



OUTSIDE LOUVERS

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- Effective weather protection with moderate pressure drop.
- Wide range of blade widths, styles and configurations, to suit architectural and engineering requirements.
- Horizontal, Vertical, Closable, Drainable & Louver Door versions.
- Solid extruded aluminium Channel or Flange construction, or Knock Down versions for site assembly.
- Bird Mesh or Insect Screen options.

LOUVER PERFORMANCE

All Holyoake Louvers have been tested to the performance requirements set out by AS/NZS 4740-2000. Testing was completed by VIPAC Engineers and Scientists Ltd, VIC, Australia. The joint Australian and New Zealand standard outlines the strict performance and testing requirements that ventilator louvers must meet.

Rain Resistance

AS/NZS 4740 specifies simulated rain and wind testing to determine the water penetration rate of ventilator louvers. The louver is doused with rain simulating 75mm/hr with a wind velocity of 13m/s directed at the louver to resemble wind-blown rain. The louvers are also tested at different ventilation rates to determine the effect of siphoning on the weather performance of the louver.

The AS4740 testing standard depicts an extreme case for rain resistance performance. Generally louvers perform better in real world installations.

Holyoake OHL undergoing rain penetration testing at Vipac Engineers and Scientists



Louver Class	Effectiveness	Maximum allowed penetration of simulated rain per square meter face louver [L/hr/m ²]	Application
A	1 – 0.99	0.75	Applications where no appreciable rain penetration through the louver is desired
B	0.989 – 0.95	3.75	Applications where minimal rain penetration though the louver is desired
C	0.949 – 0.80	15	Applications where some rain penetration through the louver is acceptable
D	Below 0.8	>15	Applications where rain penetration through the louver is not considered important

LOUVER PERFORMANCE

Louver rain penetration is strongly linked with the ventilation rate and therefore the pressure area velocity. Generally the higher the pressure area velocity, the greater the water penetration. Selecting the right louver based on ventilation rate and allowable water intake is critical. Holyoake Industries suggests limiting the pressure area velocity to below 3.5 m/s to increase the weather effectiveness and decrease the pressure drop across the Holyoake louver range.

The following table gives the indicative weather class for Holyoake Louvers at given effective pressure area velocities.

Weather Class with pressure area velocity (metres per second)

Louvre	0	0.5	1	1.5	2	2.5	3	3.5	4	4.5	5	5.5	6	6.5	7	7.5
OHL - F - 100WT	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
OHL - F - DRC (open)	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	C
OHL - F - 34	B	B	B	B	B	B	B	B	B	B	B	B	C	C	C	C
OHL - F - 124	B	B	C	C	C	C	C	C	C	C	C	C	C	C	C	C
OHL - F - D	B	B	C	C	C	C	C	C	C	C	C	C	C	C	C	C
OHL - F - KD100	B	B	C	C	C	C	C	C	C	C	C	C	C	C	C	D
OVL - F - 99	B	B	C	C	C	C	C	C	C	C	C	D	D	D	D	D
OHL - F - 45	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
OHL - F - 102	C	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D
OHL - F - KD75	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D

