1855 South 54th Avenue, Cicero, Illinois 60804

Phone 708-652-9100 FAX 708-652-9158

UFC – PERFORMANCE SPECIFICATIONS

The sound ratings shown are based on sound transmission standards – ASTM E90-90 and ASTM E413-87. All tests were performed at an independent laboratory. Water Penetration, Air Performance and Free Area Calculations are tested and made in accordance with AMCA 500 standards.

FREE FIELD NOISE REDUCTION

	Octave Bands							
Frequency (hz)	1 63	2 125	3 250	4 500	5 1000	6 2000	7 4000	8 8000
4" deep	9	10	9	10	12	19	16	15
6" deep	9	10	9	10	14	19	16	15
8" deep	11	13	12	16	22	24	21	20
12" deep	11	14	15	19	23	24	19	20

FREE AREA CALCULATIONS IN SQ. FT.

WIDTH

HEIGHT Inches	12	18	24	30	36	42	48	54	60
12 - 4"	0.22	0.35	0.48	0.61	0.74	0.87	0.99	1.12	1.25
- 6"	0.2	0.32	0.44	0.56	0.68	0.8	0.92	1.04	1.16
14 - 8"	0.16	0.25	0.34	0.44	0.53	0.62	0.71	0.81	0.9
- 12"			UFC-08 min. ht. = 14"		UFC-12 min. ht. = 18"				
18 - 4"	0.42	0.67	0.92	1.17	1.42	1.67	1.91	2.16	2.41
- 6"	0.41	0.65	0.89	1.13	1.37	1.61	1.85	2.1	2.34
- 8"	0.2	0.32	0.44	0.56	0.68	0.8	0.92	1.04	1.16
- 12"	0.22	0.35	0.47	0.6	0.73	0.86	0.98	1.11	1.24
24 - 4"	0.61	0.98	1.34	1.71	2.07	2.44	2.8	3.17	3.54
- 6"	0.61	0.97	1.33	1.69	2.05	2.41	2.77	3.14	3.5
- 8"	0.41	0.65	0.89	1.13	1.37	1.61	1.85	2.1	2.34
- 12"	0.3	0.48	0.66	0.84	1.02	1.2	1.38	1.56	1.74
30 - 4"	0.76	1.22	1.67	2.13	2.58	3.04	3.49	3.95	4.41
- 6"	0.81	1.29	1.77	2.25	2.73	3.21	3.69	4.18	4.66
- 8"	0.61	0.97	1.33	1.69	2.05	2.41	2.77	3.14	3.5
- 12"	0.52	0.83	1.13	1.44	1.75	2.06	2.36	2.67	2.98
36 - 4"	0.92	1.46	2.01	2.56	3.1	3.65	4.19	4.74	5.29
- 6"	1.01	1.61	2.21	2.82	3.42	4.02	4.62	5.23	5.83
- 8"	0.72	1.15	1.57	2	2.43	2.86	3.28	3.71	4.14
- 12"	0.6	0.96	1.32	1.68	2.04	2.4	2.76	3.12	3.48
42 - 4"	1.13	1.81	2.48	3.16	3.83	4.51	5.18	5.86	6.54
- 6"	1.21	1.93	2.65	3.38	4.1	4.82	5.54	6.27	6.99
- 8"	0.81	1.29	1.77	2.25	2.73	3.21	3.69	4.18	4.66
- 12"	0.82	1.3	1.79	2.28	2.76	3.25	3.73	4.22	4.71
48 - 4"	1.33	2.13	2.92	3.72	4.51	5.31	6.1	6.9	7.7
- 6"	1.41	2.26	3.1	3.94	4.79	5.63	6.47	7.32	8.16
- 8"	1.01	1.61	2.21	2.82	3.42	4.02	4.62	5.23	5.83
- 12"	0.9	1.44	1.98	2.52	3.06	3.6	4.13	4.67	5.21
54 - 4"	1.52	2.44	3.35	4.26	5.17	6.08	6.99	7.91	8.82
- 6"	1.61	2.58	3.54	4.5	5.47	6.43	7.39	8.36	9.32
- 8"	1.21	1.93	2.65	3.38	4.1	4.82	5.54	6.27	6.99
- 12"	1.12	1.78	2.45	3.12	3.78	4.45	5.11	5.78	6.45
60 - 4"	1.68	2.68	3.68	4.69	5.69	6.69	7.69	8.7	9.7
- 6"	1.81	2.9	3.98	5.06	6.15	7.23	8.31	9.4	10.48
- 8"	1.41	2.26	3.1	3.94	4.79	5.63	6.47	7.32	8.16
- 12"	1.2	1.92	2.64	3.36	4.08	4.8	5.51	6.23	6.95
66 - 4"	1.83	2.92	4.02	5.11	6.21	7.3	8.39	9.49	10.58
- 6"	2.01	3.22	4.42	5.63	6.83	8.04	9.24	10.45	11.66
- 8"	1.52	2.43	3.34	4.25	5.16	6.07	6.98	7.9	8.81
- 12"	1.42	2.26	3.11	3.96	4.8	5.65	6.49	7.34	8.19
72 - 4"	2.04	3.26	4.49	5.71	6.93	8.15	9.37	10.6	11.82
- 6"	2.21	3.54	4.86	6.19	7.51	8.84	10.16	11.49	12.82
- 8"	1.61	2.58	3.54	4.5	5.47	6.43	7.39	8.36	9.32
- 12"	1.5	2.4	3.3	4.2	5.1	6	6.89	7.79	8.69
78 - 4"	2.22	3.54	4.87	6.2	7.53	8.85	10.18	11.51	12.84
- 6"	2.41	3.86	5.31	6.75	8.2	9.64	11.09	12.54	13.98
- 8"	1.82	2.91	4	5.1	6.19	7.28	8.37	9.46	10.55
- 12"	1.59	2.54	3.49	4.44	5.39	6.34	7.29	8.25	9.2
84 - 4"	2.4	3.83	5.27	6.71	8.14	9.58	11.01	12.45	13.88
- 6"	2.62	4.18	5.75	7.31	8.88	10.45	12.01	13.58	15.15
- 8"	1.98	3.17	4.35	5.54	6.73	7.91	9.1	10.28	11.47
- 12"	1.68	2.68	3.68	4.69	5.69	6.69	7.69	8.7	9.7
90 - 4"	2.58	4.12	5.67	7.21	8.75	10.3	11.84	13.39	14.93
- 6"	2.82	4.5	6.19	7.88	9.56	11.25	12.94	14.63	16.31
- 8"	2.14	3.42	4.7	5.98	7.26	8.55	9.83	11.11	12.39
- 12"	1.76	2.82	3.87	4.93	5.98	7.04	8.09	9.15	10.21
96 - 4"	2.76	4.41	6.06	7.72	9.37	11.02	12.67	14.33	15.98
- 6"	3.02	4.82	6.63	8.44	10.25	12.05	13.86	15.67	17.48
- 8"	2.3	3.67	5.05	6.43	7.8	9.18	10.56	11.93	13.31
- 12"	1.9	3.04	4.18	5.32	6.46	7.6	8.74	9.88	11.02

CALCULATING PRESSURE LOSS

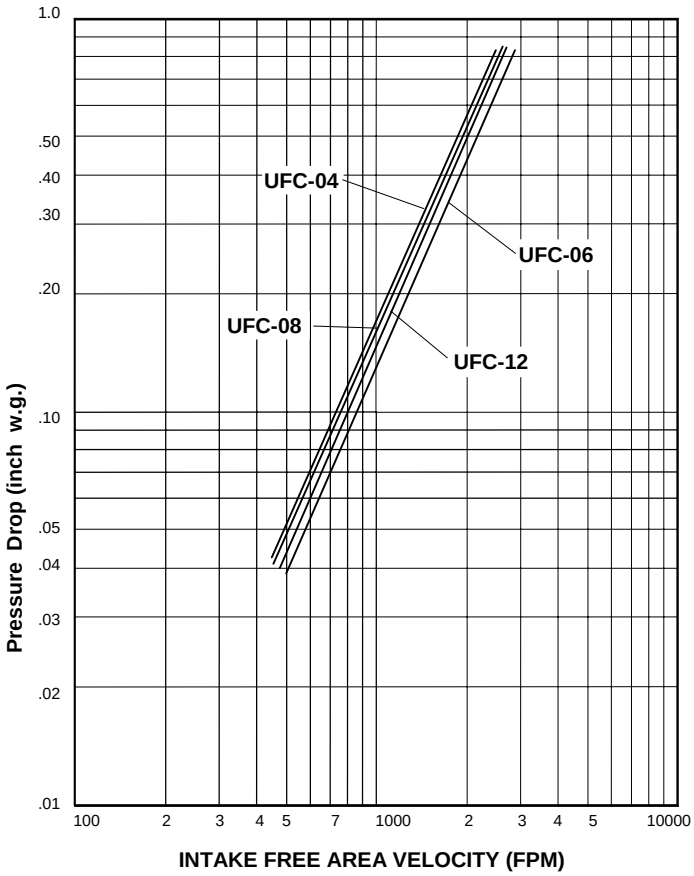
Based upon a given flow rate (in CFM), the flowing pressure loss may be determined from the "air performance" graph, knowing the sq. ft. of free area of the louver. Alternately, the free area may be determined based upon a volumetric flow rate and a maximum pressure loss by utilizing the "air performance"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

WATER PENETRATION

Test sample 48" x 48" subjected to hypothetical rainfall conditions over 15 minutes test period.

Model UFC-04
Beginning point of water penetration @ .01 oz/sq. ft. is 707 FPM (free area velocity)
Model UFC-06
Beginning point of water penetration @ .01 oz/sq. ft. is 875 FPM (free area velocity)
Model UFC-08
Beginning point of water penetration @ .01 oz/sq. ft. is 980 FPM (free area velocity)
Model UFC-12
Beginning point of water penetration @ .01 oz/sq. ft. is 1140 FPM (free area velocity)

AIR PERFORMANCE

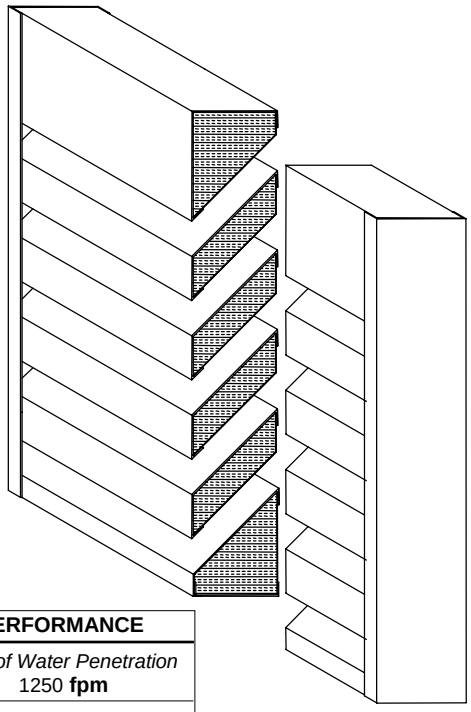


Galvanized Chart | Louver Contents

DEPENDABLE PRODUCTS SINCE 1955

Acoustical Louver - Model UFC-29

Design Features – Sound attenuating insulated blades provide a dual function of weather protection and airborne sound reduction. The sound ratings are based on sound transmission standards ASTM E90-90 and ASTM E413-87.



STANDARD CONSTRUCTION

FRAME
12" deep, 16 gauge galvanized steel in style #2
BLADES
Exterior surface – 18 ga. gauge galvanized approx. spacing 12" oc.
Interior surface – 22 ga. gauge galv. perforated fastened to blade underside
SOUND INSULATION
6# density pcf mineral wool
ASSEMBLY
3/16" plated steel rivets exposed to view
MAXIMUM SINGLE SECTION
60"W x 120"H
MINIMUM SIZE
12"W x 14"H
MAXIMUM SIZE
Unlimited, with mullions, structural bracing supplied by others
MULLION
Visible
SCREEN
1/2" x 19 ga. galvanized screen in frame
UNDERSIZED
1/4" under ordered size unless specified Exact or Actual
FINISH
Mill

PERFORMANCE
Point of Water Penetration 1250 **fpm**
Free Area (48 x 48) **18%**
Pressure Drop (intake) **.12" wg. @ 1000 fpm**

OPTIONAL CONSTRUCTION

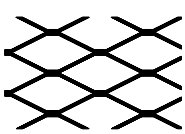
SPECIFIED MATERIAL – Heavier gauge or in Aluminum or stainless steel
SCREEN - Many styles available please consult screen listing
FINISH – Air-dry primer, polyurethane, epoxy, or enamel, baked epoxy or enamel, Kynar, or Powder coat.
SLEEVE AND DUCTWORK – 10 ga. to 20 ga. galvanized steel or aluminum to 30" in length.

Octave Bands								
Frequency (hz)	1 63	2 125	3 250	4 500	5 1000	6 2000	7 4000	8 8000
Free Field Noise Reduction (DB)	11	12	17	21	27	33	30	26
Transmission Loss (DB)	5	6	11	15	21	27	24	20

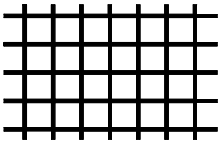
SPECIAL PURPOSE CONSTRUCTION

Fully welded construction
Security bar
Filter racks

TYPICAL SCREEN STYLES

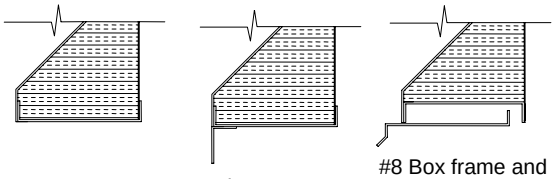


Expanded Aluminum



Wire Mesh
Standard

FRAME STYLE



#2 Box Frame

#1 Flange Frame

#8 Box frame and Sill Extension

DATE	ARCHITECT	CUSTOMER
PROJECT		

ITEM	QTY	W	H	DESCRIPTION

DEPENDABLE PRODUCTS SINCE 1955

SAFE-AIR/DOWCO

Engineering and General Offices

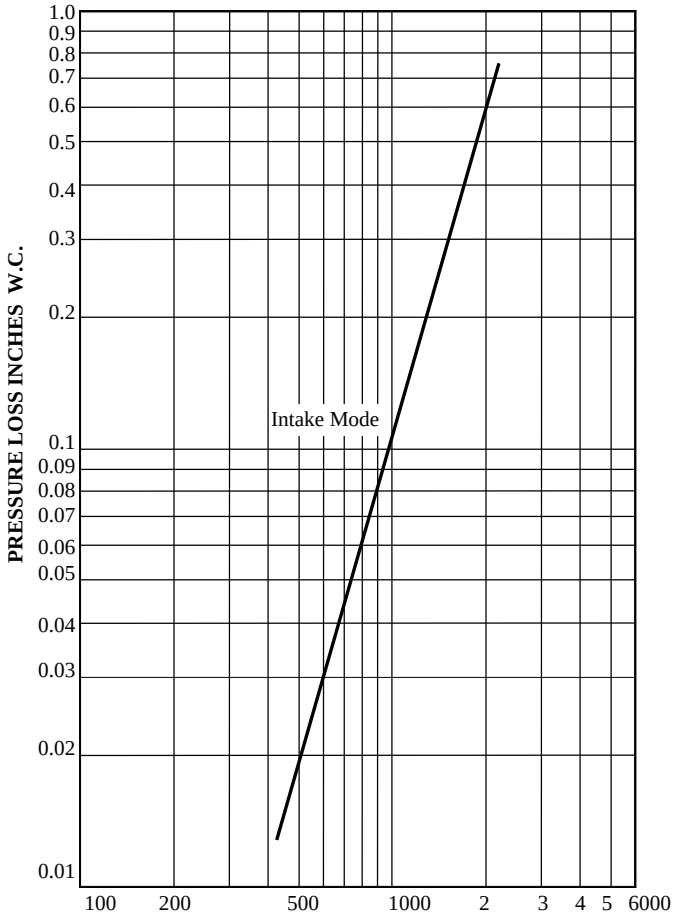
1855 South 54th Avenue, Cicero, Illinois 60804

Phone 708-652-9100 FAX 708-652-9158

UFC-29 PERFORMANCE SPECIFICATIONS

The sound ratings shown are based on sound transmission standards – ASTM E90-90 and ASTM E413-87. All tests were performed at an independent laboratory.
The Air Performance and Free Area Calculations are made in accordance with AMCA 500 standards.

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 by utilizing the "air performance" graph.

Octave Bands								
Frequency (hz)	1 63	2 125	3 250	4 500	5 1000	6 2000	7 4000	8 8000
Free Field Noise Reduction (DB)	11	12	17	21	27	33	30	26
Transmission Loss (DB)	5	6	11	15	21	27	24	20

FREE AREA CALCULATIONS IN SQ. FT.

		WIDTH														
	Inches	**12**	**18**	**24**	**30**	**36**	**42**	**48**	**54**	**60**	**66**	**72**	**78**	**84**	**90**	**96**
HEIGHT	**12**	MINIMUM HEIGHT - 14"														
	18	0.18	0.28	0.39	0.50	0.60	0.71	0.81	0.92	1.03	1.13	1.24	1.35	1.45	1.56	1.66
	24	0.27	0.43	0.59	0.75	0.91	1.07	1.23	1.39	1.55	1.71	1.87	2.03	2.19	2.35	2.51
	30	0.36	0.57	0.78	1.00	1.21	1.43	1.64	1.85	2.07	2.28	2.50	2.71	2.92	3.14	3.35
	36	0.45	0.71	0.98	1.25	1.52	1.78	2.05	2.32	2.59	2.86	3.12	3.39	3.66	3.93	4.19
	42	0.54	0.86	1.18	1.50	1.82	2.14	2.46	2.79	3.11	3.43	3.75	4.07	4.39	4.71	5.04
	48	0.63	1.00	1.38	1.75	2.13	2.50	2.88	3.25	3.63	4.00	4.38	4.75	5.13	5.50	5.88
	54	0.71	1.14	1.57	2.00	2.43	2.86	3.29	3.72	4.14	4.57	5.00	5.43	5.86	6.29	6.72
	60	0.80	1.29	1.77	2.25	2.73	3.22	3.70	4.18	4.66	5.15	5.63	6.11	6.59	7.07	7.56
	66	0.89	1.43	1.96	2.50	3.04	3.57	4.11	4.64	5.18	5.72	6.25	6.79	7.32	7.86	8.39
	72	0.98	1.57	2.16	2.75	3.34	3.93	4.52	5.11	5.70	6.29	6.87	7.46	8.05	8.64	9.23
	78	1.07	1.71	2.36	3.00	3.64	4.29	4.93	5.57	6.21	6.86	7.50	8.14	8.79	9.43	10.07
	84	1.16	1.86	2.55	3.25	3.95	4.64	5.34	6.03	6.73	7.43	8.12	8.82	9.52	10.21	10.91
	90	1.25	2.00	2.75	3.50	4.25	5.00	5.75	6.49	7.24	7.99	8.74	9.49	10.24	10.99	11.74
	96	1.34	2.14	2.94	3.75	4.55	5.35	6.15	6.96	7.76	8.56	9.37	10.17	10.97	11.77	12.58
	102	1.43	2.28	3.14	3.99	4.85	5.71	6.56	7.42	8.27	9.13	9.99	10.84	11.70	12.55	13.41
	108	1.52	2.42	3.33	4.24	5.15	6.06	6.97	7.88	8.79	9.70	10.61	11.52	12.43	13.33	14.24
	114	1.60	2.57	3.53	4.49	5.45	6.42	7.38	8.34	9.30	10.26	11.23	12.19	13.15	14.11	15.08
	120	1.69	2.71	3.72	4.74	5.75	6.77	7.79	8.80	9.82	10.83	11.85	12.86	13.88	14.89	15.91

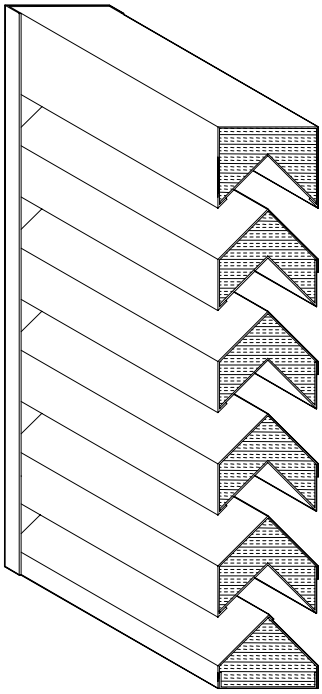
DEPENDABLE PRODUCTS SINCE 1955

Acoustical Louver - Model UFD-12

Design Features – Sound attenuating insulated blades provide multiple functions of weather protection, vision proof design and maximum airborne sound reduction. Sound ratings shown based on sound transmission standards ASTM E90-90 and ASTM E413-87.

STANDARD CONSTRUCTION

FRAME
12" deep, 16 gauge galvanized steel in style #2
BLADES
Exterior surface – 18 ga. gauge galvanized approx. spacing 12" oc.
Interior surface – 22 ga. gauge galv. perforated fastened to blade underside
SOUND INSULATION
6# density pcf mineral wool
ASSEMBLY
3/16" plated steel rivets exposed to view
MAXIMUM SINGLE SECTION
60"W x 120"H
MINIMUM SIZE
12"W x 16"H
MAXIMUM SIZE
Unlimited, with mullions, structural bracing supplied by others
MULLION
Visible
SCREEN
½" x 19 ga. galvanized in frame
UNDERSIZED
1/4" under ordered size unless specified Exact or Actual
FINISH
Mill



OPTIONAL CONSTRUCTION

SPECIFIED MATERIAL – Heavier gauge or in Aluminum or stainless steel
SCREEN: Many styles available please consult screen listing
FINISH – Air-dry primer, polyurethane, epoxy, or enamel, baked epoxy or enamel, Kynar, or Powder coat.
SLEEVE AND DUCTWORK – 10 ga. to 20 ga. galvanized steel or aluminum to 30" in length.

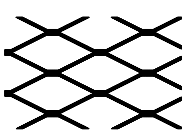
PERFORMANCE
Point of Water Penetration **855 fpm**
Free Area (48 x 48) **29%**
Pressure Drop (intake) **.20" wg. @ 1000 fpm**

SPECIAL PURPOSE CONSTRUCTION

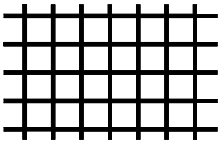
Fully welded construction
Security bar
Filter racks

Octave Bands								
Frequency (hz)	1 63	2 125	3 250	4 500	5 1000	6 2000	7 4000	8 8000
Free Field Noise Reduction (DB)	15	14	15	19	30	31	29	29
Transmission Loss (DB)	9	8	9	13	24	25	23	23

TYPICAL SCREEN STYLES



Expanded Aluminum



Wire Mesh
Standard

DATE	ARCHITECT	CUSTOMER
PROJECT		

ITEM	QTY	W	H	DESCRIPTION

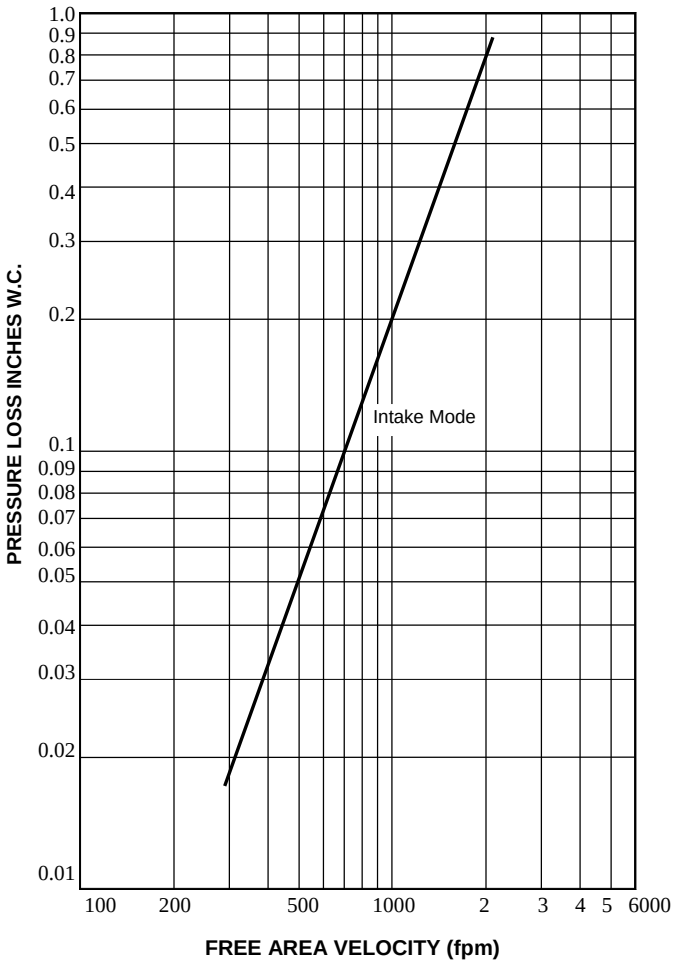
DEPENDABLE PRODUCTS SINCE 1955

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

Model UFD-12 PERFORMANCE

The sound ratings shown are based on sound transmission standards – ASTM E90-90 and ASTM E413-87. All tests were performed at an independent laboratory. The Air Performance and Free Area Calculations are made in accordance with AMCA 500 standards. Factory assembled louver sections are designed to witnstand wind loadings of 25 psf (100 mph). Consult factory for higher wind pressures.

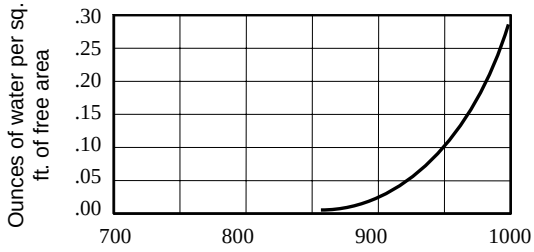
AIR PERFORMANCE



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 by utilizing the "air performance" graph.

Octave Bands								
Frequency (hz)	1 63	2 125	3 250	4 500	5 1000	6 2000	7 4000	8 8000
Free Field Noise Reduction (DB)	15	14	15	19	30	31	29	29
Transmission Loss (DB)	9	8	9	13	24	25	23	23

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



855 fpm beginning of water penetration

FREE AREA CALCULATIONS IN SQ. FT.

HEIGHT \ WIDTH (Inches)	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96
12	MINIMUM HEIGHT - 14"														
18	0.29	0.46	0.63	0.80	0.98	1.15	1.32	1.49	1.66	1.84	2.01	2.18	2.35	2.53	2.70
24	0.43	0.69	0.95	1.21	1.47	1.73	1.99	2.25	2.51	2.77	3.02	3.28	3.54	3.80	4.06
30	0.58	0.92	1.27	1.62	1.96	2.31	2.66	3.00	3.35	3.70	4.04	4.39	4.74	5.08	5.43
36	0.72	1.16	1.59	2.02	2.46	2.89	3.33	3.76	4.19	4.63	5.06	5.49	5.93	6.36	6.80
42	0.87	1.39	1.91	2.43	2.95	3.47	3.99	4.51	5.04	5.56	6.08	6.60	7.12	7.64	8.16
48	1.01	1.62	2.23	2.84	3.44	4.05	4.66	5.27	5.88	6.48	7.09	7.70	8.31	8.92	9.52
54	1.16	1.85	2.55	3.24	3.94	4.63	5.33	6.02	6.72	7.41	8.11	8.80	9.50	10.19	10.89
60	1.30	2.08	2.87	3.65	4.43	5.21	5.99	6.78	7.56	8.34	9.12	9.90	10.68	11.47	12.25
66	1.45	2.32	3.18	4.05	4.92	5.79	6.66	7.53	8.39	9.26	10.13	11.00	11.87	12.74	13.60
72	1.59	2.55	3.50	4.46	5.41	6.37	7.32	8.28	9.23	10.19	11.14	12.10	13.05	14.01	14.96
78	1.74	2.78	3.82	4.86	5.90	6.95	7.99	9.03	10.07	11.11	12.15	13.20	14.24	15.28	16.32
84	1.88	3.01	4.14	5.27	6.39	7.52	8.65	9.78	10.91	12.04	13.16	14.29	15.42	16.55	17.68
90	2.02	3.24	4.45	5.67	6.88	8.10	9.31	10.53	11.74	12.96	14.17	15.38	16.60	17.81	19.03
96	2.17	3.47	4.77	6.07	7.37	8.67	9.98	11.28	12.58	13.88	15.18	16.48	17.78	19.08	20.38
102	2.31	3.70	5.09	6.47	7.86	9.25	10.64	12.02	13.41	14.80	16.18	17.57	18.96	20.35	21.73
108	2.46	3.93	5.40	6.88	8.35	9.82	11.30	12.77	14.24	15.72	17.19	18.66	20.14	21.61	23.08
114	2.60	4.16	5.72	7.28	8.84	10.40	11.96	13.52	15.08	16.64	18.20	19.76	21.31	22.87	24.43
120	2.74	4.39	6.03	7.68	9.33	10.97	12.62	14.26	15.91	17.56	19.20	20.85	22.49	24.14	25.78

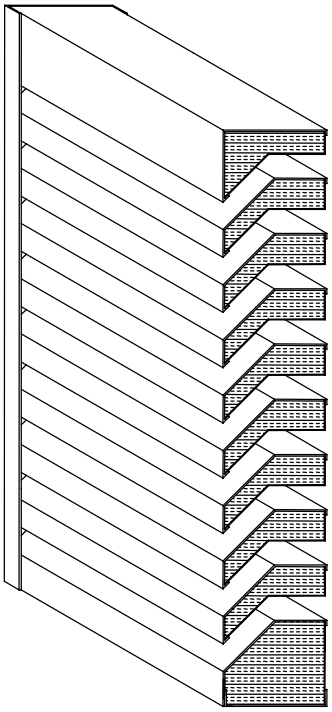
DEPENDABLE PRODUCTS SINCE 1955

Acoustical Louver - Model UFF-12

Design Features – Sound attenuating insulated blades provide multiple functions of weather protection, vision proof design and maximum airborne sound reduction. Sound ratings shown based on sound transmission standards ASTM E90-90 and ASTM E413-87.

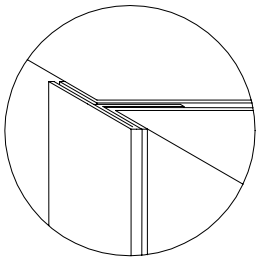
STANDARD CONSTRUCTION

FRAME
12" deep, 16 gauge galvanized steel in style #2
BLADES
Exterior surface – 18 ga. gauge galvanized approx. spacing 12" oc.
Interior surface – 22 ga. gauge galv. perforated fastened to blade underside
SOUND INSULATION
6# density pcf mineral wool
ASSEMBLY
3/16" plated steel rivets exposed to view
MAXIMUM SINGLE SECTION
72"W x 120"H
MINIMUM SIZE
12"W x 16"H
MAXIMUM SIZE
Unlimited, with mullions, structural bracing supplied by others
MULLION
Visible
SCREEN
½" x 19 ga. galvanized screen in frame
UNDERSIZED
1/4" under ordered size unless specified Exact or Actual
FINISH
Mill



OPTIONAL CONSTRUCTION

SPECIFIED MATERIAL – Heavier gauge or in Aluminum or stainless steel
SCREEN: Many styles available please consult screen listing
FINISH – Air-dry primer, polyurethane, epoxy, or enamel, baked epoxy or enamel, Kynar, or Powder coat.
SLEEVE AND DUCTWORK – 10 ga. to 20 ga. galvanized steel or aluminum to 30" in length.

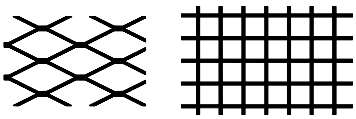


MULLION STYLE

SPECIAL PURPOSE CONSTRUCTION

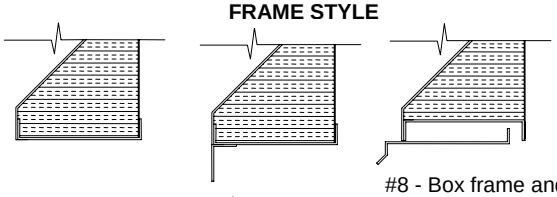
Fully welded construction
Security bar
Filter racks

TYPICAL SCREEN STYLES



Expanded Aluminum Wire Mesh Standard

FRAME STYLE



#2 - Box Frame #1- Flange Frame #8 - Box frame and Sill Extension

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UFF-12 PERFORMANCE SPECIFICATIONS

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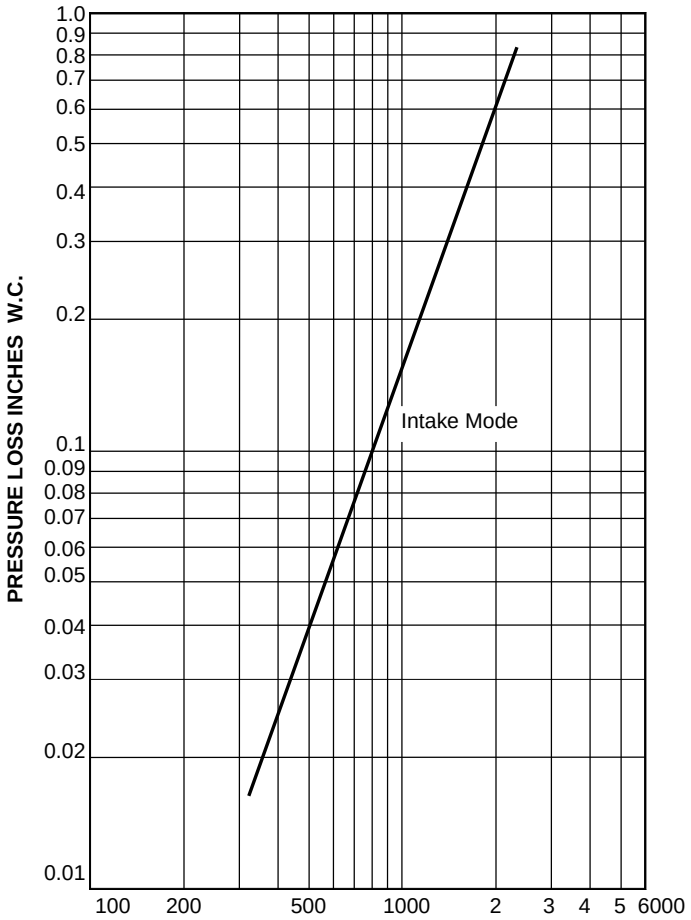
AIR PERFORMANCE



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 by utilizing the "air performance" graph.

Octave Bands								
Frequency (hz)	1 63	2 125	3 250	4 500	5 1000	6 2000	7 4000	8 8000
Free Field Noise Reduction (DB)	12	11	13	17	28	30	27	27
Transmission Loss (DB)	6	5	7	11	22	25	21	21

FREE AREA CALCULATIONS IN SQ. FT.

		WIDTH														
	Inches	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96
HEIGHT	12	MINIMUM HEIGHT - 14"														
	18	0.31	0.49	0.67	0.85	1.04	1.22	1.40	1.59	1.77	1.95	2.14	2.32	2.50	2.69	2.87
	24	0.46	0.74	1.01	1.29	1.56	1.84	2.11	2.39	2.67	2.94	3.22	3.49	3.77	4.05	4.32
	30	0.61	0.98	1.35	1.72	2.09	2.46	2.83	3.20	3.56	3.93	4.30	4.67	5.04	5.41	5.78
	36	0.77	1.23	1.69	2.15	2.62	3.08	3.54	4.00	4.46	4.92	5.38	5.85	6.31	6.77	7.23
	42	0.92	1.48	2.03	2.59	3.14	3.69	4.25	4.80	5.36	5.91	6.47	7.02	7.57	8.13	8.68
	48	1.08	1.72	2.37	3.02	3.66	4.31	4.96	5.60	6.25	6.90	7.54	8.19	8.84	9.48	10.13
	54	1.23	1.97	2.71	3.45	4.19	4.93	5.67	6.41	7.15	7.88	8.62	9.36	10.10	10.84	11.58
	60	1.39	2.22	3.05	3.88	4.71	5.54	6.38	7.21	8.04	8.87	9.70	10.53	11.37	12.20	13.03
	66	1.54	2.46	3.39	4.31	5.23	6.16	7.08	8.01	8.93	9.85	10.78	11.70	12.63	13.55	14.47
	72	1.69	2.71	3.73	4.74	5.76	6.77	7.79	8.81	9.82	10.84	11.85	12.87	13.89	14.90	15.92
	78	1.85	2.96	4.06	5.17	6.28	7.39	8.50	9.61	10.71	11.82	12.93	14.04	15.15	16.26	17.36
	84	2.00	3.20	4.40	5.60	6.80	8.00	9.20	10.40	11.60	12.80	14.00	15.21	16.41	17.61	18.81
	90	2.15	3.45	4.74	6.03	7.32	8.61	9.91	11.20	12.49	13.78	15.07	16.37	17.66	18.95	20.24
	96	2.31	3.69	5.08	6.46	7.84	9.23	10.61	12.00	13.38	14.76	16.15	17.53	18.92	20.30	21.69
	102	2.46	3.94	5.41	6.89	8.36	9.84	11.31	12.79	14.27	15.74	17.22	18.69	20.17	21.65	23.12
	108	2.61	4.18	5.75	7.32	8.88	10.45	12.02	13.59	15.15	16.72	18.29	19.86	21.42	22.99	24.56
	114	2.77	4.42	6.08	7.74	9.40	11.06	12.72	14.38	16.04	17.70	19.36	21.02	22.68	24.33	25.99
	120	2.92	4.67	6.42	8.17	9.92	11.67	13.42	15.17	16.92	18.68	20.43	22.18	23.93	25.68	27.43

FORMED STEEL LOUVER

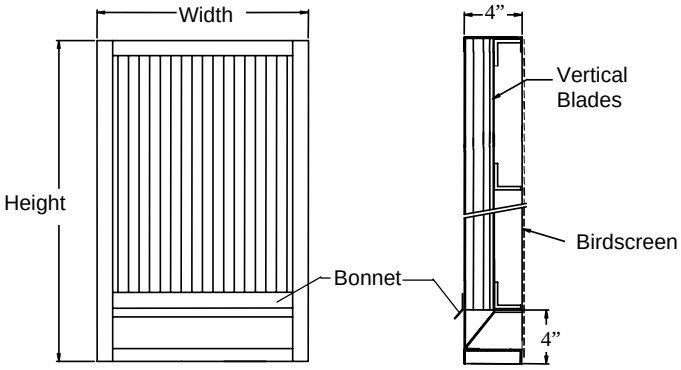
Sand Louver in 4” thick frame design Model GSF-35

Features –Vision proof design. Vertical blade designed for removal of dust particles, also provides a unit with low pressure drop and architecturally styled design for pleasing appearance.

STANDARD CONSTRUCTION

MATERIAL – GALVANIZED FORMED STEEL

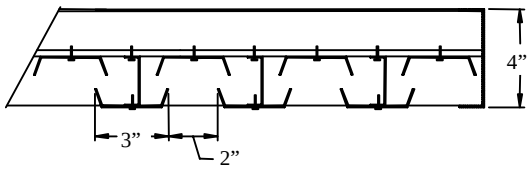
FRAME
4” thick, 18 ga. galvanized steel
BLADES
18 ga. galvanized steel
MAXIMUM SIZE
Unlimited, with mullions, structural bracing supplied by others
MAXIMUM SINGLE SECTION
120”W x 96”H or 96”W x 120”H (allows for best handling)
(Type of finish required may limit max. single section size)
MULLIONS
Visible
MINIMUM SIZE
12”W x 12”H
UNDERSIZED
1/4” under ordered size unless specified Exact or Actual
SCREEN
1/2” mesh x 19 ga. galvanized steel
FINISH
Mill



Front Elevation **Vertical Section**

OPTIONAL CONSTRUCTION

FRAME – Available in aluminum or stainless steel
BLADES - Available in aluminum or stainless steel
SCREENS – Many styles available please consult screen listing
FINISH – Air dry primer, polyurethane, epoxy, or enamel, Baked epoxy or enamel. Anodized or Kynar. Powder coat.

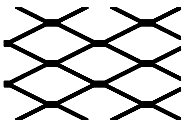


Horizontal Section

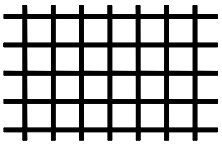
SPECIAL PURPOSE CONSTRUCTION

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



Wire Mesh
Standard

SAND REMOVAL EFFICIENCY

Velocity FPM / FA	Sand Removal Efficiency, Percentage
450	50%
400	58%
350	65%
300	70%
250	78%
200	85$
150	95%
100	100%

Test dust coarse 140-200 micron

PERFORMANCE

Max. Recommended Velocity
760
(free area velocity)

Free Area
(48 x 48 section)
31%

Max. Pressure Drop
.15” w.g.

DATE	ARCHITECT / ENGINEER			CUSTOMER
PROJECT				
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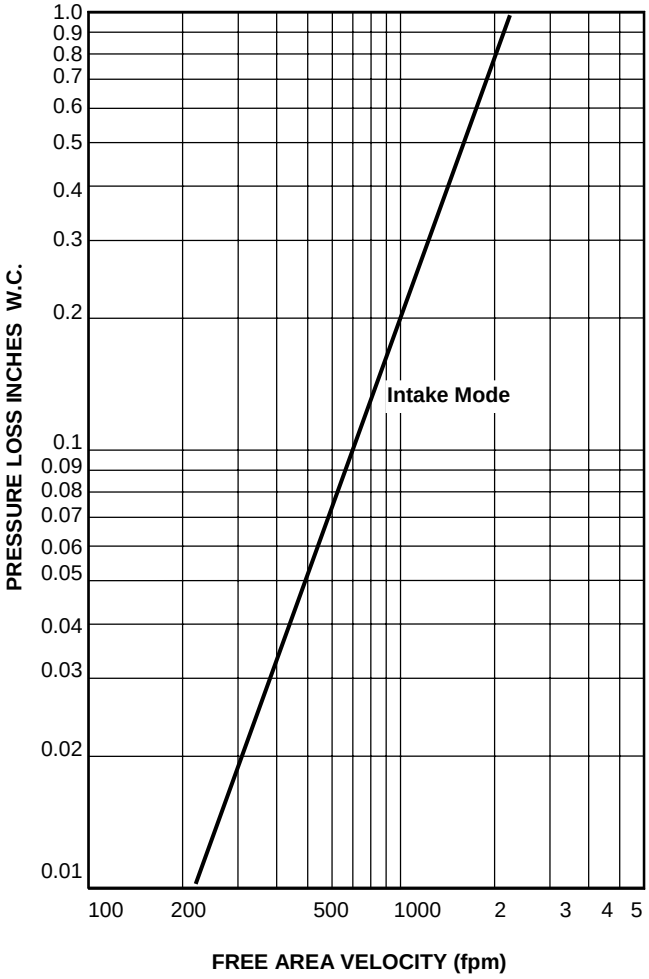
DEPENDABLE PRODUCTS SINCE 1955

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

GSF-35 SPECIFICATIONS

All tests performed at an independent laboratory based on AMCA 500 for air performance & ASHRAE Standard 52-76 for Sand Removal.

AIR PERFORMANCE



CALCULATING PRESSURE LOSS

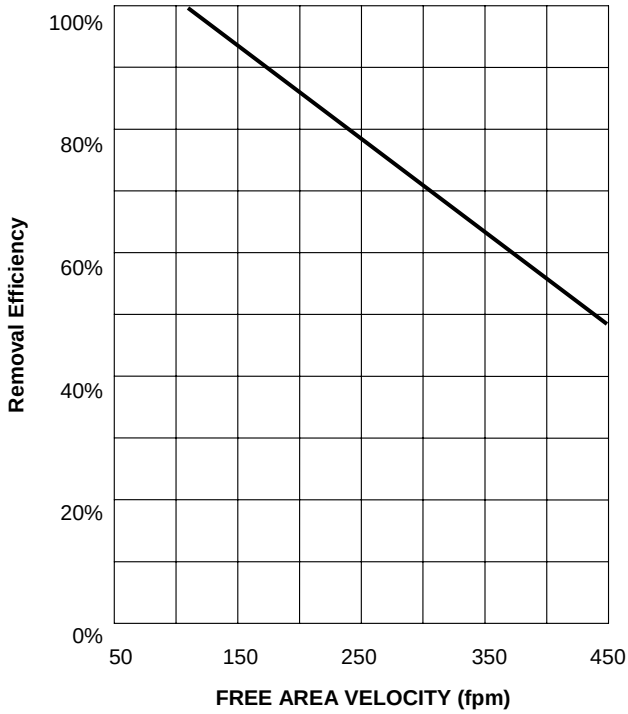
Based upon a given flow rate (in CFM), the flowing pressure loss may be determined from the "air performance graph", knowing the sq. ft. of free area of the louver. Alternately, the free area may be determined based upon a volumetric flow rate and a maximum pressure loss. Utilizing the "air performance"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

SAND REMOVAL EFFICIENCY



FREE AREA CALCULATIONS IN SQ. FT.

HEIGHT \ WIDTH	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	102	108	114	120
12	0.20	0.34	0.47	0.61	0.74	0.88	0.80	1.15	1.28	1.42	1.56	1.69	1.83	1.96	2.10	2.23	2.37	2.50	2.64
18	0.37	0.63	0.88	1.13	1.38	1.63	1.49	2.13	2.39	2.64	2.89	3.14	3.39	3.64	3.89	4.14	4.40	4.65	4.90
24	0.55	0.92	1.28	1.65	2.02	2.38	2.17	3.12	3.49	3.85	4.22	4.59	4.96	5.32	5.69	6.06	6.43	6.79	7.16
30	0.72	1.20	1.69	2.17	2.65	3.14	2.86	4.10	4.59	5.07	5.55	6.04	6.52	7.00	7.49	7.97	8.45	8.94	9.42
36	0.89	1.49	2.09	2.69	3.29	3.89	3.55	5.09	5.69	6.29	6.89	7.49	8.09	8.69	9.28	9.88	10.48	11.08	11.68
42	1.07	1.78	2.50	3.21	3.93	4.64	4.23	6.07	6.79	7.51	8.22	8.94	9.65	10.37	11.08	11.80	12.51	13.23	13.94
48	1.24	2.07	2.90	3.73	4.57	5.40	4.92	7.06	7.89	8.72	9.55	10.38	11.22	12.05	12.88	13.71	14.54	15.37	16.20
54	1.41	2.36	3.31	4.26	5.20	6.15	5.60	8.04	8.99	9.94	10.89	11.83	12.78	13.73	14.68	15.62	16.57	17.52	18.47
60	1.59	2.65	3.71	4.78	5.84	6.90	6.29	9.03	10.09	11.16	12.22	13.28	14.35	15.41	16.47	17.54	18.60	19.66	20.73
66	1.76	2.94	4.12	5.30	6.48	7.66	6.98	10.01	11.19	12.37	13.55	14.73	15.91	17.09	18.27	19.45	20.63	21.81	22.99
72	1.93	3.23	4.52	5.82	7.11	8.41	7.66	11.00	12.29	13.59	14.89	16.18	17.48	18.77	20.07	21.36	22.66	23.95	25.25
78	2.11	3.52	4.93	6.34	7.75	9.16	8.35	11.98	13.40	14.81	16.22	17.63	19.04	20.45	21.86	23.28	24.69	26.10	27.51
84	2.28	3.81	5.33	6.86	8.39	9.91	9.03	12.97	14.50	16.02	17.55	19.08	20.61	22.13	23.66	25.19	26.72	28.24	29.77
90	2.45	4.09	5.74	7.38	9.02	10.67	9.72	13.95	15.60	17.24	18.88	20.53	22.17	23.81	25.46	27.10	28.74	30.39	32.03
96	2.62	4.38	6.14	7.90	9.66	11.42	10.41	14.94	16.70	18.46	20.22	21.98	23.74	25.50	27.26	29.01	30.77	32.53	34.29
102	2.80	4.67	6.55	8.42	10.30	12.17	11.09	15.92	17.80	19.68	21.55	23.43	25.30	27.18	29.05	30.93	32.80	34.68	36.55
108	2.97	4.96	6.95	8.94	10.94	12.93	11.78	16.91	18.90	20.89	22.88	24.88	26.87	28.86	30.85	32.84	34.83	36.82	38.81
114	3.14	5.25	7.36	9.47	11.57	13.68	12.46	17.89	20.00	22.11	24.22	26.32	28.43	30.54	32.65	34.75	36.86	38.97	41.08
120	3.32	5.54	7.76	9.99	12.21	14.43	13.15	18.88	21.10	23.33	25.55	27.77	30.00	32.22	34.44	36.67	38.89	41.11	43.34

Extruded Aluminum Louvers

Stationary Louvers

MODEL	Blade Style	Blade Angle	Blade Spacing	Blade Guage	Frame Guage	Free Area (48" x 48")	Max. Free Area Velocity FPM
1"-3" Depth (Thin-Line)							
DWE-02	Drainable	45	2"	.063"	.063"	48%	510
LEC-01	Straight	45	1-1/2"	.050"	.050"	45%	n/a
LEH-01	Straight	30	1"	.063"	.063"	61%	n/a
LEH-02	Step	30	2"	.063"	.063"	49%	420
LER-01	Straight	52	3/4"	.060"	.060"	53%	n/a
LES-01	Straight	30	3/4"	.063"	.063"	72%	n/a
LET-01	Straight	35	1"	.125"	.050"	63%	n/a
LEY-01	Sightproof	n/a	1-1/2"	.050"	.050"	33%	n/a
LEY-02	Sightproof	n/a	1-1/2"	.050"	.050"	33%	n/a
LEY-03	Sightproof	n/a	2"	.081"	.081"	57%	1000
LEZ-02	Step	45	2-1/2"	.063"	.063"	43%	n/a
4" Depth							
BEX	Brick Vent	45	n/a	.125"	.125"	n/a	n/a
DBE-04	Drainable	39	3-1/2"	.081"	.081"	60%	1016
DEM-04	Drainable/Sightproof	30	2"	.081"	.081"	57%	1100
DWE-04	Drainable	45	4-1/2"	.081"	.081"	52%	910
D-DBE-04	Dual Drainable	40	3-1/2"	.081"	.081"	53%	1051
LEB-04	Step	45	5"	.081"	.081"	47%	930
LEC-04	Straight	45	4-1/2"	.081"	.081"	50%	879
LED-04	Non-Drainable/Sightproof	30	2"	.081"	.081"	57%	1000
LEG-04	Step	20	2-1/2"	.081"	.081"	52%	n/a
LEH-04	Step	30	3"	.081"	.081"	63%	713
LEY-04	Sightproof	n/a	4-1/2"	.081"	.081"	31%	n/a
C-LEB-04	Intake/Exhaust	45/0	5"/3"	.081"	.081"	47%/90%	n/a
5" Depth							
DEM-05	Drainable/Sightproof	30	2"	.081"	.081"	57%	1121
6" Depth							
DBE-06	Drainable	35	4-3/4"	.081"	.081"	63%	970
DEM-06	Drainable/Sightproof	30	2-1/4"	.081"	.081"	57%	1121
DWE-06	Drainable	45	6-1/2"	.081"	.081"	55%	939
D-DBE-06	Dual Drainable	35	5"	.094"	.081"	52%	1243
LEB-06	Step	45	6-1/2"	.081"	.081"	54%	852
LEC-06	Straight	45	6-1/2"	.094"	.081"	56%	906
C-LEB-06	Intake/Exhaust	45	6"/3"	.081"	.081"	54%/90%	n/a

Adjustable Louvers

4" Depth							
A-DBE-04	Drainable	39	n/a	.081"	.081"	57%	1016
A-DWE-04	Drainable	45	n/a	.081"	.081"	50%	910
A-LEB-04	Step	45	n/a	.081"	.081"	40%	930
A-LEC-04	Straight	45	n/a	.081"	.081"	47%	879
A-LEG-04	Straight	45	n/a	.081"	.081"	52%	n/a
6" Depth							
A-DBE-06	Drainable	35	n/a	.081"	.081"	59%	970
A-DWE-06	Drainable	45	n/a	.081"	.081"	53%	939
A-LEB-06	Step	45	n/a	.081"	.081"	46%	852
A-LEC-06	Straight	45	n/a	.094"	.081"	46%	906

Louver Contents

Combination Louvers							
4" Depth							
AEN-04	Straight	45	4"	.081"/.050"	.081"	42%	n/a
AEO-04	Straight	45	4"	.081"/.050"	.081"	38%	n/a
C-DWE-44	Drainable	45	4-3/8"	.081"	.081"	54%	980
6" Depth							
C-DWE-46	Drainable	45	5-1/2"	.081"/.125"	.081"	49%	929
C-DWE-AF	Drainable/Airfoil	45	4-1/8"	.081"/.162"	.081"	49%	937
C-DDE-46	Dual Drainable	40	5-1/2"	.081"/.125"	.081"	51%	n/a
C-LEC-46	Straight	45	5-1/2"	.081"/.125"	.081"	44%	886
Storm Resistant							
DEM-08	Drainable/Sightproof		2-3/4"	.081"	.081"	48%	
HDL-06	Drainable		5-1/2"	.081"	.081"	67%	625
SLS-07	Straight/Drainable	45		.070"	.081"	50%	n/a
WDL-04	Vertical	n/a	1-1/4"	.081"	.081"	47%	
WDL-06	Vertical	n/a	1-1/2"	.081"	.125"	51%	
Sand Louvers							
GEL-35	Vertical	n/a	n/a	.063"	.081"	31%	760
V-DEM-08	Vertical	n/a	2"	.081"	.081"	49%	1250
Hurricane-Miami Dade Approved							
EA-403	Drainable	45	4"	.081"	.081"	57%	960
EA-623	Drainable	45	5-3/4"	.081"	.081"	57%	990
Acoustical Louvers							
C-UFC-12	Straight	45	10"	.080"/.125"	.080"	23%	1250
C-UFA-12	Airfoil	45	10"	.080"/.125"	.080"	30%	1100
UEB-04	Airfoil	45	4"	.081"	.081"	31%	1050
UEB-06	Airfoil	45	6"	.081"	.081"	33%	1262

Louver Contents

EXTRUDED ALUMINUM LOUVER

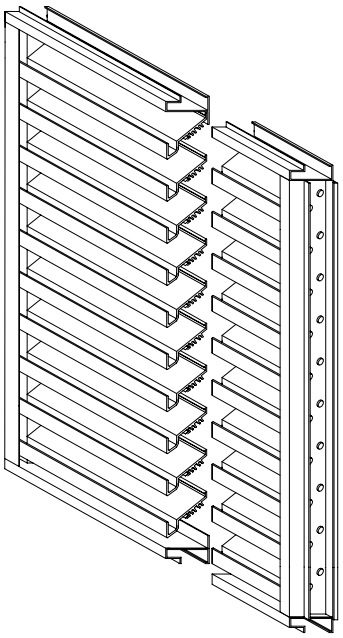
Drainable Blade Louver in 2” thick frame design - Model DWE-02

Design Features – High Performance patented design allowing maximum airflow with minimum outside element or water penetration.

STANDARD CONSTRUCTION

ALL MATERIAL – EXTRUDED ALUMINUM 6063-T5 (KB-45)

FRAME
DWE – 02” thick, is .063 extruded aluminum in style #3.
BLADES
DWE – 02” are .063” extruded aluminum, apx. spacing is 2” @ 45°
MAXIMUM SIZE
Unlimited, with mullions, structural bracing supplied by others
MAXIMUM FACTORY ASSEMBLY SIZE
120” w x 72” H” or 72” w x 120” H
(allows for best handling)
(Type of finish may limit maximum single section)
MULLION
Invisible
MINIMUM SIZE
6” w x 6” H
UNDERSIZED
1/4” under ordered size unless specified Exact or Actual
SCREEN
3/4” .051” flattened expanded aluminum bird screen no frame
FINISH
Mill



PERFORMANCE

Point of
water penetration
510 fpm

Free area
48 x 48 section
48%

OPTIONAL CONSTRUCTION

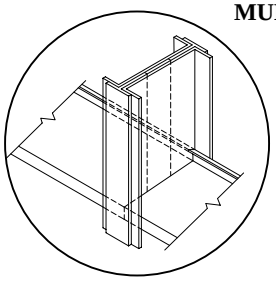
SCREEN - Many styles available please consult screen listing
FINISH – Air-dry primer, polyurethane, epoxy, or enamel. Baked epoxy, Anodize or Kynar
MULLION – Visible for architectural preference

SPECIAL PURPOSE CONSTRUCTION

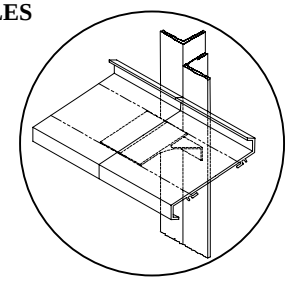
Special Shapes; Triangle, Trapezoid, etc.
Fully welded construction
Security bars
Filter racks
Hinged as walk through door or for swing out access
Sleeved for ductwork connection

** Consult SAFE-AIR/DOWCO for additional technical information.

MULLION STYLES

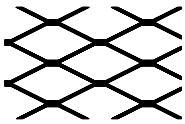


Visible

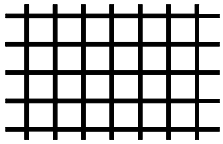


Invisible

TYPICAL SCREEN STYLES

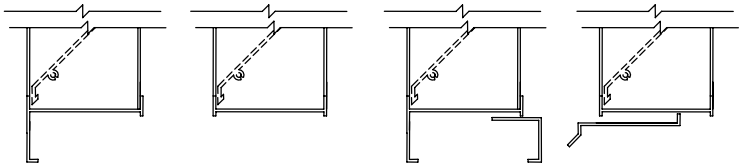


Expanded Aluminum
Standard



Wire Mesh

FRAME STYLE



1- Flange (1.5”) | 3 – Box | 8- Box with Sill Extension | 9 - Flange with Sub Frame

DATE	ARCHITECT			CUSTOMER
PROJECT				
ITEM	QTY	W	H	DESCRIPTION

DEPENDABLE PRODUCTS SINCE 1955

SAFE-AIR OF ILLINOIS INC.

Engineering and General Offices

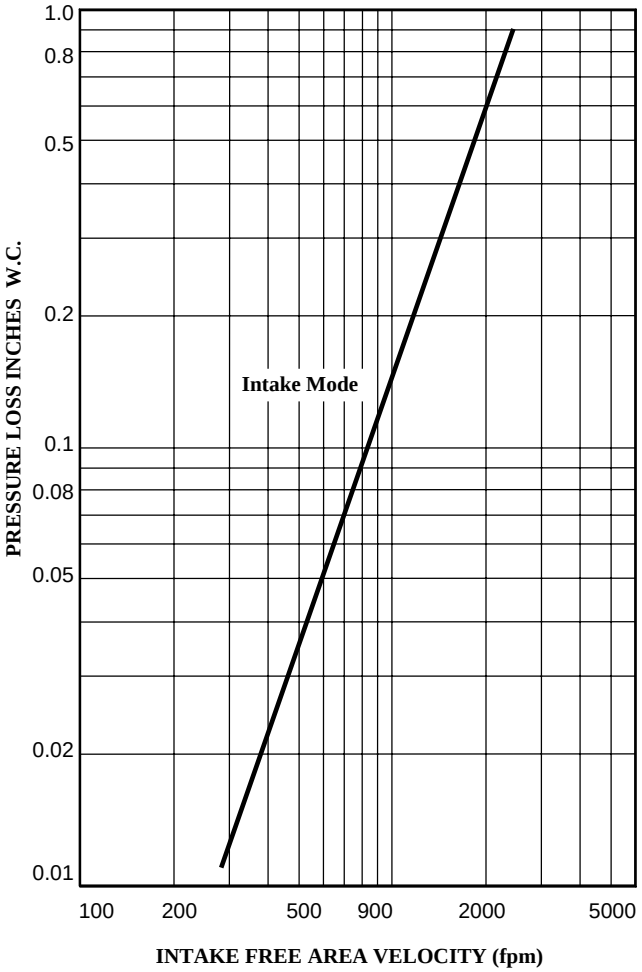
1855 South 54th Avenue, Cicero, Illinois 60804

Phone 708-652-9100 FAX 708-652-9158

DWE-02 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)

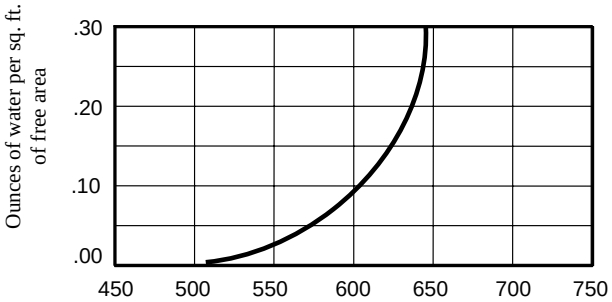
_____CFM / ____ FPM Free Area Velocity = _____Sq. Ft. Free Area

CALCULATING MAXIMUM AIRFLOW BEFORE WATER PENETRATION

The "free area flow rate" at which water penetration commences (.01 oz. of water) is established at, 510 fpm for DWE-02, 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) 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	(H20)
510	550	580	609	636	645	(fpm)



FREE AREA VELOCITY (fpm)
510 fpm beginning of water penetration

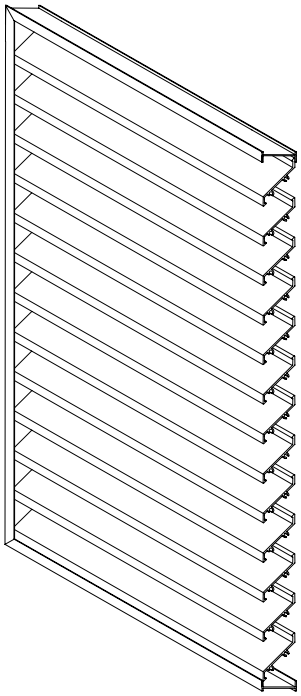
FREE AREA CALCULATIONS IN SQ. FT.

HEIGHT (inches)	WIDTH (inches) 12	18	24	30	36	42	48	54	60	66	72	78	84	90	96
12	0.34	0.54	0.74	0.94	1.14	1.34	1.54	1.74	1.94	2.14	2.34	2.54	2.74	2.94	3.14
18	0.56	0.90	1.23	1.56	1.90	2.23	2.57	2.90	3.24	3.57	3.90	4.24	4.57	4.91	5.24
24	0.79	1.25	1.72	2.19	2.66	3.13	3.59	4.06	4.53	5.00	5.47	5.93	6.40	6.87	7.34
30	1.01	1.61	2.21	2.81	3.42	4.02	4.62	5.22	5.82	6.43	7.03	7.63	8.23	8.83	9.44
36	1.23	1.97	2.70	3.44	4.17	4.91	5.65	6.38	7.12	7.85	8.59	9.33	10.06	10.80	11.53
42	1.45	2.32	3.19	4.06	4.93	5.80	6.67	7.54	8.41	9.28	10.15	11.02	11.89	12.76	13.63
48	1.68	2.68	3.68	4.69	5.69	6.70	7.70	8.70	9.71	10.71	11.71	12.72	13.72	14.72	15.73
54	1.90	3.04	4.18	5.31	6.45	7.59	8.73	9.86	11.00	12.14	13.28	14.41	15.55	16.69	17.83
60	2.12	3.40	4.67	5.94	7.21	8.48	9.75	11.02	12.29	13.57	14.84	16.11	17.38	18.65	19.92
66	2.35	3.75	5.16	6.56	7.97	9.37	10.78	12.18	13.59	14.99	16.40	17.80	19.21	20.62	22.02
72	2.57	4.11	5.65	7.19	8.73	10.27	11.80	13.34	14.88	16.42	17.96	19.50	21.04	22.58	24.12
78	2.79	4.47	6.14	7.81	9.49	11.16	12.83	14.50	16.18	17.85	19.52	21.20	22.87	24.54	26.22
84	3.02	4.82	6.63	8.44	10.24	12.05	13.86	15.66	17.47	19.28	21.09	22.89	24.70	26.51	28.31
90	3.24	5.18	7.12	9.06	11.00	12.94	14.88	16.82	18.77	20.71	22.65	24.59	26.53	28.47	30.41
96	3.46	5.54	7.61	9.69	11.76	13.84	15.91	17.99	20.06	22.13	24.21	26.28	28.36	30.43	32.51
102	3.69	5.89	8.10	10.31	12.52	14.73	16.94	19.15	21.35	23.56	25.77	27.98	30.19	32.40	34.60
108	3.91	6.25	8.59	10.94	13.28	15.62	17.96	20.31	22.65	24.99	27.33	29.68	32.02	34.36	36.70
114	4.13	6.61	9.08	11.56	14.04	16.51	18.99	21.47	23.94	26.42	28.89	31.37	33.85	36.32	38.80
120	4.36	6.97	9.58	12.19	14.80	17.41	20.02	22.63	25.24	27.85	30.46	33.07	35.68	38.29	40.90

EXTRUDED ALUMINUM LOUVER

Weather Protective Blade Louver in 1-3/8” thick frame design Model LEC-01

Design Features –Multi-purpose narrow profile design.



STANDARD CONSTRUCTION

ALL MATERIAL – EXTRUDED ALUMINUM 6063-T5 (KB-45)

FRAME
LEC – 01 3/8” (35) thick, is .050” (1.3) extruded aluminum in style #3.
BLADES
LEC – 01 3/8” (35) are .050” (1.3) extruded alum. approx. spacing is 1-1/2” (38) @ 45°
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
(allows for best handling)
(Type of finish may limit maximum single section)
MULLION
Visible
MINIMUM SIZE
12” w x 6” H (305 x 152)
UNDERSIZED
1/4” (6) under ordered size unless specified Exact or Actual
SCREEN
3/4” x .051” (19 x 1.3) flattened expanded aluminum bird screen no frame
FINISH
Mill

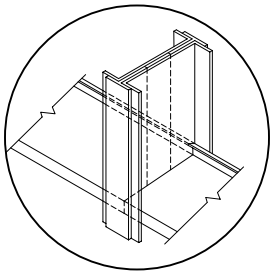
OPTIONAL CONSTRUCTION

SCREEN - Many styles available please consult screen listing
FINISH – Air-dry primer, polyurethane, epoxy, or enamel. Baked epoxy, Anodize or Kynar
MULLION – Invisible for architectural preference

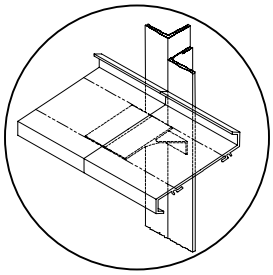
SPECIAL PURPOSE CONSTRUCTION

Special Shapes; Round, Triangle, Trapezoid, Octagon, etc.
Fully welded construction
Security bars
Filter racks
Hinged as walk through door or for swing out access
Sleeved for ductwork connection

MULLION STYLES

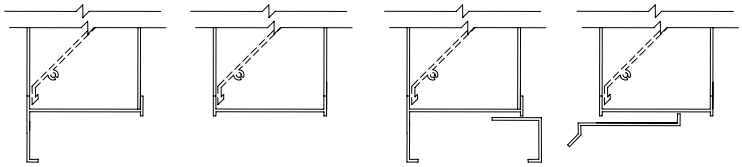


Visible



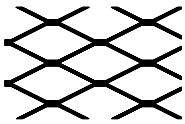
Invisible

FRAME STYLE

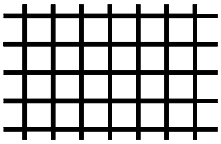


1- Flange (.75”) | 3 – Box | 4- Telescoping Flange Frame | 9 - Flange with Sub Frame

TYPICAL SCREEN STYLES



Expanded Aluminum Standard



Wire Mesh

DATE	ARCHITECT			CUSTOMER
PROJECT				
ITEM	QTY	W	H	DESCRIPTION

DEPENDABLE PRODUCTS SINCE 1955

SAFE-AIR OF ILLINOIS INC.

Engineering and General Offices

1855 South 54th Avenue, Cicero, Illinois 60804

Phone 708-652-9100 FAX 708-652-9158

- English Units

- Metric Units

FREE AREA CALCULATIONS IN SQ. FT.

