

OHL-100WT – Weather Trap Louvers

Model: OHL-100WT

The Holyoake OHL-100WT louver is a maximum performance “Two Stage” louver system with Class A weatherability performance. This system incorporates the external use of the KD-100 louver profile in combination with a horizontal second stage louver bank to the rear. The combination of these two profiles ensures that, under all but the most extreme atmospheric conditions, water ingress through the system would effectively be eliminated.

The large profile and 100mm blade spacing of the OHL100WT creates a bold line across the louver face which is architecturally pleasing. The slightly curved blade face enhances the architectural appeal of the louver. The use of the KD-100 section on the external face also allows for the OHL-100WT to maintain a continuous appearance across the face even when some openings might require the use of a two stage louver.

The OHL-100WT louver can be installed as part of the Mechanical Services System for either intake or exhaust applications.

The OHL-100WT can be manufactured in either panel or knockdown form. The knockdown format uses the Holyoake “Concealed Mullion” system, which is stick built on site and once installed, creates an unbroken line across the louver face in both width and height. (subject to the installation of suitable supporting steelwork) The secondary louver at the rear is manufactured in panels, which are independently fixed to the rear of the installed first stage louvers.

The OHL-100WT is available with a choice of two standard frame sections. The first being a 45mm flanged frame profile, with a second option being the 25mm channel section.

All of the louver components, including the rear posts and blade support clips, are fabricated from extruded aluminium, which eliminates any potential issues with dissimilar metals within the system.

Standard Construction

Frame:	6063 T5 extruded aluminium, square cut corners, fixed with #10 screws for rigidity.
Outer Blades:	6063 T5 extruded aluminium with double weather stop.
Inner Blades:	6063 T5 extruded aluminium.
Mesh:	Bird mesh or insect screen.
Finish:	Powder Coat Finish.

Features

- Two stage louver for maximum weathering performance.
- Architectural front blades.

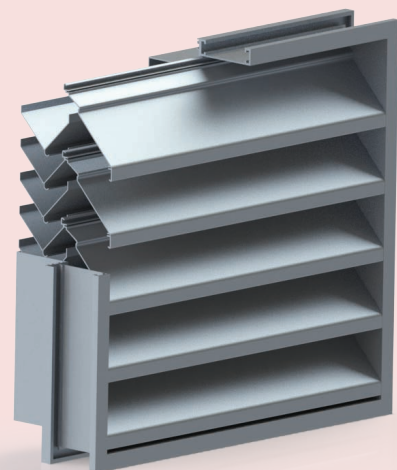
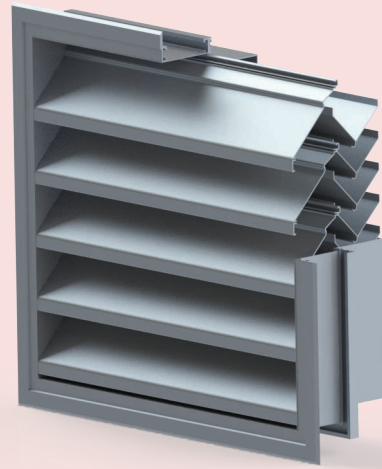
Options

- A range of Powder Coat colours.

Note

When velocities through louvers cannot be controlled, water penetration performance cannot be guaranteed.

Weather Trap Louver



Selection

The velocity of the air flow through a louver's effective pressure area must be identified. This establishes if the louver size selected will minimise water penetration (due to weather) and determines a pressure drop due to the air flow.

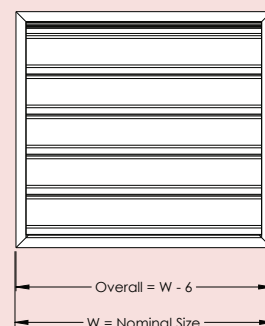
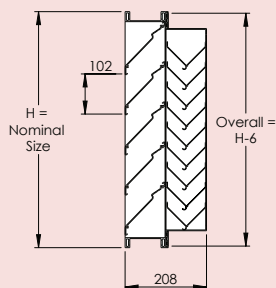
No louver manufacturer “guarantees” that their louvers will prevent water penetration under all possible wind and rain combinations. However, water penetration will be minimised if free area velocities, as shown in the pressure requirement table, are used in conjunction with the table on page 233F and velocities lower than those indicated for given penetration levels, are selected.

Water penetration usually does not need to be considered when selecting exhaust air louvers.