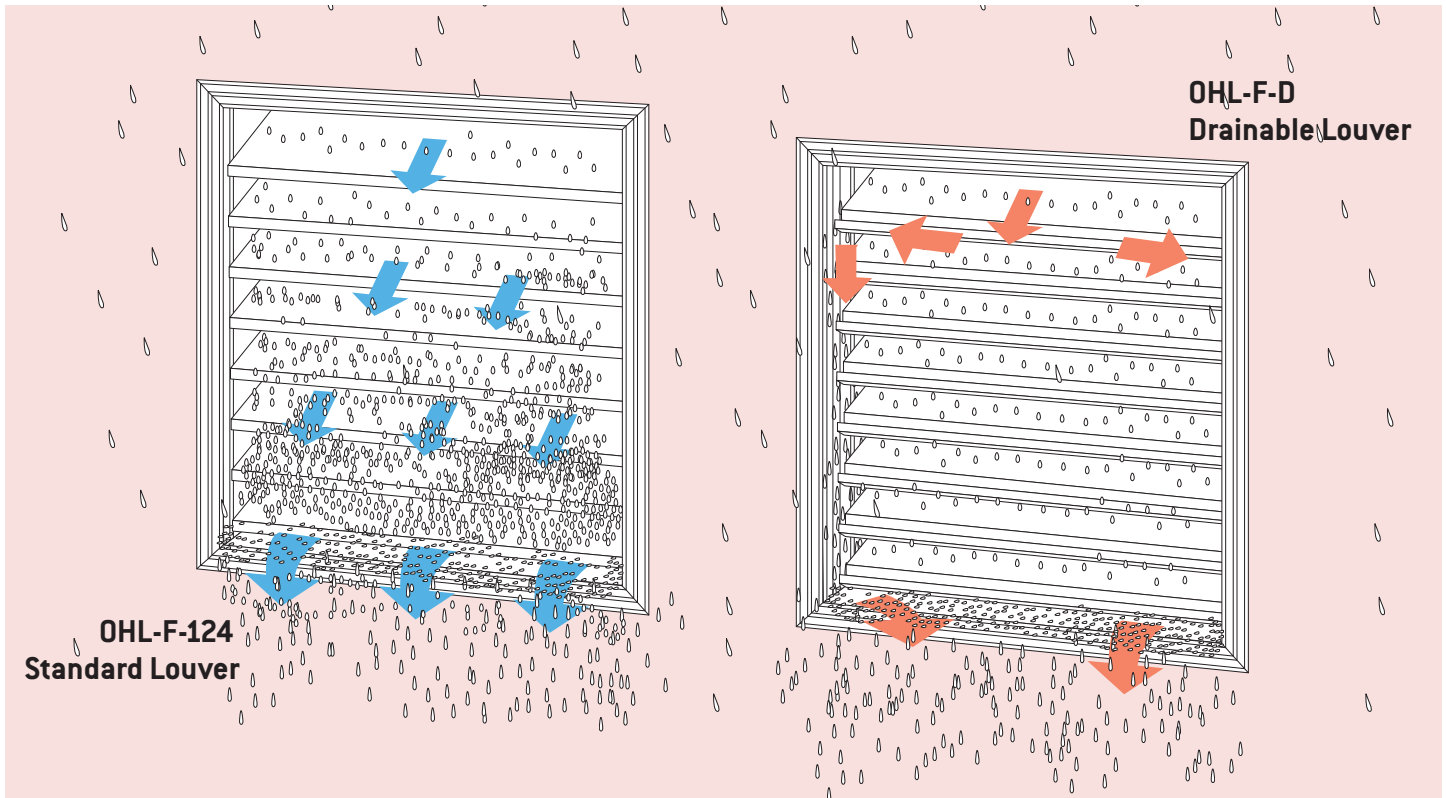
Outside Louvers

Wind loading

Performance Level	Wind Load	
	m/s	km/hr
1	57	205.2
2	44	158.4
3	31	111.6
4	16	57.6

All Holyoake weather louvers have passed to level one wind loading 57m/s (205.2 km/h), which is the highest available class. At the end of testing the louver and fixing system is inspected for sustained deflection or damage and all of the Holyoake louvers met the criteria set out by AS4740.

OHL-D – Drainable Louver



Holyoake Industries Model OHL-D offers an alternative concept in horizontal outside louvers. The drainable blade louver offers excellent water penetration performance.

The OHL-D louver achieves this by draining the water from each blade and discharging it at the bottom of the louver through vertical down pipes found at either side of the louver. Because of the gutter on each blade the water does not cascade down the face of the louver. This means that each blade only deals with the water that lands directly on it. In a typical horizontal louver, where the water does cascade down the face, the water builds to a level where the pressure differential and the velocity of the air over the louver is enough to carry over the water to the inside of the louver.

By avoiding this cascade effect the drainable horizontal louver offers excellent water penetration performance. The main benefit of this is that there is less water penetration at a given performance level. This means that there is the option of selecting an OHL-D louver at a higher effective velocity without compromising the water penetration performance. If a selection is made at a higher velocity the louver can then be smaller than a typical horizontal louver giving a direct saving on the louver size but also providing a smaller penetration for the building. If water penetration performance is of paramount concern the OHL-D offers the most effective way to achieve this.

Selecting a Louver

Air flow velocity through the louver's effective pressure area must be identified. This effective pressure area velocity determines if the louver size selected will minimise water penetration (due to weather) and establishes a pressure drop due to the air flow. No louver manufacturer "guarantees" that louvers will prevent water penetration under all possible combinations of wind and rain. However, water penetration will be minimised if free area velocities, as obtained in the tables from this section, 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.

Note

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

Model: OHL-F-D

Drainable blade horizontal louver in a flanged surround.