WIDTH

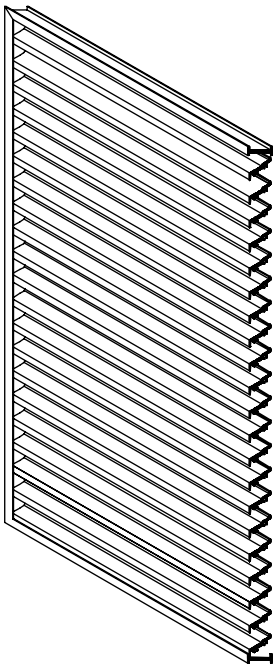
Inches	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96
12	0.37	0.57	0.77	0.97	1.16	1.36	1.56	1.76	1.96	2.16	2.36	2.56	2.75	2.95	3.15
305	0.03	0.05	0.07	0.09	0.11	0.13	0.14	0.16	0.18	0.2	0.22	0.24	0.25	0.27	0.3
18	0.59	0.91	1.23	1.55	1.87	2.19	2.51	2.83	3.14	3.46	3.78	4.1	4.42	4.74	5.06
457	0.05	0.08	0.11	0.14	0.17	0.2	0.23	0.26	0.3	0.32	0.35	0.38	0.41	0.44	0.47
24	0.81	1.25	1.69	2.13	2.57	3.01	3.45	3.89	4.33	4.77	5.21	5.65	6.09	6.53	6.97
610	0.07	0.12	0.16	0.2	0.24	0.28	0.32	0.36	0.4	0.44	0.48	0.52	0.56	0.6	0.65
30	1.04	1.6	2.16	2.72	3.28	3.84	4.4	4.96	5.52	6.08	6.64	7.2	7.75	8.31	8.87
762	0.09	0.15	0.2	0.25	0.3	0.36	0.41	0.46	0.51	0.56	0.62	0.67	0.72	0.77	0.82
36	1.26	1.94	2.62	3.3	3.98	4.66	5.34	6.02	6.7	7.38	8.06	8.74	9.42	10.1	10.78
914	0.12	0.18	0.24	0.31	0.37	0.43	0.5	0.56	0.62	0.68	0.75	0.81	0.9	0.94	1
42	1.48	2.28	3.08	3.88	4.69	5.49	6.29	7.09	7.89	8.69	9.49	10.29	11.09	11.89	12.69
1067	0.14	0.21	0.29	0.36	0.43	0.51	0.58	0.66	0.73	0.81	0.88	0.96	1.03	1.1	1.18
48	1.71	2.63	3.55	4.47	5.39	6.31	7.23	8.15	9.07	9.99	10.91	11.83	12.76	13.68	14.6
1219	0.16	0.24	0.33	0.41	0.5	0.59	0.67	0.76	0.84	0.93	1.01	1.1	1.18	1.27	1.36
54	1.93	2.97	4.01	5.05	6.09	7.13	8.18	9.22	10.26	11.3	12.34	13.38	14.42	15.46	16.5
1372	0.18	0.27	0.37	0.47	0.56	0.66	0.76	0.86	0.95	1.04	1.15	1.24	1.34	1.44	1.53
60	2.15	3.31	4.48	5.64	6.8	7.96	9.12	10.28	11.44	12.6	13.77	14.93	16.09	17.25	18.41
1524	0.2	0.31	0.42	0.52	0.63	0.74	0.85	0.95	1.06	1.17	1.28	1.4	1.5	1.6	1.71
66	2.38	3.66	4.94	6.22	7.5	8.78	10.07	11.35	12.63	13.91	15.19	16.47	17.76	19.04	20.32
1676	0.22	0.34	0.46	0.58	0.7	0.82	0.93	1.05	1.17	1.3	1.41	1.53	1.65	1.77	1.9
72	2.6	4	5.4	6.8	8.21	9.61	11.01	12.41	13.81	15.22	16.62	18.02	19.42	20.82	22.23
1829	0.24	0.37	0.5	0.63	0.76	0.9	1.02	1.15	1.28	1.41	1.54	1.67	1.8	1.93	2.06
78	2.82	4.34	5.87	7.39	8.91	10.43	11.95	13.48	15	16.52	18.04	19.57	21.09	22.61	24.13
1981	0.26	0.4	0.54	0.69	0.83	0.97	1.11	1.25	1.4	1.53	1.67	1.82	1.96	2.1	2.24
84	3.04	4.69	6.33	7.97	9.61	11.26	12.9	14.54	16.19	17.83	19.47	21.11	22.76	24.4	26.04
2134	0.28	0.43	0.59	0.74	0.9	1.05	1.2	1.35	1.5	1.66	1.81	1.96	2.11	2.3	2.42
90	3.27	5.03	6.79	8.56	10.32	12.08	13.84	15.61	17.37	19.13	20.9	22.66	24.42	26.19	27.95
2286	0.3	0.47	0.63	0.8	0.96	1.12	1.28	1.45	1.61	1.78	1.94	2.1	2.27	2.43	2.6
96	3.49	5.37	7.26	9.14	11.02	12.91	14.79	16.67	18.56	20.44	22.32	24.21	26.09	27.97	29.86
2438	0.32	0.5	0.67	0.85	1.02	1.2	1.37	1.55	1.72	1.9	2.07	2.25	2.42	2.6	2.77

HEIGHT

EXTRUDED ALUMINUM LOUVER

Air Conditioning Thin line Louver in 1” thick frame - Model LEH-01

Design Features –Multi-purpose narrow profile design.



STANDARD CONSTRUCTION

ALL MATERIAL – EXTRUDED ALUMINUM 6063-T5 (KB-45)

FRAME
063” thick extruded aluminum in style #3.
BLADES
.063” thick extruded aluminum, approx. spacing is 1” @ 30°
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
(Allows for best handling)
(Type of finish may limit maximum single section)
MULLION
Visible
MINIMUM SIZE
12” w x 6” H
UNDERSIZED
1/4” under ordered size unless specified Exact or Actual
SCREEN
3/4” x .051” flattened expanded aluminum bird screen no frame
FINISH
Mill

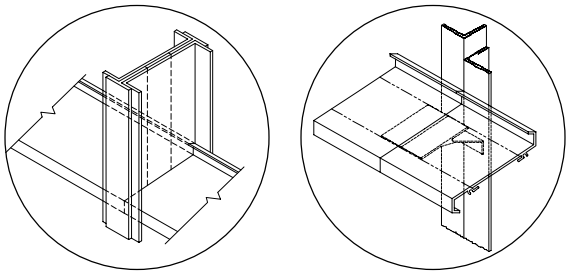
OPTIONAL CONSTRUCTION

SCREEN - Many styles available please consult screen listing
FINISH – Air-dry primer, polyurethane, epoxy, or enamel. Baked epoxy, Anodize or Kynar
MULLION – Invisible for architectural preference

SPECIAL PURPOSE CONSTRUCTION

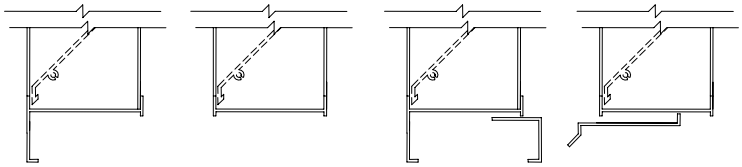
Special Shapes; Round, Triangle, Trapezoid, Octagon, etc.
Fully welded construction
Security bars
Filter racks
Hinged as walk through door or for swing out access
Sleeved for ductwork connection

MULLION STYLES



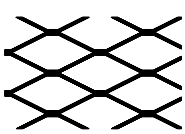
Visible Invisible

FRAME STYLE

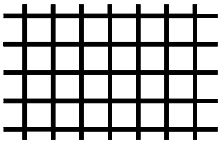


1- Flange (.75”) 3 – Box 4- Telescoping Flange Frame 9 - Flange with Sub Frame

TYPICAL SCREEN STYLES



Expanded Aluminum Standard



Wire Mesh

DATE	ARCHITECT			CUSTOMER
PROJECT				
ITEM	QTY	W	H	DESCRIPTION

DEPENDABLE PRODUCTS SINCE 1955

SAFE-AIR OF ILLINOIS INC.

Engineering and General Offices

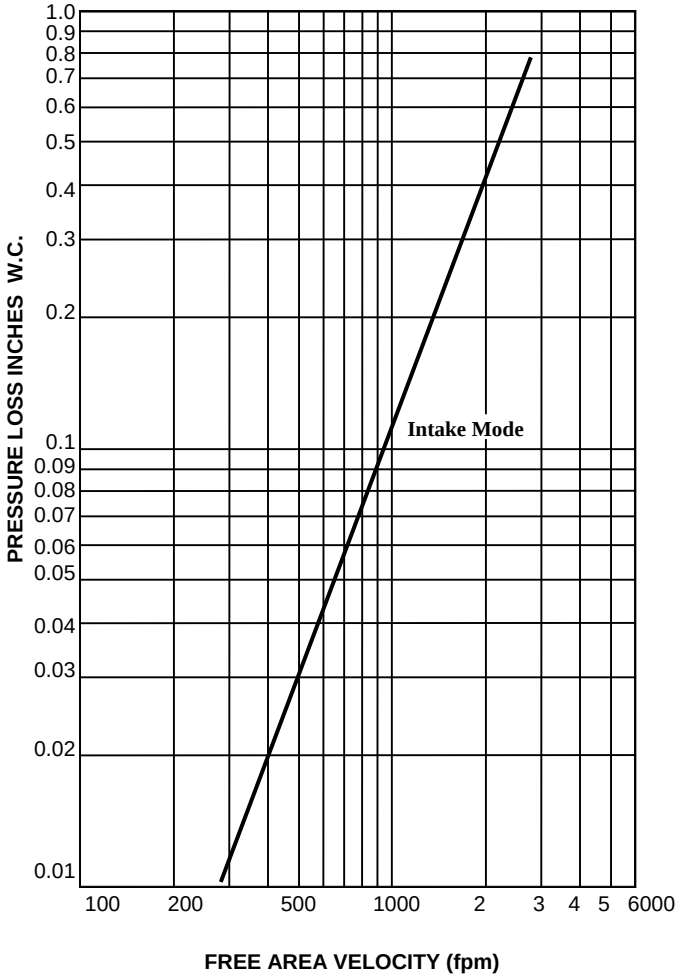
1855 South 54th Avenue, Cicero, Illinois 60804

Phone 708-652-9100 FAX 708-652-9158

LEH-01 PERFORMANCE SPECIFICATIONS

All tests performed at an independent laboratory and based on AMCA standard – 500 for air performance.

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 damper. 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

FREE AREA CALCULATIONS IN SQ. FT.

HEIGHT	WIDTH																	
Inches	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	102	108	114	120
12	0.54	0.83	1.12	1.41	1.70	1.99	2.28	2.57	2.85	3.14	3.43	3.72	4.01	4.30	4.59	4.88	5.16	5.45	5.74
18	0.84	1.29	1.73	2.18	2.63	3.07	3.52	3.96	4.41	4.86	5.30	5.75	6.20	6.64	7.09	7.53	7.98	8.43	8.87
24	1.14	1.74	2.34	2.95	3.55	4.16	4.76	5.36	5.97	6.57	7.17	7.78	8.38	8.99	9.59	10.19	10.80	11.40	12.00
30	1.43	2.19	2.96	3.72	4.48	5.24	6.00	6.76	7.52	8.28	9.05	9.81	10.57	11.33	12.09	12.85	13.61	14.37	15.14
36	1.73	2.65	3.57	4.49	5.41	6.32	7.24	8.16	9.08	10.00	10.92	11.84	12.76	13.67	14.59	15.51	16.43	17.35	18.27
42	2.03	3.10	4.18	5.26	6.33	7.41	8.48	9.56	10.64	11.71	12.79	13.87	14.94	16.02	17.09	18.17	19.25	20.32	21.40
48	2.32	3.56	4.79	6.02	7.26	8.49	9.73	10.96	12.19	13.43	14.66	15.89	17.13	18.36	19.60	20.83	22.06	23.30	24.53
54	2.62	4.01	5.40	6.79	8.19	9.58	10.97	12.36	13.75	15.14	16.53	17.92	19.32	20.71	22.10	23.49	24.88	26.27	27.66
60	2.92	4.47	6.01	7.56	9.11	10.66	12.21	13.76	15.31	16.86	18.40	19.95	21.50	23.05	24.60	26.15	27.70	29.25	30.79
66	3.21	4.92	6.63	8.33	10.04	11.74	13.45	15.16	16.86	18.57	20.28	21.98	23.69	25.39	27.10	28.81	30.51	32.22	33.93
72	3.51	5.37	7.24	9.10	10.97	12.83	14.69	16.56	18.42	20.28	22.15	24.01	25.88	27.74	29.60	31.47	33.33	35.19	37.06
78	3.81	5.83	7.85	9.87	11.89	13.91	15.93	17.96	19.98	22.00	24.02	26.04	28.06	30.08	32.10	34.13	36.15	38.17	40.19
84	4.10	6.28	8.46	10.64	12.82	15.00	17.18	19.35	21.53	23.71	25.89	28.07	30.25	32.43	34.61	36.78	38.96	41.14	43.32
90	4.40	6.74	9.07	11.41	13.74	16.08	18.42	20.75	23.09	25.43	27.76	30.10	32.43	34.77	37.11	39.44	41.78	44.12	46.45
96	4.70	7.19	9.68	12.18	14.67	17.17	19.66	22.15	24.65	27.14	29.63	32.13	34.62	37.12	39.61	42.10	44.60	47.09	49.58
102	4.99	7.64	10.30	12.95	15.60	18.25	20.90	23.55	26.20	28.85	31.51	34.16	36.81	39.46	42.11	44.76	47.41	50.06	52.72
108	5.29	8.10	10.91	13.72	16.52	19.33	22.14	24.95	27.76	30.57	33.38	36.19	38.99	41.80	44.61	47.42	50.23	53.04	55.85
114	5.59	8.55	11.52	14.49	17.45	20.42	23.38	26.35	29.32	32.28	35.25	38.22	41.18	44.15	47.11	50.08	53.05	56.01	58.98
120	5.88	9.01	12.13	15.25	18.38	21.50	24.63	27.75	30.87	34.00	37.12	40.24	43.37	46.49	49.62	52.74	55.86	58.99	62.11

EXTRUDED ALUMINUM LOUVER

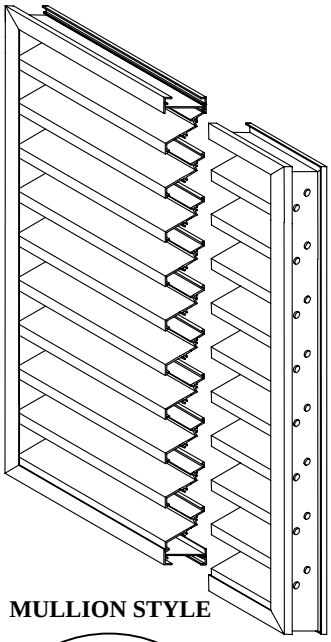
Weather Protective Blade Louver in 2” thick frame design Model LEH-02

Design Features – Narrow profile multipurpose design. Stormproof blade shape to deter water and offer a clean appearance.

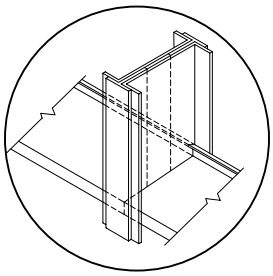
STANDARD CONSTRUCTION

ALL MATERIAL – EXTRUDED ALUMINUM 6063-T5 (KB-45)

FRAME
.063” (1.6) extruded aluminum in style #3
BLADES
.063” (1.6) extruded aluminum, approx spacing is 2” (51) o.c. @ 30º
FASTENERS
Plated steel, tek screw
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
(allows for best handling)
(Type of finish may limit maximum single section)
MULLION
Visible
MINIMUM SIZE
12” x 12” (305 x 305)
UNDERSIZED
1/4” (6) under ordered size unless specified Exact or Actual
SCREEN
3/4” x .051” (19 x 1.3) flattened expanded aluminum bird screen, no frame
FINISH
Mill



MULLION STYLE



Visible

OPTIONAL CONSTRUCTION

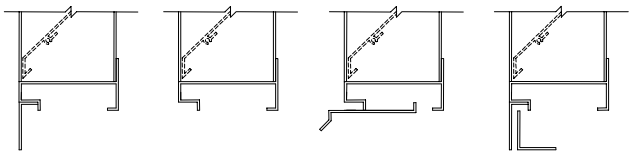
SCREEN - Many styles available please consult screen listing
FINISH – Air-dry primer, polyurethane, epoxy, or enamel, baked epoxy or enamel, Kynar, or Powder coat.
MULLION – Invisible for architectural preference

SPECIAL PURPOSE CONSTRUCTION

Special shapes: Triangle, Round, Trapezoid, etc.
Fully welded construction
Security bars
Filter racks
Hinged as walk through door or for swing out for access
Sleeved for ductwork connection

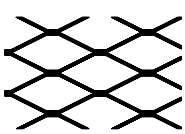
** Consult SAFE-AIR/DOWCO for additional technical information.

FRAME STYLE

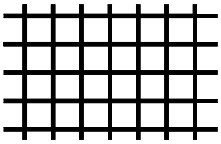


(1) - Flange 1-1/2” | (3) - Box Standard | (8) - Box and Sill Extension | (9) - Flange w/ sub frame

TYPICAL SCREEN STYLES



Expanded Aluminum Standard



Wire Mesh

LOUVER PERFORMANCE
Free Area: 49% - 48” x 48” unit
Point of Water Penetration – 420 fpm
Pressure Drop: @ 1000 fpm - .12” w.g.

DATE	ARCHITECT			CUSTOMER
PROJECT				
ITEM	QTY	W	H	DESCRIPTION

DEPENDABLE PRODUCTS SINCE 1955

SAFE-AIR OF ILLINOIS INC.

Engineering and General Offices

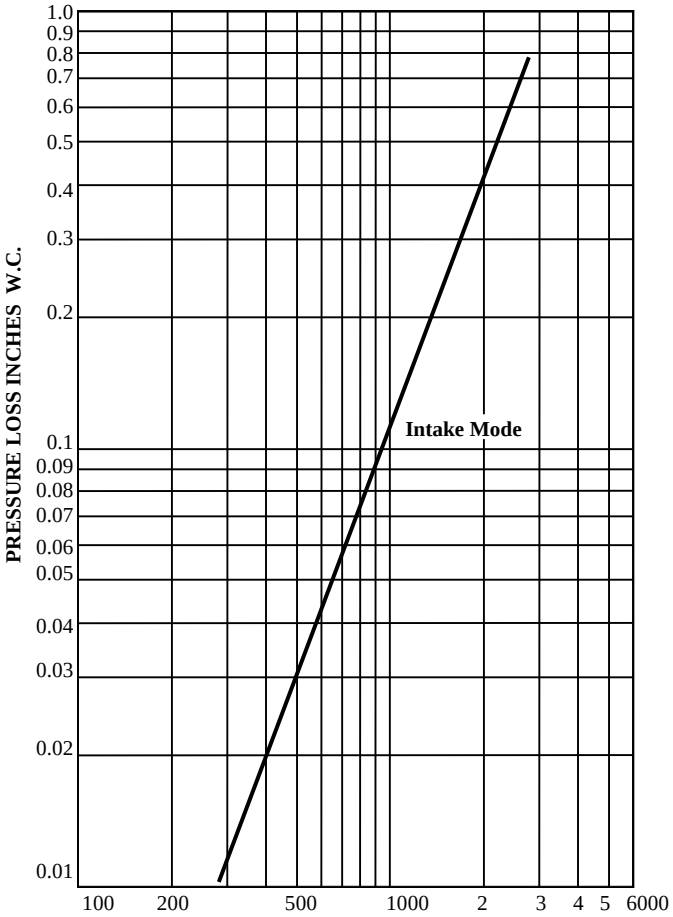
1855 South 54th Avenue, Cicero, Illinois 60804

Phone 708-652-9100 FAX 708-652-9158

LEH-02 PERFORMANCE SPECIFICATIONS

All tests performed at an independent laboratory and based on AMCA standard – 500 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 damper. 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)

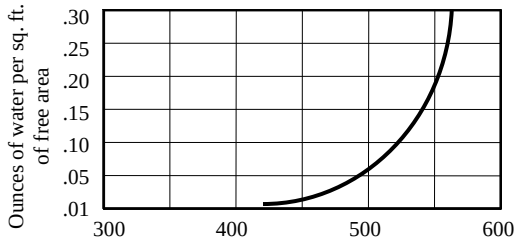
_____CFM / ____ FPM Free Area Velocity = _____Sq. Ft. Free Area

CALCULATING MAXIMUM AIRFLOW BEFORE WATER PENETRATION

The "free area flow rate" at which water penetration commences (.01 oz. of water) is established at, 420 fpm (128) for LEH-02, 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 determined 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



420 fpm (128) beginning of water penetration

FREE AREA CALCULATIONS IN SQ. FT.

WIDTH

HEIGHT Inches	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	102	108	114	120
12	0.36	0.56	0.76	0.97	1.17	1.38	1.58	1.78	1.99	2.19	2.40	2.60	2.80	3.01	3.21	3.42	3.62	3.82	4.03
18	0.59	0.93	1.27	1.61	1.94	2.28	2.62	2.96	3.29	3.63	3.97	4.31	4.65	4.98	5.32	5.66	6.00	6.34	6.67
24	0.83	1.30	1.77	2.24	2.71	3.19	3.66	4.13	4.60	5.07	5.54	6.02	6.49	6.96	7.43	7.90	8.38	8.85	9.32
30	1.06	1.67	2.27	2.88	3.48	4.09	4.70	5.30	5.91	6.51	7.12	7.72	8.33	8.94	9.54	10.15	10.75	11.36	11.97
36	1.29	2.03	2.77	3.51	4.25	4.99	5.73	6.47	7.21	7.95	8.69	9.43	10.17	10.91	11.65	12.39	13.13	13.87	14.61
42	1.53	2.40	3.28	4.15	5.02	5.90	6.77	7.65	8.52	9.39	10.27	11.14	12.01	12.89	13.76	14.64	15.51	16.38	17.26
48	1.76	2.77	3.78	4.79	5.79	6.80	7.81	8.82	9.83	10.83	11.84	12.85	13.86	14.86	15.87	16.88	17.89	18.90	19.90
54	2.00	3.14	4.28	5.42	6.56	7.71	8.85	9.99	11.13	12.27	13.42	14.56	15.70	16.84	17.98	19.12	20.27	21.41	22.55
60	2.23	3.51	4.78	6.06	7.34	8.61	9.89	11.16	12.44	13.71	14.99	16.26	17.54	18.82	20.09	21.37	22.64	23.92	25.19
66	2.47	3.88	5.29	6.70	8.11	9.52	10.92	12.33	13.74	15.15	16.56	17.97	19.38	20.79	22.20	23.61	25.02	26.43	27.84
72	2.70	4.24	5.79	7.33	8.88	10.42	11.96	13.51	15.05	16.59	18.14	19.68	21.22	22.77	24.31	25.86	27.40	28.94	30.49
78	2.94	4.61	6.29	7.97	9.65	11.32	13.00	14.68	16.36	18.03	19.71	21.39	23.07	24.74	26.42	28.10	29.78	31.45	33.13
84	3.17	4.98	6.79	8.60	10.42	12.23	14.04	15.85	17.66	19.47	21.29	23.10	24.91	26.72	28.53	30.34	32.15	33.97	35.78
90	3.40	5.35	7.30	9.24	11.19	13.13	15.08	17.02	18.97	20.91	22.86	24.80	26.75	28.70	30.64	32.59	34.53	36.48	38.42
96	3.64	5.72	7.80	9.88	11.96	14.04	16.12	18.20	20.27	22.35	24.43	26.51	28.59	30.67	32.75	34.83	36.91	38.99	41.07
102	3.87	6.09	8.30	10.51	12.73	14.94	17.15	19.37	21.58	23.79	26.01	28.22	30.43	32.65	34.86	37.07	39.29	41.50	43.71
108	4.11	6.46	8.80	11.15	13.50	15.84	18.19	20.54	22.89	25.23	27.58	29.93	32.28	34.62	36.97	39.32	41.67	44.01	46.36
114	4.34	6.82	9.31	11.79	14.27	16.75	19.23	21.71	24.19	26.67	29.16	31.64	34.12	36.60	39.08	41.56	44.04	46.53	49.01
120	4.58	7.19	9.81	12.42	15.04	17.65	20.27	22.88	25.50	28.11	30.73	33.35	35.96	38.58	41.19	43.81	46.42	49.04	51.65

EXTRUDED ALUMINUM LOUVER

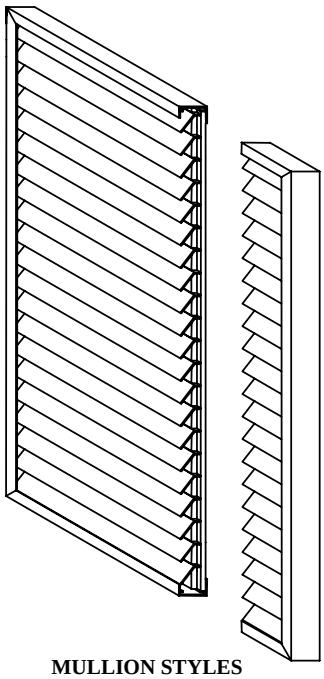
Architectural Thin Line Louver in 1-1/4” thick frame Model LER-01

Design Features – Thin line louver provides visual screening of exterior equipment openings. Effectively direct high free area velocity.

STANDARD CONSTRUCTION

ALL MATERIAL – EXTRUDED ALUMINUM 6063-T5 (KB-45)

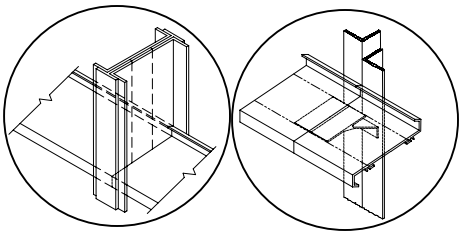
FRAME
.060” (1.5) extruded aluminum in style #3
BLADES
.060” (1.5) extruded aluminum, approx spacing is 3/4” (19) o.c. @ 52º
MAXIMUM SIZE
Unlimited, with mullions, structural bracing supplied by others
MAXIMUM FACTORY ASSEMBLY SIZE
120” w x 84 h” or 84” w x 120” h
(allows for best handling)
(Type of finish may limit maximum single section)
MULLION
Invisible
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” x .051” (19 x 1.3) flattened expanded aluminum bird screen, no 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 – Visible for architectural preference

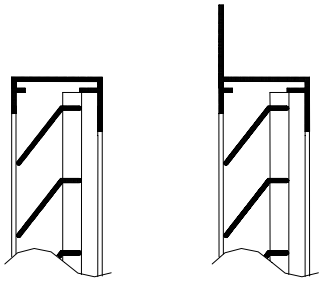
MULLION STYLES



Visible Invisible

SPECIAL PURPOSE CONSTRUCTION

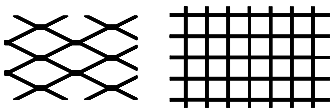
Special shapes: Triangle, Round, Trapezoid, etc.
Fully welded construction
Security bars
Filter racks
Hinged as walk through door or for swing out for access
Sleeved for ductwork connection
** Consult SAFE-AIR/DOWCO for additional technical information.



Box # 3 Flange # 1
1”

FRAME STYLES

TYPICAL SCREEN STYLES



Expanded Aluminum Standard Wire Mesh

DATE	ARCHITECT			CUSTOMER
PROJECT				
ITEM	QTY	W	H	DESCRIPTION

DEPENDABLE PRODUCTS SINCE 1955

SAFE-AIR OF ILLINOIS INC.

Engineering and General Offices

1855 South 54th Avenue, Cicero, Illinois 60804

Phone 708-652-9100 FAX 708-652-9158

FREE AREA CALCULATIONS IN SQ. FT.

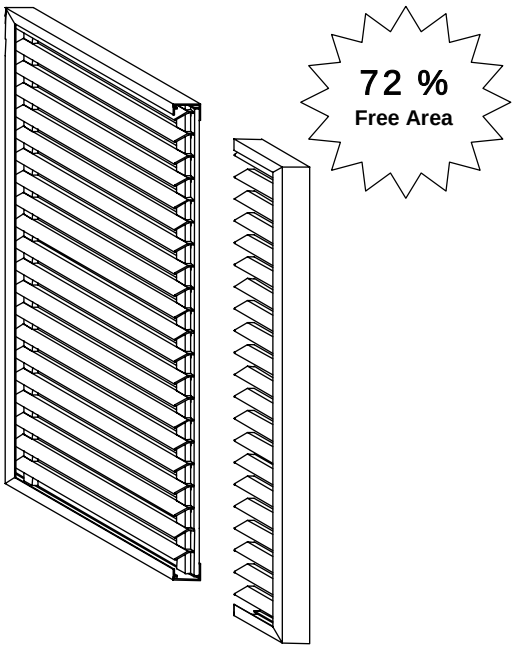
WIDTH

HEIGHT	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	102	108	114	120
12	.43	.69	.91	1.17	1.43	1.65	1.91	2.17	2.40	2.66	2.92	3.14	3.40	3.66	3.88	4.14	4.40	4.62	4.88
18	.67	1.08	1.43	1.84	2.25	2.60	3.01	3.41	3.76	4.17	4.58	4.93	5.34	5.75	6.10	6.51	6.92	7.27	7.68
24	.91	1.47	1.95	2.51	3.06	3.54	4.10	4.66	5.13	5.69	6.25	6.72	7.28	7.84	8.32	8.87	9.43	9.91	10.47
30	1.16	1.86	2.47	3.17	3.88	4.48	5.19	5.90	6.50	7.21	7.91	8.52	9.22	9.93	10.53	11.24	11.95	12.55	13.26
36	1.40	2.26	2.99	3.84	4.70	5.43	6.28	7.14	7.87	8.72	9.58	10.31	11.17	12.02	12.75	13.61	14.46	15.19	16.05
42	1.64	2.65	3.51	4.51	5.51	6.37	7.38	8.38	9.24	10.24	11.25	12.10	13.11	14.11	14.97	15.97	16.98	17.84	18.84
48	1.89	3.04	4.03	5.18	6.33	7.32	8.47	9.62	10.61	11.76	12.91	13.90	15.05	16.20	17.19	18.34	19.49	20.48	21.63
54	2.13	3.43	4.55	5.85	7.15	8.26	9.56	10.86	11.98	13.28	14.58	15.69	16.99	18.29	19.41	20.71	22.01	23.12	24.42
60	2.38	3.83	5.07	6.52	7.97	9.20	10.65	12.11	13.34	14.79	16.24	17.48	18.93	20.38	21.62	23.07	24.52	25.76	27.21
66	2.62	4.22	5.58	7.18	8.78	10.15	11.75	13.35	14.71	16.31	17.91	19.28	20.88	22.47	23.84	25.44	27.04	28.40	30.00
72	2.86	4.61	6.10	7.85	9.60	11.09	12.84	14.59	16.08	17.83	19.58	21.07	22.82	24.57	26.06	27.81	29.55	31.05	32.79
78	3.11	5.00	6.62	8.52	10.42	12.04	13.93	15.83	17.45	19.35	21.24	22.86	24.76	26.66	28.28	30.17	32.07	33.69	35.59
84	3.35	5.40	7.14	9.19	11.23	12.98	15.03	17.07	18.82	20.86	22.91	24.66	26.70	28.75	30.49	32.54	34.58	36.33	38.38
90	3.59	5.79	7.66	9.86	12.05	13.92	16.12	18.31	20.19	22.38	24.58	26.45	28.64	30.84	32.71	34.91	37.10	38.97	41.17
96	3.84	6.18	8.18	10.53	12.87	14.87	17.21	19.55	21.56	23.90	26.24	28.24	30.59	32.93	34.93	37.27	39.62	41.62	43.96
102	4.08	6.57	8.70	11.19	13.68	15.81	18.30	20.80	22.92	25.42	27.91	30.04	32.53	35.02	37.15	39.64	42.13	44.26	46.75
108	4.33	6.97	9.22	11.86	14.50	16.76	19.40	22.04	24.29	26.93	29.57	31.83	34.47	37.11	39.36	42.01	44.65	46.90	49.54
114	4.57	7.36	9.74	12.53	15.32	17.70	20.49	23.28	25.66	28.45	31.24	33.62	36.41	39.20	41.58	44.37	47.16	49.54	52.33
120	4.81	7.75	10.26	13.20	16.14	18.65	21.58	24.52	27.03	29.97	32.91	35.42	38.35	41.29	43.80	46.74	49.68	52.19	55.12

EXTRUDED ALUMINUM LOUVER

Architectural Thin Line Louver in 1-1/4” thick frame Model LES-01

Design Features – Thin line louver provides visual screening of exterior equipment openings. Effectively direct high free area velocity.



STANDARD CONSTRUCTION

ALL MATERIAL – EXTRUDED ALUMINUM 6063-T5 (KB-45)

FRAME
.063” extruded aluminum in style #3
BLADES
.063” extruded aluminum, approx spacing is 3/4” o.c. @ 30º
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
(Allows for best handling)
(Type of finish may limit maximum single section)
MULLION
Invisible
MINIMUM SIZE
12”w x 12”h
UNDERSIZED
1/4” under ordered size unless specified Exact or Actual
SCREEN
3/4” x .051” flattened expanded aluminum bird screen, no frame
FINISH
Mill

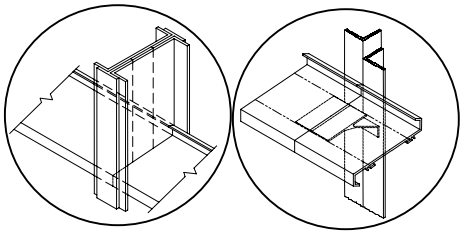
OPTIONAL CONSTRUCTION

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 – Visible for architectural preference

SPECIAL PURPOSE CONSTRUCTION

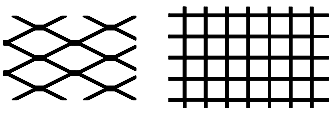
Special shapes: Triangle, Round, Trapezoid, etc.
Fully welded construction
Security bars
Filter racks
Hinged as walk through door or for swing out for access
Sleeved for ductwork connection
** Consult SAFE-AIR/DOWCO for additional technical information.

MULLION STYLES

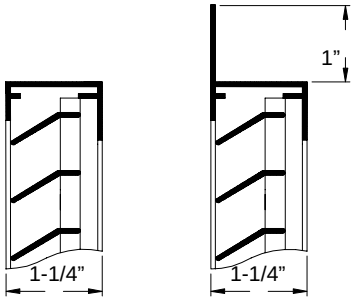


Visible Invisible

TYPICAL SCREEN STYLES



Expanded Aluminum Standard Wire Mesh



Box # 3 Flange # 1 1”

FRAME STYLES

DATE	ARCHITECT			CUSTOMER
PROJECT				
ITEM	QTY	W	H	DESCRIPTION

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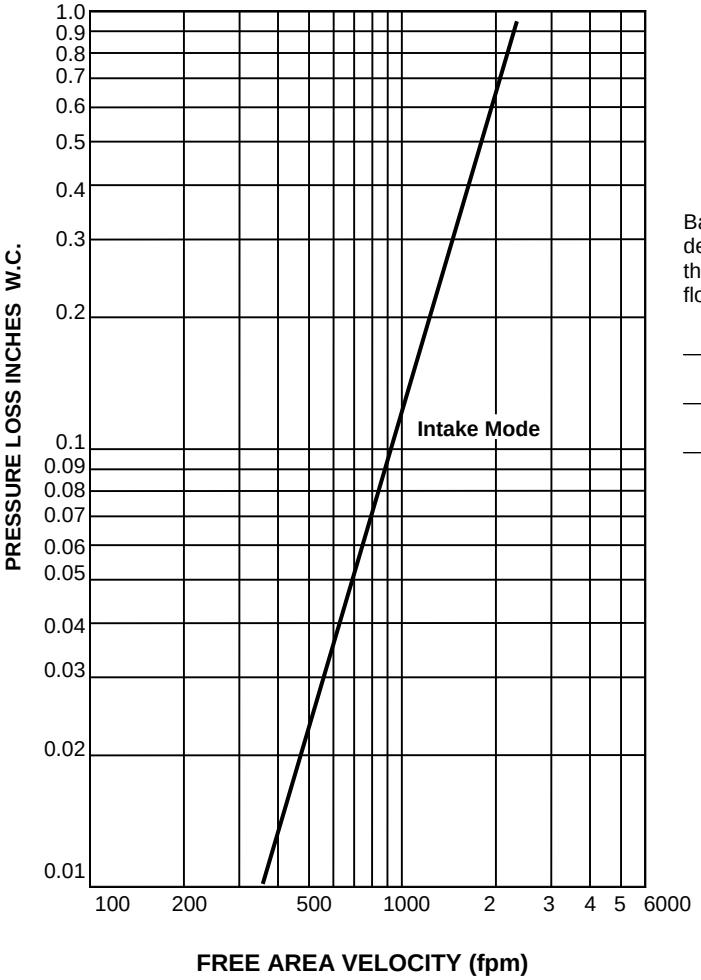
LES-01 PERFORMANCE SPECIFICATIONS

All tests performed at an independent laboratory and based on AMCA standard – 500 for air performance.

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

FREE AREA IN SQUARE FEET

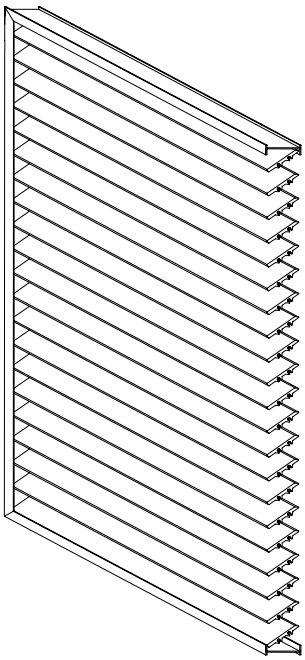
HEIGHT	WIDTH (H)																		
Inches	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	102	108	114	120
12	0.54	0.87	1.20	1.53	1.87	2.20	2.53	2.86	3.19	3.53	3.86	4.19	4.52	4.85	5.19	5.52	5.85	6.18	6.51
18	0.86	1.38	1.91	2.44	2.97	3.49	4.02	4.55	5.07	5.60	6.13	6.66	7.18	7.71	8.24	8.76	9.29	9.82	10.35
24	1.17	1.90	2.62	3.34	4.06	4.79	5.51	6.23	6.95	7.68	8.40	9.12	9.84	10.57	11.29	12.01	12.73	13.46	14.18
30	1.49	2.41	3.33	4.24	5.16	6.08	7.00	7.92	8.83	9.75	10.67	11.59	12.51	13.42	14.34	15.26	16.18	17.09	18.01
36	1.81	2.92	4.04	5.15	6.26	7.37	8.49	9.60	10.71	11.83	12.94	14.05	15.17	16.28	17.39	18.51	19.62	20.73	21.84
42	2.13	3.43	4.74	6.05	7.36	8.67	9.98	11.29	12.59	13.90	15.21	16.52	17.83	19.14	20.44	21.75	23.06	24.37	25.68
48	2.44	3.95	5.45	6.95	8.46	9.96	11.47	12.97	14.47	15.98	17.48	18.98	20.49	21.99	23.50	25.00	26.50	28.01	29.51
54	2.76	4.46	6.16	7.86	9.56	11.26	12.96	14.65	16.35	18.05	19.75	21.45	23.15	24.85	26.55	28.25	29.95	31.64	33.34
60	3.08	4.97	6.87	8.76	10.66	12.55	14.44	16.34	18.23	20.13	22.02	23.92	25.81	27.70	29.60	31.49	33.39	35.28	37.18
66	3.40	5.49	7.57	9.66	11.75	13.84	15.93	18.02	20.11	22.20	24.29	26.38	28.47	30.56	32.65	34.74	36.83	38.92	41.01
72	3.71	6.00	8.28	10.57	12.85	15.14	17.42	19.71	21.99	24.28	26.56	28.85	31.13	33.42	35.70	37.99	40.27	42.56	44.84
78	4.03	6.51	8.99	11.47	13.95	16.43	18.91	21.39	23.87	26.35	28.83	31.31	33.79	36.27	38.75	41.23	43.71	46.19	48.67
84	4.35	7.02	9.70	12.37	15.05	17.73	20.40	23.08	25.75	28.43	31.10	33.78	36.45	39.13	41.81	44.48	47.16	49.83	52.51
90	4.67	7.54	10.41	13.28	16.15	19.02	21.89	24.76	27.63	30.50	33.37	36.24	39.12	41.99	44.86	47.73	50.60	53.47	56.34
96	4.98	8.05	11.11	14.18	17.25	20.31	23.38	26.45	29.51	32.58	35.64	38.71	41.78	44.84	47.91	50.97	54.04	57.11	60.17
102	5.30	8.56	11.82	15.08	18.35	21.61	24.87	28.13	31.39	34.65	37.91	41.18	44.44	47.70	50.96	54.22	57.48	60.74	64.01
108	5.62	9.07	12.53	15.99	19.44	22.90	26.36	29.81	33.27	36.73	40.18	43.64	47.10	50.56	54.01	57.47	60.93	64.38	67.84
114	5.93	9.59	13.24	16.89	20.54	24.19	27.85	31.50	35.15	38.80	42.46	46.11	49.76	53.41	57.06	60.72	64.37	68.02	71.67
120	6.25	10.10	13.95	17.79	21.64	25.49	29.34	33.18	37.03	40.88	44.73	48.57	52.42	56.27	60.12	63.96	67.81	71.66	75.50

DOWCO is a registered trademark of SAFE-AIR

EXTRUDED ALUMINUM LOUVER

Architectural Thin Line Louver in 1-3/8” thick frame Model LET-01

Design Features – Narrow profile design for weather protection of exterior equipment openings.



STANDARD CONSTRUCTION

ALL MATERIAL – EXTRUDED ALUMINUM 6063-T5 (KB-45)

FRAME
.050” (1.3) extruded aluminum in style #3
BLADES
.125” (3.2) extruded aluminum, approx spacing is 1” (25) @ 35º
MAXIMUM SIZE
Unlimited, with mullions, structural bracing supplied by others
MAXIMUM FACTORY ASSEMBLY SIZE
72” w x 120 h” or 120” w x 72” h (1829 x 3048) or (3048 x 1829)
(allows for best handling)
(Type of finish may limit maximum single section)
MULLION
Visible
MINIMUM SIZE
12”w x 6”h (305 x 152)
UNDERSIZED
1/4” (6) under ordered size unless specified Exact or Actual
FINISH
Mill

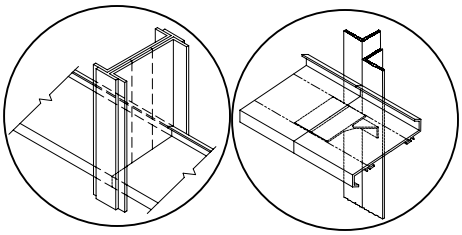
OPTIONAL CONSTRUCTION

SCREEN - Many styles available please consult screen listing
FINISH – Air-dry primer, polyurethane, epoxy, or enamel. Baked epoxy or enamel. Anodize or Kynar.
MULLION – Invisible for architectural preference

SPECIAL PURPOSE CONSTRUCTION

Special shapes: Triangle, Round, Trapezoid, Octagon, etc.
Fully welded construction
Security bars
Filter racks
Hinged as walk through door or for swing out for access
Sleeved for ductwork connection

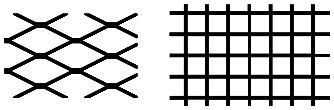
MULLION STYLES



Visible Invisible

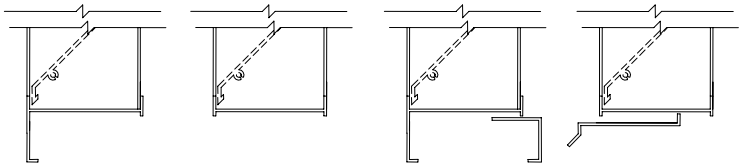
** Consult SAFE-AIR/DOWCO for additional technical information.

TYPICAL SCREEN STYLES



Expanded Aluminum Standard Wire Mesh

FRAME STYLES



1- Flange (.75”) 3 – Box 4- Telescoping Flange Frame 9 - Flange with Sub Frame

DATE	ARCHITECT			CUSTOMER
PROJECT				
ITEM	QTY	W	H	DESCRIPTION

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LET-01 PERFORMANCE SPECIFICATIONS

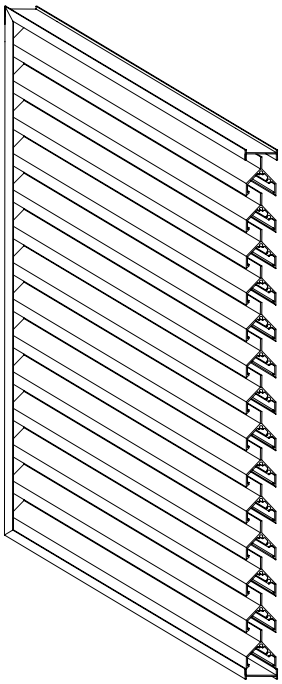
WIDTH — **FREE AREA CALCULATIONS IN SQ. FT.** — **HEIGHT**

INCHES	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96
12	.55	.84	1.14	1.43	1.72	2.02	2.31	2.61	2.90	3.20	3.49	3.79	4.08	4.38	4.67
18	.85	1.31	1.77	2.23	2.69	3.14	3.60	4.06	4.52	4.98	5.44	5.90	6.35	6.81	7.27
24	1.15	1.78	2.40	3.02	3.65	4.27	4.89	5.51	6.14	6.76	7.38	8.00	8.63	9.25	9.87
30	1.46	2.25	3.03	3.82	4.61	5.39	6.18	6.97	7.75	8.54	9.33	10.11	10.90	11.69	12.47
36	1.76	2.71	3.66	4.62	5.57	6.52	7.47	8.42	9.37	10.32	11.27	12.22	13.17	14.12	15.08
42	2.07	3.18	4.30	5.41	6.53	7.64	8.76	9.87	10.99	12.10	13.22	14.33	15.45	16.56	17.68
48	2.37	3.65	4.93	6.21	7.49	8.77	10.04	11.32	12.60	13.88	15.16	16.44	17.72	19.00	20.28
54	2.67	4.12	5.56	7.00	8.45	9.89	11.33	12.78	14.22	15.66	17.11	18.55	19.99	21.43	22.88
60	2.98	4.59	6.19	7.80	9.41	11.01	12.62	14.23	15.84	17.44	19.05	20.66	22.26	23.87	25.48
66	3.28	5.05	6.83	8.60	10.37	12.14	13.91	15.68	17.45	19.22	20.99	22.77	24.54	26.31	28.08
72	3.59	5.52	7.46	9.39	11.33	13.26	15.20	17.13	19.07	21.00	22.94	24.87	26.81	28.75	30.68
78	3.89	5.99	8.09	10.19	12.29	14.39	16.49	18.59	20.69	22.78	24.88	26.98	29.08	31.18	33.28
84	4.19	6.46	8.72	10.99	13.25	15.51	17.78	20.04	22.30	24.57	26.83	29.09	31.36	33.62	35.88
90	4.50	6.93	9.35	11.78	14.21	16.64	19.06	21.49	23.92	26.35	28.77	31.20	33.63	36.06	38.48
96	4.80	7.39	9.99	12.58	15.17	17.76	20.35	22.94	25.54	28.13	30.72	33.31	35.90	38.49	41.08

EXTRUDED ALUMINUM LOUVER

Chevron Blade Louver in 1 3/8” thick frame design Model – LEY-01

Design Features – Narrow vision proof design, not intended for use as an intake or exhaust, useful in a partition as an open area vent.



STANDARD CONSTRUCTION

ALL MATERIAL – EXTRUDED ALUMINUM 6063-T5 (KB-45)

FRAME
.050” (1.3) extruded aluminum in style #3
BLADES
.050” (1.3) extruded aluminum, approx spacing is 1-½ “ (38)
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
(allows for best handling)
(Type of finish may limit maximum single section)
MULLION
Visible
MINIMUM SIZE
12”w x 6”H (305 x 152)
UNDERSIZED
1/4” (6) under ordered size unless specified Exact or Actual
SCREEN
3/4” x .051” (19 x 1.3) flattened expanded aluminum bird screen, no frame
FINISH
Mill

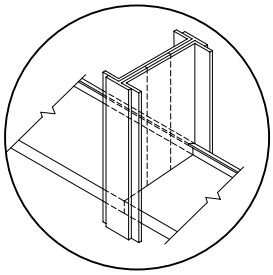
OPTIONAL CONSTRUCTION

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

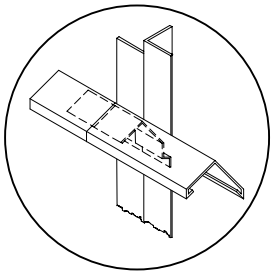
SPECIAL PURPOSE CONSTRUCTION

Special shapes: Triangle, Round, Trapezoid, Octagon, etc.
Fully welded construction
Security bars
Filter racks
Hinged as walk through door or for swing out for access
Sleeved for ductwork connection

MULLION STYLES

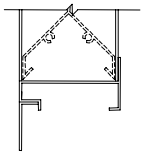


Visible

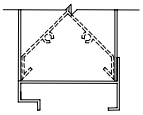


Invisible

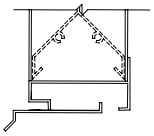
FRAME STYLE



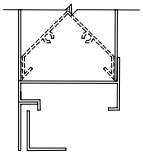
(1) - Flange .75”



(3) - Box Standard

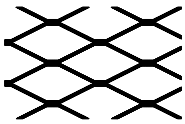


(4) - Telescoping Flange Frame

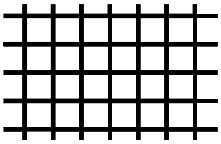


(9) - Flange w/ sub frame

TYPICAL SCREEN STYLES



Expanded Aluminum Standard



Wire Mesh

DATE	ARCHITECT			CUSTOMER
PROJECT				
ITEM	QTY	W	H	DECRIPTION

DEPENDABLE PRODUCTS SINCE 1955

SAFE-AIR OF ILLINOIS INC.

Engineering and General Offices

1855 South 54th Avenue, Cicero, Illinois 60804

Phone 708-652-9100 FAX 708-652-9158

WIDTH

FREE AREA CALCULATIONS IN SQ. FT.

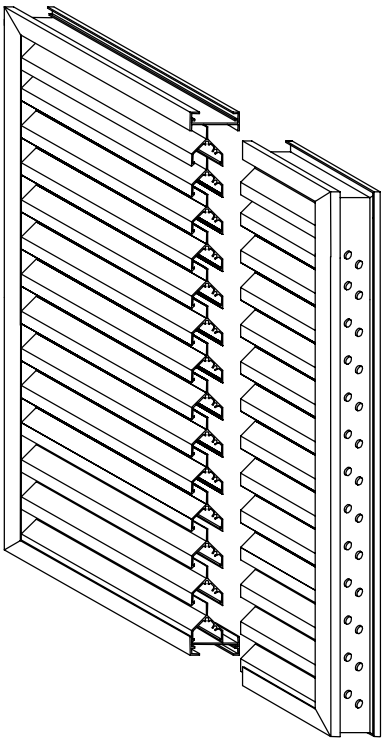
INCHES	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96
12	.28	.44	.59	.74	.90	1.05	1.20	1.36	1.51	1.66	1.82	1.97	2.12	2.27	2.43
18	.45	.69	.93	1.17	1.41	1.65	1.89	2.13	2.37	2.61	2.85	3.09	3.33	3.57	3.81
24	.61	.94	1.26	1.59	1.92	2.25	2.58	2.91	3.23	3.56	3.89	4.22	4.55	4.87	5.20
30	.77	1.19	1.60	2.02	2.43	2.85	3.26	3.68	4.10	4.51	4.93	5.34	5.76	6.17	6.59
36	.93	1.44	1.94	2.44	2.94	3.45	3.95	4.45	4.96	5.46	5.96	6.47	6.97	7.47	7.98
42	1.09	1.69	2.28	2.87	3.46	4.05	4.64	5.23	5.82	6.41	7.00	7.59	8.18	8.77	9.36
48	1.26	1.93	2.61	3.29	3.97	4.65	5.33	6.00	6.68	7.36	8.04	8.72	9.39	10.07	10.75
54	1.42	2.18	2.95	3.72	4.48	5.25	6.01	6.78	7.54	8.31	9.08	9.84	10.61	11.37	12.14
60	1.58	2.43	3.29	4.14	4.99	5.85	6.70	7.55	8.41	9.26	10.11	10.97	11.82	12.67	13.52
66	1.74	2.68	3.62	4.57	5.51	6.45	7.39	8.33	9.27	10.21	11.15	12.09	13.03	13.97	14.91
72	1.91	2.93	3.96	4.99	6.02	7.05	8.07	9.10	10.13	11.16	12.19	13.21	14.24	15.27	16.30
78	2.07	3.18	4.30	5.41	6.53	7.65	8.76	9.88	10.99	12.11	13.22	14.34	15.46	16.57	17.69
84	2.23	3.43	4.64	5.84	7.04	8.25	9.45	10.65	11.85	13.06	14.26	15.46	16.67	17.87	19.07
90	2.39	3.68	4.97	6.26	7.55	8.85	10.14	11.43	12.72	14.01	15.30	16.59	17.88	19.17	20.46
96	2.55	3.93	5.31	6.69	8.07	9.44	10.82	12.20	13.58	14.96	16.34	17.71	19.09	20.47	21.85

HEIGHT

DEPENDABLE PRODUCTS SINCE 1955

Chevron Blade Louver in 2” deep frame design Model LEY-02

Design Features – Vision proof blade in narrow profile frame offers a clean fine lines appearance.



STANDARD CONSTRUCTION

ALL MATERIAL – EXTRUDED ALUMINUM 6063-T5 (KB-45)

FRAME
.063” thk. (1.6) extruded aluminum in style #3.
BLADES
.050” thk. (1.3) extruded aluminum, approx. spacing is 1-1/ 2” (38) o.c.
MAXIMUM SIZE
Unlimited, with mullions, structural bracing supplied by others
MAXIMUM FACTORY ASSEMBLY SIZE
120” w x 84 h” or 84”h x 120”w
(Type of finish may limit maximum single section)
MULLION
Invisible
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” x .051” (19 x 1.3) flattened expanded aluminum bird screen
FINISH
Mill

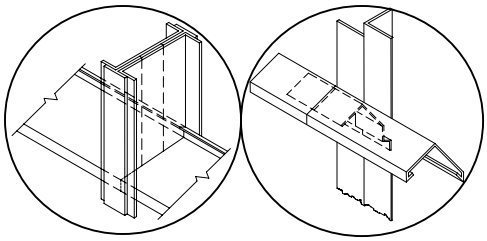
OPTIONAL CONSTRUCTION

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 – Visible for architectural preference

SPECIAL PURPOSE CONSTRUCTION

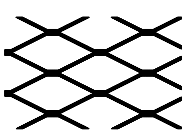
Special shapes: Triangle, Round, Trapezoid, etc.
Fully welded construction
Security bars
Hinged as walk through door or swing out access
Filter racks
Sleeved for ductwork connection
** Consult SAFE-AIR/DOWCO for additional technical information.

MULLION STYLES

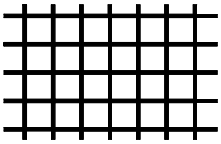


Visible Invisible

TYPICAL SCREEN STYLES

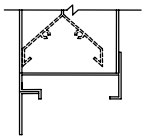


Expanded Aluminum Standard

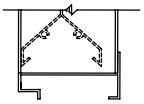


Wire Mesh

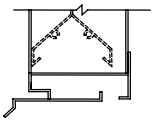
FRAME STYLES



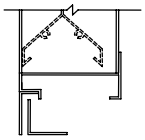
(1) - Flange 1-1/2”



(3) - Box Standard



(8) - Box and Sill Extension



(9) - Flange w/ sub frame

DATE	ARCHITECT			CUSTOMER
PROJECT				
ITEM	QTY	W	H	DESCRIPTION

DEPENDABLE PRODUCTS SINCE 1955

SAFE-AIR OF ILLINOIS INC.

Engineering and General Offices

1855 South 54th Avenue, Cicero, Illinois 60804

Phone 708-652-9100 FAX 708-652-9158

WIDTH

FREE AREA CALCULATIONS IN SQ. FT.

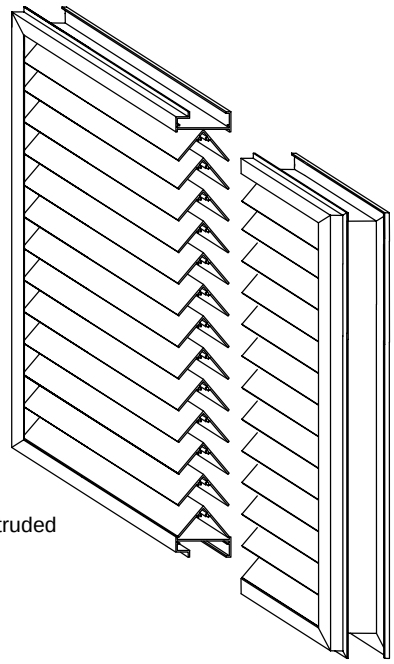
INCHES	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96
12	.28	.44	.59	.74	.90	1.05	1.20	1.36	1.51	1.66	1.82	1.97	2.12	2.27	2.43
18	.45	.69	.93	1.17	1.41	1.65	1.89	2.13	2.37	2.61	2.85	3.09	3.33	3.57	3.81
24	.61	.94	1.26	1.59	1.92	2.25	2.58	2.91	3.23	3.56	3.89	4.22	4.55	4.87	5.20
30	.77	1.19	1.60	2.02	2.43	2.85	3.26	3.68	4.10	4.51	4.93	5.34	5.76	6.17	6.59
36	.93	1.44	1.94	2.44	2.94	3.45	3.95	4.45	4.96	5.46	5.96	6.47	6.97	7.47	7.98
42	1.09	1.69	2.28	2.87	3.46	4.05	4.64	5.23	5.82	6.41	7.00	7.59	8.18	8.77	9.36
48	1.26	1.93	2.61	3.29	3.97	4.65	5.33	6.00	6.68	7.36	8.04	8.72	9.39	10.07	10.75
54	1.42	2.18	2.95	3.72	4.48	5.25	6.01	6.78	7.54	8.31	9.08	9.84	10.61	11.37	12.14
60	1.58	2.43	3.29	4.14	4.99	5.85	6.70	7.55	8.41	9.26	10.11	10.97	11.82	12.67	13.52
66	1.74	2.68	3.62	4.57	5.51	6.45	7.39	8.33	9.27	10.21	11.15	12.09	13.03	13.97	14.91
72	1.91	2.93	3.96	4.99	6.02	7.05	8.07	9.10	10.13	11.16	12.19	13.21	14.24	15.27	16.30
78	2.07	3.18	4.30	5.41	6.53	7.65	8.76	9.88	10.99	12.11	13.22	14.34	15.46	16.57	17.69
84	2.23	3.43	4.64	5.84	7.04	8.25	9.45	10.65	11.85	13.06	14.26	15.46	16.67	17.87	19.07
90	2.39	3.68	4.97	6.26	7.55	8.85	10.14	11.43	12.72	14.01	15.30	16.59	17.88	19.17	20.46
96	2.55	3.93	5.31	6.69	8.07	9.44	10.82	12.20	13.58	14.96	16.34	17.71	19.09	20.47	21.85

HEIGHT

EXTRUDED ALUMINUM LOUVER

Chevron Blade Louver in 3” thick frame design Model – LEY-03

Design Features – Vision proof blade in narrow profile frame with high free area design.



STANDARD CONSTRUCTION

ALL MATERIAL – EXTRUDED ALUMINUM 6063-T5 (KB-45)

FRAME
.081” (2.1) extruded aluminum in style #3
BLADES
.081” (2.1) extruded aluminum, approx spacing is 1-9/16“ (51) oc.
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
(allows for best handling)
(Type of finish may limit maximum single section)
MULLION
Invisible
MINIMUM SIZE
12”w x 12”H (305 x 305)
UNDERSIZED
1/4” under ordered size unless specified Exact or Actual
SCREEN
3/4” x .051” (19 x 1.3) flattened expanded aluminum bird screen in extruded aluminum frame
FINISH
Mill

AIR PERFORMANCE
Free Area
57% - 48 x 48 unit

Pressure Drop
0.25” w.g. @ 1000 fpm

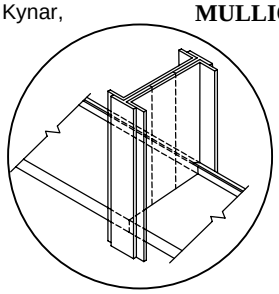
OPTIONAL CONSTRUCTION

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 – Visible for architectural preference

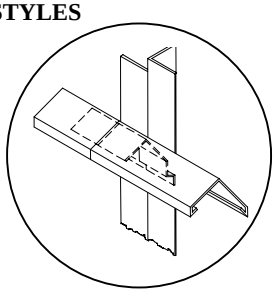
SPECIAL PURPOSE CONSTRUCTION

Special shapes: Triangle, Round, Trapezoid, etc.
Fully welded construction
Security bars
Filter racks
Hinged as walk through door or for swing out for access
Sleeved for ductwork connection

MULLION STYLES

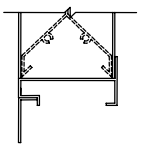


Visible

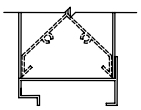


Invisible

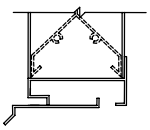
FRAME STYLES



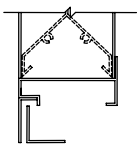
(1) - Flange 1-1/2”



(3) - Box Standard

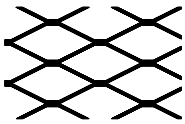


(8) – Box and Sill Extension

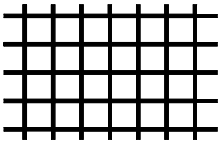


(9) - Flange w/ sub frame

TYPICAL SCREEN STYLES



Expanded Aluminum Standard



Wire Mesh

DATE	ARCHITECT			CUSTOMER
PROJECT				
ITEM	QTY	W	H	DECRIPTION

DEPENDABLE PRODUCTS SINCE 1955

SAFE-AIR OF ILLINOIS INC.

Engineering and General Offices

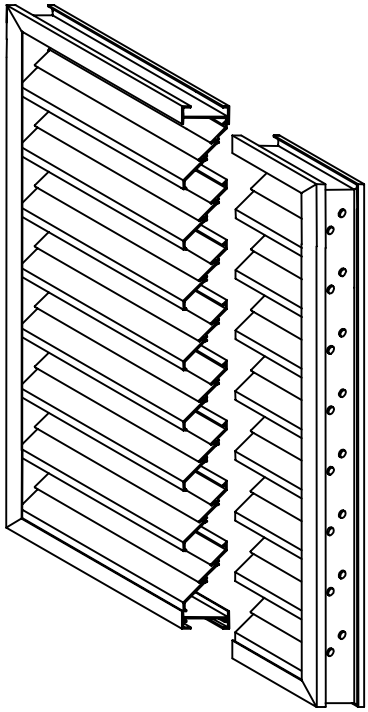
1855 South 54th Avenue, Cicero, Illinois 60804

Phone 708-652-9100 FAX 708-652-9158

DEPENDABLE PRODUCTS SINCE 1955

Weather Protective Blade Louver in 2” thick frame design Model LEZ-02

Design Features – Narrow profile multipurpose design. Stormproof blade shape to deter water and offer a clean appearance.



STANDARD CONSTRUCTION

ALL MATERIAL – EXTRUDED ALUMINUM 6063-T5 (KB-45)

FRAME
.063” (1.6) extruded aluminum in style #3
BLADES
.063” (1.6) extruded aluminum, approx spacing is 2-1/2” o.c. (64) @ 45º
FASTENERS
Plated steel, tek screw
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
(allows for best handling)
(Type of finish may limit maximum single section)
MULLION
Visible
MINIMUM SIZE
12”w x 8”h (305 x 203)
UNDERSIZED
1/4” (6) under ordered size unless specified Exact or Actual
SCREEN
3/4” x .051” (19 x 1.3) flattened expanded aluminum bird screen, no frame
FINISH
Mill

OPTIONAL CONSTRUCTION

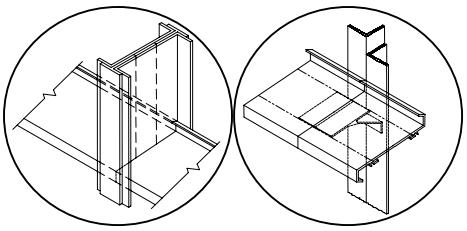
SCREEN - Many styles available please consult screen listing
FINISH – Air-dry primer, polyurethane, epoxy, or enamel, baked epoxy or enamel, Kynar, or Powder coat.
MULLION – Invisible for architectural preference

SPECIAL PURPOSE CONSTRUCTION

Special shapes: Triangle, Round, Trapezoid, etc.
Fully welded construction
Security bars
Filter racks
Hinged as walk through door or for swing out for access
Sleeved for ductwork connection

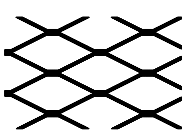
** Consult SAFE-AIR/DOWCO for additional technical information.

MULLION STYLES

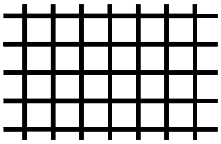


Visible Invisible

TYPICAL SCREEN STYLES

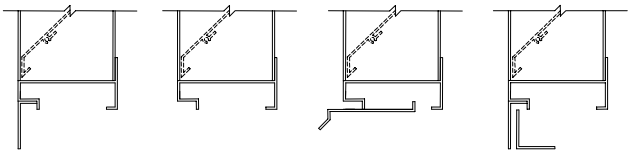


Expanded Aluminum Standard



Wire Mesh

FRAME STYLES



(1) - Flange 1-1/2” (3) - Box Standard (8) - Box and Sill Extension (9) - Flange w/ sub frame

DATE	ARCHITECT			CUSTOMER
PROJECT				
ITEM	QTY	W	H	DESCRIPTION

DEPENDABLE PRODUCTS SINCE 1955

SAFE-AIR OF ILLINOIS INC.

Engineering and General Offices

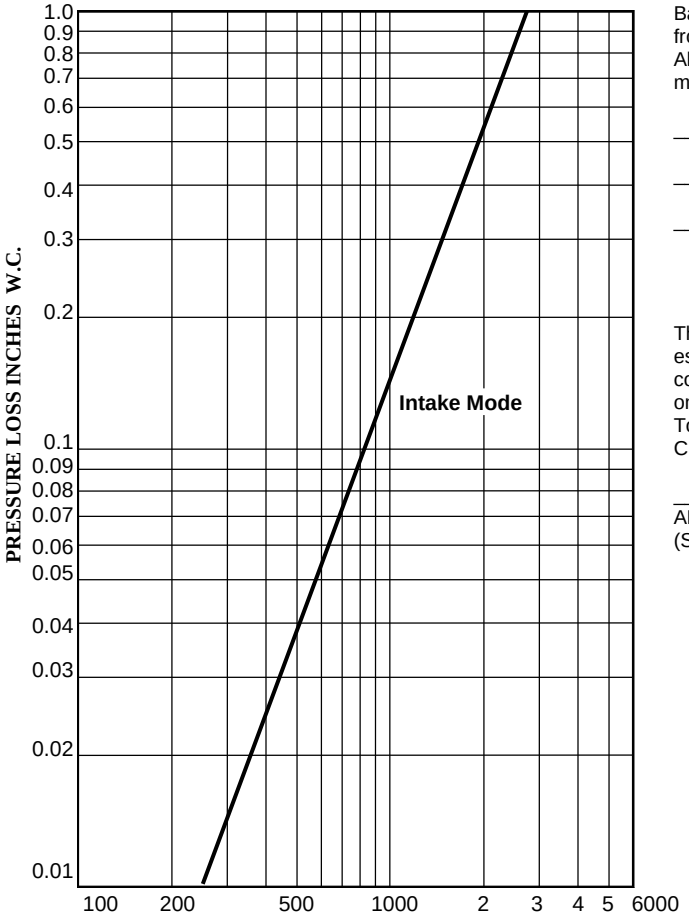
1855 South 54th Avenue, Cicero, Illinois 60804

Phone 708-652-9100 FAX 708-652-9158

LEZ-02 PERFORMANCE SPECIFICATIONS

All tests performed at an independent laboratory and based on AMCA standard – 500 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 damper. 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)

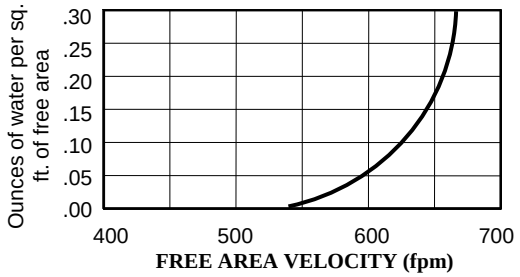
_____CFM / ____ FPM Free Area Velocity = _____Sq. Ft. Free Area

CALCULATING MAXIMUM AIRFLOW BEFORE WATER PENETRATION

The "free area flow rate" at which water penetration commences (.01 oz. of water) is established at, 540 fpm (164) for LEZ-02, 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 determined 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



540 fpm (164) beginning of water penetration

FREE AREA CALCULATIONS IN SQ. FT.

