

**DESCRIPTION:**

GMCAIR Sound Control offers the most complete line of acoustical louvers on the market. All products are AMCA standards production for water penetration and air performance.

GMCAIR Acoustical louvers are an attractive way to provide ventilation as well as sound attenuation. The aerodynamically designed internal geometry allows air to flow through with minimal pressure drop and maximum sound attenuation. Acoustic louvers are available in a variety of sizes and finishes allowing this product to be used in any application and meet architectural requirements.

Has two models: Standard Model (ACL-163) and Twin-Sided Model (ACL-263).

CONSTRUCTION:

Standard Material Galvanized Sheet Steel. Optional: .304-316 Stainless Steel, Aluminum

APPLICATION:

GMCAIR Acoustical Louvers provide a solution for applications that require efficient ventilation without the transfer of undesirable noise. Acoustical Louvers are ideal for air intake and exhaust openings as well as ventilation openings in mechanical equipment rooms or acoustic enclosures

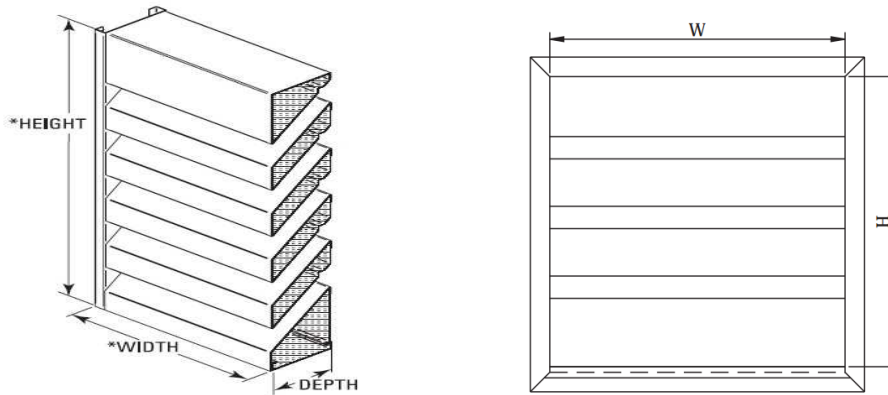
Cooling towers, mechanical rooms, tunnel ventilation, parking garage ventilation, general ventilation

ACCESSORIES:

- Bird and insect screens
- Flanges up to 4 in (10cm).
- Blank-offs (optional insulation)
- Exterior or interior frame screw mounting



STANDARD DIMENSIONS:



Metric System

AVAILABLE SIZES (mm) - Always width x height									
	WIDHT								
HEIGHT	300	400	600	800	1000	1200	1400	1600	1800
360	X	X	X	X	X	X	X	X	X
600	X	X	X	X	X	X	X	X	X
900	X	X	X	X	X	X	X	X	X
1200	X	X	X	X	X	X	X	X	X
1500	X	X	X	X	X	X	X	X	X
1800	X	X	X	X	X	X	X	X	X
2000	X	X	X	X	X	X	X	X	X
2300	X	X	X	X	X	X	X	X	X
2500	X	X	X	X	X	X	X	X	X

Imperial System

AVAILABLE SIZES (in.) - Always width x height									
	WIDHT								
HEIGHT	12"	16"	24"	31"	39"	47"	55"	63"	72"
14,5"	X	X	X	X	X	X	X	X	X
24"	X	X	X	X	X	X	X	X	X
35"	X	X	X	X	X	X	X	X	X
47"	X	X	X	X	X	X	X	X	X
60"	X	X	X	X	X	X	X	X	X
70"	X	X	X	X	X	X	X	X	X
80"	X	X	X	X	X	X	X	X	X
90"	X	X	X	X	X	X	X	X	X
96"	X	X	X	X	X	X	X	X	X

Depth:

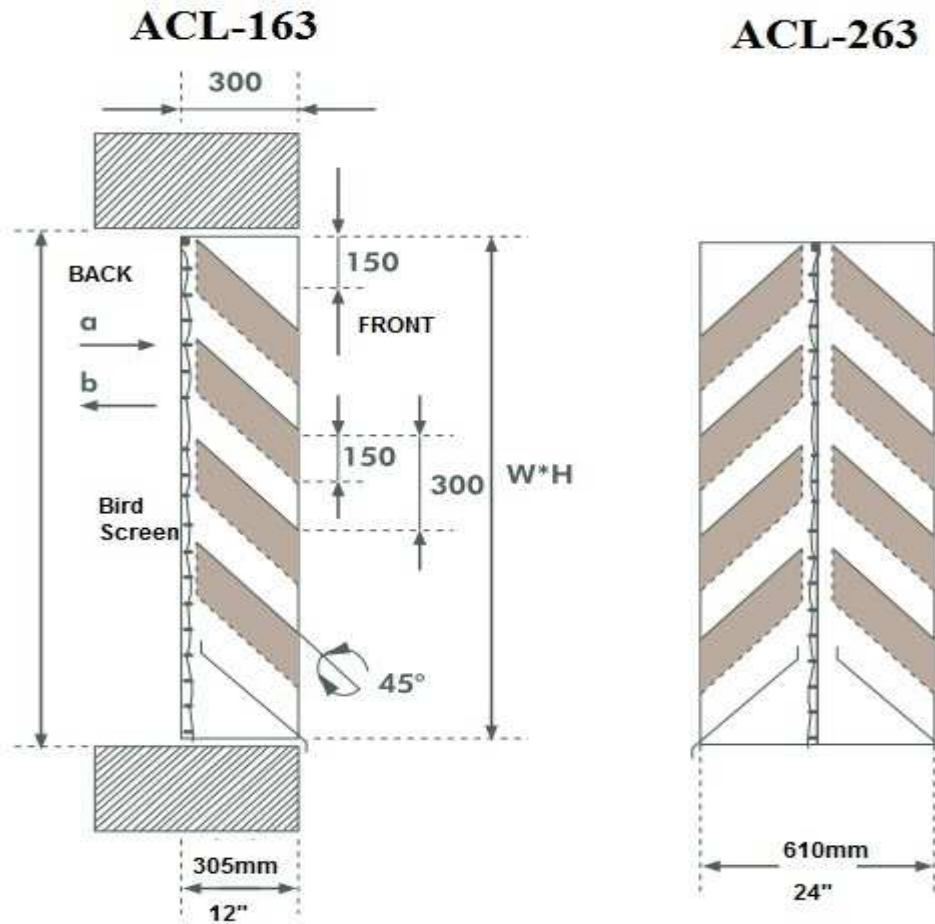
One side accoustic external louvre : 305mm - 12"
 Two side accoustic external louvre : 610mm - 24"