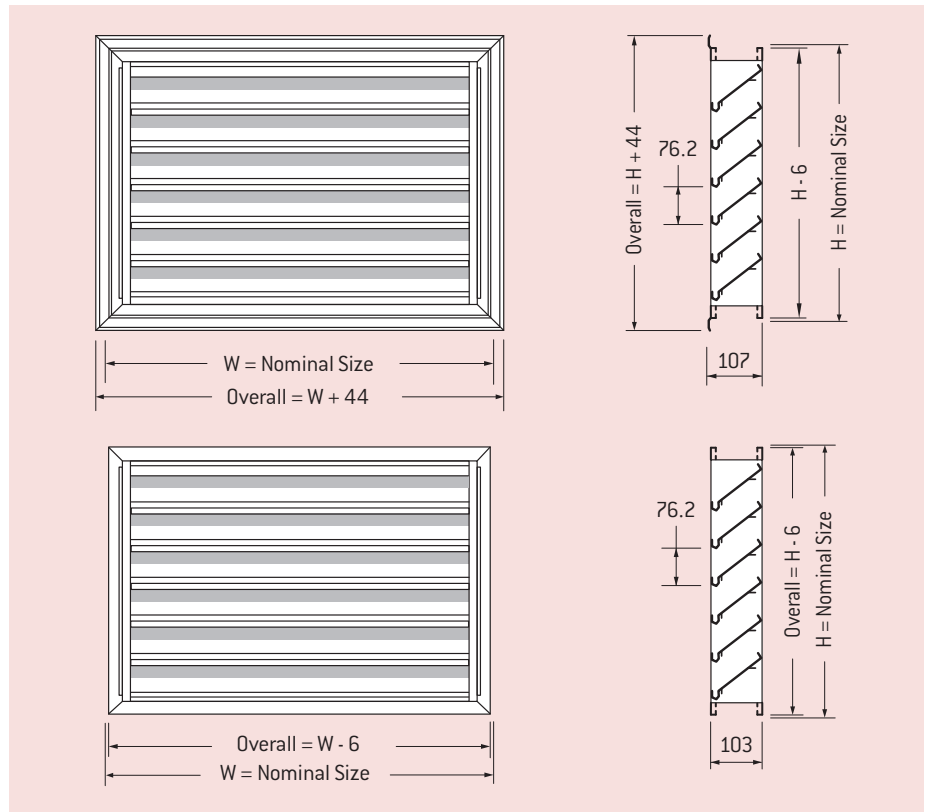
Guide Product Weights		
Approximate Weight in Kg.		
Size	OHL-F-D	OHL-C-D
300 x 300	2	2
500 x 500	5	5
900 x 900	12	12
1200 x 1200	19	19
1500 x 1800	33	33
2500 x 2000	56	56

Model: OHL-C-D

Drainable blade horizontal louver in a channel surround.

Note

On sections greater than 900mm wide a 40 x 40 mullion will be used to support the blades. This increases the depth of the louver by 40mm.



Model: OHL-F-D and OHL-C-D

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	0.02	0.03	0.04	0.06	0.07	0.08	0.10	0.12	0.14	0.16	0.18	0.20	0.2
400	0.03	0.05	0.08	0.10	0.12	0.13	0.17	0.20	0.24	0.28	0.31	0.35	0.5
500	0.05	0.08	0.11	0.14	0.17	0.19	0.24	0.29	0.34	0.39	0.44	0.49	0.5
600	0.06	0.10	0.14	0.18	0.22	0.24	0.31	0.37	0.44	0.51	0.57	0.64	1
700	0.07	0.12	0.17	0.22	0.27	0.30	0.38	0.46	0.54	0.62	0.70	0.78	1
800	0.09	0.15	0.20	0.26	0.32	0.35	0.45	0.54	0.64	0.73	0.83	0.92	1
900	0.10	0.17	0.23	0.30	0.37	0.41	0.52	0.63	0.74	0.85	0.96	1.07	1.5
1000	0.12	0.19	0.27	0.34	0.42	0.47	0.59	0.71	0.84	0.96	1.09	1.21	1.5
1100	0.13	0.21	0.30	0.38	0.46	0.52	0.66	0.80	0.94	1.08	1.22	1.36	2
1200	0.14	0.24	0.33	0.42	0.51	0.58	0.73	0.88	1.04	1.19	1.35	1.50	2
1300	0.16	0.26	0.36	0.46	0.56	0.63	0.80	0.97	1.14	1.31	1.48	1.65	2
1400	0.17	0.28	0.39	0.50	0.61	0.69	0.87	1.06	1.24	1.42	1.61	1.79	2
1500	0.19	0.30	0.42	0.54	0.66	0.74	0.94	1.14	1.34	1.54	1.74	1.94	2
1600	0.20	0.33	0.46	0.58	0.71	0.80	1.01	1.23	1.44	1.65	1.87	2.08	2
1700	0.21	0.35	0.49	0.62	0.76	0.85	1.08	1.31	1.54	1.77	2.00	2.22	2
1800	0.23	0.37	0.52	0.67	0.81	0.91	1.15	1.40	1.64	1.88	2.13	2.37	2
1900	0.24	0.40	0.55	0.71	0.86	0.96	1.22	1.48	1.74	2.00	2.26	2.51	2
2000	0.25	0.42	0.58	0.75	0.91	1.02	1.29	1.57	1.84	2.11	2.39	2.66	2

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 exhausting 0.581 m³/s with a pressure requirement of 11 Pa [N/m²].

1. From pressure requirement table a velocity of 3.0 m/s is indicated as acceptable for an exhaust pressure of 11 Pa [N/m²].