WIDTH

HEIGHT Inches	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	102	108	114	120
12	0.28	0.44	0.60	0.76	0.92	1.08	1.24	1.41	1.57	1.73	1.89	2.05	2.21	2.37	2.53	2.69	2.85	3.01	3.17
18	0.52	0.81	1.11	1.40	1.70	1.99	2.29	2.58	2.88	3.17	3.47	3.76	4.06	4.36	4.65	4.95	5.24	5.54	5.83
24	0.69	1.08	1.48	1.87	2.26	2.66	3.05	3.44	3.84	4.23	4.63	5.02	5.41	5.81	6.20	6.59	6.99	7.38	7.78
30	0.92	1.45	1.97	2.50	3.03	3.55	4.08	4.61	5.13	5.66	6.19	6.71	7.24	7.77	8.29	8.82	9.35	9.87	10.40
36	1.12	1.76	2.40	3.04	3.68	4.32	4.96	5.60	6.24	6.88	7.52	8.16	8.80	9.44	10.08	10.72	11.36	12.00	12.64
42	1.31	2.07	2.82	3.57	4.32	5.07	5.82	6.57	7.32	8.08	8.83	9.58	10.33	11.08	11.83	12.58	13.33	14.08	14.84
48	1.55	2.44	3.32	4.21	5.09	5.98	6.87	7.75	8.64	9.52	10.41	11.29	12.18	13.07	13.95	14.84	15.72	16.61	17.50
54	1.72	2.71	3.69	4.68	5.66	6.64	7.63	8.61	9.60	10.58	11.56	12.55	13.53	14.52	15.50	16.49	17.47	18.45	19.44
60	1.96	3.07	4.19	5.31	6.42	7.54	8.66	9.78	10.89	12.01	13.13	14.24	15.36	16.48	17.60	18.71	19.83	20.95	22.06
66	2.15	3.38	4.61	5.84	7.07	8.30	9.53	10.77	12.00	13.23	14.46	15.69	16.92	18.15	19.38	20.61	21.84	23.07	24.30
72	2.35	3.69	5.03	6.37	7.71	9.06	10.40	11.74	13.08	14.42	15.77	17.11	18.45	19.79	21.13	22.47	23.82	25.16	26.50
78	2.58	4.06	5.54	7.01	8.49	9.97	11.44	12.92	14.39	15.87	17.35	18.82	20.30	21.78	23.25	24.73	26.21	27.68	29.16
84	2.76	4.33	5.91	7.48	9.06	10.63	12.20	13.78	15.35	16.93	18.50	20.08	21.65	23.23	24.80	26.38	27.95	29.53	31.10
90	2.99	4.70	6.40	8.11	9.82	11.53	13.23	14.94	16.65	18.36	20.07	21.77	23.48	25.19	26.90	28.60	30.31	32.02	33.73
96	3.19	5.01	6.83	8.65	10.47	12.29	14.11	15.93	17.75	19.57	21.40	23.22	25.04	26.86	28.68	30.50	32.32	34.14	35.96
102	3.38	5.31	7.25	9.18	11.11	13.04	14.98	16.91	18.84	20.77	22.70	24.64	26.57	28.50	30.43	32.37	34.30	36.23	38.16
108	3.62	5.68	7.75	9.82	11.88	13.95	16.02	18.09	20.15	22.22	24.29	26.35	28.42	30.49	32.55	34.62	36.69	38.75	40.82
114	3.79	5.95	8.12	10.29	12.45	14.62	16.78	18.95	21.11	23.28	25.44	27.61	29.77	31.94	34.10	36.27	38.44	40.60	42.77
120	4.02	6.32	8.62	10.92	13.21	15.51	17.81	20.11	22.41	24.71	27.00	29.30	31.60	33.90	36.20	38.50	40.79	43.09	45.39

DEPENDABLE PRODUCTS SINCE 1955

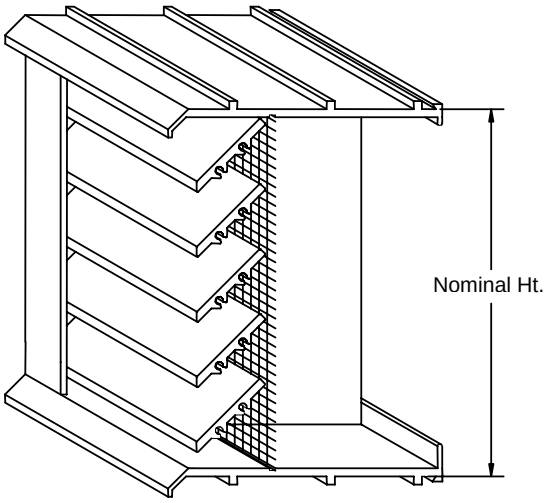
Extruded Aluminum Brick / Block Vent Model BEX-04

Design Features – Traditional Brick Vent uniquely designed to provide maximum structural strength, versatility, and high free area in an economical package. ALL LOAD BEARING MEMBERS ARE .125" THICK EXTRUDED ALUMINUM.

STANDARD CONSTRUCTION

ALL MATERIAL – EXTRUDED ALUMINUM 6063-T5 (KB-45)

FRAME
4" Deep, .125" Extruded Aluminum
BLADES
.125 Extruded Aluminum, approx. spacing is 1" @ 45 degrees.
MAXIMUM SIZE
Unlimited, with mullions, structural bracing supplied by Safe-Air/Dowco
MINIMUM SIZE
4" wide x 2-3/8" high
MAXIMUM SINGLE SECTION
96" wide x 12" high
MULLIONS
Visible
SCREEN
Aluminum mesh insect screen
FINISH
Clear Anodized



OPTIONAL CONSTRUCTION

SCREEN - Many styles available please consult screen listing
FINISH – Mill, Factory prime coat, Baked epoxy or enamel, Kynar 500, Bronze Anodized or Powder coat.
MULLION – Invisible for architectural preference

- Heights shown are nominal. Add 1/4" to nominal height for 1/8" mortar ribs on top and bottom frames.
- Custom sizes are available.

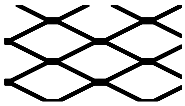
SPECIAL PURPOSE CONSTRUCTION

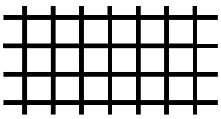
Fully welded construction
Security bars
Built in integral damper
Available in 8" or 12" deep frame
Filter racks
Sleeved for ductwork connection

Consult SAFE-AIR/DOWCO for special construction not mentioned above.

STANDARD SIZES			
Width	**Height**	**Depth**	**Free Area (sq. ft.)**
8-1/8"	2-3/8"	4"	0.024
8-1/8"	4-3/4"	4"	0.092
8-1/8"	7-3/4"	4"	0.164
12"	2-3/8"	4"	0.038
12"	4-3/4"	4"	0.145
12"	7-3/4"	4"	0.258
16-1/2"	2-3/8"	4"	0.054
16-1/2"	4-3/4"	4"	0.207
16-1/2"	7-3/4"	4"	0.367
24"	2-3/8"	4"	0.081
24"	4-3/4"	4"	0.310
24"	7-3/4"	4"	0.549
33"	2-3/8"	4"	0.114
33"	4-3/4"	4"	0.433
33"	7-3/4"	4"	0.767
41-1/2"	2-3/8"	4"	0.144
41-1/2"	4-3/4"	4"	0.549
41-1/2"	7-3/4"	4"	0.973
47-1/4"	2-3/8"	4"	0.165
47-1/4"	4-3/4"	4"	0.628
47-1/4"	7-3/4"	4"	1.113

TYPICAL SCREEN STYLES


Expanded Aluminum


Wire Mesh
Standard

DATE	ARCHITECT	CUSTOMER
PROJECT		

ITEM	QTY	W	H	DESCRIPTION

DEPENDABLE PRODUCTS SINCE 1955

SAFE-AIR/DOWCO

Engineering and General Offices

1855 South 54th Avenue, Cicero, Illinois 60804

Phone 708-652-9100 FAX 708-652-9158

EXTRUDED ALUMINUM LOUVER

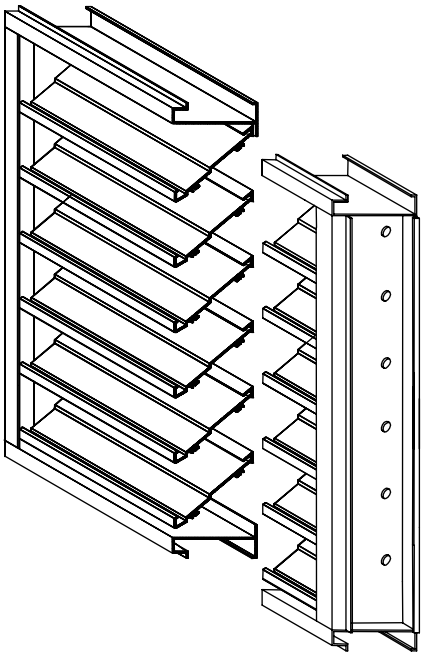
Drainable Blade Louver in 4” deep frame design • Model DBE-04

Design Features – High performance patented drainable blade design allowing maximum airflow with minimum outside element or water penetration. Louvers are designed to withstand inward and outward wind pressure up to 25 psf (100 mph).

STANDARD CONSTRUCTION

ALL MATERIAL – EXTRUDED ALUMINUM 6063-T5 (KB-45)

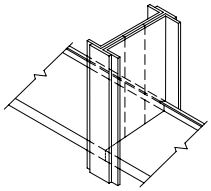
FRAME
DBE-04, 4” *(102)* deep, .081 ga. *(2.1)* extruded alum. in style #3.
BLADES
DBE-04, 4” *(102)*, .081” ga. *(2.1)* extruded alum, approx. spacing is 3-1/2" *(89)* @ 39°
FASTENERS
#10 Plated steel screw
MAXIMUM SIZE
Unlimited, with mullions, structural bracing supplied by others
MAXIMUM FACTORY ASSEMBLY SIZE
120” W x 84” H or vice versa (allows for best handling)
(Type of finish may limit maximum single section)
MULLION
Invisible
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” x .051” ga. *(19 x 1.3)* flattened expanded alum. bird screen no frame
FINISH
Mill



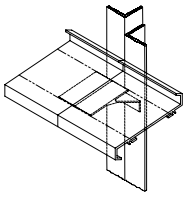
OPTIONAL CONSTRUCTION

FRAME – Available in a heavier extrusion of .125” ga. *(3.2)*
BLADES – Available in a heavier extrusion of .125” ga. *(3.2)*
SCREEN - Many styles available please consult screen listing
FINISH – Air-dry primer, Polyurethane, Epoxy, Baked Enamel, Powder Coat, Anodized or Kynar 500.
MULLION – Visible for architectural preference

MULLION STYLES



Visible



Invisible
Standard

PERFORMANCE

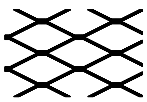
Point of
Water Penetration
1016 fpm *(310)*

Free Area
48” x 48” *(1219 x 1219)*
60%

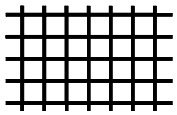
SPECIAL PURPOSE CONSTRUCTION

Special Shapes; Round, Triangle, Trapezoid, and etc.
Fully welded construction
Security bars
Filter racks
Hinged as walk through door or for swing out access
Sleeved for ductwork connection

TYPICAL SCREEN STYLES

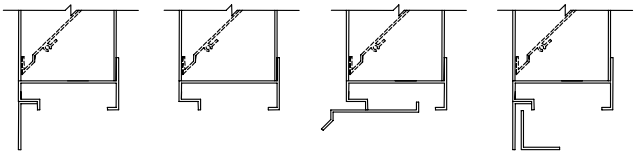


Expanded Aluminum
Standard



Wire Mesh

FRAME STYLES



(1) - Flange
1-1/2” *(38)*

(3) - Box
Standard

(8) - Box and
Sill Extension

(9) - Flange
w/ sub frame

DATE	ARCHITECT / ENGINEER	CUSTOMER
PROJECT		

ITEM	QTY	W	H	TAG

amca CERTIFIED RATINGS
WATER PENETRATION
AIR PERFORMANCE
AIR MOVEMENT AND CONTROL ASSOCIATION, INC.

DOWCO PRODUCTS GRUOUP certifies that the DBE–04 louver shown herein is licensed to bear the AMCA Seal. The rating shown is based on tests and procedures performed in accordance with AMCA Publication 511 and comply with the requirements on the AMCA Certified Ratings Program. The AMCA Certified Ratings Seal applies to air performance ratings and water penetration ratings.

DEPENDABLE PRODUCTS SINCE 1955

SAFE-AIR / DOWCO

Engineering and General Offices

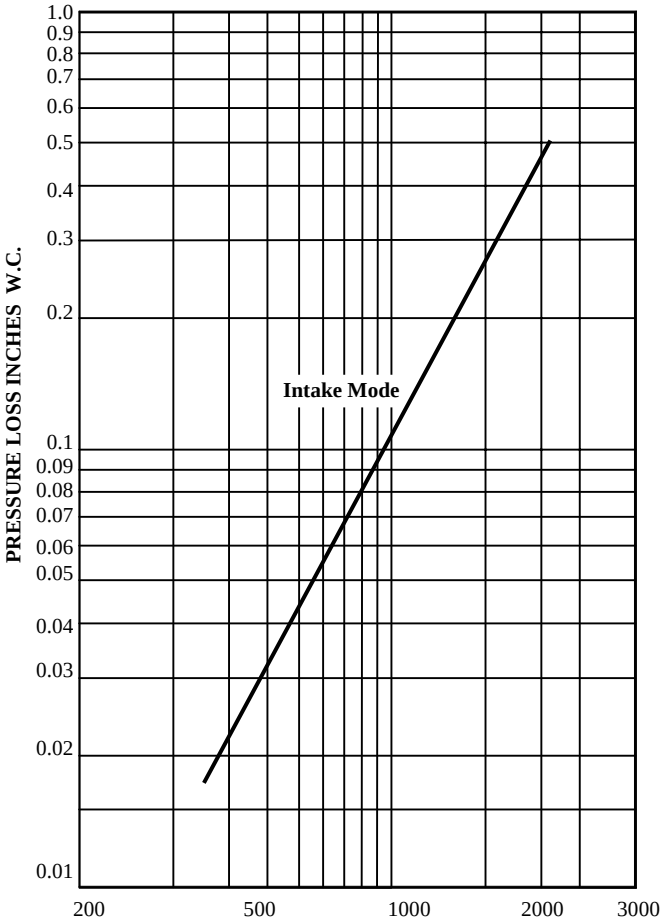
1855 South 54th Avenue / Cicero, Illinois 60804

Phone: 708-652-9100 FAX: 708-652-9158

DBE-04 PERFORMANCE SPECIFICATIONS

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

AIR PERFORMANCE



INTAKE FREE AREA VELOCITY (fpm)

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

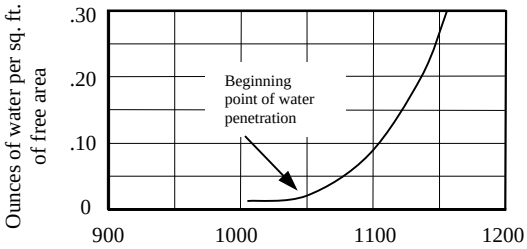
The "free area flow rate" at which water penetration commences (.01 oz. of water) is established at, 1016 fpm (310) for DBE-04, and will vary depending upon actual weather conditions. The "water penetration" graph illustrates the results of actual laboratory test on a 48" x 48" (1219 x 1219) test sample subjected to hypothetical rainfall conditions. To determined 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	(H20)
1016	1044	1080	1108	1136	1152	(fpm)



FREE AREA VELOCITY (fpm)

1016 fpm (310) beginning of water penetration

FREE AREA CALCULATIONS IN SQ. FT.

W I D T H

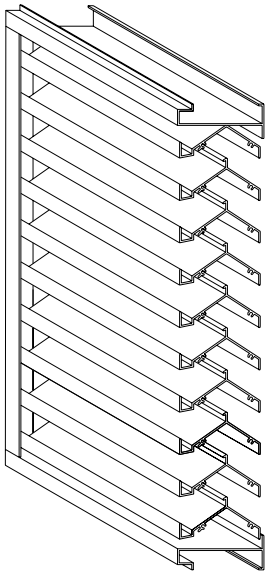
INCHES	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	102	108	114	120
12	.33	.52	.72	.91	1.11	1.30	1.50	1.69	1.88	2.08	2.28	2.47	2.66	2.86	3.06	3.25	3.44	3.64	3.83
18	.59	.94	1.30	1.65	2.00	2.35	2.71	3.06	3.41	3.77	4.12	4.47	4.83	5.18	5.54	5.89	6.24	6.60	6.95
24	.84	1.34	1.85	2.35	2.86	3.36	3.87	4.37	4.88	5.39	5.89	6.40	6.90	7.41	7.91	8.42	8.92	9.43	9.93
30	1.20	1.92	2.64	3.37	4.09	4.81	5.53	6.26	6.98	7.70	8.42	9.15	9.87	10.59	11.31	12.04	12.76	13.48	14.20
36	1.46	2.34	3.23	4.11	4.99	5.87	6.75	7.63	8.51	9.39	10.27	11.15	12.03	12.91	13.79	14.68	15.56	16.44	17.32
42	1.73	2.77	3.81	4.84	5.88	6.92	7.96	9.00	10.04	11.08	12.12	13.16	14.20	15.24	16.28	17.31	18.35	19.39	20.43
48	2.06	3.30	4.54	5.78	7.02	8.26	9.54	10.74	11.98	13.22	14.46	15.70	16.94	18.18	19.42	20.66	21.90	23.14	24.38
54	2.34	3.75	5.16	6.57	7.97	9.38	10.79	12.20	13.61	15.01	16.42	17.83	19.24	20.65	22.05	23.46	24.87	26.28	27.69
60	2.61	4.17	5.74	7.31	8.87	10.44	12.00	13.57	15.14	16.70	18.27	19.84	21.40	22.97	24.53	26.10	27.67	29.23	30.80
66	2.90	4.65	6.40	8.14	9.89	11.63	13.38	15.12	16.87	18.61	20.36	22.10	23.85	25.59	27.34	29.09	30.83	32.58	34.32
72	3.22	5.16	7.09	9.03	10.96	12.90	14.83	16.77	18.70	20.64	22.57	24.51	26.44	28.38	30.31	32.25	34.18	36.12	38.05
78	3.48	5.83	7.67	9.77	11.86	13.95	16.05	18.14	20.23	22.33	24.42	26.51	28.61	30.70	32.79	34.89	36.98	39.07	41.17
84	3.75	6.00	8.25	10.50	12.76	15.01	17.26	19.51	21.76	24.02	26.27	28.52	30.77	33.02	35.28	37.53	39.78	42.03	44.28
90	4.08	6.54	8.99	11.44	13.89	16.35	18.80	21.25	23.71	26.16	28.61	31.06	33.52	35.97	38.42	40.88	43.33	45.78	48.23
96	4.37	6.99	9.62	12.24	14.87	17.49	20.12	22.74	25.37	27.99	30.62	33.24	35.87	38.49	41.12	43.74	46.36	48.99	51.61

H E I G H T

EXTRUDED ALUMINUM LOUVER

Drainable / Sightproof Louver in 4” thick frame design – Model DEM- 04

Features – Drainable Blade vision proof design.



STANDARD CONSTRUCTION

All MATERIAL-EXTRUDED ALUMINUM 6063-TS (KB-45)

FRAME
DEM- 04” thick, is .081” Extruded aluminum in style #3
BLADES
DEM- 04”, are.081” Extruded aluminum Sightproof, approx. spacing is 2”
MAXIMUM SIZE
Unlimited, with mullions, structural bracing supplied by others
MAXIMUM SINGLE SECTION
120”w x 84”H or 84”w x 120”H
(allows for best handling)
(Type of finish required may limit max single section size)
MULLIONS
Invisible
MINIMUM SIZE
12” W x 12” H
UNDERSIZED
1/4”under ordered size unless specified Exact or Actual
SCREEN
3/4” .051” Flattened expanded aluminum bird screen no frame
FINISH
Mill

PERFORMANCE

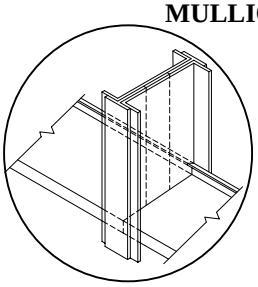
Point of water penetration
1100 fpm

Free area
48 x 48 section
57%

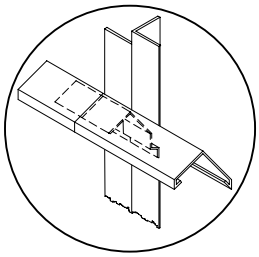
OPTIONAL CONSTRUCTION

FRAME – Available in a heavier extrusion of .125”
BLADES - Available in a heavier extrusion of .125”
SCREENS - Many styles available please consult screen listing
MULLIONS – Visible for architectural preference
FINISH – Air-dry primer, polyurethane, epoxy, or enamel. Baked epoxy or enamel. Anodize or Kynar (Kynar limitations on steel.)

MULLION STYLES



Visible



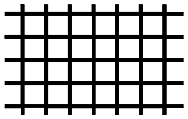
Invisible

SPECIAL PURPOSE CONSTRUCTION

Fully welded assembly
Security bars
Filter racks
Hinged as walk through door or for swing out access
Sleeved for ductwork connection

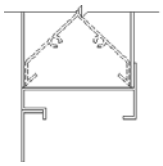
TYPICAL SCREEN STYLE

Expanded Aluminum Standard

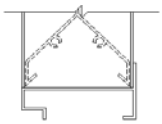


Wire Mesh Standard

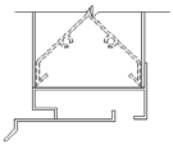
FRAME STYLES



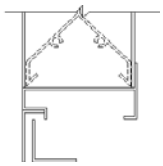
1- Flange (1.5”)



3 – Box



8- Box with Sill Extension



9 - Flange with Sub Frame

DATE	ARCHITECT			ENGINEER
PROJECT				
ITEM	QTY	W	H	DESCRIPTION

DEPENDABLE PRODUCTS SINCE 1955

SAFE-AIR OF ILLINOIS INC.

Engineering and General Offices

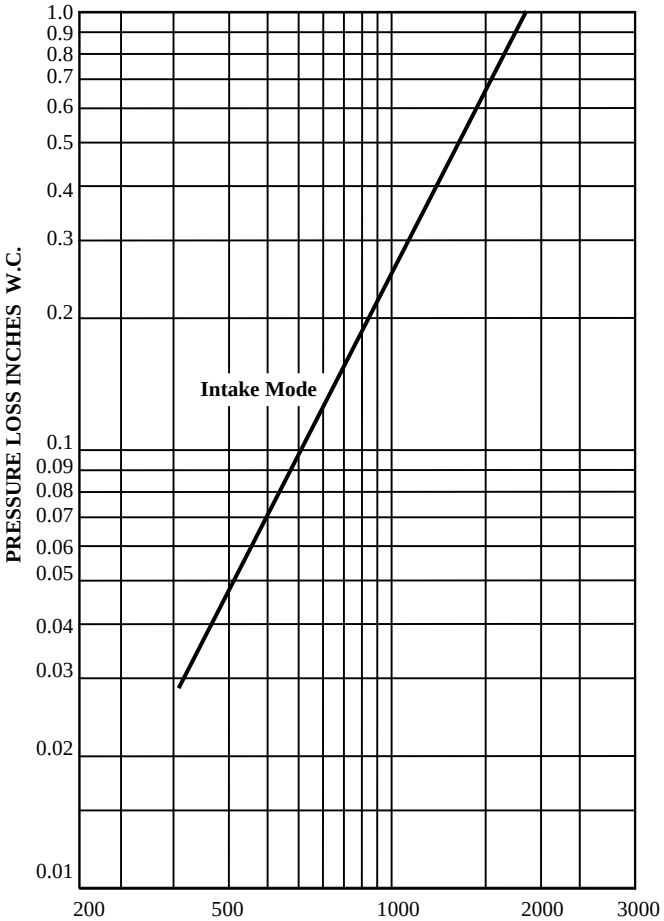
1855 South 54th Avenue, Cicero, Illinois 60804

Phone 708-652-9100 FAX 708-652-9158

DEM-04 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

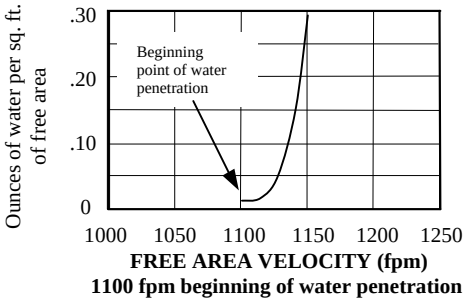
CALCULATING MAXIMUM AIRFLOW BEFORE WATER PENETRATION

The "free area flow rate" at which water penetration commences (.01 oz. of water) is established at, 1100 fpm for DEM-04, 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 determined 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



FREE AREA CALCULATIONS IN SQ. FT.

W I D T H

H E I G H T

Inches	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	102	108	114	120
12	0.34	0.59	0.85	1.10	1.35	1.61	1.86	2.11	2.37	2.73	2.98	3.23	3.49	3.74	3.99	4.25	4.50	4.76	5.01
18	0.55	0.97	1.38	1.80	2.21	2.63	3.04	3.45	3.87	4.46	4.87	5.29	5.70	6.11	6.53	6.94	7.36	7.77	8.19
24	0.77	1.34	1.92	2.49	3.07	3.64	4.22	4.80	5.37	6.19	6.76	7.34	7.91	8.49	9.06	9.64	10.22	10.79	11.37
30	0.98	1.72	2.45	3.19	3.93	4.66	5.40	6.14	6.87	7.92	8.65	9.39	10.13	10.86	11.60	12.34	13.07	13.81	14.54
36	1.20	2.09	2.99	3.89	4.79	5.68	6.58	7.48	8.38	9.65	10.54	11.44	12.34	13.24	14.13	15.03	15.93	16.83	17.72
42	1.41	2.47	3.53	4.59	5.64	6.70	7.76	8.82	9.88	11.38	12.44	13.49	14.55	15.61	16.67	17.73	18.79	19.84	20.90
48	1.63	2.84	4.06	5.28	6.50	7.72	9.05	10.16	11.38	13.11	14.33	15.55	16.76	17.98	19.20	20.42	21.64	22.86	24.08
54	1.84	3.22	4.60	5.98	7.36	8.74	10.12	11.50	12.88	14.84	16.22	17.60	18.98	20.36	21.74	23.12	24.50	25.88	27.26
60	2.05	3.60	5.14	6.68	8.22	9.76	11.30	12.84	14.38	16.57	18.11	19.65	21.19	22.73	24.27	25.81	27.36	28.90	30.44
66	2.27	3.97	5.67	7.38	9.08	10.78	12.48	14.18	15.89	18.30	20.00	21.70	23.40	25.11	26.81	28.51	30.21	31.91	33.62
72	2.48	4.35	6.21	8.07	9.94	11.80	13.66	15.53	17.39	20.03	21.89	23.75	25.62	27.48	29.34	31.21	33.07	34.93	36.79
78	2.70	4.72	6.75	8.77	10.79	12.82	14.84	16.87	18.89	21.76	23.78	25.81	27.83	29.85	31.88	33.90	35.93	37.95	39.97
84	2.91	5.10	7.28	9.47	11.65	13.84	16.02	18.21	20.39	23.49	25.67	27.86	30.04	32.23	34.41	36.60	38.78	40.97	43.15
90	3.13	5.47	7.82	10.17	12.51	14.86	17.20	19.55	21.89	25.22	27.56	29.91	32.26	34.60	36.95	39.29	41.64	43.98	46.33
96	3.34	5.85	8.36	10.86	13.37	15.88	18.38	20.89	23.40	26.95	29.45	31.96	34.47	36.97	39.48	41.99	44.50	47.00	49.51

EXTRUDED ALUMINUM LOUVER

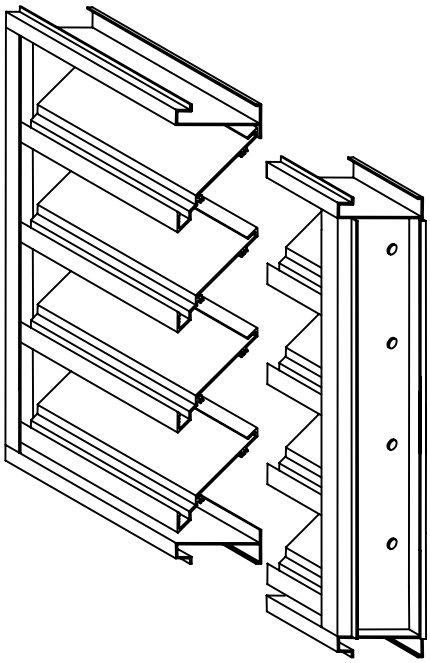
Drainable Blade Louver in 4” thick frame design - Model DWE-04

Design Features – High Performance patented design allowing maximum airflow with minimum outside element or water penetration.

STANDARD CONSTRUCTION

ALL MATERIAL – EXTRUDED ALUMINUM 6063-T5 (KB-45)

FRAME
DWE – 04” (102) thick, is .081 (2.1) extruded aluminum in style #3.
BLADES
DWE – 04” (102) are .081” (2.1) extruded alum. approx. spacing is 4 1/2 (114) @ 45°
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
(allows for best handling)
(Type of finish may limit maximum single section)
MULLION
Invisible
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” .051” (19 x 1.3) flattened expanded aluminum bird screen no frame
FINISH
Mill



PERFORMANCE

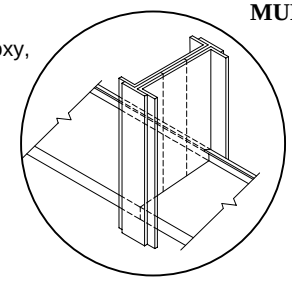
Point of
water penetration
910 fpm (277)

Free area
48 x 48 section
52%

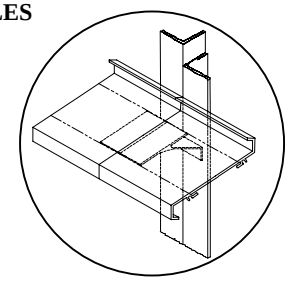
OPTIONAL CONSTRUCTION

FRAME – Available in a heavier extrusion of .125” (3.2)
BLADES – Available in a heavier extrusion of .125” (3.2)
SCREEN - Many styles available please consult screen listing
FINISH – Air-dry primer, polyurethane, epoxy, or enamel. Baked epoxy, Anodize or Kynar
MULLION – Visible for architectural preference

MULLION STYLES



Visible

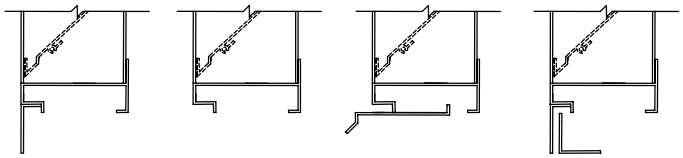


Invisible

SPECIAL PURPOSE CONSTRUCTION

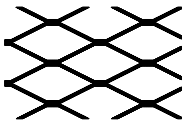
Special Shapes; Triangle, Trapezoid, etc.
Fully welded construction
Security bars
Filter racks
Hinged as walk through door or for swing out access
Sleeved for ductwork connection

FRAME STYLE

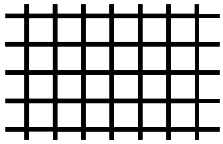


1- Flange (1.5”) | 3 – Box | 8- Box with Sill Extension | 9 - Flange with Sub Frame

TYPICAL SCREEN STYLES



Expanded Aluminum Standard



Wire Mesh

DATE	ARCHITECT	CUSTOMER
PROJECT		

ITEM	QTY	W	H

SAFE-AIR/DOWCO certifies that the DWE-04 louver shown herein are 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 and water penetration ratings.

DEPENDABLE PRODUCTS SINCE 1955

SAFE-AIR OF ILLINOIS INC.

Engineering and General Offices

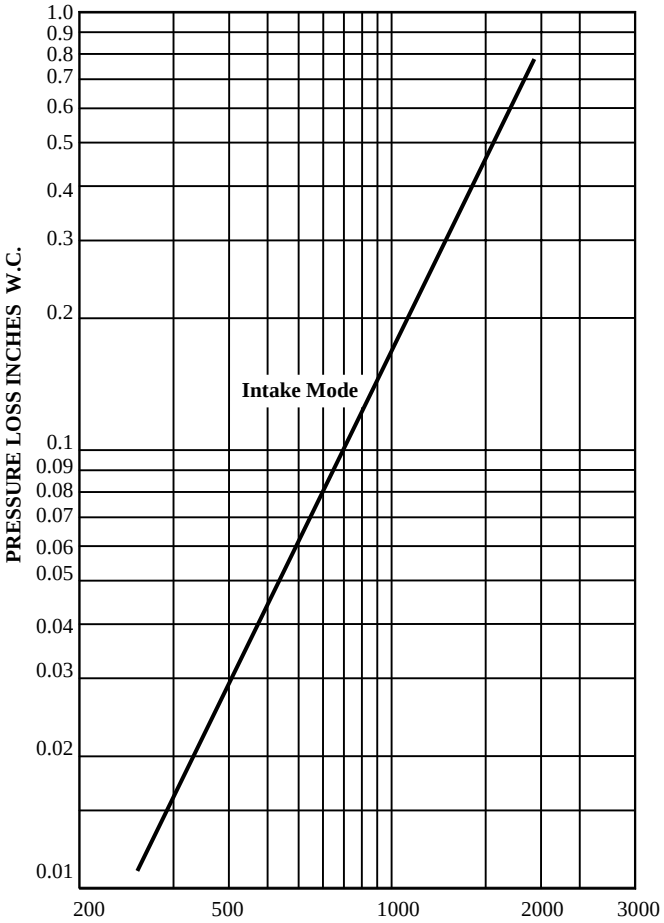
1855 South 54th Avenue, Cicero, Illinois 60804

Phone 708-652-9100 FAX 708-652-9158

DWE-04 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)

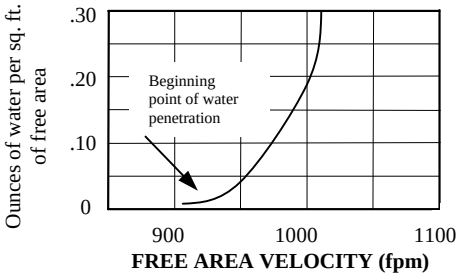
_____CFM / ____ FPM Free Area Velocity = _____Sq. Ft. Free Area

CALCULATING MAXIMUM AIRFLOW BEFORE WATER PENETRATION

The "free area flow rate" at which water penetration commences (.01 oz. of water) is established at, 910 fpm (227) for DWE-04, 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) 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	(H20)
910	931	960	981	1003	1016	(fpm)



910 fpm (227) beginning of water penetration

FREE AREA CALCULATIONS IN SQ. FT.

W I D T H

INCHES	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	102	108	114	120
12	.35	.56	.78	.99	1.20	1.41	1.62	1.83	2.05	2.26	2.47	2.68	2.89	3.10	3.31	3.53	3.74	3.95	4.16
18	.53	.85	1.17	1.49	1.82	2.14	2.46	2.78	3.10	3.42	3.74	4.06	4.38	4.70	5.02	5.34	5.66	5.98	6.30
24	.79	1.26	1.74	2.21	2.68	3.16	3.63	4.10	4.58	5.05	5.52	6.00	6.47	6.94	7.42	7.89	8.36	8.84	9.31
30	1.07	1.72	2.36	3.00	3.65	4.29	4.94	5.58	6.22	6.87	7.51	8.16	8.80	9.44	10.09	10.73	11.38	12.02	12.66
36	1.25	2.01	2.76	3.51	4.27	5.02	5.77	6.52	7.28	8.03	8.78	9.53	10.29	11.04	11.79	12.54	13.30	14.05	14.80
42	1.51	2.42	3.32	4.23	5.13	6.04	6.94	7.85	8.75	9.66	10.57	11.47	12.38	13.28	14.19	15.09	16.00	16.91	17.81
48	1.79	2.87	3.95	5.02	6.10	7.18	8.25	9.33	10.40	11.48	12.56	13.63	14.71	15.79	16.86	17.94	19.01	20.09	21.17
54	1.98	3.16	4.35	5.53	6.72	7.90	9.09	10.27	11.46	12.64	13.18	15.01	16.20	17.38	18.57	19.75	20.94	22.12	23.31
60	2.23	3.57	4.91	6.24	7.58	8.92	10.26	11.60	12.93	14.27	15.61	16.95	18.29	19.62	20.96	22.30	23.64	24.98	26.31
66	2.51	4.02	5.53	7.04	8.55	10.06	11.57	13.07	14.58	16.09	17.60	19.11	20.62	22.13	23.63	25.14	26.65	28.16	29.67
72	2.70	4.31	5.93	7.55	9.16	10.78	12.40	14.02	15.63	17.25	18.87	20.49	22.10	23.72	25.34	26.96	28.57	30.19	31.81
78	2.95	4.72	6.49	8.26	10.03	11.80	13.57	15.34	17.11	18.88	20.65	22.42	24.19	25.96	27.74	29.51	31.28	33.05	34.82
84	3.23	5.18	7.12	9.06	11.00	12.94	14.88	16.82	18.76	20.70	22.64	24.58	26.53	28.47	30.41	32.35	34.29	36.23	38.17
90	3.42	5.47	7.52	9.57	11.61	13.66	15.71	17.76	19.81	21.86	23.91	25.96	28.10	30.06	32.11	34.16	36.21	38.26	40.31
96	3.67	5.87	8.08	10.28	12.48	14.68	16.89	19.09	21.29	23.50	25.70	27.90	30.10	32.31	34.51	36.71	38.91	41.12	43.32

H E I G H T

EXTRUDED ALUMINUM LOUVER

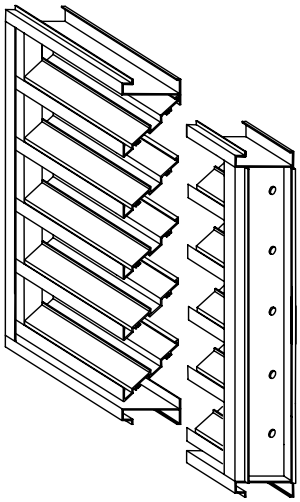
Dual Drainable Blade Louver in 4” thick frame design - Model D-DBE-04

Features – High performance dual drain design allowing maximum airflow with minimum outside element or water penetration.

STANDARD CONSTRUCTION

All MATERIAL-EXTRUDED ALUMINUM 6063-TS (KB-45)

FRAME
4” (102) thick, is .081” (2.1) Extruded aluminum in style #3
BLADES
.081” (2.1) Extruded alum. approx. spacing is 3.5” (89) @ 39°
MAXIMUM SIZE
Unlimited, with mullions, structural bracing supplied by others
MAXIMUM SINGLE SECTION
120”w x 84”h or 84”w x 120”h
(allows for best handling)
(Type of finish required may limit max single section size)
MULLIONS
Invisible
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” .051” (19 x 1.3) Flattened expanded aluminum bird screen no frame
FINISH
Mill



PERFORMANCE

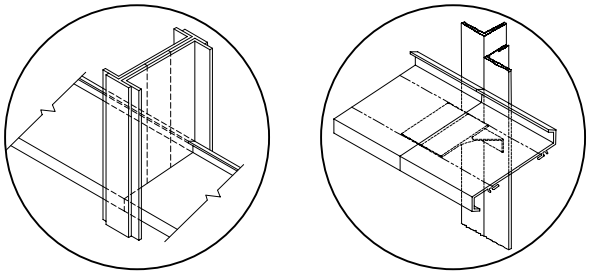
Point of water penetration
1051 fpm (320)

Free area
48 x 48 section
53%

OPTIONAL CONSTRUCTION

FRAME – Available in a heavier extrusion of .125” (3.2)
BLADES - Available in a heavier extrusion of .125” (3.2)
SCREENS - Many styles available please consult screen listing
MULLIONS – Visible for architectural preference
FINISH – Air-dry primer, polyurethane, epoxy, or enamel. Baked epoxy or enamel. Anodize or Kynar (Kynar limitations on steel.)

MULLION STYLES

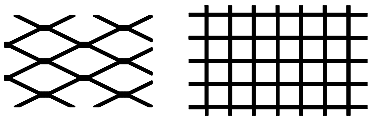


Visible Invisible

SPECIAL PURPOSE CONSTRUCTION

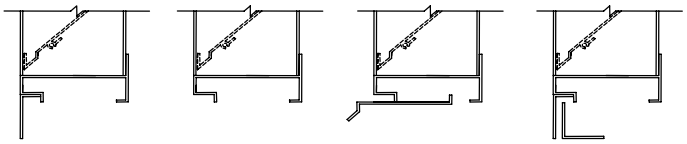
Special shapes; Triangle, Trapezoid, etc.
Fully welded assembly
Security bars
Filter racks
Hinged as walk through door or for swing out access
Sleeved for ductwork connection

TYPICAL SCREEN STYLE



Expanded Aluminum Standard Wire Mesh Standard

FRAME STYLES



1- Flange (1.5”) 3 – Box 8- Box with Sill Extension 9 - Flange with Sub Frame

DATE	ARCHITECT		ENGINEER
PROJECT			

ITEM	QTY	W	H

SAFE-AIR/DOWCO certifies that the D-DBE-04 louver shown herein are 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 and water penetration ratings.

DEPENDABLE PRODUCTS SINCE 1955

SAFE-AIR OF ILLINOIS INC.

Engineering and General Offices

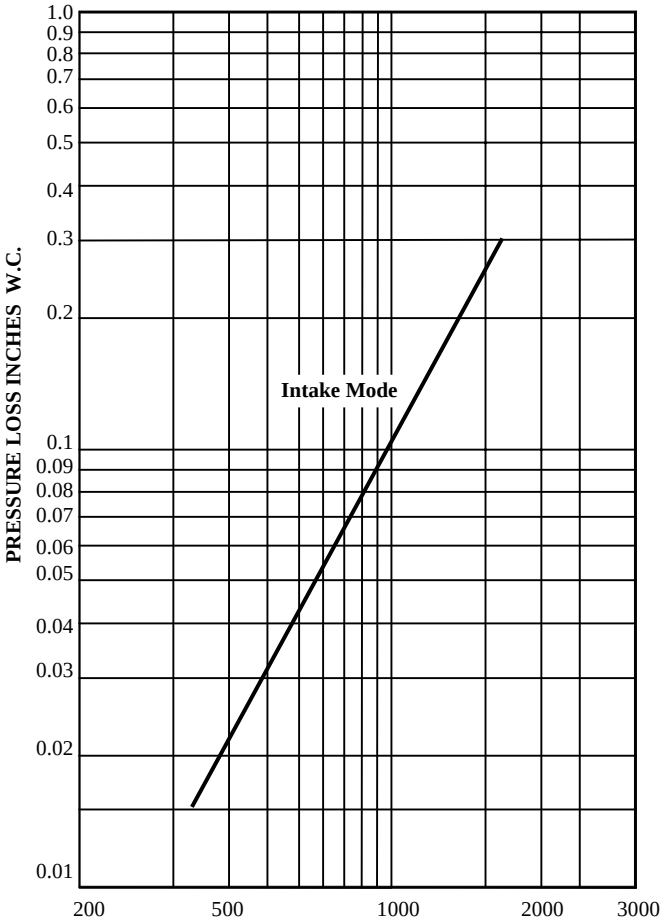
1855 South 54th Avenue, Cicero, Illinois 60804

Phone 708-652-9100 FAX 708-652-9158

D-DBE-04 PERFORMANCE SPECIFICATIONS

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

AIR PERFORMANCE



INTAKE FREE AREA VELOCITY (fpm)

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

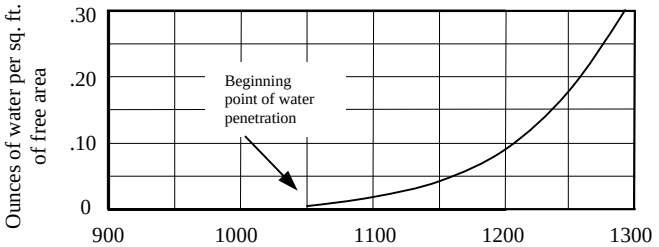
The "free area flow rate" at which water penetration commences (.01 oz. of water) is established at, 1051 fpm (320) for D-DBE-04, and will vary depending upon actual weather conditions. The "water penetration" graph illustrates the results of actual laboratory test on a 48" x 48" (1219 x 1219) test sample subjected to hypothetical rainfall conditions. To determined 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	(H20)
1051	1099	1161	1208	1256	1283	(fpm)



FREE AREA VELOCITY (fpm)

1051 fpm (320) beginning of water penetration

FREE AREA CALCULATIONS IN SQ. FT.

W I D T H

INCHES	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	102	108	114	120
12	.34	.54	.74	.94	1.14	1.35	1.55	1.75	1.95	2.15	2.36	2.56	2.76	2.96	3.16	3.37	3.57	3.77	3.97
18	.56	.90	1.24	1.58	1.92	2.26	2.60	2.94	3.27	3.61	3.95	4.29	4.63	4.97	5.31	5.65	5.98	6.32	6.66
24	.80	1.28	1.75	2.23	2.71	3.19	3.67	4.15	4.63	5.10	5.58	6.06	6.54	7.02	7.50	7.98	8.45	8.93	9.41
30	1.10	1.76	2.42	3.08	3.73	4.39	5.05	5.71	6.37	7.03	7.69	8.35	9.01	9.66	10.32	10.98	11.64	12.30	12.96
36	1.35	2.16	2.98	3.79	4.60	5.41	6.22	7.04	7.85	8.66	9.47	10.28	11.09	11.91	12.72	13.53	14.34	15.15	15.96
42	1.58	2.53	3.48	4.43	5.37	6.32	7.27	8.22	9.17	10.12	11.07	12.01	12.96	13.91	14.86	15.81	16.76	17.70	18.65
48	1.85	2.96	4.07	5.18	6.29	7.40	8.51	9.62	10.73	11.84	12.95	14.06	15.17	16.28	17.39	18.50	19.61	20.72	21.83
54	2.14	3.43	4.71	6.00	7.28	8.57	9.85	11.13	12.42	13.70	14.99	16.27	17.56	18.84	20.13	21.41	22.70	23.98	25.27
60	2.37	3.79	5.21	6.63	8.06	9.48	10.90	12.32	13.74	15.16	16.58	18.01	19.43	20.85	22.27	23.69	25.11	26.53	27.96
66	2.60	4.16	5.72	7.29	8.85	10.41	11.97	13.53	15.09	16.65	18.22	19.78	21.34	22.90	24.46	26.02	27.58	29.15	30.71
72	2.90	4.64	6.39	8.13	9.87	11.61	13.35	15.10	16.84	18.58	20.32	22.06	23.80	25.55	27.29	29.03	30.77	32.51	34.26
78	3.16	5.05	6.95	8.84	10.74	12.63	14.52	16.42	18.31	20.21	22.10	24.00	25.89	27.79	29.68	31.58	33.47	35.36	37.26
84	3.39	5.42	7.45	9.48	11.51	13.54	15.57	17.60	19.64	21.67	23.70	25.73	27.76	29.79	31.82	33.85	35.89	37.92	39.95
90	3.65	5.85	8.04	10.23	12.43	14.62	16.81	19.01	21.20	23.39	25.58	27.78	29.97	32.16	34.36	36.55	38.74	40.94	43.13
96	3.95	6.31	8.68	11.05	13.42	15.70	18.15	20.52	22.89	25.25	27.62	29.99	32.36	34.73	37.09	39.46	41.83	44.20	46.56

H E I G H T

EXTRUDED ALUMINUM LOUVER

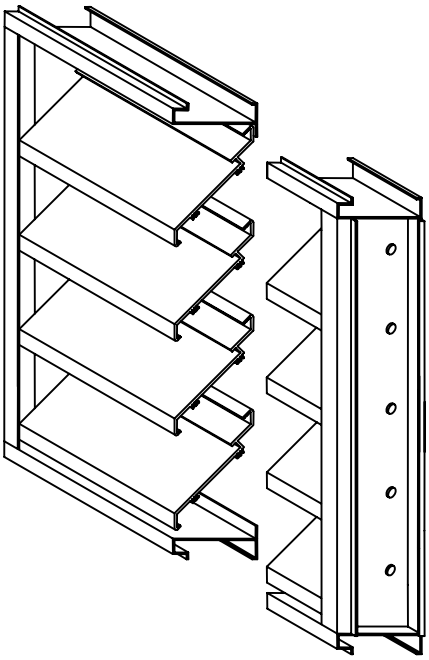
Weather Protective Blade Louver in 4” deep frame design • Model LEB-04

Design Features – Traditional design with upper blade surface turn back for improved weather protection and architectural pleasing appearance. Louvers are designed to withstand inward and outward wind pressure up to 25 psf (100 mph).

STANDARD CONSTRUCTION

ALL MATERIAL – EXTRUDED ALUMINUM 6063-T5 (KB-45)

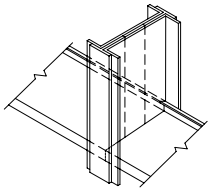
FRAME
LEB-04, 4” *(102)* deep, .081 ga. *(2.1)* extruded alum. in style #3.
BLADES
LEB-04, 4” *(102)*, .081” ga. *(2.1)* extruded alum, approx. spacing is 5" *(127)* @ 45°
FASTENERS
#10 Plated steel screw
MAXIMUM SIZE
Unlimited, with mullions, structural bracing supplied by others
MAXIMUM FACTORY ASSEMBLY SIZE
120” W x 84” H or vice versa (allows for best handling)
(Type of finish may limit maximum single section)
MULLION
Invisible
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” x .051” ga. *(19 x 1.3)* flattened expanded alum. bird screen no frame
FINISH
Mill



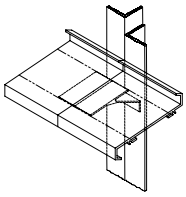
OPTIONAL CONSTRUCTION

FRAME – Available in a heavier extrusion of .125” ga. *(3.2)*
BLADES – Available in a heavier extrusion of .125” ga. *(3.2)*
SCREEN - Many styles available please consult screen listing
FINISH – Air-dry primer, Polyurethane, Epoxy, Baked Enamel, Powder Coat, Anodized or Kynar 500.
MULLION – Visible for architectural preference

MULLION STYLES



Visible



Invisible
Standard

PERFORMANCE

Point of
Water Penetration
930 fpm *(284)*

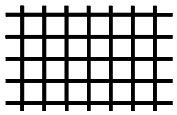
Free Area
48” x 48” *(1219 x 1219)*
47%

SPECIAL PURPOSE CONSTRUCTION

Special Shapes; Round, Triangle, Trapezoid, Octagon, and etc.
Fully welded construction
Security bars
Filter racks
Hinged as walk through door or for swing out access
Sleeved for ductwork connection

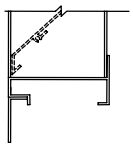
TYPICAL SCREEN STYLES

Expanded Aluminum
Standard

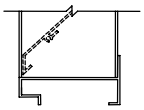


Wire Mesh

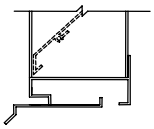
FRAME STYLES



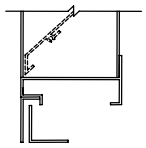
(1) - Flange
1-1/2” *(38)*



(3) - Box
Standard



(8) - Box and
Sill Extension



(9) - Flange
w/ sub frame

DATE	ARCHITECT / ENGINEER	CUSTOMER
PROJECT		

ITEM	QTY	W	H	TAG

AMCA CERTIFIED RATINGS — WATER PENETRATION — AIR PERFORMANCE — AIR MOVEMENT AND CONTROL ASSOCIATION, INC.

DOWCO PRODUCTS GRUOUP certifies that the LEB–04 louver shown herein is licensed to bear the AMCA Seal. The rating shown is based on tests and procedures performed in accordance with AMCA Publication 511 and comply with the requirements on the AMCA Certified Ratings Program. The AMCA Certified Ratings Seal applies to air performance ratings and water penetration ratings.

DEPENDABLE PRODUCTS SINCE 1955

SAFE-AIR / DOWCO

Engineering and General Offices

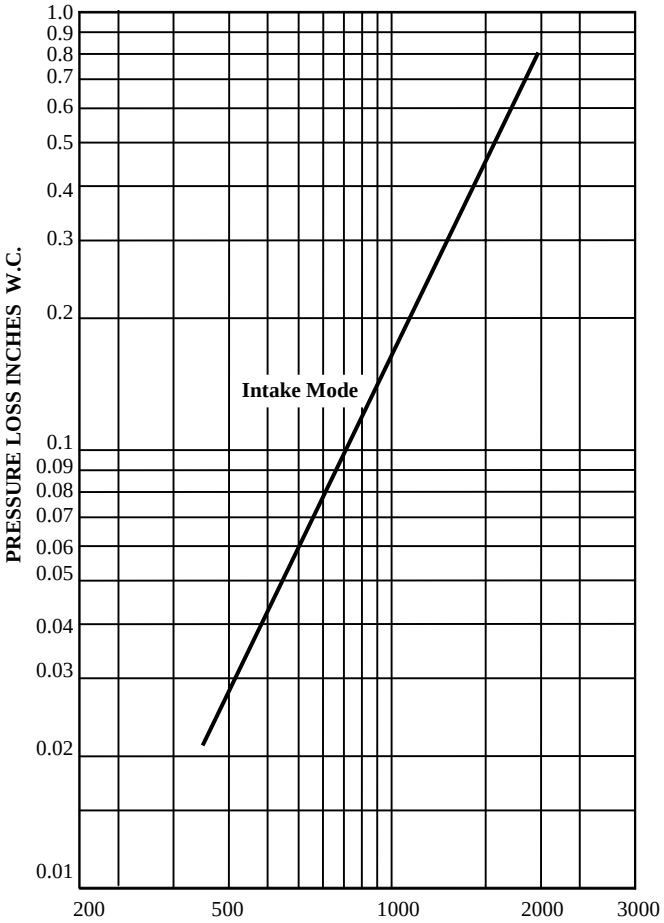
1855 South 54th Avenue / Cicero, Illinois 60804

Phone: 708-652-9100 FAX: 708-652-9158

LEB-04 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

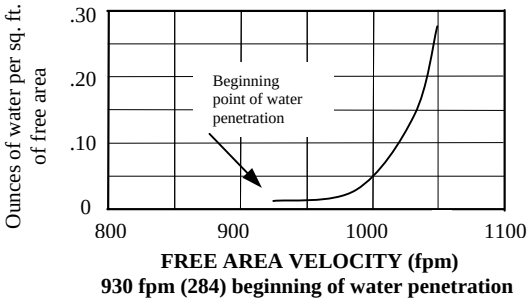
The "free area flow rate" at which water penetration commences (.01 oz. of water) is established at, 930 fpm (284) for LEB-04, and will vary depending upon actual weather conditions. The "water penetration" graph illustrates the results of actual laboratory test on a 48" x 48" (1219 x 1219) test sample subjected to hypothetical rainfall conditions. To determined 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	(H20)
930	955	988	1012	1037	1052	(fpm)



930 fpm (284) beginning of water penetration

FREE AREA CALCULATIONS IN SQ. FT.

W I D T H

INCHES	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	102	108	114	120
12	.24	.39	.53	.68	.83	.97	1.12	1.26	1.41	1.56	1.70	1.85	1.99	2.14	2.28	2.43	2.58	2.72	2.87
18	.43	.68	.94	1.19	1.45	1.70	1.96	2.21	2.47	2.72	2.98	3.23	3.49	3.74	4.00	4.25	4.51	4.76	5.02
24	.69	1.11	1.53	1.94	2.36	2.78	3.19	3.61	4.03	4.44	4.86	5.28	5.69	6.11	6.53	6.94	7.36	7.78	8.19
30	.94	1.50	2.06	2.63	3.19	3.75	4.31	4.88	5.44	6.00	6.56	7.13	7.69	8.25	8.81	9.38	9.94	10.50	11.06
36	1.11	1.78	2.44	3.11	3.78	4.44	5.11	5.78	6.44	7.11	7.78	8.44	9.11	9.78	10.44	11.11	11.78	12.44	13.11
42	1.35	2.17	2.98	3.79	4.60	5.42	6.23	7.04	7.85	8.67	9.48	10.29	11.10	11.92	12.73	13.54	14.35	15.17	15.98
48	1.62	2.60	3.57	4.55	5.52	6.49	7.47	8.44	9.41	10.39	11.36	12.34	13.31	14.28	15.26	16.23	17.21	18.18	19.15
54	1.81	2.89	3.97	5.06	6.14	7.22	8.31	9.39	10.47	11.56	12.64	13.72	14.81	15.89	16.97	18.06	19.14	20.22	21.31
60	2.01	3.22	4.43	5.64	6.85	8.06	9.26	10.47	11.68	12.89	14.10	15.31	16.51	17.72	18.93	20.14	21.35	22.56	23.76
66	2.28	3.65	5.02	6.39	7.76	9.13	10.50	11.87	13.24	14.61	15.98	17.35	18.72	20.09	21.46	22.83	24.20	25.57	26.94
72	2.50	4.00	5.50	7.00	8.50	10.00	11.50	13.00	14.50	16.00	17.50	19.00	20.50	22.00	23.50	25.00	26.50	28.00	29.50
78	2.67	4.28	5.88	7.49	9.09	10.69	12.30	13.90	15.51	17.11	18.72	20.32	21.92	23.53	25.13	26.74	28.34	29.94	31.55
84	2.94	4.71	6.47	8.24	10.01	11.77	13.54	15.30	17.07	18.83	20.60	22.36	24.13	25.90	27.66	29.43	31.19	32.96	34.72
90	3.19	5.11	7.03	8.94	10.86	12.78	14.69	16.61	18.53	20.44	22.36	24.28	26.19	28.11	30.03	31.94	33.86	35.78	37.69
96	3.37	5.39	7.41	9.43	11.45	13.47	15.49	17.51	19.53	21.56	23.58	25.60	27.62	29.64	31.66	33.68	35.70	37.72	39.74

H E I G H T

EXTRUDED ALUMINUM LOUVER

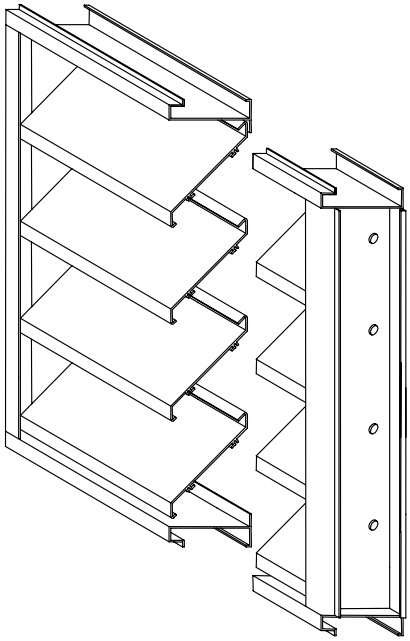
Weather Protective Blade Louver in 4” thick frame design Model LEC-04

Design Features – Traditional straight architectural design with blades fixed at a 45° angle.

STANDARD CONSTRUCTION

ALL MATERIAL – EXTRUDED ALUMINUM 6063-T5 (KB-45)

FRAME
LEC – 04” (102) thick, is .081 (2.1) extruded aluminum in style #3.
BLADES
LEC – 04” (102) are .081” (2.1) extruded alum, approx. spacing is 4-1/2” (114) @ 45°
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
(allows for best handling)
(Type of finish may limit maximum single section)
MULLION
Invisible
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” .051” (19 x 1.3) flattened expanded aluminum bird screen no frame
FINISH
Mill



PERFORMANCE

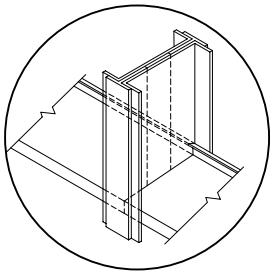
Point of
water penetration
879 fpm (268)

Free area
48 x 48 section
50%

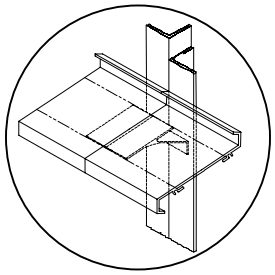
OPTIONAL CONSTRUCTION

FRAME – Available in a heavier extrusion of .125” (3.2)
BLADES – Available in a heavier extrusion of .125” (3.2)
SCREEN - Many styles available please consult screen listing
FINISH – Air-dry primer, polyurethane, epoxy, or enamel. Baked epoxy, Anodize or Kynar
MULLION – Visible for architectural preference

MULLION STYLES



Visible

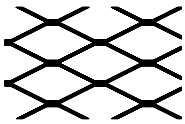


Invisible

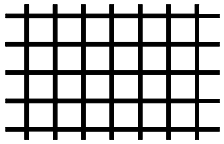
SPECIAL PURPOSE CONSTRUCTION

Special Shapes; Round, Triangle, Trapezoid, Octagon, etc.
Fully welded construction
Security bars
Filter racks
Hinged as walk through door or for swing out access
Sleeved for ductwork connection

TYPICAL SCREEN STYLES

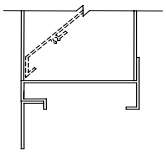


Expanded Aluminum
Standard

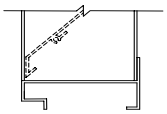


Wire Mesh

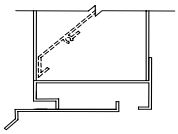
FRAME STYLE



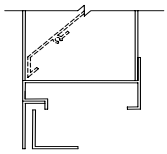
1- Flange (1.5”)



3 – Box



8- Box with Sill Extension



9 - Flange with Sub Frame

DATE	ARCHITECT	CUSTOMER
PROJECT		

ITEM	QTY	W	H

SAFE-AIR/DOWCO certifies that the LEC-04 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 and water penetration ratings.

DEPENDABLE PRODUCTS SINCE 1955

SAFE-AIR OF ILLINOIS INC.

Engineering and General Offices

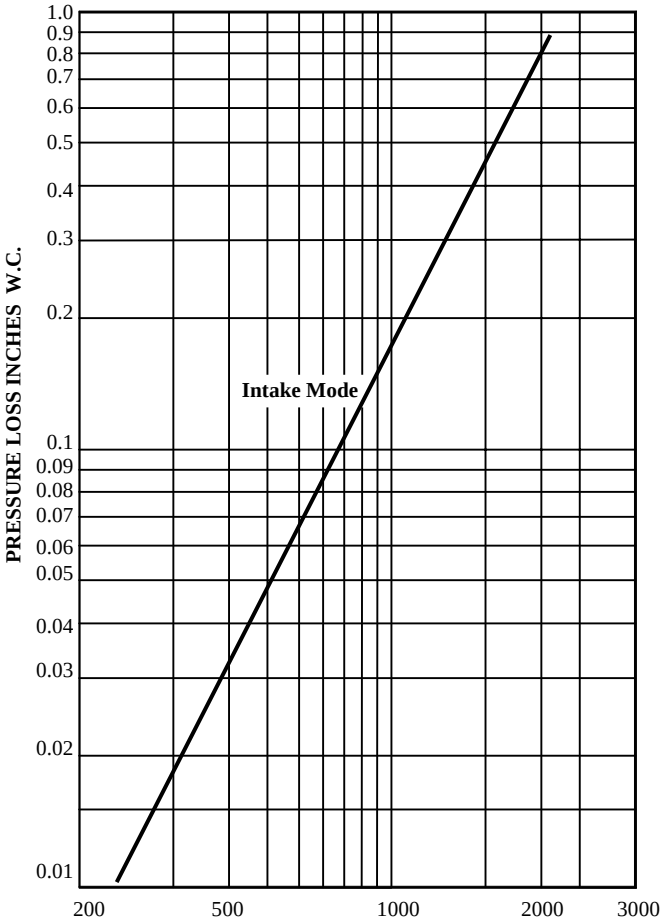
1855 South 54th Avenue, Cicero, Illinois 60804

Phone 708-652-9100 FAX 708-652-9158

LEC-04 PERFORMANCE SPECIFICATIONS

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

AIR PERFORMANCE



INTAKE FREE AREA VELOCITY (fpm)

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

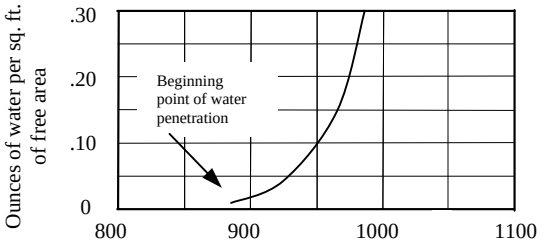
The "free area flow rate" at which water penetration commences (.01 oz. of water) is established at, 879 fpm (268) for LEC-04, and will vary depending upon actual weather conditions. The "water penetration" graph illustrates the results of actual laboratory test on a 48" x 48" (1219 x 1219) test sample subjected to hypothetical rainfall conditions. To determined 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	(H20)
879	900	929	951	972	985	(fpm)



FREE AREA VELOCITY (fpm)

879 fpm (268) beginning of water penetration

FREE AREA CALCULATIONS IN SQ. FT.

