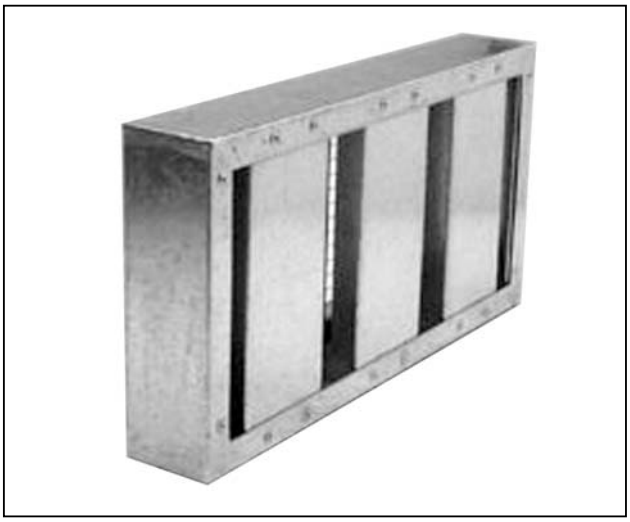
Safid*Louvers*

Sand Trap Louver — STL - 100

STL - 100



STL - 100

Sand Trap Louver is normally used as prefilter for fresh air intake of Air Handling Units (AHU), Package Air Conditioning Units (PACU), Roof Top Fresh Air Units (RTFAU) for Air Conditioning Systems and for Fresh Air Intake in manufacturing plants. It has a high degree of separation of sand and large dust particles even in case of high dust concentrations. The vertically arranged blade sections and holes for sand drainage ensure that the sand trap louver is self cleaning and maintenance free. It is designed to separate large particles of sand and dust from airstream at low velocities, thus avoiding excessive dust loading of conventional filters. It is not intended as a substitute for conventional filters.

Construction Standard

FRAME:
Gauge 16 (1.5mm thick) formed galvanized steel sheet.

BLADES:
Gauge 18 (1.2mm thick) formed galvanized steel sheet.

SCREEN:
Galvanized steel bird screen 12 X 12 X 1mm fixed behind the blades . **Please note that Pressure Drop Data is obtained from AMCA Test without bird screen.** Pressure drop of bird screen is additive and to be caculated separately.

MINUMUM SIZE:
150 X 150mm (6in X 6in) - Neck Size.

MAXIMUM SIZE:
2500 X 1200mm as single section (Neck Size).
2500 X 2500mm will be single module with 2 sections vertical blades and with sand chute between.
Consult SAFID for multiple section assembly details.

SAFID certifies that the Sand Trap Louver shown herein is licensed to bear the AMCA Seal for Model STL - 100. 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.
Test Information
Tested for air performance in accordance with ANSI / AMCA Standard 500-L-12 (Pressure Drop), Figure 5.5.

STL - 110

General construction as type STL - 100 but frame and blades are built from mill finish aluminum sheet.

STL - 120

General construction as type STL - 100 but frame and blades are built from extruded aluminum profiles.

STL - 130

General construction as type STL - 100 but frame and blades are built from stainless steel sheet Type 304.

Optional Extras

*** Code Z**
Painted to RAL (epoxy coated).
*** Code I**
Insect screen in galvanized steel 1 X 1 X 0.4mm.
*** Code T**
Bird screen in stainless steel 5 X 5 X 0.7mm.