FUNCTIONAL DESCRIPTION

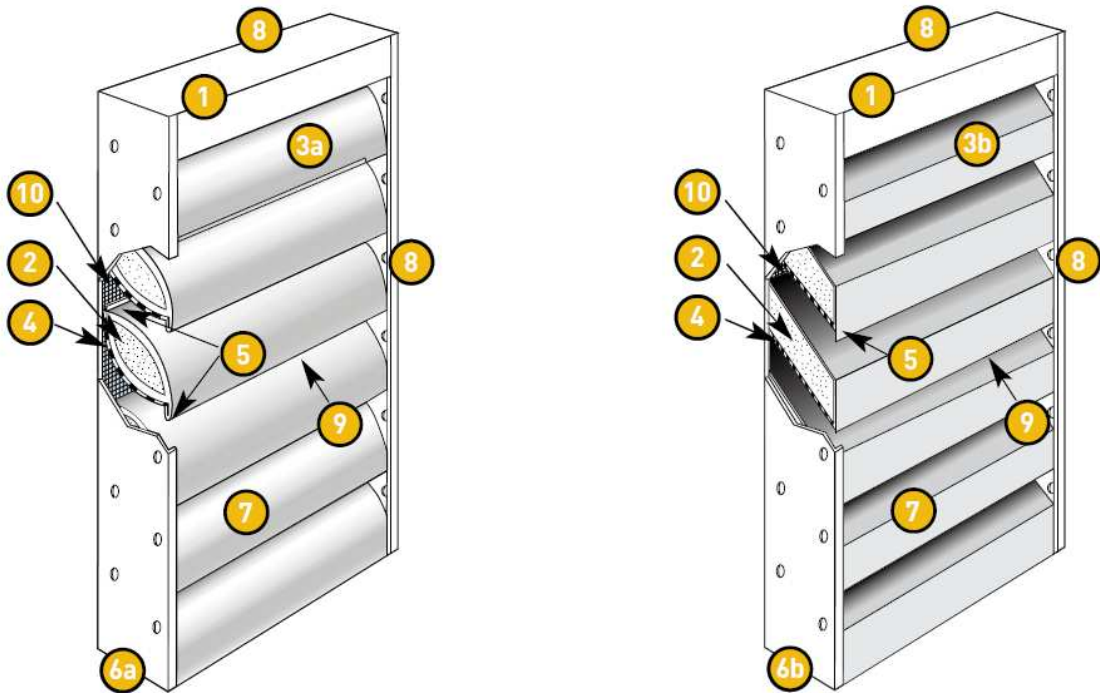
One side acoustic external louvre

Two side acoustic external louvre



Products Application





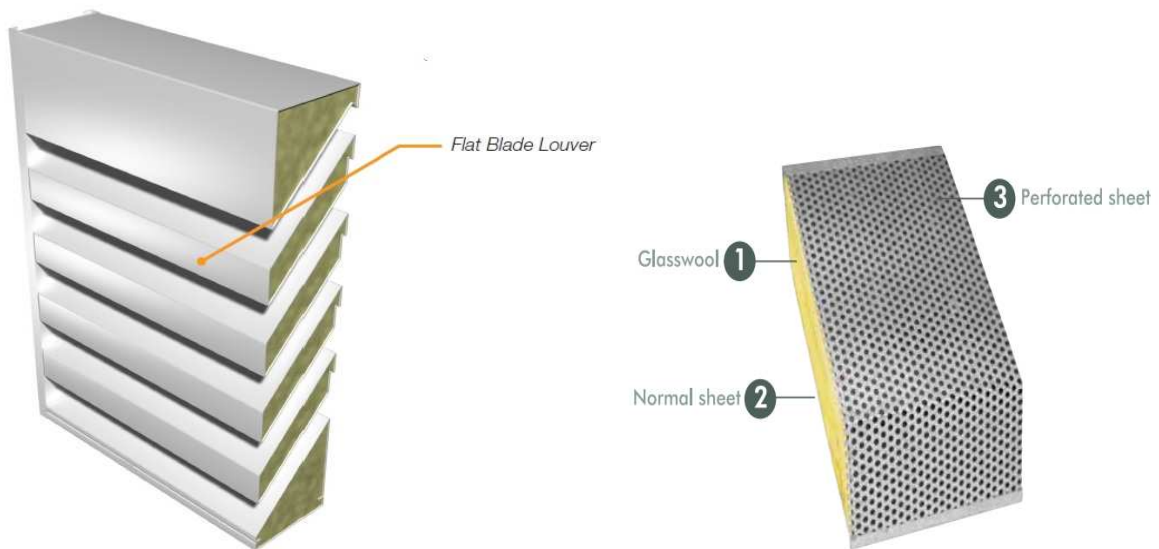
- ① Rugged all-steel galvanized construction. Stainless steel, aluminum and other materials are also available
- ② Inert, vermin-proof, weather-rated non combustible acoustic fill
- ③a airfoil shaped splitter blade for maximum noise reduction with minimum pressure drop
- ③b linear blade appearance for superior high frequency performance
- ④ Perforated splitter underside for maximum sound absorption
- ⑤ Weather stop inhibits rain / snow entry
- ⑥a 12" (305mm) for the single banked system or 24" (610mm) deep for the double banked system
- ⑥b 4, 6, 12" (101, 152, 305mm) deep single banked systems and 24" (610mm) deep for the double banked system
- ⑦ Available in a variety of durable, attractive finishes, including powder finish, Kynar, mill finish aluminum, anodized aluminum, galvanized and stainless steel
- ⑧ Modular sizes enable assembly of rectilinear louver 'screens' of almost any size
- ⑨ Louver blade orientation blocks horizontal line of site, enhancing both aesthetics and acoustic performance
- ⑩ Bird screens are available in galvanized or stainless steel, insect screens can also be supplied



