



SHARQAWI

Air Distribution Systems Co. Factory

Delivering Excellence

SAND TRAP LOUVER



LT-P



LT-S

- **On Time Delivery** • **According to Standard**
- **Customization** • **Quality** • **Cooperation**

Delivering Excellence



ABOUT US

Sharqawi Air Distribution Systems Co. Factory, has been in the market since 1995, as one leading manufacturer in the kingdom of Saudi Arabia in the field of fabrication of HVAC duct and its Accessories. Upon whose satisfaction we have been allowed to grow and prosper in this highly competitive marketplace.

As one of the leading HVAC ducts and its accessories manufacturers, our reason of 'being' is a combination of our vision, mission, and values.

Vision:

We aspire making Sharqawi the most trusted manufacturer of HVAC ducts and its accessories in the Kingdom of Saudi Arabia, region and the world.

Mission:

To aim for design perfection and expanding our market-share by enhancing our marketing, satisfying customer requirements, complying with the international quality standards and consistently sustaining our improvement program.

Values:

Our values reflect who we are and our reason for being.

Quality: We provide exquisite products that deliver exceptional values to our customer.

Integrity: We boost the highest integrity in all of our activities and operations.

Customer commitment: we develop positive relationships that make a beneficial influence on our client's business.

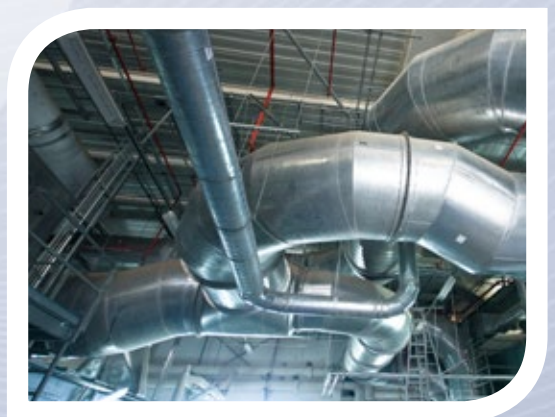
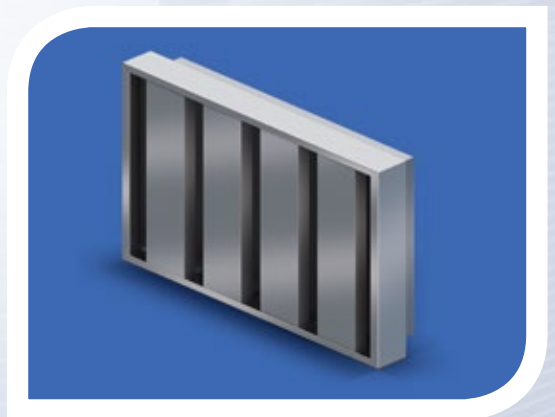
Teamwork: We work together across boundaries to meet the expectations of our customers and support the company to win.

A Will To Win: We exhibit a strong will to win in the marketplace and every aspect of our business.

Respect for people: We value our people, encourage their development and reward their performance.

Good residents: We are good residents in the communities in which we live and work.

Personal Accountability: We are personally accountable for delivering on our commitment.





CONSTRUCTION



Description

Sand Trap Louver (STL) is used as pre-filter to separate airborne sand and dust from the fresh air, for ventilations and inlet ducts of air handling units.

STL Face Size Limitations

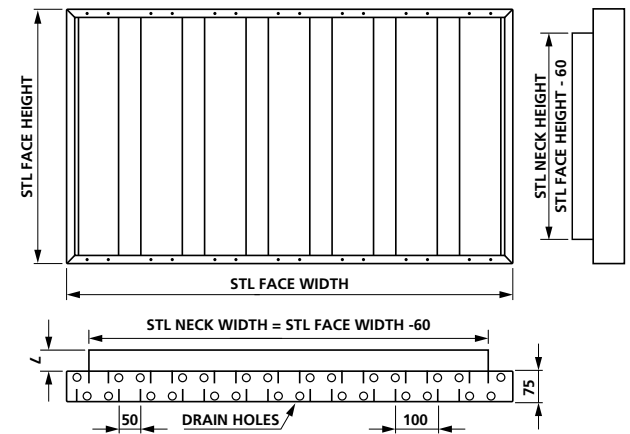
WIDTH X HEIGHT	SINGLE SECTION		MULTIPLE SECTION
	MIN	MAX	MAX
MM	200 x 160	3000 x 3000	NO
INCH	8 x 6 3/8	118 x 118	LIMITATION **

