

CONSTRUCTION:

Frame and blades: 1.5 mm and 1.2 mm thick high quality extruded aluminium profiles.

Drain: 30 mm diameter self drain holes at the bottom of the louver.

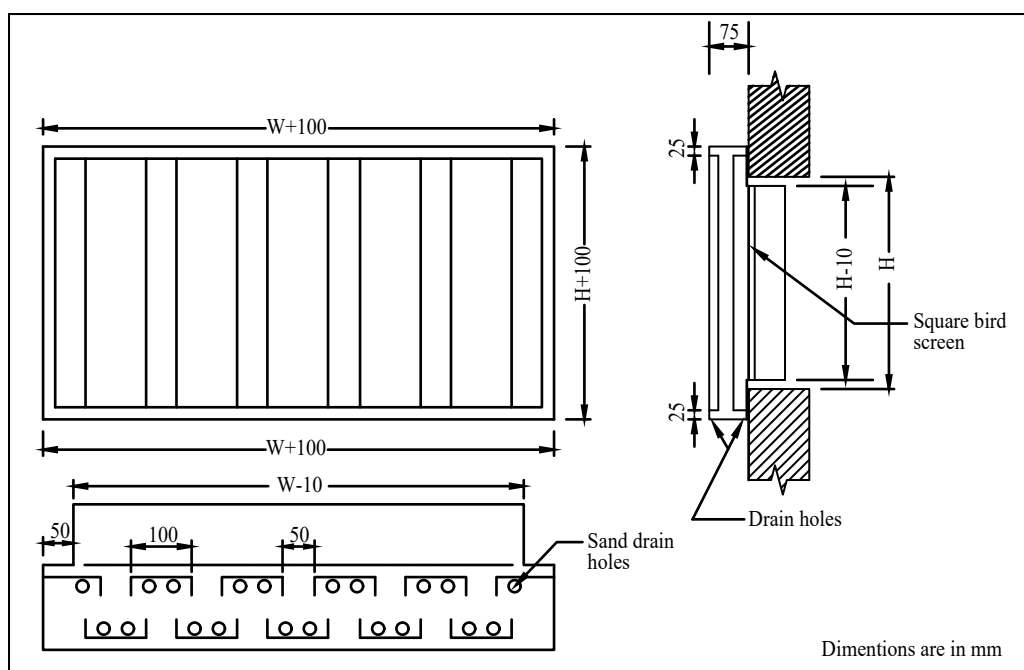
Bird screen : 12 mm x 12 mm x 1 mm diameter G.I wire mesh as standard.

Description:

- The frame and blades are of high quality extruded aluminium profiled construction with the advantages of corrosion resistance and rigidity.
- Composed two sets of inverted U-channels mounted vertically on two opposite rows.
- Drain holes of 20mm are provided in two rows at the bottom of the louver for emptying filtered sand and dust.
- Can be manufactured from GI and SS as option.
- Designed to separate sand and dust from the air stream.
- Generally used for ventilation application and inlet duct of air handling unit.

Standard finishes:

- Natural aluminium anodized finish
- Finish as per RAL colour code.
- Flexibility of finishing available as option.



**Table 13.1 - Free Area in sq.ft**

Louver Outer Height (inches)

