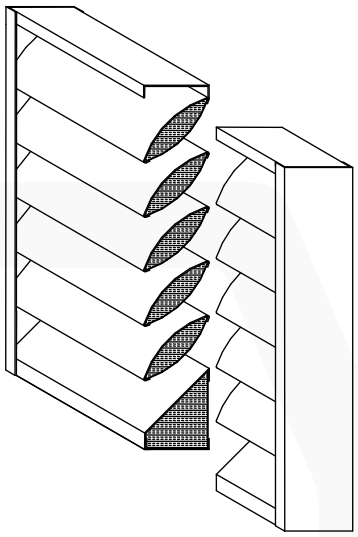
DOWCO Products Group
A division of Safe Air of Illinois

ACOUSTICAL LOUVER

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" (305) deep, 16 gauge galvanized steel in style #2
BLADES
Exterior surface – 18 ga. galvanized approx. spacing 12" oc.
Interior surface – 22 ga. galvanized perforated fastened to blade underside
SOUND INSULATION
6# density pcf mineral wool
ASSEMBLY
3/16" (4.76) plated steel rivets exposed to view
MAXIMUM SINGLE SECTION
60"W x 120"H (1829 x 3048)
MINIMUM SIZE
12"W x 16"H (305 x 406)
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" (6.35) under ordered size unless specified Exact or Actual
FINISH
Mill

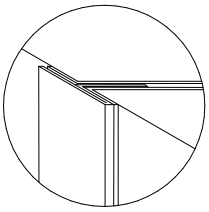
PERFORMANCE

Point of
water penetration
1077 fpm
Free area
48 x 48 section
30%
Pressure Drop (intake)
.07" 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.

MULLION STYLE

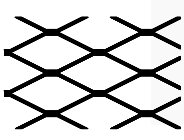


Visible

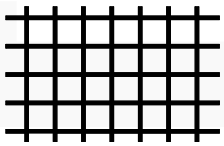
SPECIAL PURPOSE CONSTRUCTION

Fully welded construction
Security bar
Filter racks

TYPICAL SCREEN STYLES

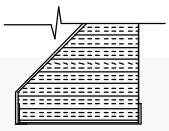


Expanded Aluminum

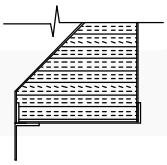


Wire Mesh
Standard

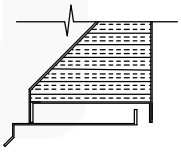
FRAME STYLE



#2 Box Frame



#1 Flange Frame



#8 Box frame and
Sill Extension

DATE	ARCHITECT/ENGINEER		CUSTOMER	
PROJECT				
ITEM	QTY	W	H	DESCRIPTION

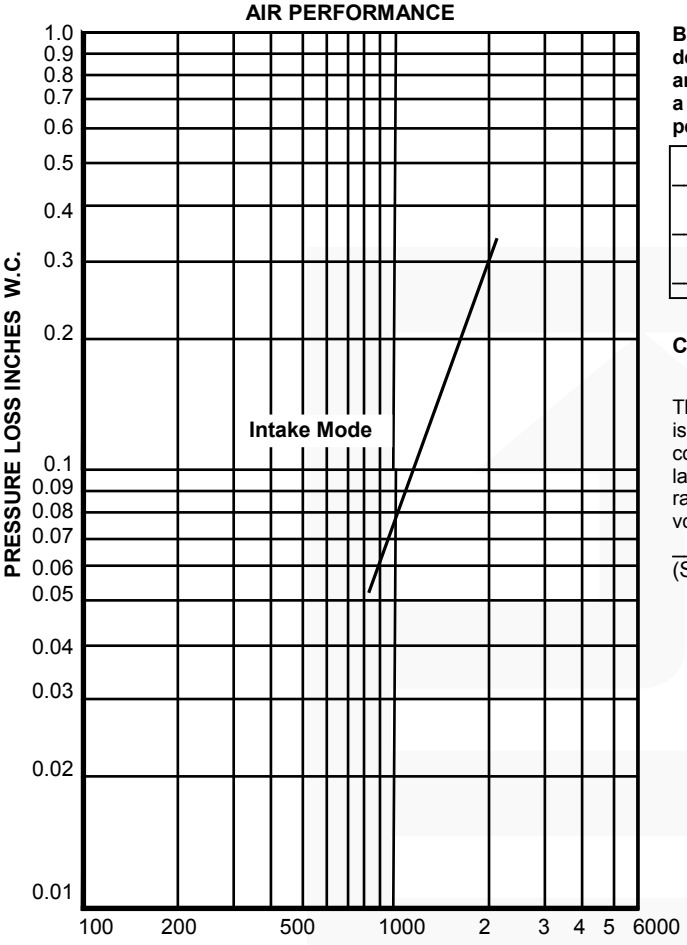
DOWCO Products Group
A division of Safe Air of Illinois
DEPENDABLE PRODUCTS SINCE 1955
DOWCO PRODUCTS GROUP
Engineering and General Offices
1855 South 54th Avenue, Cicero, Illinois 60804
Phone 708-652-9100 FAX 708-652-9158

DOWCO Products Group
A division of Safe Air of Illinois

UFA-12 PERFORMANCE SPECIFICATIONS

All tests performed at an independent laboratory and based on AMCA standard 511 – 91 for air performance and water penetration.
Sound ratings are based on sound transmission standards – ASTM E413-87 and ASTM E90-90.

