



Management System
ISO 9001:2008

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SAND TRAP LOUVERS





Our Product Ranges

Dampers

- 1 Fire Dampers
- 2 Fire / Smoke Dampers
- 3 Volume Control Dampers
- 4 Motorized Control Dampers
- 5 Pressure Relief Dampers /Non Return Dampers

Variable Air Volumes

- 6 Pressure Independent VAV
- 7 Constant Air Volume VAV
- 8 By Pass VAV

Louvers

- 9 Sand Trap Louvers
- 10 Acoustic Louvers
- 11 Stationery Louvers / Architectural Louvers
- 12 Storm Louvers
- 13 Weather Louvers

Sound Attenuators

- 14 Rectangular Sound Attenuators
- 15 Circular Sound Attenuators
- 16 Crosstalk Attenuators

Electric Duct Heaters

- 17 Flange & Slip 'n' Type
- 18 Modulating & On/Off Type

Air Outlets

- 19 Registers & Grilles
- 20 Diffusers (Linear Diffusers, Sq. & Rect. Ceiling Diffusers, Round Diffusers, Jetflow Diffusers)
- 21 Swirl Diffusers & Disc Valves
- 22 Drum Louvers



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Airwellcare Sand Trap Louvers are specially designed to prevent ingress of sand particles in ventilation or air conditioning systems, where excessive intake air filtration is required for HVAC System.

Selection & Design

Our Sand Trap Louvers are designed and manufactured in compliance with international standards, to achieve the optimum results. These louvers are manufactured from high

quality extruded Aluminium profiles conforms to 6063-T5, ADC 1602 standard and DW 142 class C.

Airwellcare Sand Trap Louvers are specially designed to ensure required air flow to the buildings / equipments, preventing the ingress of dust, airborne sand etc. Each units are designed and tested to withstand the most arduous weather conditions over many years, giving maximum protection by standard RAL Colour custom finishes.



Key features

- Design Flexibility.
- Hurdle free installation.
- Swift delivery upon 100% Production confirmation.
- Technical & after sales support.
- Architecturally aesthetic appearance.
- All sizes are custom fabricated to meet project requirements.

Louver applications

- Aviation Industries
- Onshore & Offshore applications
- Commercial & Industrial Sectors
- Electrical Substations
- Building Vents
- Commercial and Industrial Duct Systems
- Parking Garage Ventilation
- General Ventilation



Model : AHS SL 100

Airwellcare Sand Trap Louvers are designed and manufactured for Exposed and Flush mounting options, depending on application :

- With primary 12mm or 25mm Thick Aluminium filters.
- With secondary pre filters.
- Combination with Volume Control Damper.

Standard Construction Details

Frame

2.0mm Thick. High Quality Extruded Aluminium Profiles of 4 Inch. (100mm)

Blade

2.0 mm Thick. High Quality Extruded Aluminium 'U' shaped Vertical Blades of 100mm.

Filter / Filter Media / Screen

Aluminium, Galvanized or Stainless Steel (304/316 L) Louver Screens are fabricated & secured with Frame to ensure the highest product quality and durability.

Screen size 12 x 12 x 1.0 mm thick galvanized steel
Optional 16 x 38 x 1.0mm Expanded Aluminium/GI or SS 316L/304.

Sand Drain Holes

Self draining slots at the bottom of the Louver.

Finish & Colour

Standard Powder Coating finish as per PEFRAL Colour Codes. The following custom based optional coatings / finish are also available on request.

- Super-Durable Polyester Powder Coating (SDF)
- Hyper-Durable Fluorocarbon Polymer Coating (HDF)
- Polyvinylidene fluoride coating/KYNAR Coating (PVDF/KYNAR)

The above finishes complies to AAMA 2603 / 2604 / 2605 requirements



AHS SL 100

Construction

Two rows of vertically arranged 'U' Shaped channel sections to form a labyrinth for the air path. Bottom frame will be having self emptying Sand Drain Holes, ensuring sand rejection for self cleaning and maintenance free.

Optional Construction with Aluminium, Galvanized Steel & Stainless Steel Gr. 316L / 304

Frame	Blade
1.0 mm	1.0 mm
1.2 mm	1.0 mm
1.5 mm	1.2 / 1.5 mm
	1.2 / 1.5/2.0 mm

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 Only.



Model :AHS SL 200

Airwellcare Sand Trap Louvers are designed and manufactured for Exposed and Flush mounting options, depends on application :

- With primary 12mm or 25mm Thick Aluminium filters.
- With secondary pre filters.
- Combination with Volume Control Damper.

Frame

2.0mm Thick high quality Extruded Aluminium Profiles.

Blade

2.0mm Thick. High quality Extruded Aluminium 'U' shaped Vertical Blades of 100mm.