W I D T H

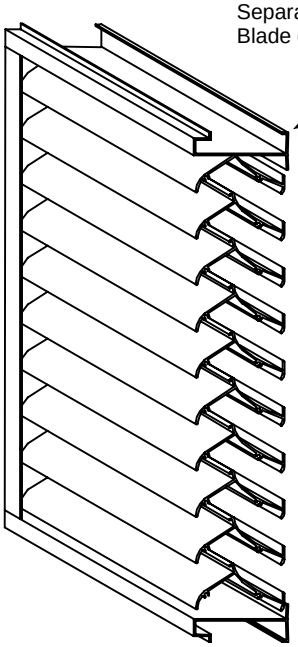
INCHES	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	102	108	114	120
12	.28	.44	.61	.77	.94	1.10	1.27	1.43	1.60	1.76	1.93	2.10	2.26	2.43	2.59	2.76	2.92	3.09	3.25
18	.54	.87	1.19	1.52	1.84	2.17	2.49	2.82	3.15	3.47	3.80	4.12	4.45	4.77	5.10	5.42	5.75	6.07	6.40
24	.72	1.16	1.59	2.02	2.46	2.89	3.33	3.76	4.19	4.63	5.06	5.50	5.93	6.36	6.80	7.23	7.66	8.10	8.53
30	1.00	1.60	2.20	2.80	3.40	4.00	4.59	5.19	5.79	6.39	6.99	7.59	8.19	8.79	9.39	9.99	10.59	11.19	11.79
36	1.27	2.02	2.78	3.54	4.30	5.06	5.82	6.58	7.34	8.10	8.86	9.62	10.38	11.13	11.89	12.65	13.41	14.17	14.93
42	1.45	2.31	3.18	4.05	4.92	5.78	6.65	7.52	8.39	9.25	10.12	10.99	11.86	12.73	13.59	14.46	15.33	16.20	17.06
48	1.72	2.75	3.79	4.82	5.85	6.89	7.92	8.95	9.99	11.02	12.05	13.09	14.12	15.15	16.19	17.22	18.25	19.28	20.32
54	1.99	3.18	4.37	5.57	6.76	7.95	9.15	10.34	11.53	12.73	13.92	15.11	16.30	17.50	18.69	19.88	21.08	22.27	23.46
60	2.17	3.47	4.77	6.07	7.38	8.68	9.98	11.28	12.58	13.88	15.18	16.49	17.79	19.09	20.39	21.69	22.99	24.29	25.60
66	2.44	3.91	5.38	6.85	8.31	9.78	11.25	12.71	14.18	15.65	17.11	18.58	20.05	21.52	22.98	24.45	25.92	27.38	28.85
72	2.71	4.34	5.97	7.59	9.22	10.85	12.47	14.10	15.73	17.35	18.98	20.61	22.23	23.86	25.49	27.11	28.74	30.37	31.99
78	2.89	4.63	6.36	8.10	9.83	11.57	13.30	15.04	16.77	18.51	20.25	21.98	23.72	25.45	27.19	28.92	30.66	32.39	34.13
84	3.17	5.07	6.97	8.87	10.77	12.67	14.57	16.47	18.37	20.27	22.18	24.08	25.98	27.88	29.78	31.68	33.58	35.48	37.38
90	3.43	5.50	7.56	9.62	11.68	13.74	15.80	17.86	19.92	21.98	24.04	26.10	28.16	30.22	32.28	34.34	36.41	38.47	40.53
96	3.62	5.78	7.95	10.12	12.29	14.46	16.63	18.80	20.97	23.14	25.31	27.48	29.64	31.81	33.98	36.15	38.32	40.49	42.66

H E I G H T

EXTRUDED ALUMINUM LOUVER

Non-drainable / Sightproof Louver in 4” thick design Model LED-04

Design Features – Non-drainable blade and vision proof design with the capability of being drainable in the interior side.



STANDARD CONSTRUCTION

ALL MATERIAL – EXTRUDED ALUMINUM 6063-T5 (KB-45)

FRAME
4” thick, is .081 extruded aluminum in style #3.
BLADES
.081” extruded aluminum, approx. spacing is 2” @ 30°
MAXIMUM SIZE
Unlimited, with mullions, structural bracing supplied by others
MAXIMUM FACTORY ASSEMBLY SIZE
120” w x 96 H” or 96” w x 120” H
(allows for best handling)
(Type of finish may limit maximum single section)
MULLION
Invisible
MINIMUM SIZE
12” w x 12” H
UNDERSIZED
1/4” under ordered size unless specified Exact or Actual
SCREEN
1/2" sq. mesh x .063 alum. wire screen in frame
FINISH
Mill

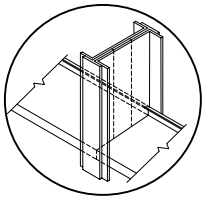
OPTIONAL CONSTRUCTION

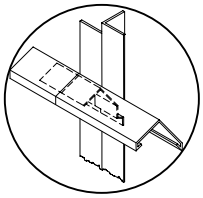
FRAME – Available in a heavier extrusion of .125”
BLADES – Available in a heavier extrusion of .125”
SCREEN - Many styles available please consult screen listing
FINISH – Air-dry primer, polyurethane, epoxy, or enamel. Baked epoxy, Anodize or Kynar
MULLION – Visible for architectural preference

SPECIAL PURPOSE CONSTRUCTION

Fully welded construction
Security bars
Filter racks
Hinged as walk through door or for swing out access
Sleeved for ductwork connection

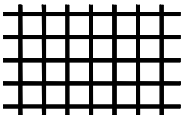
MULLION STYLES


Visible


Invisible

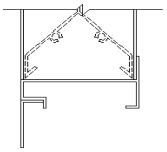
PERFORMANCE
Point of water penetration 1000 fpm Free area 48 x 48 section 57%

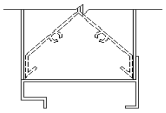
TYPICAL SCREEN STYLES

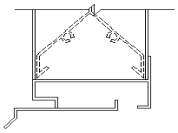

Wire Mesh

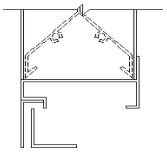
Expanded Aluminum Standard

FRAME STYLES


1 - Flange (1.5”)


3 – Box


8 – Box with Sill Extension


9 – Flange with Sub Frame

DATE	ARCHITECT			CUSTOMER
PROJECT				
ITEM	QTY	W	H	DESCRIPTIONS

DEPENDABLE PRODUCTS SINCE 1955

SAFE-AIR OF ILLINOIS INC.

Engineering and General Offices

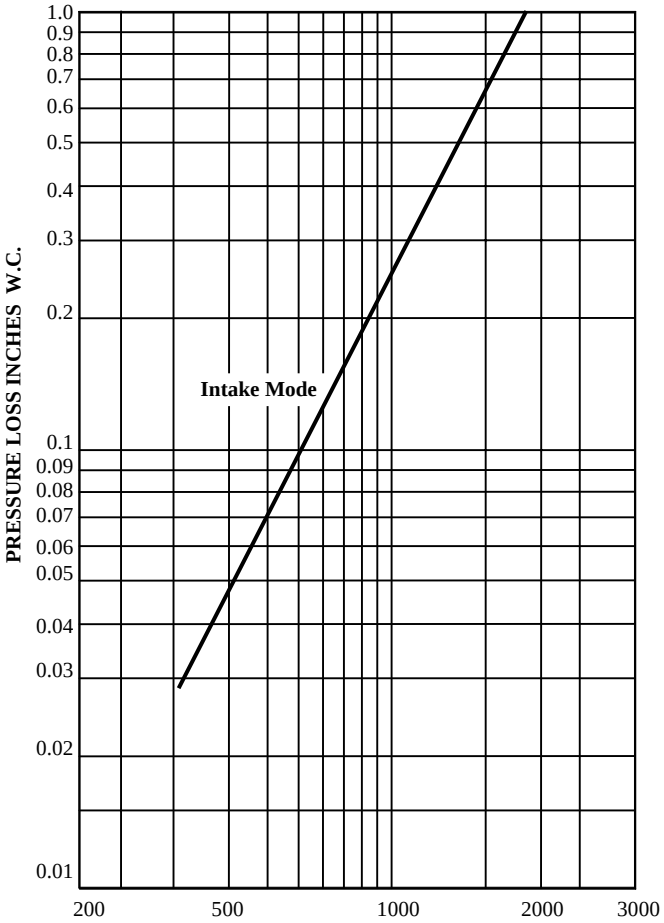
1855 South 54th Avenue, Cicero, Illinois 60804

Phone 708-652-9100 FAX 708-652-9158

LED-04 PERFORMANCE SPECIFICATIONS

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

AIR PERFORMANCE



INTAKE FREE AREA VELOCITY (fpm)

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)

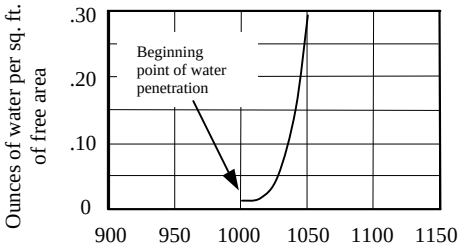
_____CFM / ____ FPM Free Area Velocity = _____Sq. Ft. Free Area

CALCULATING MAXIMUM AIRFLOW BEFORE WATER PENETRATION

The "free area flow rate" at which water penetration commences (.01 oz. of water) is established at, 1000 fpm for LED-04, 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 determined 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



FREE AREA VELOCITY (fpm)
1000 fpm beginning of water penetration

FREE AREA CALCULATIONS IN SQ. FT.

HEIGHT \ WIDTH	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	102	108	114	120
12	0.42	0.67	0.92	1.17	1.42	1.68	1.93	2.18	2.43	2.68	2.93	3.18	3.43	3.69	3.94	4.19	4.44	4.69	4.94
18	0.68	1.09	1.49	1.90	2.31	2.72	3.12	3.53	3.94	4.34	4.75	5.16	5.57	5.97	6.38	6.79	7.20	7.60	8.01
24	0.94	1.50	2.07	2.63	3.19	3.76	4.32	4.88	5.45	6.01	6.57	7.14	7.70	8.26	8.83	9.39	9.95	10.52	11.08
30	1.20	1.92	2.64	3.36	4.08	4.80	5.51	6.23	6.95	7.67	8.39	9.11	9.83	10.55	11.27	11.99	12.71	13.43	14.15
36	1.46	2.33	3.21	4.08	4.96	5.84	6.71	7.59	8.46	9.34	10.21	11.09	11.96	12.84	13.71	14.59	15.46	16.34	17.21
42	1.72	2.75	3.78	4.81	5.84	6.88	7.91	8.94	9.97	11.00	12.03	13.06	14.09	15.13	16.16	17.19	18.22	19.25	20.28
48	1.98	3.17	4.35	5.54	6.73	7.92	9.10	10.29	11.48	12.66	13.85	15.04	16.23	17.41	18.60	19.79	20.98	22.16	23.35
54	2.24	3.58	4.93	6.27	7.61	8.96	10.30	11.64	12.99	14.33	15.67	17.02	18.36	19.70	21.05	22.39	23.73	25.08	26.42
60	2.50	4.00	5.50	7.00	8.50	10.00	11.49	12.99	14.49	15.99	17.49	18.99	20.49	21.99	23.49	24.99	26.49	27.99	29.49
66	2.76	4.41	6.07	7.72	9.38	11.04	12.69	14.35	16.00	17.66	19.31	20.97	22.62	24.28	25.93	27.59	29.24	30.90	32.55
72	3.02	4.83	6.64	8.45	10.26	12.08	13.89	15.70	17.51	19.32	21.13	22.94	24.75	26.57	28.38	30.19	32.00	33.81	35.62
78	3.28	5.25	7.21	9.18	11.15	13.12	15.08	17.05	19.02	20.98	22.95	24.92	26.89	28.85	30.82	32.79	34.76	36.72	38.69
84	3.54	5.66	7.79	9.91	12.03	14.16	16.28	18.40	20.53	22.65	24.77	26.90	29.02	31.14	33.27	35.39	37.51	39.64	41.76
90	3.80	6.08	8.36	10.64	12.92	15.20	17.47	19.75	22.03	24.31	26.59	28.87	31.15	33.43	35.71	37.99	40.27	42.55	44.83
96	4.06	6.49	8.93	11.36	13.80	16.24	18.67	21.11	23.54	25.98	28.41	30.85	33.28	35.72	38.15	40.59	43.02	45.46	47.89
102	4.32	6.91	9.50	12.09	14.68	17.28	19.87	22.46	25.05	27.64	30.23	32.82	35.41	38.01	40.60	43.19	45.78	48.37	50.96
108	4.58	7.33	10.07	12.82	15.57	18.32	21.06	23.81	26.56	29.30	32.05	34.80	37.55	40.29	43.04	45.79	48.54	51.28	54.03
114	4.84	7.74	10.65	13.55	16.45	19.36	22.26	25.16	28.07	30.97	33.87	36.78	39.68	42.58	45.49	48.39	51.29	54.20	57.10
120	5.10	8.16	11.22	14.28	17.34	20.40	23.45	26.51	29.57	32.63	35.69	38.75	41.81	44.87	47.93	50.99	54.05	57.11	60.17

EXTRUDED ALUMINUM LOUVER

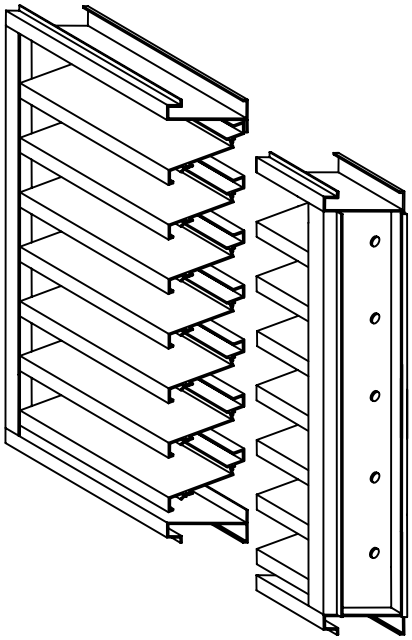
Weather Protective Blade Louver in 4” deep frame design • Model LEG

Design Features – Traditional design with baffle blade for improved weather protection and architectural pleasing appearance. Louvers are designed to withstand inward and outward wind pressure up to 25 psf (100 mph).

STANDARD CONSTRUCTION

ALL MATERIAL – EXTRUDED ALUMINUM 6063-T5 (KB-45)

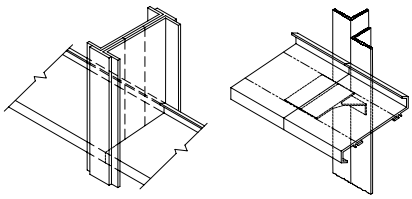
FRAME
LEG-04, 4” *(102)* deep, .081 ga. *(2.1)* extruded alum. in style #3.
BLADES
LEG-04, 4” *(102)*, .081” ga. *(2.1)* extruded alum, approx. spacing is 2-1/2" *(64)* @ 20°
FASTENERS
#10 Plated steel screw
MAXIMUM SIZE
Unlimited, with mullions, structural bracing supplied by others
MAXIMUM FACTORY ASSEMBLY SIZE
120” W x 84” H or vice versa (allows for best handling)
(Type of finish may limit maximum single section)
MULLION
Invisible
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” x .051” ga. *(19 x 1.3)* flattened expanded alum. bird screen no frame
FINISH
Mill



OPTIONAL CONSTRUCTION

FRAME – Available in a heavier extrusion of .125” ga. *(3.2)*
BLADES – Available in a heavier extrusion of .125” ga. *(3.2)*
SCREEN - Many styles available please consult screen listing
FINISH – Air-dry primer, Polyurethane, Epoxy, Baked Enamel, Powder Coat, Anodized or Kynar 500.
MULLION – Visible for architectural preference

MULLION STYLES



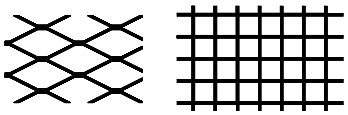
Visible

Invisible
Standard

SPECIAL PURPOSE CONSTRUCTION

Special Shapes; Triangle, Trapezoid, and etc.
Fully welded construction
Security bars
Filter racks
Hinged as walk through door or for swing out access
Sleeved for ductwork connection

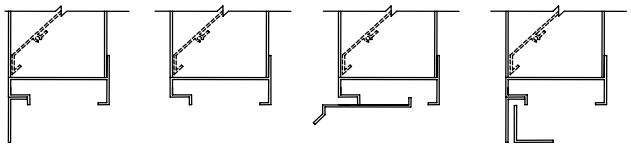
TYPICAL SCREEN STYLES



Expanded Aluminum
Standard

Wire Mesh

FRAME STYLES



(1) - Flange
1-1/2” *(38)*

(3) - Box
Standard

(8) - Box and
Sill Extension

(9) - Flange
w/ sub frame

DATE	ARCHITECT / ENGINEER	CUSTOMER
PROJECT		

ITEM	QTY	W	H	TAG

DEPENDABLE PRODUCTS SINCE 1955

SAFE-AIR / DOWCO

Engineering and General Offices

1855 South 54th Avenue / Cicero, Illinois 60804

Phone: 708-652-9100 FAX: 708-652-9158

WIDTH

FREE AREA CALCULATIONS IN SQ. FT.

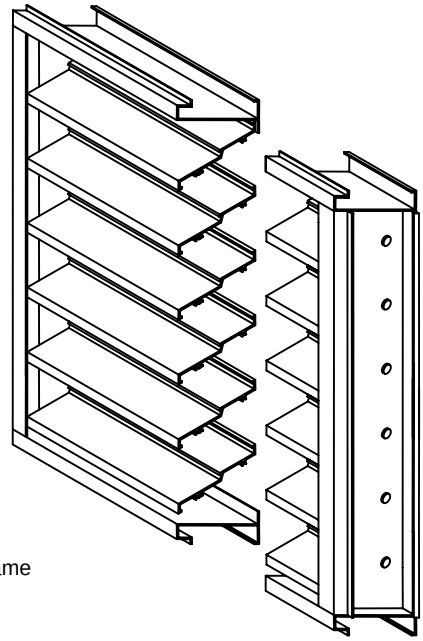
INCHES	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96
12	.32	.51	.70	.89	1.08	1.27	1.47	1.66	1.85	2.04	2.23	2.42	2.61	2.80	2.99
18	.56	.90	1.24	1.58	1.92	2.26	2.60	2.94	3.28	3.61	3.95	4.29	4.63	4.97	5.31
24	.81	1.30	1.78	2.27	2.76	3.24	3.73	4.22	4.70	5.19	5.68	6.16	6.65	7.13	7.62
30	1.06	1.69	2.33	2.96	3.59	4.23	4.86	5.50	6.13	6.76	7.40	8.03	8.67	9.30	9.93
36	1.30	2.08	2.87	3.65	4.43	5.21	5.99	6.78	7.56	8.34	9.12	9.90	10.68	11.47	12.25
42	1.55	2.48	3.41	4.34	5.27	6.20	7.13	8.06	8.98	9.91	10.84	11.77	12.70	13.63	14.56
48	1.80	2.87	3.95	5.03	6.10	7.18	8.26	9.33	10.41	11.49	12.57	13.64	14.72	15.80	16.87
54	2.04	3.27	4.49	5.72	6.94	8.16	9.39	10.61	11.84	13.06	14.29	15.51	16.74	17.96	19.19
60	2.29	3.66	5.03	6.40	7.78	9.15	10.52	11.89	13.27	14.64	16.01	17.38	18.76	20.13	21.50
66	2.53	4.05	5.57	7.09	8.61	10.13	11.65	13.17	14.69	16.21	17.73	19.25	20.77	22.29	23.81
72	2.78	4.45	6.11	7.78	9.45	11.12	12.79	14.45	16.12	17.79	19.46	21.12	22.79	24.46	26.13
78	3.03	4.84	6.66	8.47	10.29	12.10	13.62	15.73	17.55	19.36	21.18	22.99	24.81	26.63	28.44
84	3.27	5.23	7.20	9.16	11.12	13.09	15.05	17.01	18.98	20.94	22.90	24.86	26.83	28.79	30.75
90	3.52	5.63	7.74	9.85	11.96	14.07	16.18	18.29	20.40	22.51	24.62	26.74	28.85	30.96	33.07
96	3.76	6.02	8.28	10.54	12.80	15.06	17.31	19.57	21.83	24.09	26.35	28.61	30.86	33.12	35.38

HEIGHT

EXTRUDED ALUMINUM LOUVER

Weather Protective Blade Louver in 4” thick frame design Model LEH-04

Design Features – Traditional design with center blade baffle for improved weather protection.



STANDARD CONSTRUCTION

ALL MATERIAL – EXTRUDED ALUMINUM 6063-T5 (KB-45)

FRAME
LEH-04” (102) thick, is .081” (2.1) extruded aluminum in style #3
BLADES
LEH-04”,(102) are .081” (2.1) extruded aluminum, approx spacing is 3” (76) @ 30º
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
(allows for best handling)
(Type of finish may limit maximum single section)
MULLION
Invisible
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” x .051” (19 x 1.3) flattened expanded aluminum bird screen, no frame
FINISH
Mill

PERFORMANCE

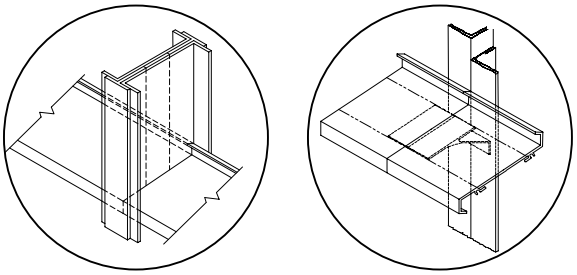
Point of
water penetration
713 fpm (278)

Free area
48 x 48 section
63%

OPTIONAL CONSTRUCTION

FRAME – Available in a heavier extrusion of .125” (3.2)
BLADES – Available in a heavier extrusion of .125” (3.2)
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 – Visible for architectural preference

MULLION STYLES

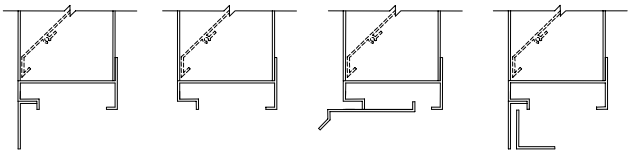


Visible Invisible

SPECIAL PURPOSE CONSTRUCTION

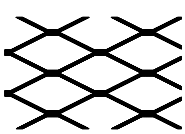
Special shapes: Triangle, Round, Trapezoid, Octagon, etc.
Fully welded construction
Security bars
Filter racks
Hinged as walk through door or for swing out for access
Sleeved for ductwork connection

FRAME STYLE

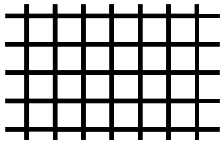


(1) - Flange 1-1/2” (3) - Box Standard (8) - Box and Sill Extension (9) - Flange w/ sub frame

TYPICAL SCREEN STYLES



Expanded Aluminum Standard



Wire Mesh

DATE	ARCHITECT	CUSTOMER
PROJECT		

ITEM	QTY	W	H

SAFE-AIR/DOWCO certifies that the LEH - 04 louver shown herein are 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 and water penetration ratings.

DEPENDABLE PRODUCTS SINCE 1955

SAFE-AIR OF ILLINOIS INC.

Engineering and General Offices

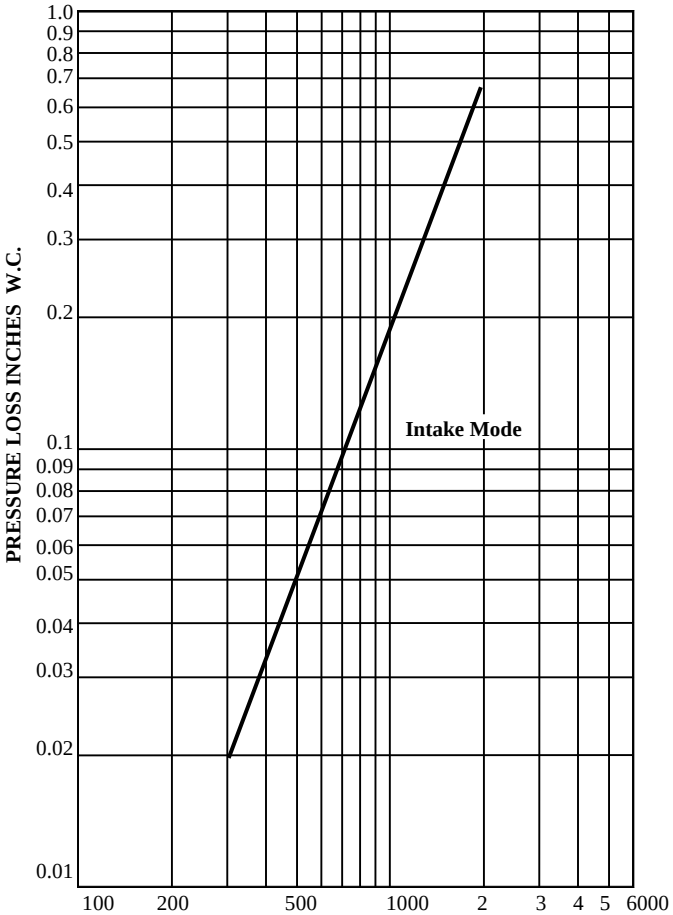
1855 South 54th Avenue, Cicero, Illinois 60804

Phone 708-652-9100 FAX 708-652-9158

LEH-04 PERFORMANCE SPECIFICATIONS

All tests performed at an independent laboratory and based on AMCA standard – 500 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 damper. 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

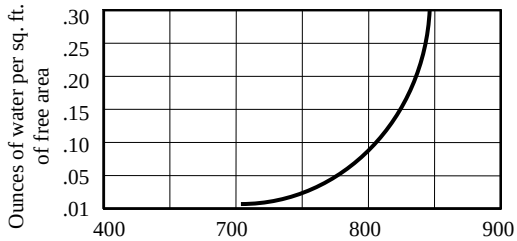
The "free area flow rate" at which water penetration commences (.01 oz. of water) is established at, 713 fpm (278) for LEH-04, and will vary depending upon actual weather conditions. The "water penetration" graph illustrates the results of actual laboratory test on a 48" x 48" (1219 x 1219) test sample subjected to hypothetical rainfall conditions. To determined 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

Actual test results in oz. of water carrvover

.01	.02	.05	.1	.2	.3	(H_2O)
713	740	776	804	831	847	(fpm)



713 fpm (278) beginning of water penetration

FREE AREA CALCULATIONS IN SQ. FT.

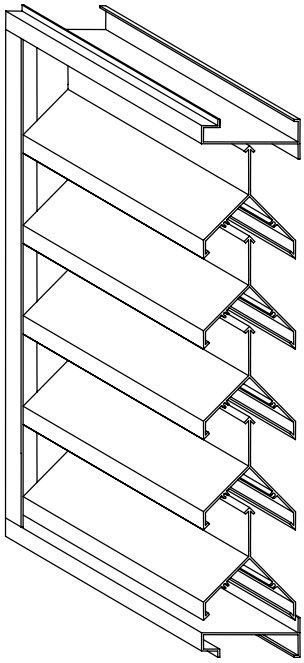
WIDTH

HEIGHT Inches	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	102	108	114	120
12	.40	.65	.89	1.13	1.37	1.61	1.86	2.10	2.34	2.58	2.83	3.07	3.31	3.55	3.79	4.04	4.28	4.52	4.76
18	.70	1.12	1.54	1.96	2.38	2.80	3.21	3.63	4.05	4.47	4.89	5.31	5.73	6.15	6.57	6.99	7.41	7.83	8.25
24	.99	1.59	2.19	2.78	3.38	3.98	4.57	5.17	5.76	6.36	6.96	7.55	8.15	8.75	9.34	9.94	10.54	11.13	11.73
30	1.29	2.06	2.84	3.61	4.38	5.16	5.93	6.70	7.48	8.25	9.02	9.80	10.57	11.34	12.12	12.89	13.66	14.44	15.21
36	1.58	2.53	3.49	4.44	5.39	6.34	7.29	8.24	9.19	10.14	11.09	12.04	12.99	13.94	14.89	15.84	16.79	17.74	18.69
42	1.88	3.01	4.13	5.26	6.39	7.52	8.65	9.77	10.90	12.03	13.16	14.28	15.41	16.54	17.67	18.79	19.92	21.05	22.18
48	2.17	3.48	4.78	6.09	7.39	8.70	10.00	11.31	12.61	13.92	15.22	16.53	17.83	19.14	20.44	21.75	23.05	24.35	25.66
54	2.47	3.95	5.43	6.92	8.40	9.88	11.36	12.84	14.32	15.81	17.29	18.77	20.25	21.73	23.21	24.70	26.18	27.66	29.14
60	2.76	4.42	6.08	7.74	9.40	11.06	12.72	14.38	16.04	17.69	19.35	21.01	22.67	24.33	25.99	27.65	29.31	30.97	32.62
66	3.06	4.90	6.73	8.57	10.40	12.24	14.08	15.91	17.75	19.58	21.35	23.26	25.09	26.93	28.76	30.60	32.44	34.27	36.11
72	3.36	5.37	7.38	9.39	11.41	13.42	15.43	17.45	19.46	21.47	23.49	25.50	27.51	29.52	31.54	33.55	35.56	37.58	39.59
78	3.65	5.84	8.03	10.22	12.41	14.60	16.79	18.98	21.17	23.36	25.55	27.74	29.93	32.12	34.31	36.50	38.69	40.88	43.07
84	3.95	6.31	8.68	11.05	13.41	15.78	18.15	20.52	22.88	25.25	27.62	29.98	32.35	34.72	37.09	39.45	41.82	44.19	46.56
90	4.24	6.78	9.33	11.87	14.42	16.96	19.51	22.05	24.59	27.14	29.68	32.23	34.77	37.32	39.86	42.40	44.95	47.49	50.04
96	4.54	7.26	9.98	12.70	15.42	18.14	20.86	23.59	26.31	29.03	31.75	34.47	37.19	39.91	42.63	45.36	48.08	50.80	53.52
102	4.83	7.73	10.63	13.53	16.42	19.32	22.22	25.12	28.02	30.92	33.82	36.71	39.61	42.51	45.41	48.31	51.21	54.10	57.00
108	5.13	8.20	11.28	14.35	17.43	20.50	23.58	26.65	29.73	32.81	35.88	38.96	42.03	45.11	48.18	51.26	54.33	57.41	60.49
114	5.42	8.67	11.93	15.18	18.43	21.68	24.94	28.19	31.44	34.69	37.95	41.20	44.54	47.71	50.96	54.20	57.46	60.72	63.97
120	5.72	9.15	12.58	16.01	19.44	22.86	26.29	29.72	33.15	36.58	40.01	43.44	46.87	50.30	53.73	57.16	60.59	64.02	67.45

EXTRUDED ALUMINUM LOUVER

Chevron Blade Louver in 4” thick frame design Model – LEY-04

Design Features – Vision proof design, not intended for use as an intake or exhaust, useful as an open area vent.



STANDARD CONSTRUCTION

ALL MATERIAL – EXTRUDED ALUMINUM 6063-T5 (KB-45)

FRAME
.081” (2.1) extruded aluminum in style #3
BLADES
.081” (2.1) extruded aluminum, approx spacing is 4 ½ “ (114)
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
(allows for best handling)
(Type of finish may limit maximum single section)
MULLION
Invisible
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” x .051” (19 x 1.3) flattened expanded aluminum bird screen, no frame
FINISH
Mill

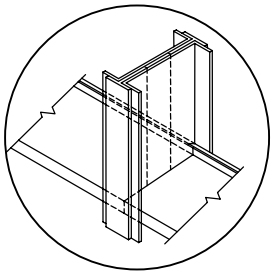
OPTIONAL CONSTRUCTION

FRAME – Available in a heavier extrusion of .125” (3.2)
BLADES – Available in a heavier extrusion of .125” (3.2)
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 – Visible for architectural preference

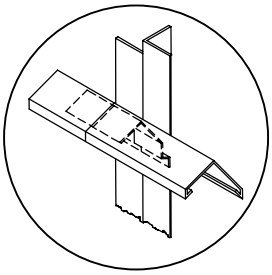
SPECIAL PURPOSE CONSTRUCTION

Special shapes: Triangle, Round, Trapezoid, Octagon, etc.
Fully welded construction
Security bars
Filter racks
Hinged as walk through door or for swing out for access
Sleeved for ductwork connection

MULLION STYLES

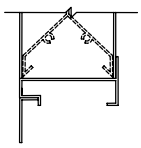


Visible

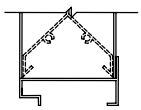


Invisible

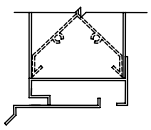
FRAME STYLES



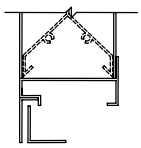
(1) - Flange 1-1/2”



(3) - Box Standard

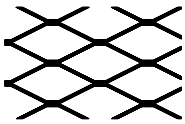


(8) - Box and Sill Extension

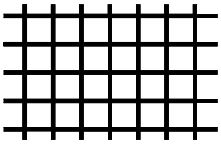


(9) - Flange w/ sub frame

TYPICAL SCREEN STYLES



Expanded Aluminum Standard



Wire Mesh

DATE	ARCHITECT			CUSTOMER
PROJECT				
ITEM	QTY	W	H	DECRIPTION

DEPENDABLE PRODUCTS SINCE 1955

SAFE-AIR OF ILLINOIS INC.

Engineering and General Offices

1855 South 54th Avenue, Cicero, Illinois 60804

Phone 708-652-9100 FAX 708-652-9158

LEY-04 PERFORMANCE SPECIFICATIONS

WIDTH — **FREE AREA CALCULATIONS IN SQ. FT.** — **HEIGHT**

INCHES	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96
12	.18	.28	.39	.49	.60	.70	.81	.91	1.02	1.12	1.23	1.33	1.44	1.54	1.65
18	.33	.54	.74	.94	1.14	1.34	1.54	1.74	1.94	2.14	2.34	2.55	2.75	2.95	3.15
24	.45	.71	.98	1.25	1.52	1.79	2.05	2.32	2.59	2.86	3.13	3.39	3.66	3.93	4.20
30	.62	1.00	1.37	1.74	2.12	2.49	2.86	3.23	3.61	3.98	4.35	4.73	5.10	5.47	5.85
36	.78	1.25	1.72	2.19	2.66	3.13	3.60	4.06	4.53	5.00	5.47	5.94	6.41	6.88	7.35
42	.89	1.43	1.97	2.50	3.04	3.57	4.11	4.64	5.18	5.72	6.25	6.79	7.32	7.86	8.40
48	1.07	1.71	2.35	2.99	3.63	4.27	4.92	5.56	6.20	6.84	7.48	8.12	8.76	9.40	10.05
54	1.23	1.97	2.70	3.44	4.18	4.91	5.65	6.39	7.12	7.86	8.60	9.33	10.07	10.81	11.55
60	1.34	2.14	2.95	3.75	4.56	5.36	6.16	6.97	7.77	8.58	9.38	10.18	10.99	11.79	12.60
66	1.52	2.42	3.33	4.24	5.15	6.06	6.97	7.88	8.79	9.70	10.61	11.52	12.43	13.34	14.24
72	1.67	2.68	3.68	4.69	5.69	6.70	7.70	8.71	9.71	10.72	11.72	12.73	13.73	14.74	15.74
78	1.79	2.86	3.93	5.00	6.07	7.15	8.22	9.29	10.36	11.43	12.51	13.58	14.65	15.72	16.79
84	1.96	3.14	4.32	5.49	6.67	7.85	9.03	10.20	11.38	12.56	13.73	14.91	16.09	17.27	18.44
90	2.12	3.36	4.67	5.94	7.21	8.49	9.76	11.03	12.30	13.58	14.85	16.12	17.40	18.67	19.94
96	2.23	3.57	4.91	6.25	7.59	8.93	10.27	11.61	12.95	14.29	15.63	16.97	18.31	19.65	20.99

EXTRUDED ALUMINUM LOUVER

Combination Intake / Exhaust Louver in 4” or 6” thick frame design Model C-LEB

Design Features – Combination intake and discharge louver in one frame. Intake and exhaust blades may be located as specified to suit required application. The use of this louver utilizes one wall opening to perform the functions usually requiring two.

STANDARD CONSTRUCTION

ALL MATERIAL – EXTRUDED ALUMINUM 6063-T5 (KB-45)

FRAME
C-LEB – 04” (102) thick, is .081 (2.1) extruded aluminum in style #3.
C-LEB – 06” (152) thick, is .081 (2.1) extruded aluminum in style #3.

INTAKE BLADES
C-LEB – 04” (102) are .081” (2.1) extruded aluminum, apx. spacing is 5 (127) @ 45°
C-LEB – 06” (152) are .081” (2.1) extruded aluminum, apx. spacing is 6 (152) @ 45°

EXHAUST BLADES
C-LEB – 04” (102) are .080” (2.0) formed aluminum, apx. spacing is 3 (76) @ 90°
C-LEB – 06” (152) are .080” (2.0) formed aluminum, apx. spacing is 3 (76) @ 90°

MAXIMUM SIZE
Unlimited, with mullions, structural bracing supplied by others

MAXIMUM FACTORY ASSEMBLY SIZE
120” w x 96 H” or 96” w x 120” H (3048 x 2438) or (2438 x 3048)
(allows for best handling)
(Type of finish may limit maximum single section)

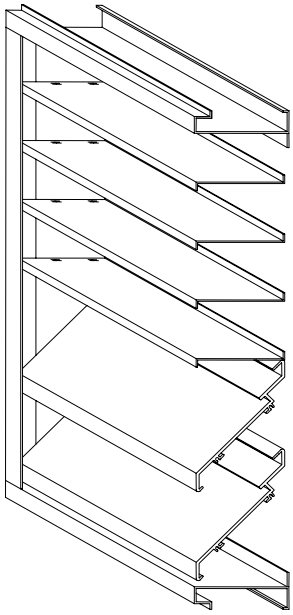
MULLION
Visible

MINIMUM SIZE
12” w x 20” H (305 x 508)

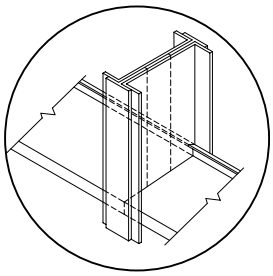
UNDERSIZED
1/4” (6) under ordered size unless specified Exact or Actual

SCREEN
3/4” x .051” (19 x 1.3) flattened expanded aluminum bird screen no frame

FINISH
Mill



MULLION STYLES



Visible

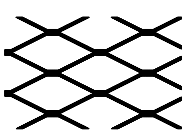
OPTIONAL CONSTRUCTION

FRAME – Available in a heavier extrusion of .125” (3.2)
BLADES – Available in a heavier extrusion of .125” (3.2)
SCREEN - Many styles available please consult screen listing
FINISH – Air-dry primer, polyurethane, epoxy, or enamel. Baked epoxy, Anodize or Kynar

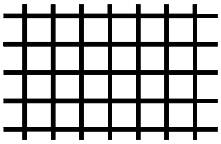
SPECIAL PURPOSE CONSTRUCTION

Fully welded construction
Security bars
Filter racks
Sleeved for ductwork connection

TYPICAL SCREEN STYLES

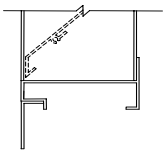


Expanded Aluminum Standard

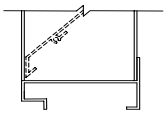


Wire Mesh

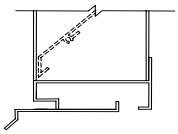
FRAME STYLE



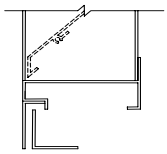
1- Flange (1.5”)



3 – Box



8- Box with Sill Extension



9 - Flange with Sub Frame

DATE	ARCHITECT			CUSTOMER
PROJECT				
ITEM	QTY	W	H	DESCRIPTION

DEPENDABLE PRODUCTS SINCE 1955

SAFE-AIR OF ILLINOIS INC.

Engineering and General Offices

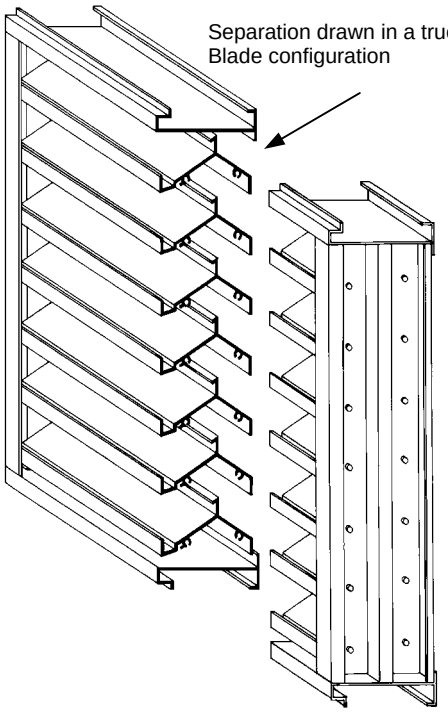
1855 South 54th Avenue, Cicero, Illinois 60804

Phone 708-652-9100 FAX 708-652-9158

EXTRUDED ALUMINUM LOUVER

Drainable / Sightproof Louver in 5” thick frame design Model DEM-05

Design Features – Drainable blade vision proof design.



STANDARD CONSTRUCTION

ALL MATERIAL – EXTRUDED ALUMINUM 6063-T5 (KB-45)

FRAME
5” thick, is .081 extruded aluminum in style #3.
BLADES
.081” extruded alum. Sightproof, approx. spacing is 2”
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
(allows for best handling)
(Type of finish may limit maximum single section)
MULLION
Invisible
MINIMUM SIZE
12” w x 12” H
UNDERSIZED
1/4” under ordered size unless specified Exact or Actual
SCREEN
3/4” x .051” flattened expanded aluminum bird screen no frame
FINISH
Mill

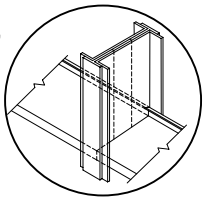
OPTIONAL CONSTRUCTION

FRAME – Available in a heavier extrusion of .125”
BLADES – Available in a heavier extrusion of .125”
SCREEN - Many styles available please consult screen listing
FINISH – Air-dry primer, polyurethane, epoxy, or enamel. Baked epoxy, Anodize or Kynar
MULLION – Visible for architectural preference

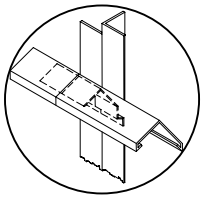
SPECIAL PURPOSE CONSTRUCTION

Fully welded construction
Security bars
Filter racks
Hinged as walk through door or for swing out access
Sleeved for ductwork connection

MULLION STYLES



Visible

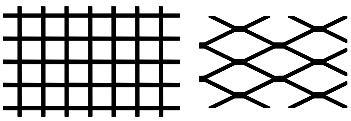


Invisible

PERFORMANCE

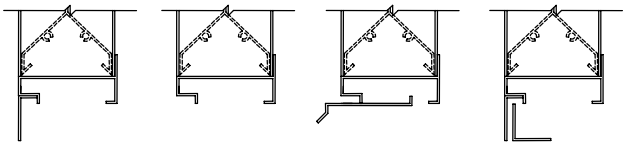
Point of water penetration
1121 fpm
Free area
48 x 48 section
57%

TYPICAL SCREEN STYLES



Wire Mesh Expanded Aluminum Standard

FRAME STYLES



1 - Flange (1.5”) 3 – Box 8 – Box with Sill Extension 9 – Flange with Sub Frame

DATE	ARCHITECT	CUSTOMER
PROJECT		

ITEM	QTY	W	H

SAFE-AIR/DOWCO certifies that the DEM-05 louver shown herein are 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 and water penetration ratings.

DEPENDABLE PRODUCTS SINCE 1955

SAFE-AIR OF ILLINOIS INC.

Engineering and General Offices

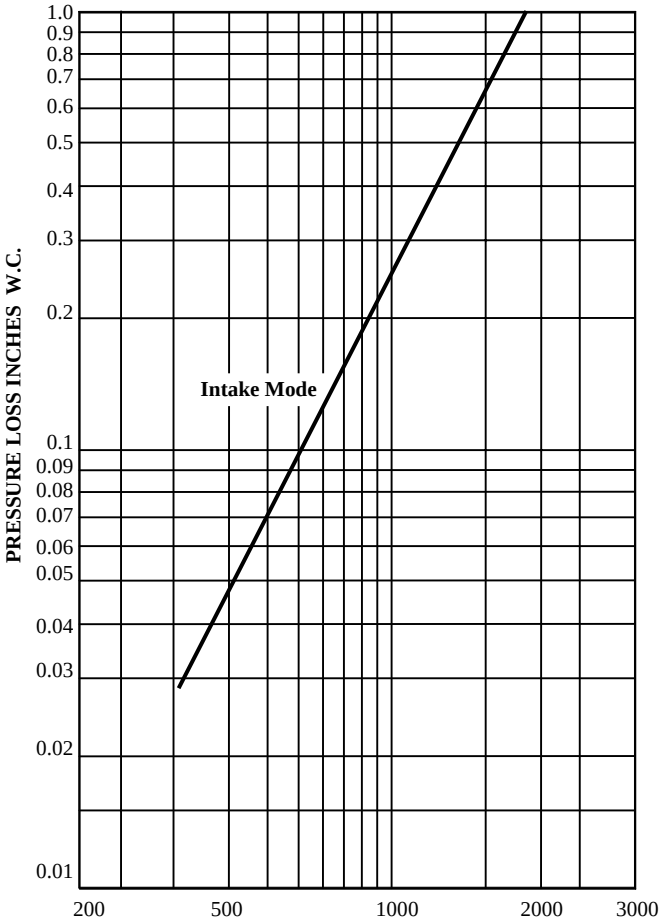
1855 South 54th Avenue, Cicero, Illinois 60804

Phone 708-652-9100 FAX 708-652-9158

DEM-05 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

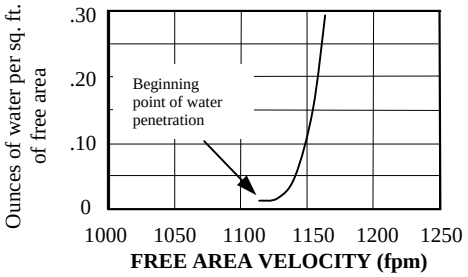
_____FPM (Free Area Velocity From "Air Performance" Graph)

_____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, 1121 fpm (374) for DEM-05, 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 determined 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



1121 fpm (374) beginning of water penetration

FREE AREA CALCULATIONS IN SQ. FT.

WIDTH

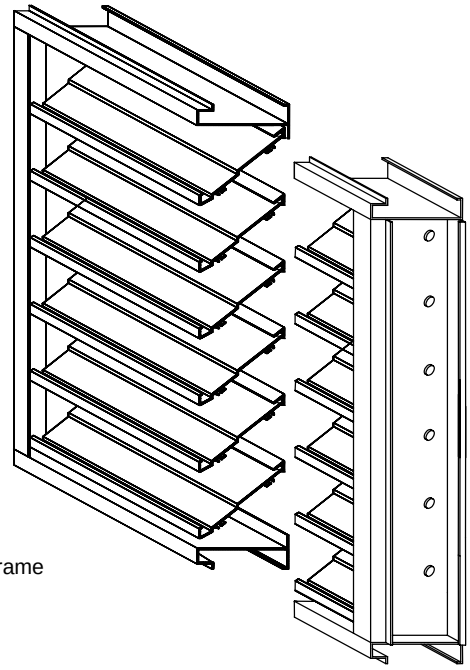
INCHES	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	102	108	114	120
12	.36	.58	.79	1.01	1.22	1.44	1.66	1.87	2.09	2.31	2.52	2.74	2.95	3.17	3.39	3.60	3.82	4.04	4.25
18	.63	1.01	1.39	1.77	2.14	2.52	2.90	3.28	3.66	4.04	4.41	4.79	5.17	5.55	5.93	6.30	6.68	7.06	7.44
24	.90	1.44	1.98	2.52	3.06	3.60	4.14	4.68	5.22	5.76	6.30	6.85	7.39	7.93	8.47	9.01	9.55	10.09	10.63
30	1.17	1.87	2.58	3.28	3.98	4.68	5.39	6.09	6.79	7.49	8.20	8.90	9.60	10.30	11.01	11.71	12.41	13.11	13.82
36	1.44	2.31	3.17	4.04	4.90	5.76	6.63	7.49	8.36	9.22	10.09	10.95	11.82	12.68	13.55	14.41	15.28	16.14	17.01
42	1.71	2.74	3.76	4.79	5.82	6.85	7.87	8.90	9.93	10.95	11.98	13.01	14.03	15.06	16.09	17.11	18.14	19.17	20.19
48	1.98	3.17	4.36	5.55	6.74	7.93	9.12	10.30	11.49	12.68	13.87	15.06	16.25	17.44	18.63	19.82	21.00	22.19	23.38
54	2.25	3.60	4.95	6.30	7.66	9.01	10.36	11.71	13.06	14.41	15.76	17.11	18.46	19.82	21.17	22.52	23.87	25.22	26.57
60	2.52	4.04	5.55	7.06	8.57	10.09	11.60	13.11	14.63	16.14	17.65	19.17	20.68	22.19	23.71	25.22	26.73	28.25	29.76
66	2.79	4.47	6.14	7.82	9.49	11.17	12.84	14.52	16.19	17.87	19.55	21.22	22.90	24.57	26.25	27.92	29.60	31.27	32.95
72	3.06	4.90	6.74	8.57	10.41	12.25	14.09	15.92	17.76	19.60	21.44	23.27	25.11	26.95	28.79	30.62	32.46	34.30	36.14
78	3.33	5.33	7.33	9.33	11.33	13.33	15.33	17.33	19.33	21.33	23.33	25.33	27.33	29.33	31.33	33.33	35.33	37.32	39.32
84	3.60	5.76	7.93	10.09	12.25	14.41	16.57	18.73	20.90	23.06	25.22	27.38	29.54	31.70	33.87	36.03	38.19	40.35	42.51
90	3.87	6.20	8.52	10.84	13.17	15.49	17.82	20.14	22.46	24.76	27.11	29.43	31.76	34.08	36.41	38.73	41.05	43.38	45.70
96	4.14	6.63	9.12	11.60	14.09	16.57	19.06	21.54	24.03	26.52	29.00	31.49	33.97	36.46	38.95	41.43	43.92	46.40	48.89

HEIGHT

EXTRUDED ALUMINUM LOUVER

Drainable Blade Louver in 6” thick frame design -Model DBE-06

Design Features – High performance patented design allowing maximum airflow with minimum outside element or water penetration.



STANDARD CONSTRUCTION

ALL MATERIAL – EXTRUDED ALUMINUM 6063-T5 (KB-45)

FRAME
DBE – 06” (152) thick, is .081 (2.1) extruded aluminum in style #3.
BLADES
DBE – 06 (152) is .081” (2.1) extruded alum. approx. spacing is 4-3/4 (121) @ 36°
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
(allows for best handling)
(Type of finish may limit maximum single section)
MULLION
Invisible
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” x .051” (19 X 1.3) flattened expanded aluminum bird screen no frame
FINISH
Mill

PERFORMANCE

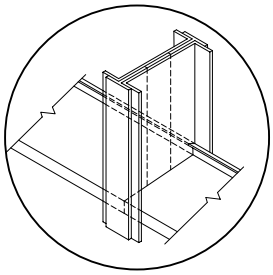
Point of
Water penetration
970 fpm (296)

Free Area
48 x 48 section
63%

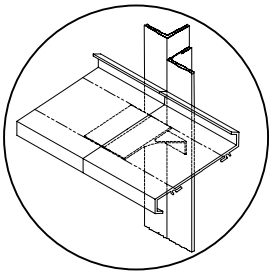
OPTIONAL CONSTRUCTION

FRAME – Available in a heavier extrusion of .125” (3.2)
BLADES – Available in a heavier extrusion of .125” (3.2)
SCREEN - Many styles available please consult screen listing
FINISH – Air-dry primer, polyurethane, epoxy, or enamel. Baked epoxy, Anodize or Kynar
MULLION – Visible for architectural preference

MULLION STYLES



Visible

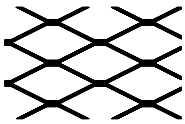


Invisible

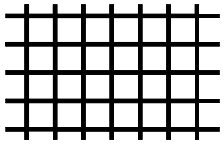
SPECIAL PURPOSE CONSTRUCTION

Special shapes: Triangle, Trapezoid, etc.
Fully welded construction
Security bars
Filter racks
Hinged as walk through door or for swing out access
Sleeved for ductwork connection

TYPICAL SCREEN STYLES

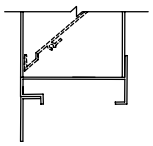


Expanded Aluminum Standard

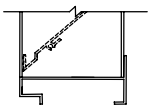


Wire Mesh

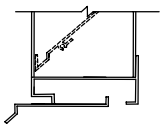
FRAME STYLE



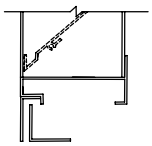
1- Flange (1.5”)



3 – Box



8- Box with Sill Extension



9 - Flange with Sub Frame

DATE	ARCHITECT		CUSTOMER
PROJECT			

ITEM	QTY	W	H

amca CERTIFIED RATINGS — WATER PENETRATION — AIR PERFORMANCE — AIR MOVEMENT AND CONTROL ASSOCIATION, INC.

SAFE-AIR/DOWCO certifies that the DBE-06 louver shown herein are 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 and water penetration ratings.

DEPENDABLE PRODUCTS SINCE 1955

SAFE-AIR OF ILLINOIS INC.

Engineering and General Offices

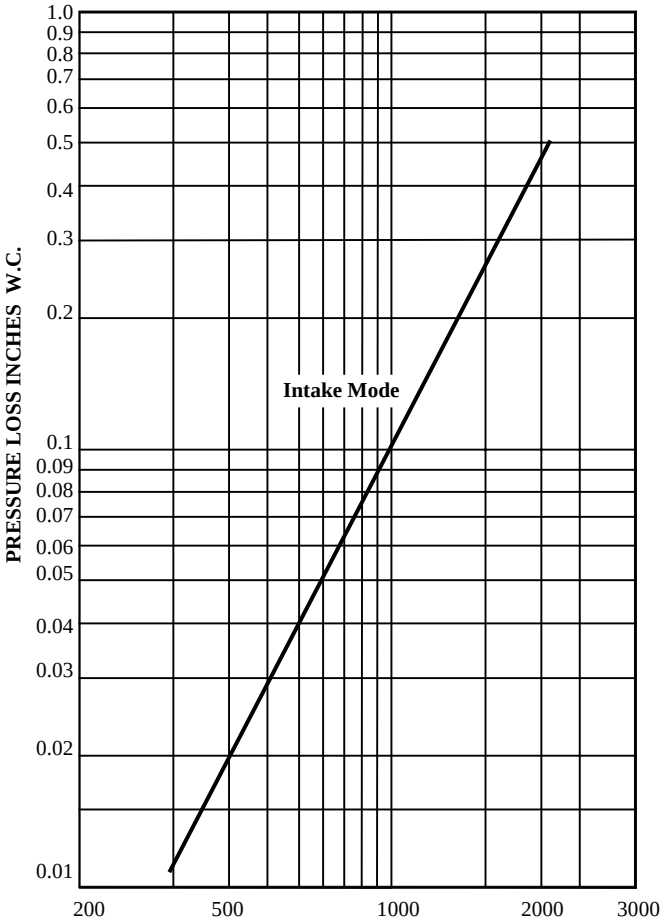
1855 South 54th Avenue, Cicero, Illinois 60804

Phone 708-652-9100 FAX 708-652-9158

DBE-06 PERFORMANCE SPECIFICATIONS

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

AIR PERFORMANCE



INTAKE FREE AREA VELOCITY (fpm)

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

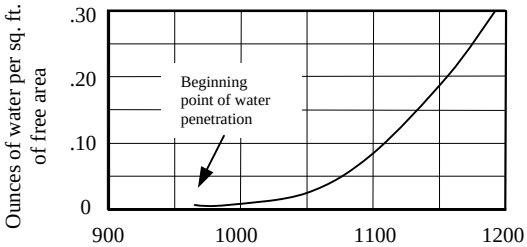
The "free area flow rate" at which water penetration commences (.01 oz. of water) is established at, 970 fpm (296) for DBE-06, and will vary depending upon actual weather conditions. The "water penetration" graph illustrates the results of actual laboratory test on a 48" x 48" (1219 x 1219) test sample subjected to hypothetical rainfall conditions. To determined 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	(H20)
970	1037	1090	1131	1171	1195	(fpm)



FREE AREA VELOCITY (fpm)

970 fpm (296) beginning of water penetration

FREE AREA CALCULATIONS IN SQ. FT.

W I D T H

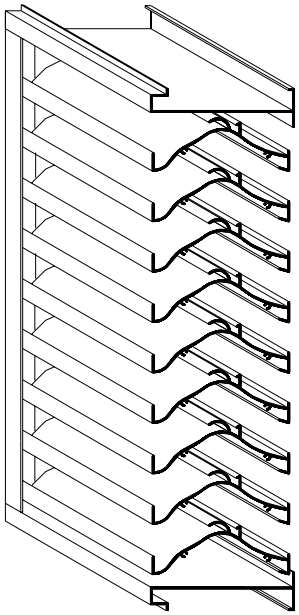
INCHES	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	102	108	114	120
12	.29	.47	.65	.82	1.00	1.18	1.35	1.53	1.71	1.88	2.06	2.24	2.41	2.59	2.76	2.94	3.12	3.29	3.47
18	.58	.93	1.28	1.63	1.98	2.33	2.68	3.02	3.37	3.72	4.07	4.42	4.77	5.12	5.47	5.82	6.17	6.51	6.86
24	.92	1.47	2.02	2.57	3.12	3.67	4.22	4.77	5.32	5.87	6.42	6.97	7.52	8.07	8.62	9.17	9.72	10.27	10.82
30	1.25	2.00	2.76	3.51	4.26	5.01	5.76	6.51	7.26	8.01	8.77	9.52	10.27	11.02	11.77	12.52	13.27	14.03	14.78
36	1.51	2.42	3.33	4.24	5.15	6.06	6.97	7.88	8.79	9.70	10.60	11.51	12.42	13.33	14.24	15.15	16.06	16.97	17.88
42	1.84	2.95	4.05	5.16	6.26	7.37	8.47	9.58	10.68	11.79	12.89	14.00	15.10	16.21	17.31	18.42	19.52	20.63	21.73
48	2.18	3.48	4.79	6.10	7.40	8.71	10.01	11.32	12.63	13.93	15.24	16.55	17.85	19.16	20.46	21.77	23.08	24.38	25.69
54	2.49	3.99	5.48	6.98	8.47	9.97	11.46	12.96	14.45	15.95	17.44	18.94	20.43	21.93	23.42	24.92	26.41	27.91	29.40
60	2.77	4.43	6.09	7.75	9.40	11.06	12.72	14.38	16.04	17.70	19.36	21.02	22.68	24.34	26.00	27.66	29.32	30.98	32.64
66	3.10	4.96	6.82	8.68	10.54	12.41	14.27	16.13	17.99	19.85	21.71	23.57	25.43	27.29	29.15	31.01	32.88	34.74	36.60
72	3.44	5.50	7.56	9.62	11.68	13.75	15.81	17.87	19.93	22.00	24.06	26.12	28.18	30.24	32.31	34.37	36.43	38.49	40.55
78	3.71	5.94	8.17	10.39	12.62	14.85	17.08	19.30	21.53	23.76	25.99	28.21	30.44	32.67	34.90	37.12	39.35	41.58	43.81
84	4.03	6.44	8.86	11.27	13.69	16.10	18.52	20.94	23.35	25.77	28.18	30.60	33.01	35.43	37.84	40.26	42.68	45.09	47.51
90	4.36	6.98	9.59	12.21	14.83	17.45	20.06	22.68	25.30	27.91	30.53	33.15	35.76	38.38	41.00	43.61	46.23	48.85	51.46
96	4.69	7.50	10.32	13.13	15.94	18.76	21.57	24.38	27.20	30.01	32.82	35.64	38.45	41.26	44.08	46.89	49.70	52.52	55.33

H E I G H T

EXTRUDED ALUMINUM LOUVER

Drainable / Sightproof Louver in 6” thick frame design Model DEM-06

Design Features – Drainable blade vision proof design.



STANDARD CONSTRUCTION

ALL MATERIAL – EXTRUDED ALUMINUM 6063-T5 (KB-45)

FRAME
6” thick is .081 extruded aluminum in style #3.
BLADES
.081” (2.1) extruded aluminum, apx. spacing is 2-1/4” @ 30°
MAXIMUM SIZE
Unlimited, with mullions, structural bracing supplied by others
MAXIMUM FACTORY ASSEMBLY SIZE
120” w x 96 H” or 96” w x 120” H
(allows for best handling)
(Type of finish may limit maximum single section)
MULLION
Invisible
MINIMUM SIZE
12” w x 12” H
UNDERSIZED
1/4” under ordered size unless specified Exact or Actual
SCREEN
3/4” x .051” flattened expanded aluminum bird screen no frame
FINISH
Mill

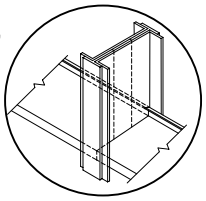
OPTIONAL CONSTRUCTION

FRAME – Available in a heavier extrusion of .125”
BLADES – Available in a heavier extrusion of .125”
SCREEN - Many styles available please consult screen listing
FINISH – Air-dry primer, polyurethane, epoxy, or enamel. Baked epoxy, Anodize or Kynar
MULLION – Visible for architectural preference

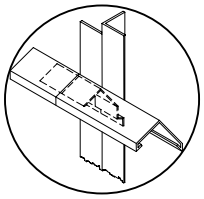
SPECIAL PURPOSE CONSTRUCTION

Fully welded construction
Security bars
Filter racks
Hinged as walk through door or for swing out access
Sleeved for ductwork connection

MULLION STYLES



Visible

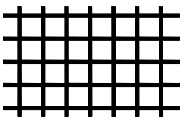


Invisible

PERFORMANCE

Point of water penetration
1121 fpm
Free area
48 x 48 section
57%

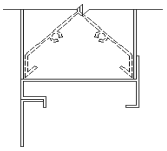
TYPICAL SCREEN STYLES



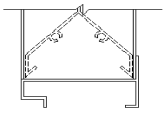
Wire Mesh

Expanded Aluminum Standard

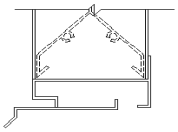
FRAME STYLES



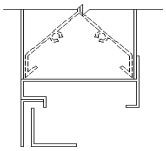
1 - Flange (1.5”)



3 – Box



8 – Box with Sill Extension



9 – Flange with Sub Frame

DATE	ARCHITECT			CUSTOMER
PROJECT				
ITEM	QTY	W	H	

DEPENDABLE PRODUCTS SINCE 1955

SAFE-AIR OF ILLINOIS INC.

Engineering and General Offices

1855 South 54th Avenue, Cicero, Illinois 60804

Phone 708-652-9100 FAX 708-652-9158

DEM-06 PERFORMANCE SPECIFICATIONS

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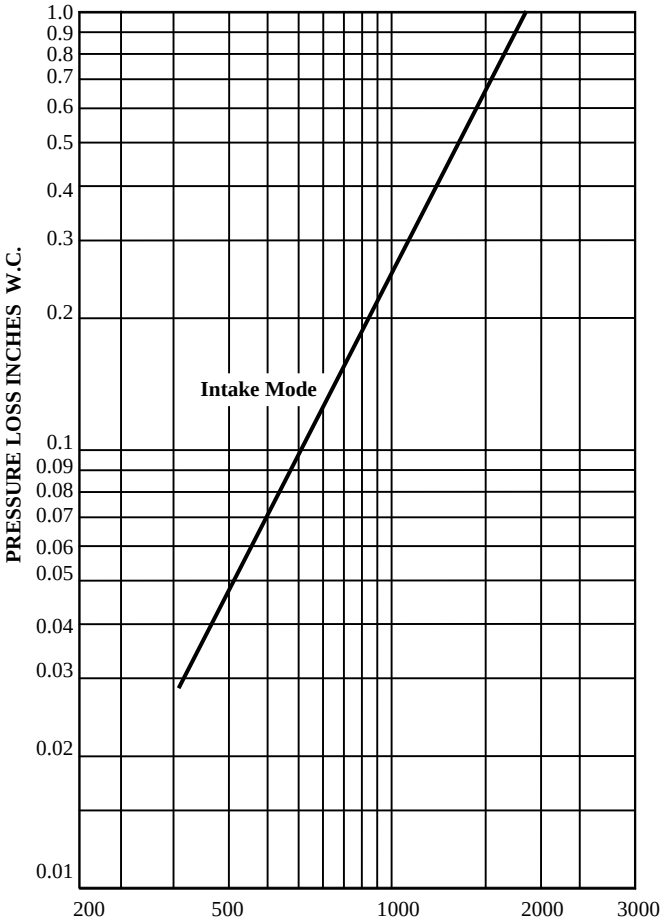
AIR PERFORMANCE



INTAKE FREE AREA VELOCITY (fpm)

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)

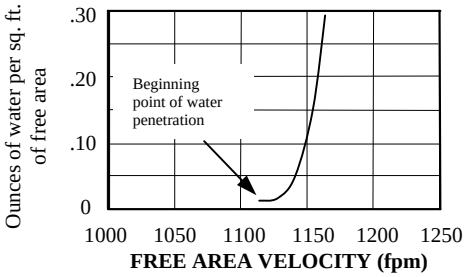
_____CFM / ____ FPM Free Area Velocity = _____Sq. Ft. Free Area

CALCULATING MAXIMUM AIRFLOW BEFORE WATER PENETRATION

The "free area flow rate" at which water penetration commences (.01 oz. of water) is established at, 1121 fpm for DEM-06, 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 determined 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



FREE AREA VELOCITY (fpm)
1121 fpm beginning of water penetration

FREE AREA CALCULATIONS IN SQ. FT.

WIDTH

INCHES	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	102	108	114	120
12	.36	.58	.79	1.01	1.22	1.44	1.66	1.87	2.09	2.31	2.52	2.74	2.95	3.17	3.39	3.60	3.82	4.04	4.25
18	.63	1.01	1.39	1.77	2.14	2.52	2.90	3.28	3.66	4.04	4.41	4.79	5.17	5.55	5.93	6.30	6.68	7.06	7.44
24	.90	1.44	1.98	2.52	3.06	3.60	4.14	4.68	5.22	5.76	6.30	6.85	7.39	7.93	8.47	9.01	9.55	10.09	10.63
30	1.17	1.87	2.58	3.28	3.98	4.68	5.39	6.09	6.79	7.49	8.20	8.90	9.60	10.30	11.01	11.71	12.41	13.11	13.82
36	1.44	2.31	3.17	4.04	4.90	5.76	6.63	7.49	8.36	9.22	10.09	10.95	11.82	12.68	13.55	14.41	15.28	16.14	17.01
42	1.71	2.74	3.76	4.79	5.82	6.85	7.87	8.90	9.93	10.95	11.98	13.01	14.03	15.06	16.09	17.11	18.14	19.17	20.19
48	1.98	3.17	4.36	5.55	6.74	7.93	9.12	10.30	11.49	12.68	13.87	15.06	16.25	17.44	18.63	19.82	21.00	22.19	23.38
54	2.25	3.60	4.95	6.30	7.66	9.01	10.36	11.71	13.06	14.41	15.76	17.11	18.46	19.82	21.17	22.52	23.87	25.22	26.57
60	2.52	4.04	5.55	7.06	8.57	10.09	11.60	13.11	14.63	16.14	17.65	19.17	20.68	22.19	23.71	25.22	26.73	28.25	29.76
66	2.79	4.47	6.14	7.82	9.49	11.17	12.84	14.52	16.19	17.87	19.55	21.22	22.90	24.57	26.25	27.92	29.60	31.27	32.95
72	3.06	4.90	6.74	8.57	10.41	12.25	14.09	15.92	17.76	19.60	21.44	23.27	25.11	26.95	28.79	30.62	32.46	34.30	36.14
78	3.33	5.33	7.33	9.33	11.33	13.33	15.33	17.33	19.33	21.33	23.33	25.33	27.33	29.33	31.33	33.33	35.33	37.32	39.32
84	3.60	5.76	7.93	10.09	12.25	14.41	16.57	18.73	20.90	23.06	25.22	27.38	29.54	31.70	33.87	36.03	38.19	40.35	42.51
90	3.87	6.20	8.52	10.84	13.17	15.49	17.82	20.14	22.46	24.76	27.11	29.43	31.76	34.08	36.41	38.73	41.05	43.38	45.70
96	4.14	6.63	9.12	11.60	14.09	16.57	19.06	21.54	24.03	26.52	29.00	31.49	33.97	36.46	38.95	41.43	43.92	46.40	48.89

HEIGHT

EXTRUDED ALUMINUM LOUVER

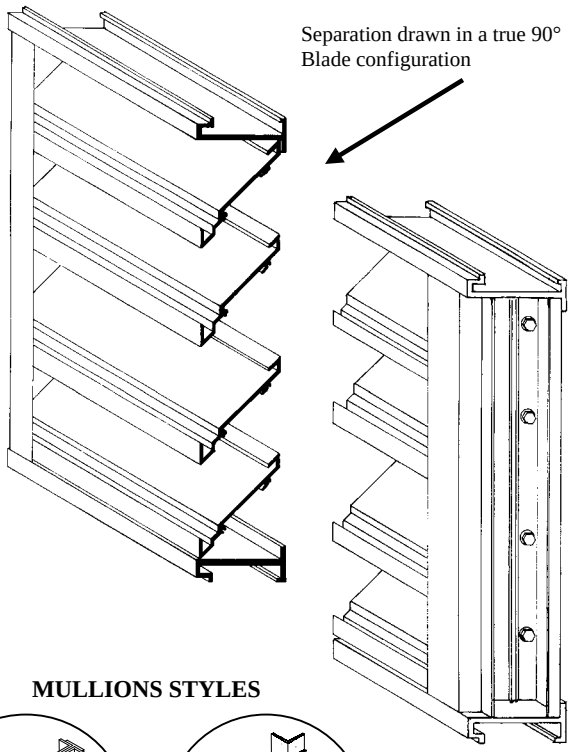
Drainable Blade Louver in 6” thick frame design - Model DWE-06

Features – High Performance patented design allowing maximum airflow with minimum outside element or water penetration.