2. The effective pressure area corresponding to this velocity and air quantity is

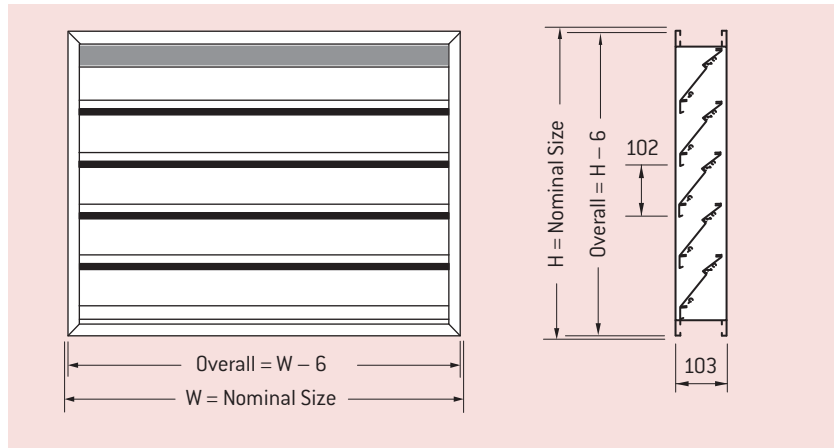
$$\text{Area} = \frac{\text{m}^3/\text{s}}{\text{velocity}} = \frac{0.581}{3} = 0.19\text{m}^2$$

3. For a Model OHL-F-D or OHL-C-D louver an effective pressure area of 0.19 m² is approximately satisfied by a 1050 mm wide x 500 mm high; 450 mm wide x 1000 mm high, etc.

OHL – Outside Horizontal Louvers

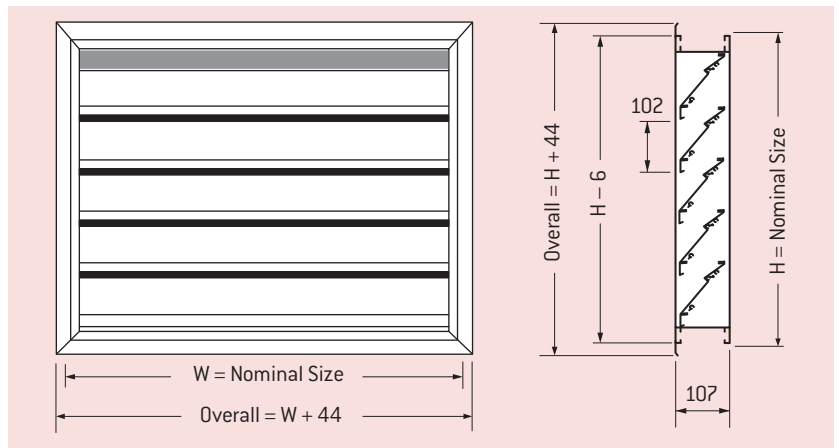
Model: OHL-C-102

102mm horizontal curved profile louvers in a channel surround. Blade features double weather stop.



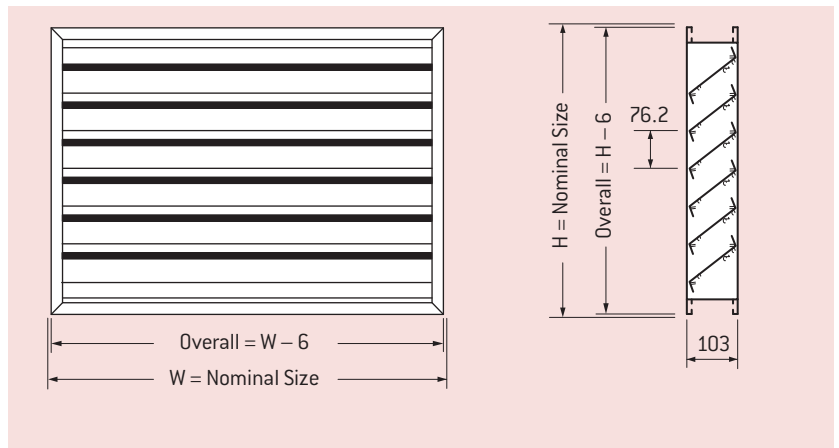
Model: OHL-F-102

102mm horizontal curved profile louvers in a flanged surround. Blade features double weather stop.



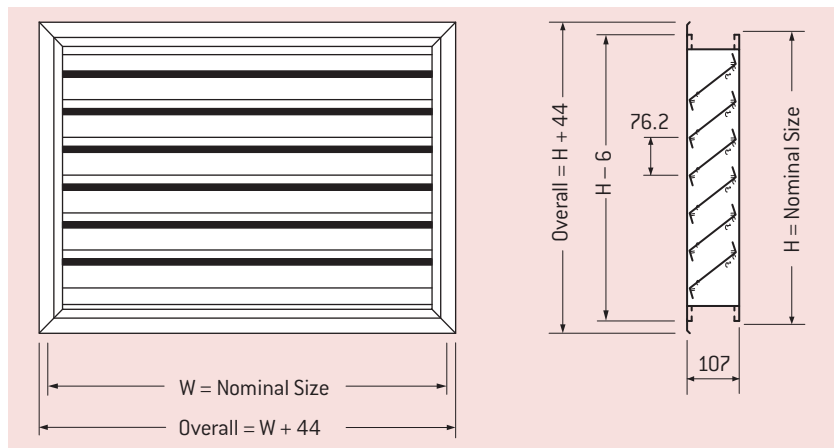
Model: OHL-C-124

76mm horizontal straight profile louvers in a channel surround. (For continuous appearance with concealed mullion specify OHL-C-124-A)



