United Enertech

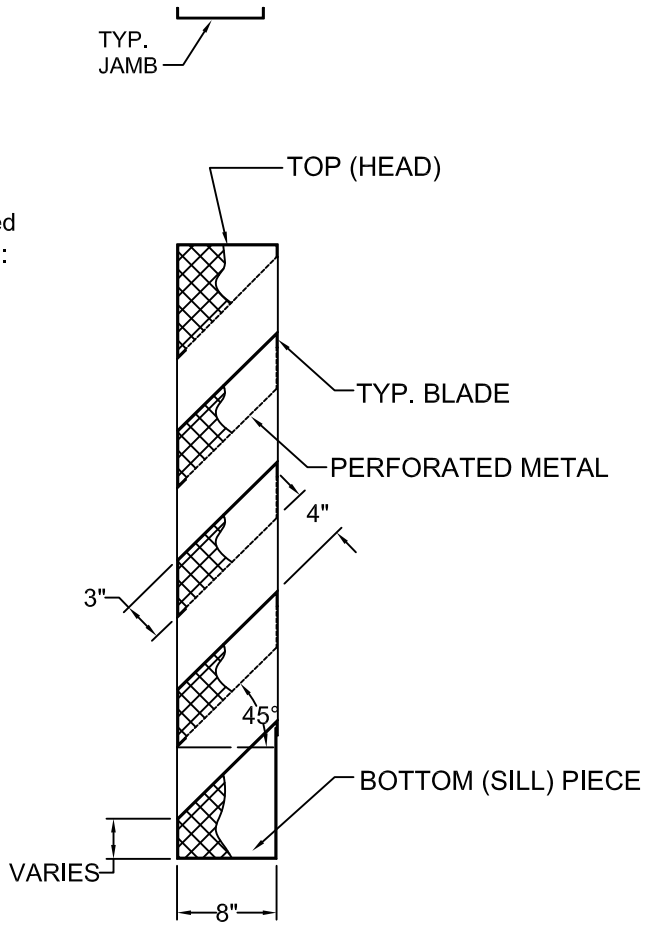
(ENGINEERS)

SUBMITTAL DATA

Acoustical Louver (8" deep)

Suggested Specifications:

Furnish and install acoustical louver as specified and where shown on plans or as described in schedules. Louver shall be stationary 8" deep. The sound absorbent fill shall be advanced microfibers composed of polyester and polyolefin. Absorbent fill shall be capable of being wet and not losing sound absorbing characteristics, such as job site ground storage or severe storms. Louver must carry the AMCA Seal for Water Penetration and Air Performance. Sound data shall be certified by an acoustical certified laboratory. Sound ratings shall comply with the following standards: "Recommended Practice for Laboratory measurements for air-borne sound transmission loss of building partitions." ASTM designation E90-99 and "standard classification for determination of sound transmission class", ASTM designation E413-73. Louver shall be United Enertech **Model XAC-4**



Standard Construction:

Frame:	18 ga. galvanized
Blade (air side):	18 ga. galvanized
Blade (noise side):	20 ga. galvanized perforated
Absorbent fill:	Advanced Microfibers composed of Polyester and Polyolefin

Undersizing:

Louvers are 1/4" undersized

Min. Louver Size:

12"w x 12"h

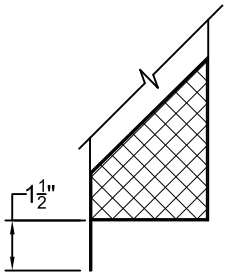
Max. Louver Size:

48"w x 120"h
Larger sizes are made in sections with vertical mullions

Screen:

3/4" x .051" flattened aluminum Screen mounted in removable frames.
Screen mounted:

- ☐ Interior Side (std.)
- ☐ Exterior Side



Flange Detail

Options:

Finish

- ☐ Baked Powder Polyester
- ☐ Baked Powder Fluoropolymer 70%

Construction

- ☐ Aluminum
- ☐ Stainless Steel (304)
- ☐ Heavier gage Galvanzied Steel

Job Name:	☐ **MODEL XAC-4**		
Location:			
Architect:	DRAWN BY: SRB	DATE: July 2006	REV. DATE: April 2008
Engineer:	REV. NO. 7	APPROVED BY: BGT	DWG. NO.: **E-11**
Contractor:			

XAC-4

ACOUSTICAL DATA

Sound Transmission Class (STC)

This is a numerical two-digit figure rating derived from a standardized performance test made in accordance with ASTM E90-90 (Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions) and ASTM E413-87 (Standard Classification for Determination of Sound Transmission Class). The number is used in evaluating the effectiveness of an assembly in isolating or reducing airborne sound transmission. Acoustic performance ratings have been determined by an AMCA Laboratory.

Outdoor Indoor Transmission Class (OITC)

ASTM E1332 and ASTM E966 procedures are used to determine the OITC rating of building facades relative to ground or air transportation noise.

Full Octave Band Specimen Sound Transmission Loss

Hz	125	250	500	1000	2000	4000
TL	6	4	7	12	14	10
NR	12	10	13	18	20	16

TL = Transmission Loss NR = Free Field Noise Reduction NR = TL + 6 dB

PERFORMANCE DATA

AMCA Standard 500-L provides a reasonable basis for testing and rating louvers. Testing to AMCA Standard 500-L is performed under a certain set of laboratory conditions. This does not guarantee that other conditions will not occur in the actual environment where louvers must operate.