STANDARD CONSTRUCTION

ALL MATERIAL – EXTRUDED ALUMINUM 6063-T5 (KB-45)

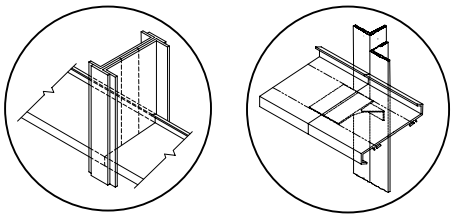
FRAME
DWE – 06” (152) thick, is .081 (2.1) extruded aluminum in style #3.
BLADES
DWE – 06” (152) are .081” (2.1) extruded alum. approx. spacing is 6 1/2 (165) @ 45°
MAXIMUM SIZE
Unlimited, with mullions, structural bracing supplied by others
MAXIMUM SINGLE SECTION
120” w x 84" h or 84” w x 120” h
(allows for best handling)
(Type of finish may limit maximum single section)
MULLIONS
Invisible
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” .051” (19 x 1.3) flattened expanded aluminum bird screen no frame
FINISH
Mill



OPTIONAL CONSTRUCTION

FRAME – Available in a heavier extrusion of .125” (3.2)
BLADES – Available in a heavier extrusion of .125” (3.2)
SCREEN - Many styles available please consult screen listing
FINISH – Air-dry primer, polyurethane, epoxy, or enamel. Baked epoxy, Anodize or Kynar
MULLIONS – Visible for architectural preference

MULLIONS STYLES



Visible Invisible

PERFORMANCE

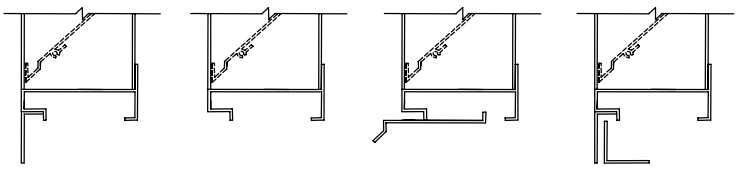
Point of
water penetration
939 fpm (286)

Free area
48 x 48 section
55%

SPECIAL PURPOSE CONSTRUCTION

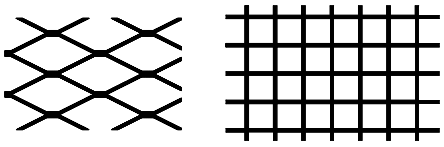
Special Shapes; Triangle, Trapezoid, etc.
Fully welded construction
Security bars
Filter racks
Hinged as walk through door or for swing out access
Sleeved for ductwork connection

FRAME STYLES



1- Flange (1.5”) 3 – Box 8- Box with Sill Extension 9 - Flange with Sub Frame

TYPICAL SCREEN STYLES



Expanded Aluminum Standard Wire Mesh

DATE	ARCHITECT			CUSTOMER
PROJECT				
ITEM	QTY	W	H	DESCRIPTION

DEPENDABLE PRODUCTS SINCE 1955

SAFE-AIR OF ILLINOIS INC.

Engineering and General Offices

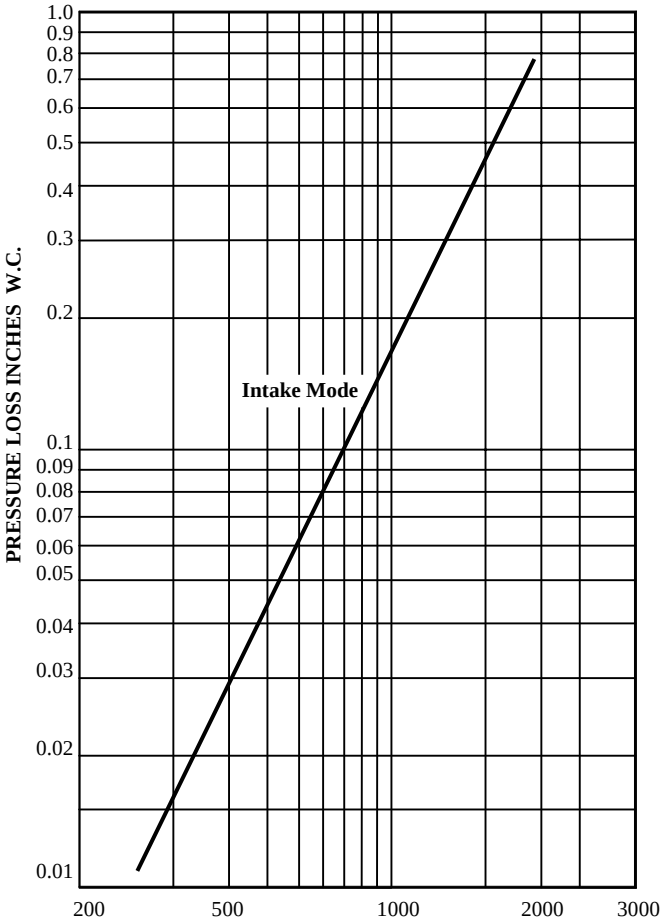
1855 South 54th Avenue, Cicero, Illinois 60804

Phone 708-652-9100 FAX 708-652-9158

DWE-06 PERFORMANCE SPECIFICATIONS

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

AIR PERFORMANCE



INTAKE FREE AREA VELOCITY (fpm)

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

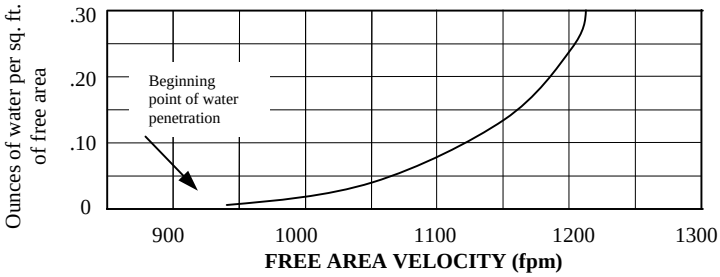
The "free area flow rate" at which water penetration commences (.01 oz. of water) is established at, 939 fpm (286) for DWE-06, and will vary depending upon actual weather conditions. The "water penetration" graph illustrates the results of actual laboratory test on a 48" x 48" (1219 x 1219) test sample subjected to hypothetical rainfall conditions. To determined 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	(H20)
939	996	1070	1127	1183	1216	(fpm)



FREE AREA VELOCITY (fpm)

939 fpm (286) beginning of water penetration

FREE AREA CALCULATIONS IN SQ. FT.

W I D T H

INCHES	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	102	108	114	120
12	.20	.32	.44	.56	.68	.80	.92	1.04	1.16	1.28	1.40	1.52	1.64	1.76	1.88	2.01	2.13	2.25	2.37
18	.47	.74	1.02	1.30	1.58	1.86	2.14	2.42	2.70	2.98	3.26	3.54	3.82	4.10	4.38	4.66	4.93	5.21	5.49
24	.76	1.21	1.67	2.12	2.58	3.03	3.49	3.94	4.40	4.85	5.30	5.76	6.21	6.67	7.12	7.58	8.03	8.49	8.94
30	1.05	1.68	2.31	2.94	3.57	4.20	4.83	5.46	6.09	6.72	7.35	7.98	8.61	9.24	9.87	10.50	11.13	11.76	12.39
36	1.34	2.15	2.95	3.76	4.56	5.37	6.18	6.98	7.79	8.59	9.40	10.20	11.01	11.81	12.62	13.42	14.23	15.04	15.84
42	1.63	2.62	3.60	4.58	5.56	6.54	7.52	8.50	9.48	10.46	11.44	12.42	13.41	14.39	15.37	16.35	17.33	18.31	19.29
48	1.92	3.07	4.22	5.37	6.52	7.67	8.82	9.97	11.12	12.27	13.42	14.57	15.72	16.87	18.02	19.17	20.32	21.47	22.62
54	2.17	3.48	4.78	6.08	7.39	8.69	10.00	11.30	12.60	13.91	15.21	16.52	17.82	19.12	20.43	21.73	23.04	24.34	25.64
60	2.43	3.89	5.34	6.80	8.26	9.72	11.17	12.63	14.09	15.55	17.00	18.46	19.92	21.38	22.83	24.29	25.75	27.21	28.66
66	2.68	4.30	5.91	7.52	9.13	10.74	12.35	13.96	15.57	17.18	18.79	20.41	22.02	23.63	25.24	26.85	28.46	30.07	31.68
72	2.94	4.71	6.47	8.23	10.00	11.76	13.53	15.29	17.06	18.82	20.59	22.35	24.11	25.88	27.64	29.41	31.17	32.94	34.70
78	3.20	5.11	7.03	8.95	10.87	12.79	14.70	16.62	18.54	20.46	22.38	24.29	26.21	28.13	30.05	31.97	33.88	35.80	37.72
84	3.45	5.52	7.60	9.67	11.74	13.81	15.88	17.95	20.02	22.10	24.17	26.24	28.31	30.38	32.45	34.53	36.60	38.67	40.74
90	3.71	5.93	8.16	10.38	12.61	14.83	17.06	19.28	21.51	23.73	25.96	28.18	30.41	32.63	34.86	37.08	39.31	41.53	43.76
96	3.97	6.36	8.74	11.13	13.51	15.89	18.28	20.66	23.05	25.43	27.81	30.20	32.58	34.97	37.35	39.73	42.12	44.50	46.89

H E I G H T

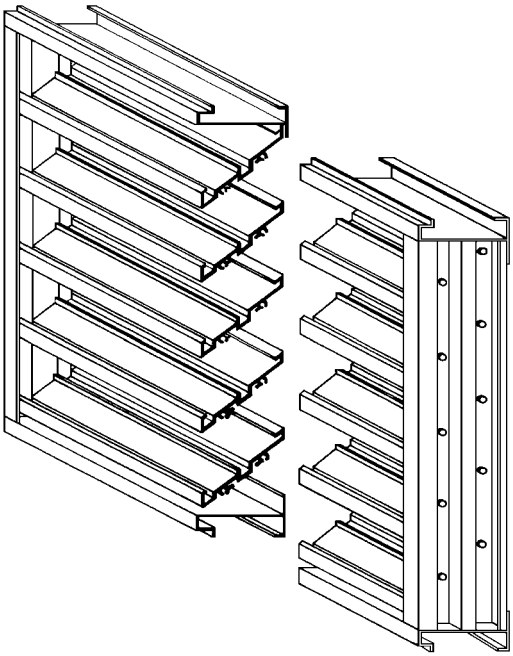
EXTRUDED ALUMINUM LOUVER

Drainable Blade Louver in 6” deep frame design • Model D-DBE-06

Design Features – High performance dual drain design allowing maximum airflow with minimum outside element or water penetration. Louvers are designed to withstand inward and outward wind pressure up to 25 psf (100 mph).

STANDARD CONSTRUCTION

ALL MATERIAL – EXTRUDED ALUMINUM 6063-T5 (KB-45)

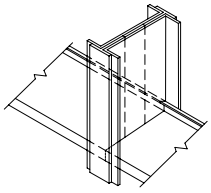


FRAME
D-DBE-06, 6” *(152)* deep, .081” ga. *(2.1)* extruded alum. in style #3.
BLADES
D-DBE-06, 6” *(152)*, .081” ga. *(2.1)* extruded alum, approx. spacing is 5" *(127)* @ 36°
FASTENERS
#10 Plated steel screw
MAXIMUM SIZE
Unlimited, with mullions, structural bracing supplied by others
MAXIMUM FACTORY ASSEMBLY SIZE
120” W x 84” H or vice versa (allows for best handling)
(Type of finish may limit maximum single section)
MULLION
Invisible
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” x .051” ga. *(19 x 1.3)* flattened expanded alum. bird screen no frame
FINISH
Mill

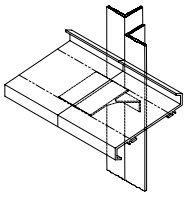
OPTIONAL CONSTRUCTION

FRAME – Available in a heavier extrusion of .125” ga. *(3.2)*
BLADES – Available in a heavier extrusion of .125” ga. *(3.2)*
SCREEN - Many styles available please consult screen listing
FINISH – Air-dry primer, Polyurethane, Epoxy, Baked Enamel, Powder Coat, Anodized or Kynar 500.
MULLION – Visible for architectural preference

MULLION STYLES



Visible



Invisible
Standard

PERFORMANCE

Point of
Water Penetration
1243 fpm *(379)*

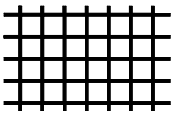
Free Area
48” x 48” *(1219 x 1219)*
52%

SPECIAL PURPOSE CONSTRUCTION

Special Shapes; Triangle, Trapezoid, and etc.
Fully welded construction
Security bars
Filter racks
Hinged as walk through door or for swing out access
Sleeved for ductwork connection

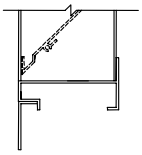
TYPICAL SCREEN STYLES

Expanded Aluminum
Standard

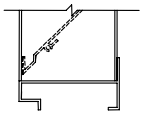


Wire Mesh

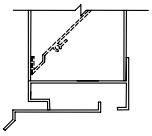
FRAME STYLES



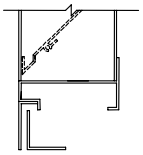
(1) - Flange
1-1/2” *(38)*



(3) - Box
Standard



(8) - Box and
Sill Extension



(9) - Flange
w/ sub frame

DATE	ARCHITECT / ENGINEER	CUSTOMER
PROJECT		

ITEM	QTY	W	H	TAG

AMCA CERTIFIED RATINGS — WATER PENETRATION — AIR PERFORMANCE — AIR MOVEMENT AND CONTROL ASSOCIATION, INC.

DOWCO PRODUCTS GRUOUP certifies that the D-DBE–06 louver shown herein is licensed to bear the AMCA Seal. The rating shown is based on tests and procedures performed in accordance with AMCA Publication 511 and comply with the requirements on the AMCA Certified Ratings Program. The AMCA Certified Ratings Seal applies to air performance ratings and water penetration ratings.

DEPENDABLE PRODUCTS SINCE 1955

SAFE-AIR / DOWCO

Engineering and General Offices

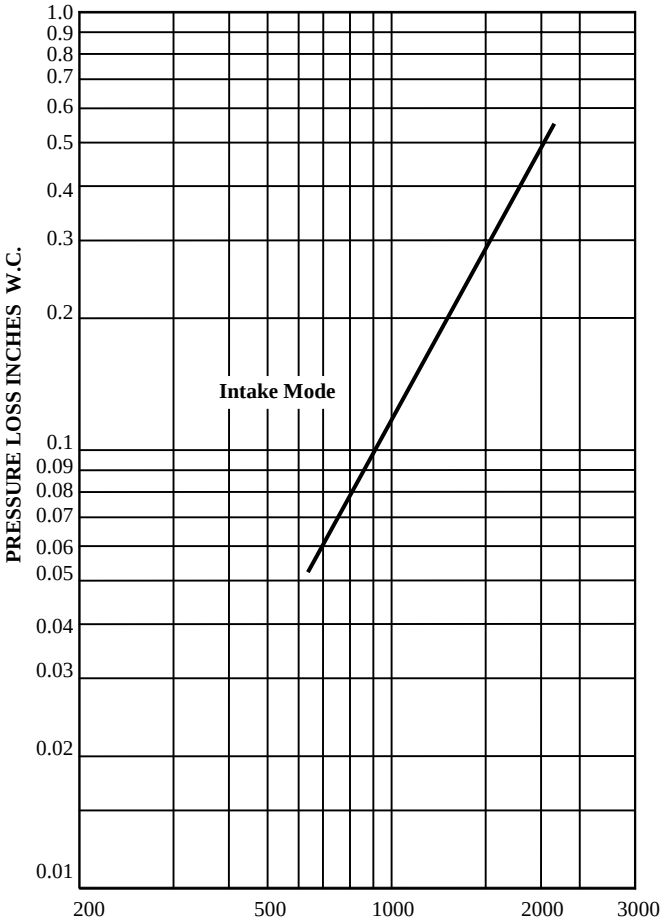
1855 South 54th Avenue / Cicero, Illinois 60804

Phone: 708-652-9100 FAX: 708-652-9158

D-DBE-06 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

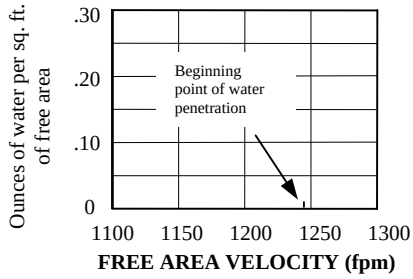
The "free area flow rate" at which water penetration commences (.01 oz. of water) is established at, 1243 fpm (379) for D-DBE-06, and will vary depending upon actual weather conditions. The "water penetration" graph illustrates the results of actual laboratory test on a 48" x 48" (1219 x 1219) test sample subjected to hypothetical rainfall conditions. To determined 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	(H20)
1243	n/a	n/a	n/a	n/a	n/a	(fpm)



1243 fpm (379) beginning of water penetration

FREE AREA CALCULATIONS IN SQ. FT.

WIDTH

INCHES	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	102	108	114	120
12	.27	.43	.59	.75	.91	1.08	1.24	1.40	1.56	1.72	1.88	2.05	2.21	2.37	2.53	2.69	2.85	3.01	3.18
18	.54	.87	1.19	1.58	1.84	2.17	2.50	2.82	3.15	3.47	3.80	4.12	4.45	4.77	5.10	5.43	5.75	6.08	6.40
24	.75	1.20	1.65	2.10	2.55	3.00	3.45	3.90	4.36	4.81	5.26	5.71	6.16	6.61	7.06	7.51	7.96	8.41	8.86
30	.96	1.54	2.12	2.70	3.28	3.85	4.43	5.01	5.59	6.17	6.74	7.32	7.90	8.48	9.06	9.64	10.21	10.79	11.37
36	1.24	1.99	2.73	3.48	4.22	4.97	5.71	6.45	7.20	7.94	8.69	9.43	10.18	10.92	11.67	12.41	13.16	13.90	14.65
42	1.52	2.43	3.34	4.25	5.16	6.08	6.99	7.90	8.81	9.72	10.63	11.55	12.46	13.37	14.28	15.19	16.10	17.01	17.93
48	1.79	2.87	3.94	5.02	6.09	7.17	8.25	9.32	10.40	11.47	12.55	13.62	14.70	15.77	16.85	17.93	19.00	20.08	21.15
54	2.00	3.20	4.40	5.60	6.80	8.00	9.20	10.40	11.61	12.81	14.01	15.21	16.41	17.61	18.81	20.01	21.21	22.41	23.61
60	2.21	3.54	4.87	6.20	7.53	8.85	10.18	11.51	12.84	14.17	15.49	16.82	18.15	19.48	20.81	22.14	23.46	24.79	26.12
66	2.49	3.99	5.48	6.98	8.47	9.97	11.46	12.95	14.45	15.94	17.44	18.93	20.43	21.92	23.42	24.91	26.41	27.90	29.40
72	2.77	4.43	6.09	7.75	9.41	11.08	12.74	14.40	16.06	17.72	19.38	21.05	22.71	24.37	26.03	27.69	29.35	31.01	32.68
78	3.04	4.87	6.69	8.52	10.34	12.17	14.00	15.82	17.65	19.47	21.30	23.12	24.95	26.77	28.60	30.43	32.25	34.08	35.90
84	3.25	5.20	7.15	9.10	11.05	13.00	14.95	16.90	18.86	20.81	22.76	24.71	26.66	28.61	30.56	32.51	34.46	36.41	38.36
90	3.46	5.54	7.62	9.70	11.78	13.85	15.93	18.01	20.09	22.17	24.24	26.32	28.40	30.48	32.56	34.64	36.71	38.79	40.87
96	3.74	5.99	8.23	10.48	12.72	14.97	17.21	19.45	21.70	23.94	26.19	28.43	30.68	32.92	35.17	37.41	39.66	41.90	44.15

HEIGHT

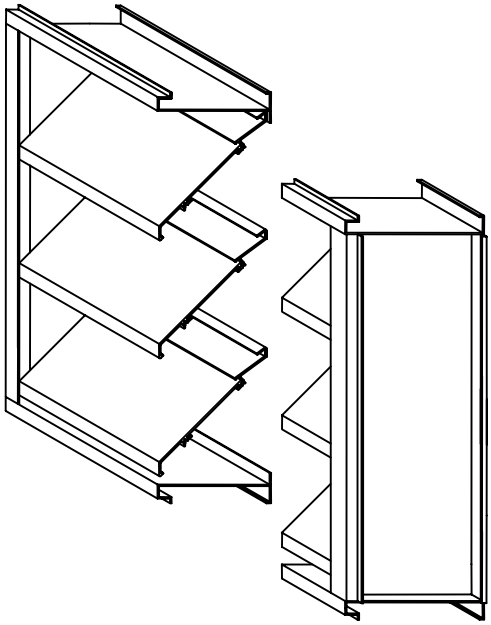
EXTRUDED ALUMINUM LOUVER

Weather Protective Blade Louver in 6” deep frame design • Model LEB-06

Design Features – Traditional design with upper blade surface turn back for improved weather protection and architectural pleasing appearance. Louvers are designed to withstand inward and outward wind pressure up to 25 psf (100 mph).

STANDARD CONSTRUCTION

ALL MATERIAL – EXTRUDED ALUMINUM 6063-T5 (KB-45)

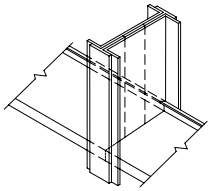


FRAME
LEB-06, 6” *(152)* deep, .081” ga. *(2.1)* extruded alum. in style #3.
BLADES
LEB-06, 6” *(152)*, .081” ga. *(2.1)* extruded alum, approx. spacing is 6-1/2" *(165)* @ 45°
FASTENERS
#10 Plated steel screw
MAXIMUM SIZE
Unlimited, with mullions, structural bracing supplied by others
MAXIMUM FACTORY ASSEMBLY SIZE
120” W x 84” H or vice versa (allows for best handling)
(Type of finish may limit maximum single section)
MULLION
Invisible
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” x .051” ga. *(19 x 1.3)* flattened expanded alum. bird screen no frame
FINISH
Mill

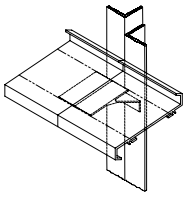
OPTIONAL CONSTRUCTION

FRAME – Available in a heavier extrusion of .125” ga. *(3.2)*
BLADES – Available in a heavier extrusion of .125” ga. *(3.2)*
SCREEN - Many styles available please consult screen listing
FINISH – Air-dry primer, Polyurethane, Epoxy, Baked Enamel, Powder Coat, Anodized or Kynar 500.
MULLION – Visible for architectural preference

MULLION STYLES



Visible



Invisible
Standard

PERFORMANCE

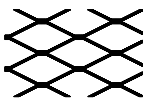
Point of
Water Penetration
852 fpm *(260)*

Free Area
48” x 48” *(1219 x 1219)*
54%

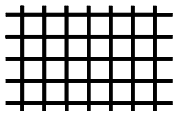
SPECIAL PURPOSE CONSTRUCTION

Special Shapes; Round, Triangle, Trapezoid, Octagon, and etc.
Fully welded construction
Security bars
Filter racks
Hinged as walk through door or for swing out access
Sleeved for ductwork connection

TYPICAL SCREEN STYLES

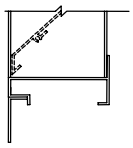


Expanded Aluminum
Standard

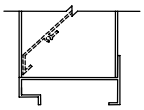


Wire Mesh

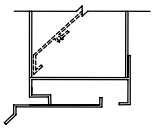
FRAME STYLES



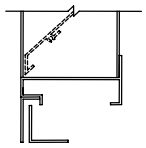
(1) - Flange
1-1/2” *(38)*



(3) - Box
Standard



(8) - Box and
Sill Extension



(9) - Flange
w/ sub frame

DATE	ARCHITECT / ENGINEER	CUSTOMER
PROJECT		

ITEM	QTY	W	H	TAG

DEPENDABLE PRODUCTS SINCE 1955

SAFE-AIR / DOWCO

Engineering and General Offices

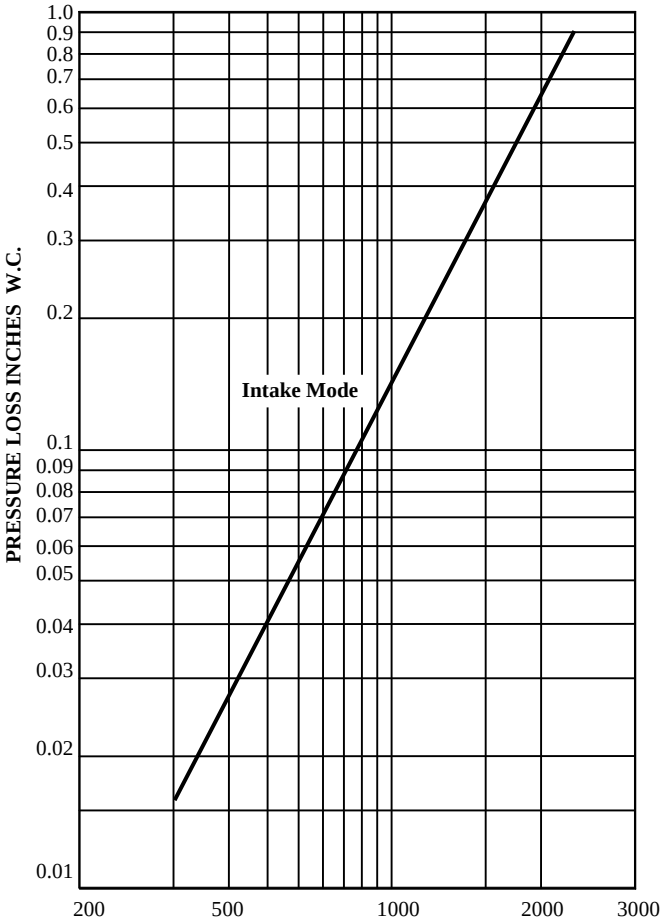
1855 South 54th Avenue / Cicero, Illinois 60804

Phone: 708-652-9100 FAX: 708-652-9158

LEB-06 PERFORMANCE SPECIFICATIONS

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

AIR PERFORMANCE



INTAKE FREE AREA VELOCITY (fpm)

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

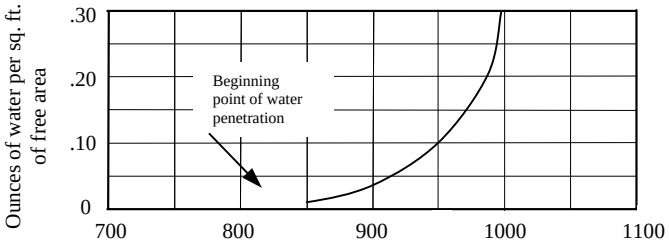
The "free area flow rate" at which water penetration commences (.01 oz. of water) is established at, 852 fpm (260) for LEB-06, and will vary depending upon actual weather conditions. The "water penetration" graph illustrates the results of actual laboratory test on a 48" x 48" (1219 x 1219) test sample subjected to hypothetical rainfall conditions. To determined 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	(H20)
852	882	920	950	979	996	(fpm)



FREE AREA VELOCITY (fpm)
852 fpm (260) beginning of water penetration

FREE AREA CALCULATIONS IN SQ. FT.

W I D T H

INCHES	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	102	108	114	120
12	.19	.31	.42	.53	.65	.76	.88	.99	1.11	1.22	1.34	1.45	1.57	1.68	1.80	1.91	2.02	2.14	2.25
18	.46	.74	1.01	1.29	1.56	1.84	2.12	2.39	2.67	2.94	3.22	3.50	3.77	4.05	4.32	4.60	4.88	5.15	5.43
24	.75	1.19	1.64	2.09	2.54	2.99	3.43	3.88	4.33	4.78	5.23	5.67	6.12	6.57	7.02	7.47	7.91	8.36	8.81
30	1.03	1.65	2.27	2.89	3.51	4.13	4.75	5.37	5.99	6.61	7.23	7.85	8.47	9.09	9.71	10.33	10.95	11.57	12.19
36	1.32	2.11	2.90	3.69	4.49	5.28	6.07	6.86	7.65	8.44	9.24	10.03	10.82	11.61	12.40	13.19	13.99	14.78	15.57
42	1.61	2.57	3.53	4.50	5.46	6.42	7.39	8.35	9.31	10.28	11.24	12.20	13.17	14.13	15.10	16.06	17.02	17.99	18.95
48	1.87	2.99	4.11	5.23	6.35	7.47	8.59	9.70	10.82	11.94	13.06	14.18	15.30	16.42	17.54	18.66	19.78	20.90	22.02
54	2.12	3.39	4.66	5.93	7.20	8.47	9.74	11.01	12.28	13.56	14.83	16.10	17.37	18.64	19.91	21.18	22.45	23.72	24.99
60	2.37	3.79	5.21	6.64	8.06	9.48	10.90	12.32	13.74	15.17	16.59	18.01	19.43	20.85	22.28	23.70	25.12	26.54	27.96
66	2.62	4.19	5.77	7.34	8.91	10.49	12.06	13.63	15.20	16.78	18.35	19.92	21.50	23.07	24.64	26.22	27.79	29.36	30.93
72	2.87	4.60	6.32	8.05	9.77	11.49	13.22	14.94	16.66	18.39	20.11	21.84	23.56	25.28	27.01	28.73	30.46	32.18	33.90
78	3.13	5.00	6.88	8.75	10.63	12.50	14.38	16.25	18.13	20.00	21.88	23.75	25.63	27.50	29.38	31.25	33.13	35.00	36.88
84	3.38	5.40	7.43	9.45	11.48	13.51	15.53	17.56	19.59	21.61	23.64	25.66	27.69	29.72	31.74	33.77	35.79	37.82	39.85
90	3.63	5.81	7.98	10.16	12.34	14.51	16.69	18.87	21.05	23.22	25.40	27.58	29.75	31.93	34.11	36.28	38.46	40.64	42.82
96	3.90	6.24	8.57	10.91	13.25	15.59	17.93	20.27	22.61	24.94	27.28	29.62	31.96	34.30	36.64	38.98	41.31	43.65	45.99

H E I G H T

EXTRUDED ALUMINUM LOUVER

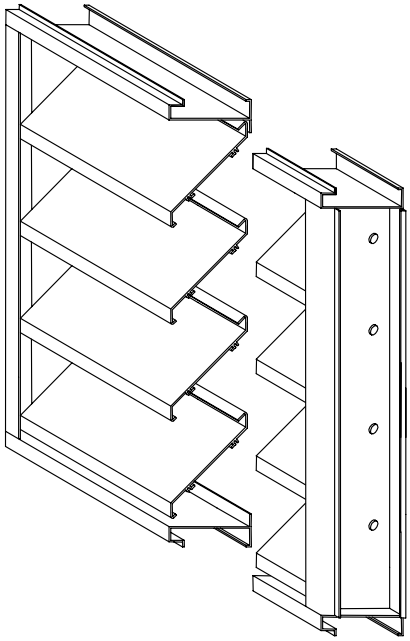
Weather Protective Blade Louver in 6” thick frame design Model LEC-06

Design Features – Traditional straight architectural design with blades fixed at a 45° angle.

STANDARD CONSTRUCTION

ALL MATERIAL – EXTRUDED ALUMINUM 6063-T5 (KB-45)

FRAME
LEC – 06” (152) thick, is .081 (2.1) extruded aluminum in style #3.
BLADES
LEC – 06”(152) are .094” (2.4) extruded alum. approx. spacing is 6 1/2” (165) @ 45°
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
(allows for best handling)
(Type of finish may limit maximum single section)
MULLION
Invisible
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” .051” (1.3 x 19) flattened expanded aluminum bird screen no frame
FINISH
Mill



PERFORMANCE

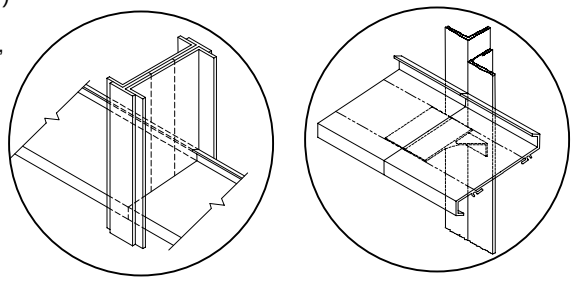
Point of
water penetration
906 fpm (276)

Free area
48 x 48 section
56%

OPTIONAL CONSTRUCTION

FRAME – Available in a heavier extrusion of .125” (3.2)
BLADES – Available in a heavier extrusion of .125” (3.2) (4” Deep Only)
SCREEN - Many styles available please consult screen listing
FINISH – Air-dry primer, polyurethane, epoxy, or enamel. Baked epoxy, Anodize or Kynar
MULLION – Visible for architectural preference

MULLION STYLES

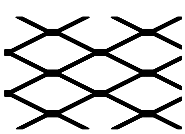


Visible Invisible

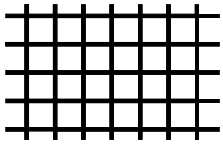
SPECIAL PURPOSE CONSTRUCTION

Special Shapes; Round, Triangle, Trapezoid, Octagon, etc.
Fully welded construction
Security bars
Filter racks
Hinged as walk through door or for swing out access
Sleeved for ductwork connection

TYPICAL SCREEN STYLES

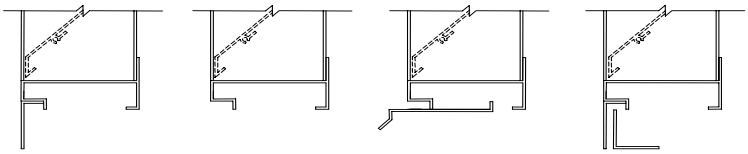


Expanded Aluminum Standard



Wire Mesh

FRAME STYLE



1- Flange (1.5”) 3 – Box 8- Box with Sill Extension 9 - Flange with Sub Frame

DATE	ARCHITECT	CUSTOMER
PROJECT		

ITEM	QTY	W	H

SAFE-AIR/DOWCO certifies that the LEC-06 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 and water penetration ratings.

DEPENDABLE PRODUCTS SINCE 1955

SAFE-AIR OF ILLINOIS INC.

Engineering and General Offices

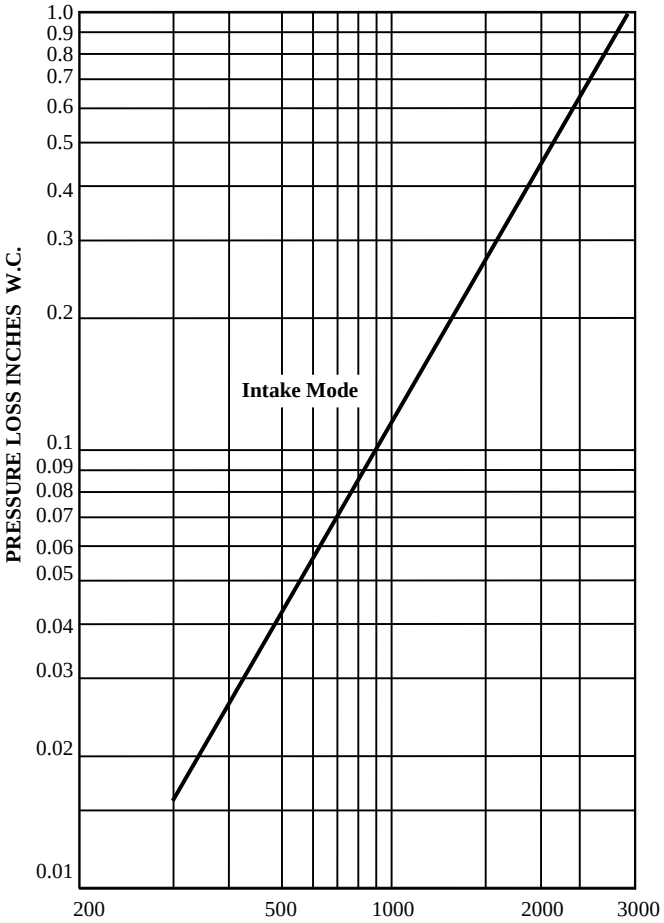
1855 South 54th Avenue, Cicero, Illinois 60804

Phone 708-652-9100 FAX 708-652-9158

LEC-06 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

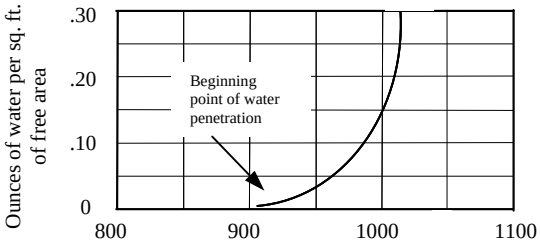
The "free area flow rate" at which water penetration commences (.01 oz. of water) is established at, 906 fpm (276) for LEC-06, and will vary depending upon actual weather conditions. The "water penetration" graph illustrates the results of actual laboratory test on a 48" x 48" (1219 x 1219) test sample subjected to hypothetical rainfall conditions. To determined 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 (H20)
906	930	960	984	1007	1021 (fpm)



906 fpm (276) beginning of water penetration

FREE AREA CALCULATIONS IN SQ. FT.

W I D T H

INCHES	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	102	108	114	120
12	.21	.34	.47	.60	.73	.86	.99	1.12	1.25	1.38	1.50	1.63	1.76	1.89	2.02	2.15	2.28	2.41	2.54
18	.48	.76	1.05	1.33	1.62	1.90	2.19	2.47	2.76	3.04	3.33	3.61	3.90	4.18	4.47	4.75	5.04	5.32	5.61
24	.74	1.19	1.63	2.08	2.53	2.97	3.42	3.86	4.31	4.75	5.20	5.65	6.09	6.54	6.98	7.43	7.87	8.32	8.76
30	1.06	1.69	2.33	2.96	3.59	4.23	4.86	5.50	6.13	6.76	7.40	8.03	8.67	9.30	9.93	10.57	11.20	11.84	12.47
36	1.35	2.16	2.97	3.79	4.60	5.41	6.22	7.03	7.84	8.65	9.46	10.28	11.09	11.90	12.71	13.52	14.33	15.14	15.95
42	1.65	2.64	3.62	4.61	5.60	6.59	7.58	8.57	9.55	10.54	11.53	12.52	13.51	14.49	15.48	16.47	17.46	18.45	19.44
48	1.93	3.09	4.25	5.41	6.57	7.73	8.86	10.05	11.21	12.38	13.54	14.70	15.86	17.02	18.18	19.34	20.50	21.66	22.82
54	2.19	3.51	4.83	6.14	7.46	8.78	10.09	11.41	12.73	14.04	15.36	16.67	17.99	19.31	20.62	21.94	23.26	24.57	25.89
60	2.45	3.93	5.40	6.87	8.35	9.82	11.29	12.76	14.24	15.71	17.18	18.65	20.13	21.60	23.07	24.54	26.02	27.49	28.96
66	2.71	4.34	5.97	7.60	9.23	10.86	12.49	14.12	15.75	17.38	19.00	20.63	22.26	23.89	25.52	27.15	28.78	30.41	32.04
72	2.98	4.76	6.55	8.33	10.12	11.90	13.69	15.47	17.26	19.04	20.83	22.61	24.40	26.18	27.97	29.75	31.54	33.32	35.11
78	3.24	5.18	7.12	9.06	11.00	12.94	14.88	16.83	18.77	20.71	22.65	24.59	26.53	28.47	30.42	32.36	34.30	36.24	38.18
84	3.50	5.59	7.69	9.76	11.89	13.98	16.08	18.18	20.28	22.38	24.47	26.57	28.67	30.77	32.86	34.96	37.06	39.16	41.25
90	3.76	6.01	8.26	10.52	12.77	15.03	17.28	19.53	21.79	24.04	26.30	28.55	30.80	33.06	35.31	37.57	39.82	42.07	44.33
96	4.02	6.43	8.84	11.25	13.66	16.07	18.48	20.89	23.30	25.71	28.12	30.53	32.64	35.35	37.76	40.17	42.58	44.99	47.40

H E I G H T

EXTRUDED ALUMINUM LOUVER

Adjustable Drainable Blade Louver Model A-DBE-04 & A-DBE-06

Design Features – High performance adjustable design variation of our patented drainable blade configuration. Adjustable feature is useful on systems requiring periodic operation or a means of further deterring the outside element of water penetration, which is made possible when the louver is closed.

STANDARD CONSTRUCTION

ALL MATERIAL – EXTRUDED ALUMINUM 6063-T5 (KB-45)

FRAME
A-DBE-04, 4" (102) deep x .081" (2.1) extruded aluminum in style #3
A-DBE-06, 6" (152) deep x .081" (2.1) extruded aluminum in style #3

BLADES
A-DBE-04, are .081" (2.1) extruded aluminum, 39º
A-DBE-06, are .081" (2.1) extruded aluminum, 36º

BLADE AXLES & BEARINGS
Axles – 7/16" (11) plated steel hex
Bearings – 1/2" (13) dia. bronze oilite

LINKAGE
Plated steel concealed in jamb

MAXIMUM SIZE
Unlimited, with mullions, structural bracing supplied by others

MAXIMUM SINGLE SECTION
60" W x 96"H (1524 X 2438)

MINIMUM SIZE
12"W x 12"H (305 X 305)

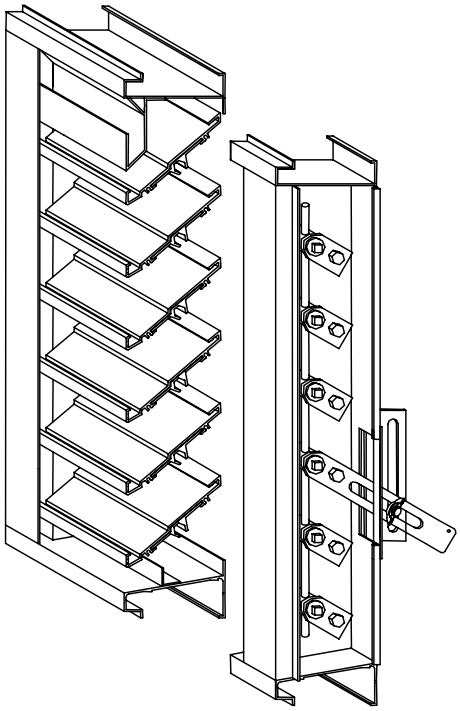
MULLION
Visible

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

SCREEN
3/4" x .051" (19 X 1.3) flattened expanded aluminum bird screen in frame mounted in the interior side.

FINISH
Mill

OPERATOR
Wing-nut type adjustable



OPTIONAL CONSTRUCTION

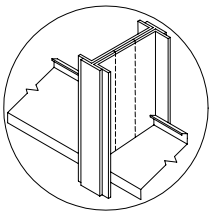
FRAME – Available in a heavier extrusion of .125" (3.2)
BLADES - Available in a heavier extrusion of .125" (3.2)
BLADE & JAMB SEALS – Vinyl blade edge and / or flexible metal jamb seals
(Note: With seals daylight shall still be visible between blades and on the sides.)
SCREEN - Many styles available please consult screen listing
LINKAGE – Blade mounted
FINISH – Air-dry primer, polyurethane, epoxy, or enamel, baked epoxy or enamel, Kynar, or Powder coat.
OPERATOR – Electric or Pneumatic

SPECIAL PURPOSE CONSTRUCTION

Security bars
Filter racks
Sleeved for ductwork connection
Jackshaft when required

(Consult SAFE-AIR/DOWCO for additional technical information.)

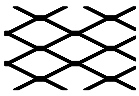
MULLION STYLE



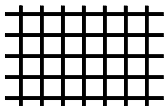
Visible

PERFORMANCE	
A-DBE 04	Pt. of Water Penetration **1016 fpm** Free Area **57%** 48 x 48 unit size
A-DBE 06	Pt. of Water Penetration **970 fpm** Free Area **59%** 48 x 48 unit size

TYPICAL SCREEN STYLES

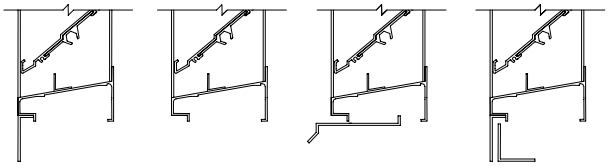


Expanded Aluminum Standard



Wire Mesh

FRAME STYLES



(1) - Flange 1-1/2" (3) - Box Standard (8) - Box and Sill Extension (9) - Flange w/ sub frame

DATE	ARCHITECT/ENGINEER			CUSTOMER
PROJECT				
ITEM	QTY	W	H	DESCRIPTION

DEPENDABLE PRODUCTS SINCE 1955

SAFE-AIR OF ILLINOIS INC.

Engineering and General Offices

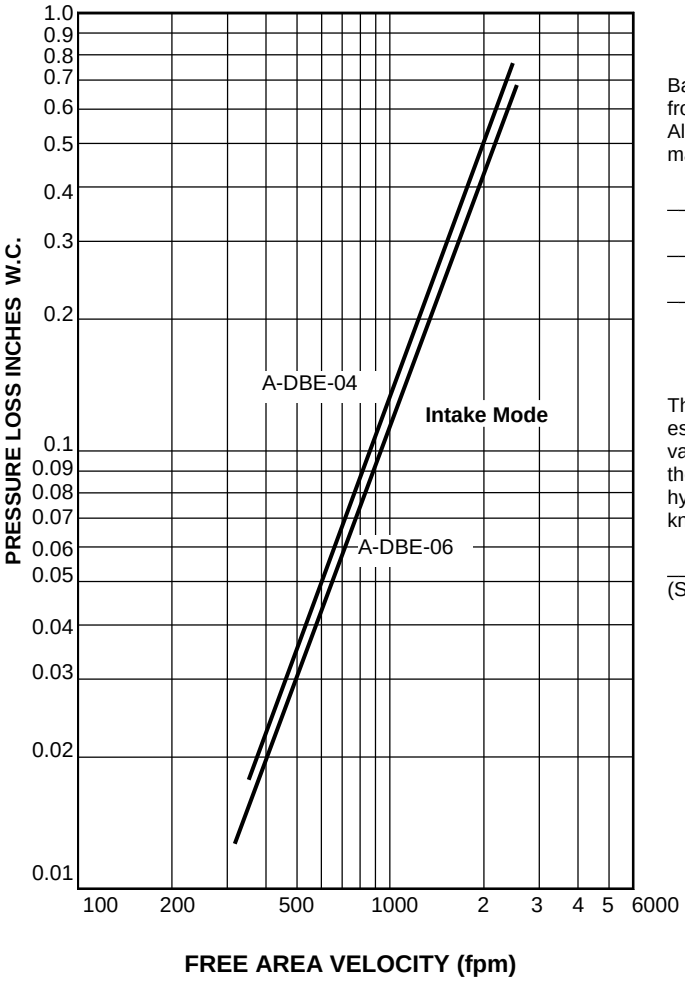
1855 South 54th Avenue, Cicero, Illinois 60804

Phone 708-652-9100 FAX 708-652-9158

A-DBE PERFORMANCE SPECIFICATIONS

All tests performed at an independent laboratory and based on AMCA standard – 500 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 damper. 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)

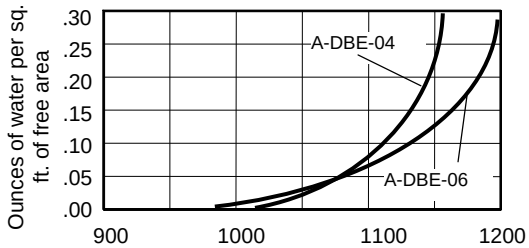
_____CFM / ____ FPM Free Area Velocity = _____Sq. Ft. Free Area

CALCULATING MAXIMUM AIRFLOW BEFORE WATER PENETRATION

The "free area flow rate" at which water penetration commences (.01 oz. of water) is established at, 1016 (310) fpm for A-DBE-04 and 970 (296) fpm for A-DBE-06, 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 determined 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



FREE AREA VELOCITY (fpm)
(A-DBE-04) **1016 fpm beginning of water penetration**
(A-DBE-06) **970 fpm beginning of water penetration**

FREE AREA CALCULATIONS IN SQ.

HEIGHT \ WIDTH	12	18	24	30	36	42	48	54	60
12 - 4"	0.29	0.5	0.71	0.92	1.13	1.34	1.55	1.76	1.97
6"	0.28	0.49	0.7	0.91	1.12	1.32	1.53	1.74	1.95
18 - 4"	0.53	0.92	1.32	1.71	2.1	2.5	2.89	3.29	3.68
6"	0.55	0.96	1.36	1.77	2.18	2.59	3	3.4	3.81
24 - 4"	0.77	1.34	1.91	2.48	3.05	3.62	4.2	4.77	5.34
6"	0.76	1.33	1.9	2.47	3.04	3.61	4.18	4.74	5.31
30 - 4"	0.97	1.7	2.42	3.14	3.87	4.59	5.32	6.04	6.77
6"	1	1.74	2.49	3.23	3.97	4.72	5.46	6.21	6.95
36 - 4"	1.19	2.07	2.96	3.84	4.73	5.62	6.5	7.39	8.27
6"	1.26	2.21	3.15	4.1	5.04	5.98	6.93	7.87	8.81
42 - 4"	1.45	2.53	3.61	4.7	5.78	6.86	7.95	9.03	10.11
6"	1.52	2.66	3.8	4.93	6.07	7.21	8.35	9.48	10.62
48 - 4"	1.66	2.9	4.13	5.37	6.61	7.85	9.09	10.33	11.57
6"	1.71	2.99	4.27	5.55	6.83	8.11	9.39	10.67	11.95
54 - 4"	1.86	3.25	4.64	6.04	7.43	8.82	10.21	11.6	13
6"	1.98	3.46	4.94	6.42	7.9	9.38	10.86	12.34	13.82
60 - 4"	2.1	3.68	5.25	6.83	8.4	9.98	11.55	13.13	14.7
6"	2.24	3.92	5.6	7.28	8.96	10.64	12.32	14	15.68
66 - 4"	2.34	4.09	5.85	7.6	9.35	11.11	12.86	14.61	16.36
6"	2.47	4.32	6.17	8.01	9.86	11.71	13.56	15.41	17.26
72 - 4"	2.55	4.45	6.36	8.26	10.17	12.08	13.98	15.89	17.79
6"	2.69	4.71	6.72	8.74	10.76	12.77	14.79	16.8	18.82
78 - 4"	2.76	4.83	6.9	8.96	11.03	13.1	15.16	17.23	19.3
6"	2.96	5.17	7.39	9.61	11.82	14.04	16.25	18.47	20.68
84 - 4"	3.02	5.29	7.55	9.82	12.08	14.34	16.61	18.87	21.14
6"	3.22	5.64	8.05	10.47	12.88	15.3	17.71	20.13	22.54
90 - 4"	3.23	5.65	8.07	10.49	12.91	15.33	17.75	20.17	22.59
6"	3.42	5.98	8.54	11.1	13.65	16.21	18.77	21.33	23.89
96 - 4"	3.44	6.01	8.58	11.15	13.73	16.3	18.87	21.45	24.02
6"	3.67	6.42	9.18	11.93	14.68	17.43	20.18	22.93	25.68

EXTRUDED ALUMINUM LOUVER

Adjustable Drainable Blade Louver Model A-DWE-04 & A-DWE-06

Design Features – High performance adjustable design variation of our patented drainable blade configuration. Adjustable feature is useful on systems requiring periodic operation or a means of further deterring the outside element of water penetration, which is made possible when the louver is closed.

STANDARD CONSTRUCTION

ALL MATERIAL – EXTRUDED ALUMINUM 6063-T5 (KB-45)

FRAME
.081" extruded aluminum in style #3

BLADES
A-DWE-04, (102) are .081" (2.1) extruded aluminum, 45º
A-DWE-06, (152) are .081" (2.1) extruded aluminum, 45º

BLADE AXLES & BEARINGS
Axles – 7/16" (11) plated steel hex
Bearings – 1/2' (13) dia. bronze oilite

LINKAGE
Plated steel concealed in jamb

MAXIMUM SIZE
Unlimited, with mullions, structural bracing supplied by others

MAXIMUM SINGLE SECTION
60" W x 96"H (1524 X 2438)

MINIMUM SIZE
12" W x 12" H (305 X 305)

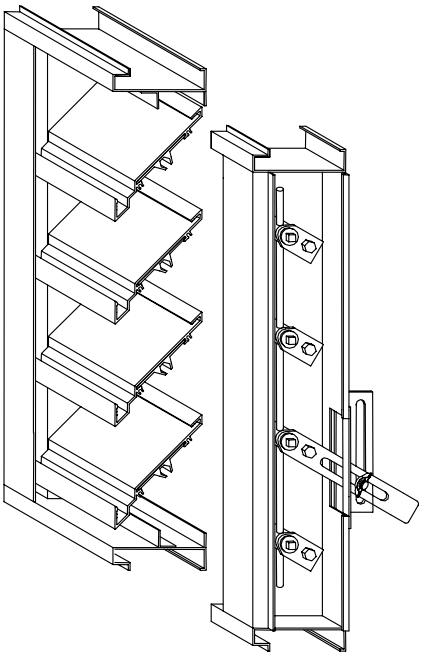
MULLION
Visible

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

SCREEN
3/4" x .051" (19 x 1.3) flattened expanded aluminum bird screen in frame mounted in the interior side.

FINISH
Mill

OPERATOR
Wing-nut type adjustable



OPTIONAL CONSTRUCTION

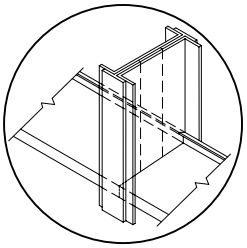
FRAME – Available in a heavier extrusion of .125" (3.2)
BLADES - Available in a heavier extrusion of .125" (3.2)
BLADES & JAMB SEALS – Vinyl blade edge and/or flexible aluminum /stainless steel jamb seals
SCREEN - Many styles available please consult screen listing
LINKAGE – Blade mounted
FINISH – Air-dry primer, polyurethane, epoxy, or enamel, baked epoxy or enamel, Kynar, or Powder coat.
OPERATOR – Electric or Pneumatic

SPECIAL PURPOSE CONSTRUCTION

Security bars
Filter racks
Sleeved for ductwork connection
Jackshaft when required

** Consult SAFE-AIR/DOWCO for additional technical information.

MULLION STYLE

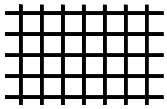


Visible

PERFORMANCE	
A-DWE 04	Pt. of Water Penetration **910 fpm** Free Area **50%** 48 x 48 unit size
A-DWE 06	Pt. of Water Penetration **939 fpm** Free Area **53%** 48 x 48 unit size

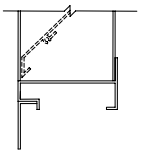
TYPICAL SCREEN STYLES

Expanded Aluminum Standard

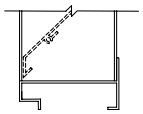


Wire Mesh

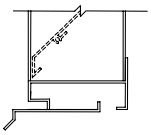
FRAME STYLES



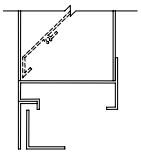
(1) - Flange 1-1/2"



(3) - Box Standard



(8) - Box and Sill Extension



(9) - Flange w/ sub frame

DATE	ARCHITECT/ENGINEER			CUSTOMER
PROJECT				
ITEM	QTY	W	H	DESCRIPTION

DEPENDABLE PRODUCTS SINCE 1955

SAFE-AIR OF ILLINOIS INC.

Engineering and General Offices

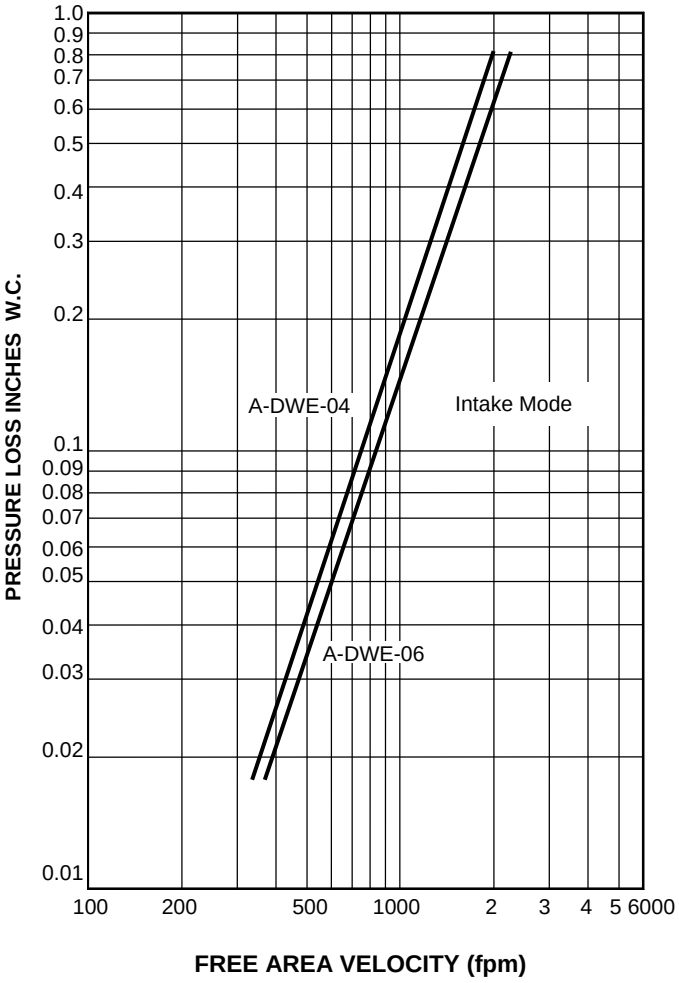
1855 South 54th Avenue, Cicero, Illinois 60804

Phone 708-652-9100 FAX 708-652-9158

A-DWE PERFORMANCE SPECIFICATIONS

All tests performed at an independent laboratory and based on AMCA standard – 500 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 damper. 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

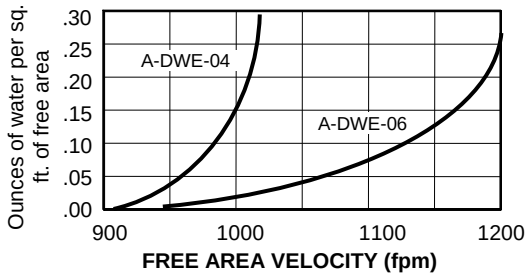
The "free area flow rate" at which water penetration commences (.01 oz. of water) is established at, 910 fpm for A-DWE-04 and 939 fpm for A-DWE-06, and will vary depending upon actual weather conditions. The "water penetration" graph illustrates the results of actual laboratory test on a 48" x 48" (1219 x 1219) test sample subjected to hypothetical rainfall conditions. To determined the free area (in sq. ft.) based on upon a known volumetric flow rate in CFM;

_____CFM/_____FPM=_____SQ. FT. FREE AREA
(System Requirements)

FREE AREA CALCULATIONS IN SQ. FT.

HEIGHT	WIDTH 12	18	24	30	36	42	48	54	60
12 - 4"	0.24	0.41	0.59	0.76	0.94	1.11	1.29	1.46	1.64
6"	0.25	0.43	0.61	0.8	0.98	1.16	1.35	1.53	1.71
18 - 4"	0.46	0.8	1.14	1.48	1.83	2.17	2.51	2.85	3.19
6"	0.47	0.81	1.16	1.5	1.85	2.19	2.54	2.88	3.23
24 - 4"	0.61	1.07	1.52	1.98	2.43	2.89	3.34	3.8	4.25
6"	0.68	1.18	1.69	2.2	2.7	3.21	3.71	4.22	4.72
30 - 4"	0.84	1.47	2.1	2.73	3.36	3.99	4.62	5.25	5.88
6"	0.89	1.56	2.22	2.89	3.55	4.22	4.89	5.55	6.22
36 - 4"	1.07	1.86	2.66	3.46	4.25	5.05	5.84	6.64	7.44
6"	1.11	1.93	2.76	3.58	4.41	5.23	6.06	6.89	7.71
42 - 4"	1.22	2.13	3.04	3.95	4.86	5.77	6.68	7.59	8.5
6"	1.32	2.31	3.29	4.28	5.26	6.25	7.23	8.22	9.21
48 - 4"	1.45	2.54	3.62	4.71	5.79	6.88	7.96	9.05	10.13
6"	1.53	2.68	3.82	4.97	6.12	7.26	8.41	9.55	10.7
54 - 4"	1.67	2.92	4.18	5.43	6.68	7.93	9.18	10.43	11.68
6"	1.75	3.05	4.36	5.66	6.97	8.28	9.58	10.89	12.19
60 - 4"	1.83	3.19	4.56	5.92	7.29	8.65	10.02	11.38	12.75
6"	1.96	3.43	4.89	6.36	7.82	9.29	10.76	12.22	13.69
66 - 4"	2.06	3.6	5.14	6.68	8.22	9.76	11.3	12.84	14.38
6"	2.2	3.85	5.49	7.14	8.79	10.43	12.08	13.73	15.37
72 - 4"	2.28	3.99	5.69	7.4	9.11	10.81	12.52	14.23	15.93
6"	2.44	4.27	6.1	7.93	9.76	11.59	13.42	15.25	17.08
78 - 4"	2.43	4.25	6.07	7.89	9.71	11.53	13.35	15.17	16.99
6"	2.69	4.7	6.71	8.73	10.74	12.75	14.76	16.78	18.79
84 - 4"	2.67	4.66	6.66	8.65	10.65	12.64	14.64	16.63	18.63
6"	2.93	5.13	7.32	9.52	11.71	13.91	16.11	18.3	20.5
90 - 4"	2.89	5.05	7.21	9.37	11.53	13.69	15.86	18.02	20.18
6"	3.18	5.55	7.93	10.31	12.69	15.07	17.45	19.83	22.2
96 - 4"	3.04	5.31	7.59	9.86	12.14	14.42	16.69	18.97	21.24
6"	3.39	5.93	8.47	11.02	13.56	16.1	18.64	21.18	23.72

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



(A-DWE-04) **910 fpm beginning of water penetration**
(A-DWE-06) **939 fpm beginning of water penetration**

EXTRUDED ALUMINUM LOUVER

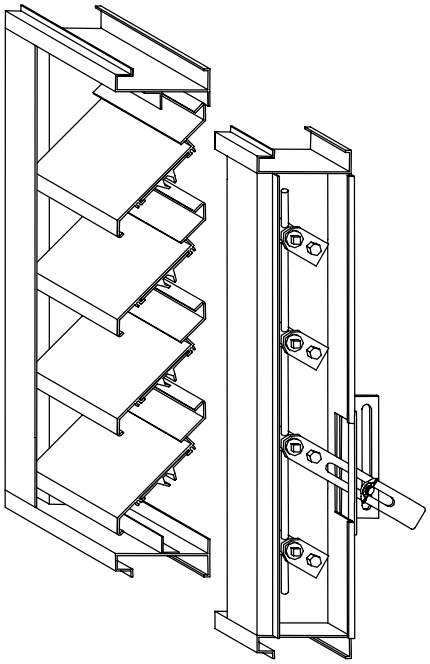
Adjustable Blade Louver in 4” or 6” thick frame design Model A-LEB

Design Features –Adjustable design variation of our traditional stepped blade configuration. Adjustable feature is useful on systems requiring periodic operation or a means of further deterring outside element penetration, which is made possible when the louver is in the closed position.

STANDARD CONSTRUCTION

ALL MATERIAL – EXTRUDED ALUMINUM 6063-T5 (KB-45)

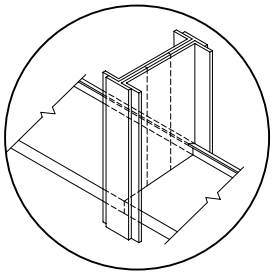
FRAME
A-LEB – 04” (102) thick, is .081 (2.1) extruded aluminum in style #3.
A-LEB – 06” (152) thick, is .081 (2.1) extruded aluminum in style #3.
BLADES
A-LEB – 04” (102) are .081” (2.1) extruded aluminum @ 45°
A-LEB – 06” (152) are .081” (2.1) extruded aluminum @ 45°
BLADE AXLES & BEARINGS
Axles- 7/16” Plated hex
Bearings- Bronze Oilite
LINKAGE
Concealed in jamb
MAXIMUM SIZE
Unlimited, with mullions, structural bracing supplied by others
MAXIMUM FACTORY ASSEMBLY SIZE
60”w x 96”h (1524 x 2438)
(Type of finish may limit maximum single section)
MULLION
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” x .051” (19 x 1.3) flattened expanded aluminum bird screen no frame
FINISH
Mill
OPERATOR
Wingnut adjustable



OPTIONAL CONSTRUCTION

FRAME – Available in a heavier extrusion of .125” (3.2)
BLADES – Available in a heavier extrusion of .125” (3.2)
BLADES & JAMB SEALS – Vinyl blade edge and/or flexible aluminum /stainless steel jamb seals
SCREEN - Many styles available please consult screen listing
LINKAGE – Blade mounted
FINISH – Air-dry primer, polyurethane, epoxy, or enamel. Baked epoxy, Anodize or Kynar
MULLION – Visible for architectural preference

MULLION STYLES



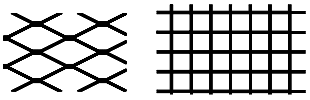
Visible

PERFORMANCE	
A-LEB 04	Pt. of Water Penetration **930 fpm** Free Area **46%** 48 x 48 unit size
A-LEB 06	Pt. of Water Penetration **852 fpm** Free Area **51%** 48 x 48 unit size

SPECIAL PURPOSE CONSTRUCTION

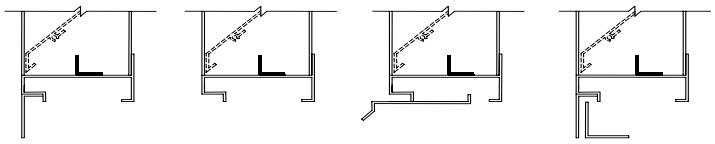
Fully welded construction
Filter racks
Sleeved for ductwork connection
Security bars
Jackshaft when required

TYPICAL SCREEN STYLES



Expanded Aluminum Standard Wire Mesh

FRAME STYLE



1- Flange (1.5”) 3 – Box 8- Box with Sill Extension 9 - Flange with Sub Frame

DATE	ARCHITECT			CUSTOMER
PROJECT				
ITEM	QTY	W	H	DESCRIPTION

DEPENDABLE PRODUCTS SINCE 1955

SAFE-AIR OF ILLINOIS INC.