** For more details about multiple section, consult SHARQAWI factory team.

Specification

MATERIAL	Galvanized Steel
	Aluminum
	Stainless Steel
	Black Steel
FRAME	Sheet Thickness 0.85 - 3.00 mm
LOUVER	Sheet Thickness 0.71 - 3.00 mm
WIRE MESH	Galvanized Steel 12x12x1mm *
FILTER	Aluminum Washable Filter
L Neck Length	L=50 mm, STL PLAIN and STL + SAND CHUTE
	L=100 mm, STL + FILTER

* Other sizes and materials available based upon request. All dimensions in millimeter (mm)



Multiple Section Sizing Example

STL (WIDTH 4500 mm X HEIGHT 3200 mm)

Number of section in width

$4500/3000 = 1.5$, Roundup Value = 2

Single section face width

$4500/2 = 2250$ mm

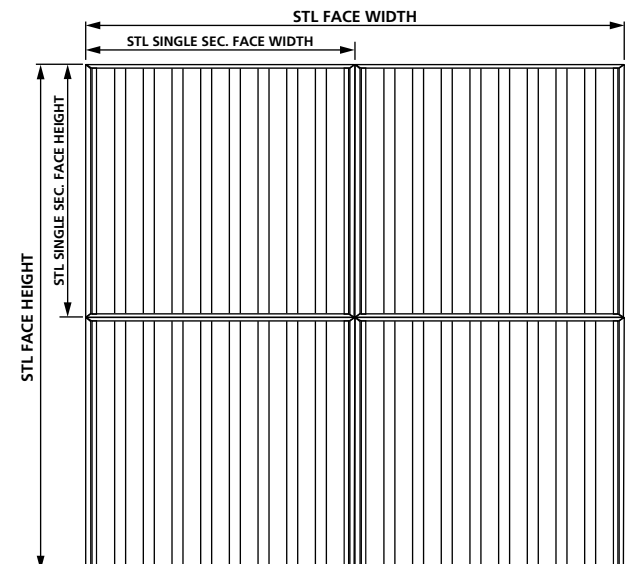
Number of section in height

$3200/3000 = 1.1$, Roundup Value = 2

Single section face height

$3200/2 = 1600$ mm

STL 4500 X 3200 = 4 SINGLE SECTION (2250 X 1600)



SHARQAWI certifies that the model Sand Louver LT 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 Programs. The AMCA Certified Ratings Seal applies to Wind Driven Sand and Air Performance ratings only.