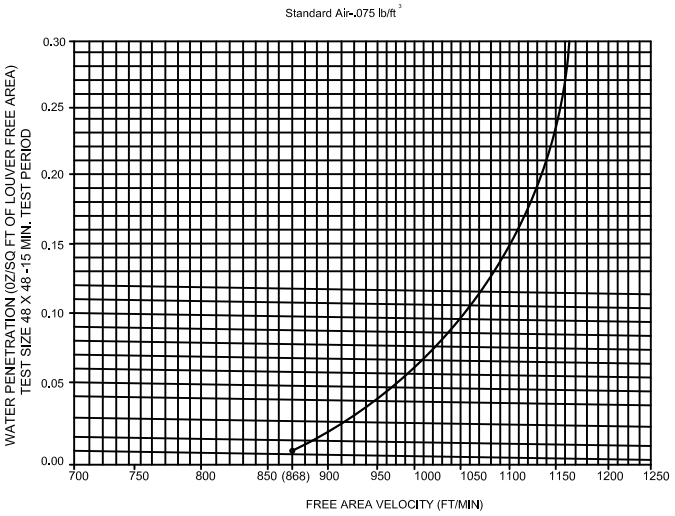
The louver system should be designed with a reasonable safety factor for louver performance. To ensure protection from water carryover, design with a performance level somewhat below maximum desired pressure drop and .01 oz./sq.ft. of water penetration.

Beginning point of WATER PENETRATION
is
868 fpm
free area velocity at .01 oz. of water penetration

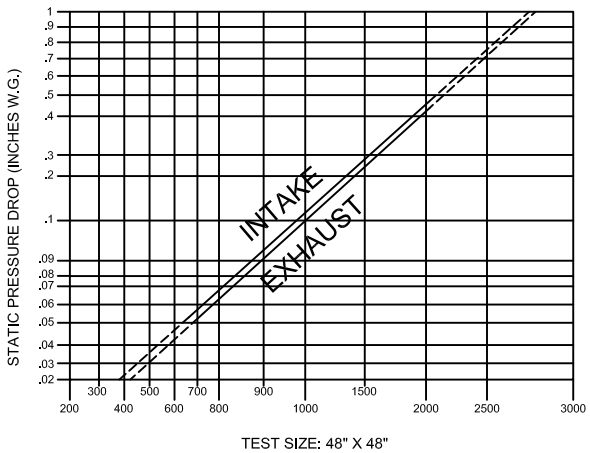
amca CERTIFIED RATINGS
WATER PENETRATION
SOUND AND AIR PERFORMANCE
AIR MOVEMENT AND CONTROL ASSOCIATION INTERNATIONAL, INC.

United Enertech certifies that the XAC-4 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 rating seal applies to air performance ratings and water penetration ratings.

WATER PENETRATION



PRESSURE DROP



Based on STANDARD AIR- .075 lb. per cubic foot.
Ratings do not include the effects of screen.

Louver Selection and Application

FREE AREA CHART (SQUARE FEET)

Louver Height Inches	Louver Width In Inches							Louver Height Inches
	12	**18**	**24**	**30**	**36**	**42**	**48**	
12	0.29	0.44	0.59	0.73	0.88	1.02	1.17	**12**
18	0.44	0.66	0.88	1.1	1.32	1.54	1.76	**18**
24	0.59	0.88	1.17	1.46	1.76	2.05	2.34	**24**
30	0.73	1.1	1.46	1.83	2.19	2.56	2.93	**30**
36	0.88	1.32	1.76	2.19	2.63	3.07	3.51	**36**
42	1.02	1.54	2.05	2.56	3.07	3.58	4.1	**42**
48	1.17	1.76	2.34	2.93	3.51	4.1	4.46	**48**
54	1.32	1.97	2.63	3.29	3.95	4.61	5.27	**54**
60	1.46	2.19	2.93	3.66	4.39	5.12	5.85	**60**
66	1.61	2.41	3.22	4.02	4.83	5.63	6.44	**66**
72	1.76	2.63	3.51	4.39	5.27	6.14	7.02	**72**
78	1.9	2.85	3.8	4.75	5.7	6.65	7.61	**78**
84	2.05	3.07	4.1	5.12	6.14	7.17	8.19	**84**
90	2.19	3.29	4.39	5.48	6.58	7.68	8.78	**90**
96	2.34	3.51	4.68	5.85	7.02	8.19	9.36	**96**
102	2.49	3.73	4.97	6.22	7.46	8.7	9.95	**102**
108	2.63	3.95	5.27	6.58	7.9	9.21	10.5	**108**
114	2.78	4.17	5.56	6.95	8.34	9.73	11.1	**114**
120	2.93	4.39	5.85	7.31	8.78	10.2	11.7	**120**

XAC-4 Selection and Examples

Example 1:
Airflow given as 10,000 cfm - select louver size.

A. Determine louver free area by dividing airflow by free area velocity (do not exceed 1032 fpm on intake louver application).

9,100 cfm ÷ 868 fpm = 10.48 ft.²
Airflow Free Area Velocity Required Louver Free Area

B. Select a louver with at least the required louver free area from Free Area Chart above.
72"W x 72"H
10.50 ft. free area
868 fpm free area velocity (9,100) cfm ÷ 10.48 ft.² F.A.
(Other selections available - See Free Area Chart above)

C. Check the pressure drop of the selected louver at the selected louver given airflow (Airflow Resistance Chart on page 2).
Δ P at 868 fpm = 0.09 in. w.g.
Free Area Velocity Pressure Drop

Example 2:
Louver size given as 42"W x 72"H intake - determine maximum airflow.

A. Use Free Area Chart to determine
Free Area = 6.14 ft.²

B. Multiply Free Area x Free Area Velocity (do not exceed 868 fpm on intake louver applications)
6.14 ft² x 868 fpm = 5,329 cfm
Free Area Free Area Velocity Max. Airflow

C. Check the pressure drop of the selected louver at the given airflow (Airflow Resistance Chart on page 2).
D P at 868 fpm = 0.09 w.g.
Free Area Velocity Pressure Drop