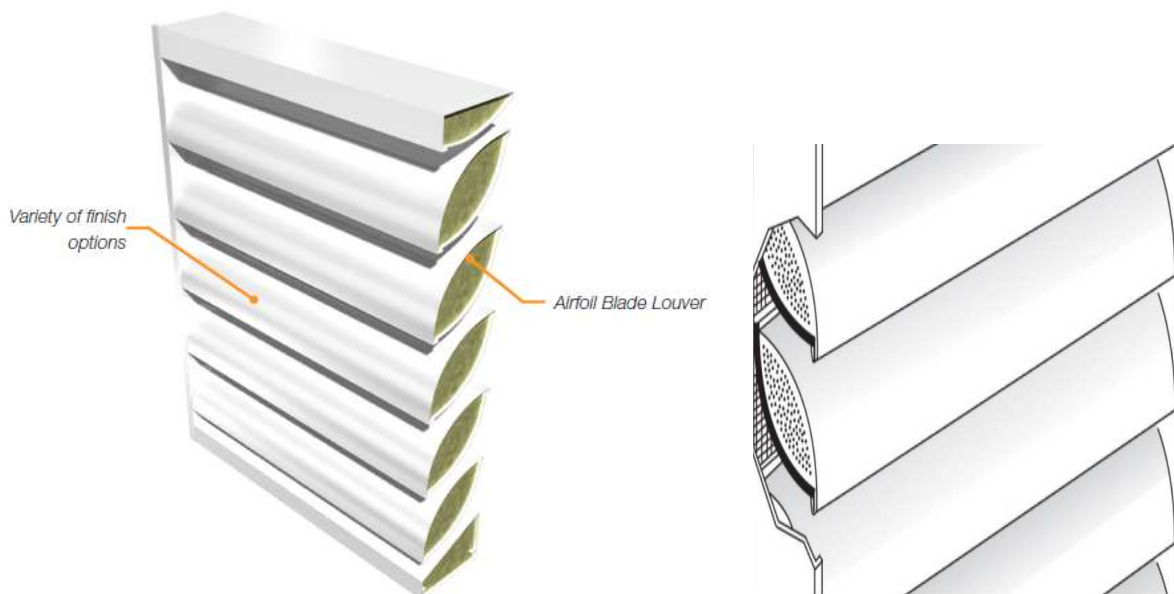
Blade Construction

Acoustical louvers are an attractive way to provide ventilation as well as sound attenuation. The aerodynamically designed internal geometry allows air to flow through with minimal pressure drop and maximum sound attenuation. Acoustic louvers are available in a variety of sizes and finishes allowing this product to be used in any application and meet architectural requirements.

1. Flat Blade Louver



2. Airfoil Blade Louver





Acoustic Performance Ratings

ACL-163

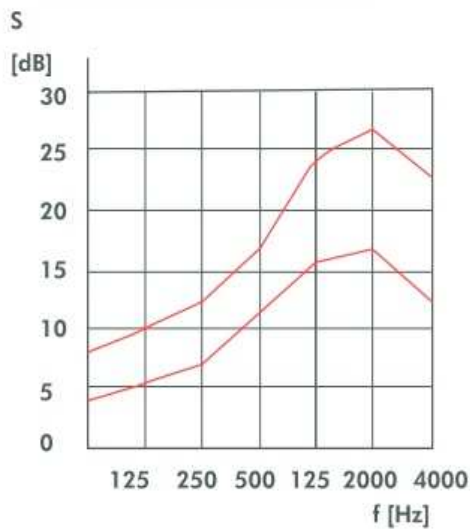
Metric System

	Measured at Octave Band Center Frequencies					
	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz
Free-Field Noise Reduction (dB)	11	13	16	21	18	14
Transmission Loss (dB)	5	7	10	15	12	8

Performance Notes:

1. Test data obtained in accordance with ASTM E90 test standard for Transmission Loss.
2. Free Field Noise Reduction = Transmission Loss + 6 dB
3. Sound Transmission Class (STC) = 12, obtained in accordance with ASTM E413.

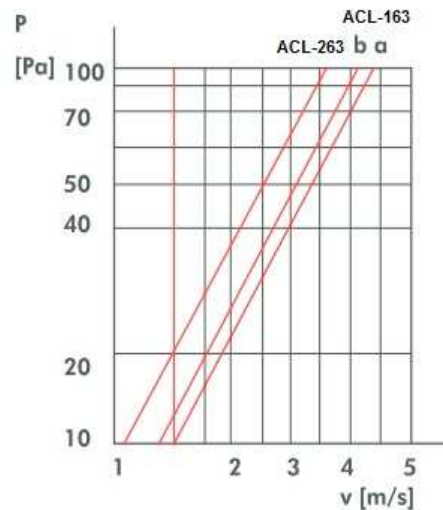
Noise Level Diagram



$$v \text{ [m/s]} = \frac{V \text{ [m}^3\text{/h]}}{3600 A \text{ [m}^2\text{]}}$$

$$A = W * (H - 0,29)$$

Pressure Loss Diagram



ACL-163: One side acoustic external louvre
 ACL-263: Two side acoustic external louvre
 a : exhaust air b: Fresh air