Engineering and General Offices

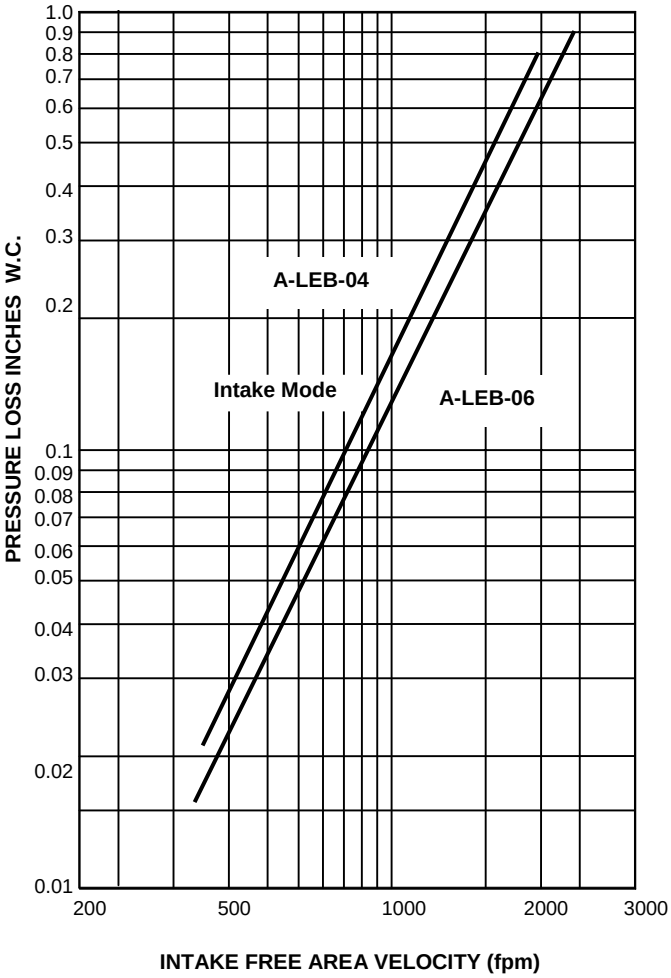
1855 South 54th Avenue, Cicero, Illinois 60804

Phone 708-652-9100 FAX 708-652-9158

A-LEB-04 & 06 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)

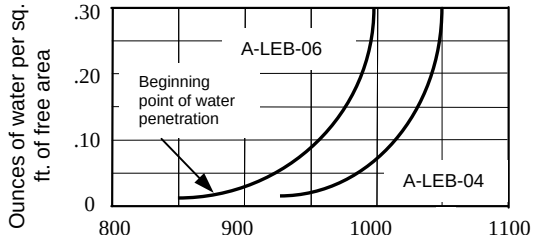
_____CFM / ____ FPM Free Area Velocity = _____Sq. Ft. Free Area

CALCULATING MAXIMUM AIRFLOW BEFORE WATER PENETRATION

The "free area flow rate" at which water penetration commences (.01 oz. of water) is established at, 930 fpm for A-LEB-04 and 852 fpm for A-LEB-06, 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 determined 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



FREE AREA VELOCITY (fpm)
(A-LEB-04) **930 fpm beginning of water penetration**
(A-LEB-06) **852 fpm beginning of water penetration**

FREE AREA CALCULATIONS IN SQ. FT.

HEIGHT \ WIDTH	12	18	24	30	36	42	48	54	60
12 - 4"	0.2	0.35	0.5	0.65	0.8	0.95	1.1	1.25	1.4
- 6"	0.26	0.46	0.65	0.85	1.04	1.24	1.43	1.62	1.82
18 - 4"	0.42	0.74	1.05	1.36	1.67	1.99	2.3	2.61	2.93
- 6"	0.47	0.83	1.18	1.53	1.88	2.23	2.58	2.94	3.29
24 - 4"	0.61	1.07	1.53	1.99	2.44	2.9	3.36	3.81	4.27
- 6"	0.67	1.18	1.68	2.18	2.68	3.19	3.69	4.19	4.69
30 - 4"	0.76	1.33	1.89	2.46	3.02	3.59	4.16	4.72	5.29
- 6"	0.88	1.53	2.18	2.83	3.49	4.14	4.79	5.44	6.1
36 - 4"	0.94	1.65	2.35	3.06	3.76	4.47	5.17	5.88	6.58
- 6"	1.08	1.88	2.68	3.49	4.29	5.09	5.9	6.7	7.5
42 - 4"	1.16	2.03	2.9	3.77	4.63	5.5	6.37	7.24	8.11
- 6"	1.28	2.23	3.18	4.14	5.09	6.05	7	7.95	8.91
48 - 4"	1.34	2.34	3.34	4.34	5.35	6.35	7.35	8.35	9.35
- 6"	1.48	2.58	3.69	4.79	5.89	7	8.1	9.21	10.31
54 - 4"	1.49	2.6	3.71	4.82	5.93	7.04	8.15	9.26	10.37
- 6"	1.68	2.93	4.19	5.44	6.7	7.95	9.21	10.46	11.72
60 - 4"	1.68	2.94	4.2	5.46	6.72	7.98	9.24	10.5	11.76
- 6"	1.88	3.28	4.69	6.09	7.5	8.9	10.31	11.72	13.12
66 - 4"	1.9	3.33	4.75	6.17	7.6	9.02	10.44	11.87	13.29
- 6"	2.1	3.68	5.25	6.82	8.4	9.97	11.54	13.12	14.69
72 - 4"	2.07	3.61	5.16	6.7	8.25	9.79	11.34	12.89	14.43
- 6"	2.33	4.08	5.82	7.57	9.31	11.06	12.81	14.55	16.3
78 - 4"	2.21	3.87	5.52	7.17	8.83	10.48	12.14	13.79	15.45
- 6"	2.56	4.48	6.4	8.32	10.23	12.15	14.07	15.99	17.91
84 - 4"	2.43	4.24	6.06	7.87	9.69	11.5	13.32	15.13	16.95
- 6"	2.79	4.88	6.97	9.06	11.15	13.24	15.33	17.42	19.52
90 - 4"	2.64	4.62	6.6	8.58	10.56	12.54	14.51	16.49	18.47
- 6"	3.02	5.28	7.55	9.81	12.07	14.34	16.6	18.86	21.12
96 - 4"	2.79	4.88	6.97	9.06	11.15	13.24	15.33	17.42	19.51
- 6"	3.23	5.65	8.07	10.49	12.91	15.33	17.75	20.17	22.59

EXTRUDED ALUMINUM LOUVER

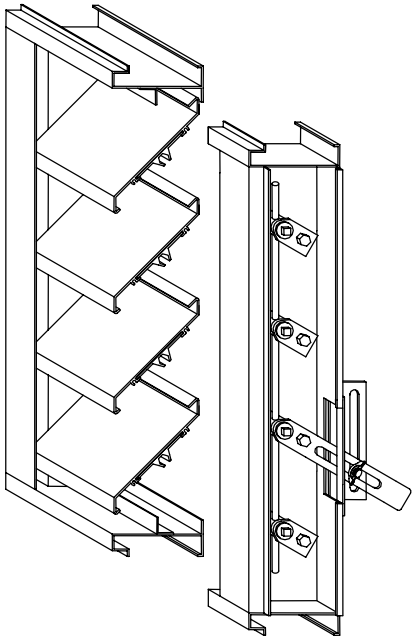
Adjustable Blade Louver in 4” or 6” thick frame design Model A-LEC

Design Features –Adjustable design variation of our traditional stepped blade configuration. Adjustable feature is useful on systems requiring periodic operation or a means of further deterring outside element penetration, which is made possible when the louver is in the closed position.

STANDARD CONSTRUCTION

ALL MATERIAL – EXTRUDED ALUMINUM 6063-T5 (KB-45)

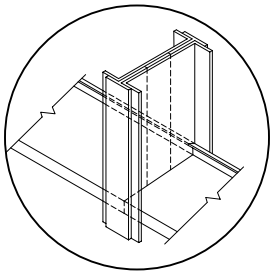
FRAME
A-LEC– 04” (102) thick, is .081 (2.1) extruded aluminum in style #3.
A-LEC– 06” (152) thick, is .081 (2.1) extruded aluminum in style #3.
BLADES
A-LEC – 04” (102) are .081” (2.1) extruded aluminum @ 45°
A-LEC – 06” (152) are .081” (2.1) extruded aluminum @ 45°
BLADE AXLES & BEARINGS
Axles- 7/16” Plated hex
Bearings- Bronze Oilite
LINKAGE
Concealed in jamb
MAXIMUM SIZE
Unlimited, with mullions, structural bracing supplied by others
MAXIMUM FACTORY ASSEMBLY SIZE
60”w x 96”h (1524 x 2438)
(Type of finish may limit maximum single section)
MULLION
Invisible
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” x .051” (19 x 1.3) flattened expanded aluminum bird screen no frame
FINISH
Mill
OPERATOR
Wingnut adjustable



OPTIONAL CONSTRUCTION

FRAME – Available in a heavier extrusion of .125” (3.2)
BLADES – Available in a heavier extrusion of .125” (3.2)
BLADES & JAMB SEALS – Vinyl blade edge and/or flexible aluminum /stainless steel jamb seals
SCREEN - Many styles available please consult screen listing
FINISH – Air-dry primer, polyurethane, epoxy, or enamel. Baked epoxy, Anodize or Kynar
LINKAGE – Blade mounted
MULLION – Visible for architectural preference

MULLION STYLES



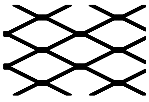
Visible

PERFORMANCE	
A-LEC 04	Pt. of Water Penetration **879 fpm** Free Area **47%** 48 x 48 unit size
A-LEC 06	Pt. of Water Penetration **906 fpm** Free Area **53%** 48 x 48 unit size

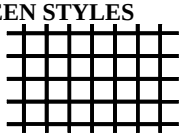
SPECIAL PURPOSE CONSTRUCTION

Fully welded construction
Filter racks
Sleeved for ductwork connection
Security bars
Jackshaft when required

TYPICAL SCREEN STYLES

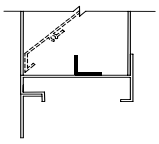


Expanded Aluminum Standard

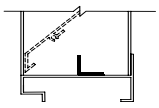


Wire Mesh

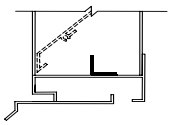
FRAME STYLE



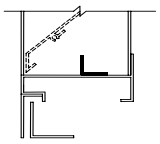
1- Flange (1.5”)



3 – Box



8- Box with Sill Extension



9 - Flange with Sub Frame

DATE	ARCHITECT			CUSTOMER
PROJECT				
ITEM	QTY	W	H	DESCRIPTION

DEPENDABLE PRODUCTS SINCE 1955

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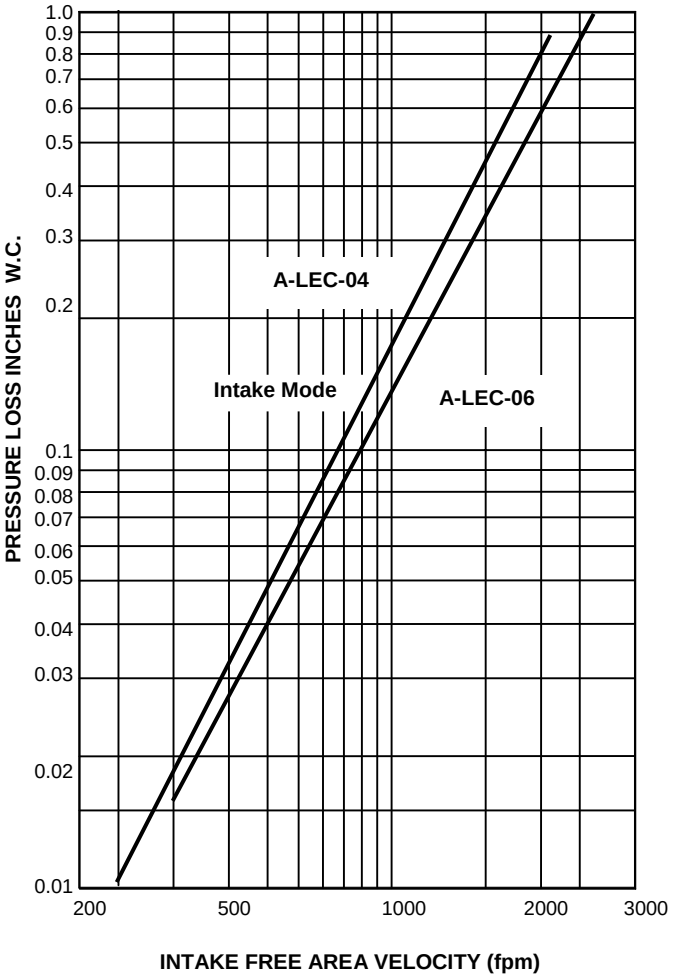


CALCULATING PRESSURE LOSS

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)

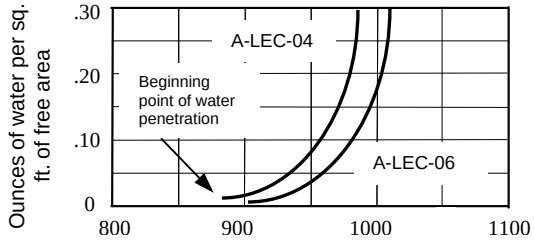
_____CFM / ____ FPM Free Area Velocity = _____Sq. Ft. Free Area

CALCULATING MAXIMUM AIRFLOW BEFORE WATER PENETRATION

The "free area flow rate" at which water penetration commences (.01 oz. of water) is established at, 879 fpm for A-LEC-04 and 906 fpm for A-LEC-06, 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 determined 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



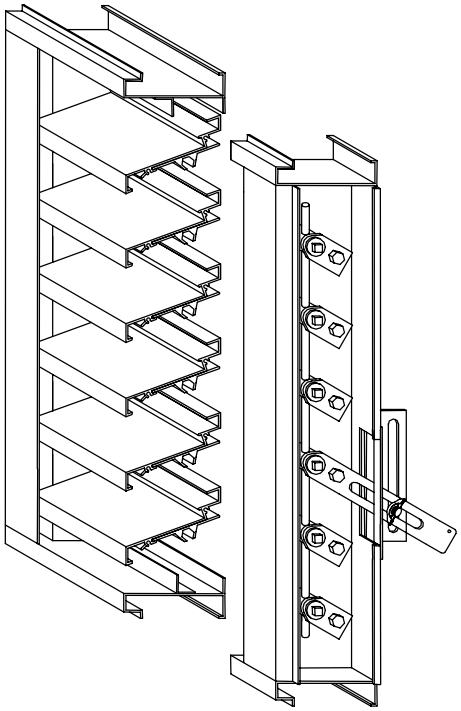
FREE AREA VELOCITY (fpm)
(A-LEC-04) **879 fpm beginning of water penetration**
(A-LEC-06) **906 fpm beginning of water penetration**

FREE AREA CALCULATIONS IN SQ. FT.

HEIGHT \ WIDTH	12	18	24	30	36	42	48	54	60
12 - 4"	0.25	0.43	0.62	0.8	0.98	1.17	1.35	1.53	1.72
- 6"	0.27	0.47	0.67	0.87	1.08	1.28	1.48	1.68	1.95
18 - 4"	0.48	0.83	1.18	1.53	1.89	2.24	2.59	2.94	3.3
- 6"	0.48	0.84	1.2	1.56	1.92	2.28	2.64	3	3.81
24 - 4"	0.62	1.09	1.55	2.01	2.47	2.94	3.4	3.86	4.33
- 6"	0.7	1.21	1.73	2.25	2.77	3.29	3.8	4.32	5.31
30 - 4"	0.81	1.41	2.01	2.62	3.22	3.82	4.43	5.03	5.63
- 6"	0.91	1.58	2.26	2.94	3.61	4.29	4.97	5.64	6.95
36 - 4"	1.04	1.81	2.58	3.35	4.13	4.9	5.67	6.45	7.22
- 6"	1.12	1.95	2.79	3.62	4.46	5.29	6.13	6.96	8.81
42 - 4"	1.21	2.12	3.02	3.92	4.83	5.73	6.64	7.54	8.45
- 6"	1.33	2.32	3.32	4.31	5.3	6.3	7.29	8.29	10.62
48 - 4"	1.37	2.39	3.41	4.44	5.46	6.48	7.5	8.52	9.55
- 6"	1.54	2.69	3.85	5	6.15	7.3	8.46	9.61	11.95
54 - 4"	1.6	2.79	3.98	5.17	6.37	7.56	8.75	9.94	11.14
- 6"	1.75	3.06	4.37	5.69	7	8.31	9.62	10.93	13.82
60 - 4"	1.8	3.14	4.49	5.84	7.18	8.53	9.87	11.22	12.56
- 6"	1.96	3.43	4.9	6.37	7.84	9.31	10.78	12.25	15.68
66 - 4"	1.95	3.4	4.86	6.31	7.77	9.23	10.68	12.14	13.59
- 6"	2.2	3.85	5.49	7.14	8.78	10.43	12.08	13.72	17.26
72 - 4"	2.15	3.77	5.38	6.99	8.6	10.21	11.83	13.44	15.05
- 6"	2.44	4.27	6.09	7.92	9.75	11.57	13.4	15.23	18.82
78 - 4"	2.38	4.16	5.95	7.73	9.51	11.29	13.07	14.86	16.64
- 6"	2.68	4.69	6.7	8.7	10.71	12.72	14.72	16.73	20.68
84 - 4"	2.53	4.43	6.33	8.23	10.12	12.02	13.92	15.82	17.71
- 6"	2.92	5.11	7.3	9.48	11.67	13.86	16.05	18.23	22.54
90 - 4"	2.71	4.75	6.78	8.81	10.84	12.87	14.9	16.93	18.97
- 6"	3.16	5.53	7.89	10.26	12.63	14.99	17.36	19.72	23.89
96 - 4"	2.94	5.14	7.34	9.55	11.75	13.95	16.15	18.35	20.55
- 6"	3.37	5.9	8.42	10.95	13.47	16	18.52	21.05	25.68

Adjustable Blade Louver in 4” thick frame design Model A-LEG-04

Design Features – Adjustable design variation of our traditional stepped blade configuration. Adjustable feature is useful on systems requiring periodic operation or a means of further deterring outside element penetration, which is made possible when the louver is in the closed position.



STANDARD CONSTRUCTION

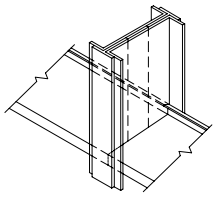
ALL MATERIAL – EXTRUDED ALUMINUM 6063-T5 (KB-45)

FRAME
A-LEG– 04” (102) thick, is .081 (2.1) extruded aluminum in style #3.
BLADES
A-LEG – 04” (102) are .081” (2.1) extruded aluminum @ 45°
BLADE AXLES & BEARINGS
Axles- 7/16” Plated hex
Bearings- Bronze Oilite
LINKAGE
Concealed in jamb
MAXIMUM SIZE
Unlimited, with mullions, structural bracing supplied by others
MAXIMUM FACTORY ASSEMBLY SIZE
60”w x 96”h (1524 x 2438)
(Type of finish may limit maximum single section)
MULLION
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” x .051” (19 x 1.3) flattened expanded aluminum bird screen no frame
FINISH
Mill
OPERATOR
Wingnut adjustable

OPTIONAL CONSTRUCTION

FRAME – Available in a heavier extrusion of .125” (3.2)
BLADES – Available in a heavier extrusion of .125” (3.2)
SCREEN - Many styles available please consult screen listing
FINISH – Air-dry primer, polyurethane, epoxy, or enamel. Baked epoxy, Anodize or Kynar
LINKAGE – Blade mounted
MULLION – Visible for architectural preference

MULLION STYLES

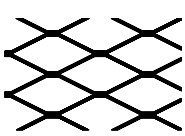


Visible

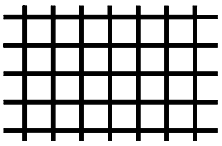
SPECIAL PURPOSE CONSTRUCTION

Fully welded construction
Security bars
Filter racks
Jackshaft when required
Sleeved for ductwork connection

TYPICAL SCREEN STYLES

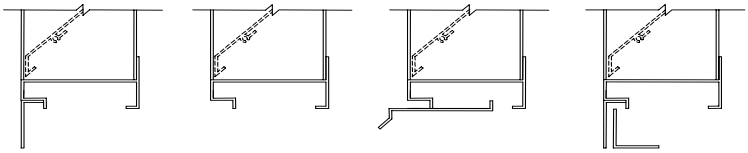


Expanded Aluminum Standard



Wire Mesh

FRAME STYLES



1- Flange (1.5”) | 3 – Box | 8- Box with Sill Extension | 9 - Flange with Sub Frame

DATE	ARCHITECT			CUSTOMER
PROJECT				
ITEM	QTY	W	H	DESCRIPTION

DEPENDABLE PRODUCTS SINCE 1955

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WIDTH **FREE AREA CALCULATIONS IN SQ. FT.**

INCHES	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96
12	.32	.51	.70	.89	1.08	1.27	1.47	1.66	1.85	2.04	2.23	2.42	2.61	2.80	2.99
18	.56	.90	1.24	1.58	1.92	2.26	2.60	2.94	3.28	3.61	3.95	4.29	4.63	4.97	5.31
24	.81	1.30	1.78	2.27	2.76	3.24	3.73	4.22	4.70	5.19	5.68	6.16	6.65	7.13	7.62
30	1.06	1.69	2.33	2.96	3.59	4.23	4.86	5.50	6.13	6.76	7.40	8.03	8.67	9.30	9.93
36	1.30	2.08	2.87	3.65	4.43	5.21	5.99	6.78	7.56	8.34	9.12	9.90	10.68	11.47	12.25
42	1.55	2.48	3.41	4.34	5.27	6.20	7.13	8.06	8.98	9.91	10.84	11.77	12.70	13.63	14.56
48	1.80	2.87	3.95	5.03	6.10	7.18	8.26	9.33	10.41	11.49	12.57	13.64	14.72	15.80	16.87
54	2.04	3.27	4.49	5.72	6.94	8.16	9.39	10.61	11.84	13.06	14.29	15.51	16.74	17.96	19.19
60	2.29	3.66	5.03	6.40	7.78	9.15	10.52	11.89	13.27	14.64	16.01	17.38	18.76	20.13	21.50
66	2.53	4.05	5.57	7.09	8.61	10.13	11.65	13.17	14.69	16.21	17.73	19.25	20.77	22.29	23.81
72	2.78	4.45	6.11	7.78	9.45	11.12	12.79	14.45	16.12	17.79	19.46	21.12	22.79	24.46	26.13
78	3.03	4.84	6.66	8.47	10.29	12.10	13.62	15.73	17.55	19.36	21.18	22.99	24.81	26.63	28.44
84	3.27	5.23	7.20	9.16	11.12	13.09	15.05	17.01	18.98	20.94	22.90	24.86	26.83	28.79	30.75
90	3.52	5.63	7.74	9.85	11.96	14.07	16.18	18.29	20.40	22.51	24.62	26.74	28.85	30.96	33.07
96	3.76	6.02	8.28	10.54	12.80	15.06	17.31	19.57	21.83	24.09	26.35	28.61	30.86	33.12	35.38

HEIGHT

EXTRUDED ALUMINUM LOUVER

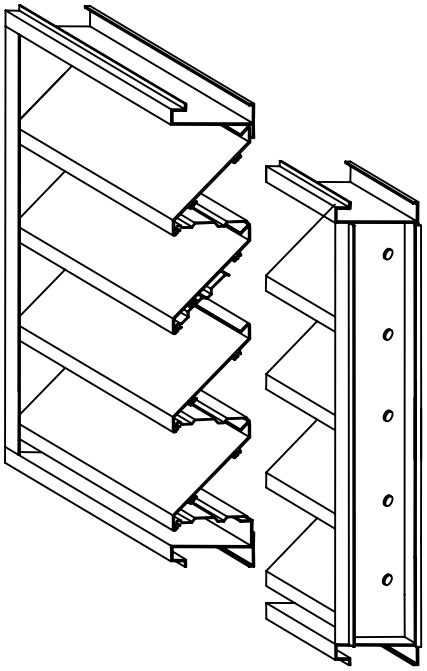
Combination Louver with Integral Shutter • Model AEN

Design Features – Integral shutter acts as back draft damper. **USE AS INTAKE ONLY.** Louvers are designed to withstand inward and outward wind pressure up to 25 psf (100 mph).

STANDARD CONSTRUCTION

ALL MATERIAL – EXTRUDED ALUMINUM 6063-T5 (KB-45)

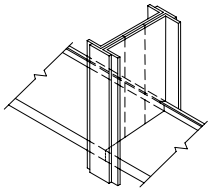
FRAME
AEN-04, 4" deep, .081 ga. extruded alum. in style #3.
BLADES
Fixed - .081" ga. extruded alum, approx. spacing is 3-1/2" @ 45°
Shutter - .050" extruded alum.
BLADE AXELS
3/16" Diameter "delrin" pivot pins
SEALS
Polyurethane Foam blade edge seal
FASTENERS
#10 Plated steel screw
MAXIMUM SIZE
Unlimited, with mullions, structural bracing supplied by others
MAXIMUM FACTORY ASSEMBLY SIZE
60" W x 120" H (allows for best handling)
(Type of finish may limit maximum single section)
MULLION
Visible
MINIMUM SIZE
12" W x 12" H
UNDERSIZED
1/4" under ordered size unless specified Exact or Actual
SCREEN
3/4" x .051" ga. flattened expanded alum. bird screen no frame
FINISH
Mill



OPTIONAL CONSTRUCTION

FRAME – Available in a heavier extrusion of .125" ga.
BLADES – Available in a heavier extrusion of .125" ga.
SCREEN - Many styles available please consult screen listing
FINISH – Air-dry primer, Polyurethane, Epoxy, Baked Enamel, Powder Coat, Anodized or Kynar 500.

MULLION STYLES

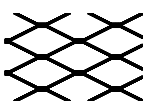


Visible

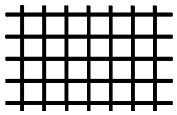
SPECIAL PURPOSE CONSTRUCTION

Fully welded construction
Security bars
Filter racks
Hinged as walk through door or for swing out access
Sleeved for ductwork connection

TYPICAL SCREEN STYLES

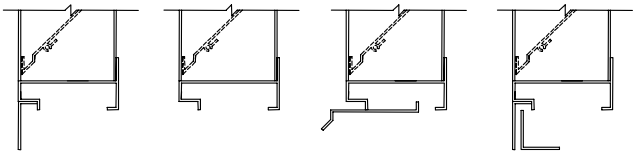


Expanded Aluminum Standard



Wire Mesh

FRAME STYLES



(1) - Flange 1-1/2" *(38)*

(3) - Box Standard

(8) - Box and Sill Extension

(9) - Flange w/ sub frame

DATE	ARCHITECT / ENGINEER	CUSTOMER
PROJECT		

ITEM	QTY	W	H	TAG

DEPENDABLE PRODUCTS SINCE 1955

SAFE-AIR / DOWCO

Engineering and General Offices

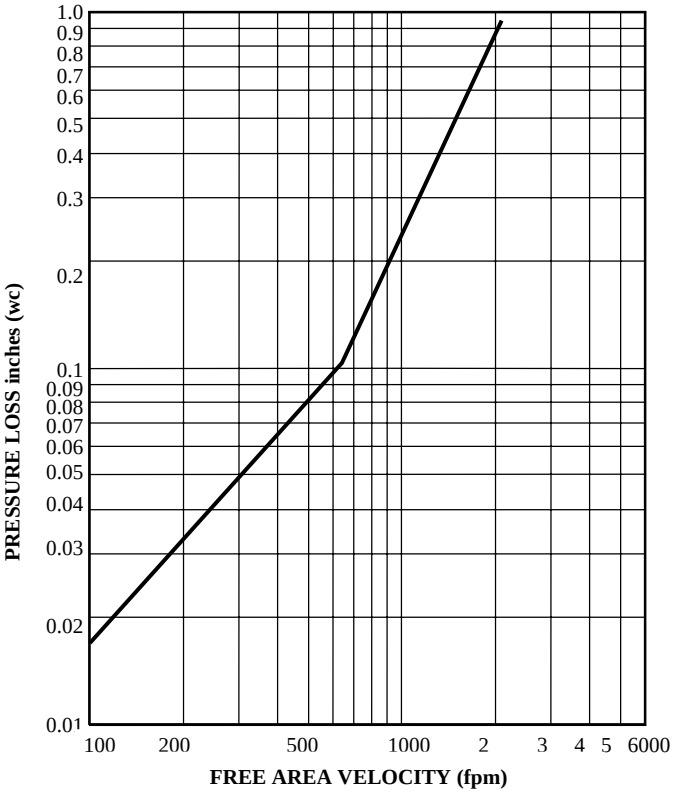
1855 South 54th Avenue / Cicero, Illinois 60804

Phone: 708-652-9100 FAX: 708-652-9158

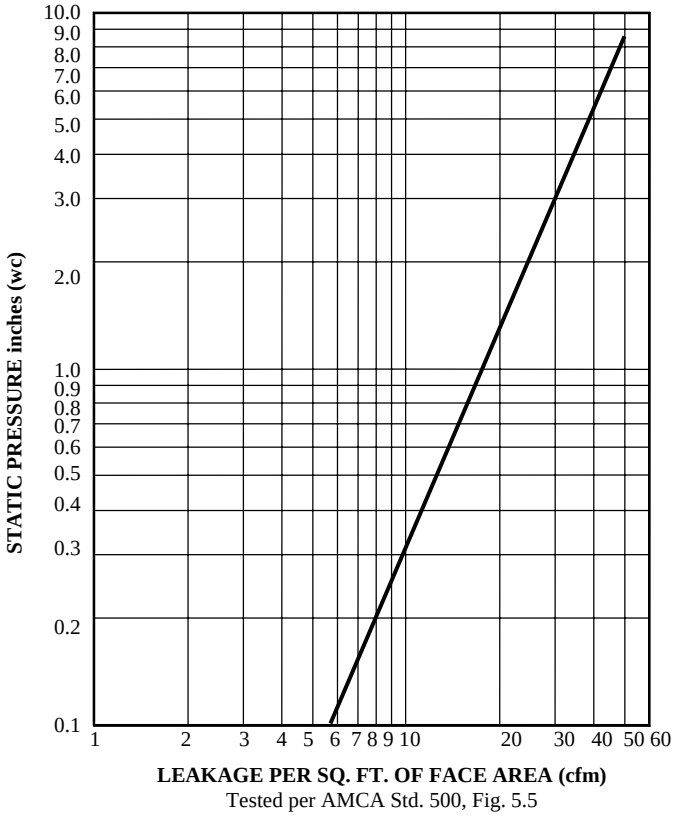
AEN-04 PERFORMANCE SPECIFICATIONS

All tests performed at an independent laboratory and based on AMCA standards for air performance.

AIR PERFORMANCE



AIR LEAKAGE



Tested per AMCA Std. 500, Fig. 5.5

AEN-04 Performance Data				
Damper Width Inches	**Max. Pressure**	**Maximum System Velocity**	**Blades start to open**	**Blades fully open**
60”	.5” w.g.	1000 fpm	.02” wg.	.06” wg.
48”	1” w.g.	1000 fpm		
24”	2.5” w. g.	1000 fpm		
12”	3.5” w. g.	1000 fpm		

TO MINIMIZE LEAKAGE

The Leakage performance of a damper will improve with size and varies with aspect ratio. Leakage may always be minimized by selecting dampers as tall as possible, minimizing width. Testing was performed at an independent laboratory using test procedures based on Industry Standards for air leakage.

FREE AREA CALCULATIONS

HEIGHT Inches	WIDTH 12	18	24	30	36	42	48	54	60
12	0.23	0.37	0.50	0.64	0.78	0.92	1.05	1.19	1.33
18	0.47	0.75	1.03	1.31	1.59	1.88	2.16	2.44	2.72
24	0.63	1.00	1.38	1.75	2.13	2.50	2.88	3.25	3.63
30	0.78	1.26	1.73	2.20	2.67	3.14	3.61	4.08	4.55
36	1.03	1.64	2.26	2.88	3.49	4.11	4.73	5.34	5.96
42	1.25	2.00	2.75	3.50	4.25	5.00	5.75	6.50	7.25
48	1.41	2.25	3.09	3.94	4.78	5.63	6.47	7.31	8.16
54	1.58	2.53	3.48	4.43	5.38	6.33	7.28	8.23	9.18
60	1.83	2.92	4.02	5.11	6.21	7.31	8.40	9.50	10.59
66	2.03	3.25	4.47	5.69	6.91	8.13	9.34	10.56	11.78
72	2.19	3.50	4.81	6.13	7.44	8.75	10.06	11.38	12.69
78	2.38	3.81	5.24	6.67	8.10	9.53	10.96	12.39	13.82
84	2.63	4.20	5.78	7.35	8.93	10.50	12.08	13.65	15.23
90	2.81	4.50	6.19	7.88	9.56	11.25	12.94	14.63	16.31
96	2.97	4.75	6.53	8.31	10.09	11.88	13.66	15.44	17.22
102	3.18	5.09	7.00	8.91	10.81	12.72	14.63	16.54	18.45
108	3.42	5.48	7.53	9.59	11.64	13.69	15.75	17.80	19.86
114	3.59	5.75	7.91	10.06	12.22	14.38	16.53	18.69	20.84
120	3.75	6.00	8.25	10.50	12.75	15.00	17.25	19.50	21.75

EXTRUDED ALUMINUM LOUVER

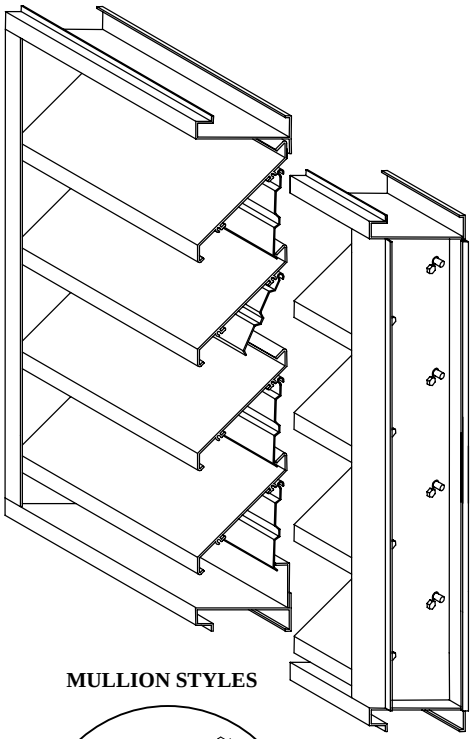
Combination Louver with Integral Shutter Model AEO-04

Features – Integral shutter blade acts as back draft damper. – **USE AS EXHAUST ONLY**.

STANDARD CONSTRUCTION

ALL MATERIAL – EXTRUDED ALUMINUM 6063-T5 (KB-45)

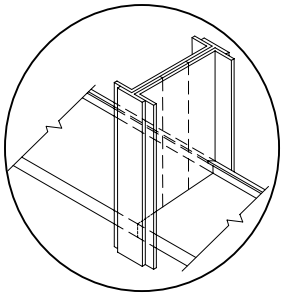
FRAME
.081" (2.1) Extruded Aluminum in style #3
BLADES
Fixed - .081 (2.1) Extruded Aluminum, approx. spacing is 4" (102) @ 45°
Backdraft - .050 (13) Extruded Aluminum (non-linked)
BLADE AXLES & BEARINGS
AXLES - 3/16" (5) aluminum pins
BEARINGS – Brass sleeve
SEALS
Polyurethane foam blade edge seal
MAXIMUM SIZE
Unlimited, with mullions, structural bracing supplied by others
MAXIMUM SINGLE SECTION
60" w x 120" h (1524 X 3048)
MINIMUM SIZE
12" w x 18" h (305 X 457)
MULLIONS
Visible
UNDERSIZED
¼" under ordered size unless specified Exact or Actual
SCREEN
3/4" x .050 (19 X 1.3) expanded aluminum bird screen no frame
FINISH
Mill



OPTIONAL CONSTRUCTION

FRAME & BLADES – Available in a heavier extrusion of .125 (3.2)
SCREEN – Many styles available please consult screen listing
FINISH – Mill, Factory prime coat, Baked epoxy or enamel, Kynar 500, Bronze Anodized or Powder coat.
OPERATORS – Manual, electric or pneumatic

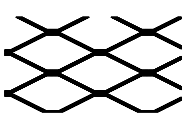
MULLION STYLES



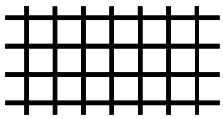
SPECIAL PURPOSE CONSTRUCTION

Fully welded construction
Security bars
Built in integral damper
Filter racks
Sleeved for ductwork connection

TYPICAL SCREEN STYLES

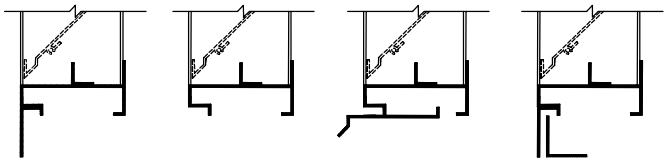


Expanded Aluminum Standard



Wire Mesh

FRAME STYLE



1 – Flange (1.50") 3 – Box 8 – Box with Sill Extension 9 – Flange with Sub Frame

DATE	ARCHITECT			ENGINEER
PROJECT				
ITEM	QTY	W	H	DESCRIPTION

DEPENDABLE PRODUCTS SINCE 1955

SAFE-AIR OF ILLINOIS, INC.

Engineering and General Offices

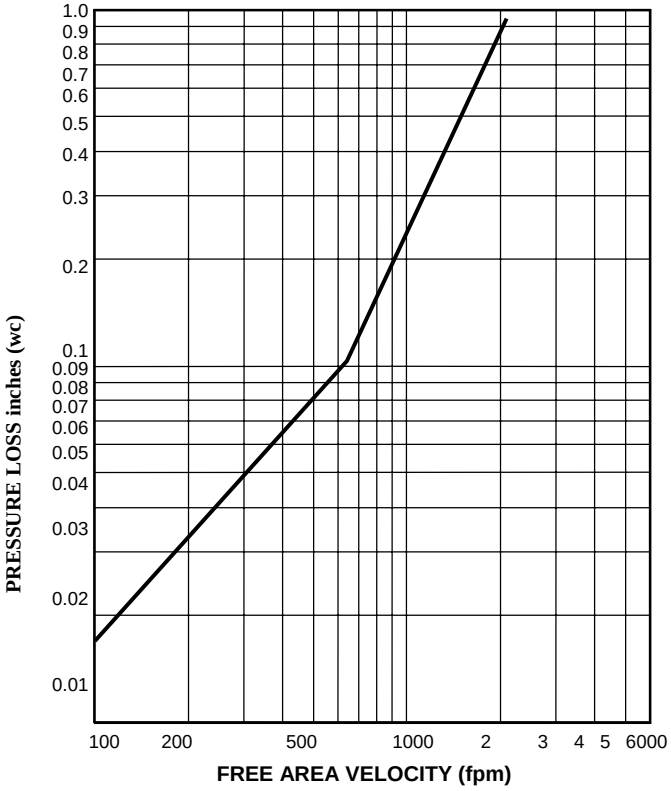
1855 South 54th Avenue, Cicero, Illinois 60804

Phone 708-652-9100 FAX 708-652-9158

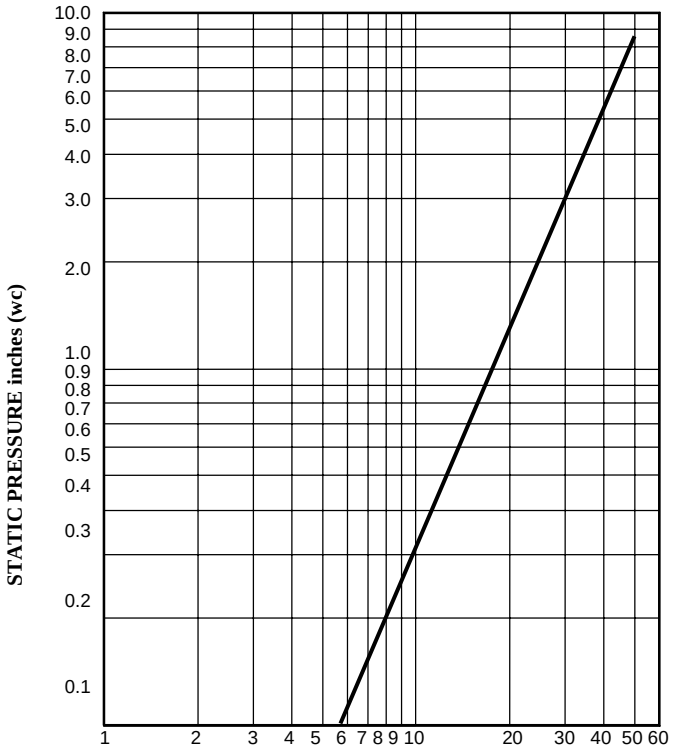
AEO-04 PERFORMANCE SPECIFICATIONS

All tests performed at an independent laboratory and based on AMCA standards for air performance.

AIR PERFORMANCE



AIR LEAKAGE



Tested per AMCA Std. 500, Fig. 5.5

AEO-04 Performance Data				
Damper Width Inches	**Max. Pressure**	**Maximum System Velocity**	**Blades start to open**	**Blades fully open**
60” 48” 24” 12”	.5” w.g. 1” w.g. 2.5” w. g. 3.5” w. g.	1000 fpm 1000 fpm 1000 fpm 1000 fpm	.02” wg.	.06” wg.

TO MINIMIZE LEAKAGE

The Leakage performance of a damper will improve with size and varies with aspect ratio. Leakage may always be minimized by selecting dampers as tall as possible, minimizing width. Testing was performed at an independent laboratory using test procedures based on Industry Standards for air leakage.

FREE AREA CALCULATIONS

HEIGHT \ WIDTH Inches	12	18	24	30	36	42	48	54	60
12	0.19	0.33	0.48	0.62	0.76	0.91	1.05	1.19	1.34
18	0.35	0.61	0.87	1.13	1.39	1.65	1.91	2.17	2.43
24	0.46	0.81	1.16	1.51	1.85	2.20	2.55	2.90	3.24
30	0.65	1.15	1.64	2.13	2.62	3.11	3.60	4.09	4.58
36	0.81	1.42	2.03	2.63	3.24	3.85	4.46	5.07	5.68
42	0.93	1.62	2.32	3.01	3.71	4.40	5.10	5.79	6.49
48	1.12	1.96	2.79	3.63	4.47	5.31	6.15	6.99	7.82
54	1.27	2.23	3.19	4.14	5.10	6.05	7.01	7.96	8.92
60	1.39	2.43	3.47	4.52	5.56	6.60	7.64	8.69	9.73
66	1.58	2.77	3.95	5.14	6.32	7.51	8.70	9.88	11.07
72	1.74	3.04	4.34	5.65	6.95	8.25	9.56	10.86	12.16
78	1.85	3.24	4.63	6.02	7.41	8.80	10.19	11.58	12.97
84	2.04	3.58	5.11	6.64	8.18	9.71	11.24	12.78	14.31
90	2.20	3.85	5.50	7.15	8.80	10.45	12.10	13.75	15.40
96	2.32	4.05	5.79	7.53	9.27	11.00	12.74	14.48	16.21
102	2.51	4.39	6.27	8.15	10.03	11.91	13.79	15.67	17.55
108	2.66	4.66	6.66	8.66	10.66	12.65	14.65	16.65	18.65
114	2.78	4.86	6.95	9.03	11.12	13.20	15.29	17.37	19.46
120	2.97	5.20	7.43	9.65	11.88	14.11	16.34	18.57	20.80

DEPENDABLE PRODUCTS SINCE 1955

Combination Fixed / Adjustable Drainable Blade Louver Model C-DWE-44

Design Features – Traditional straight architectural design with blades fixed at 45º angles. Louver construction conforms to SMACNA and ASHRAE standards.

STANDARD CONSTRUCTION

ALL MATERIAL – EXTRUDED ALUMINUM 6063-T5 (KB-45)

FRAME
4" Deep, .081" extruded aluminum in style #3

BLADES
Fixed – Drainable .081" extruded aluminum @ 4 " OC. 45º
Adjustable -.125" thk. tapers to .063 extruded aluminum

BLADE AXLES & BEARINGS
Axles – 7/16" plated steel hex
Bearings – ½" dia. bronze oilite

LINKAGE
Plated steel concealed in jamb

BLADE & JAMB SEALS
Vinyl blade and flexible aluminum jamb seals

MAXIMUM SIZE
Unlimited, with mullions, structural bracing supplied by others

MAXIMUM SINGLE SECTION
48" W x 96"H or 60"W x 96"H (with visible mullion strip)
(Type of finish may limit maximum single section)

MULLION
Visible

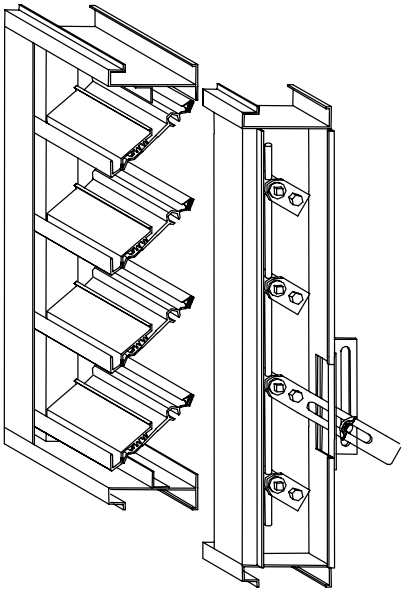
MINIMUM SIZE
12"w x 12"h

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

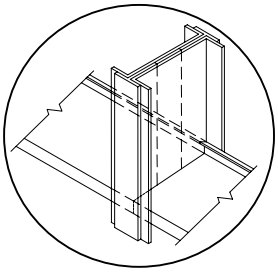
SCREEN
3/4" x .051" flattened expanded aluminum bird screen in frame

FINISH
Mill

OPERATOR
Wing-nut type adjustable



MULLION STYLE



Visible

PERFORMANCE

Point of
Water penetration
980 fpm
Free area
48 x 48 section
54%

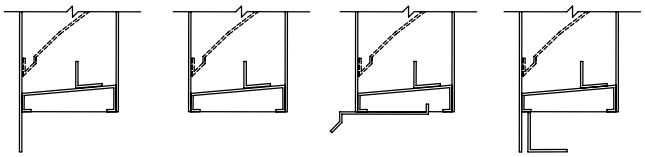
OPTIONAL CONSTRUCTION

FRAME – Available in a heavier extrusion of .125"
BLADES - Available in a heavier extrusion of .125"
JAMB SEALS – Stainless steel jamb seals
SCREEN - Many styles available please consult screen listing
LINKAGE – Blade mounted
FINISH – Air-dry primer, polyurethane, epoxy, or enamel, baked epoxy or enamel, Kynar, or Powder coat.
OPERATOR – Electric or Pneumatic

SPECIAL PURPOSE CONSTRUCTION

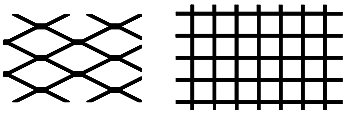
Security bars
Filter racks
Sleeved for ductwork connection
Jackshaft when required

FRAME STYLES



(1) - Flange 1-1/2" | (3) - Box Standard | (8) - Box and Sill Extension | (9) - Flange w/ sub frame

TYPICAL SCREEN STYLES



Expanded Aluminum Standard | Wire Mesh

DATE	ARCHITECT			CUSTOMER
PROJECT				
ITEM	QTY	W	H	Description

DEPENDABLE PRODUCTS SINCE 1955

SAFE-AIR OF ILLINOIS INC.

Engineering and General Offices

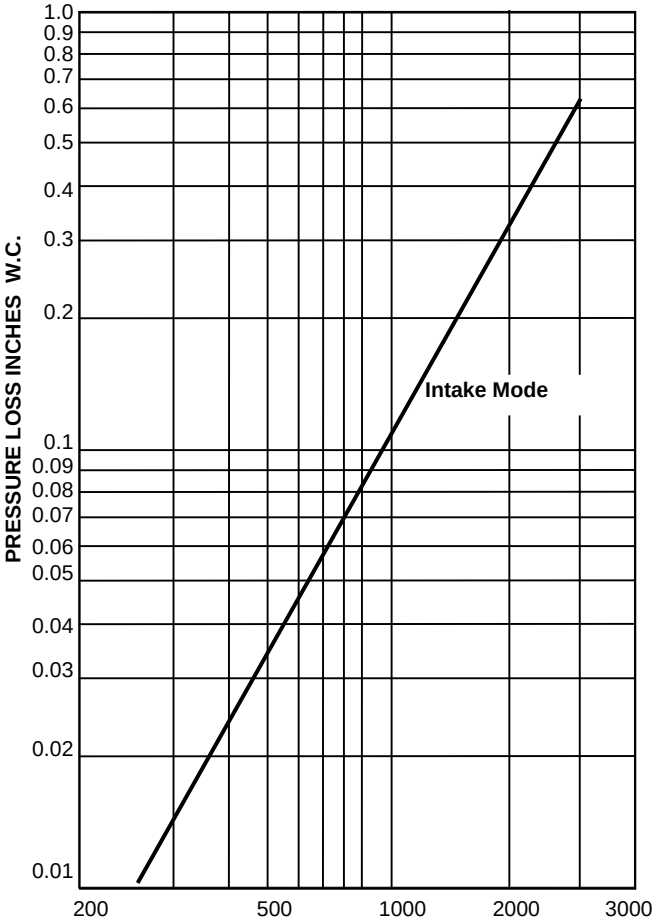
1855 South 54th Avenue, Cicero, Illinois 60804

Phone 708-652-9100 FAX 708-652-9158

C-DWE-44 PERFORMANCE SPECIFICATIONS

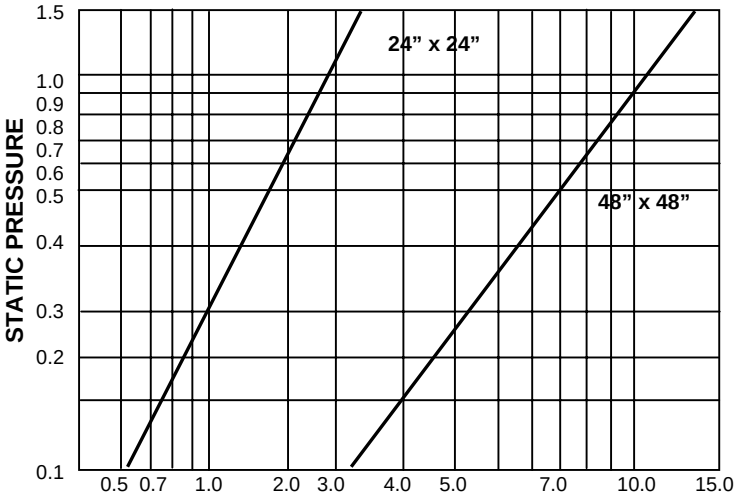
All tests performed at an independent laboratory and based on AMCA standard 511 – 91 for air performance and water penetration.

AIR PERFORMANCE



INTAKE FREE AREA VELOCITY (fpm)

AIR LEAKAGE



Air Leakage (cfm) Per Sq. Ft. of face area

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, 980 fpm for C-DWE-44, 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 determined the free area (in sq. ft.) based on upon a known volumetric flow rate in CFM;

_____CFM/_____FPM=_____SQ. FT. FREE AREA
(System Requirements)

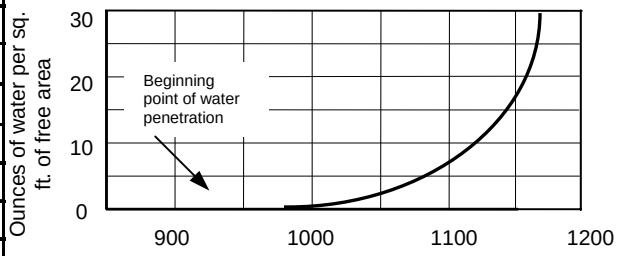
FREE AREA CALCULATIONS IN SQ. FT.

WIDTH

HEIGHT Inches	12	18	24	30	36	42	48	54	60
12	0.27	0.46	0.65	0.84	1.02	1.21	1.40	1.59	1.78
18	0.48	0.83	1.17	1.51	1.85	2.19	2.53	2.88	3.22
24	0.72	1.23	1.74	2.25	2.76	3.27	3.78	4.29	4.80
30	0.94	1.60	2.26	2.92	3.59	4.25	4.91	5.57	6.23
36	1.18	2.01	2.84	3.67	4.49	5.32	6.15	6.98	7.81
42	1.39	2.37	3.36	4.34	5.32	6.30	7.29	8.27	9.25
48	1.63	2.78	3.93	5.08	6.23	7.38	8.53	9.68	10.83
54	1.85	3.15	4.45	5.75	7.06	8.36	9.66	10.96	12.27
60	2.08	3.55	5.02	6.49	7.96	9.44	10.91	12.38	13.85
66	2.30	3.92	5.54	7.17	8.79	10.41	12.04	13.66	15.28
72	2.54	4.33	6.12	7.91	9.70	11.49	13.28	15.07	16.86
78	2.75	4.70	6.64	8.58	10.53	12.47	14.41	16.36	18.30
84	2.99	5.10	7.21	9.32	11.43	13.55	15.66	17.77	19.88
90	3.21	5.47	7.73	10.00	12.26	14.52	16.79	19.05	21.32
96	3.44	5.88	8.31	10.74	13.17	15.60	18.03	20.46	22.90

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	(H20)
980	1000	1080	1120	1160	1170	(fpm)



FREE AREA VELOCITY (fpm)
980 fpm beginning of water penetration

DEPENDABLE PRODUCTS SINCE 1955

Combination Fixed / Adjustable Drainable Blade Louver Model C-DWE-46

Design Features – Traditional straight architectural design with blades fixed at 45º angles. Louver construction conforms to SMACNA and ASHRAE standards.

STANDARD CONSTRUCTION

ALL MATERIAL – EXTRUDED ALUMINUM 6063-T5 (KB-45)

FRAME
6” Deep, .081” extruded aluminum in style #3

BLADES
Fixed – Drainable .081” extruded aluminum @ 5-1/2” OC. 45º
Adjustable - .125” thk. extruded aluminum

BLADE AXLES & BEARINGS
Axles – 7/16” plated steel hex
Bearings – 1/2’ dia. bronze oilite

LINKAGE
Plated steel concealed in jamb

BLADE & JAMB SEALS
Vinyl blade and flexible aluminum jamb seals

MAXIMUM SIZE
Unlimited, with mullions, structural bracing supplied by others

MAXIMUM SINGLE SECTION
60” W x 96”H (Type of finish may limit maximum single section)

MULLION
Visible

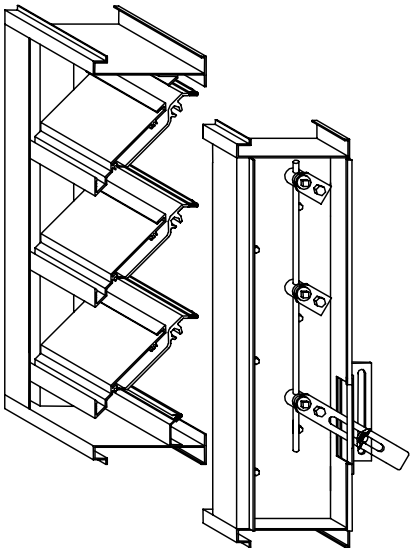
MINIMUM SIZE
12”w x 12”h

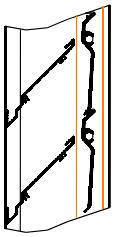
UNDERSIZED
1/4” under ordered size unless specified Exact or Actual

SCREEN
3/4” x .051” flattened expanded aluminum bird screen in frame

FINISH
Mill

OPERATOR
Wing-nut type adjustable



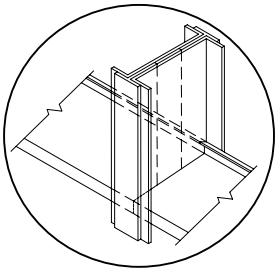


Adjustable blades at closed position

OPTIONAL CONSTRUCTION

FRAME – Available in a heavier extrusion of .125”
BLADES - Available in a heavier extrusion of .125”
JAMB SEALS – Stainless steel jamb seals
SCREEN - Many styles available please consult screen listing
LINKAGE – Blade mounted
FINISH – Air-dry primer, polyurethane, epoxy, or enamel, baked epoxy or enamel, Kynar, or Powder coat.
OPERATOR – Manual, Electric or Pneumatic

MULLION STYLE



Visible

PERFORMANCE

Point of
water penetration
929 fpm
Free area
48 x 48 section
49%

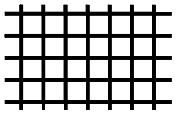
SPECIAL PURPOSE CONSTRUCTION

Security bars
Filter racks
Sleeved for ductwork connection
Jackshaft when required

** Consult SAFE-AIR/DOWCO for additional technical information.

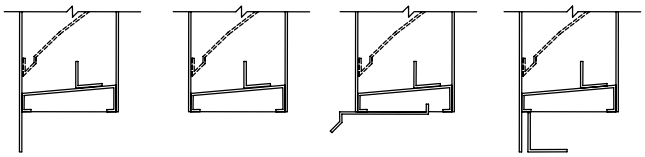
TYPICAL SCREEN STYLES

Expanded Aluminum Standard



Wire Mesh

FRAME STYLES



(1) - Flange 1-1/2” | (3) - Box Standard | (8) - Box and Sill Extension | (9) - Flange w/ sub frame

DATE	ARCHITECT	CUSTOMER
PROJECT		

ITEM	QTY	W	H

AMCA CERTIFIED RATINGS — WATER PENETRATION — AIR PERFORMANCE — AIR MOVEMENT AND CONTROL ASSOCIATION, INC.

SAFE-AIR/DOWCO certifies that the CDWE-46 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 and water penetration ratings.

DEPENDABLE PRODUCTS SINCE 1955

SAFE-AIR OF ILLINOIS INC.

Engineering and General Offices

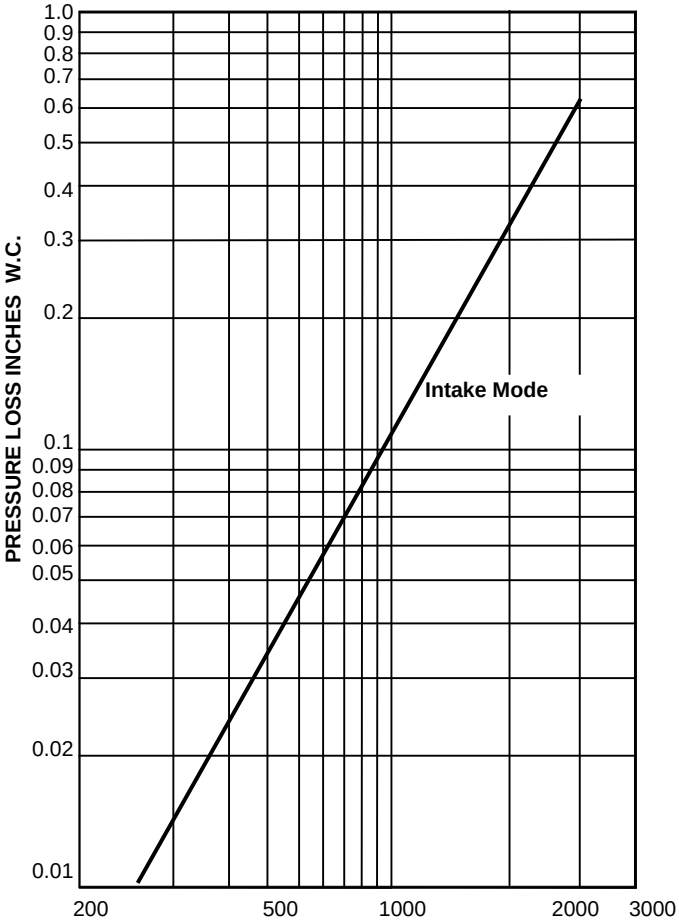
1855 South 54th Avenue, Cicero, Illinois 60804

Phone 708-652-9100 FAX 708-652-9158

C-DWE-46 PERFORMANCE SPECIFICATIONS

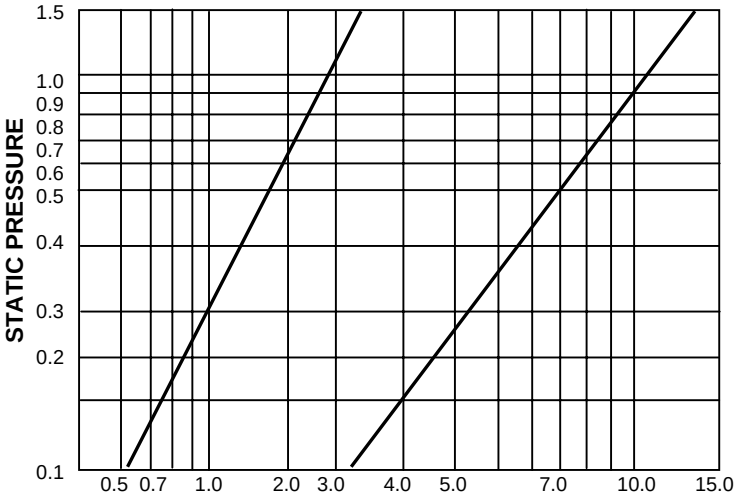
All tests performed at an independent laboratory and based on AMCA standard 511 – 91 for air performance and water penetration.

AIR PERFORMANCE



INTAKE FREE AREA VELOCITY (fpm)

AIR LEAKAGE



Air Leakage (cfm) Per Sq. Ft. of face area

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, 929 fpm for C-DWE-46, 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 determined the free area (in sq. ft.) based on upon a known volumetric flow rate in CFM;

_____CFM/_____FPM=_____SQ. FT. FREE AREA
(System Requirements)

FREE AREA CALCULATIONS IN SQ. FT.

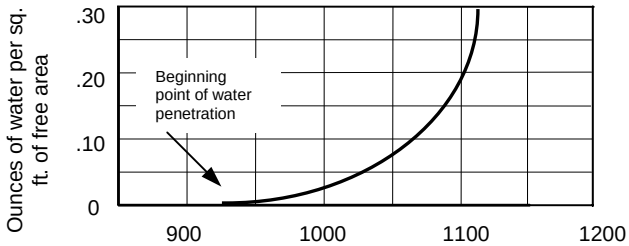
W I D T H

H E I G H T

Inches	12	18	24	30	36	42	48	54	60
12	0.19	0.33	0.47	0.61	0.74	0.88	1.02	1.16	1.29
18	0.41	0.70	0.99	1.28	1.57	1.86	2.15	2.45	2.74
24	0.63	1.07	1.52	1.96	2.40	2.85	3.29	3.73	4.18
30	0.85	1.44	2.04	2.64	3.23	3.83	4.43	5.02	5.62
36	1.06	1.81	2.56	3.31	4.06	4.81	5.56	6.31	7.06
42	1.28	2.18	3.09	3.99	4.89	5.79	6.70	7.60	8.50
48	1.50	2.55	3.61	4.66	5.72	6.78	7.83	8.89	9.95
54	1.71	2.92	4.13	5.34	6.55	7.76	8.97	10.18	11.39
60	1.93	3.29	4.65	6.02	7.38	8.74	10.10	11.47	12.83
66	2.15	3.66	5.18	6.69	8.21	9.72	11.24	12.76	14.27
72	2.36	4.03	5.70	7.37	9.04	10.71	12.38	14.04	15.71
78	2.58	4.40	6.22	8.05	9.87	11.69	13.51	15.33	17.15
84	2.80	4.77	6.75	8.72	10.70	12.67	14.65	16.62	18.60
90	3.01	5.14	7.27	9.40	11.53	13.65	15.78	17.91	20.04
96	3.23	5.51	7.79	10.07	12.36	14.64	16.92	19.20	21.48

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	(H20)
929	967	1017	1055	1093	1115	(fpm)

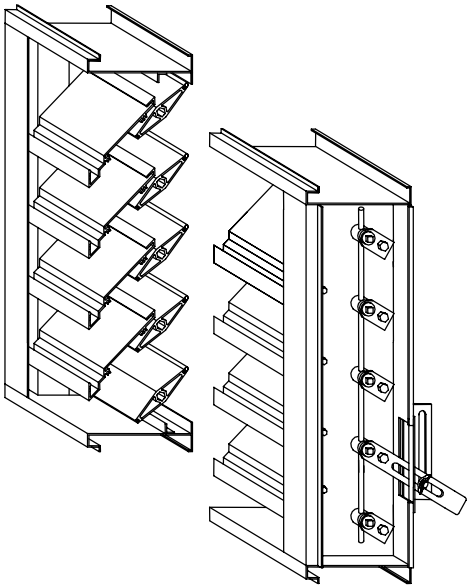


FREE AREA VELOCITY (fpm)
929 fpm beginning of water penetration

DEPENDABLE PRODUCTS SINCE 1955

Combination Fixed / Adjustable Drainable Blade Louver Model C-DWE-AF

Design Features – Combination feature gives a hidden effect and superior shut off quality to competitive designs. Useful applications are high static pressure systems or where the tightest possible seal is required.



STANDARD CONSTRUCTION

ALL MATERIAL – EXTRUDED ALUMINUM 6063-T5 (KB-45)

FRAME
6" Deep, .081" extruded aluminum in style #3

BLADES
Fixed – Drainable .081" extruded aluminum @ 4-1/8" OC. 45º
Adjustable – Airfoil equivalent to 0.162" thk. extruded aluminum

BLADE AXLES & BEARINGS
Axles – 7/16" plated steel hex
Bearings – 1/2' dia. bronze oilite

LINKAGE
Plated steel concealed in jamb

BLADE & JAMB SEALS
Silicone blade and flexible aluminum jamb seals

MAXIMUM SIZE
Unlimited, with mullions, structural bracing supplied by others

MAXIMUM SINGLE SECTION
60" W x 96"H (Type of finish may limit maximum single section)

MULLION
Visible

MINIMUM SIZE
12"w x 12"h

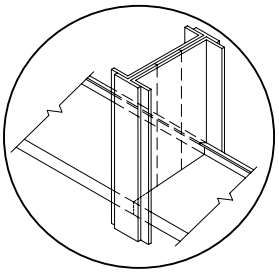
UNDERSIZED
1/4" under ordered size unless specified Exact or Actual

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

FINISH
Mill

OPERATOR
Wing-nut type adjustable

MULLION STYLE



Visible

PERFORMANCE

Point of water penetration 937 fpm
Free area 48 x 48 section 49%

OPTIONAL CONSTRUCTION

FRAME – Available in a heavier extrusion of .125"
BLADES - Available in a heavier extrusion of .125"
JAMB SEALS – Stainless steel jamb seals
SCREEN - Many styles available please consult screen listing
LINKAGE – Blade mounted
FINISH – Air-dry primer, polyurethane, epoxy, or enamel, baked epoxy or enamel, Kynar, or Powder coat.
OPERATOR – Manual, Electric or Pneumatic

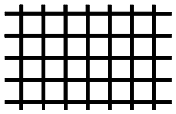
SPECIAL PURPOSE CONSTRUCTION

Security bars
Filter racks
Sleeved for ductwork connection
Jackshaft when required

** Consult SAFE-AIR/DOWCO for additional technical information.

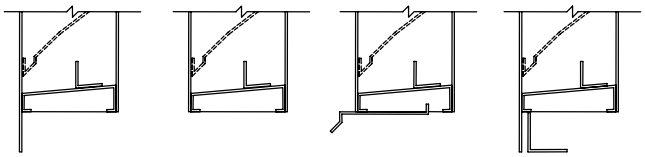
TYPICAL SCREEN STYLES

Expanded Aluminum Standard



Wire Mesh

FRAME STYLES



(1) - Flange 1-1/2" | (3) - Box Standard | (8) - Box and Sill Extension | (9) - Flange w/ sub frame

DATE	ARCHITECT			CUSTOMER
PROJECT				
ITEM	QTY	W	H	DESCRIPTION

DEPENDABLE PRODUCTS SINCE 1955

SAFE-AIR OF ILLINOIS INC.

