

## Air Louvers

## Sand Trap Louver

### Application & Features

- Sand Trap Louvers are specially designed for use in areas where airborne sand and dust are inevitable.
- It is used in industrial, commercial and domestic applications. It has a high degree of separation of sand and large dust particles, even in cases of high dust concentrations.
- The vertically arranged blades and the sand drain holes ensure the sand trap louver is self-cleaning and maintenance-free.
- These sand trap louver is designed to separate large particles at low air velocities, thus avoiding excessive dust loading of conventional filters.
- Suitable for installation in inlet of fresh air intake ducts, air handling units 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** : Galvanized steel frame
- **Blades** : Galvanized steel, vertically arranged, double lined inverted U shaped blades.
- **Screen** : Galvanized steel bird screen
- **Drain Holes** : 20mm dia self emptying sand drain holes at the bottom of the louver
- **Installation** : Vertically on external wall or duct intake terminal
- **Shape** : Square or Rectangular
- **Size** : Minimum size - 300 x 300mm  
Maximum size - 2000 x 2000mm (single section)
- **Filter** : 12mm, 25mm and 50mm thickness Aluminium washable filter ( optional).
- **Damper** : Opposed blade, galvanized steel volume control damper (optional).
- **Finish** : Electrostatic polyester powder coated RAL9010 finish (standard), Other colors are available as optional

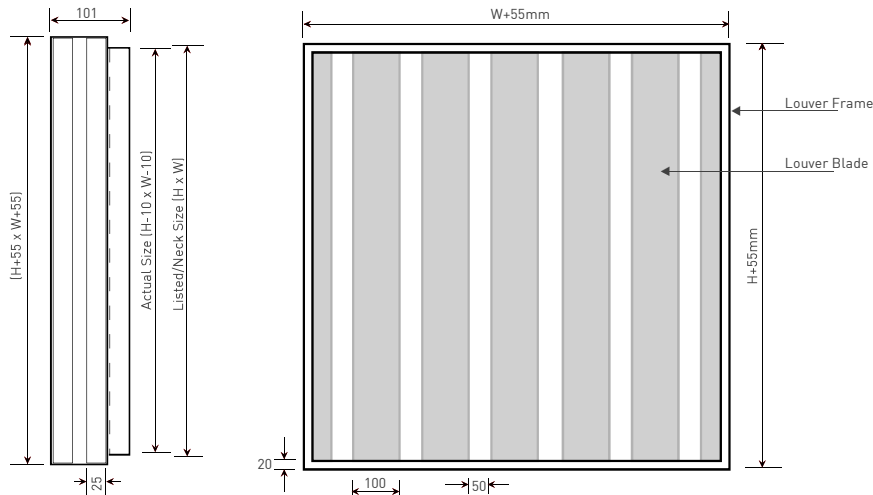


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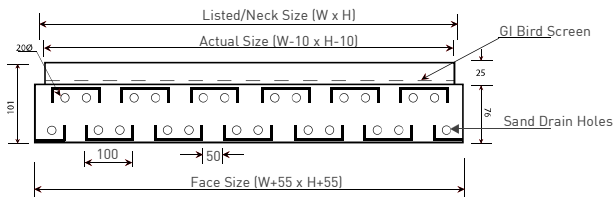
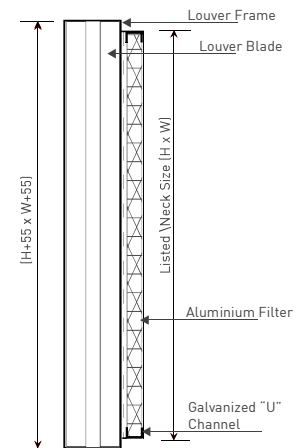
## Air Louvers

## Sand Trap Louver

Model: STL-A/GI [Standard]