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

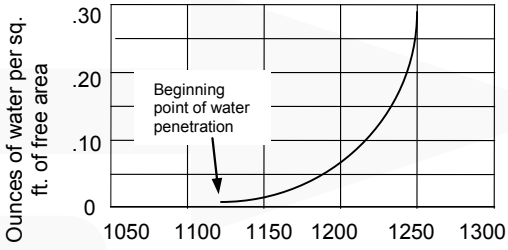
CALCULATING MAXIMUM AIRFLOW BEFORE WATER PENETRATION

The "free area flow rate" at which water penetration commences (.01 oz. of water) is established at, 1077 fpm, and will vary depending upon actual weather conditions. The "water penetration" graph illustrates the results of actual laboratory test on a 48" x 48" (1219 x 1219) test sample subjected to hypothetical rainfall conditions. To determine the free area (in sq. ft.) based on upon a known volumetric flow rate in CFM;

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

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

.01	.02	.05	.1	.2	. 3	(H20)
1077	1097	1129	1152	1176	1250	(fpm)



1077 fpm beginning of water penetration

CALCULATING TRANSMISSION LOSS

In order to calculate Transmission Loss (dB), take the Free Field Noise Reduction (dB) and subtract by 6 (dB).

Free-Field Noise Reduction – 6 (dB) = *Transmission Loss (dB)*

Octave bands								
Frequency (hz)	63	125	250	500	1000	2000	4000	5000
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.

WIDTH

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

HEIGHT

SUGGESTED SPECIFICATIONS

LOUVER MODEL: UFA-12/ SERIES

GENERAL:
Furnish and install at locations where indicated on the drawings or as described in schedules with high performance acoustical louver Model UFA-12/series as manufactured by DOWCO Products Group, 1855 South 54th Ave., Cicero, IL. 60804. Tel. 708-652-9100, Fax 708-652-9158 (www.safeair dowco.com/contact.asp). All louvers shall manufhave a factory certified Union Label. Submit complete submittals or shop drawings to the architect/engineactured under ARRA – American Recovery Reinvestment Act, "Buy American Stimulus Provision" and shall er for approval. All opening sizes shall be field verified prior to fabrication.

MATERIAL:
Frame thickness shall be 16 gauge (1.30mm) galvanized steel. Exterior blades shall be 18 ga. (1.30) Interior blades shall be 22 ga. (0.85) galvanized perforated steel fastened to blade underside. Sound attenuating insulated blades shall be designed to provide a dual function of weather protection and airborne sound reduction. Sound insulation will be 6 lbs. (2.72kg) density pcf mineral wool. Sound attenuating insulated blades provide a dual function of weather protection and airborne sound reduction. Sill and jamb frames shall be caulked to prevent water penetration to interior wall construction. Blades are attached to jamb frames by means of plated steel screws. All fasteners to be aluminum, plated carbon steel, or stainless steel. Stationary louvers shall be furnished with bird and / or insect screens, supports and finishes as specified and as required for a complete installation.

PERFORMANCE:
Louvers shall be tested in accordance with AMCA Standard 500-L and licensed under the AMCA Certified Ratings Seal for both air performance and water penetration. The louvers shall have a minimum of 4.81 ft^2. (0.447 m^2) (30%) free area on a 48 inch x 48 inch (1219 x 1219) louver. The rating shall show a maximum water penetration of .01 oz. at an air flow of 1077 FPM (5.47 m/s) free area velocity based on 15 minute test durations. The Static Pressure Loss shall not be more than 0.07 in. H^2O of water gauge (0.02 kPa) at an air flow of 1000 FPM (5.08 m/s) free area velocity.

Octave Bands

Frequency (hz)	1/63	2/125	3/250	4/500	5/1000	6/2000	7/4000	8/5000
Free Field Noise Reduction (dB)	12	11	12	13	20	18	16	20
Transmission Loss (dB)	6	5	6	7	14	12	10	14

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

FINISH:
All louvers shall be finished with DOWCO's Kynar 500 with 100% resin Fluoropolymer coating. Finish adhering to a 4H hardness rating. All finishing procedures shall be one continuous operation and the coating shall meet or exceed all requirements of AAMA Specification 261. Manufacturer shall supply a standard 5-year limited warranty against failure and excessive fading or upon request a 20-year limited warranty against failure and excessive fading.