Blades & Frames are fastened rigidly with the help of Countersunk Screws from Top & Sides. No Screws are exposed on face of Louver in order to provide an aesthetic and architectural view of Louver.

Filter / Filter Media / Screen

Aluminium or Galvanized Louver Screens are fabricated fastened to ensure the highest product quality and durability.

Standard Screen size 12 x 12 x 1.0 mm

Sand Drain Holes

Self draining slots at the bottom of the Louver.

Finish & Colour

Standard Powder Coating finish as per RAL Colour Codes. The following custom based optional coatings / finish are also available on request.



AHS SL 200

- Super-Durable Polyester Powder Coating (SDF)
- Hyper-Durable Fluorocarbon Polymer Coating (HDF)
- Polyvinylidene fluoride coating/KYNAR Coating (PVDF/KYNAR)

The above finishes complies to AAMA 2603 / 2604 / 2605 requirements with 20-year limited warranty against failure or excessive fading

Construction

Two rows of vertically arranged 'U' Shaped channel sections to form a labyrinth for the air path. Bottom frame will be having self emptying Sand Drain Holes, ensuring sand rejection for self cleaning and maintenance free.

Key features

- Design Flexibility.
- Hurdle free installation.
- Swift delivery upon 100% Production confirmation.
- Technical & after sales support.
- Architecturally aesthetic appearance.
- All sizes are custom fabricated to meet project requirements.



Model :AHS SL 400 HD

Airwellcare Heavy Duty AHS SL 400 Sand Trap Louvers are designed for removal of wind driven sand particles. The Vertical high quality extruded AA 6063 T5 blades provides an aesthetic appearance and performs to maximum arrest of sand particles with minimum resistance, as the air passes easily through the curved shape of the blades, which rejects the sand particles through the lowermost sloping channel.

Frame

2.0mm Thick high quality Extruded Aluminium Profile.

Blade

2.0mm Thick high quality Extruded Aluminium Profiles.

Filter Media & Screen

Aluminium Washable Filter of ½” or 1” (optional).

Aluminium or Galvanized Louver Screens are fabricated fastened to ensure the highest product quality and durability.

Standard Screen size 12 x 12 x 1.0 mm

Optional with 16 x 38 x 1.0mm Thick. Expanded Aluminium.

Sand Drain

Sand drain downslops are given on the bottom of the louver, in order to eliminate the rejected sand particles.