Louver Outer Width (inches)	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	102	108	114	120
16	0.22	0.39	0.55	0.72	0.88	1.05	1.21	1.38	1.54	1.71	1.87	2.04	2.20	2.37	2.53	2.70	2.86	3.03	3.19
24	0.35	0.62	0.88	1.14	1.41	1.67	1.93	2.20	2.46	2.72	2.99	3.25	3.51	3.78	4.04	4.31	4.57	4.83	5.10
30	0.47	0.82	1.17	1.52	1.87	2.22	2.57	2.92	3.27	3.62	3.97	4.32	4.67	5.02	5.37	5.72	6.07	6.42	6.77
36	0.58	1.02	1.46	1.89	2.33	2.77	3.20	3.64	4.08	4.51	4.95	5.39	5.82	6.26	6.70	7.13	7.57	8.01	8.44
42	0.70	1.22	1.74	2.27	2.79	3.31	3.84	4.36	4.88	5.41	5.93	6.45	6.98	7.50	8.02	8.55	9.07	9.59	10.12
48	0.81	1.42	2.04	2.65	3.26	3.87	4.48	5.09	5.70	6.31	6.92	7.53	8.14	8.75	9.36	9.97	10.58	11.19	11.80
54	0.93	1.62	2.32	3.02	3.71	4.41	5.11	5.80	6.50	7.20	7.89	8.59	9.28	9.98	10.68	11.37	12.07	12.77	13.46
60	1.04	1.83	2.61	3.39	4.18	4.96	5.74	6.52	7.31	8.09	8.87	9.66	10.44	11.22	12.00	12.79	13.57	14.35	15.14
66	1.16	2.03	2.90	3.77	4.64	5.51	6.38	7.25	8.11	8.98	9.85	10.72	11.59	12.46	13.33	14.20	15.07	15.94	16.81
72	1.27	2.23	3.19	4.14	5.10	6.05	7.01	7.97	8.92	9.88	10.83	11.79	12.75	13.70	14.66	15.61	16.57	17.53	18.48
78	1.39	2.43	3.48	4.52	5.56	6.60	7.65	8.69	9.73	10.77	11.82	12.86	13.90	14.94	15.99	17.03	18.07	19.11	20.16
84	1.65	2.88	4.12	5.35	6.59	7.83	9.06	10.30	11.53	12.77	14.00	15.24	16.48	17.71	18.95	20.18	21.42	22.65	23.89
90	1.62	2.84	4.05	5.27	6.48	7.70	8.91	10.13	11.35	12.56	13.78	14.99	16.21	17.42	18.64	19.86	21.07	22.29	23.50
96	1.74	3.04	4.34	5.64	6.94	8.25	9.55	10.85	12.15	13.46	14.76	16.06	17.36	18.66	19.97	21.27	22.57	23.87	25.18

Effective pressure areas for non standard sizes can be interpolated from the above data.

Selection example

Given airflow : 2600 cfm

Free area velocity : 600 fpm (3.05 m/s) (assumed)

Calculation:

Free area = airflow/ louver free area velocity

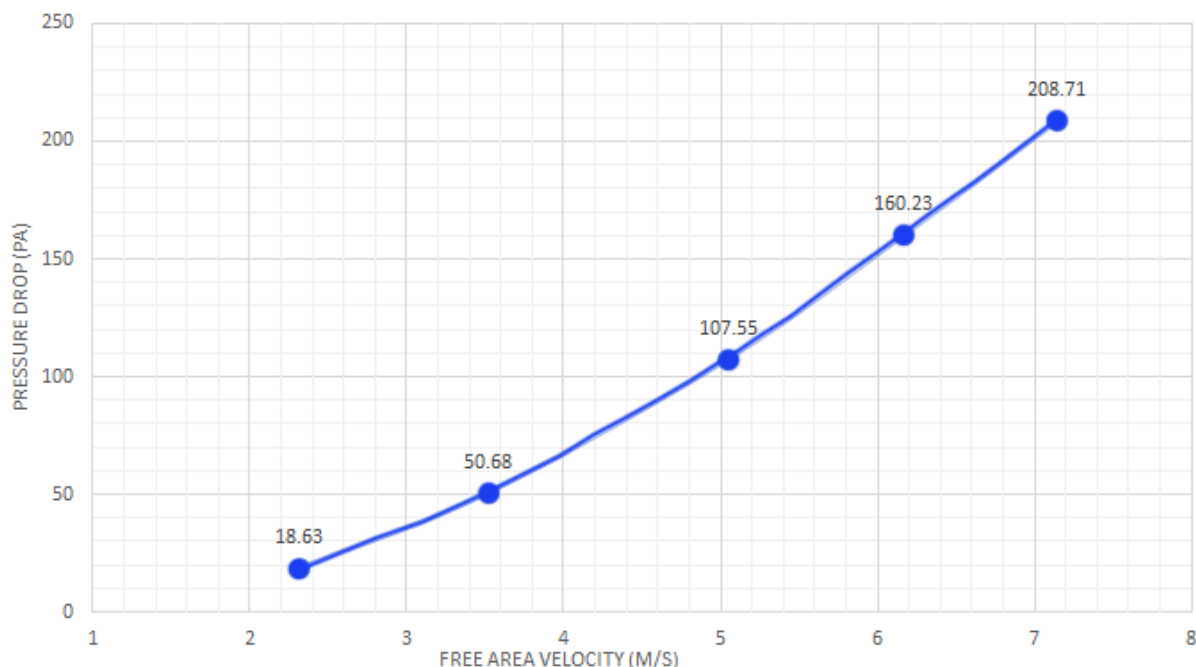
$$=2600/600$$

$$=4.33 \text{ ft}^2$$

From the free area chart, selected size of the louver is 48"x 48"

From the graph, louver pressure or pressure drop = 35 Pa = 0.1407 in.wg

Pressure Drop V/S Free Area Velocity



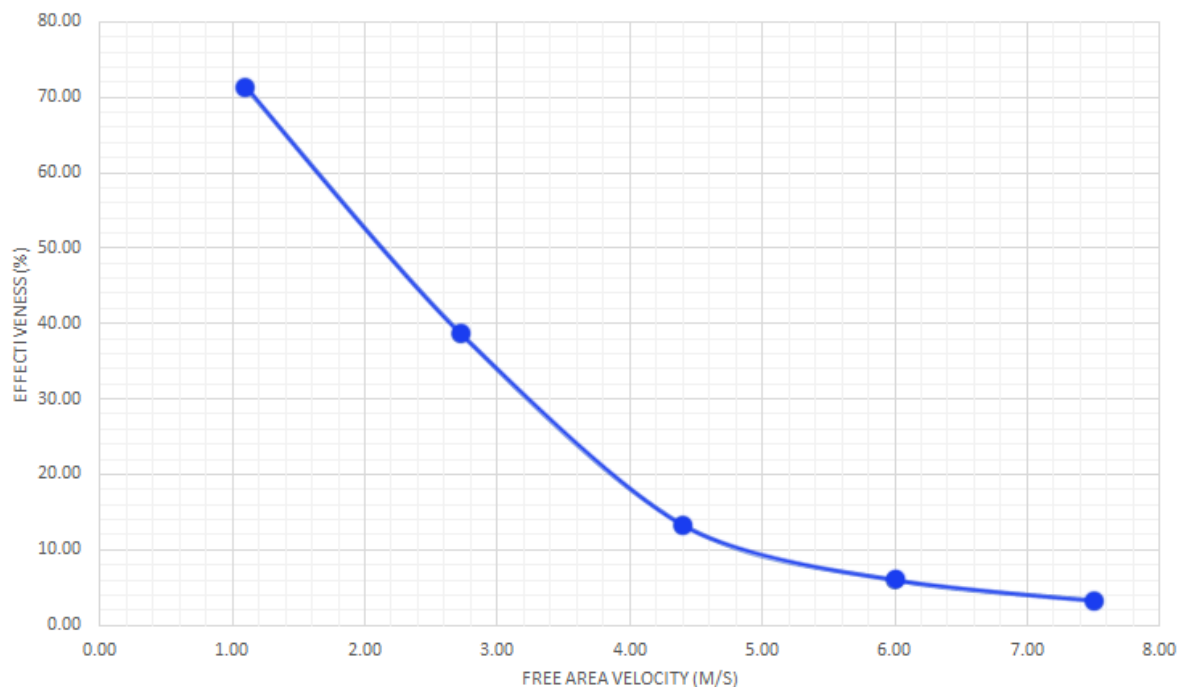
Pressure Drop (Pa)	Free Area Velocity (m/s)
18.63	2.32
50.68	3.52
107.55	5.05
160.23	6.17
208.71	7.15



Airmaster Equipments Emirates L.L.C certifies that Sand Trap Louver model 'ASTL' 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 Wind Driven Sand and Air Performance ratings.