AIR PERFORMANCE

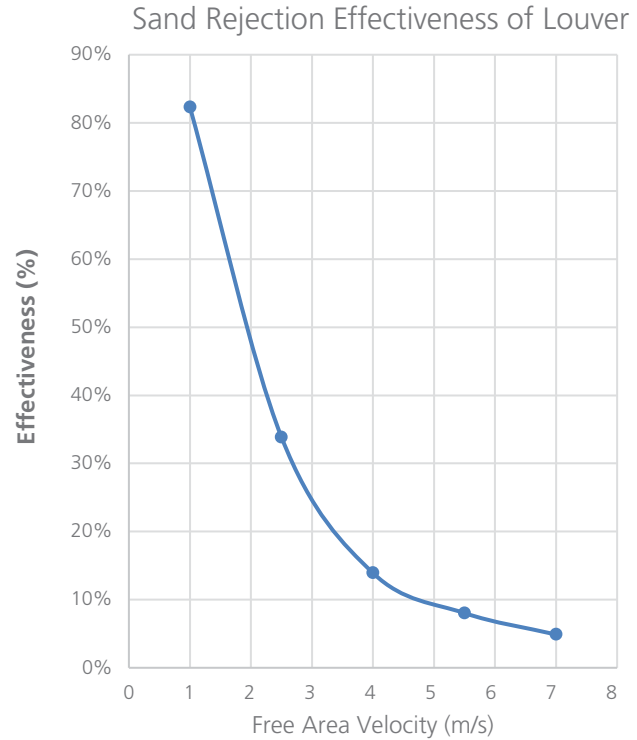
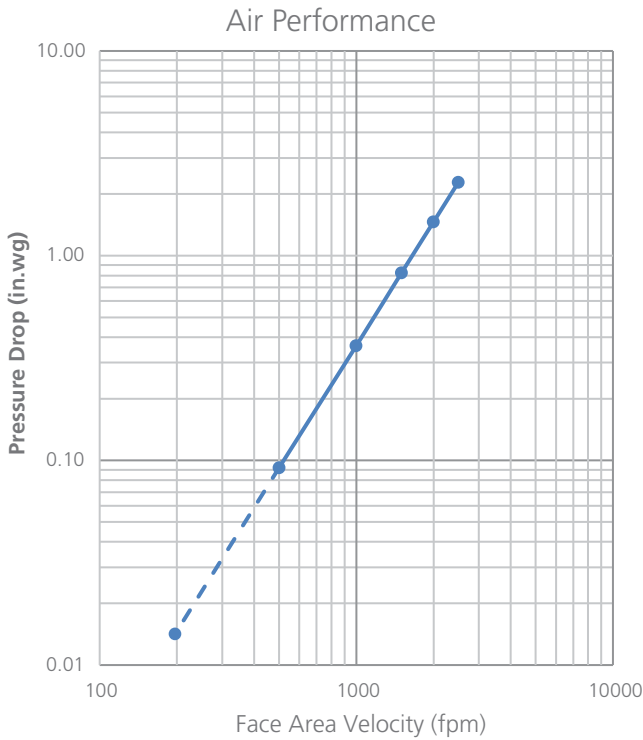
Pressure Drop and Wind Driven Sand

LT Air Performance testing is performed in accordance with Test Method per ANSI / AMCA Standard 500-L-12 (Pressure Drop), Figure 5.5

LT Wind Driven Sand testing is performed in accordance with Test Method per ANSI / AMCA Standard 500-L-12 (Sand Rejection), Figure 5.12/6.3

FREE AREA VELOCITY		ΔP
(fpm)	m/s	
2500	12.70	2.29
2000	10.16	1.46
1500	7.62	0.82
1000	5.08	0.36
500	2.54	0.09

FREE AREA VELOCITY		Sand Rejection Louver Effectiveness (%)	Penetration Class
(fpm)	m/s		
197	1.0	82.32%	B
492	2.5	33.86%	D
787	4.0	13.91%	D
1083	5.5	8.03%	D
1378	7.0	4.88%	D



Sand Particles Grad in Microns (μm) 76-699

- 1) Dashed zone from the curve not tested by AMCA
- 2) All data above for STL without filter or wire mesh



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PRODUCT DIMENSIONS

Free Area (m²)