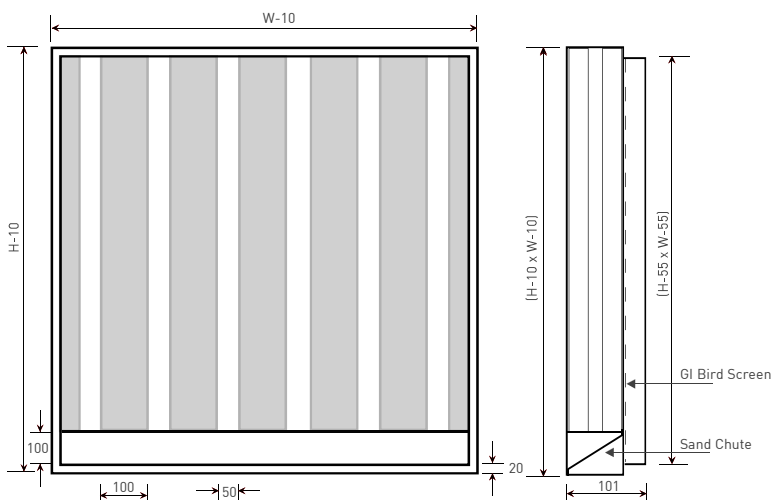


Model: STL-A/GI+F  
[Sand Trap Louver with Filter]

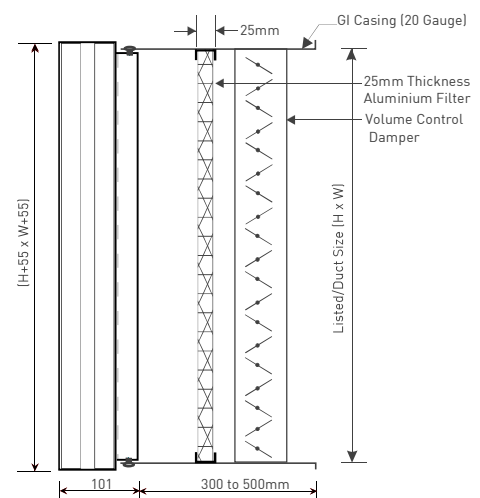


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Model: STL-A/GI+C  
[Sand Trap Louver with Sand Chute]



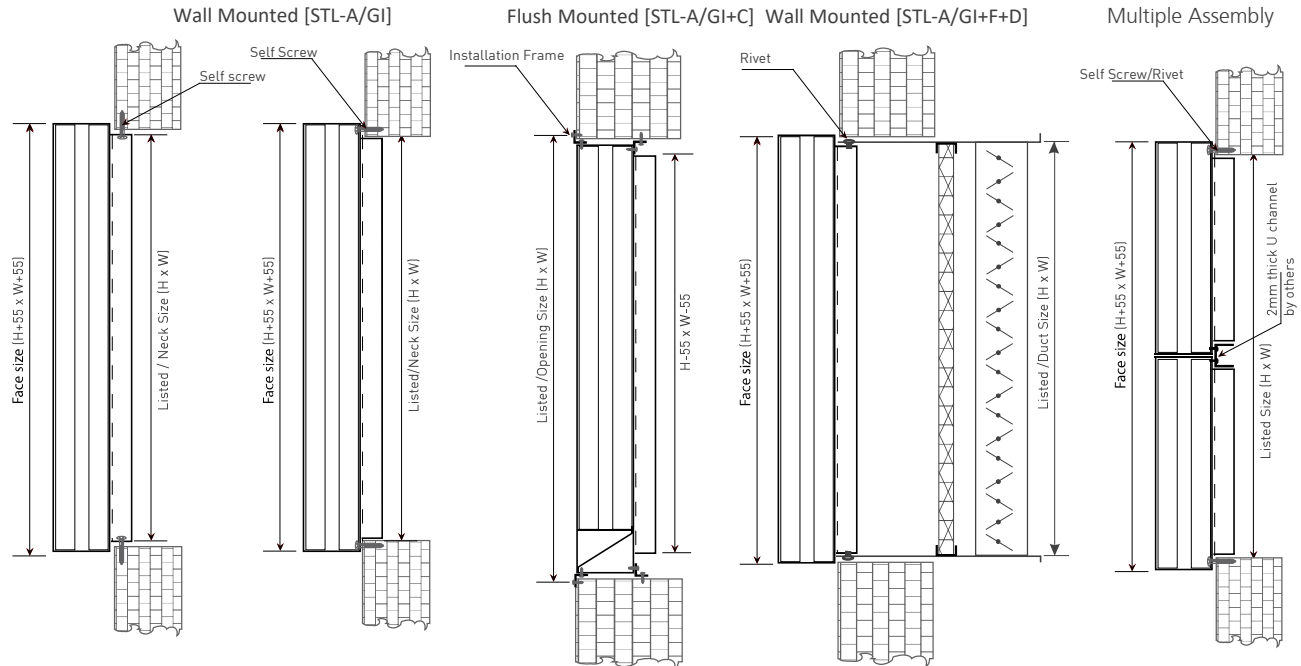
Model: STL-A/GI+F+D  
[Sand Trap Louver with Filter and Damper]



\* For Chute Type, given/listed size will be considered as louver outer size with 10mm installation clearance.