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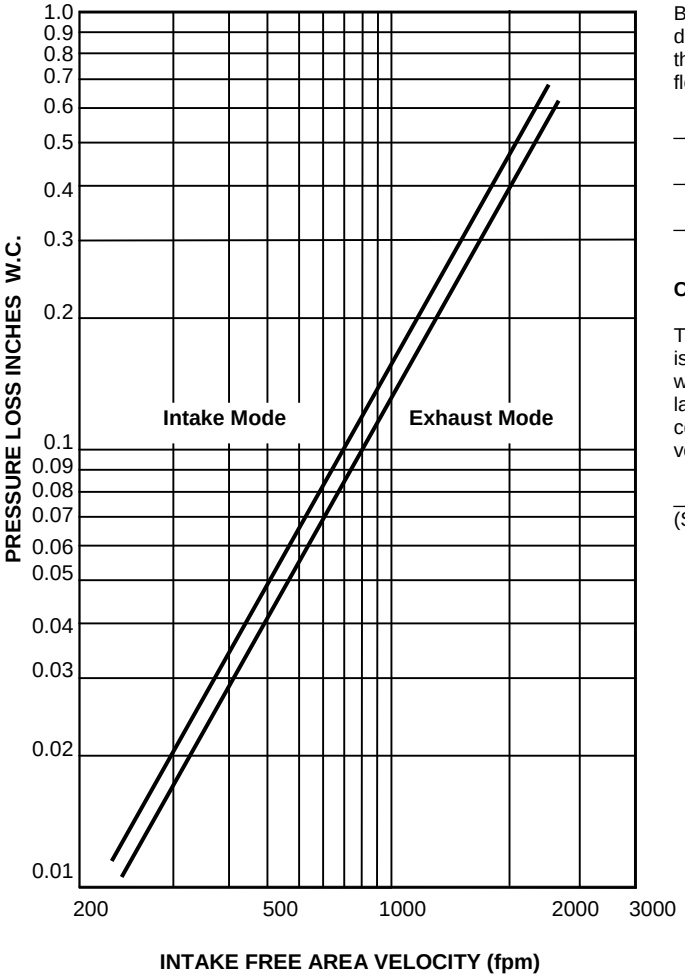
Phone 708-652-9100 FAX 708-652-9158

C-DWE-AF 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

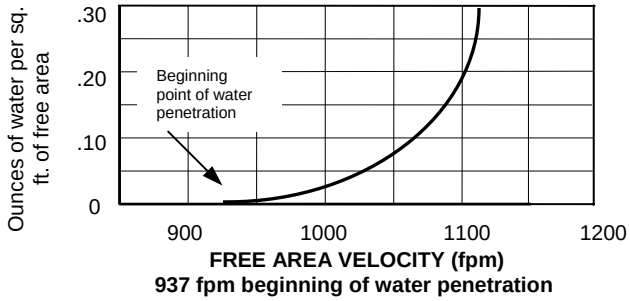
CALCULATING MAXIMUM AIRFLOW BEFORE WATER PENETRATION

The "free area flow rate" at which water penetration commences (.01 oz. of water) is established at, 937 fpm for C-DWE-AF, 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 determined 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	(H20)
937	975	1027	1076	1105	1123	(fpm)



937 fpm beginning of water penetration

FREE AREA CALCULATIONS IN SQ. FT.

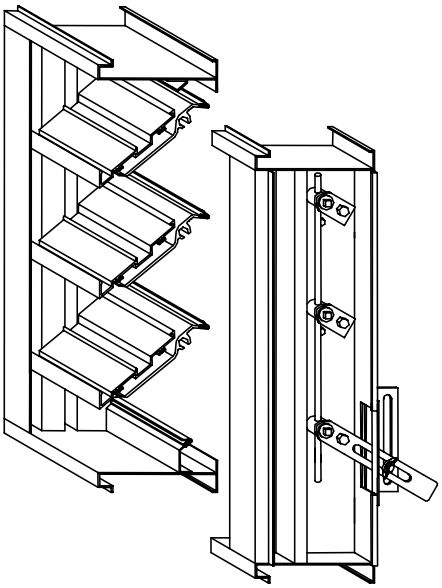
WIDTH

HEIGHT / Inches	12	18	24	30	36	42	48	54	60
12	0.19	0.33	0.47	0.61	0.74	0.88	1.02	1.16	1.29
18	0.41	0.70	0.99	1.28	1.57	1.86	2.15	2.45	2.74
24	0.63	1.07	1.52	1.96	2.40	2.85	3.29	3.73	4.18
30	0.85	1.44	2.04	2.64	3.23	3.83	4.43	5.02	5.62
36	1.06	1.81	2.56	3.31	4.06	4.81	5.56	6.31	7.06
42	1.28	2.18	3.09	3.99	4.89	5.79	6.70	7.60	8.50
48	1.50	2.55	3.61	4.66	5.72	6.78	7.83	8.89	9.95
54	1.71	2.92	4.13	5.34	6.55	7.76	8.97	10.18	11.39
60	1.93	3.29	4.65	6.02	7.38	8.74	10.10	11.47	12.83
66	2.15	3.66	5.18	6.69	8.21	9.72	11.24	12.76	14.27
72	2.36	4.03	5.70	7.37	9.04	10.71	12.38	14.04	15.71
78	2.58	4.40	6.22	8.05	9.87	11.69	13.51	15.33	17.15
84	2.80	4.77	6.75	8.72	10.70	12.67	14.65	16.62	18.60
90	3.01	5.14	7.27	9.40	11.53	13.65	15.78	17.91	20.04
96	3.23	5.51	7.79	10.07	12.36	14.64	16.92	19.20	21.48

DEPENDABLE PRODUCTS SINCE 1955

Combination Fixed / Adjustable Dual Drainable Blade Louver Model C-DDE-46

Design Features – Combination feature gives a hidden effect and superior shut off quality to competitive designs. Useful applications are high static pressure systems or where tightest possible seal is required.



STANDARD CONSTRUCTION

ALL MATERIAL – EXTRUDED ALUMINUM 6063-T5 (KB-45)

FRAME
6" (152) Deep, .081" (2.1) extruded aluminum in style #3

BLADES
Fixed - Dual drainable design .081" (2.1) extruded aluminum @ 5-1/2" (140) @ 39º
Adjustable - .125" thk. (3.2) extruded aluminum

BLADE AXLES & BEARINGS
Axles – 7/16" (11) plated steel hex
Bearings –Bronze oilite

LINKAGE
Plated steel concealed in jamb

BLADE & JAMB SEALS
Vinyl blade edge and flexible aluminum jamb seals

MAXIMUM SIZE
Unlimited, with mullions, structural bracing supplied by others

MAXIMUM SINGLE SECTION
60" W x 96"H (1524 X 2438) (Over 60" (1524) wide will have double linkage)

MULLION
Visible

MINIMUM SIZE
12"w x 12"h (305 X 305)

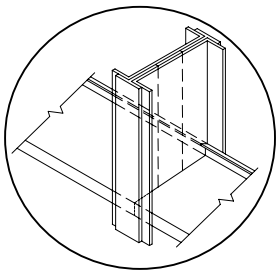
UNDERSIZED
1/4" (6) under ordered size unless specified Exact or Actual

SCREEN
3/4" x .051" (19 X 1.3) flattened expanded aluminum bird screen in frame

FINISH
Mill

OPERATOR
Wing-nut adjustable

MULLION STYLE



Visible

PERFORMANCE

Point of
water penetration
929 fpm
Free area
48 x 48 section
49%

OPTIONAL CONSTRUCTION

FRAME – Available in a heavier extrusion of .125" (3.2)
BLADES - Available in a heavier extrusion of .125" (3.2)
JAMB SEALS – Stainless steel jamb seals
SCREEN - Many styles available please consult screen listing
FINISH – Air-dry primer, polyurethane, epoxy, or enamel, baked epoxy or enamel, Anodize or Kynar.
OPERATOR – Manual, Electric or Pneumatic

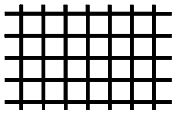
SPECIAL PURPOSE CONSTRUCTION

Welded linkage
Security bars
Filter racks
Sleeved for ductwork connection
Jackshaft when required

** Consult SAFE-AIR/DOWCO for additional technical information.

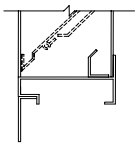
TYPICAL SCREEN STYLES

Expanded Aluminum Standard

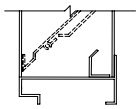


Wire Mesh

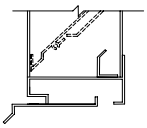
FRAME STYLES



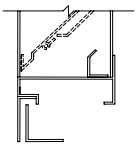
(1) - Flange 1-1/2"



(3) - Box Standard



(8) - Box and Sill Extension



(9) - Flange w/ sub frame

DATE	ARCHITECT			CUSTOMER
PROJECT				
ITEM	QTY	W	H	DESCRIPTION

DEPENDABLE PRODUCTS SINCE 1955

SAFE-AIR OF ILLINOIS INC.

Engineering and General Offices

1855 South 54th Avenue, Cicero, Illinois 60804

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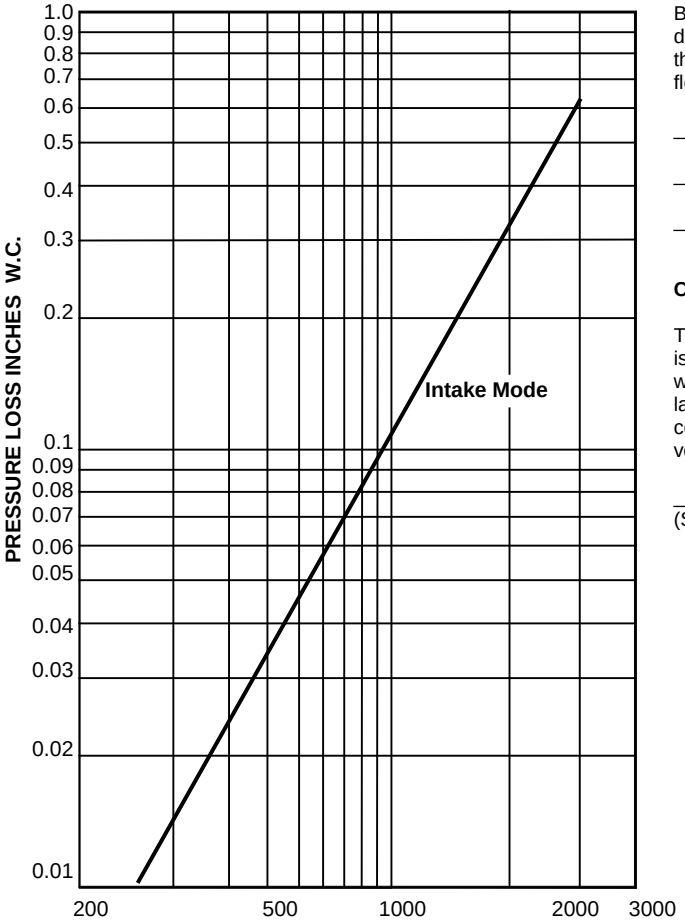
C-DDE-46 PERFORMANCE SPECIFICATIONS

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

AIR PERFORMANCE



INTAKE FREE AREA VELOCITY (fpm)

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

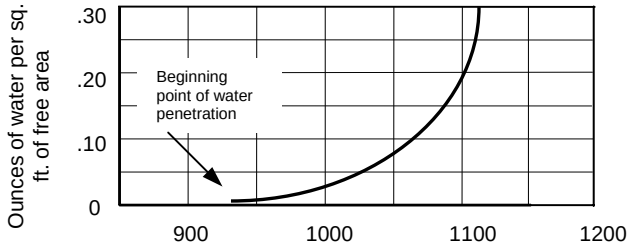
CALCULATING MAXIMUM AIRFLOW BEFORE WATER PENETRATION

The "free area flow rate" at which water penetration commences (.01 oz. of water) is established at, 929 fpm for C-DDE-46, 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 determined 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	(H20)
929	967	1017	1055	1093	1115	(fpm)



FREE AREA VELOCITY (fpm)
929 fpm beginning of water penetration

FREE AREA CALCULATIONS IN SQ. FT.

WIDTH

HEIGHT Inches	12	18	24	30	36	42	48	54	60
12	0.19	0.33	0.47	0.61	0.74	0.88	1.02	1.16	1.29
18	0.41	0.70	0.99	1.28	1.57	1.86	2.15	2.45	2.74
24	0.63	1.07	1.52	1.96	2.40	2.85	3.29	3.73	4.18
30	0.85	1.44	2.04	2.64	3.23	3.83	4.43	5.02	5.62
36	1.06	1.81	2.56	3.31	4.06	4.81	5.56	6.31	7.06
42	1.28	2.18	3.09	3.99	4.89	5.79	6.70	7.60	8.50
48	1.50	2.55	3.61	4.66	5.72	6.78	7.83	8.89	9.95
54	1.71	2.92	4.13	5.34	6.55	7.76	8.97	10.18	11.39
60	1.93	3.29	4.65	6.02	7.38	8.74	10.10	11.47	12.83
66	2.15	3.66	5.18	6.69	8.21	9.72	11.24	12.76	14.27
72	2.36	4.03	5.70	7.37	9.04	10.71	12.38	14.04	15.71
78	2.58	4.40	6.22	8.05	9.87	11.69	13.51	15.33	17.15
84	2.80	4.77	6.75	8.72	10.70	12.67	14.65	16.62	18.60
90	3.01	5.14	7.27	9.40	11.53	13.65	15.78	17.91	20.04
96	3.23	5.51	7.79	10.07	12.36	14.64	16.92	19.20	21.48

DEPENDABLE PRODUCTS SINCE 1955

Combination Fixed / Adjustable Blade Louver Model C-LEC-46

Design Features – Combination feature gives a hidden effect and superior shut off quality to competitive designs. Useful applications are high static pressure systems or where the tightest possible seal is required.

STANDARD CONSTRUCTION

ALL MATERIAL – EXTRUDED ALUMINUM 6063-T5 (KB-45)

FRAME
6" Deep, .081" extruded aluminum in style #3

BLADES
Fixed - Drainable.081" extruded aluminum 5-1/2" @ 45º
Adjustable - .125" thk. extruded aluminum

BLADE AXLES & BEARINGS
Axles – 7/16" plated steel hex
Bearings –bronze oilite

LINKAGE
Plated steel concealed in jamb

BLADE & JAMB SEALS
Vinyl blade and flexible aluminum jamb seals

MAXIMUM SIZE
Unlimited, with mullions, structural bracing supplied by others

MAXIMUM SINGLE SECTION
60" W x 96"H (Over 60" wide will have double linkage)

MULLION
Visible

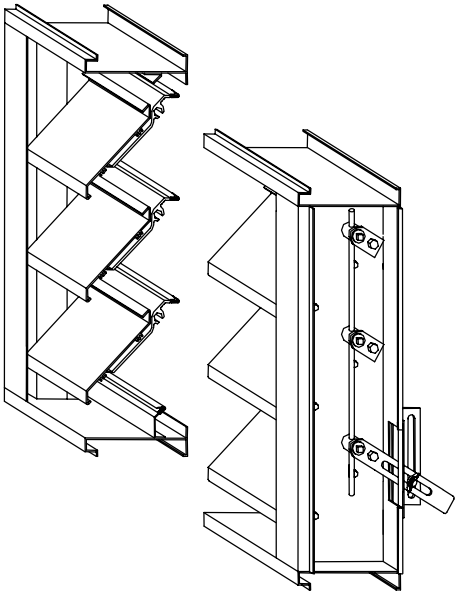
MINIMUM SIZE
12"w x 12"h

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

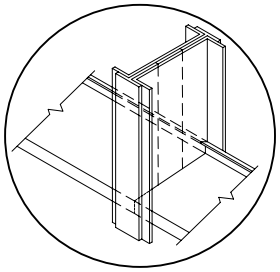
SCREEN
3/4" x .051" flattened expanded aluminum bird screen in frame

FINISH
Mill

OPERATOR
Wing-nut adjustable



MULLION STYLE



Visible

PERFORMANCE

Point of
water penetration
886 fpm (270)

Free area
48 x 48 section
44%

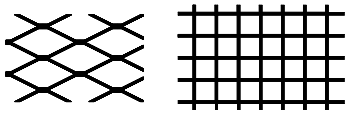
OPTIONAL CONSTRUCTION

FRAME – Available in a heavier extrusion of .125"
BLADES - Available in a heavier extrusion of .125"
JAMB SEALS -Stainless steel jamb seals
SCREEN - Many styles available please consult screen listing
LINKAGE – Blade mounted
FINISH – Air-dry primer, polyurethane, epoxy, or enamel, baked epoxy or enamel, Kynar, or Powder coat.
OPERATOR – Manual, Electric or Pneumatic

SPECIAL PURPOSE CONSTRUCTION

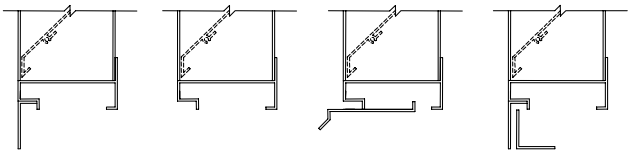
Welded linkage
Security bars
Filter racks
Sleeved for ductwork connection
Jackshaft when required

TYPICAL SCREEN STYLES



Expanded Aluminum Standard — Wire Mesh

FRAME STYLES



(1) - Flange 1-1/2" — (3) - Box Standard — (8) - Box and Sill Extension — (9) - Flange w/ sub frame

DATE	ARCHITECT			CUSTOMER
PROJECT				
ITEM	QTY	W	H	DESCRIPTION

DEPENDABLE PRODUCTS SINCE 1955

SAFE-AIR OF ILLINOIS INC.

Engineering and General Offices

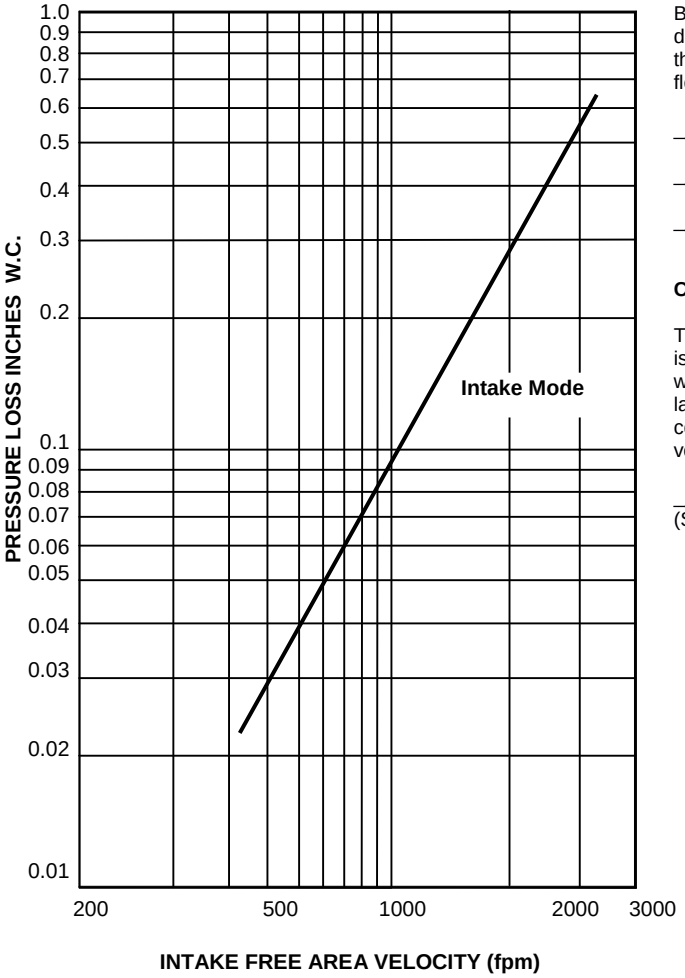
1855 South 54th Avenue, Cicero, Illinois 60804

Phone 708-652-9100 FAX 708-652-9158

C-LEC-46 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

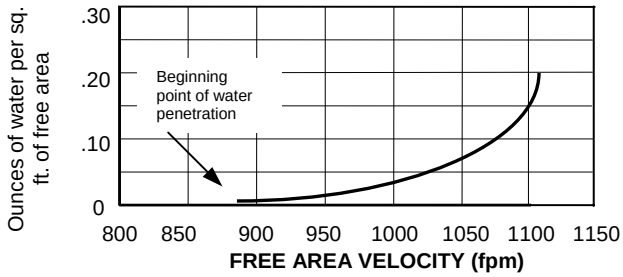
CALCULATING MAXIMUM AIRFLOW BEFORE WATER PENETRATION

The "free area flow rate" at which water penetration commences (.01 oz. of water) is established at, 886 fpm for C-LEC-46, 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 determined 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	(H20)
886	938	1005	1056	1107	(fpm)



886 fpm beginning of water penetration

FREE AREA CALCULATIONS IN SQ. FT.

WIDTH

HEIGHT

Inches	12 (305)	18 (457)	24 (610)	30 (762	36 (914)	42 (1067)	48 (1219)	54 (1372)	60 (1524)
12 (305)	.21 (.02)	0.35 (.03)	0.50 (.05)	0.64 (.06)	0.74 (.07)	0.94 (.09)	1.08 (.10)	1.23 (.11)	1.37 (.13)
18 (457)	.41 (.04)	0.69 (.06)	0.98 (.09)	1.27 (.12)	1.55 (.14)	1.84 (.17)	2.12 (.20)	2.41 (.22)	2.70 (.25)
24 (610)	.59 (.05)	1.01 (.09)	1.43 (.13)	1.85 (.17)	2.27 (.21)	2.69 (.25)	3.11 (.29)	3.53 (.33)	3.95 (.37)
30 (762)	.78 (.07)	1.33 (.12)	1.89 (.18)	2.44 (.23)	2.99 (.28)	3.54 (.33)	4.10 (.38)	4.65 (.43)	5.20 (.48)
36 (914)	.97 (.09)	1.66 (.15)	2.34 (.22)	3.03 (.28)	3.71 (.34)	4.40 (.41)	5.08 (.47)	5.77 (.54)	6.45 (.60)
42 (1067)	1.16 (.11)	1.98 (.18)	2.79 (.26)	3.61 (.34)	4.43 (.41)	5 (.49)	6.07 (.56)	6.88 (.64)	7.70 (.72)
48 (1219)	1.35 (.13)	.3 (.28)	3.25 (.30)	4.20 (.39)	5.15 (.48)	6.10 (.57)	7.05 (.65)	8.00 (.74)	8.95 (.83)
54 (1372)	1.53 (.14)	2.62 (.24)	3.70 (.34)	4.79 (.44)	5.87 (.55)	6.95 (.65)	8.04 (.75)	9.12 (.85)	10.20 (.95)
60 (1524)	1.75 (.16)	2.98 (.28)	4.21 (.39)	5.44 (.51)	6.67 (.62)	7.91 (.73)	9.14 (.85)	10.37 (.96)	11.60 (1.08)
66 (1676)	1.96 (.18)	3.34 (.31)	4.72 (.44)	6.10 (.57)	7.48 (.69)	8.86 (.82)	10.24 (.95)	11.62 (1.08)	13.00 (1.21)
72 (1829)	2.17 (.20)	3.69 (.34)	5.22 (.48)	6.75 (.63)	8.28 (.77)	9.81 (.91)	11.34 (1.05)	12.87 (1.20)	14.40 (1.34)
78 (1981)	2.38 (.22)	4.05 (.38)	5.73 (.53)	7.41 (.69)	9.09 (.84)	10.76 (1.00)	12.44 (1.16)	14.12 (1.31)	15.80 (1.47)
84 (2134)	2.59 (.24)	4.41 (.41)	6.24 (.58)	8.06 (.75)	9.89 (.92)	11.72 (1.09)	13.54 (1.26)	15.37 (1.43)	17.19 (1.60)
90 (2286)	2.80 (.26)	4.77 (.44)	6.75 (.63)	8.72 (.81)	10.69 (.99)	12.67 (1.18)	14.64 (1.36)	16.62 (1.54)	18.59 (1.73)
96 (2438)	3.01 (.28)	5.13 (.48)	7.25 (.67)	9.38 (.87)	11.50 (1.07)	13.62 (1.27)	15.74 (1.46)	17.87 (1.66)	19.99 (1.86)

DEPENDABLE PRODUCTS SINCE 1955

Storm Resistant 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 6063-T5 (KB-45)

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)

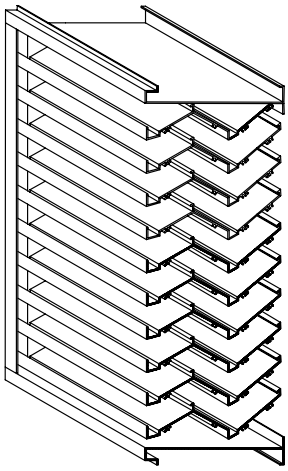
MULLION
Visible

MINIMUM SIZE
12” x 12”

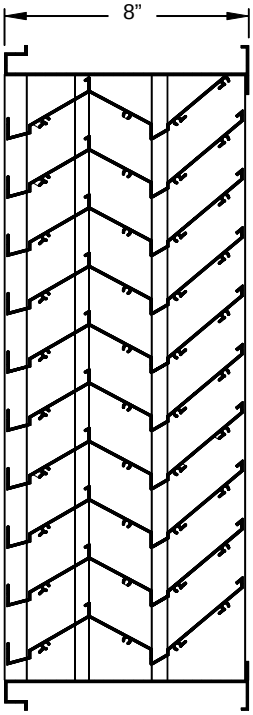
UNDERSIZED
1/4” under ordered size unless specified Exact or Actual

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

FINISH
Mill



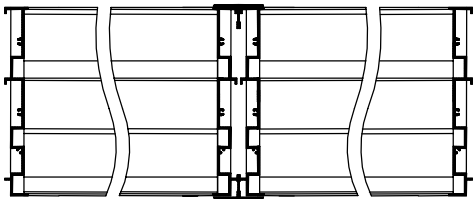
ISOMETRIC VIEW



VERTICAL SECTION

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

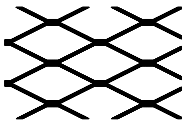


HORIZONTAL SECTION

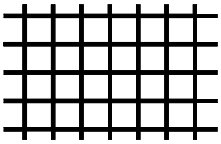
SPECIAL PURPOSE CONSTRUCTION

Special shapes: Triangle, Round, Trapezoid, etc.
Fully welded construction
Security bars
Filter racks
** Consult SAFE-AIR/DOWCO for additional technical information.

TYPICAL SCREEN STYLES



Expanded Aluminum Standard



Wire Mesh

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%

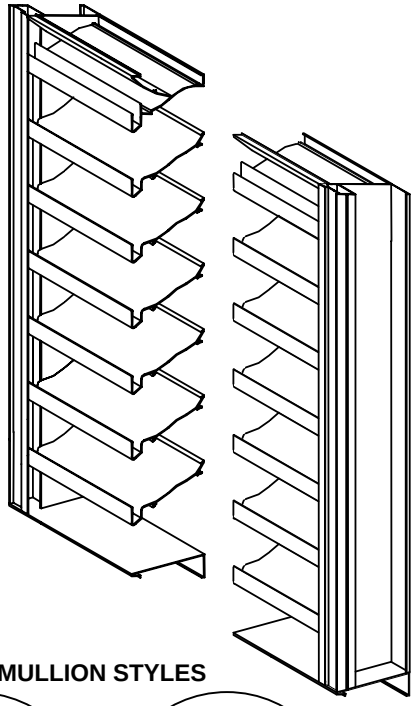
DATE	ARCHITECT			CUSTOMER
PROJECT				
ITEM	QTY	W	H	DESCRIPTION

DEPENDABLE PRODUCTS SINCE 1955
SAFE-AIR OF ILLINOIS INC.
Engineering and General Offices
1855 South 54th Avenue, Cicero, Illinois 60804
Phone 708-652-9100 FAX 708-652-9158

EXTRUDED ALUMINUM LOUVER

Hurricane Proof Louver in 6” thick design Model HDL-06

Design Features – High performance patented blade design capable to withstand positive or negative wind pressure up to 250 mph.



STANDARD CONSTRUCTION

ALL MATERIAL – EXTRUDED ALUMINUM 6063-T5 (KB-45)

FRAME
HDL-06 – 6” deep, .081” wall thickness extruded aluminum in style #3.

BLADES
HDL-06 – 6” deep, .081” wall thickness extruded aluminum and spaced approx. 5-1/2” on center.

FABRICATION
Fully welded construction and concealed mechanical fastener

MAXIMUM FACTORY ASSEMBLY SIZE
120” x 84” or 84” x 120”

MULLION
Visible

MAXIMUM SIZE
Unlimited, with mullions and structural bracing

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

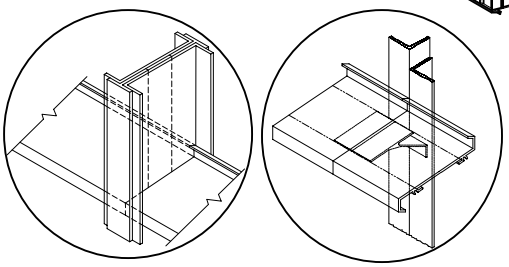
OPTIONAL CONSTRUCTION

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 – Visible for architectural preference

SPECIAL PURPOSE CONSTRUCTION

Special shapes: Triangle, Round, Trapezoid, etc.
Fully welded construction
Security bars
Hinged as walk through door or swing out access
Filter racks
Sleeved for ductwork connection
** Consult SAFE-AIR/DOWCO for additional technical information.

MULLION STYLES



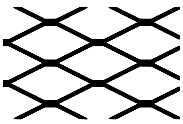
Visible Invisible

PERFORMANCE

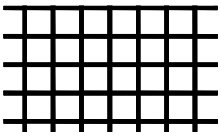
Point of
water penetration
625 fpm (191)

Free area
48 x 48 section
67%

TYPICAL SCREEN STYLES

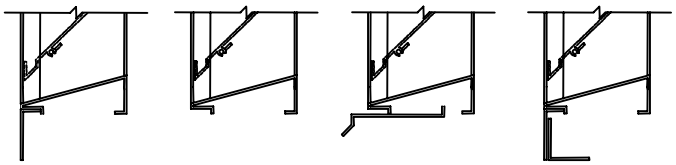


Expanded Aluminum Standard



Wire Mesh

FRAME STYLES



1 – Flange (1-1/2”) 3 – Box 8 – Box with sill extension 9 – Flange with sub frame

DATE	ARCHITECT			CUSTOMER
PROJECT				
ITEM	QTY	W	H	DESCRIPTION

DEPENDABLE PRODUCTS SINCE 1955

SAFE-AIR OF ILLINOIS INC.

Engineering and General Offices

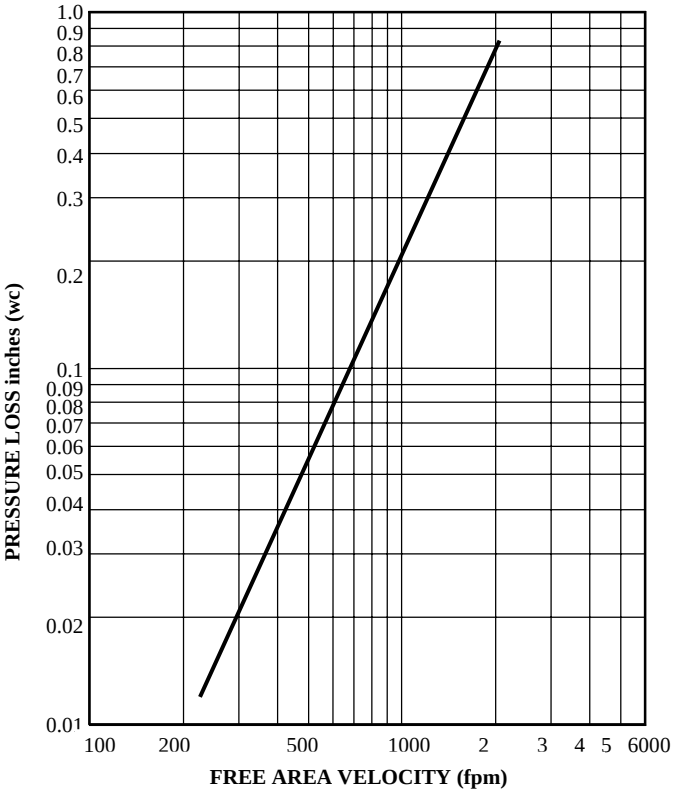
1855 South 54th Avenue, Cicero, Illinois 60804

Phone 708-652-9100 FAX 708-652-9158

HDL-06 PERFORMANCE SPECIFICATIONS

All tests performed at an independent laboratory and based on AMCA standards for air performance.

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)

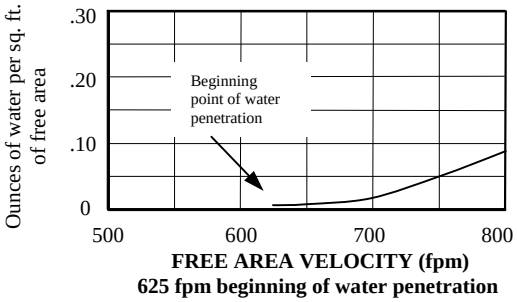
_____CFM / ____ FPM Free Area Velocity = _____Sq. Ft. Free Area

CALCULATING MAXIMUM AIRFLOW BEFORE WATER PENETRATION

The "free area flow rate" at which water penetration commences (.01 oz. of water) is established at, 625 fpm for HDL-06, 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 determined 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



625 fpm beginning of water penetration

FREE AREA CALCULATIONS

HEIGHT \ WIDTH (INCHES)	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	102	108	114	120
12	.60	.99	1.37	1.75	2.13	2.51	2.89	3.27	3.66	4.04	4.42	4.80	5.18	5.56	5.95	6.33	6.71	7.09	7.47
18	.67	1.09	1.51	1.94	2.36	2.78	3.20	3.63	4.05	4.47	4.89	5.32	5.74	6.16	6.58	7.01	7.43	7.85	8.27
24	.98	1.60	2.22	2.84	3.47	4.09	4.71	5.33	5.95	6.57	7.19	7.81	8.43	9.05	9.67	10.29	10.91	11.54	12.16
30	1.30	2.12	2.93	3.75	4.57	5.39	6.21	7.03	7.85	8.67	9.49	10.31	11.12	11.94	12.76	13.58	14.40	15.22	16.04
36	1.61	2.63	3.64	4.66	5.68	6.70	7.71	8.73	9.75	10.77	11.78	12.80	13.82	14.83	15.85	16.87	17.89	18.90	19.92
42	1.92	3.14	4.36	5.57	6.79	8.00	9.22	10.43	11.65	12.86	14.08	15.29	16.51	17.72	18.94	20.15	21.37	22.59	23.80
48	2.23	3.64	5.05	6.46	7.87	9.28	10.69	12.10	13.51	14.92	16.33	17.74	19.15	20.56	21.97	23.38	24.79	26.20	27.91
54	2.51	4.10	5.68	7.27	8.85	10.44	12.03	13.61	15.20	16.78	18.37	19.96	21.54	23.13	24.71	26.30	27.89	29.47	31.06
60	2.79	4.55	6.31	8.08	9.84	11.60	13.36	15.13	16.89	18.65	20.41	22.17	23.94	25.70	27.46	29.22	30.99	32.75	34.51
66	3.08	5.02	6.97	8.91	10.86	12.80	14.74	16.69	18.63	20.58	22.52	24.47	26.41	28.35	30.30	32.24	34.19	36.13	38.07
72	3.39	5.53	7.68	9.82	11.96	14.10	16.25	18.39	20.53	22.67	24.82	26.96	29.10	31.24	33.39	35.53	37.67	39.81	41.96
78	3.71	6.05	8.39	10.73	13.07	15.41	17.75	20.09	22.43	24.77	27.11	29.45	31.79	34.13	36.47	38.82	41.16	43.50	45.84
84	4.02	6.56	9.10	11.64	14.18	16.71	19.25	21.79	24.33	26.87	29.41	31.95	34.49	37.03	39.56	42.10	44.64	47.18	49.72
90	4.33	7.07	9.81	12.55	15.28	18.02	20.76	23.49	26.23	28.97	31.70	34.44	37.18	39.92	42.65	45.39	48.13	50.86	53.60
96	4.65	7.58	10.52	13.45	16.39	19.32	22.26	25.20	28.13	31.07	34.00	36.94	39.87	42.81	45.74	48.68	51.61	54.55	57.48
102	4.96	8.10	11.23	14.36	17.50	20.63	23.76	26.90	30.03	33.16	36.30	39.43	42.56	45.70	48.83	51.97	55.10	58.23	61.37
108	5.28	8.61	11.94	15.27	18.60	21.93	25.27	28.60	31.93	35.26	38.59	41.93	45.26	48.59	51.92	55.25	58.58	61.92	65.25
114	5.58	9.11	12.63	16.16	19.69	23.21	26.74	30.26	33.79	37.32	40.84	44.37	47.89	51.42	54.95	58.47	62.00	65.52	69.05
120	5.86	9.56	13.27	16.97	20.67	24.37	28.08	31.78	35.48	39.18	42.89	46.59	50.29	53.99	57.69	61.40	65.10	68.80	72.50

EXTRUDED ALUMINUM LOUVER

Storm Resistant Louver in 7” thick design Model SLS-07

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

STANDARD CONSTRUCTION

ALL MATERIAL – EXTRUDED ALUMINUM 6063-T5 (KB-45)

FRAME
SLS-07 – 7” deep (178), .081” (2.1) wall thickness extruded aluminum in style #3.

BLADES
SLS-07 – 7” deep (178), .070” (1.8) wall thickness extruded aluminum @ 45°

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 (3048 x 2134) or (2134 x 3048)
(Type of finish may limit maximum single section)

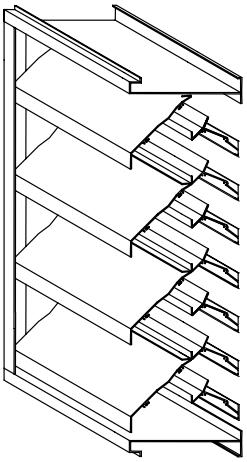
MULLION
Invisible

MINIMUM SIZE
12” x 12” (305 x 305)

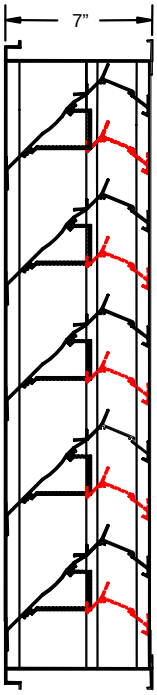
UNDERSIZED
1/4” (6) under ordered size unless specified Exact or Actual

SCREEN
3/4” x .051” (19 x 1.3) flattened expanded aluminum bird screen in extruded aluminum frame.

FINISH
Mill



ISOMETRIC VIEW



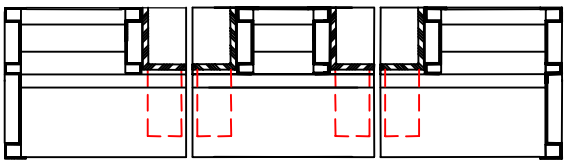
VERTICAL SECTION

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 – Visible for architectural preference

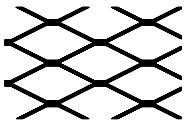
SPECIAL PURPOSE CONSTRUCTION

Special shapes: Triangle, Round, Trapezoid, etc.
Fully welded construction
Security bars
Hinged as walk through door or swing out access
Filter racks
Sleeved for ductwork connection
** Consult SAFE-AIR/DOWCO for additional technical information.

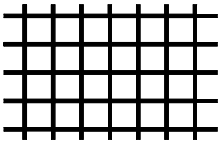


HORIZONTAL SECTION

TYPICAL SCREEN STYLES



Expanded Aluminum Standard



Wire Mesh

AIR PERFORMANCE
Free Area: 50% - 48 x 48 unit (1219 x 1219)
Pressure Drop: 0.25” w.g. @ 1000 fpm (6.35mm 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: 99.50%

DATE	ARCHITECT			CUSTOMER
PROJECT				
ITEM	QTY	W	H	DESCRIPTION

DEPENDABLE PRODUCTS SINCE 1955

SAFE-AIR OF ILLINOIS INC.

Engineering and General Offices

1855 South 54th Avenue, Cicero, Illinois 60804

Phone 708-652-9100 FAX 708-652-9158

SLS-07 PERFORMANCE

FREE AREA CALCULATIONS IN SQUARE FEET / SQUARE METERS

Width - Inches / Meters

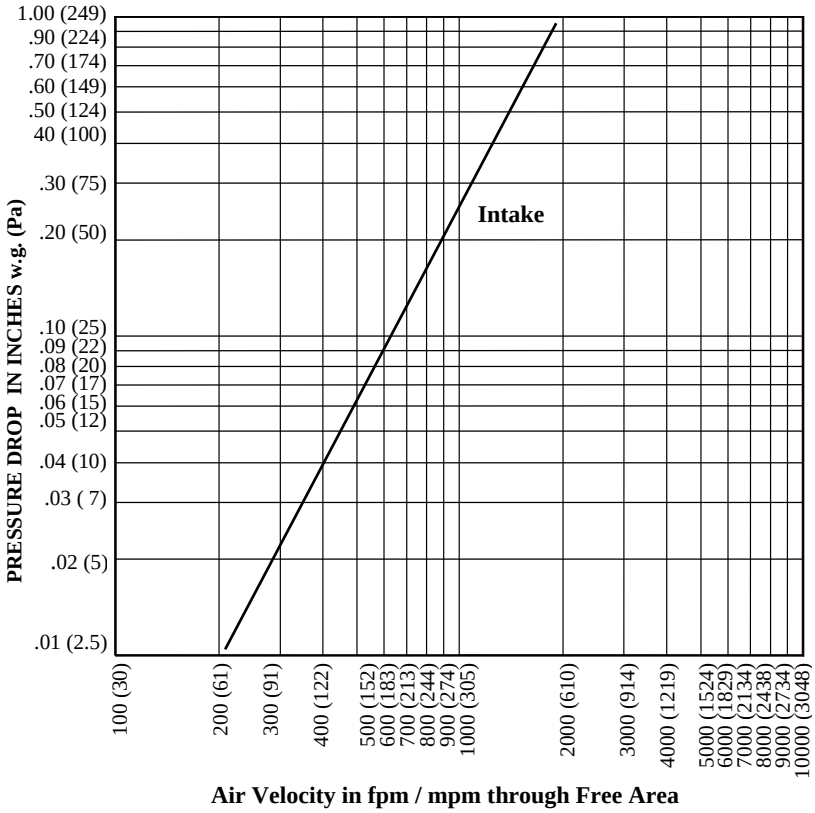
Height - Inches / Meters	12 0.31	18 0.46	24 0.61	30 0.77	36 0.92	42 1.07	48 1.22	54 1.38	60 1.53	66 1.68	72 1.83	78 1.99	84 2.14	90 2.29	96 2.44	102 2.6	108 2.75	114 2.9	120 3.05
12 0.31	0.25 0.02	0.41 0.04	0.56 0.05	0.71 0.07	0.86 0.08	1.01 0.09	1.17 0.11	1.32 0.12	1.47 0.14	1.62 0.15	1.77 0.16	1.93 0.18	2.08 0.19	2.23 0.21	2.38 0.22	2.53 0.24	2.69 0.25	2.84 0.26	2.99 0.28
18 0.46	0.54 0.05	0.86 0.08	1.18 0.11	1.51 0.14	1.83 0.17	2.15 0.2	2.48 0.23	2.8 0.26	3.12 0.29	3.44 0.32	3.77 0.35	4.09 0.38	4.41 0.41	4.74 0.44	5.06 0.47	5.38 0.5	5.7 0.53	6.03 0.56	6.35 0.59
24 0.61	0.73 0.07	1.17 0.11	1.6 0.15	2.04 0.19	2.48 0.23	2.92 0.27	3.35 0.31	3.79 0.35	4.23 0.39	4.67 0.43	5.1 0.47	5.54 0.51	5.98 0.56	6.42 0.6	6.85 0.64	7.29 0.68	7.73 0.72	8.17 0.76	8.6 0.8
30 0.77	0.95 0.09	1.53 0.14	2.1 0.2	2.67 0.25	3.25 0.3	3.82 0.35	4.39 0.41	4.97 0.46	5.54 0.51	6.11 0.57	6.68 0.62	7.26 0.67	7.83 0.73	8.4 0.78	8.98 0.83	9.55 0.89	10.12 0.94	10.69 0.99	11.27 1.05
36 0.92	1.22 0.11	1.94 0.18	2.67 0.25	3.4 0.32	4.13 0.38	4.86 0.45	5.59 0.52	6.32 0.59	7.05 0.65	7.78 0.72	8.51 0.79	9.24 0.86	9.97 0.93	10.69 0.99	11.42 1.06	12.15 1.13	12.88 1.2	13.61 1.26	14.34 1.33
42 1.07	1.48 0.14	2.36 0.22	3.25 0.3	4.13 0.38	5.02 0.47	5.9 0.55	6.79 0.63	7.67 0.71	8.56 0.8	9.44 0.88	10.33 0.96	11.22 1.04	12.1 1.12	12.99 1.21	13.87 1.29	14.76 1.37	15.64 1.45	16.53 1.54	17.41 1.62
48 1.22	1.74 0.16	2.78 0.26	3.82 0.35	4.86 0.45	5.9 0.55	6.94 0.64	7.99 0.74	9.03 0.84	10.07 0.94	11.11 1.03	12.15 1.13	13.19 1.23	14.24 1.32	15.28 1.42	16.32 1.52	17.36 1.61	18.4 1.71	19.44 1.81	20.49 1.9
54 1.38	1.97 0.18	3.15 0.29	4.34 0.4	5.52 0.51	6.7 0.62	7.88 0.73	9.06 0.84	10.25 0.95	11.43 1.06	12.61 1.17	13.79 1.28	14.98 1.39	16.16 1.5	17.34 1.61	18.52 1.72	19.7 1.83	20.89 1.94	22.07 2.05	23.25 2.16
60 1.53	2.2 0.2	3.51 0.33	4.83 0.45	6.15 0.57	7.47 0.69	8.78 0.82	10.1 0.94	11.42 1.06	12.74 1.18	14.06 1.31	15.37 1.43	16.69 1.55	18.01 1.67	19.33 1.8	20.64 1.92	21.96 2.04	23.28 2.16	24.6 2.29	25.91 2.41
66 1.68	2.44 0.23	3.9 0.36	5.37 0.5	6.83 0.63	8.29 0.77	9.76 0.91	11.22 1.04	12.68 1.18	14.15 1.31	15.61 1.45	17.07 1.59	18.54 1.72	20 1.86	21.47 1.99	22.93 2.13	24.39 2.27	25.86 2.4	27.32 2.54	28.78 2.67
72 1.83	2.7 0.25	4.32 0.4	5.94 0.55	7.56 0.7	9.18 0.85	10.8 1	12.42 1.15	14.04 1.3	15.66 1.45	17.28 1.61	18.9 1.76	20.52 1.91	22.14 2.06	23.76 2.21	25.38 2.36	27 2.51	28.62 2.66	30.24 2.81	31.86 2.96
78 1.99	2.96 0.27	4.74 0.44	6.51 0.6	8.29 0.77	10.06 0.93	11.84 1.1	13.62 1.27	15.39 1.43	17.17 1.59	18.94 1.76	20.72 1.92	22.5 2.09	24.27 2.25	26.05 2.42	27.82 2.58	29.6 2.75	31.38 2.92	33.15 3.08	34.93 3.24
84 2.14	3.21 0.3	5.14 0.48	7.07 0.66	8.99 0.84	10.92 1.01	12.85 1.19	14.77 1.37	16.7 1.55	18.63 1.73	20.56 1.91	22.48 2.09	24.41 2.27	26.34 2.45	28.26 2.63	30.19 2.8	32.12 2.98	34.05 3.16	35.97 3.34	37.9 3.52
90 2.29	3.44 0.32	5.5 0.51	7.56 0.7	9.63 0.89	11.69 1.09	13.75 1.28	15.81 1.47	17.88 1.66	19.94 1.85	22 2.04	24.06 2.24	26.13 2.43	28.19 2.62	30.25 2.81	32.31 3	34.38 3.19	36.44 3.39	38.5 3.58	40.56 3.77
96 2.44	3.66 0.34	5.86 0.54	8.06 0.75	10.26 0.95	12.45 1.16	14.65 1.36	16.85 1.57	19.05 1.77	21.25 1.97	23.44 2.18	25.64 2.38	27.84 2.59	30.04 2.79	32.24 2.99	34.43 3.2	36.63 3.4	38.83 3.61	41.03 3.81	43.23 4.02
102 2.6	3.92 0.36	6.28 0.58	8.63 0.8	10.99 1.02	13.34 1.24	15.69 1.46	18.05 1.68	20.4 1.9	22.76 2.11	25.11 2.33	27.47 2.55	29.82 2.77	32.17 2.99	34.53 3.21	36.88 3.43	39.24 3.65	41.59 3.86	43.94 4.08	46.3 4.3
108 2.75	4.18 0.39	6.69 0.62	9.2 0.85	11.72 1.09	14.23 1.32	16.74 1.56	19.25 1.79	21.76 2.02	24.27 2.25	26.78 2.49	29.29 2.72	31.8 2.95	34.31 3.19	36.82 3.42	39.33 3.65	41.84 3.89	44.35 4.12	46.86 4.35	49.37 4.59
114 2.9	4.44 0.41	7.11 0.66	9.78 0.91	12.44 1.16	15.11 1.4	17.78 1.65	20.44 1.9	23.11 2.15	25.78 2.39	28.44 2.64	31.11 2.89	33.78 3.14	36.44 3.39	39.11 3.63	41.78 3.88	44.44 4.13	47.11 4.38	49.78 4.62	52.44 4.87
120 3.05	4.68 0.43	7.49 0.7	10.29 0.96	13.1 1.22	15.91 1.48	18.72 1.74	21.52 2	24.33 2.26	27.14 2.52	29.94 2.78	32.75 3.04	35.56 3.3	38.37 3.56	41.17 3.82	43.98 4.09	46.79 4.35	49.6 4.61	52.4 4.87	55.21 5.13

The Pressure Drop test performed in accordance with AMCA Standard 500 per figure 5.5. All free area calculations are based on AMCA standards.

Calculation Pressure Loss

Based upon a give flow rate in (CFM), the flowing pressure loss may be determined from the "air performance" graph, knowing the sq. ft. or sq. meters 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.

AIR PERFORMANCE



DEPENDABLE PRODUCTS SINCE 1955

Wind Driven Rain Resistant Louver in 4” thick design Model WDL-04

Design Features – High performance patented vertical blade design with multiple functions such as: weather protection, vision proof and wind-driven rain resistant design . Rain Test modeled after Miami-Dade County PA-100(A).

STANDARD CONSTRUCTION

ALL MATERIAL – EXTRUDED ALUMINUM 6063-T5 (KB-45)

FRAME
WDL-04 – 4” deep, .081” wall thickness extruded aluminum in style #3.

BLADES
WDL-04 – 4” deep, .081” wall thickness extruded aluminum and spaced approx. 1-1/4” on center.

MAXIMUM SIZE
Unlimited, with mullions, structural bracing supplied by SAFE-AIR/DOWCO

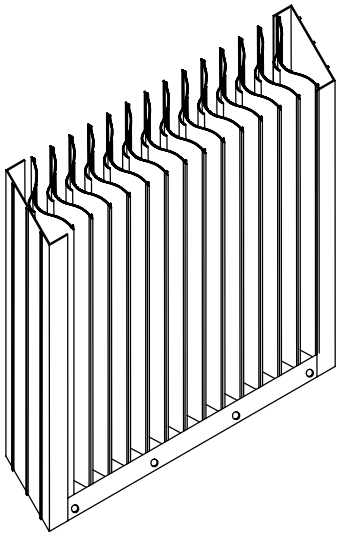
MAXIMUM FACTORY ASSEMBLY SIZE
48” x 96”

MINIMUM SIZE
12” x 12”

UNDERSIZED
1/4” under ordered size unless specified Exact or Actual

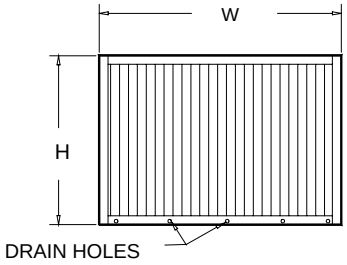
SCREEN
3/4” x .051” flattened expanded aluminum birdscreen in extruded aluminum frame.

FINISH
Mill



OPTIONAL CONSTRUCTION

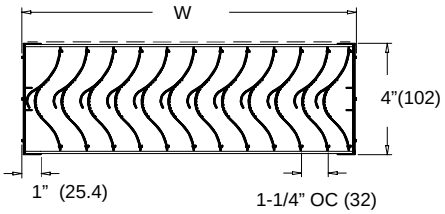
SCREEN - Many styles available please consult screen listing
FINISH – Air-dry primer, polyurethane, epoxy, or enamel, baked epoxy or enamel, Kynar, or Powder coat.
MULLION – Invisible for architectural preference



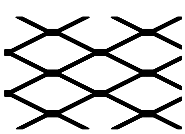
SPECIAL PURPOSE CONSTRUCTION

Special shapes: Triangle, Round, Trapezoid, etc.
Combined with Model ECO-06 control damper in common sleeve (under separate submittal sheet)
Fully welded construction
Security bars
Hinged as walk through door or swing out access
Filter racks
Sleeved for ductwork connection

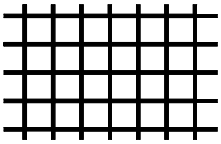
Consult SAFE-AIR/DOWCO for additional technical information.



TYPICAL SCREEN STYLES



Expanded Aluminum Standard



Wire Mesh

PERFORMANCE
Rainfall in/Hr: 8”(203mm)
Wind Velocity: 50mph (80.50 kph)
Efficiency: 99.90 %
Free Area: 47% - 48 x 48 unit (1219 x 1219)
Pressure Drop: 0.085” wg @ 1000 fpm (2.03mm wg. @ 5.08 mps)

DATE	ARCHITECT			CUSTOMER
PROJECT				
ITEM	QTY	W	H	DESCRIPTION

DEPENDABLE PRODUCTS SINCE 1955

SAFE-AIR/DOWCO

Engineering and General Offices

1855 South 54th Avenue, Cicero, Illinois 60804

Phone 708-652-9100 FAX 708-652-9158

EXTRUDED ALUMINUM LOUVER

Wind Driven Rain Resistant Louver in 6” thick design Model WDL-06

Design Features – High performance patented vertical blade design with multiple functions such as: weather protection, vision proof and wind-driven rain resistant design . Rain Test modeled after Miami-Dade County PA-100(A).

STANDARD CONSTRUCTION

ALL MATERIAL – EXTRUDED ALUMINUM 6063-T5 (KB-45)

FRAME
WDL-06 – 6” deep (152), .125” (3.01) wall thickness extruded aluminum in style #3.

BLADES
WDL-06 – 6” deep (152), .081” (2.06) wall thickness extruded aluminum and spaced approx. 1-1/2” (38) on center.

MAXIMUM SIZE
Unlimited, with mullions, structural bracing supplied by SAFE-AIR/DOWCO

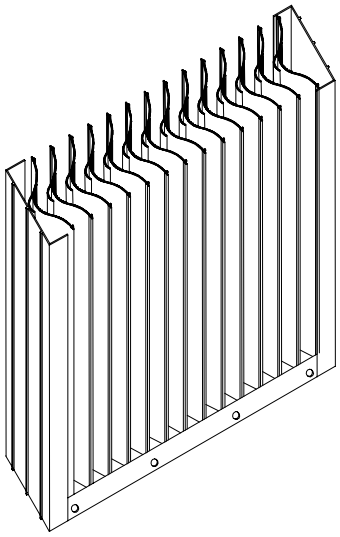
MAXIMUM FACTORY ASSEMBLY SIZE
96” x 96” (2438 x 2438)

MINIMUM SIZE
12” x 12” (305 x 305)

UNDERSIZED
1/4” (6.35) under ordered size unless specified Exact or Actual

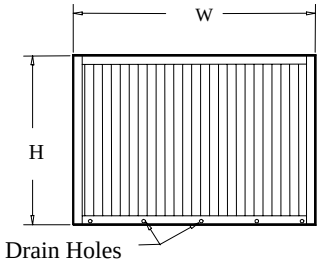
SCREEN
3/4” x .051” (19 x 1.3) flattened expanded aluminum birdscreen in extruded aluminum frame.

FINISH
Mill



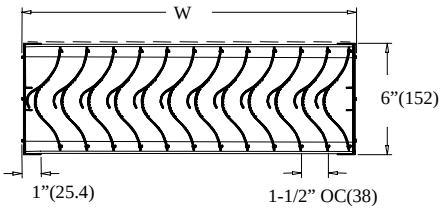
OPTIONAL CONSTRUCTION

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
Combined with Model ECO-06 control damper in common sleeve (under separate submittal sheet)

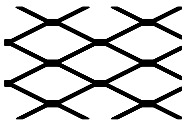


SPECIAL PURPOSE CONSTRUCTION

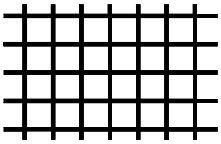
Special shapes: Triangle, Round, Trapezoid, etc.
Fully welded construction
Security bars
Hinged as walk through door or swing out access
Filter racks
Sleeved for ductwork connection
** Consult SAFE-AIR/DOWCO for additional technical information.



TYPICAL SCREEN STYLES



Expanded Aluminum Standard



Wire Mesh

PERFORMANCE

Rainfall in/Hr: 8”(203mm)
Wind Velocity: 50mph (80.45 kph)
Efficiency: 99.90 %
Free Area: 51% - 48 x 48 unit (1219 x 1219)
Pressure Drop: 0.08” w.g. @ 1000 fpm (2.03mm wg. @ 5.08 mps)

DATE	ARCHITECT			CUSTOMER
PROJECT				
ITEM	QTY	W	H	DESCRIPTION

DEPENDABLE PRODUCTS SINCE 1955

SAFE-AIR OF ILLINOIS INC.

Engineering and General Offices

1855 South 54th Avenue, Cicero, Illinois 60804

Phone 708-652-9100 FAX 708-652-9158

WDL-06 PERFORMANCE

All tests performed by independent laboratory approved by Miami-Dade County, Florida and modeled after the European (HEVAC) Wind Driven Rain Testing Method.

PA 100(A) WIND DRIVEN RAIN TEST

Wind Velocity mph (kph)	Rain Fall Rate in./hr. (mm/hr.)	Allowable Penetration oz. (ml)	Actual Penetration oz. (ml)
35 (56.32)	8.8 (223.50)	0	0
70 (112.63)	8.8 (223.50)	0	0
90 (144.81)	8.8 (223.50)	1.44 (42.6)	0.51 (15)
110 (177)	8.8 (223.50)	0.48 (14.2)	0.17 (5)

PA 201-94 LARGE MISSILE IMPACT TEST

Missile Type	Velocity in Ft/Sec (M/Sec)	Impacts
9 lb (4 kg) Southern Pine 2” x 4” (51 x 102)	50 (15.24)	6

Louver allowed no inboard missile penetration during impacts

PA 203-94 CYCLIC WIND PRESSURE TEST

Cycles	Load in PSF (KPa)	Load Duration Cycle	Louver Recovery
600	+80 (+3.83)	1 to 3 seconds	100%
600	-70 (-3.35)	1 to 3 seconds	100%
70	+95 (+4.55)	1 to 3 seconds	100%
70	-85 (-4.07)	1 to 3 seconds	100%
1	+210 (+10.05)	1 to 3 seconds	100%
1	-185 (-8.86)	1 to 3 seconds	100%

WIND DRIVEN RAIN WATER PENETRATION TEST

AMCA Standard 500-L-99, Figure 5.11

Wind Velocity mph (kph)	Rainfall Rate inch/hr. (mm/hr)	Core Velocity fpm (m/min)	Water Flow gph (lph)	Water Penetration gph (lph)	Water Penetration Classification
50 (80.45)	8 (203.2)	690 (210.3)	111.89 (424)	.367 (.139)	A
50 (80.45)	8 (203.2)	558 (170.07)	118.55 (449)	.179 (0.68)	A
50 (80.45)	8 (203.2)	497 (151.48)	122.53 (464)	.147 (.056)	A
50 (80.45)	8 (203.2)	406 (123.74)	124.71 (472)	.140 (0.53)	A
50 (80.45)	8 (203.2)	303 (92.35)	133.37 (505)	.117 (0.44)	A
50 (80.45)	8 (203.2)	214 (65.22)	136.37 (516)	.106 (0.40)	A
50 (80.45)	8 (203.2)	115 (35.05)	143.04 (541)	.038 (0.14)	A

WDL-06 PERFORMANCE

FREE AREA CALCULATIONS IN SQUARE FEET / SQUARE METERS

Width - Inches / Meters

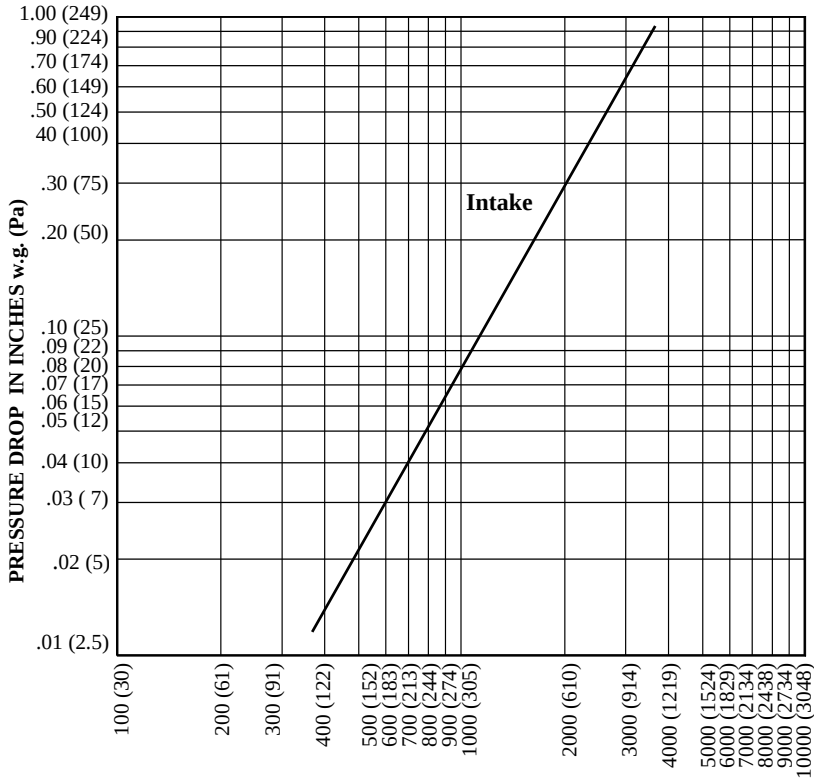
Height - Inches / Meters	12 0.31	18 0.46	24 0.61	30 0.77	36 0.92	42 1.07	48 1.22	54 1.38	60 1.53	66 1.68	72 1.83	78 1.99	84 2.14	90 2.29	96 2.44	102 2.6	108 2.75	114 2.9	120 3.05
12 **0.31**	0.26 0.02	0.47 0.04	0.68 0.06	0.9 0.08	1.11 0.1	1.32 0.12	1.53 0.14	1.74 0.16	1.95 0.18	2.16 0.2	2.37 0.22	2.58 0.24	2.79 0.26	3 0.28	3.21 0.3	3.42 0.32	3.63 0.34	3.84 0.36	4.06 0.38
18 **0.46**	0.45 0.04	0.81 0.08	1.18 0.11	1.54 0.14	1.9 0.18	2.26 0.21	2.62 0.24	2.98 0.28	3.34 0.31	3.71 0.34	4.07 0.38	4.43 0.41	4.79 0.44	5.15 0.48	5.51 0.51	5.88 0.55	6.24 0.58	6.6 0.61	6.96 0.65
24 **0.61**	0.64 0.06	1.15 0.11	1.67 0.16	2.18 0.2	2.69 0.25	3.2 0.3	3.72 0.35	4.23 0.39	4.74 0.44	5.25 0.49	5.77 0.54	6.28 0.58	6.79 0.63	7.3 0.68	7.82 0.73	8.33 0.77	8.84 0.82	9.35 0.87	9.87 0.92
30 **0.77**	0.83 0.08	1.49 0.14	2.16 0.2	2.82 0.26	3.48 0.32	4.15 0.39	4.81 0.45	5.47 0.51	6.14 0.57	6.8 0.63	7.46 0.69	8.13 0.76	8.79 0.82	9.45 0.88	10.12 0.94	10.78 1	11.45 1.06	12.11 1.12	12.77 1.19
36 **0.92**	1.02 0.09	1.83 0.17	2.65 0.25	3.46 0.32	4.28 0.4	5.09 0.47	5.9 0.55	6.72 0.62	7.53 0.7	8.35 0.78	9.16 0.85	9.98 0.93	10.79 1	11.61 1.08	12.42 1.15	13.23 1.23	14.05 1.31	14.86 1.38	15.68 1.46
42 **1.07**	1.21 0.11	2.17 0.2	3.14 0.29	4.1 0.38	5.07 0.47	6.03 0.56	7 0.65	7.96 0.74	8.93 0.83	9.9 0.92	10.86 1.01	11.83 1.1	12.79 1.19	13.76 1.28	14.72 1.37	15.69 1.46	16.65 1.55	17.62 1.64	18.58 1.73
48 **1.22**	1.4 0.13	2.51 0.23	3.63 0.34	4.74 0.44	5.86 0.54	6.98 0.65	8.09 0.75	9.21 0.86	10.33 0.96	11.44 1.06	12.56 1.17	13.67 1.27	14.79 1.37	15.91 1.48	17.02 1.58	18.14 1.69	19.26 1.79	20.37 1.89	21.49 2
54 **1.38**	1.58 0.15	2.85 0.26	4.12 0.38	5.39 0.5	6.65 0.62	7.92 0.74	9.19 0.85	10.45 0.97	11.72 1.09	12.99 1.21	14.26 1.32	15.52 1.44	16.79 1.56	18.06 1.68	19.33 1.8	20.59 1.91	21.86 2.03	23.13 2.15	24.39 2.27
60 **1.53**	1.77 0.16	3.19 0.3	4.61 0.43	6.03 0.56	7.45 0.69	8.86 0.82	10.28 0.95	11.7 1.09	13.12 1.22	14.54 1.35	15.95 1.48	17.37 1.61	18.79 1.75	20.21 1.88	21.63 2.01	23.05 2.14	24.46 2.27	25.88 2.4	27.3 2.54
66 **1.68**	1.96 0.18	3.53 0.33	5.1 0.47	6.67 0.62	8.24 0.77	9.81 0.91	11.38 1.06	12.95 1.2	14.51 1.35	16.08 1.49	17.65 1.64	19.22 1.79	20.79 1.93	22.36 2.08	23.93 2.22	25.5 2.37	27.07 2.51	28.64 2.66	30.21 2.81
72 **1.83**	2.15 0.2	3.87 0.36	5.59 0.52	7.31 0.68	9.03 0.84	10.75 1	12.47 1.16	14.19 1.32	15.91 1.48	17.63 1.64	19.35 1.8	21.07 1.96	22.79 2.12	24.51 2.28	26.23 2.44	27.95 2.6	29.67 2.76	31.39 2.92	33.11 3.08
78 **1.99**	2.34 0.22	4.21 0.39	6.08 0.56	7.95 0.74	9.82 0.91	11.69 1.09	13.56 1.26	15.44 1.43	17.31 1.61	19.18 1.78	21.05 1.96	22.92 2.13	24.79 2.3	26.66 2.48	28.53 2.65	30.4 2.82	32.27 3	34.15 3.17	36.02 3.35
84 **2.14**	2.53 0.24	4.55 0.42	6.57 0.61	8.59 0.8	10.62 0.99	12.64 1.17	14.66 1.36	16.68 1.55	18.7 1.74	20.72 1.92	22.75 2.11	24.77 2.3	26.79 2.49	28.81 2.68	30.83 2.86	32.86 3.05	34.88 3.24	36.9 3.43	38.92 3.62
90 **2.29**	2.72 0.25	4.89 0.45	7.06 0.66	9.23 0.86	11.41 1.06	13.58 1.26	15.75 1.46	17.93 1.67	20.1 1.87	22.27 2.07	24.44 2.27	26.62 2.47	28.79 2.67	30.96 2.88	33.14 3.08	35.31 3.28	37.48 3.48	39.65 3.68	41.83 3.89
96 **2.44**	2.9 0.27	5.23 0.49	7.55 0.7	9.88 0.92	12.2 1.13	14.52 1.35	16.85 1.57	19.17 1.78	21.5 2	23.82 2.21	26.14 2.43	28.47 2.64	30.79 2.86	33.11 3.08	35.44 3.29	37.76 3.51	40.09 3.72	42.41 3.94	44.73 4.16
102 **2.6**	3.09 0.29	5.57 0.52	8.04 0.75	10.52 0.98	12.99 1.21	15.47 1.44	17.94 1.67	20.42 1.9	22.89 2.13	25.37 2.36	27.84 2.59	30.32 2.82	32.79 3.05	35.27 3.28	37.74 3.51	40.21 3.74	42.69 3.97	45.16 4.2	47.64 4.43
108 **2.75**	3.28 0.3	5.91 0.55	8.53 0.79	11.16 1.04	13.78 1.28	16.41 1.52	19.04 1.77	21.66 2.01	24.29 2.26	26.91 2.5	29.54 2.74	32.16 2.99	34.79 3.23	37.42 3.48	40.04 3.72	42.67 3.96	45.29 4.21	47.92 4.45	50.54 4.69
114 **2.9**	3.47 0.32	6.25 0.58	9.02 0.84	11.8 1.1	14.58 1.35	17.35 1.61	20.13 1.87	22.91 2.13	25.68 2.39	28.46 2.64	31.24 2.9	34.01 3.16	36.79 3.42	39.57 3.68	42.34 3.93	45.12 4.19	47.9 4.45	50.67 4.71	53.45 4.97
120 **3.05**	3.66 0.34	6.59 0.61	9.51 0.88	12.44 1.16	15.37 1.43	18.3 1.7	21.22 1.97	24.15 2.24	27.08 2.52	30.01 2.79	32.94 3.06	35.86 3.33	38.79 3.6	41.72 3.88	44.65 4.15	47.57 4.42	50.5 4.69	53.43 4.96	56.36 5.24

The Pressure Drop test performed in accordance with AMCA Standard 500 per figure 5.5. All free area calculations are based on AMCA standards.

