

Air Louvers

Intake/Exhaust Air Louver

Application & Features

- Intake/Exhaust air louvers are designed to pass air through the openings in the buildings exterior walls while keeping out unwanted elements such as water , dirt, debris and other elements.
- It is used in industrial, commercial and domestic applications.
- Rugged assembly provides long term durability.
- Suitable for installation in inlet of fresh air intake ducts, exhaust ducts and external wall openings.
- Rear mounted volume control damper, filters are available as optional.
- Tested by AMCA as per ANSI/AMCA-500L-12 " Laboratory Methods of Testing Louvers for Rating" for the air performance.

Construction Details

- **Frame** : 1.5mm thickness extruded aluminium frame.
- **Blades** : 1.5mm thickness extruded aluminium. Blades are fixed horizontally at 45 degree downward. Downward deflection prevents rain water ingress.
- **Screen** : 7 x 12mm Galvanized steel bird screen (standard)/ Aluminium insect screen (optional).
- **Installation** : Vertically on external wall or direct to duct
- **Shape** : Square or Rectangular
- **Size** : Minimum size - 300 x 300mm
Maximum size - 2400 x 2400mm (maximum single section)
- **Filter** : 12mm, 25mm and 50mm thickness Aluminium washable filter (optional).
- **Damper** : Galvanized steel volume control damper (optional).
- **Finish** : Electrostatic polyester powder coated RAL9010 finish (standard). Other colors are available as option

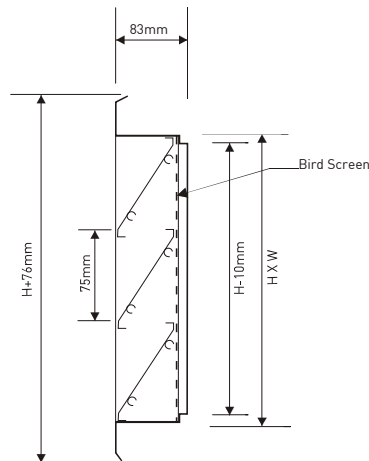


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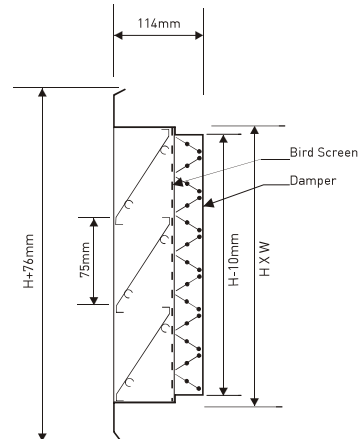
Air Louvers

Intake/Exhaust Air Louver

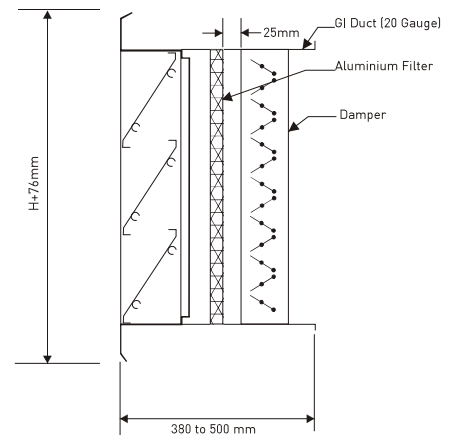
Model: FAL-A [Standard]
Intake/Exhaust Air Louver



Model: FAL-A +D
Intake/Exhaust Air Louver
with Volume Control Damper

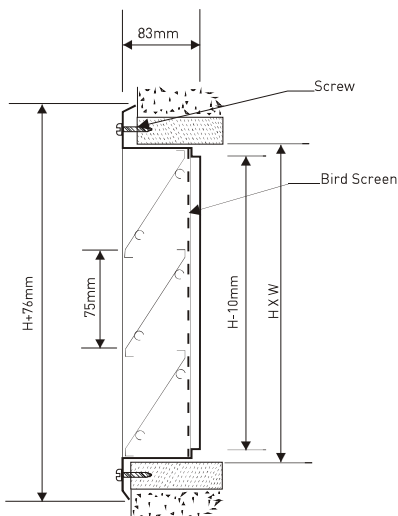


Model: FAL-A +F+D
Intake/Exhaust Air Louver
with Filter and Volume Control Damper