Finish & Colour

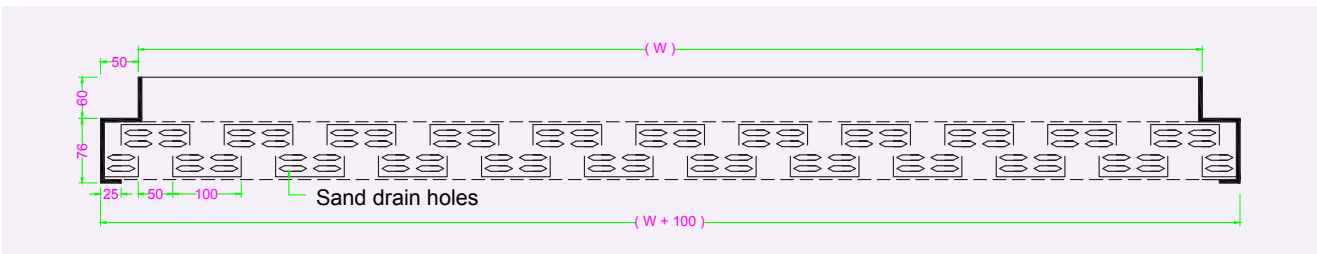
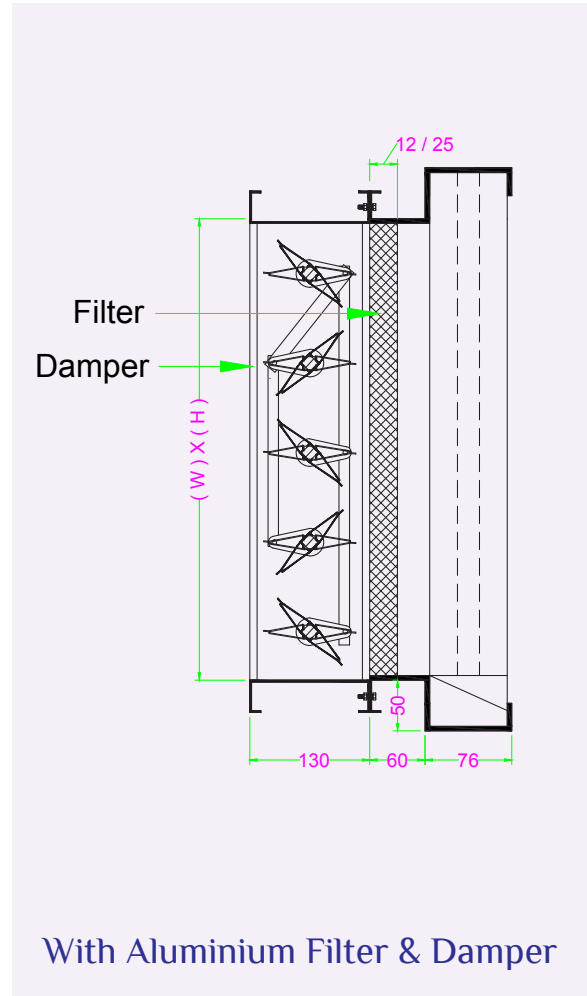
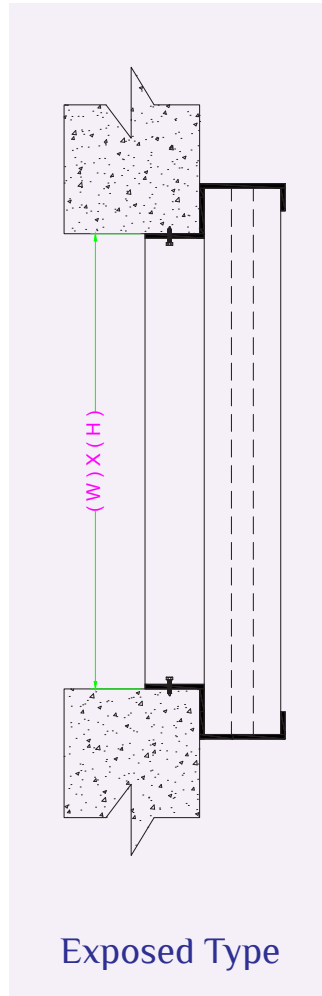
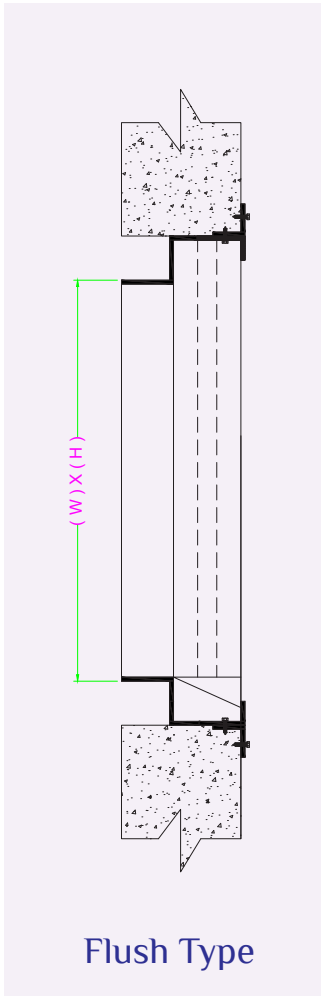
Standard Powder Coating finish as per RAL Colour Codes. The following custom based optional coatings / finish are also available on request.

- Super-Durable Polyester Powder Coating (SDF)
- Hyper-Durable Fluorocarbon Polymer Coating (HDF)
- Polyvinylidene fluoride coating/KYNAR Coating (PVDF/KYNAR)

The above finishes complies to AAMA 2603 / 2604 / 2605 requirements with 20-year limited warranty against failure or excessive fading.

CONSTRUCTION DETAILS

AHS SL 100 & 200



- Flush Type : Neck & Frame inside the wall
- Exposed : Neck (only) inside the wall
- A - Complete construction with Aluminium
- G - Complete construction with Galvanized Steel
- S - Complete construction with Stainless Steel

Note : Construction of model AHS SL 200 SP can be done with Flush or Exposed mounting, based on louver application.