		STL FACE WIDTH (mm)																				
		200	300	400	500	600	700	800	900	1000	1100	1200	1220	1400	1600	1800	2000	2200	2400	2600	2800	3000
STL FACE HEIGHT (mm)	160	0.005	0.006	0.010	0.015	0.016	0.020	0.025	0.026	0.030	0.034	0.035	0.037	0.044	0.049	0.055	0.064	0.068	0.074	0.083	0.087	0.093
	200	0.007	0.009	0.014	0.021	0.022	0.028	0.035	0.036	0.042	0.048	0.050	0.052	0.062	0.069	0.077	0.090	0.096	0.104	0.117	0.123	0.131
	300	0.012	0.015	0.024	0.036	0.038	0.048	0.060	0.062	0.072	0.083	0.086	0.090	0.107	0.119	0.133	0.155	0.166	0.180	0.202	0.213	0.227
	400	0.017	0.020	0.034	0.051	0.054	0.068	0.085	0.088	0.102	0.118	0.121	0.128	0.152	0.169	0.189	0.220	0.236	0.256	0.287	0.303	0.323
	500	0.022	0.026	0.044	0.066	0.070	0.088	0.110	0.114	0.132	0.153	0.157	0.166	0.197	0.219	0.245	0.285	0.306	0.332	0.372	0.393	0.419
	600	0.027	0.032	0.054	0.081	0.086	0.108	0.135	0.140	0.162	0.188	0.193	0.204	0.242	0.269	0.301	0.350	0.376	0.408	0.457	0.483	0.515
	700	0.032	0.038	0.064	0.096	0.102	0.128	0.160	0.166	0.192	0.223	0.229	0.242	0.287	0.319	0.357	0.415	0.446	0.484	0.542	0.573	0.611
	800	0.037	0.044	0.074	0.111	0.118	0.148	0.185	0.191	0.222	0.258	0.265	0.280	0.332	0.369	0.412	0.480	0.516	0.560	0.627	0.663	0.707
	900	0.042	0.050	0.084	0.126	0.134	0.168	0.210	0.217	0.252	0.293	0.301	0.318	0.377	0.419	0.468	0.545	0.586	0.635	0.712	0.753	0.803
	1000	0.047	0.056	0.094	0.141	0.150	0.188	0.235	0.243	0.282	0.328	0.337	0.356	0.422	0.469	0.524	0.610	0.656	0.711	0.797	0.843	0.899
	1100	0.052	0.062	0.104	0.156	0.165	0.208	0.260	0.269	0.312	0.363	0.373	0.394	0.467	0.519	0.580	0.675	0.726	0.787	0.882	0.933	0.995
	1200	0.057	0.068	0.114	0.171	0.181	0.228	0.285	0.295	0.342	0.398	0.409	0.431	0.512	0.569	0.636	0.740	0.796	0.863	0.967	1.023	1.090
	1220	0.058	0.069	0.116	0.174	0.184	0.232	0.290	0.300	0.348	0.405	0.416	0.439	0.521	0.579	0.647	0.753	0.810	0.878	0.984	1.041	1.110
	1400	0.067	0.079	0.134	0.201	0.213	0.268	0.335	0.347	0.402	0.468	0.480	0.507	0.602	0.669	0.748	0.870	0.936	1.015	1.137	1.203	1.282
	1600	0.077	0.091	0.154	0.231	0.245	0.308	0.385	0.399	0.462	0.538	0.552	0.583	0.692	0.769	0.860	1.000	1.076	1.167	1.307	1.383	1.474
	1800	0.087	0.103	0.174	0.261	0.277	0.348	0.435	0.450	0.522	0.608	0.624	0.659	0.782	0.869	0.971	1.130	1.216	1.319	1.477	1.563	1.666
	2000	0.097	0.115	0.194	0.291	0.308	0.388	0.485	0.502	0.582	0.678	0.696	0.735	0.872	0.969	1.083	1.260	1.356	1.470	1.647	1.743	1.858
	2200	0.107	0.127	0.214	0.321	0.340	0.428	0.535	0.554	0.641	0.748	0.768	0.810	0.962	1.069	1.195	1.389	1.496	1.622	1.817	1.923	2.049
	2400	0.117	0.138	0.234	0.351	0.372	0.468	0.585	0.606	0.701	0.818	0.839	0.886	1.052	1.169	1.307	1.519	1.636	1.774	1.987	2.103	2.241
	2600	0.127	0.150	0.254	0.381	0.404	0.508	0.635	0.657	0.761	0.888	0.911	0.962	1.142	1.269	1.418	1.649	1.776	1.926	2.157	2.283	2.433
2800	0.137	0.162	0.274	0.411	0.436	0.548	0.685	0.709	0.821	0.958	0.983	1.038	1.232	1.369	1.530	1.779	1.916	2.078	2.327	2.463	2.625	
3000	0.147	0.174	0.294	0.441	0.467	0.588	0.735	0.761	0.881	1.028	1.055	1.113	1.322	1.469	1.642	1.909	2.056	2.229	2.497	2.643	2.817	

Free Area (ft²)