Model: OHL-F-124

76mm horizontal straight profile louvers in a flanged surround. (For continuous appearance with concealed mullion specify OHL-F-124-A)



Model: OHL 102 and OHL 124 are available in conventional unit construction, with a maximum blade length of 2.8 metres, or for greater lengths an architectural style is available to give continuous line, uninterrupted by mullions or surrounds. Louvers can be either pre-fabricated or pre-cut and supplied in sections for field erection on sites with more difficult access. Blades snap into concealed mullion clips.

Notes

1. On sections greater than 900mm wide a 40 x 40 mullion will be used to support the blades. This increases the depth of the louver by 40mm.

2. Installation of outside louvers in exterior walls must comply with the New Zealand or Australian Building Code.
3. Some outside louvers are available in other flange widths.

Models: **OHL-C-102 and OHL-F-102**
OHCL-C-102 and OHCL-F-102

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	0.02	0.03	0.04	0.05	0.05	0.06	0.08	0.09	0.10	0.12	0.13	0.2
400	0.03	0.04	0.06	0.07	0.09	0.10	0.12	0.15	0.18	0.20	0.23	0.26	0.3
500	0.04	0.06	0.08	0.11	0.13	0.15	0.18	0.22	0.26	0.30	0.34	0.38	0.5
600	0.05	0.08	0.11	0.14	0.17	0.19	0.25	0.30	0.35	0.40	0.45	0.50	0.75
700	0.06	0.10	0.14	0.18	0.22	0.24	0.31	0.37	0.43	0.50	0.56	0.63	1.0
800	0.07	0.12	0.17	0.21	0.26	0.29	0.37	0.44	0.52	0.60	0.67	0.75	1.5
900	0.09	0.14	0.19	0.25	0.30	0.34	0.43	0.52	0.60	0.69	0.78	0.87	2.0
1000	0.10	0.16	0.22	0.28	0.34	0.38	0.49	0.59	0.69	0.79	0.89	1.00	
1100	0.11	0.18	0.25	0.32	0.39	0.43	0.55	0.66	0.78	0.89	1.00	1.12	
1200	0.12	0.20	0.28	0.35	0.43	0.48	0.61	0.73	0.86	0.99	1.12	1.24	
1300	0.14	0.22	0.30	0.39	0.47	0.53	0.67	0.81	0.95	1.09	1.23	1.37	
1400	0.15	0.24	0.33	0.42	0.51	0.57	0.73	0.88	1.03	1.18	1.34	1.49	
1500	0.16	0.26	0.36	0.46	0.56	0.62	0.79	0.95	1.12	1.28	1.45	1.61	
1600	0.17	0.28	0.39	0.49	0.60	0.67	0.85	1.03	1.20	1.38	1.56	1.74	
1700	0.18	0.30	0.41	0.53	0.64	0.72	0.91	1.10	1.29	1.48	1.67	1.86	
1800	0.20	0.32	0.44	0.56	0.68	0.77	0.97	1.17	1.37	1.58	1.78	1.98	
1900	0.21	0.34	0.47	0.60	0.73	0.81	1.03	1.24	1.46	1.67	1.89	2.11	
2000	0.22	0.36	0.50	0.63	0.77	0.86	1.09	1.32	1.54	1.77	2.00	2.23	

Outside Louvers

Models: **OHL-C-124 and OHL-F-124**

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	0.02	0.03	0.05	0.06	0.07	0.08	0.11	0.13	0.15	0.17	0.19	0.22	0.2
400	0.04	0.06	0.08	0.10	0.12	0.14	0.18	0.21	0.25	0.29	0.32	0.36	
500	0.05	0.08	0.11	0.14	0.17	0.19	0.25	0.30	0.35	0.40	0.45	0.50	0.5
600	0.06	0.10	0.14	0.18	0.22	0.25	0.32	0.38	0.45	0.51	0.58	0.65	1.0
700	0.08	0.13	0.18	0.22	0.27	0.30	0.39	0.47	0.55	0.63	0.71	0.79	1.5
800	0.09	0.15	0.21	0.26	0.32	0.36	0.46	0.55	0.65	0.74	0.84	0.93	2.0
900	0.11	0.17	0.24	0.31	0.37	0.42	0.53	0.64	0.75	0.86	0.97	1.08	
1000	0.12	0.20	0.27	0.35	0.42	0.47	0.60	0.72	0.85	0.97	1.10	1.22	
1100	0.14	0.22	0.30	0.39	0.47	0.53	0.67	0.81	0.95	1.09	1.23	1.36	
1200	0.15	0.24	0.34	0.43	0.52	0.58	0.74	0.89	1.05	1.20	1.35	1.51	
1300	0.16	0.27	0.37	0.47	0.57	0.64	0.81	0.98	1.14	1.31	1.48	1.65	
1400	0.18	0.29	0.40	0.51	0.62	0.69	0.88	1.06	1.24	1.43	1.61	1.80	
1500	0.19	0.31	0.43	0.55	0.67	0.75	0.95	1.15	1.34	1.54	1.74	1.94	
1600	0.21	0.34	0.46	0.59	0.72	0.80	1.02	1.23	1.44	1.66	1.87	2.08	
1700	0.22	0.36	0.49	0.63	0.77	0.86	1.09	1.32	1.54	1.77	2.00	2.23	
1800	0.24	0.38	0.53	0.67	0.82	0.91	1.16	1.40	1.64	1.89	2.13	2.37	
1900	0.25	0.40	0.56	0.71	0.87	0.97	1.23	1.48	1.74	2.00	2.26	2.51	
2000	0.26	0.43	0.59	0.75	0.92	1.03	1.30	1.57	1.84	2.11	2.39	2.66	