Model : AHS 400 HD

ENGINEERING GUIDELINES - STORM CLASS SAND TRAP

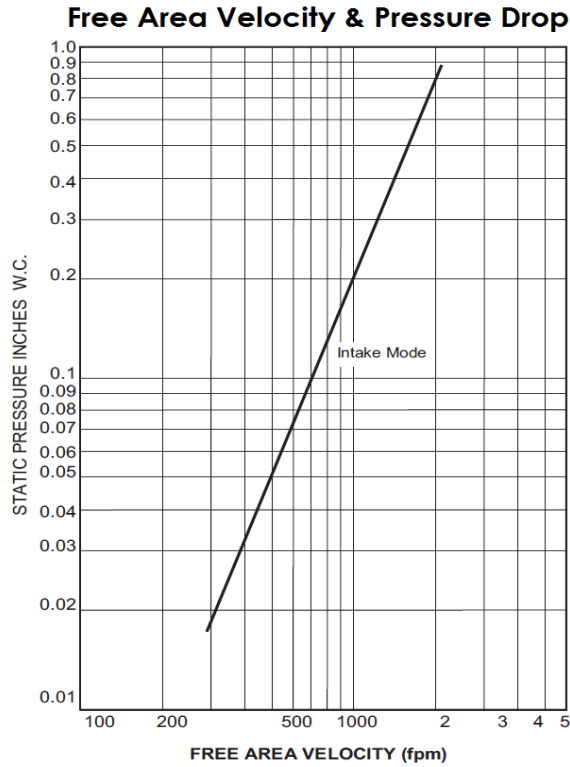
WIND-DRIVEN RAIN PERFORMANCE

Free Area Ventilation Rate fpm (m/s)	Ventilation Air Core Velocity fpm (m/s)	76 mm/h (3 in/hr) Rainfall & 13 m/s (29 mph) Wind Velocity		202.4 mm/h(8 in/hr) Rainfall & 22 m/s (50 mph) Wind Velocity	
		Water Penetration Effectiveness %	Water Penetration Classification	Water Penetration Effectiveness %	Water Penetration Classification
0 (0)	0 (0)		A		A
198 (1.0)	98 (0.5)		A		A
397 (2.0)	197 (1.0)		A		A
595 (3.0)	295 (1.5)		A		A
795 (4.0)	394 (2.0)		A	99.1	A
992 (5.0)	492 (2.5)		A	99.1	A
1,192 (6.1)	591 (3.0)	99.7	A	99.2	A
1,390 (7.1)	689 (3.5)	99.4	A	99.2	A
1,587 (8.1)	787 (4.0)	99.1	A	98.9	B
1,787 (9.1)	886 (4.5)	98.7	B	98.7	B
1,985 (10.1)	984 (5.0)	97.9	B	94.4	C

Discharge Loss Coefficient Class (Intake) = 3

Model : AHS SL 400 HD

ENGINEERING GUIDELINES



FREE AREA CALCULATIONS IN SQ. FT.

		WIDTH																		
		12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	102	108	114	120
HEIGHT	12	0.21	0.34	0.47	0.60	0.73	0.85	0.98	1.11	1.24	1.37	1.49	1.62	1.75	1.88	2.01	2.13	2.26	2.39	2.52
	18	0.48	0.77	1.06	1.35	1.64	1.93	2.22	2.51	2.80	3.09	3.38	3.67	3.96	4.25	4.54	4.83	5.12	5.41	5.70
	24	0.75	1.20	1.66	2.11	2.56	3.01	3.46	3.91	4.36	4.82	5.27	5.72	6.17	6.62	7.07	7.52	7.98	8.43	8.88
	30	1.02	1.64	2.25	2.86	3.47	4.09	4.70	5.31	5.93	6.54	7.15	7.77	8.38	8.99	9.61	10.22	10.83	11.45	12.06
	36	1.29	2.07	2.84	3.62	4.39	5.17	5.94	6.72	7.49	8.27	9.04	9.82	10.59	11.37	12.14	12.92	13.69	14.46	15.24
	42	1.56	2.50	3.43	4.37	5.31	6.24	7.18	8.12	9.05	9.99	10.93	11.86	12.80	13.74	14.67	15.61	16.55	17.48	18.42
	48	1.83	2.93	4.03	5.13	6.22	7.32	8.42	9.52	10.62	11.72	12.81	13.91	15.01	16.11	17.21	18.31	19.40	20.50	21.60
	54	2.10	3.36	4.62	5.88	7.14	8.40	9.66	10.92	12.18	13.44	14.70	15.96	17.22	18.48	19.74	21.00	22.26	23.52	24.78
	60	2.37	3.79	5.21	6.63	8.06	9.48	10.90	12.32	13.74	15.17	16.59	18.01	19.43	20.85	22.27	23.70	25.12	26.54	27.96
	66	2.64	4.22	5.81	7.39	8.97	10.56	12.14	13.72	15.31	16.89	18.47	20.06	21.64	23.22	24.81	26.39	27.98	29.56	31.14
	72	2.91	4.65	6.40	8.14	9.89	11.63	13.38	15.13	16.87	18.62	20.36	22.11	23.85	25.60	27.34	29.09	30.83	32.58	34.32
	78	3.18	5.09	6.99	8.90	10.81	12.71	14.62	16.53	18.43	20.34	22.25	24.15	26.06	27.97	29.88	31.78	33.69	35.60	37.50
84	3.45	5.52	7.59	9.65	11.72	13.79	15.86	17.93	20.00	22.07	24.13	26.20	28.27	30.34	32.41	34.48	36.55	38.61	40.68	
90	3.72	5.95	8.18	10.41	12.64	14.87	17.10	19.33	21.56	23.79	26.02	28.25	30.48	32.71	34.94	37.17	39.40	41.63	43.86	
96	3.99	6.38	8.77	11.16	13.56	15.95	18.34	20.73	23.12	25.52	27.91	30.30	32.69	35.08	37.48	39.87	42.26	44.65	47.04	
102	4.26	6.81	9.36	11.92	14.47	17.03	19.58	22.13	24.69	27.24	29.79	32.35	34.90	37.46	40.01	42.56	45.12	47.67	50.22	
108	4.53	7.24	9.96	12.67	15.39	18.10	20.82	23.53	26.25	28.97	31.68	34.40	37.11	39.83	42.54	45.26	47.97	50.69	53.41	
114	4.80	7.67	10.55	13.43	16.30	19.18	22.06	24.94	27.81	30.69	33.57	36.45	39.32	42.20	45.08	47.95	50.83	53.71	56.59	
120	5.06	8.10	11.14	14.18	17.22	20.26	23.30	26.34	29.38	32.42	35.45	38.49	41.53	44.57	47.61	50.65	53.69	56.73	59.77	