		STL FACE WIDTH (inch)																				
		8	10	12	16	20	24	30	36	42	48	54	60	66	72	80	84	90	96	100	112	118
STL FACE HEIGHT (inch)	8	0.09	0.09	0.10	0.11	0.24	0.26	0.34	0.42	0.50	0.58	0.66	0.73	0.82	0.89	0.98	1.04	1.13	1.21	1.21	1.37	1.44
	10	0.11	0.11	0.14	0.14	0.31	0.36	0.46	0.57	0.68	0.79	0.89	1.00	1.11	1.22	1.33	1.43	1.53	1.64	1.65	1.86	1.97
	12	0.14	0.14	0.17	0.17	0.40	0.44	0.58	0.72	0.85	0.99	1.13	1.26	1.40	1.54	1.69	1.81	1.94	2.08	2.08	2.36	2.49
	16	0.19	0.19	0.24	0.25	0.56	0.62	0.82	1.01	1.21	1.40	1.59	1.79	1.98	2.17	2.40	2.56	2.76	2.95	2.96	3.35	3.53
	20	0.25	0.25	0.31	0.32	0.72	0.82	1.07	1.31	1.56	1.82	2.07	2.31	2.57	2.82	3.11	3.32	3.57	3.82	3.83	4.33	4.59
	24	0.30	0.30	0.38	0.39	0.89	1.00	1.30	1.61	1.93	2.23	2.54	2.85	3.15	3.47	3.83	4.08	4.38	4.69	4.70	5.32	5.63
	30	0.38	0.38	0.48	0.50	1.13	1.27	1.67	2.07	2.45	2.85	3.24	3.64	4.04	4.42	4.90	5.21	5.61	6.01	6.02	6.80	7.20
	36	0.46	0.46	0.59	0.60	1.38	1.55	2.03	2.51	2.99	3.47	3.95	4.43	4.91	5.39	5.96	6.35	6.82	7.31	7.32	8.29	8.76
	42	0.55	0.55	0.70	0.71	1.63	1.83	2.39	2.96	3.53	4.09	4.66	5.22	5.79	6.36	7.03	7.48	8.05	8.62	8.63	9.76	10.33
	48	0.62	0.62	0.80	0.82	1.87	2.10	2.76	3.41	4.06	4.71	5.36	6.02	6.67	7.32	8.09	8.62	9.28	9.92	9.95	11.25	11.90
	54	0.71	0.71	0.90	0.93	2.12	2.38	3.12	3.85	4.60	5.33	6.07	6.81	7.55	8.29	9.16	9.76	10.49	11.24	11.26	12.73	13.47
	60	0.80	0.80	1.01	1.03	2.37	2.66	3.48	4.31	5.12	5.95	6.78	7.60	8.43	9.25	10.23	10.89	11.72	12.54	12.57	14.22	15.04
	66	0.87	0.87	1.11	1.14	2.62	2.94	3.84	4.76	5.66	6.58	7.48	8.40	9.30	10.21	11.29	12.03	12.94	13.85	13.87	15.69	16.61
	72	0.96	0.96	1.22	1.25	2.85	3.21	4.21	5.20	6.20	7.19	8.19	9.18	10.18	11.17	12.36	13.16	14.17	15.16	15.19	17.18	18.18
	80	1.07	1.07	1.36	1.39	3.19	3.57	4.69	5.80	6.91	8.02	9.13	10.24	11.35	12.46	13.78	14.68	15.79	16.90	16.93	19.16	20.27
	84	1.12	1.12	1.43	1.46	3.35	3.77	4.93	6.09	7.27	8.43	9.60	10.76	11.94	13.10	14.49	15.44	16.61	17.77	17.81	20.15	21.31
	90	1.21	1.21	1.53	1.57	3.60	4.04	5.30	6.54	7.80	9.05	10.31	11.56	12.81	14.07	15.55	16.58	17.83	19.08	19.12	21.62	22.88
	96	1.28	1.28	1.64	1.68	3.84	4.32	5.65	7.00	8.33	9.68	11.01	12.36	13.69	15.04	16.62	17.71	19.05	20.39	20.43	23.11	24.44
	100	1.33	1.33	1.71	1.74	4.00	4.50	5.90	7.30	8.69	10.09	11.49	12.88	14.27	15.67	17.33	18.47	19.87	21.26	21.30	24.10	25.50
	112	1.51	1.51	1.92	1.96	4.50	5.05	6.62	8.19	9.76	11.32	12.90	14.47	16.04	17.60	19.46	20.74	22.31	23.87	23.93	27.06	28.63
118	1.58	1.58	2.02	2.07	4.75	5.33	6.99	8.64	10.29	11.95	13.61	15.26	16.91	18.57	20.53	21.87	23.53	25.19	25.24	28.55	30.20	

