HORIZONTAL BLADE LOUVER

DANIA AIR
CONTROL SYSTEM FACTORY

Description

Horizontal blade louver is designed for both intake and exhaust air applications. These louvers are engineered to meet key performance criteria, including minimal pressure loss, low self-generated aerodynamic noise, reduced water ingress, and an aesthetically pleasing appearance. The weather-resistant structure features blades inclined at a 45° angle to protect against rainwater penetration.

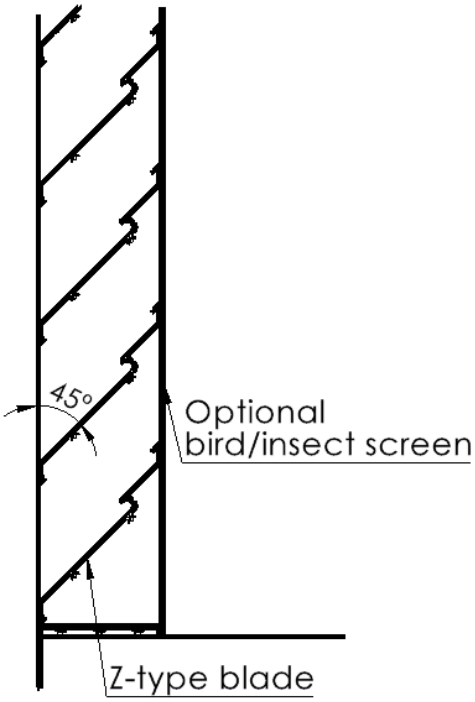
The standard finish is polyester powder coating in RAL 9016. Optional finishes include natural anodized aluminum, mill finish, or powder coating in any other RAL color. Other finishes are available upon request.

Construction

- Standard frame is made of extruded aluminum alloy, other material options include galvanized steel and stainless steel-304/316.
- Optional flangeless frame available for recessed mounting.
- Standard “Z” type 45° blades are made of extruded aluminum alloy. Other material options include galvanized steel and stainless steel-304/316.
- Face of louver: Full jamb section, with blades, head, and sill contained within the jamb
- Optional accessories:
  - GI bird screen with 1/2” x 1/2” wire mesh
  - Aluminum insect screen with 1/8” x 1/8” mesh
  - 1- or 2-inch washable aluminum filter.

Note:

- Exact size of louver is usually fabricated about 10mm less than the nominal size (wall or duct size).

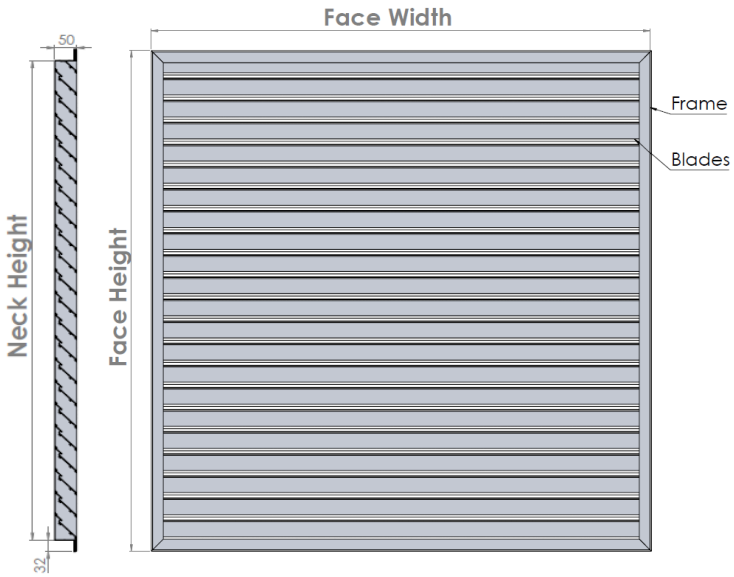


Catalog ID: (HBL, November 2025)

1- Model HBL-2

(Previously AS-20F)