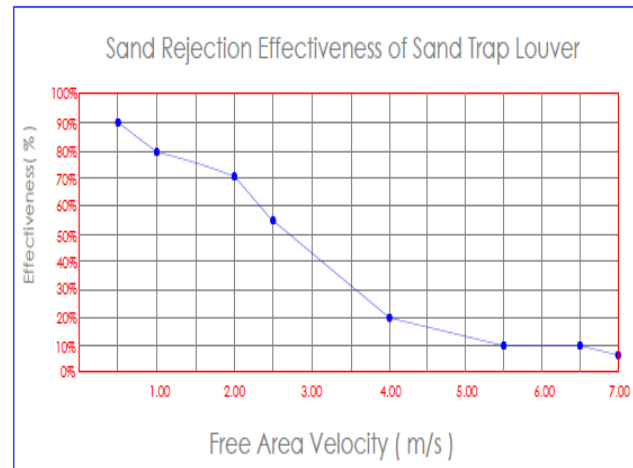
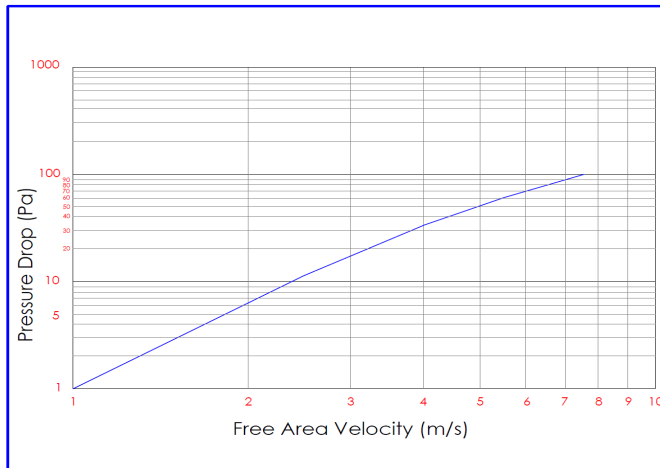
SAND REJECTION EFFICIENCY

Free Area Velocity	700 FPM	1000 FPM	1400 FPM
Particle Size	Sand Rejection Efficiency		
1 - 100 Micron	97.00%	88%	80%
1100 - 1500 Microns	99.92%	99.83%	99.40%

Model : AHS SL 100

ENGINEERING GUIDELINES

Free Area Velocity & Pressure Drop



Sand Rejection Efficiency

Description	Standard Construction		With Media Filter	
	0.5 m/s.	1.0 m/s.	0.5 m/s.	1.0 m/s.
Face Velocity (Pa)	0.5 m/s.	1.0 m/s.	0.5 m/s.	1.0 m/s.
Particle Size (Microns)	150 - 700		75 - 150	
Efficiency (%)	95	80	75 - 98	85 - 95

Effective Pressure Areas (M²)

Height (mm)	Width (mm)											
	150	200	300	400	500	600	700	800	900	1000	1100	1200
150	0.010	0.014	0.020	0.027	0.034	0.041	0.047	0.054	0.061	0.068	0.074	0.081
200	0.014	0.018	0.027	0.036	0.045	0.054	0.063	0.072	0.081	0.090	0.099	0.108
300	0.020	0.027	0.027	0.054	0.068	0.081	0.095	0.108	0.122	0.135	0.149	0.162
400	0.027	0.036	0.041	0.072	0.090	0.108	0.126	0.144	0.162	0.180	0.198	0.216
500	0.034	0.045	0.054	0.090	0.113	0.135	0.158	0.180	0.203	0.225	0.248	0.270
600	0.041	0.054	0.068	0.108	0.135	0.162	0.189	0.216	0.243	0.270	0.297	0.324
700	0.047	0.063	0.081	0.126	0.158	0.189	0.221	0.252	0.284	0.315	0.347	0.378
800	0.054	0.072	0.095	0.144	0.180	0.216	0.252	0.288	0.324	0.360	0.396	0.432
900	0.061	0.081	0.108	0.162	0.203	0.243	0.284	0.324	0.365	0.405	0.446	0.486
1000	0.068	0.090	0.122	0.180	0.225	0.270	0.315	0.360	0.405	0.450	0.495	0.540
1100	0.074	0.099	0.135	0.198	0.248	0.297	0.347	0.396	0.446	0.495	0.545	0.594
1200	0.081	0.108	0.149	0.216	0.270	0.324	0.378	0.432	0.486	0.540	0.594	0.648

Note : Effective Pressure Areas for other sizes can be interpolated from the above data.