STL 1220 x 1220 mm size, About 30% Free Area



STL SELECTION

Selection Inputs

Air Flow 2800 cfm
 Free Area Velocity 600 fpm

STL Calculation

A) Free Area Calculation

= Air Flow (cfm) / Free Area Velocity (fpm)
 = 2800 (cfm) / 600 (fpm) = **4.67 ft²**

B) Search in FREE AREA (ft²)

table based on the calculated free area value

Min Value 4.67 ft²
 Max Value 4.72 ft²

STL face sizes meet min and max values criteria:

- 1) 30x80 inch
- 2) 48x48 inch
- 3) 100x24 inch

Select the Suitable Size for Site Space

Let us select **48x48 inch**

Free area velocity for 48x48 inch = 2800 (cfm) / 4.71 (ft²)
 = 595 fpm



	8	10	12	16	20	24	30	36	42	48	54	60	66	72	80	84	90	96	100	112	118
8	0.09	0.09	0.10	0.11	0.24	0.26	0.34	0.42	0.50	0.58	0.66	0.73	0.82	0.89	0.98	1.04	1.13	1.21	1.21	1.37	1.44
10	0.11	0.11	0.14	0.14	0.31	0.36	0.46	0.57	0.68	0.79	0.89	1.00	1.11	1.22	1.33	1.43	1.53	1.64	1.65	1.86	1.97
12	0.14	0.14	0.17	0.17	0.40	0.44	0.58	0.72	0.85	0.99	1.13	1.26	1.40	1.54	1.69	1.81	1.94	2.08	2.08	2.36	2.49
16	0.19	0.19	0.24	0.25	0.56	0.62	0.82	1.01	1.21	1.40	1.59	1.79	1.98	2.17	2.40	2.56	2.76	2.95	2.96	3.35	3.53
20	0.25	0.25	0.31	0.32	0.72	0.82	1.07	1.31	1.56	1.82	2.07	2.31	2.57	2.82	3.11	3.32	3.57	3.82	3.83	4.33	4.59
24	0.30	0.30	0.38	0.39	0.89	1.00	1.30	1.61	1.93	2.23	2.54	2.85	3.15	3.47	3.83	4.08	4.38	4.69	4.70	5.32	5.63
30	0.38	0.38	0.48	0.50	1.13	1.27	1.67	2.07	2.45	2.85	3.24	3.64	4.04	4.42	4.90	5.21	5.61	6.01	6.02	6.80	7.20
36	0.46	0.46	0.59	0.60	1.38	1.55	2.03	2.51	2.99	3.47	3.95	4.43	4.91	5.39	5.96	6.35	6.82	7.31	7.32	8.29	8.76
42	0.55	0.55	0.70	0.71	1.63	1.83	2.39	2.96	3.53	4.09	4.66	5.22	5.79	6.36	7.03	7.48	8.05	8.62	8.63	9.76	10.33
48	0.62	0.62	0.80	0.82	1.87	2.10	2.76	3.41	4.06	4.71	5.36	6.02	6.67	7.32	8.09	8.62	9.28	9.92	9.95	11.25	11.90
54	0.71	0.71	0.90	0.93	2.12	2.38	3.12	3.85	4.60	5.33	6.07	6.81	7.55	8.29	9.16	9.76	10.49	11.24	11.26	12.73	13.47
60	0.80	0.80	1.01	1.03	2.37	2.66	3.48	4.31	5.12	5.95	6.78	7.60	8.43	9.25	10.23	10.89	11.72	12.54	12.57	14.22	15.04
66	0.87	0.87	1.11	1.14	2.62	2.94	3.84	4.76	5.66	6.58	7.48	8.40	9.30	10.21	11.29	12.03	12.94	13.85	13.87	15.69	16.61
72	0.96	0.96	1.22	1.25	2.85	3.21	4.21	5.20	6.20	7.19	8.19	9.18	10.18	11.17	12.36	13.16	14.17	15.16	15.19	17.18	18.18
80	1.07	1.07	1.36	1.39	3.19	3.57	4.69	5.80	6.91	8.02	9.13	10.24	11.35	12.46	13.78	14.68	15.79	16.90	16.93	19.16	20.27
84	1.12	1.12	1.43	1.46	3.35	3.77	4.93	6.09	7.27	8.43	9.60	10.76	11.94	13.10	14.49	15.44	16.61	17.77	17.77	20.15	21.31
90	1.21	1.21	1.53	1.57	3.60	4.04	5.30	6.54	7.80	9.05	10.31	11.56	12.81	14.07	15.55	16.58	17.63	19.08	19.12	21.62	22.88
96	1.28	1.28	1.64	1.68	3.84	4.32	5.65	7.00	8.33	9.68	11.01	12.36	13.69	15.04	16.62	17.71	19.05	20.39	20.43	23.11	24.44
100	1.33	1.33	1.71	1.74	4.00	4.50	5.90	7.30	8.69	10.09	11.49	12.88	14.27	15.67	17.33	18.47	19.87	21.26	21.30	24.10	25.50
112	1.51	1.51	1.92	1.96	4.50	5.05	6.62	8.19	9.76	11.32	12.90	14.47	16.04	17.60	19.46	20.74	22.31	23.87	23.93	27.06	28.63
118	1.58	1.58	2.02	2.07	4.75	5.33	6.99	8.64	10.29	11.95	13.61	15.26	16.91	18.57	20.53	21.87	23.53	25.19	25.24	28.55	30.20

