E4KS - 4" DEEP 45 DEGREE STORM K BLADE EXTRUDED ALUMINUM STATIONARY LOUVER

4.00"

INTERIOR

EXTERIOR

INTERIOR MOUNTED SCREEN

3.00"

SECTION VIEW

WIDTH

HEIGHT
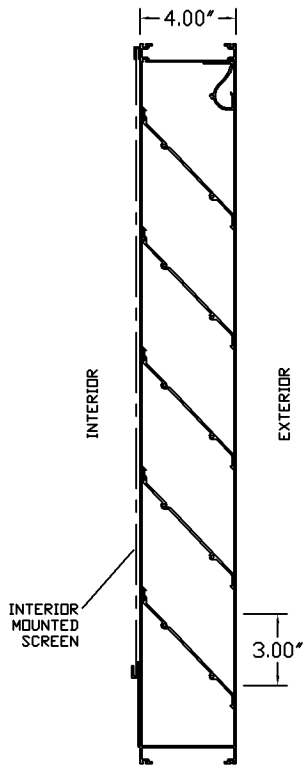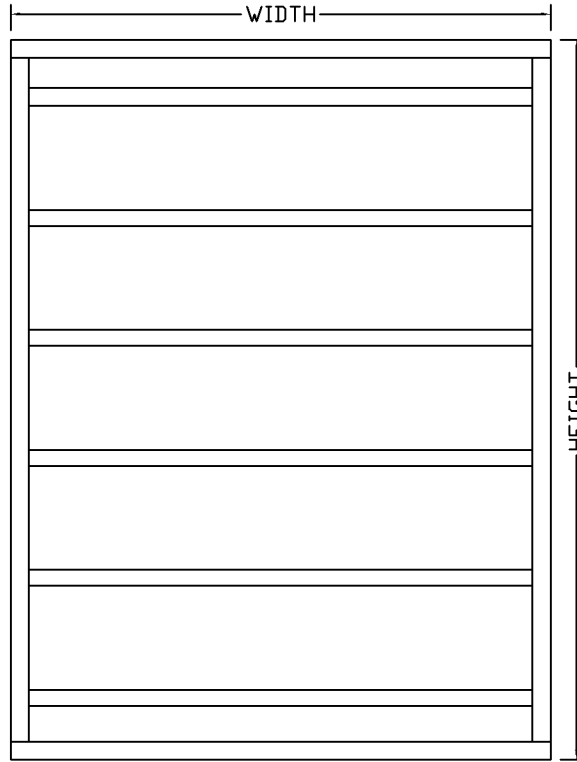
ELEVATION VIEW

BLADE – 0.081" THICKNESS TYPE 6063-T5 EXTRUDED ALUMINUM

FRAME – 0.081" THICKNESS TYPE 6063-T5 EXTRUDED ALUMINUM

DESIGNED FOR 100 MPH WIND LOAD

SIZES 12" WIDE X 12" HIGH UP TO UNLIMITED SIZE AVAILABLE

OPTIONS:

MOUNTING FOR VARIOUS OPENING TYPES (SEE FRAME STYLES BELOW)

ARCHITECTURAL SHAPES (SEE SPECIAL SHAPES TECH SHEET)

HIGHER WIND LOAD RATINGS

ARCHITECTURAL FINISHES

VARIOUS SCREENS

✳ SEE MOUNTING OPTIONS TECHNICAL SHEET FOR MORE FRAME STYLES:

1. J-CHANNEL FOR SIDING OR STUCCO

2. G-CHANNEL FOR GLAZING INTO STOREFRONT OR CURTAINWALL

CONSTRUCTION	FRAME STYLE ✳	STIFFENER	VERTICAL MULLION (MULTIPLE PANELS WIDE)	HORIZONTAL MULLION (MULTIPLE PANELS HIGH)
STANDARD	EXTERIOR / JAMB / CHANNEL "C" FRAME	EXTERIOR / BLADE SUPPORT BRACKETS / STIFFENER (EVERY 60" WIDTH MAX) / 2.00" / BLADE STIFFENER	EXTERIOR / MULLION COVER ENTIRE HEIGHT / JAMB JAMB / EXPOSED	SILL / HEAD / EXTERIOR / EXPOSED
OPTIONAL	EXTERIOR / 1.50" / JAMB / FLANGE "F" FRAME	EXTERIOR / BLADE SUPPORT BRACKETS / STIFFENER (SIZE TO MEET WIND LOADS) / VARIES / BLADE STIFFENER	EXTERIOR / BLADE SUPPORT BRACKETS / STIFFENERS (JOINED BY INSTALLER) / 2.00" / HIDDEN	EXTERIOR / HIDDEN