Effectiveness (%) vs. Free Area Velocity (m/s)



Wind Velocity : 20 to 25m/s		
Free Area Velocity (m/s)	Sand Rejection Effectiveness (%)	Penetration Class
1.10	71.31	C
2.72	38.75	D
4.40	13.28	D
6.00	5.90	D
7.50	3.23	D

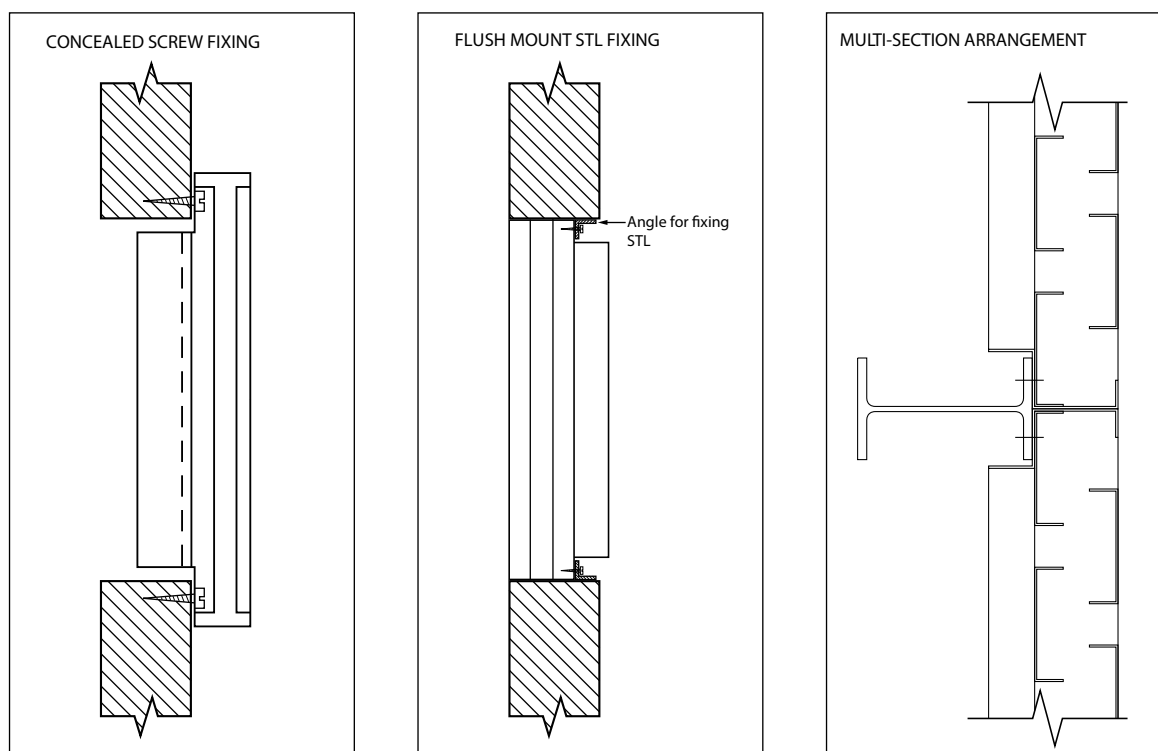
Standard sand particle size ranges from 76mm- 699mm as per AMCA 500 L, Annex H, Table 8, page 60. Airmaster Sand Trap Louver of size 48" x 48" was subjected to wind driven sand at an airflow of 20-25 m/s, test fig 5.12/6.3

Standard sizes:

- Available in square and rectangular sizes.
- All combination of width x height.
- Non standard sizes are available.

Width in mm	300	450	600	750	900	1050	1200	1350	1500
Height in mm	300	450	600	750	900	1050	1200	1350	1500

Fixing details:



Heavy Duty STL specification:

For special purpose projects, Air master offers heavy duty sand trap louvers constructed using 2 mm thick frame and 1.5 mm thick blade.