STL 1220 x 1220 mm size, About 30% Free Area

C) STL Neck Dimensions Calculation

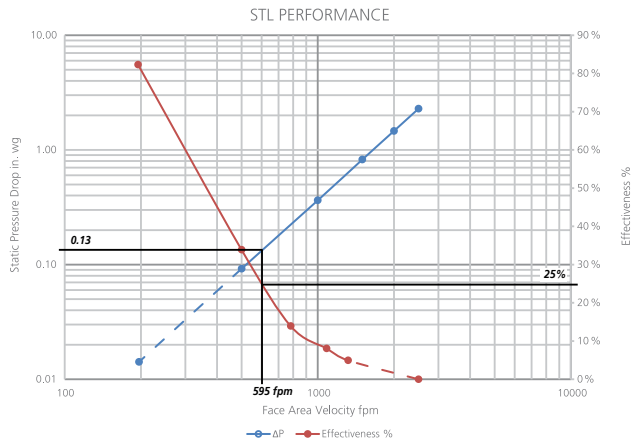
Width = [48 (inch) x 25.4 (inch/mm)] - 60 = 1160 (mm)
 Height = [48 (inch) x 25.4 (inch/mm)] - 60 = 1160 (mm)
 L = 50

D) Air Performance (Pressure Drop) Calculation

From STL Performance Chart at 595 fpm = 0.13 inch.wg

E) Sand Rejection Effectiveness Calculation

From STL Performance Chart at 595 fpm = 25%



Selection Results

- 1) The calculations above for STL without filter or wire mesh, Ordering Code LT-PNNGDD0-1160x1160
- 2) Any additional accessories, will effect on the air performance and sand rejection effectiveness.
- 3) Check STL dimension figure 1. (Not to Scale)