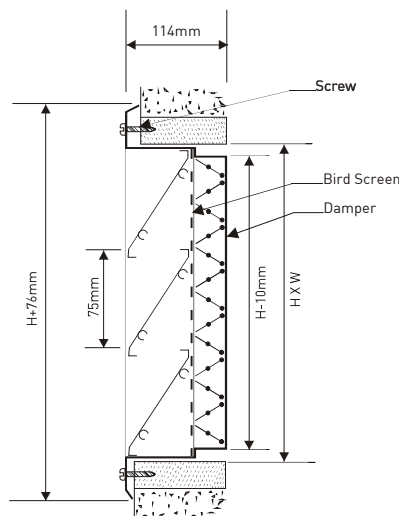


INSTALLATION DETAILS:

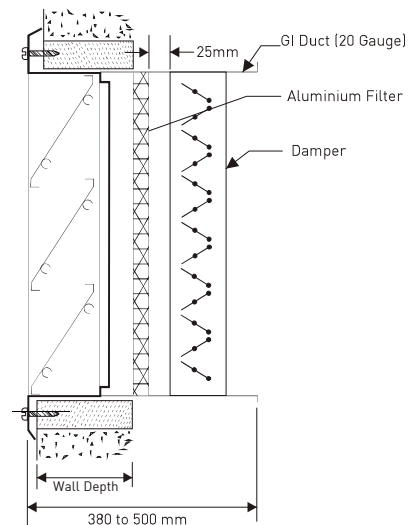
Intake/Exhaust Air Louver



Intake/Exhaust Air Louver
with Volume Control Damper



Intake/Exhaust Air Louver
with Filter and Volume Control Damper



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Air Louvers

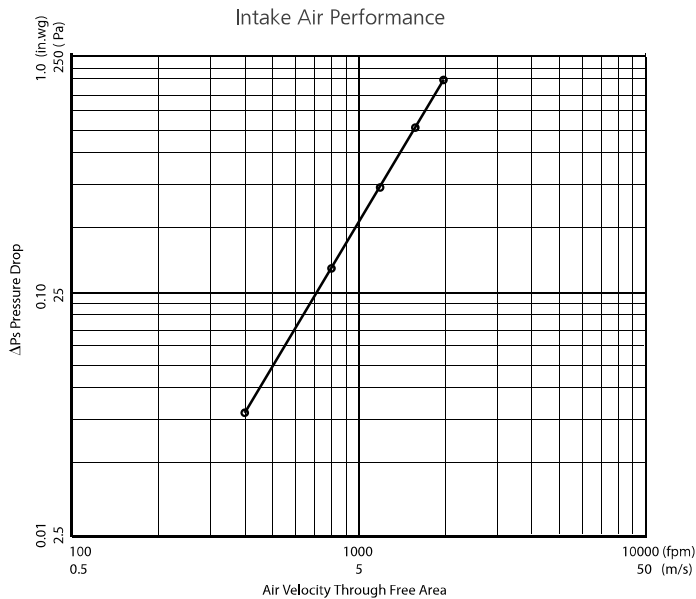
Intake/Exhaust Air Louver

Free Area Chart - Intake/Exhaust Air Louver [Model: FAL-A]:

H \ W		Louver Outer Width in Inches (mm)														
		12 300	18 450	24 600	30 750	36 900	42 1050	48 1200	54 1350	60 1500	66 1650	72 1800	78 1950	84 2100	90 2250	96 2400
Louver Outer Height in Inches (mm)	12 300	0.30 0.03	0.49 0.05	0.69 0.06	0.89 0.08	1.08 0.10	1.28 0.12	1.48 0.14	1.67 0.16	1.87 0.17	2.07 0.19	2.26 0.21	2.46 0.23	2.66 0.25	2.85 0.27	3.05 0.28
	18 450	0.49 0.05	0.82 0.08	1.15 0.11	1.48 0.14	1.81 0.17	2.13 0.20	2.46 0.23	2.79 0.26	3.12 0.29	3.45 0.32	3.77 0.35	4.10 0.38	4.43 0.41	4.76 0.44	5.09 0.47
	24 600	0.69 0.06	1.15 0.11	1.61 0.15	2.07 0.19	2.53 0.23	2.99 0.28	3.45 0.32	3.91 0.36	4.36 0.41	4.83 0.45	5.28 0.49	5.74 0.53	6.20 0.58	6.66 0.62	7.12 0.66
	30 750	0.89 0.08	1.48 0.14	2.07 0.19	2.66 0.25	3.25 0.30	3.84 0.36	4.43 0.41	5.02 0.47	5.61 0.52	6.20 0.58	6.79 0.63	7.39 0.69	7.97 0.74	8.56 0.80	9.16 0.85
	36 900	1.08 0.10	1.81 0.17	2.53 0.23	3.25 0.30	3.97 0.37	4.69 0.44	5.42 0.50	6.14 0.57	6.86 0.64	7.58 0.70	8.30 0.77	9.03 0.84	9.75 0.91	10.47 0.97	11.20 1.04
	42 1050	1.28 0.12	2.14 0.20	2.99 0.28	3.84 0.36	4.70 0.44	5.55 0.52	6.40 0.59	7.24 0.67	8.10 0.75	8.96 0.83	9.81 0.91	10.67 0.99	11.52 1.07	12.37 1.15	13.23 1.23
	48 1200	1.48 0.14	2.47 0.23	3.45 0.32	4.43 0.41	5.42 0.50	6.40 0.59	7.38 0.69	8.37 0.78	9.35 0.87	10.34 0.96	11.32 1.05	12.31 1.14	13.29 1.23	14.27 1.33	15.27 1.42
	54 1350	1.68 0.16	2.80 0.26	3.91 0.36	5.02 0.47	6.14 0.57	7.25 0.67	8.37 0.78	9.49 0.88	10.60 0.98	11.72 1.03	12.83 1.19	13.95 1.30	15.06 1.40	16.18 1.50	17.30 1.61
	60 1500	1.87 0.17	3.13 0.29	4.37 0.41	5.61 0.52	6.86 0.64	8.11 0.75	9.36 0.87	10.60 0.98	11.85 1.10	13.10 1.22	14.34 1.33	15.59 1.45	16.84 1.56	18.08 1.68	19.34 1.80
	66 1650	2.07 0.19	3.45 0.32	4.83 0.45	6.20 0.58	7.59 0.70	8.96 0.82	10.34 0.96	11.72 1.09	13.09 1.22	14.48 1.34	15.85 1.47	17.23 1.60	18.61 1.73	19.98 1.86	21.37 1.99
	72 1800	2.27 0.21	3.78 0.35	5.29 0.49	6.79 0.63	8.31 0.77	9.81 0.91	11.33 1.05	12.83 1.19	14.34 1.33	15.85 1.47	17.36 1.61	18.87 1.75	20.38 1.89	21.89 2.03	23.41 2.17
	78 1950	2.46 0.23	4.11 0.38	5.75 0.53	7.38 0.69	9.03 0.84	10.67 0.99	12.31 1.14	13.95 1.30	15.59 1.45	17.23 1.60	18.87 1.75	20.52 1.91	22.15 2.06	23.79 2.21	25.45 2.36
	84 2100	2.66 0.25	4.44 0.41	6.21 0.58	7.97 0.74	9.75 0.91	11.52 1.07	13.30 1.24	15.07 1.40	16.83 1.56	18.61 1.73	20.38 1.89	22.16 2.06	23.92 2.22	25.69 2.39	27.48 2.55
	90 2250	2.86 0.27	4.77 0.44	6.67 0.62	8.57 0.80	10.48 0.97	12.37 1.15	14.28 1.33	16.18 1.50	18.08 1.68	19.99 1.86	21.89 2.03	23.80 2.21	25.70 2.39	27.59 2.56	29.52 2.74
	96 2400	3.06 0.28	5.10 0.47	7.13 0.66	9.16 0.85	11.20 1.04	13.23 1.23	15.27 1.42	17.30 1.61	19.33 1.80	21.37 1.99	23.40 2.17	25.44 2.36	27.47 2.55	29.50 2.74	31.55 1.93

Neck Width = Outer Width - 76mm

Neck Height = Outer Height - 76mm



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Test Results:

Free Area Velocity		Pressure Drop	
fpm	m/s	inch.wg	Pa
400	2.0	0.03	8
800	4.0	0.13	33
1200	6.0	0.30	75
1600	8.0	0.52	130
2000	10.0	0.83	208

AMCA Standard 500-L Intake Test Figure 5.5 setup for size - 48" x 48" (outer dimension)
Data is corrected to standard air density

Selection Example :

Given:
Airflow: 4400cfm
Free area velocity : 600fpm (Assumed)

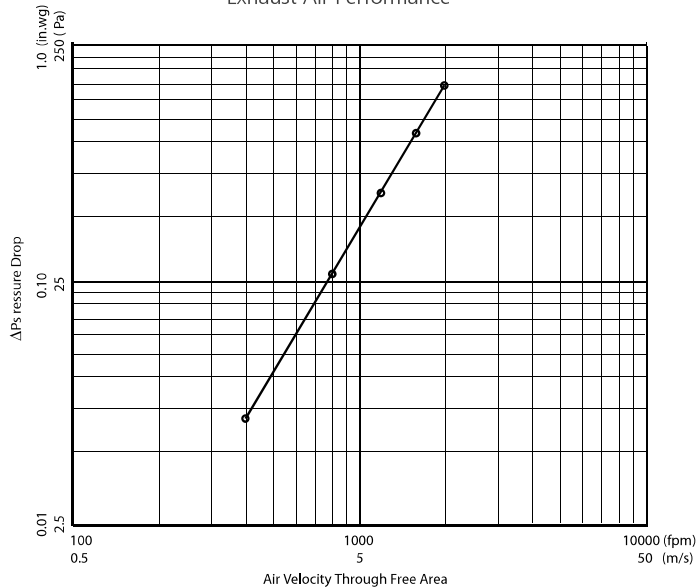
Calculation:
Free Area = Airflow/ louver free area velocity
= 4400/600
= 7.33 ft²

From Free Area Chart, selected size of the louver is 48" X 48"
From the graph, Louver pressure drop = 0.07 in.wg

Air Louvers

Intake/Exhaust Air Louver

Exhaust Air Performance



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Test Results:

Free Area Velocity		Pressure Drop	
fpm	m/s	inch.wg	Pa
400	2.0	0.03	8
800	4.0	0.11	28
1200	6.0	0.25	63
1600	8.0	0.43	108
2000	10.0	0.70	175

AMCA Standard 500-L Intake Test Figure 5.5 setup for size - 48" x 48" (outer dimension)
Data is corrected to standard air density

Selection Example

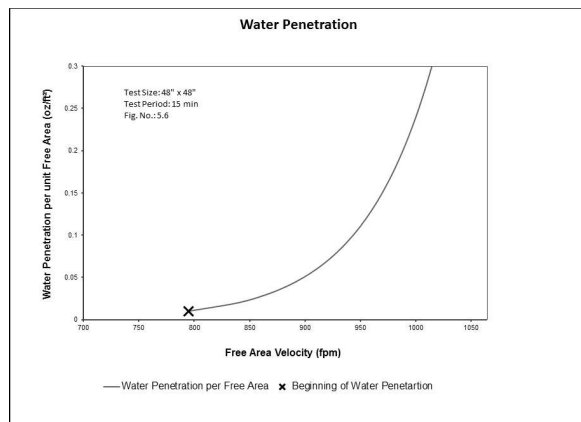
Given:
Airflow: 4400cfm
Free area velocity : 600fpm (Assumed)

Calculation:

$$\begin{aligned} \text{Free Area} &= \text{Airflow} / \text{louver free area velocity} \\ &= 4400 / 600 \\ &= 7.33 \text{ft}^2 \end{aligned}$$

From Free Area Chart, selected size of the louver is 48" X 48"
From the graph, Louver pressure drop = 0.06 in.wg

Water Penetration Graph [Intake/Exhaust]



Test Results

Free Area Velocity		Water Penetration	
fpm	m/s	oz./ft²	gram/m²
700	3.5	0.003	0.92
750	3.75	0.004	1.22
800	4.0	0.011	3.36
850	4.25	0.025	7.63

Beginning of water penetration per AMCA Publication 511
Section 8.3.2 based on AMCA measured free area is 795.5fpm.
Tested with AMCA standard 500-L-07 Water Penetration