ARCHITECTURAL LOUVERS

7684 Coldbrook Lane - Cincinnati, OH 45255
PH: (888) 568-8371   Fax: (888) 568-8370

PROJECT	
CONTRACTOR	
ARCHITECT	

| DRAWN BY: JRR | DATE: 08/2007 | DRAWING TYPE: TECHNICAL SHEET | DRAWING TITLE: E4KS |

The Architectural Louvers Model E4KS is tested in accordance with AMCA 500-L Laboratory
Methods of Testing Air Louvers for Rating. The data presented are the results of these tests.
Tested louver size is 48" wide x 48" high and does not include the effects of bird screen.

Airflow Resistance

(Std Air Density - .075 lb/ft^2) - Test Figure 5.5-6.5

Static Pressure Drop (inches w.g.)

Intake

Free Area Velocity (ft/min)
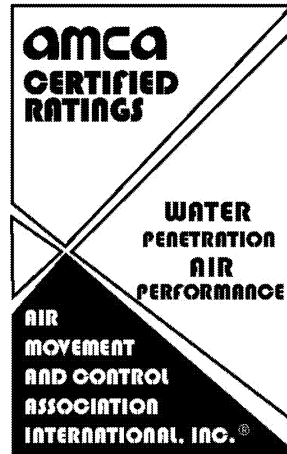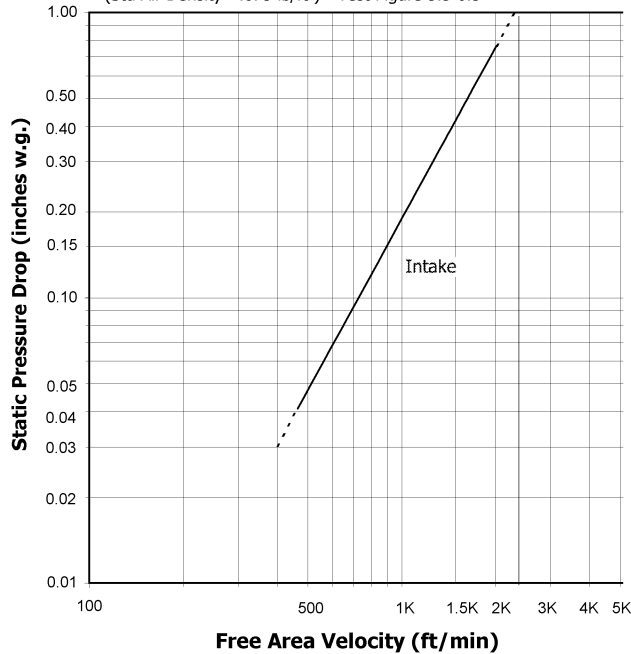
Architectural Louvers certifies
that model E4KS louver shown
herein is licensed to bear the
AMCA seal. The ratings shown
are based on tests and
procedures performed in
accordance with AMCA
Publication 511 and comply
with the requirements of the
AMCA Certified Ratings
Program. The AMCA Certified
Ratings Seal applies to air
performance ratings and
water penetration ratings
only.

Model: E4KS resistance to airflow
Free area velocities (shown left) are higher
than average face velocity or duct velocity.
See louver application information.

Water Penetration

(Std Air Density - .075 lb/ft^2 - Test Duration 15 Minutes)

Water Penetration (oz/ft2)