ENGINEERING GUIDELINES

Example

Airwellcare Sand Trap Louvers are rated at 1.0 m/s at standard operational conditions :

Airflow : 2100 Lt/s (2.1 M³/sec.)

Louver Dimensions (w x h)

1500 x 1500 mm

Total Louver Area required : 2.25 Sq.m

Total Pressure Drop (Approx.) : 32 Pa

Maximum Single Section Construction of Louver shall be 2400 x 2400mm (96" x 96") W x H. Multiple Louver sections will be carried by field assembly to make the overall opening size.

Single Sections are designed to with-stand a wind load of 1.2 Kpa. Consult AIRWELLCARE if the wind load exceeds.

Structural reinforced members may be required for adequate support and install multiple louver panels within a large opening. These reinforcement members & associated installation hardware is not provided by AIRWELLCARE unless otherwise indicated, prior to ordering.

Standard STL Dimensions Width x Height (mm)

150	150	1400	1400
300	300	1500	1500
400	400	1600	1600
500	500	1700	1700
600	600	1800	1800
700	700	1900	1900
800	800	2000	2000
900	900	2100	2100
1000	1000	2200	2200
1100	1100	2300	2300
1200	1200	2400	2400
1300	1300	2500	2500

Weight

(Net weight without packing)

Aluminium :

Approx. 20 Kg. Per Sq.m area

Galvanized Steel :

Approx. 30 Kg Per Sq.m area

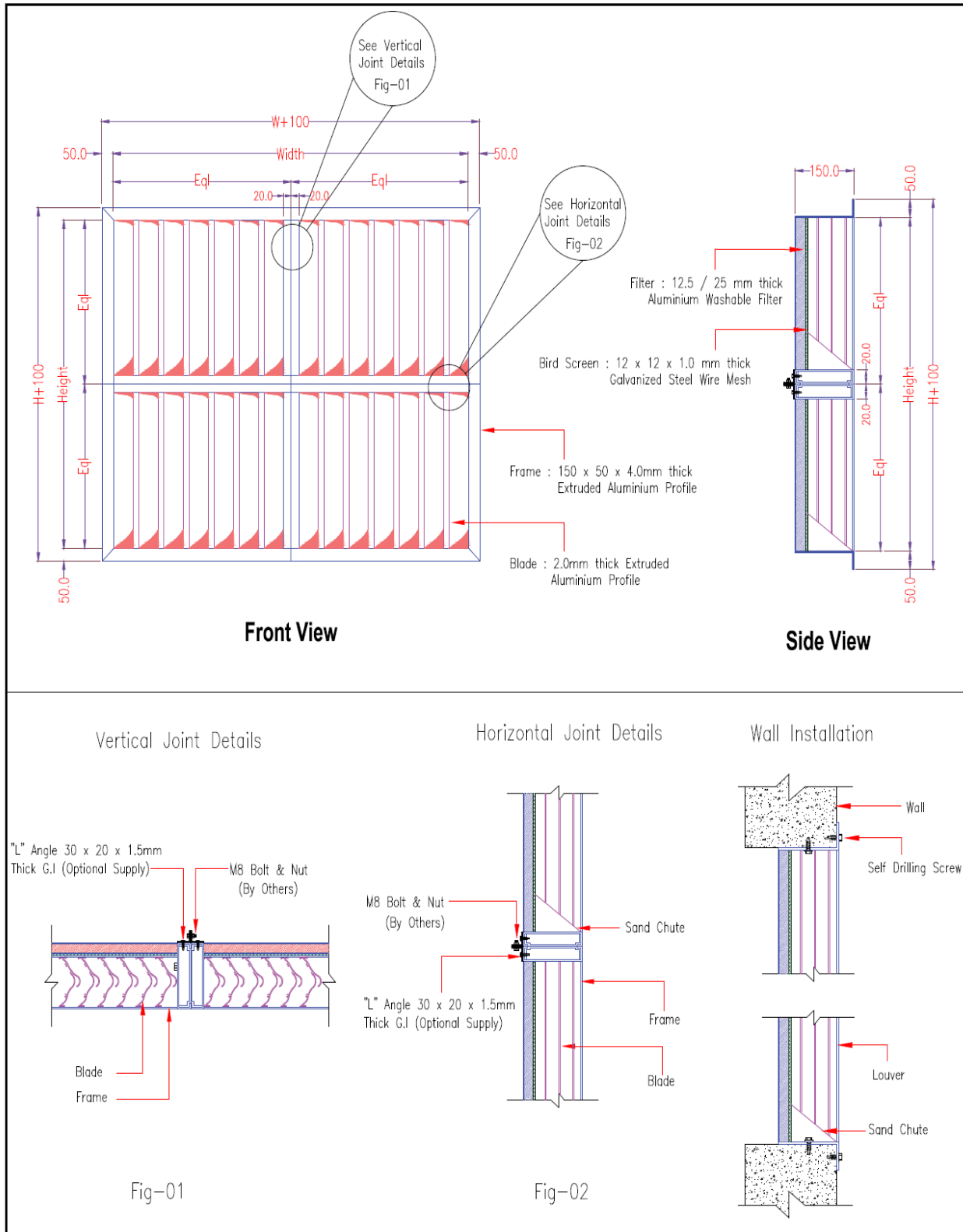
Model Selection Select the below suitable model