ACL-163/263 STANDARD SELECTION TABLE

W*H mm	Efective area m ²	Air volume m ³ /h
500*500	0,125	1350
800*500	0,2	2160
900*500	0,225	2430
1000*500	0,25	2700
1200*600	0,36	3888

* Air volume for 3m/s air velocity.

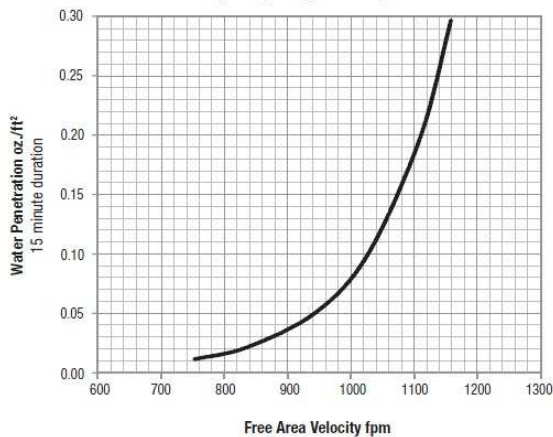


Imperial System

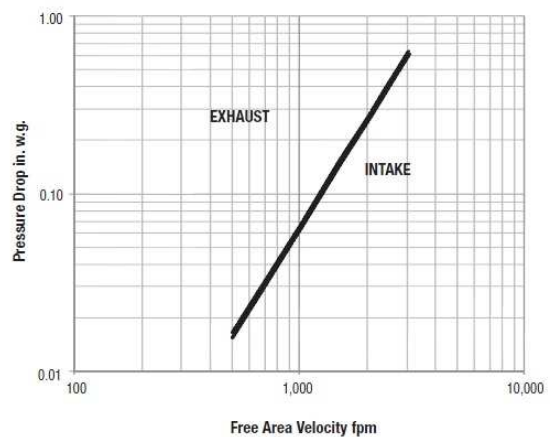
Free Area (sq. ft.)

Height in.	Width in.										
	12	18	24	30	36	42	48	54	60	66	72
18	0.28	0.45	0.63	0.80	0.97	1.14	1.31	1.48	1.65	1.82	1.99
24	0.45	0.73	1.00	1.27	1.55	1.82	2.09	2.37	2.64	2.91	3.18
30	0.45	0.73	1.00	1.27	1.55	1.82	2.09	2.36	2.64	2.91	3.18
36	0.63	1.00	1.38	1.75	2.13	2.50	2.88	3.25	3.63	4.00	4.38
42	0.80	1.27	1.75	2.23	2.71	3.18	3.66	4.14	4.62	5.09	5.57
48	0.97	1.55	2.13	2.71	3.29	3.87	4.44	5.02	5.60	6.18	6.76
54	0.97	1.55	2.13	2.71	3.29	3.87	4.44	5.02	5.60	6.18	6.76
60	1.14	1.82	2.50	3.18	3.86	4.55	5.23	5.91	6.59	7.28	7.96
66	1.31	2.09	2.88	3.66	4.44	5.23	6.01	6.80	7.58	8.37	9.15
72	1.48	2.36	3.25	4.14	5.02	5.91	6.80	7.68	8.57	9.46	10.34
78	1.48	2.36	3.25	4.14	5.02	5.91	6.80	7.68	8.57	9.46	10.34
84	1.65	2.64	3.63	4.61	5.60	6.59	7.58	8.57	9.56	10.55	11.54
90	1.82	2.91	4.00	5.09	6.18	7.27	8.37	9.46	10.55	11.64	12.73
96	1.99	3.18	4.38	5.57	6.76	7.96	9.15	10.34	11.54	12.73	13.92

Water Penetration Rating
Louver test size 48 in. x 48 in.
748 fpm beginning of water penetration



Air Performance Rating
Louver test size 48 in. x 48 in.