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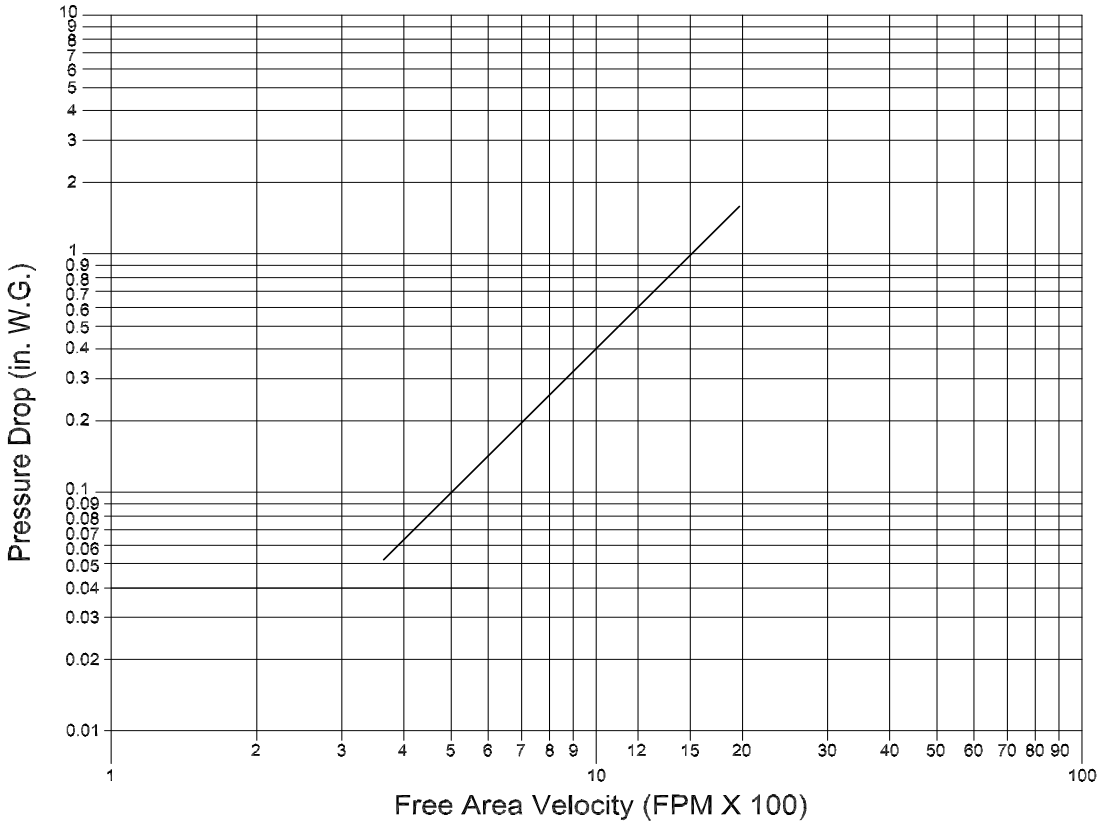
Sand Trap Louver STL - 100

Air Performance

Pressure Drop

Intake Air Perfromance



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Air Performance

Free Area Chart (Sq. Ft.)

OUTER FRAME SIZE (W1 inches)

OUTER FRAME SIZE (H1 inches)	16	24	28	36	40	**48**	52	60	64	68	76	84	88	92	100	104
16	0.31	0.47	0.62	0.78	0.94	1.09	1.25	1.40	1.56	1.72	1.87	2.03	2.19	2.34	2.50	2.65
24	0.53	0.79	1.05	1.32	1.58	1.85	2.11	2.37	2.64	2.90	3.16	3.43	3.69	3.96	4.22	4.48
28	0.64	0.95	1.27	1.59	1.91	2.22	2.54	2.86	3.18	3.49	3.81	4.13	4.45	4.76	5.08	5.40
36	0.85	1.28	1.70	2.13	2.55	2.98	3.40	3.83	4.25	4.68	5.10	5.53	5.95	6.38	6.80	7.23
40	0.96	1.44	1.92	2.39	2.87	3.35	3.83	4.31	4.79	5.27	5.75	6.23	6.71	7.18	7.66	8.14
48	1.17	1.76	2.35	2.93	3.52	**4.43**	4.69	5.28	5.87	6.45	7.04	7.63	8.21	8.80	9.39	9.97
52	1.28	1.92	2.56	3.20	3.84	4.48	5.12	5.76	6.40	7.05	7.69	8.33	8.97	9.61	10.25	10.89
60	1.39	2.08	2.78	3.47	4.17	4.86	5.55	6.25	6.94	7.64	8.33	9.03	9.72	10.41	11.11	11.80
64	1.50	2.24	2.99	3.74	4.49	5.24	5.98	6.73	7.48	8.23	8.98	9.73	10.47	11.22	11.97	12.72
68	1.60	2.41	3.21	4.01	4.81	5.61	6.42	7.22	8.02	8.82	9.62	10.42	11.23	12.03	12.83	13.63
76	1.82	2.73	3.64	4.55	5.46	6.37	7.28	8.19	9.10	10.01	10.91	11.82	12.73	13.64	14.55	15.46
84	2.03	3.05	4.07	5.09	6.10	7.12	8.14	9.15	10.17	11.19	12.21	13.22	14.24	15.26	16.28	17.29
88	2.14	3.21	4.28	5.36	6.43	7.50	8.57	9.64	10.71	11.78	12.85	13.92	14.99	16.07	17.14	18.21
92	2.25	3.37	4.50	5.62	6.75	7.87	9.00	10.12	11.25	12.37	13.50	14.62	15.75	16.87	18.00	19.12
100	2.46	3.70	4.93	6.16	7.39	8.63	9.86	11.09	12.32	13.56	14.79	16.02	17.25	18.49	19.72	20.95
104	2.57	3.86	5.15	6.43	7.72	9.00	10.29	11.58	12.86	14.15	15.44	16.72	18.01	19.29	20.58	21.87

NOTE:
See Table 1 for the equivalent neck size (W X H).