Prefix	Model Series	Material	Type		Damper / Filters	Finish
AHS SL	100, 200 Or 300	A, G Or S	E	L	D, F1 & F2	(Powder Coated)
		(A) Aluminium (G) Galvanized (S) Stainless Steel	Exposed	Flush	(D) With Volume Damper (F1) Aluminium Filter (F2) Pre Filter	(C) Standard (X) Others

Example: AHS SL 100AE-F1-C

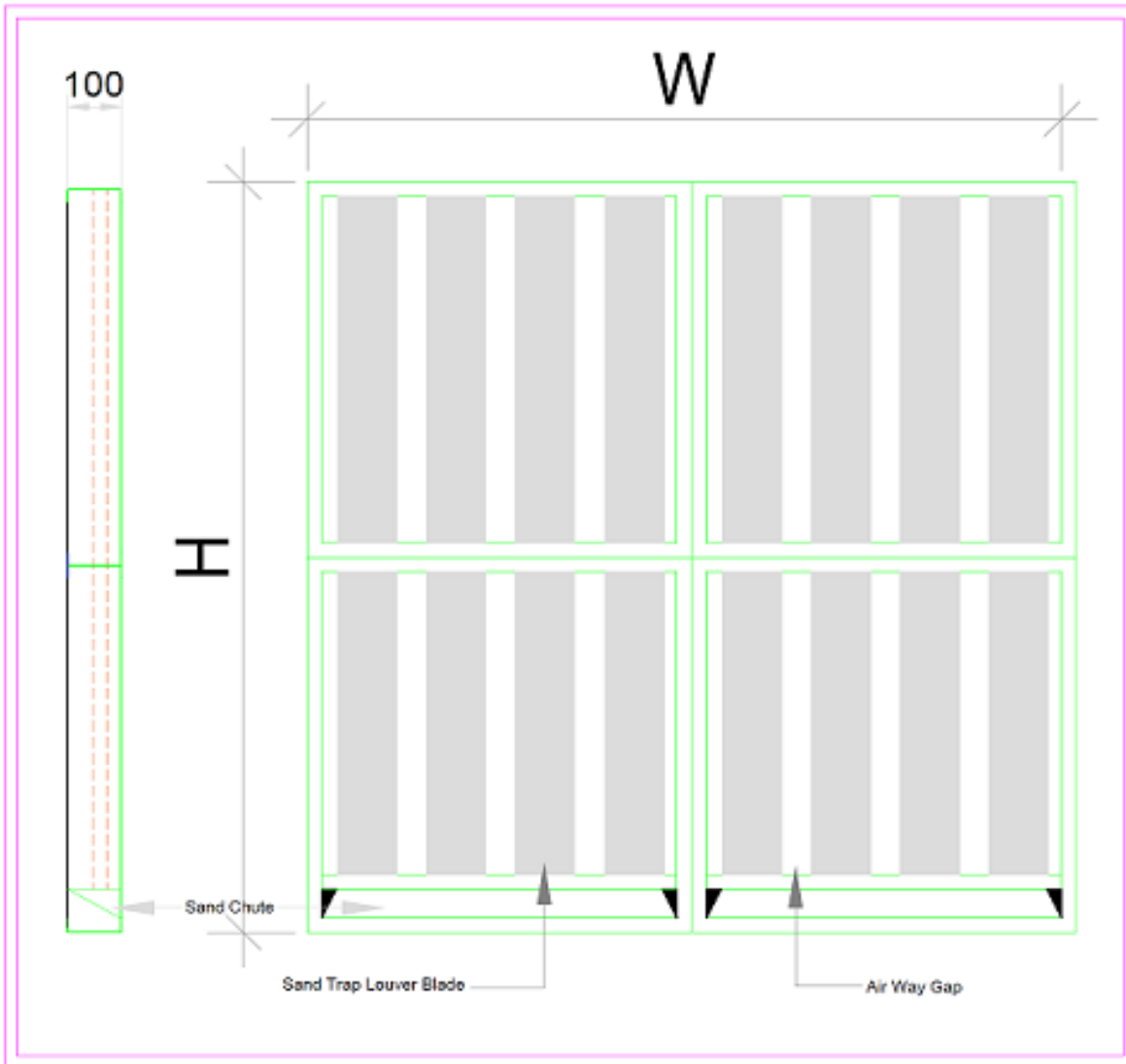
AHS SL 100 Series, Aluminium Material, Exposed type, with Aluminium Filter & Standard Powder Coated Finish.