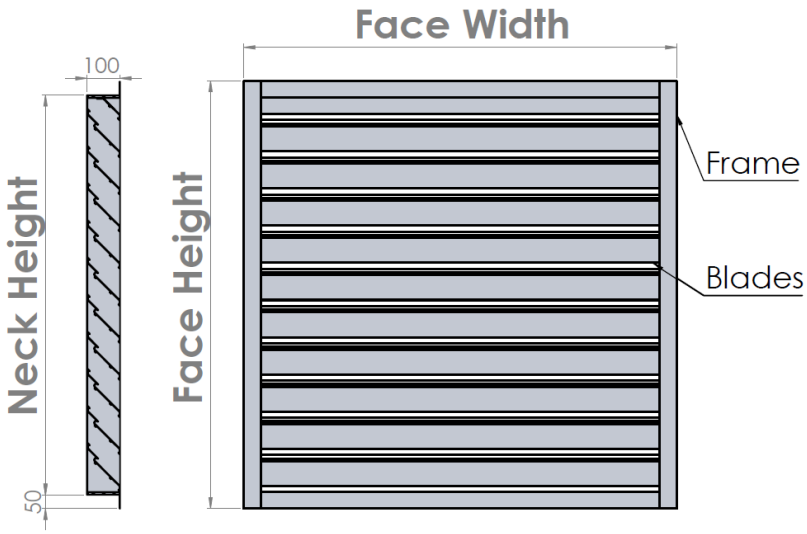
- Louver depth: 2 inches.
- Material: made of extruded aluminum.
- Standard blade spacing: 2 inches.
- Dimensions: All dimensions are in millimeters (mm).
- Maximum dimension: 2000 mm; maximum area: 2.4 m².
- Minimum size: 150 x 150 mm.



2- Model HBL-4

(Previously AS-40F)

- Louver depth: 4 inches.
- Material: made of extruded aluminum.
- Standard blade spacing: 4.5 inches.
- Dimensions: All dimensions are in millimeters (mm).
- Maximum dimension: 2500 mm; maximum area: 3 m²
- Minimum size: 150 x 200 mm



Catalog ID: (HBL, November 2025)

Performance

1- Model (HBL-2)

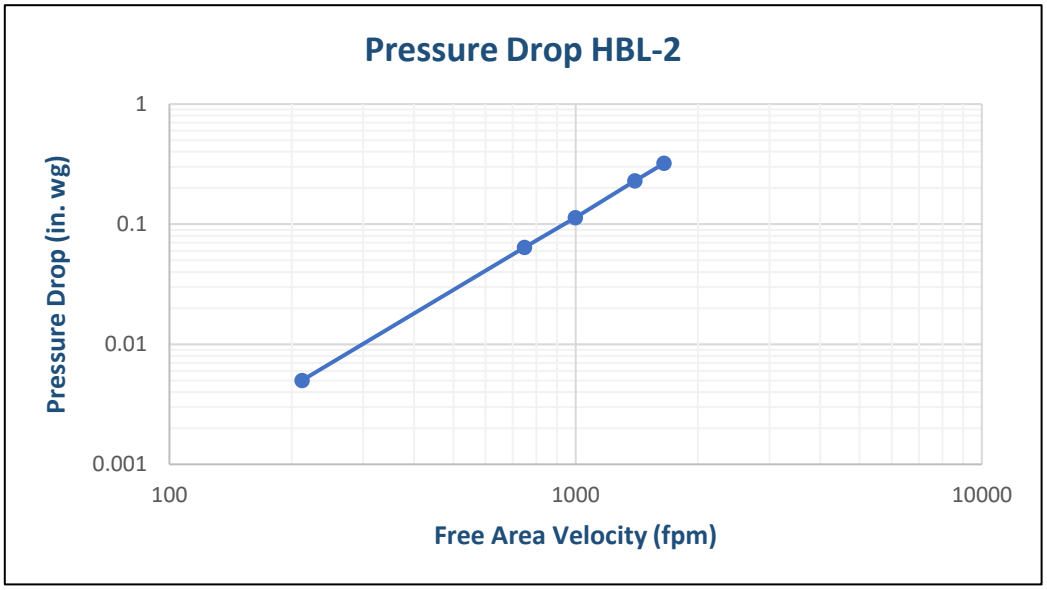
❖ Free Area Table (m^2)