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 exhausting 0.581 m³/s with a pressure requirement of 11 Pa (N/m²).

1. From pressure requirement table a velocity of 3.0 m/s is indicated as acceptable for an exhaust pressure of 11 Pa (N/m²).

2. The effective pressure area corresponding to this velocity and air quantity is

$$\text{Area} = \frac{\text{m}^3/\text{s}}{\text{velocity}} = \frac{0.581}{3} = 0.19\text{m}^2$$

3. For a model OHL-C-124 louver an effective pressure area of 0.19 m² is approximately satisfied by a 1050 mm wide x 500 mm high; 450 mm wide x 1000 mm high, etc.

OHL-KD – Knock Down Louver

Model: OHL-KD

Description

The Holyoake OHL-KD (Knock Down) is an attractive high performance louver available in two styles, both featuring on site assembly at the point of installation.

The system is ideally suited for larger louvers and difficult on site installation. The on site assembly system of the OHL-KD eliminates expensive transport and lifting machinery that would otherwise be involved with a pre-assembled louver installation.

The framing system enables the OHL-KD to be installed in metal clad buildings with ease. The louver penetration surround should be formed and flashed by the cladding contractor before the OHL-KD louver system is assembled in situ. Similarly the framing system is ideal for masonry and other wall systems.

Based on proven Holyoake louver technology the louver blade features two water stops on its front face. The blades overlap one another blocking line of sight through the louver and minimising water carryover. The system may be assembled as a continuous louver showing no visible vertical mullion support bars.*

***Note: Blade spacing may be adjusted to suit specific project requirements. Other blade size and type configurations may be available. Contact your local Holyoake branch.**

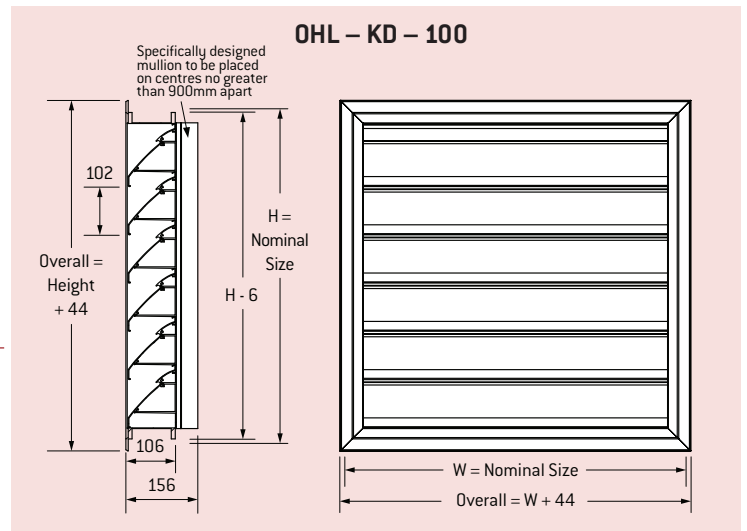
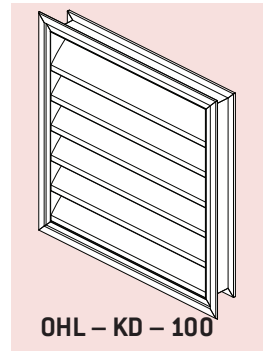
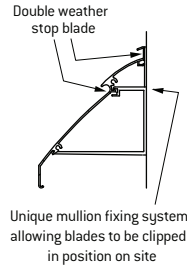
Construction

The OHL-KD is constructed entirely of 6063 T5 extruded aluminium mechanically locked together ensuring a solid resilient structure. All parts may be powder coated at the Holyoake factory before being transported to site.

- Blade spacing 102 mm.
- Bird or insect screen may also be added as an option.

Installation

The specifically designed aluminium extrusions have been developed to provide very simple on site fabrication.