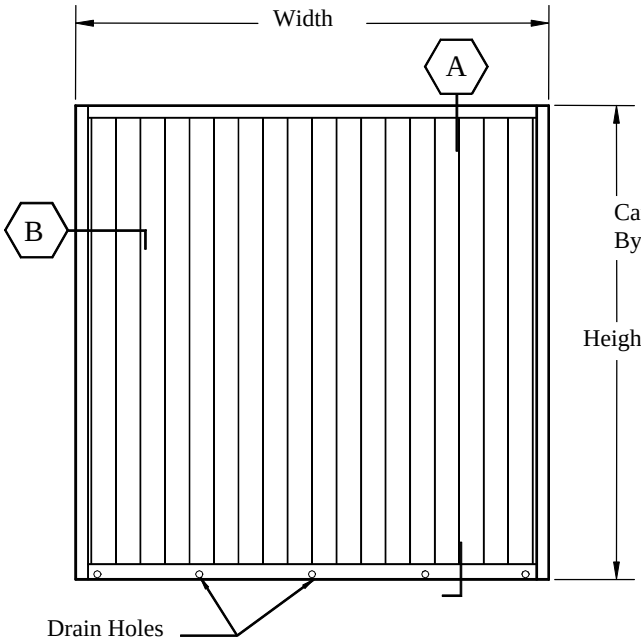
Calculation Pressure Loss

Based upon a give flow rate in (CFM), the flowing pressure loss may be determined from the "air performance" graph, knowing the sq. ft. or sq. meters 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.

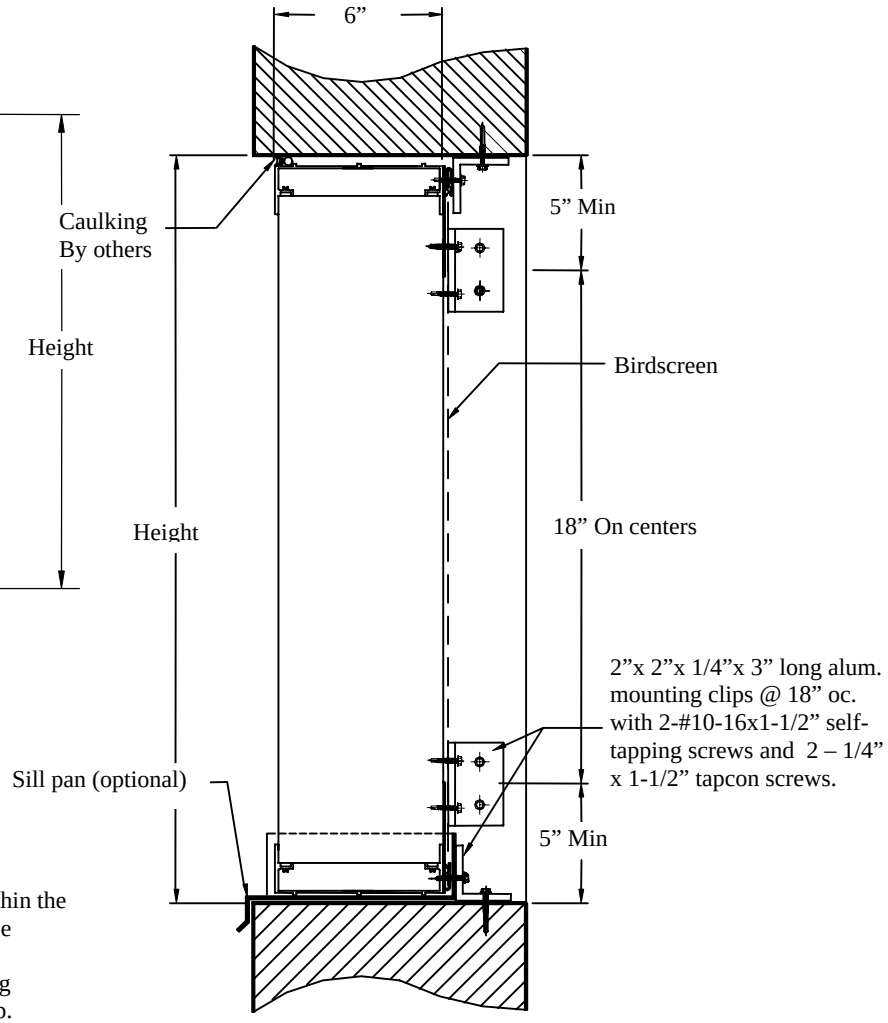
AIR PERFORMANCE



WDL-06 Installation Instructions



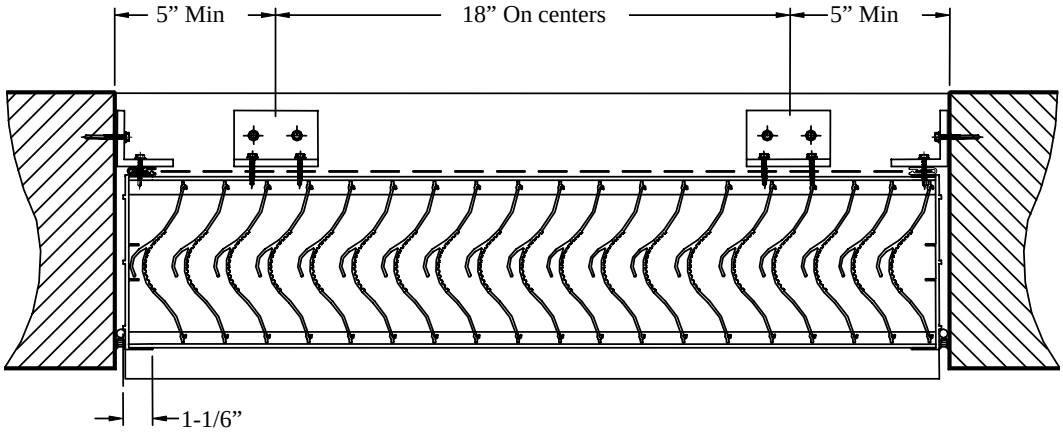
FRONT ELEVATION



SECTION - A

Notes:

1. Louvers must be plumb and square, and install within the opening using clips angles @ 18” oc. Clips must be without pilot holes.
2. Use 2 - #10-16 x 1-1/2” long HWH for self-tapping screws and 2 - 1/4” x 1-1/2” tapcon screws per clip.
3. The following are minimum recommendations only. Additional structural bracing supports may be required, please consult Dowco for details.



SECTION - B

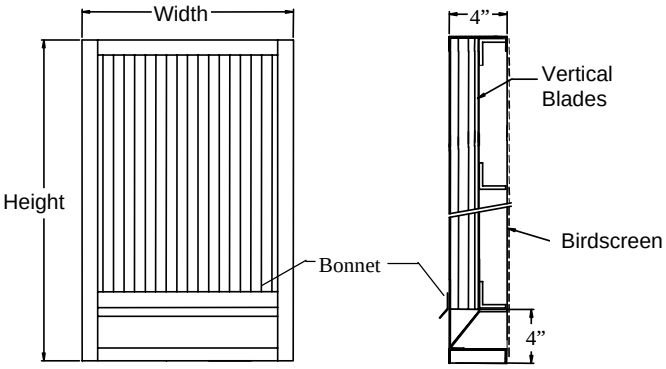
DEPENDABLE PRODUCTS SINCE 1955

Extruded Aluminum Sand Louver in 4” thick frame design Model GEL-35

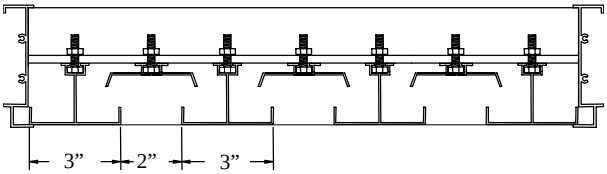
Features –*Vision proof design. Vertical blade designed for removal of dust particles, also provides a unit with low pressure drop and architecturally styled design for pleasing appearance. Louver construction conforms with SMACNA standards 5.1 and5.2.*

STANDARD CONSTRUCTION
MATERIAL – EXTRUDED ALUMINUM 6063-T5

FRAME
4” thick, .081” thk. Extruded aluminum 6063-T5
BLADES
.063” thk. Extruded aluminum 6063-T5
MAXIMUM SIZE
Unlimited, with mullions, structural bracing supplied by others
MAXIMUM SINGLE SECTION
120”W x 96”H or 96”W x 120”H (allows for best handling)
(Type of finish required may limit max. single section size)
MULLIONS
Visible
MINIMUM SIZE
12”W x 12”H
UNDERSIZED
1/4” under ordered size unless specified Exact or Actual
SCREEN
3/4” x .050 expanded aluminum screen no frame
FINISH
Mill



Front Elevatiion **Vertical Section**



Horizontal Section

OPTIONAL CONSTRUCTION

SCREENS – Many styles available please consult screen listing
FINISH – Air dry primer, polyurethane, epoxy, or enamel, Baked epoxy or enamel. Anodized or Kynar. Powder coat.

SPECIAL PURPOSE CONSTRUCTION

Fully welded assembly
Security bars
Filter racks
Hinged as walk through door or swing out access
Sleeved for ductwork connection

SAND REMOVAL EFFICIENCY

Velocity FPM /FA	Sand Removal Efficiency, Percentage
450	50%
400	58%
350	65%
300	70%
250	78%
200	85%
150	95%
100	100%

Test dust coarse 140-200 micron size

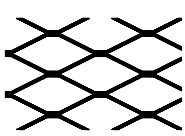
PERFORMANCE

Max. Recommended Velocity
760
(free area velocity)

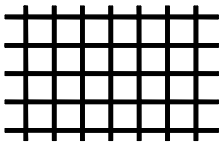
Free Area
(48 x 48 section)
31%

Max. Pressure Drop
.15” w.g.

TYPICAL SCREEN STYLES



Expanded Aluminum
Standard



Wire Mesh

DATE	ARCHITECT / ENGINEER			CUSTOMER
PROJECT				
ITEM	QTY	W	H	DESCRIPTION

DEPENDABLE PRODUCTS SINCE 1955

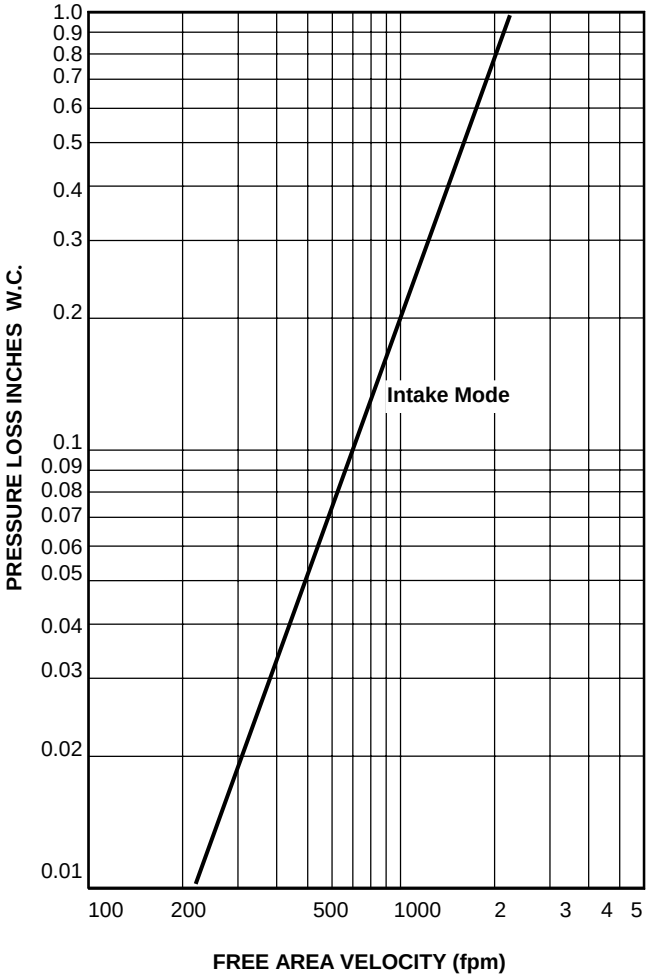
Safe Air - Dowco
Engineering and General Offices
1855 South 54th Avenue, Cicero, Illinois 60804
Phone 708-652-9100 FAX 708-652-9158

6/6/01

GEL-35 SPECIFICATIONS

All tests performed at an independent laboratory based on AMCA 500 for air performance & ASHRAE Standard 52-76 for Sand Removal.

AIR PERFORMANCE



CALCULATING PRESSURE LOSS

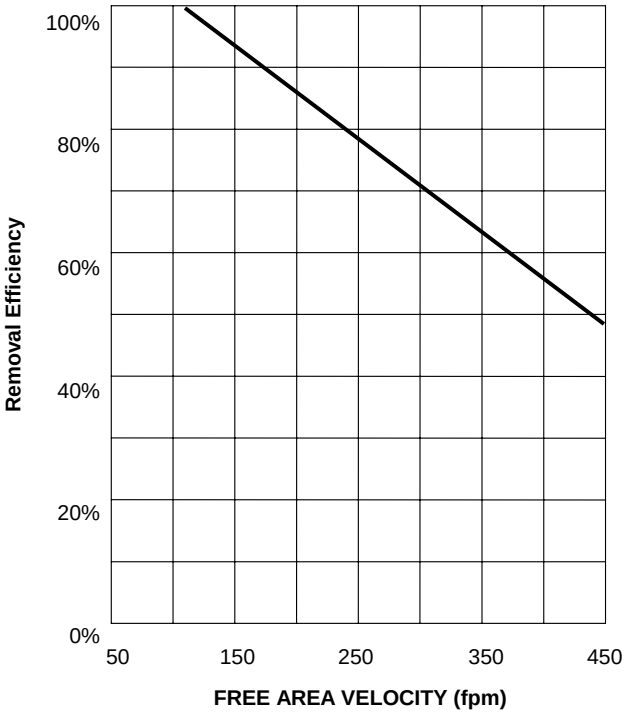
Based upon a given flow rate (in CFM), the flowing pressure loss may be determined from the "air performance graph", knowing the sq. ft. of free area of the louver. Alternately, the free area may be determined based upon a volumetric flow rate and a maximum pressure loss. Utilizing the "air performance"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

SAND REMOVAL EFFICIENCY



FREE AREA CALCULATIONS IN SQ. FT.

HEIGHT \ WIDTH (Inches)	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	102	108	114	120
12	0.20	0.34	0.47	0.61	0.74	0.88	0.80	1.15	1.28	1.42	1.56	1.69	1.83	1.96	2.10	2.23	2.37	2.50	2.64
18	0.37	0.63	0.88	1.13	1.38	1.63	1.49	2.13	2.39	2.64	2.89	3.14	3.39	3.64	3.89	4.14	4.40	4.65	4.90
24	0.55	0.92	1.28	1.65	2.02	2.38	2.17	3.12	3.49	3.85	4.22	4.59	4.96	5.32	5.69	6.06	6.43	6.79	7.16
30	0.72	1.20	1.69	2.17	2.65	3.14	2.86	4.10	4.59	5.07	5.55	6.04	6.52	7.00	7.49	7.97	8.45	8.94	9.42
36	0.89	1.49	2.09	2.69	3.29	3.89	3.55	5.09	5.69	6.29	6.89	7.49	8.09	8.69	9.28	9.88	10.48	11.08	11.68
42	1.07	1.78	2.50	3.21	3.93	4.64	4.23	6.07	6.79	7.51	8.22	8.94	9.65	10.37	11.08	11.80	12.51	13.23	13.94
48	1.24	2.07	2.90	3.73	4.57	5.40	4.92	7.06	7.89	8.72	9.55	10.38	11.22	12.05	12.88	13.71	14.54	15.37	16.20
54	1.41	2.36	3.31	4.26	5.20	6.15	5.60	8.04	8.99	9.94	10.89	11.83	12.78	13.73	14.68	15.62	16.57	17.52	18.47
60	1.59	2.65	3.71	4.78	5.84	6.90	6.29	9.03	10.09	11.16	12.22	13.28	14.35	15.41	16.47	17.54	18.60	19.66	20.73
66	1.76	2.94	4.12	5.30	6.48	7.66	6.98	10.01	11.19	12.37	13.55	14.73	15.91	17.09	18.27	19.45	20.63	21.81	22.99
72	1.93	3.23	4.52	5.82	7.11	8.41	7.66	11.00	12.29	13.59	14.89	16.18	17.48	18.77	20.07	21.36	22.66	23.95	25.25
78	2.11	3.52	4.93	6.34	7.75	9.16	8.35	11.98	13.40	14.81	16.22	17.63	19.04	20.45	21.86	23.28	24.69	26.10	27.51
84	2.28	3.81	5.33	6.86	8.39	9.91	9.03	12.97	14.50	16.02	17.55	19.08	20.61	22.13	23.66	25.19	26.72	28.24	29.77
90	2.45	4.09	5.74	7.38	9.02	10.67	9.72	13.95	15.60	17.24	18.88	20.53	22.17	23.81	25.46	27.10	28.74	30.39	32.03
96	2.62	4.38	6.14	7.90	9.66	11.42	10.41	14.94	16.70	18.46	20.22	21.98	23.74	25.50	27.26	29.01	30.77	32.53	34.29
102	2.80	4.67	6.55	8.42	10.30	12.17	11.09	15.92	17.80	19.68	21.55	23.43	25.30	27.18	29.05	30.93	32.80	34.68	36.55
108	2.97	4.96	6.95	8.94	10.94	12.93	11.78	16.91	18.90	20.89	22.88	24.88	26.87	28.86	30.85	32.84	34.83	36.82	38.81
114	3.14	5.25	7.36	9.47	11.57	13.68	12.46	17.89	20.00	22.11	24.22	26.32	28.43	30.54	32.65	34.75	36.86	38.97	41.08
120	3.32	5.54	7.76	9.99	12.21	14.43	13.15	18.88	21.10	23.33	25.55	27.77	30.00	32.22	34.44	36.67	38.89	41.11	43.34

DOWCO is a registered trademark of SAFE-AIR

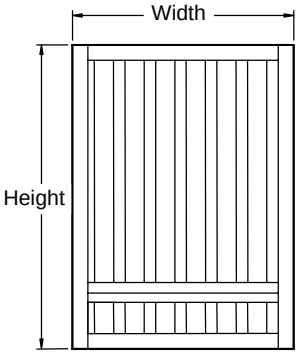
EXTRUDED ALUMINUM LOUVER

Sand Louver in 8” thick frame design Model V-DEM-08

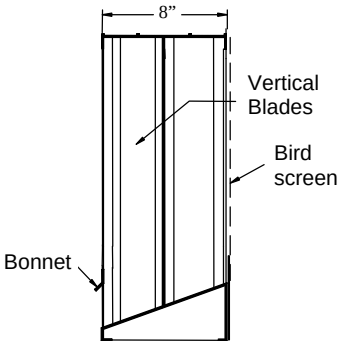
Features – Vision proof design. Double vertical blades designed for removal of dust particles, high wind velocity storm proof capability, also provides a unit with low-pressure drop and architecturally styled design for pleasing appearance.

STANDARD CONSTRUCTION

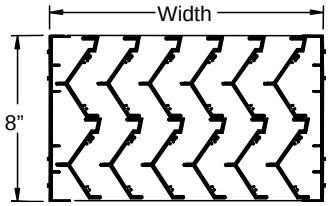
FRAME
8” thick, .081” extruded aluminum in style # 3
BLADES
8” thick, .081” extruded aluminum approx. spacing is 2”
MAXIMUM SIZE
Unlimited, with mullions, structural bracing supplied by others
MAXIMUM SINGLE SECTION
120”W x 72”H or 72”W x 120”H
(allows for best handling)
(Type of finish required may limit max. single section size)
MULLIONS
Visible
MINIMUM SIZE
12”W x 12”H
UNDERSIZED
1/4” under ordered size unless specified Exact or Actual
SCREEN
3/4” (19) flattened expanded aluminum bird screen in frame
FINISH
Mill



Front Elevation



Vertical Section



Horizontal Section

OPTIONAL CONSTRUCTION

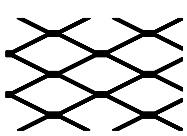
FRAME – Available in a heavier extrusion of .125” thk.
BLADES - Available in a heavier extrusion of .125” thk.
SCREENS – Many styles available please consult screen listing
MULLIONS – Invisible for architectural preference
FINISH – Air-dry primer, polyurethane, epoxy, or enamel, Baked epoxy or enamel. Anodized or Kynar. Powder coat.

SPECIAL PURPOSE CONSTRUCTION

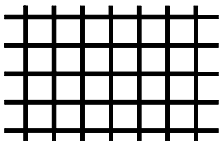
Fully welded assembly
Security bars
Filter racks
Hinged as walk through door or swing out access
Sleeved for ductwork connection

PERFORMANCE:
Point of Water Penetration 1250 FPM
Free Area (48 x 48 section) 49 %
Pressure Drop .20” wg. @ 1000 fpm

TYPICAL SCREEN STYLES

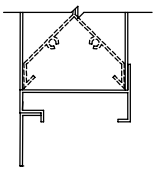


Expanded Aluminum
Standard

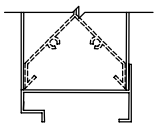


Wire Mesh

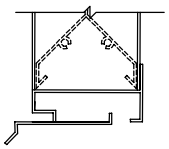
FRAME STYLES



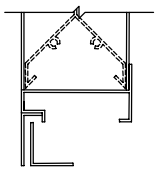
(1) Flange



(3) Box



(8) Box
w/ Sill Extension



(9) Flange
w/ Sub frame

DATE	ARCHITECT			CUSTOMER
PROJECT				
ITEM	QTY	W	H	DESCRIPTION

DEPENDABLE PRODUCTS SINCE 1955

SAFE-AIR OF ILLINOIS INC.

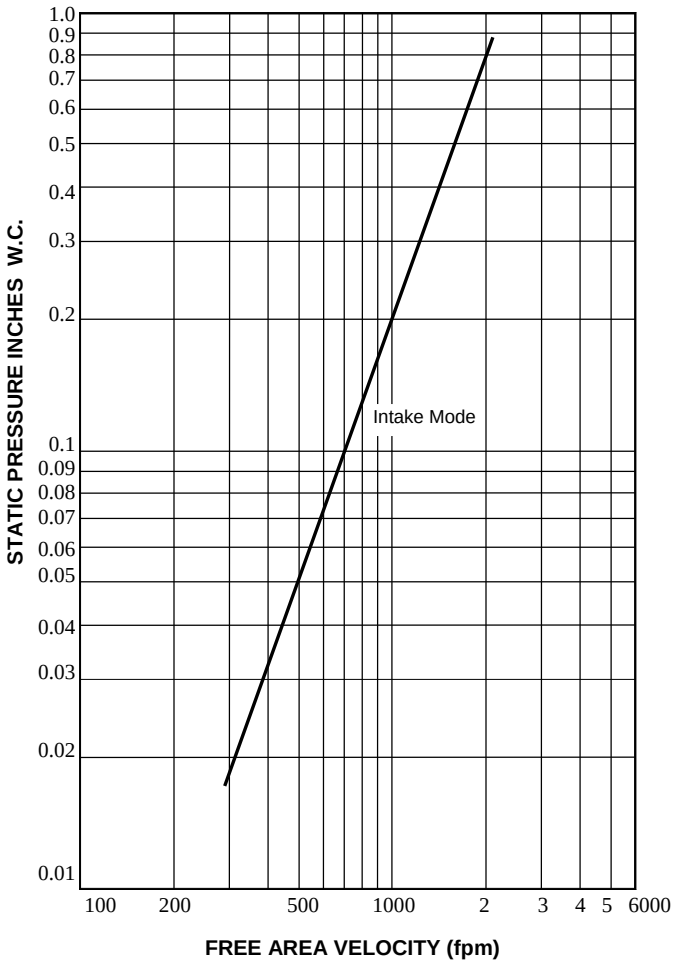
Engineering and General Offices

1855 South 54th Avenue, Cicero, Illinois 60804

Phone 708-652-9100 FAX 708-652-9158

All tests performed at an independent laboratory and based on AMCA standards for air performance.

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 by utilizing the "air performance" graph.

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 over a 15 minutes test period			

FREE AREA CALCULATIONS IN SQ. FT.

		WIDTH														
	Inches	**12**	**18**	**24**	**30**	**36**	**42**	**48**	**54**	**60**	**66**	**72**	**78**	**84**	**90**	**96**
HEIGHT	**12**	0.31	0.54	0.77	1.00	1.24	1.47	1.70	1.93	2.16	2.40	2.63	2.86	3.09	3.32	3.55
	18	0.49	0.87	1.24	1.61	1.98	2.35	2.72	3.09	3.46	3.83	4.20	4.57	4.95	5.32	5.69
	24	0.68	1.19	1.70	2.21	2.72	3.23	3.74	4.25	4.76	5.27	5.78	6.29	6.80	7.31	7.82
	30	0.87	1.51	2.16	2.81	3.46	4.11	4.76	5.41	6.06	6.71	7.36	8.01	8.66	9.30	9.95
	36	1.05	1.84	2.63	3.42	4.20	4.99	5.78	6.57	7.36	8.15	8.93	9.72	10.51	11.30	12.09
	42	1.24	2.16	3.09	4.02	4.95	5.87	6.80	7.73	8.66	9.58	10.51	11.44	12.36	13.29	14.22
	48	1.42	2.49	3.55	4.62	5.69	6.75	7.82	8.89	9.95	11.02	12.09	13.15	14.22	15.29	16.35
	54	1.61	2.81	4.02	5.22	6.43	7.64	8.84	10.05	11.25	12.46	13.66	14.87	16.07	17.28	18.48
	60	1.79	3.14	4.48	5.83	7.17	8.52	9.86	11.21	12.55	13.89	15.24	16.58	17.93	19.27	20.62
	66	1.98	3.46	4.95	6.43	7.91	9.40	10.88	12.36	13.85	15.33	16.82	18.30	19.78	21.27	22.75
	72	2.16	3.79	5.41	7.03	8.66	10.28	11.90	13.52	15.15	16.77	18.39	20.01	21.64	23.26	24.88
	78	2.35	4.11	5.87	7.64	9.40	11.16	12.92	14.68	16.44	18.21	19.97	21.73	23.49	25.25	27.02
	84	2.53	4.44	6.34	8.24	10.14	12.04	13.94	15.84	17.74	19.64	21.55	23.45	25.35	27.25	29.15
	90	2.72	4.76	6.80	8.84	10.88	12.92	14.96	17.00	19.04	21.08	23.12	25.16	27.20	29.24	31.28
	96	2.91	5.08	7.26	9.44	11.62	13.80	15.98	18.16	20.34	22.52	24.70	26.88	29.06	31.24	33.41
	102	3.09	5.41	7.73	10.05	12.36	14.68	17.00	19.32	21.64	23.96	26.27	28.59	30.91	33.23	35.55
	108	3.28	5.73	8.19	10.65	13.11	15.56	18.02	20.48	22.94	25.39	27.85	30.31	32.77	35.22	37.68
	114	3.46	6.06	8.66	11.25	13.85	16.44	19.04	21.64	24.23	26.83	29.43	32.02	34.62	37.22	39.81
	120	3.65	6.38	9.12	11.85	14.59	17.33	20.06	22.80	25.53	28.27	31.00	33.74	36.48	39.21	41.95

EXTRUDED ALUMINUM LOUVER

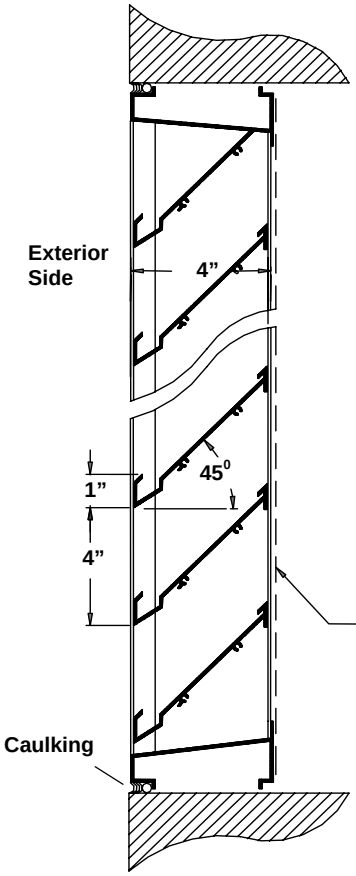
Drainable Blade Louver — Model EA 403

Design Features – High performance patented drainable blade design allowing maximum airflow with minimum outside element or water penetration.

STANDARD CONSTRUCTION

ALL MATERIAL – EXTRUDED ALUMINUM 6063-T5 (KB-45)

FRAME
EA 403 – 4" thick, is .081 extruded aluminum in style #3.
BLADES
EA 403 are .081" extruded alum. approx. spacing is 4" @ 45°
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
(allows for best handling)
(Type of finish may limit maximum single section)
MULLION
Visible
MINIMUM SIZE
12" w x 12" H
UNDERSIZED
1/4" under ordered size unless specified Exact or Actual
SCREEN
3/4" .051" flattened expanded aluminum bird screen no frame
FINISH
Mill



TYPICAL VERTICAL SECTION

PERFORMANCE

Free area
48 x 48 section
57%

Water Penetration
960 fpm

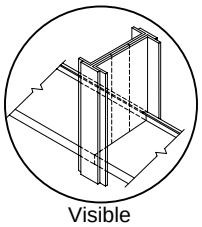
OPTIONAL CONSTRUCTION

FRAME – Available in a heavier extrusion of .125"
BLADES – Available in a heavier extrusion of .125"
SCREEN - Many styles available please consult screen listing
FINISH – Air-dry primer, polyurethane, epoxy, or enamel. Anodize or Kynar 500.
MULLION – Invisible for architectural preference

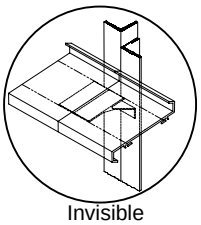
SPECIAL PURPOSE CONSTRUCTION

Special Shapes; Round, Triangle, Trapezoid, etc.
Security bars
Filter racks
Hinged as walk through door or for swing out access
Sleeved for ductwork connection
Welded Construction
Combined with 600 or 610 Control Damper to attain 100% wind driven rain resistance

MULLION STYLES

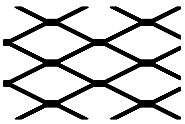


Visible

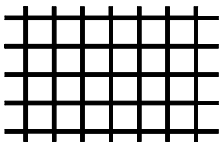


Invisible

TYPICAL SCREEN STYLES

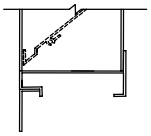


Expanded Aluminum Standard

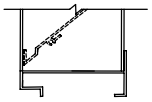


Wire Mesh

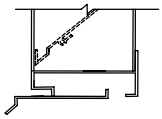
FRAME STYLE



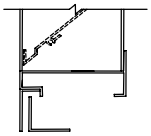
1- Flange (1.5")



3 – Box



8- Box with Sill Extension



9 - Flange with Sub Frame

DATE	ARCHITECT / ENGINEER	CUSTOMER
PROJECT		

ITEM	QTY	W	H	TAG

amca CERTIFIED RATINGS — WATER PENETRATION — AIR PERFORMANCE — AIR MOVEMENT AND CONTROL ASSOCIATION, INC. PRINTED IN THE UNITED STATES OF AMERICA

Safe-Air Dowco/Air Flow Company certifies that the Model **EA 403** 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 and water penetration ratings.

DEPENDABLE PRODUCTS SINCE 1955

SAFE-AIR / DOWCO

Engineering and General Offices

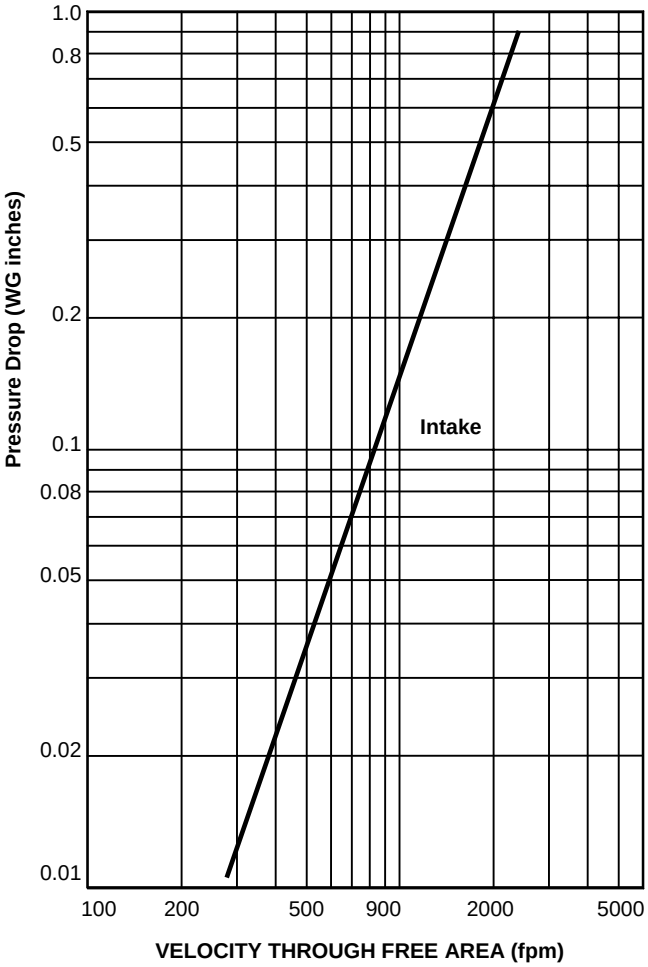
1855 South 54th Avenue / Cicero, Illinois 60804

Phone: 708-652-9100 FAX: 708-652-9158

EA 403 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

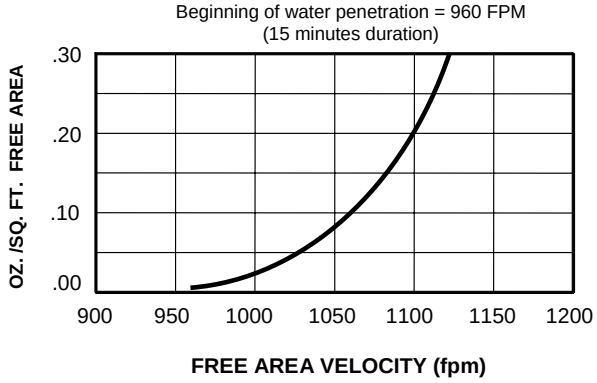
The "free area flow rate" at which water penetration commences (.01 oz. of water) is established at, 960 fpm for EA-403, and will vary depending upon actual weather conditions. The "water penetration" graph illustrates the results of actual laboratory test on a 48" x 48" test sample subjected to hypothetical rainfall conditions. To determined 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 = 960 FPM
(15 minutes duration)



Free Area Calculations (sq. ft.)

HEIGHT (inches)	WIDTH (inches) 12	18	24	30	36	42	48	54	60	66	72	78	84	90	96
12	0.33	0.53	0.72	0.92	1.11	1.31	1.50	1.70	1.89	2.09	2.28	2.48	2.67	2.87	3.06
18	0.58	0.92	1.26	1.60	1.94	2.29	2.63	2.97	3.31	3.65	4.00	4.34	4.68	5.02	5.36
24	0.88	1.40	1.93	2.45	2.98	3.50	4.03	4.55	5.07	5.60	6.12	6.65	7.17	7.70	8.22
30	1.16	1.85	2.55	3.24	3.93	4.63	5.32	6.01	6.71	7.40	8.09	8.79	9.48	10.17	10.86
36	1.41	2.25	3.09	3.93	4.77	5.61	6.45	7.29	8.13	8.97	9.81	10.65	11.49	12.33	13.17
42	1.67	2.67	3.67	4.68	5.68	6.68	7.68	8.68	9.68	10.68	11.68	12.68	13.68	14.68	15.68
48	1.99	3.18	4.37	5.56	6.76	7.95	9.05	10.33	11.52	12.71	13.90	15.09	16.29	17.48	18.67
54	2.24	3.57	4.91	6.25	7.59	8.93	10.27	11.60	12.94	14.28	15.62	16.96	18.29	19.63	20.97
60	2.48	3.97	5.45	6.94	8.42	9.91	11.39	12.88	14.36	15.85	17.33	18.82	20.30	21.79	23.27
66	2.78	4.45	6.12	7.79	9.45	11.12	12.79	14.46	16.13	17.79	19.46	21.13	22.80	24.46	26.13
72	3.07	4.90	6.74	8.57	10.41	12.25	14.08	15.92	17.76	19.59	21.43	23.27	25.10	26.94	28.78
78	3.31	5.29	7.28	9.26	11.24	13.23	15.21	17.19	19.18	21.16	23.14	25.13	27.11	29.09	31.08
84	3.58	5.72	7.87	10.01	12.15	14.30	16.44	18.59	20.73	22.87	25.02	27.16	29.31	31.45	33.59
90	3.90	6.23	8.56	10.90	13.23	15.57	17.90	20.24	22.57	24.91	27.24	29.58	31.91	34.24	36.58
96	4.14	6.62	9.10	11.59	14.07	16.55	19.03	21.51	23.99	26.47	28.96	31.44	33.92	36.40	38.88
102	4.39	7.01	9.64	12.27	14.90	17.53	20.16	22.79	25.41	28.04	30.67	33.30	35.93	38.56	41.18
108	4.69	7.50	10.31	13.12	15.93	18.74	21.56	24.37	27.18	29.99	32.80	35.61	38.42	41.23	44.04
114	4.97	7.95	10.93	13.91	16.89	19.87	22.85	25.83	28.81	31.79	34.77	37.75	40.73	43.71	46.69
120	5.22	8.34	11.47	14.60	17.72	20.85	23.98	27.10	30.23	33.36	36.48	39.61	42.74	45.86	48.99

EXTRUDED ALUMINUM LOUVER

Double Drainable Blade Louver — Model EA 623

Design Features – High performance patented double drainable blade design allowing maximum airflow with minimum outside element or water penetration.

STANDARD CONSTRUCTION

ALL MATERIAL – EXTRUDED ALUMINUM 6063-T5 (KB-45)

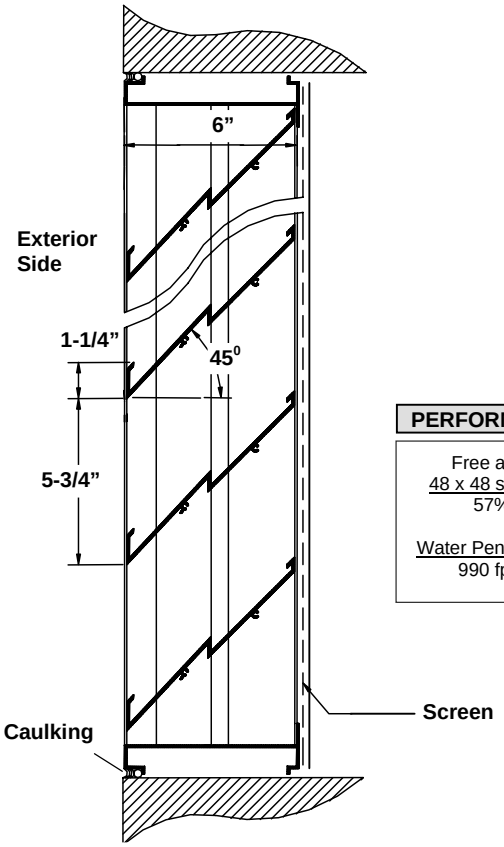
FRAME
EA 623 – 6" thick, is .081 extruded aluminum in style #3.
BLADES
EA 623 are .081" extruded alum. approx. spacing is 5-3/4" @ 45°
MAXIMUM SIZE
Unlimited, with mullions, structural bracing supplied by others
MAXIMUM FACTORY ASSEMBLY SIZE
120" w x 84" H or 84" w x 120" H
(allows for best handling)
(Type of finish may limit maximum single section)
MULLION
Visible
MINIMUM SIZE
12" w x 12" H
UNDERSIZED
1/4" under ordered size unless specified Exact or Actual
SCREEN
3/4" .051" flattened expanded aluminum bird screen no frame
FINISH
Mill

OPTIONAL CONSTRUCTION

FRAME – Available in a heavier extrusion of .125"
BLADES – Available in a heavier extrusion of .125"
SCREEN - Many styles available please consult screen listing
FINISH – Air-dry primer, polyurethane, epoxy, or enamel. Anodize or Kynar 500.
MULLION – Invisible for architectural preference

SPECIAL PURPOSE CONSTRUCTION

Special Shapes; Round, Triangle, Trapezoid, etc.
Security bars
Filter racks
Hinged as walk through door or for swing out access
Sleeved for ductwork connection
Welded Construction
Combined with 600 or 610 Control Damper to attain 100% wind driven rain resistance



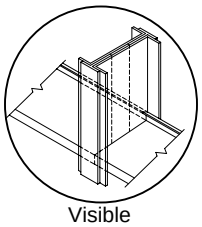
TYPICAL VERTICAL SECTION

PERFORMANCE

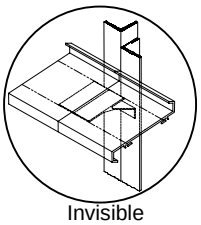
Free area
48 x 48 section
57%

Water Penetration
990 fpm

MULLION STYLES

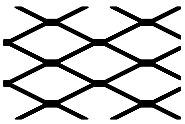


Visible

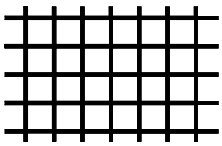


Invisible

TYPICAL SCREEN STYLES

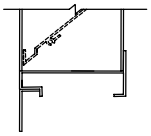


Expanded Aluminum Standard

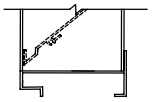


Wire Mesh

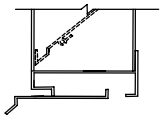
FRAME STYLE



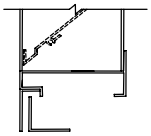
1- Flange (1.5")



3 – Box



8- Box with Sill Extension



9 - Flange with Sub Frame

DATE	ARCHITECT / ENGINEER	CUSTOMER
PROJECT		

ITEM	QTY	W	H	TAG

amca CERTIFIED RATINGS — WATER PENETRATION — AIR PERFORMANCE — AIR MOVEMENT AND CONTROL ASSOCIATION, INC. PRINTED IN THE UNITED STATES OF AMERICA

Safe-Air Dowco/Air Flow Company certifies that the Model **EA 623** 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 and water penetration ratings.

DEPENDABLE PRODUCTS SINCE 1955

SAFE-AIR / DOWCO

Engineering and General Offices

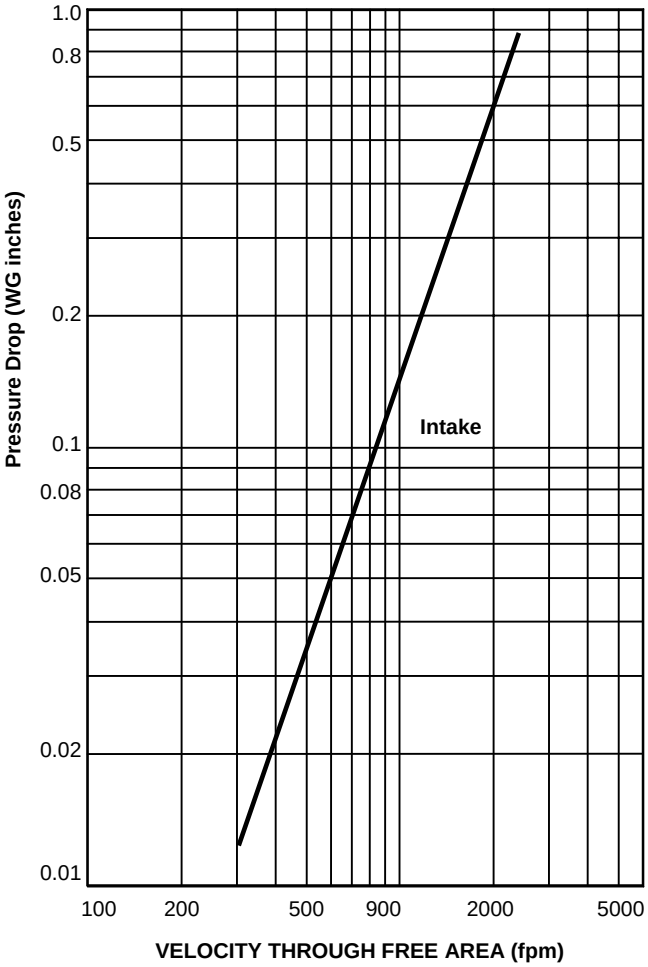
1855 South 54th Avenue / Cicero, Illinois 60804

Phone: 708-652-9100 FAX: 708-652-9158

EA 623 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

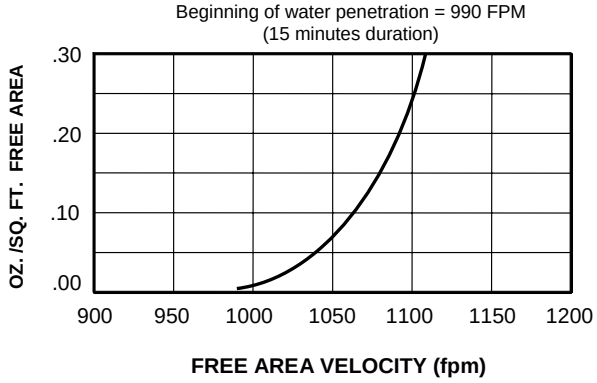
CALCULATING MAXIMUM AIRFLOW BEFORE WATER PENETRATION

The "free area flow rate" at which water penetration commences (.01 oz. of water) is established at, 990 fpm for EA-623, 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 determined 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 = 990 FPM
(15 minutes duration)



Free Area Calculations (sq. ft.)

HEIGHT (inches)	WIDTH (inches) 12	18	24	30	36	42	48	54	60	66	72	78	84	90	96
12	0.28	0.44	0.60	0.77	0.93	1.09	1.26	1.42	1.58	1.75	1.91	2.07	2.24	2.40	2.56
18	0.56	0.90	1.24	1.57	1.91	2.24	2.58	2.92	3.25	3.59	3.92	4.26	4.59	4.93	5.27
24	0.85	1.36	1.87	2.38	2.89	3.39	3.90	4.41	4.92	5.43	5.94	6.44	6.95	7.46	7.97
30	1.14	1.82	2.50	3.18	3.86	4.54	5.22	5.91	6.59	7.27	7.95	8.63	9.31	9.99	10.67
36	1.43	2.28	3.13	3.99	4.84	5.69	6.55	7.40	8.25	9.11	9.96	10.81	11.67	12.52	13.37
42	1.71	2.74	3.76	4.78	5.81	6.83	7.86	8.88	9.91	10.93	11.95	12.98	14.00	15.03	16.05
48	1.98	3.17	4.35	5.54	6.73	7.91	9.10	10.28	11.47	12.65	13.84	15.03	16.21	17.40	18.58
54	2.25	3.60	4.95	6.29	7.64	8.99	10.34	11.68	13.03	14.38	15.73	17.07	18.42	19.77	21.12
60	2.52	4.03	5.54	7.05	8.56	10.07	11.58	13.08	14.59	16.10	17.61	19.12	20.63	22.14	23.65
66	2.79	4.46	6.13	7.80	9.47	11.14	12.81	14.49	16.16	17.83	19.50	21.17	22.84	24.51	26.18
72	3.06	4.89	6.72	8.56	10.39	12.22	14.05	15.89	17.72	19.55	21.38	23.22	25.05	26.88	28.71
78	3.33	5.32	7.32	9.31	11.30	13.30	15.29	17.29	19.28	21.28	23.27	25.26	27.26	29.25	31.25
84	3.60	5.75	7.91	10.07	12.22	14.38	16.53	18.69	20.84	23.00	25.16	27.31	29.47	31.62	33.78
90	3.87	6.18	8.50	10.82	13.14	15.45	17.77	20.09	22.41	24.72	27.04	29.36	31.68	33.99	36.31
96	4.15	6.64	9.13	11.62	14.11	16.60	19.09	21.58	24.07	26.56	29.05	31.54	34.03	36.52	39.01
102	4.44	7.10	9.77	12.43	15.09	17.75	20.42	23.08	25.74	28.40	31.07	33.73	36.39	39.05	41.72
108	4.73	7.56	10.40	13.23	16.07	18.90	21.74	24.57	27.41	30.24	33.08	35.91	38.75	41.58	44.42
114	5.02	8.02	11.03	14.04	17.05	20.05	23.06	26.07	29.08	32.08	35.09	38.10	41.11	44.11	47.12
120	5.31	8.49	11.67	14.85	18.03	21.21	24.39	27.57	30.75	33.93	37.11	40.29	43.47	46.65	49.83

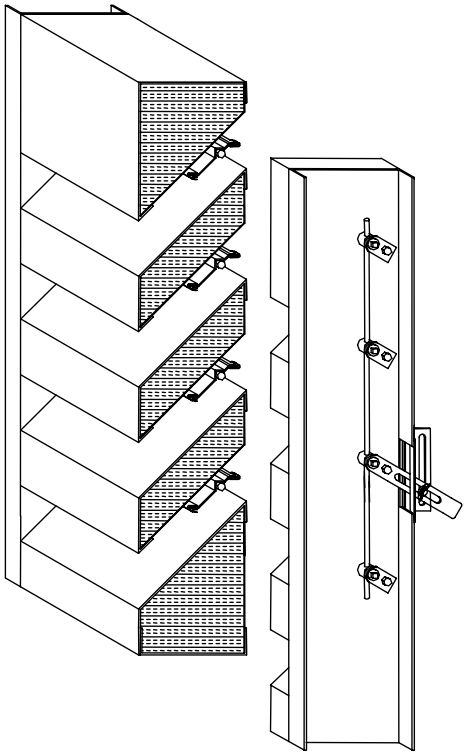
DEPENDABLE PRODUCTS SINCE 1955

Combination Fixed / Adjustable Acoustical Louver - Model C-UFC-12

Design Features – Combination design variation of our standard acoustical louver. The operable blades allows unit to remain open or closed as the system may require. Sound attenuating insulated blades proved a dual function of weather protection and airborne sound reduction.

STANDARD CONSTRUCTION

FRAME
12" deep box, .080" formed aluminum (3003-H34)
BLADES
Fixed - .080" formed aluminum (3303-H34) approx. spacing 10" oc.
Adjustable - .125" extruded aluminum (6063-T5)
Interior surface – 22 ga galv perforated steel fastened to blade underside
BLADE AXLES & BEARINGS
AXLE – 7/16" Plated hex
BEARING – Bronze oil impregnated
BLADE SEALS
Vinyl blade edge
LINKAGE
Concealed inside of jamb.
SOUND INSULATION
6# density pcf mineral wool
MAXIMUM SIZE
Unlimited, with mullions, structural bracing supplied by others
MAXIMUM SINGLE SECTION
60"W x 120"H
MINIMUM SIZE
12"W x 20"H
MULLIONS
Visible
SCREEN
¾" Flattened expanded aluminum screen in frame
UNDERSIZED
1/4" under ordered size unless specified Exact or Actual
FINISH
Mill
OPERATOR
Wingnut adjustable



PERFORMANCE

Point of Water Penetration - 1250 FPM

Free Area (48 x 48) – 23%

OPTIONAL CONSTRUCTION

SPECIFIED MATERIAL – Available in galvanized or stainless steel
SCREEN: Many styles available please consult screen listing
FINISH – Air-dry primer, polyurethane, epoxy, or enamel, Baked epoxy or enamel, Kynar, or Powder coat.
OPERATOR – Manual, electric or pneumatic, externally mounted, or jackshafted. Please consult operator listing.
JAMB SEALS – Available in Aluminum or Stainless Steel
SLEEVE AND DUCTWORK – 10 ga. to 20 ga. galvanized steel or aluminum to 30" in length.

SPECIAL PURPOSE CONSTRUCTION

Fully welded construction
Security bar
Filter racks

Octave Bands								
Frequency (hz)	1 63	2 125	3 250	4 500	5 1000	6 2000	7 4000	8 8000
Free Field Noise Reduction(DB)	11	14	15	19	23	24	19	20
Transmission Loss (DB)	5	8	9	13	17	18	13	14

DATE	ARCHITECT	CUSTOMER		
PROJECT				
ITEM	QTY	W	H	DESCRIPTION

DEPENDABLE PRODUCTS SINCE 1955

SAFE-AIR/DOWCO

Engineering and General Offices

1855 South 54th Avenue, Cicero, Illinois 60804

Phone 708-652-9100 FAX 708-652-9158

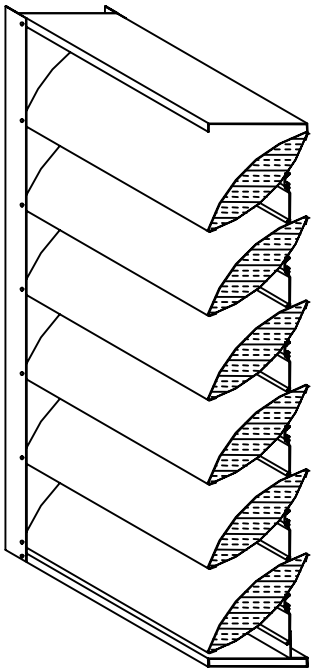
DEPENDABLE PRODUCTS SINCE 1955

Combination Fixed / Adjustable Acoustical Louver - Model C-UFA-12

Design Features – Combination design variation of our standard acoustical louver. The operable blades allows unit to remain open or closed as the system may require. Sound attenuating insulated blades proved a dual function of weather protection and airborne sound reduction.

STANDARD CONSTRUCTION

FRAME
12" deep box, .080" formed aluminum (3003-H34)
BLADES
Fixed - .080" formed aluminum (3303-H34) approx. spacing 10" oc.
Adjustable - .125" extruded aluminum (6063-T5)
Interior surface – 22 ga galv perforated steel fastened to blade underside
BLADE AXLES & BEARINGS
AXLE – 7/16" Plated hex
BEARING – Bronze oil impregnated
BLADE SEALS
Vinyl blade edge
LINKAGE
Concealed inside of jamb.
SOUND INSULATION
6# density pcf mineral wool
MAXIMUM SIZE
Unlimited, with mullions, structural bracing supplied by others
MAXIMUM SINGLE SECTION
60"W x 120"H
MINIMUM SIZE
12"W x 20"H
SCREEN
¾" Flattened expanded aluminum screen in frame
UNDERSIZED
1/4" under ordered size unless specified Exact or Actual
FINISH
Mill
OPERATOR
Wingnut adjustable



PERFORMANCE

Point of Water Penetration - 1100 FPM

Free Area (48 x 48) – 30%

OPTIONAL CONSTRUCTION

SPECIFIED MATERIAL – Available in galvanized or stainless steel
SCREEN: Many styles available please consult screen listing
FINISH – Air-dry primer, polyurethane, epoxy, or enamel, Baked epoxy or enamel, Kynar, or Powder coat.
OPERATOR – Manual, electric or pneumatic, externally mounted, or jackshafted. Please consult operator listing.
JAMB SEALS – Available in Aluminum and Stainless Steel
SLEEVE AND DUCTWORK – 10 ga. to 20 ga. galvanized steel or aluminum to 30" in length.

Octave Bands								
Frequency (hz)	1 63	2 125	3 250	4 500	5 1000	6 2000	7 4000	8 8000
Free Field Noise Reduction (DB)	14	12	12	15	21	19	18	21
Transmission Loss (DB)	8	6	6	9	15	13	12	15

SPECIAL PURPOSE CONSTRUCTION

Fully welded construction
Security bar
Filter racks

DATE	ARCHITECT			CUSTOMER
PROJECT				
ITEM	QTY	W	H	DESCRIPTION

DEPENDABLE PRODUCTS SINCE 1955

SAFE-AIR/DOWCO

Engineering and General Offices

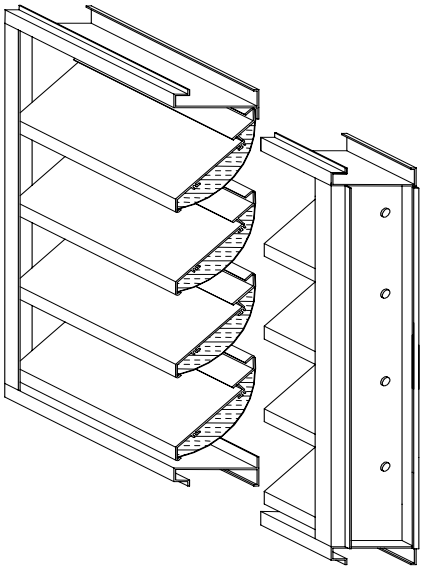
1855 South 54th Avenue, Cicero, Illinois 60804

Phone 708-652-9100 FAX 708-652-9158

DEPENDABLE PRODUCTS SINCE 1955

Aluminum Acoustical Louver Model UEB-04 & UEB-06

Features – Sound attenuating insulated blades provide a dual function of weather protection and airborne sound reduction. The stepped blade provides additional weather protection than our straight blade design.



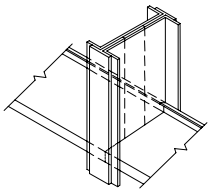
STANDARD CONSTRUCTION

FRAME
UEB-04" thick, is .081 ga. (2.1) extruded aluminum in style #3
UEB-06" thick, is .081 ga. (2.1) extruded aluminum in style #3
BLADES
UEB-04" are .081 ga. (2.1) extruded aluminum approx, spacing is 4" (102) @ 45°
UEB-06" are .081 ga. (2.1) extruded aluminum approx, spacing is 6" (152) @ 45°
Interior surface – 22 ga galv perforated steel fastened to blade underside
SOUND INSULATION
6# density pcf mineral wool
FASTENERS
Plated steel, tek screw
MAXIMUM SIZE
Unlimited, with mullions, structural bracing supplied by others
MAXIMUM SINGLE SECTION
60"W x 120"H (1524 x 3048)
MULLIONS
Visible
MINIMUM SIZE
12" W x 16" H (305 x 406)
UNDERSIZED
1/4" (6) under ordered size unless specified Exact or Actual
SCREEN
3/4" x .051" ga. (13 x 1.3) Flattened expanded aluminum bird screen no frame
FINISH
Mill

OPTIONAL CONSTRUCTION

MATERIAL – Available in galvanized or stainless steel
SCREENS - Many styles available please consult screen listing
FINISH – Air-dry primer, polyurethane, epoxy, or enamel, baked epoxy or enamel, Kynar , Powdercoat or Anodized.
SLEEVE AND DUCTWORK CONNECTION **– 10 ga. (3.5) to 20 ga. (1.0) galvanized steel or aluminum to 30" (762) in length – Transitions available in; round, oval, rectangular or custom. Factory can install access door, retaining angles , or flange connections.**

MULLION STYLES

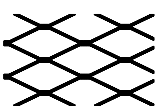


Visible

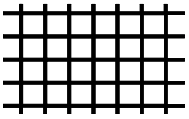
SPECIAL PURPOSE CONSTRUCTION

Fully welded assembly
Security bars
Filter racks

TYPICAL SCREEN STYLE

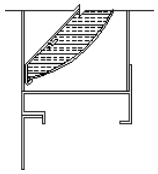


Expanded Aluminum Standard

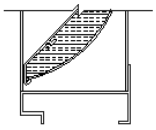


Wire Mesh

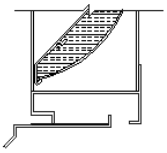
FRAME STYLES



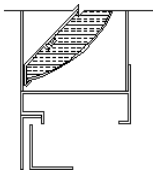
1- Flange (1.5")



3 – Box



8- Box with Sill Extension



9 - Flange with Sub Frame

DATE	ARCHITECT			ENGINEER
PROJECT				
ITEM	QTY	W	H	DESCRIPTION

DEPENDABLE PRODUCTS SINCE 1955

SAFE-AIR/DOWCO

Engineering and General Offices

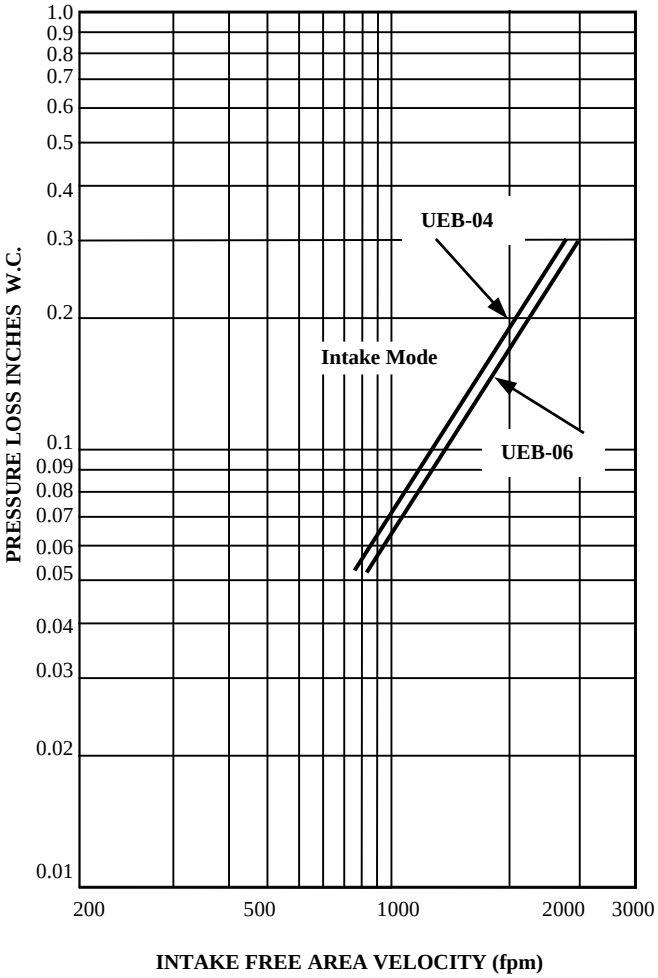
1855 South 54th Avenue, Cicero, Illinois 60804

Phone 708-652-9100 FAX 708-652-9158

UEB-04 & UEB-06 PERFORMANCE SPECIFICATIONS

All tests performed at an independent laboratory and based on AMCA standard 500 – 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, 1262 fpm for UEB-04 & 06, 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 determined the free area (in sq. ft.) based on upon a known volumetric flow rate in CFM;

_____CFM/_____FPM=_____SQ. FT. FREE AREA

(System Requirements)

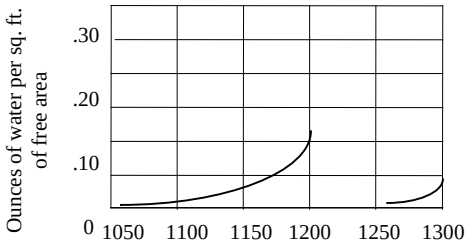
Water Penetration Graph
in oz. of water per sq. ft. of
free area over a 15 min. test period

UEB-04

.01	.02	.05	.1	.2	.3	(H20)
1062	1200	1250	n/a	n/a	n/a	(fpm)

UEB-06

.01	.02	.05	.1	.2	.3	(H20)
1262	1300	1350	n/a	n/a	n/a	(fpm)



1050 (UEB-04) & 1262 (UEB-06) fpm beginning of water penetration

FREE AREA CALCULATIONS IN SQ. FT.

WIDTH

HEIGHT INCHES		12	18	24	30	36	42	48	54	60
12	4"	0.21	0.33	0.46	0.58	0.70	0.83	0.95	1.08	1.20
	6"	0.22	0.35	0.48	0.61	0.74	0.87	1.00	1.13	1.26
18	4"	0.34	0.55	0.76	0.97	1.17	1.38	1.59	1.80	2.00
	6"	0.36	0.58	0.80	1.02	1.23	1.45	1.67	1.89	2.10
24	4"	0.50	0.80	1.10	1.39	1.70	1.99	2.29	2.59	2.89
	6"	0.52	0.84	1.15	1.46	1.78	2.09	2.40	2.72	3.03
30	4"	0.64	1.03	1.41	1.80	2.18	2.57	2.95	3.34	3.72
	6"	0.67	1.08	1.48	1.89	2.29	2.70	3.10	3.51	3.91
36	4"	0.79	1.26	1.73	2.21	2.68	3.15	3.63	4.10	4.57
	6"	0.83	1.32	1.82	2.32	2.81	3.31	3.81	4.30	4.80
42	4"	0.93	1.50	2.06	2.61	3.17	3.73	4.30	4.86	5.41
	6"	0.98	1.57	2.16	2.74	3.33	3.92	4.51	5.10	5.68
48	4"	1.08	1.72	2.37	3.02	3.67	4.31	4.96	5.61	6.26
	6"	1.13	1.81	2.49	3.17	3.85	4.53	5.21	5.89	6.57
54	4"	1.23	1.96	2.70	3.43	4.16	4.90	5.63	6.36	7.10
	6"	1.29	2.06	2.83	3.60	4.37	5.14	5.91	6.68	7.45
60	4"	1.37	2.19	3.01	3.84	4.66	5.48	6.30	7.12	7.94
	6"	1.44	2.30	3.16	4.03	4.89	5.75	6.61	7.48	8.34
66	4"	1.51	2.42	3.33	4.24	5.15	6.06	6.97	7.88	8.78
	6"	1.59	2.54	3.50	4.45	5.41	6.36	7.32	8.27	9.22
72	4"	1.66	2.66	3.65	4.65	5.65	6.64	7.64	8.63	9.63
	6"	1.74	2.79	3.83	4.88	5.93	6.97	8.02	9.06	10.11
78	4"	1.81	2.89	3.97	5.06	6.14	7.22	8.30	9.39	10.47
	6"	1.90	3.03	4.17	5.31	6.45	7.58	8.72	9.86	10.99
84	4"	1.95	3.12	4.30	5.47	6.63	7.80	8.97	10.14	11.31
	6"	2.05	3.28	4.51	5.74	6.96	8.19	9.42	10.65	11.88
90	4"	2.10	3.35	4.61	5.87	7.12	8.38	9.64	10.90	12.16
	6"	2.20	3.52	4.84	6.16	7.48	8.80	10.12	11.44	12.77
96	4"	2.24	3.59	4.93	6.28	7.62	8.96	10.31	11.66	13.00
	6"	2.35	3.77	5.18	6.59	8.00	9.41	10.83	12.24	13.65