MULTIPLE SECTION DETAILS



Model : AHS SL 100

MULTIPLE SECTION DETAILS





MATERIAL STORAGE, OPERATION, MAINTENANCE

The Louvers required to be handled carefully during offloading as per the upright arrow marks given on the unit in the right position. Care should be taken in lifting the product in all 4 corners and placing them on a raised floor level. Store the product always in dry environment.

After receiving the Louvers, check for both obvious and hidden damages. If damage is found due to manufacturing defect / workmanship, record all necessary information with photographs and forward to Airwellcare.

Maintenance

Airwellcare Sand Trap Louvers are designed for least maintenance. However, it is recommended to have periodical inspection of blades for damage, wear and tear etc.

The louvers may, over time begin to collect dust and grime due to their location and exposure to varying weather conditions. The louvers should be cleaned to refresh their visual appearance at six monthly intervals.

Airwellcare Sand Trap Louvers are not designed to be used in areas where they may be exposed to contaminants such as water treatment or cleaning chemicals. If the louvers are exposed to such contaminants, they should be cleaned immediately to reduce the detrimental impact of the chemicals.

Cleaning of the louvers should be completed using a soft, clean cloth and Soft Wash Gel cleaner. Surfaces should be thoroughly rinsed with fresh water after cleaning.

In coastal or industrial environments cleaning should be carried out more frequently paying particular attention to areas that are not normally washed by rain.

DO NOT use harsh cleaning fluids, strong solvents or abrasive cleaning materials, as these will damage the surface finish on the louvers.



INSTALLATION DETAILS

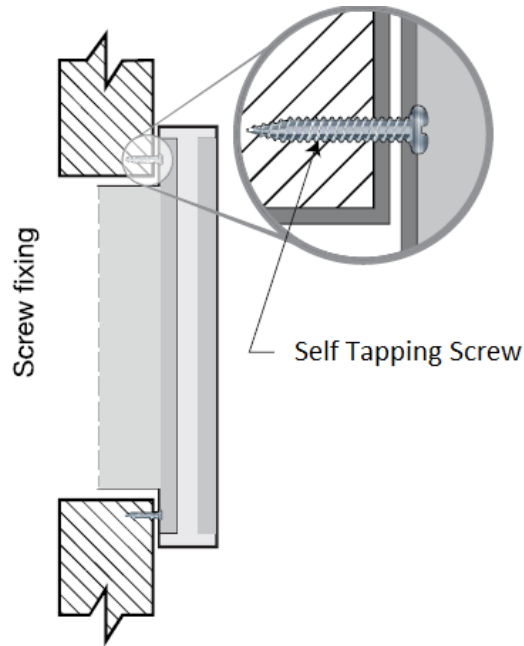
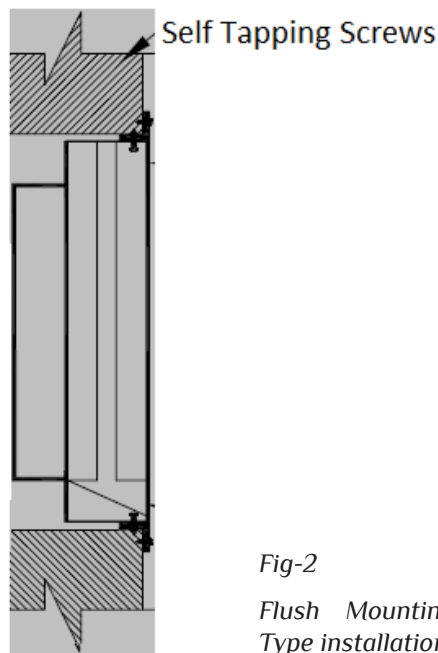


Fig-1
Exposed Type
installation.



Note : The wall installation details for Model AHS SL 400 HD will be same as per Fig-2.

Fig-2
Flush Mounting
Type installation.



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