Face Height - mm \ Face Width - mm	320	380	440	500	560	620	680	740	800	860	920	980	1040	1100	1160	1220
320	0.025	0.031	0.037	0.043	0.049	0.055	0.061	0.067	0.073	0.079	0.085	0.091	0.097	0.103	0.109	0.115
380	0.032	0.039	0.047	0.055	0.063	0.070	0.078	0.086	0.094	0.102	0.109	0.117	0.125	0.133	0.140	0.148
440	0.039	0.048	0.058	0.067	0.077	0.086	0.096	0.105	0.115	0.124	0.134	0.143	0.153	0.162	0.172	0.181
500	0.046	0.057	0.068	0.079	0.091	0.102	0.113	0.124	0.136	0.147	0.158	0.169	0.181	0.192	0.203	0.214
560	0.053	0.066	0.079	0.092	0.105	0.118	0.131	0.144	0.157	0.170	0.183	0.196	0.209	0.222	0.235	0.248
620	0.060	0.075	0.089	0.104	0.119	0.134	0.148	0.163	0.178	0.192	0.207	0.222	0.237	0.251	0.266	0.281
680	0.067	0.083	0.100	0.116	0.133	0.149	0.166	0.182	0.199	0.215	0.232	0.248	0.265	0.281	0.298	0.314
740	0.074	0.092	0.110	0.129	0.147	0.165	0.183	0.202	0.220	0.238	0.256	0.274	0.293	0.311	0.329	0.347
800	0.081	0.101	0.121	0.141	0.161	0.181	0.201	0.221	0.241	0.261	0.281	0.301	0.321	0.340	0.360	0.380
860	0.088	0.110	0.132	0.153	0.175	0.197	0.218	0.240	0.262	0.283	0.305	0.327	0.348	0.370	0.392	0.414
920	0.095	0.119	0.142	0.166	0.189	0.212	0.236	0.259	0.283	0.306	0.330	0.353	0.376	0.400	0.423	0.447
980	0.102	0.128	0.153	0.178	0.203	0.228	0.253	0.279	0.304	0.329	0.354	0.379	0.404	0.430	0.455	0.480
1040	0.109	0.136	0.163	0.190	0.217	0.244	0.271	0.298	0.325	0.352	0.379	0.405	0.432	0.459	0.486	0.513
1100	0.117	0.145	0.174	0.202	0.231	0.260	0.288	0.317	0.346	0.374	0.403	0.432	0.460	0.489	0.518	0.546
1160	0.124	0.154	0.184	0.215	0.245	0.276	0.306	0.336	0.367	0.397	0.427	0.458	0.488	0.519	0.549	0.579
1220	0.131	0.163	0.195	0.227	0.259	0.291	0.323	0.356	0.388	0.420	0.452	0.484	0.516	0.548	0.580	0.613

❖ Test Information:

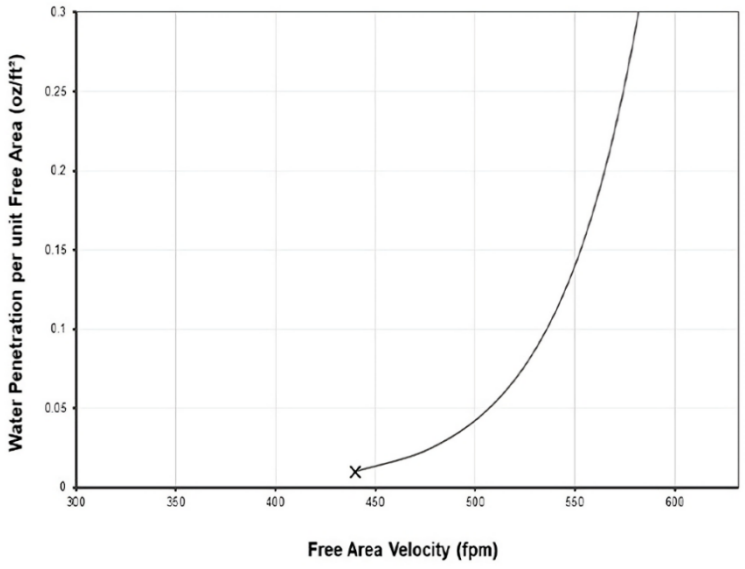
Tested in accordance with ANSI/AMCA 500-L, Figure 5.5 for intake pressure drop and Figure 5.6 for water penetration, Test sample face size is 1220 mm x 1220 mm (48 in. x 48 in.).

❖ Pressure-drop chart:



❖ Water Penetration per Unit Free Area Chart:

Beginning of water penetration per AMCA measured free area = 439.7 fpm



Dania Air Control System Factory certifies that the Horizontal Blade Louver model HBL-2 shown hereon 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 Air Performance and Water Penetration ratings.

Catalog ID: (HBL, November 2025)

2- Model (HBL-4)

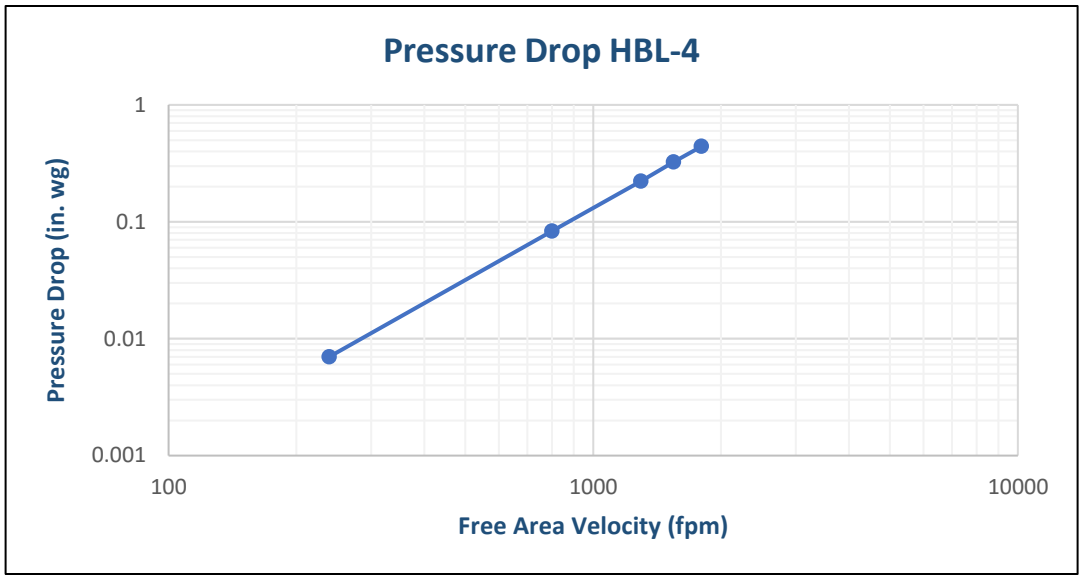
❖ Free Area Table (m^2)