Notes on Selecting Weather Louvers

Air velocity through the free area of a louver must be identified. Only this velocity will determine the extent to which water penetration due to weather, will occur. It also establishes pressure drop. The chart indicates typical water penetration for louvers in this section. No manufacturer guarantees that an outside louver will prevent water penetration under all conditions of wind and rain and we are no different in this regard. However, water penetration will be minimised if free area velocities, as obtained from the tables in this section, are used in conjunction with this chart and velocities lower than those indicated for given penetration levels are selected.

Performance Notes

1. When velocities through louvers cannot be controlled, water penetration performance cannot be guaranteed.
2. Chart based on Standard Air Density of 1.2Kg / m³.

Performance Note

The OHL-KD may be used in both intake and exhaust situations. Due to the high effective pressure area the pressure drop through the louver is relatively low, while the double water stop and overlapping blade design minimise water penetration.

Guide Product Weights	
Size	Approximate Weight in Kg
	OHL-KD 100
300 x 300	3
500 x 500	6
900 x 900	16
1200 x 1200	27
1500 x 1800	46
2500 x 2000	81

Model: OHL-KD 100

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	0.02	0.03	0.04	0.05	0.05	0.06	0.08	0.09	0.10	0.12	0.13	0.2
400	0.03	0.04	0.06	0.07	0.09	0.10	0.12	0.15	0.18	0.20	0.23	0.26	0.3
500	0.04	0.06	0.08	0.11	0.13	0.15	0.18	0.22	0.26	0.30	0.34	0.38	0.5
600	0.05	0.08	0.11	0.14	0.17	0.19	0.25	0.30	0.35	0.40	0.45	0.50	0.75
700	0.06	0.10	0.14	0.18	0.22	0.24	0.31	0.37	0.43	0.50	0.56	0.63	1.0
800	0.07	0.12	0.17	0.21	0.26	0.29	0.37	0.44	0.52	0.60	0.67	0.75	1.5
900	0.09	0.14	0.19	0.25	0.30	0.34	0.43	0.52	0.60	0.69	0.78	0.87	
1000	0.10	0.16	0.22	0.28	0.34	0.38	0.49	0.59	0.69	0.79	0.89	1.00	
1100	0.11	0.18	0.25	0.32	0.39	0.43	0.55	0.66	0.78	0.89	1.00	1.12	
1200	0.12	0.20	0.28	0.35	0.43	0.48	0.61	0.73	0.86	0.99	1.12	1.24	
1300	0.14	0.22	0.30	0.39	0.47	0.53	0.67	0.81	0.95	1.09	1.23	1.37	
1400	0.15	0.24	0.33	0.42	0.51	0.57	0.73	0.88	1.03	1.18	1.34	1.49	
1500	0.16	0.26	0.36	0.46	0.56	0.62	0.79	0.95	1.12	1.28	1.45	1.61	
1600	0.17	0.28	0.39	0.49	0.60	0.67	0.85	1.03	1.20	1.38	1.56	1.74	
1700	0.18	0.30	0.41	0.53	0.64	0.72	0.91	1.10	1.29	1.48	1.67	1.86	
1800	0.20	0.32	0.44	0.56	0.68	0.77	0.97	1.17	1.37	1.58	1.78	1.98	
1900	0.21	0.34	0.47	0.60	0.73	0.81	1.03	1.24	1.46	1.67	1.89	2.11	
2000	0.22	0.36	0.50	0.63	0.77	0.86	1.09	1.32	1.54	1.77	2.00	2.23	

Outside Louvers

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 exhausting 0.581 m³/s with a pressure requirement of 11 Pa [N/m²].

- From pressure requirement table a velocity of 3.0 m/s is indicated as acceptable for an exhaust pressure of 11 Pa [N/m²].
- The effective pressure area corresponding to this velocity and air quantity is

$$\text{Area} = \frac{\text{m}^3/\text{s}}{\text{velocity}} = \frac{0.581}{3} = 0.19\text{m}^2$$

- For a model OHL-KD 100 louver, an effective pressure area of 0.19 m² is satisfied by a 1050 wide x 600 high; 600mm x 900mm high, etc.

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.

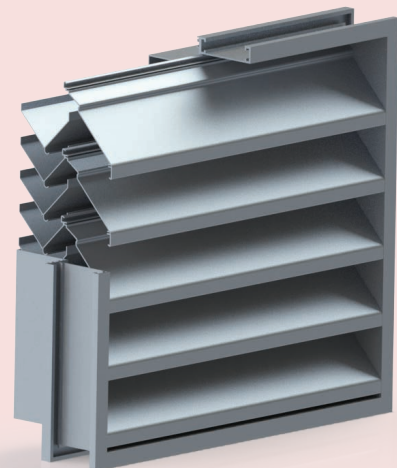
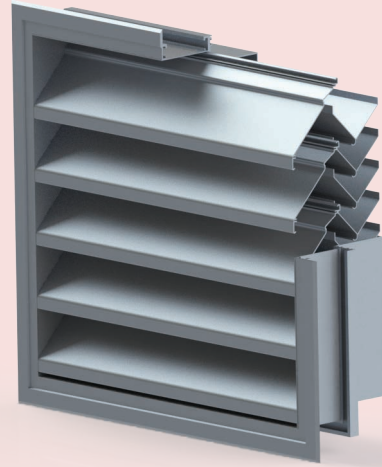
Options

- 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.