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The AMCA Certified Ratings Seal applies to Air Performance Ratings.
Test Information
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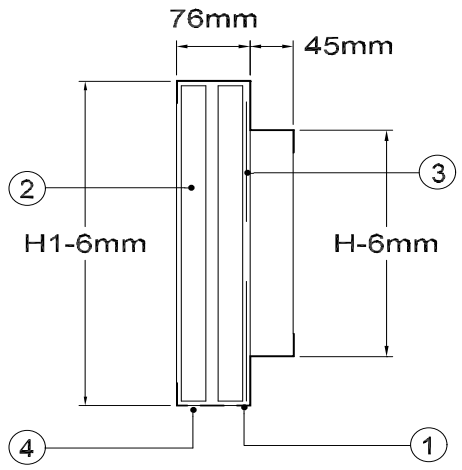
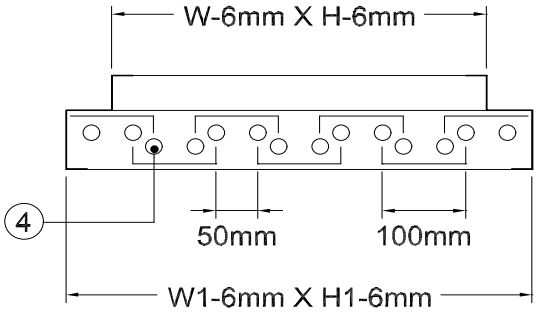
Construction - Dimension and details

1 - Casing 2 - Blades 3 - Bird Screen (optional) 4 - Drain Hole

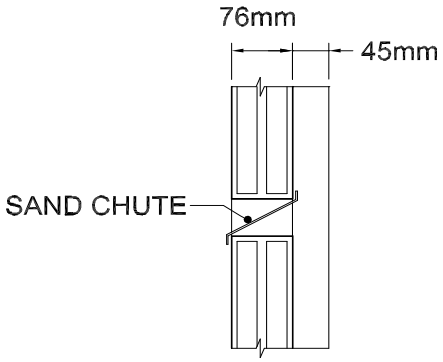
Vertical Section



Horizontal Section

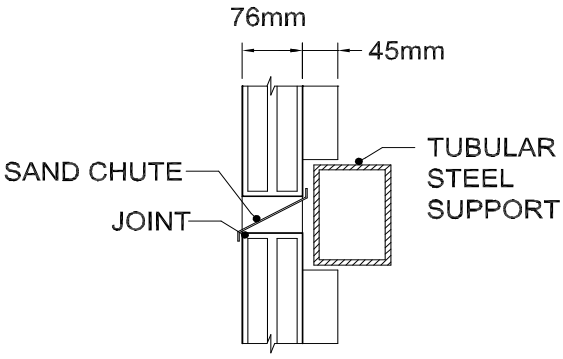


Single Module with Sand Chute



Single Module with 2 sections on vertical blades with Sand Chute from height (H) of 1300mm up to 2500mm.

Multiple Module with Sand Chute



Consult SAFID for Multiple Module assembly details.

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Performance Data

The filtration performance is dependent on the dust particle size and air velocity.

Particle Size (µm) Range	Filtration Efficiency in % at 1.0 m/s	at 2.0 m/s
350 - 700	90	70
75 - 350	60	approx. 30

Table 1

Outer Frame Size (in.)	Neck Size (mm)
W1 X H1	**W X H**
16 X 16	300 X 300
20 X 20	400 X 400
24 X 24	500 X 500
28 X 28	600 X 600
32 X 32	700 X 700
36 X 36	800 X 800
40 X 40	900 X 900
44 X 44	1000 X 1000
48 X 48	1100 X 1100
52 X 52	1200 X 1200
56 X 56	1300 X 1300
60 X 60	1400 X 1400
64 X 64	1500 X 1500
68 X 68	1600 X 1600
72 X 72	1700 X 1700
76 X 76	1800 X 1800
80 X 80	1900 X 1900
84 X 84	2000 X 2000
88 X 88	2100 X 2100
92 X 92	2200 X 2200
96 X 96	2300 X 2300
100 X 100	2400 X 2400
104 X 104	2500 X 2500

Selection Example

For normal operation condition the sand trap louvers should be selected for a maximum free area velocity of 600 feet per minute (FPM).

Example:

Given:
Airflow: 2658 CFM
Assumed free area velocity: 600 FPM

Calculate for free area, neck size and pressure drop.

1. Free Area = 2658 CFM / 600 FPM = 4.43 ft².
2. From **Free Area Chart** the outer frame size is 48in X 48in (W1 X H1).
3. From **Table 1** neck size is 1100mm X 1100mm (W X H).
4. Pressure drop = 0.151 in. W.G. (38Pa).

Note:
For optional screens the pressure drop is additive and to be calculated separately.

Order Example

Product Type: STL - 100 - a - aaa x aaa

STL - 100
STL - 110
STL - 120
STL - 130

With optional extras:
STL - 100 - Z
STL - 100 - I
STL - 100 - T

Sizes

STANDARD
Make: SAFID
Type : STL - 100 - 500 X 500
Qty. : 1

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