Face Height - mm \ Face Width - mm	310	375	440	505	570	635	700	765	830	895	960	1025	1090	1155	1220
310	0.017	0.023	0.029	0.035	0.041	0.046	0.052	0.058	0.064	0.070	0.076	0.082	0.087	0.093	0.099
375	0.023	0.030	0.038	0.046	0.053	0.061	0.069	0.077	0.084	0.092	0.100	0.108	0.115	0.123	0.131
440	0.028	0.038	0.047	0.057	0.066	0.076	0.086	0.095	0.105	0.114	0.124	0.134	0.143	0.153	0.162
505	0.034	0.045	0.056	0.068	0.079	0.091	0.102	0.114	0.125	0.137	0.148	0.160	0.171	0.183	0.194
570	0.039	0.052	0.066	0.079	0.092	0.106	0.119	0.132	0.146	0.159	0.172	0.186	0.199	0.212	0.226
635	0.044	0.060	0.075	0.090	0.105	0.120	0.136	0.151	0.166	0.181	0.197	0.212	0.227	0.242	0.257
700	0.050	0.067	0.084	0.101	0.118	0.135	0.152	0.169	0.187	0.204	0.221	0.238	0.255	0.272	0.289
765	0.055	0.074	0.093	0.112	0.131	0.150	0.169	0.188	0.207	0.226	0.245	0.264	0.283	0.302	0.321
830	0.061	0.082	0.102	0.123	0.144	0.165	0.186	0.207	0.227	0.248	0.269	0.290	0.311	0.331	0.352
895	0.066	0.089	0.112	0.134	0.157	0.180	0.202	0.225	0.248	0.271	0.293	0.316	0.339	0.361	0.384
960	0.072	0.096	0.121	0.145	0.170	0.195	0.219	0.244	0.268	0.293	0.317	0.342	0.366	0.391	0.416
1025	0.077	0.104	0.130	0.157	0.183	0.209	0.236	0.262	0.289	0.315	0.342	0.368	0.394	0.421	0.447
1090	0.083	0.111	0.139	0.168	0.196	0.224	0.253	0.281	0.309	0.337	0.366	0.394	0.422	0.451	0.479
1155	0.088	0.118	0.149	0.179	0.209	0.239	0.269	0.299	0.330	0.360	0.390	0.420	0.450	0.480	0.511
1220	0.094	0.126	0.158	0.190	0.222	0.254	0.286	0.318	0.350	0.382	0.414	0.446	0.478	0.510	0.542

❖ Test Information:

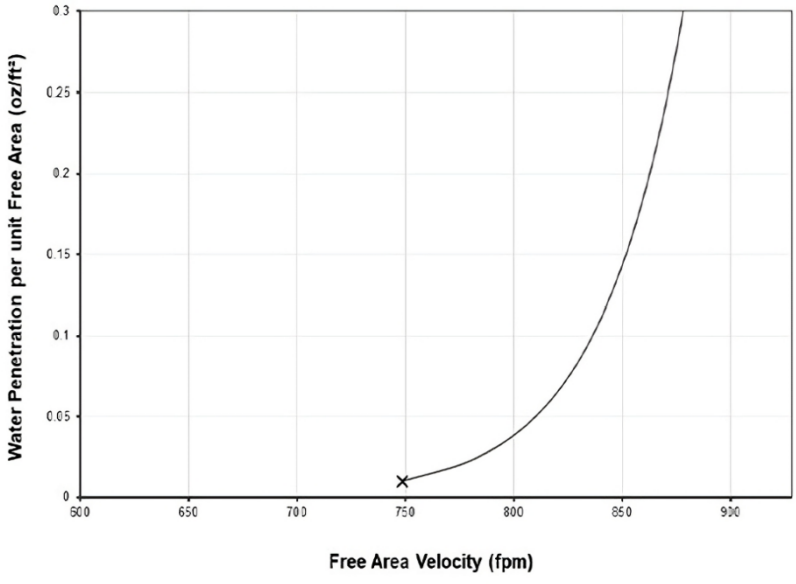
Tested in accordance with ANSI/AMCA 500-L, Figure 5.5 for intake pressure drop and Figure 5.6 for water penetration, Test sample face size is 1220 mm x 1220 mm (48 in. x 48 in.).