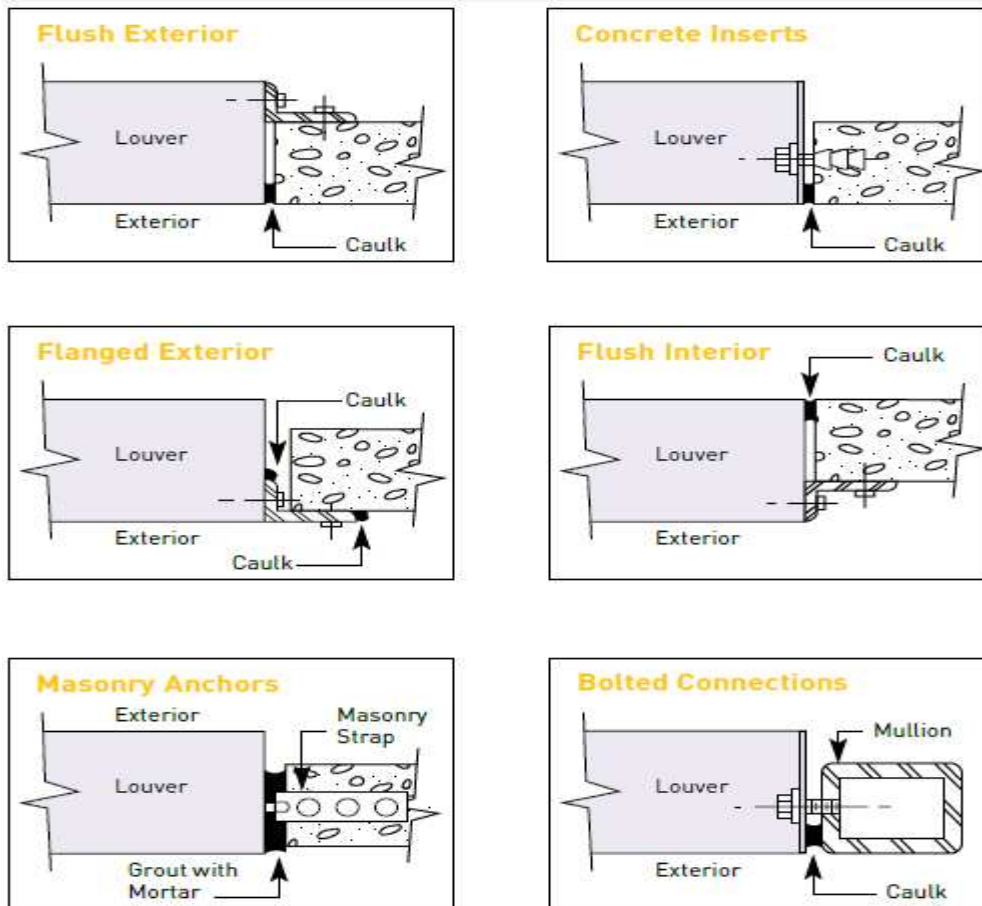
Performance Notes:

1. Beginning point of water penetration is defined by AMCA standard 511 as the free area velocity at which 0.01 ounces of water per square foot of free area is measured to pass through a 4' x 4' louver during a 15 minute test.
2. Data corrected to standard air density and tested to AMCA 500-L figure 5.5.



ACOUSTIC LOUVER INSTALLATIONS

Typical details are shown below. GMCAIR Acoustics will supply all supporting steelwork if necessary. For large louver banks, GMCAIR Acoustics can supply supporting steelwork, engineering services and drawings along with installation if desired.



Acoustic Louvered Doors

- Single and double doors are available from the GMCAIR Acoustics louver range
- The structural minimum is 33 1/2 in. (850mm) and is available up to 49" x 116" (1250 x 2950 mm) high as standard for a single door, and 98" x 116" (2500 x 2950 mm) high for a double door Other widths and heights are available on request
- All doors can be supplied with various hardware, including hinges, latches, screws, nuts, bolts, washers, handles and supporting frames
- Acoustic louvered doors can be fitted with bird or insect screens on request
- Doors can be powder coated to match adjoining louvers
- Materials for the door and door frame include galvanized steel, stainless steel and aluminum
- Other door options may be available in the entire GMCAIR Acoustics louver range. Please contact GMCAIR Acoustics for more details.