Selection Data – OHL-100WT

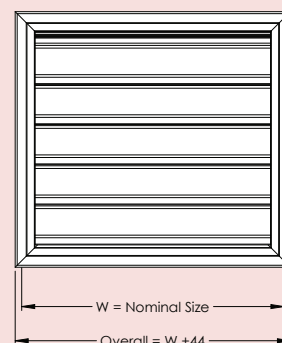
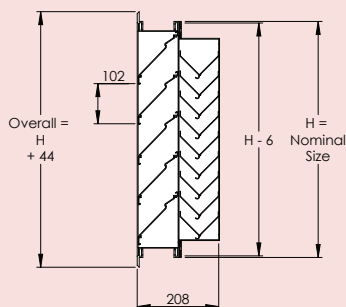
Model: OHL-C-100WT

Two stage horizontal louver in a channel surround. Blade features a double weather stop.



Model: OHL-F-100WT

Two stage horizontal louver in a flanged surround. Blade features a double weather stop.



Models: OHL-F-100WT and OHL-C-100WT

Effective pressure area (sq. metres)

Width "W", mm.	300	450	600	750	900	1050	1250	1500	1750	2000	2250	2500	
Height "H", mm.	0.1												
300	0.01	0.01	0.02	0.03	0.04	0.04	0.04	0.06	0.07	0.07	0.09	0.09	0.2
400	0.02	0.03	0.04	0.05	0.07	0.07	0.09	0.11	0.13	0.15	0.17	0.19	0.3
500	0.03	0.04	0.06	0.08	0.09	0.11	0.13	0.16	0.19	0.22	0.25	0.28	0.5
600	0.04	0.06	0.08	0.10	0.12	0.14	0.18	0.22	0.26	0.29	0.33	0.37	0.75
700	0.04	0.07	0.10	0.13	0.16	0.18	0.23	0.27	0.31	0.37	0.41	0.46	1.0
800	0.05	0.09	0.12	0.15	0.19	0.21	0.27	0.32	0.38	0.44	0.49	0.55	1.5
900	0.07	0.10	0.14	0.18	0.22	0.25	0.31	0.38	0.44	0.50	0.57	0.64	
1000	0.07	0.12	0.16	0.20	0.25	0.28	0.36	0.43	0.50	0.58	0.65	0.73	
1100	0.08	0.13	0.18	0.23	0.28	0.31	0.40	0.48	0.57	0.65	0.73	0.82	
1200	0.09	0.15	0.20	0.26	0.31	0.35	0.45	0.53	0.63	0.72	0.82	0.91	
1300	0.10	0.16	0.22	0.28	0.34	0.39	0.49	0.59	0.69	0.80	0.90	1.00	
1400	0.11	0.18	0.24	0.31	0.37	0.42	0.53	0.64	0.75	0.86	0.98	1.09	
1500	0.12	0.19	0.26	0.34	0.41	0.45	0.58	0.69	0.82	0.93	1.06	1.18	
1600	0.12	0.20	0.28	0.36	0.44	0.49	0.62	0.75	0.88	1.01	1.14	1.27	
1700	0.13	0.22	0.30	0.39	0.47	0.53	0.66	0.80	0.94	1.08	1.22	1.36	
1800	0.15	0.23	0.32	0.41	0.50	0.56	0.71	0.85	1.00	1.15	1.30	1.45	
1900	0.15	0.25	0.34	0.44	0.53	0.59	0.75	0.91	1.07	1.22	1.38	1.54	
2000	0.16	0.26	0.37	0.46	0.56	0.63	0.80	0.96	1.12	1.29	1.46	1.63	

Pressure requirement for outside louvers

Velocity, m/s **	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5
Intake*	2	4	7	11	16	22	29	37	45	55	65	77	89	102
Exhaust*	1	3	5	8	11	15	19	24	30	37	43	51	59	68

*Total Pressure Pa (N/m²) **Velocity corresponding to Effective Pressure Area m³/s = Velocity Times Effective Pressure Area.

Example of selection for outside louvers

Select an outside louver for supplying 0.581 m³/s with a pressure requirement of 11 Pa (N/m²).

- From pressure requirement table a velocity of 2.5 m/s is indicated as acceptable for an intake pressure of 11 Pa (N/m²).
- The effective pressure area corresponding to this velocity and air quantity is

$$\text{Area} = \frac{\text{m}^3/\text{s}}{\text{velocity}} = \frac{0.581}{2.5} = 0.23\text{m}^2$$

- For a model OHL-100WT louver, an effective pressure area of 0.23 m² is approximately satisfied by a 1050 wide x 700mm high; 450mm x 1400mm high, etc.

Guide Product Weights

Model:	Size	Approximate Weight in Kg
OHL-C-100WT	600 x 650 O/A	11.9
OHL-F-100WT	600 x 650 Nominal	12.1