❖ Pressure-drop chart:



❖ Water Penetration per Unit Free Area Chart:

Beginning of water penetration per AMCA measured free area = 748.8 fpm



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Selection Example

Application Scenario:
A ventilation system requires a volume flow rate (Q) of 2,430 L/s (*equivalent to 8,750 m³/h*) under standard operating conditions. The maximum allowable pressure drop across the horizontal blade louver model HBL-4 is specified as 30 Pa.

Calculation Summary:

Based on the Intake Air Performance Chart:

- Free Area Velocity (V): 4.826 m/s
- Formula Used:

$$Q = V \times A$$

Where:

  - Q = Volume flow rate
  - V = Free area velocity
  - A = Louver free area
- Louver Free Area (A): 0.5035 m²

Based on the Free Area Table, the Suggested Louver Dimensions Can Be:

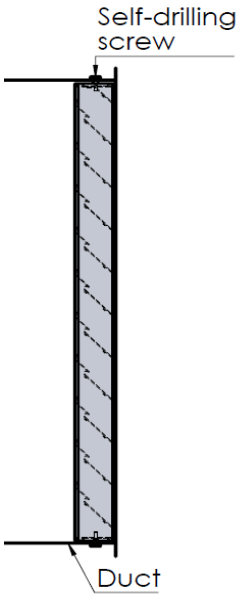
- Width: 1150 mm
- Height: 1220 mm

Note:

- **Any size can be selected if it fulfills or exceeds the calculated free area.**

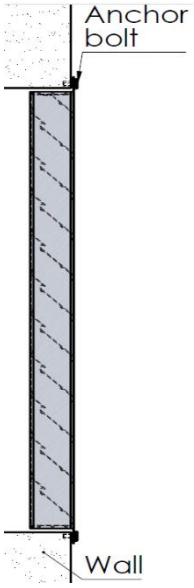
Installation

❖ Duct mounted:

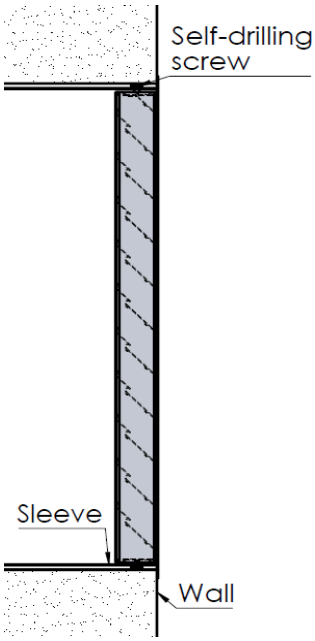


❖ Wall mounted:

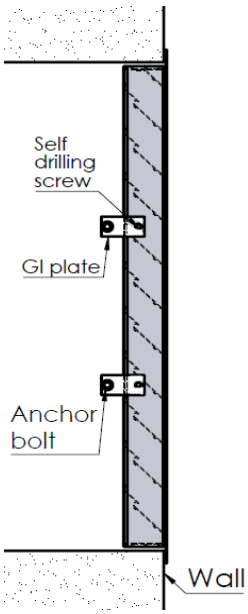
Method no.1 (Anchor bolt)



❖ Sleeve Mounted:



Method no.2 (Mounting plate)



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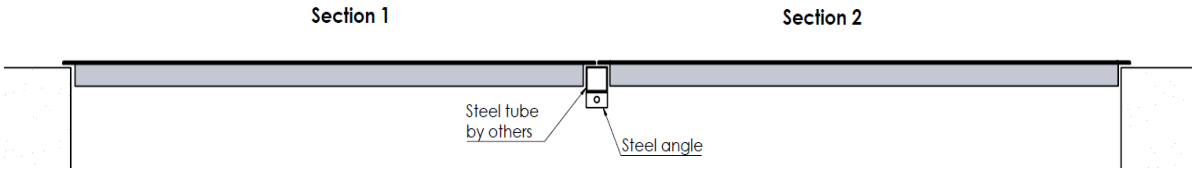
❖ Multi-Section Details:



Note:

- **Installation accessories are optional and can be included with the delivery upon request.**