## Air Louvers

## Installation



\*Contact CMS for the details of multi section installation.

### Optional Constructional Specification

Stainless Steel Construction	: 1.0mm thickness, stainless steel frame and blade, Grade: 304 [Model: STL-A/SS]
Filter	12mm thickness aluminium washable filter [Model: STL-A/GI/F-12] 25mm thickness aluminium washable filter [Model: STL-A/GU/F-25] 50mm thickness aluminium washable filter [Model: STL-A/GI/F-50]
Bird Screen	: Stainless Steel Bird screen [Model: STL-A/BS-SS]
Sand Chute	: Sand chute for flush mounting [Model: STL-A/C]
Flange	: 30mm flange fitted on outer frame [Model: STL-A/SF-30]
Damper	: Galvanized steel, opposed blade volume control damper [Model: STL-A/D]
Anodized	: Anodized finish [Model: STL-A/AD]

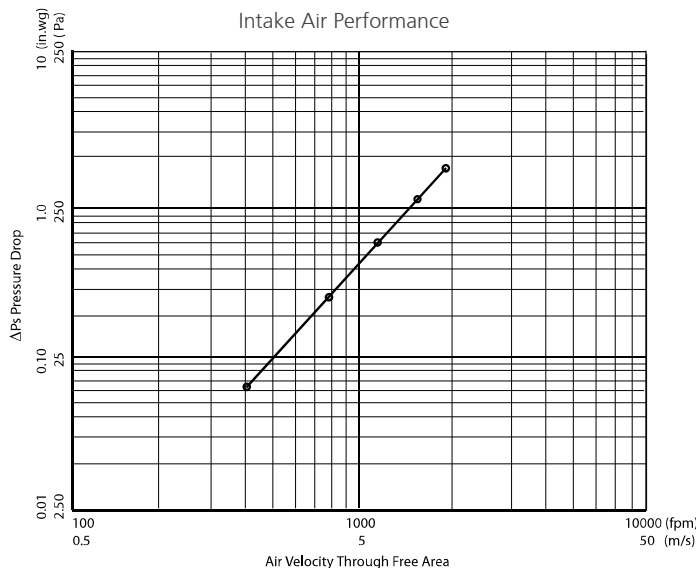
# Air Louvers

# Engineering Performance Data

Free Area Chart -Sand Trap Louver [STL-A/GI]:

		Outer Height 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
Outer Width in Inches (mm)	12 300	0.17 0.02	0.27 0.03	0.38 0.04	0.48 0.04	0.59 0.05	0.69 0.06	0.80 0.07	0.90 0.08	1.01 0.09	1.11 0.10	1.22 0.11	1.32 0.12	1.43 0.13	1.53 0.14	1.64 0.15
	18 450	0.31 0.03	0.50 0.05	0.69 0.06	0.89 0.08	1.08 0.10	1.27 0.12	1.46 0.14	1.65 0.15	1.85 0.17	2.04 0.19	2.23 0.21	2.42 0.22	2.61 0.24	2.80 0.26	3.00 0.28
	24 600	0.45 0.04	0.73 0.07	1.00 0.09	1.28 0.12	1.56 0.14	1.83 0.17	2.11 0.20	2.39 0.22	2.67 0.25	2.94 0.27	3.22 0.30	3.50 0.32	3.77 0.35	4.05 0.38	4.33 0.40
	30 750	0.59 0.05	0.95 0.09	1.31 0.12	1.67 0.16	2.04 0.19	2.40 0.22	2.76 0.26	3.12 0.29	3.49 0.32	3.85 0.36	4.21 0.39	4.57 0.42	4.94 0.46	5.30 0.49	5.66 0.53
	36 900	0.73 0.07	1.18 0.11	1.62 0.15	2.07 0.19	2.52 0.23	2.97 0.28	3.42 0.32	3.87 0.36	4.32 0.40	4.77 0.44	5.22 0.48	5.67 0.53	6.12 0.57	6.57 0.61	7.02 0.65
	42 1050	0.86 0.08	1.40 0.13	1.93 0.18	2.47 0.23	3.00 0.28	3.54 0.33	4.07 0.38	4.61 0.43	5.14 0.48	5.68 0.53	6.21 0.58	6.75 0.63	7.28 0.68	7.81 0.73	8.36 0.78
	48 1200	1.00 0.09	1.63 0.15	2.25 0.21	2.87 0.27	3.49 0.32	4.11 0.38	4.74 0.44	5.36 0.50	5.98 0.56	6.60 0.61	7.22 0.67	7.84 0.73	8.47 0.79	9.09 0.84	9.71 0.90
	54 1350	1.14 0.11	1.85 0.17	2.56 0.24	3.26 0.30	3.97 0.37	4.68 0.43	5.39 0.50	6.09 0.57	6.80 0.63	7.51 0.70	8.21 0.76	8.92 0.83	9.63 0.89	10.33 0.96	11.05 1.03
	60 1500	1.28 0.12	2.07 0.19	2.86 0.27	3.65 0.34	4.45 0.41	5.24 0.49	6.04 0.56	6.83 0.63	7.62 0.71	8.41 0.78	9.20 0.85	10.00 0.93	10.79 1.00	11.58 1.08	12.38 1.15
	66 1650	1.42 0.13	2.30 0.21	3.18 0.30	4.06 0.38	4.94 0.46	5.82 0.54	6.70 0.62	7.58 0.70	8.45 0.79	9.34 0.87	10.21 0.95	11.09 1.03	11.97 1.11	12.85 1.19	13.74 1.28
	72 1800	1.56 0.14	2.53 0.23	3.49 0.32	4.45 0.41	5.42 0.50	6.38 0.59	7.35 0.68	8.31 0.77	9.27 0.86	10.24 0.95	11.20 1.04	12.17 1.13	13.13 1.22	14.10 1.31	15.07 1.40
	78 1950	1.70 0.16	2.75 0.26	3.80 0.35	4.85 0.45	5.91 0.55	6.95 0.65	8.01 0.74	9.06 0.84	10.11 0.94	11.16 1.04	12.21 1.13	13.27 1.23	14.32 1.33	15.37 1.43	16.43 1.53
	84 2100	1.84 0.17	2.98 0.28	4.11 0.38	5.24 0.49	6.29 0.59	7.52 0.70	8.66 0.80	9.79 0.91	10.93 1.02	12.07 1.12	13.20 1.23	14.34 1.33	15.48 1.44	16.62 1.54	17.76 1.65
	90 2250	1.97 0.18	3.20 0.30	4.42 0.41	5.64 0.52	6.86 0.64	8.08 0.75	9.31 0.86	10.53 0.98	11.75 1.09	12.98 1.21	14.19 1.32	15.42 1.43	16.64 1.55	17.86 1.66	19.09 1.70
	96 2400	2.12 0.20	3.43 0.32	4.74 0.44	6.05 0.56	7.36 0.68	8.61 0.81	9.99 0.93	11.29 1.05	12.60 1.17	13.92 1.29	15.22 1.41	16.54 1.54	17.85 1.66	19.15 1.78	20.48 1.90

Average Louver Free Area in ft<sup>2</sup> = 0.33 x [W X H] / 144, where W = Outer Width-2.56" and H = Outer Height-2.56"



Test Results			
Free Area Velocity		Pressure Drop	
fpm	m/s	inch.wg	Pa
400	2.0	0.06	15
800	4.0	0.27	68
1200	6.0	0.59	148
1600	8.0	1.05	263
2000	10.0	1.66	415

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: 2850cfm

Free area velocity : 600fpm ( Assumed)

Calculation:

$$\begin{aligned} \text{Free Area} &= \text{Airflow} / \text{louver free area velocity} \\ &= 2850 / 600 \\ &= 4.75 \text{ ft}^2 \end{aligned}$$

From Free Area Chart, selected size of the louver is 48" X 48"

From the graph, Louver pressure drop = 0.15 In.wg



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