Free Area Velocity (ft/min)
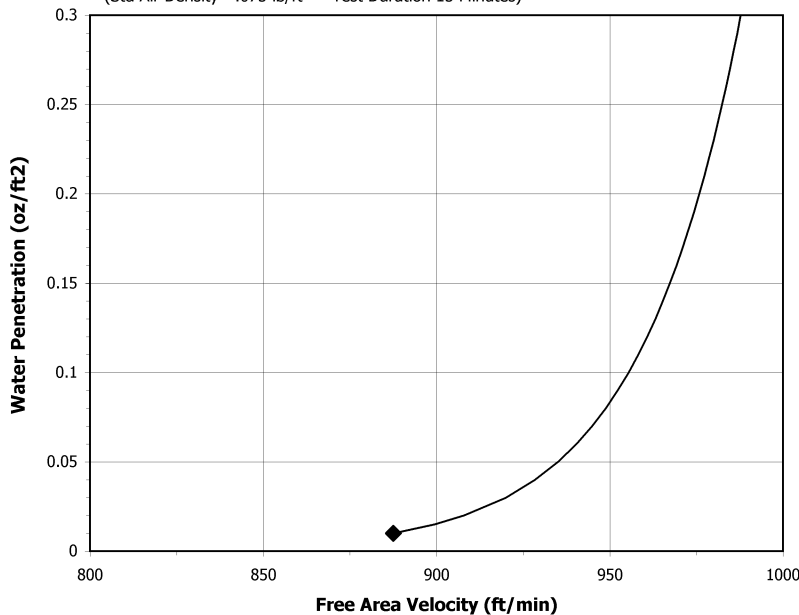
The AMCA Water Penetration Test provides a
method for comparing various louver models
and designs as to their efficiency in resisting
the penetration of rainfall under specific
laboratory test conditions. The point of zero
water penetration is defined as that velocity
where the water penetration curve projects
through .01 oz. of water (penetration) per sq.
ft. of louver free area. The beginning point
of water penetration for this Model E4KS is
888 fpm free area velocity. These perform-
ance ratings do not guarantee a louver to
be weatherproof or stormproof and should
be used in combination with other factors
in selecting louvers (i.e. prevailing wind direction,
weather patterns for the building location area,
desired safety factor, etc.).

MODEL: E4KS   Louver Application Guide

Application of air louvers involves selecting an airflow velocity through the louver free area (free area velocity in fpm) that produces an acceptable pressure drop and for intake applications minimizes carry-over of normally occurring rain. Architectural Louvers does not warrant our louvers to prevent water penetration under all combinations of wind and rain. Water penetration through Model E4KS begins at 888 fpm free area velocity. Intake air louver selection using a free area velocity below 888 fpm is recommended. Louver selection involves the following steps, and depending on the information provided, either step may come first.

Select Free Area Velocity - Fan Forced Intake:
Using the Airflow Resistance Chart, select a free area velocity that produces an acceptable pressure drop with minimal water penetration. (Water penetration is not typically considered when selecting exhaust louvers.)

Determine Louver Free Area:
Using the free area velocity from previous step and total cfm, determine the louver Free Area required. Using louver Free Area Chart, select a louver with the required free area. If louver size is given, determine free area from chart and work backwards to determine maximum airflow. See examples below.

Free Area Chart (ft^2)

		Louver Width (Inches)						
		12	24	36	48	60	72	84	96

Louver Height (Inches)		12	24	36	48	60	72	84	96
	12	0.24	0.52	0.79	1.07	1.34	1.58	1.86	2.13
	24	0.82	1.75	2.69	3.62	4.55	5.37	6.30	7.24
	36	1.39	2.99	4.58	6.17	7.76	9.16	10.75	12.34
	48	1.82	3.90	5.98	**8.06**	10.14	11.96	14.04	16.13
	60	2.40	5.14	7.88	10.62	13.35	15.75	18.49	21.23
	72	2.82	6.05	9.28	12.51	15.73	18.56	21.78	25.01
	84	3.40	7.29	11.17	15.06	18.94	22.34	26.23	30.12
	96	3.98	8.52	13.07	17.61	22.16	26.13	30.68	35.22

Louver Selection Examples - Fan Forced Intake:

Example 1:
Airflow given as 6000 cfm (fan volume)– select louver size.

A. Determine louver free area by dividing airflow by free area velocity (do not exceed 888 fpm on intake louver applications).

cfm / fpm	= ft^2
6000 / 888	= 6.76

B. Select a louver with at least the required louver free area from Free Area Chart above.

Width x Height	Free Area from Chart
60 x 36	7.76

(Other selections available – See Free Area Chart above)

C. Calculate Free Area Velocity

fpm = cfm / ft^2 free area of louver
773 = 6000 / 7.76

D. Check the pressure drop of the selected louver at the calculated airflow (Airflow Resistance Chart on Page 2).

in w.g. =   0.113   at 773 fpm free area velocity

Example 2:
Louver size given as 96 W x 48 H – determine maximum airflow.

A. Use Free Area Chart to obtain ft^2 for given size

Free Area = 16.13 sq ft

B. Multiply Free Area x Free Area Velocity (Do not exceed 888 fpm on intake louver applications).

ft^2 x fpm	= cfm
16.13 x 888	= 14320

C. Check the pressure drop of the selected louver at the calculated airflow (Airflow Resistance Chart on Page 2).

in w.g. =   0.149   at 888 fpm free area velocity