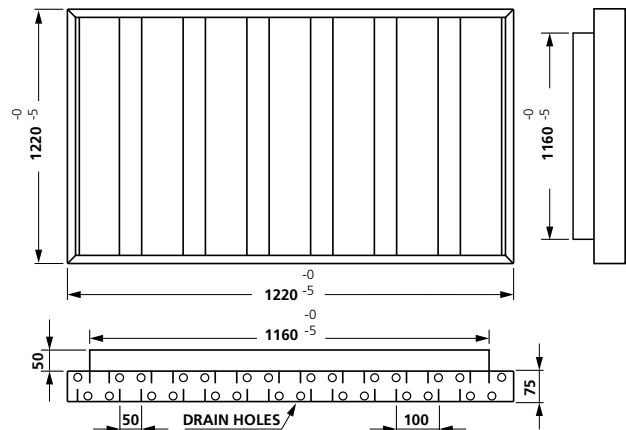


figure 1



SHARQAWI certifies that the model Sand Louver LT 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 Programs. The AMCA Certified Ratings Seal applies to Wind Driven Sand and Air Performance ratings only.



ORDERING CODE

SAND TRAP LOUVER

LT - P N N G D D 0 - 600 x 400

* All selection checkboxes highlighted in blue are the default selections (if not otherwise specified)

MODEL

- P STL PLAIN
- S STL + SAND CHUTE

Only LT-P has AMCA Certified Air Performance and Wind Driven Sand Effectiveness.

WIRE MESH

- N WITHOUT WIRE MESH
- W WITH WIRE MESH

FILTER SPECS.

- | | |
|--|--|
| <input type="checkbox"/> A 1 Inch, Window Access | <input type="checkbox"/> B 2 Inch, Window Access |
| <input type="checkbox"/> C 1 Inch, Right Access | <input type="checkbox"/> D 2 Inch, Right Access |
| <input type="checkbox"/> E 1 Inch, Left Access | <input type="checkbox"/> F 2 Inch, Left Access |
| <input type="checkbox"/> G 1 Inch, Bottom Access | <input type="checkbox"/> H 2 Inch, Bottom Access |
| <input type="checkbox"/> K 1 Inch, Top Access | <input type="checkbox"/> M 2 Inch, Top Access |
| <input checked="" type="checkbox"/> N WITHOUT FILTER | |

MATERIAL

- | | |
|--|---|
| <input checked="" type="checkbox"/> G GALVANIZED STEEL G90 | <input type="checkbox"/> A ALUMINUM |
| <input type="checkbox"/> H GALVANIZED STEEL G115 | <input type="checkbox"/> B BLACK STEEL |
| <input type="checkbox"/> S STAINLESS STEEL S304 | <input type="checkbox"/> V STAINLESS STEEL S316 |

FRAME THICKNESS

- | | |
|---|-----------------------------------|
| <input checked="" type="checkbox"/> D DEFAULT | <input type="checkbox"/> P 1.0 mm |
| <input type="checkbox"/> Q 1.2 mm | <input type="checkbox"/> T 1.5 mm |
| <input type="checkbox"/> W 2.0 mm | <input type="checkbox"/> W 2.0 mm |
| <input type="checkbox"/> X 2.4 mm | <input type="checkbox"/> Z 3.0 mm |

Default value, based on designer specs.

LOUVER THICKNESS

- | | |
|---|-----------------------------------|
| <input checked="" type="checkbox"/> D DEFAULT | <input type="checkbox"/> P 1.0 mm |
| <input type="checkbox"/> Q 1.2 mm | <input type="checkbox"/> T 1.5 mm |
| <input type="checkbox"/> W 2.0 mm | <input type="checkbox"/> W 2.0 mm |
| <input type="checkbox"/> X 2.4 mm | <input type="checkbox"/> Z 3.0 mm |

Default value, based on designer specs.

FINISHING

- | | |
|---|--|
| <input checked="" type="checkbox"/> 0 NO PAINT NO PACKAGING | <input type="checkbox"/> 2 PACKAGING ONLY |
| <input type="checkbox"/> 1 PAINT ONLY | <input type="checkbox"/> 3 PAINT & PACKAGING |

STL NECK WIDTH (mm)

STL NECK HEIGHT (mm)

Code Description Example

LT-PNNGDD0-600x400

SAND TRAP LOUVER, Plain Type, without filter, without wire mesh, Material Galvanized Steel (G90), Without Packaging And Without Painting.

STL Neck Width = 600 mm

STL Neck Height = 400 mm

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