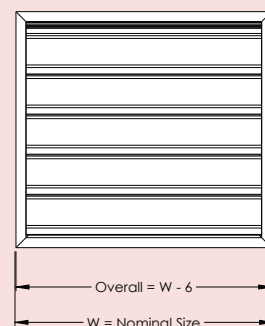
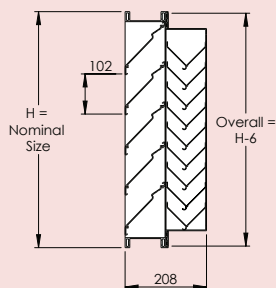
No louver manufacturer “guarantees” that their louvers will prevent water penetration under all possible wind and rain combinations. However, water penetration will be minimised if free area velocities, as shown in the pressure requirement table, are used in conjunction with the table on page 233F and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

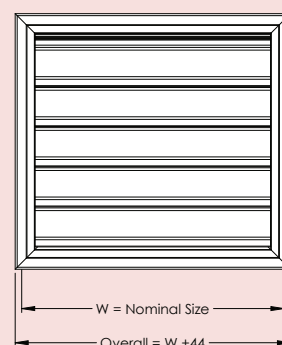
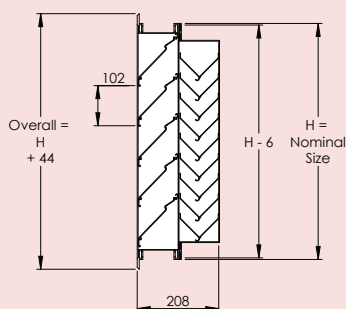
Model: OHL-C-100WT

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.

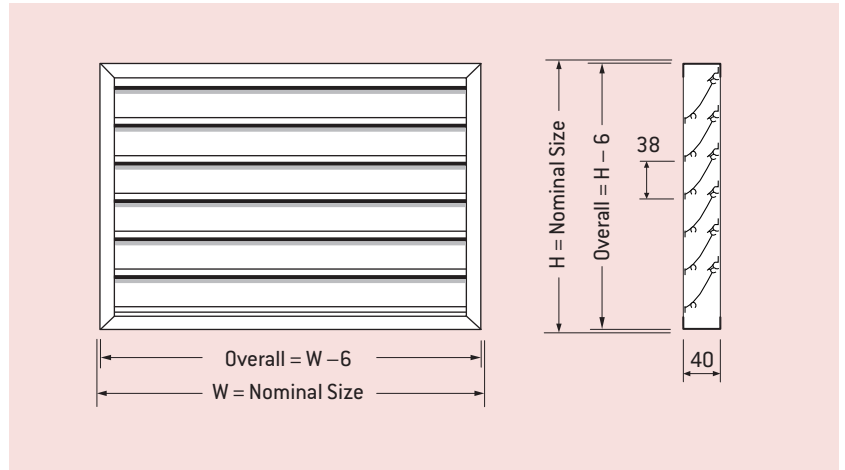
Guide Product Weights

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

OHL – Outside Horizontal Louvers

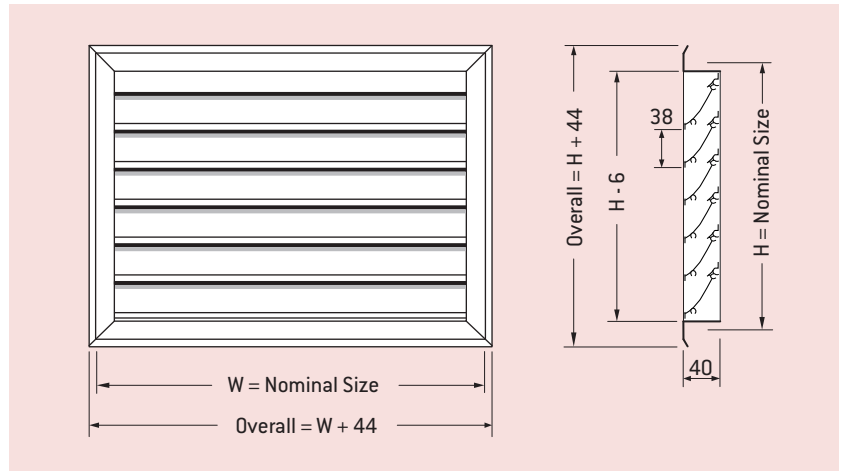
Model: OHL-C-34

34mm horizontal curved profile louvers in a channel surround.



Model: OHL-F-34

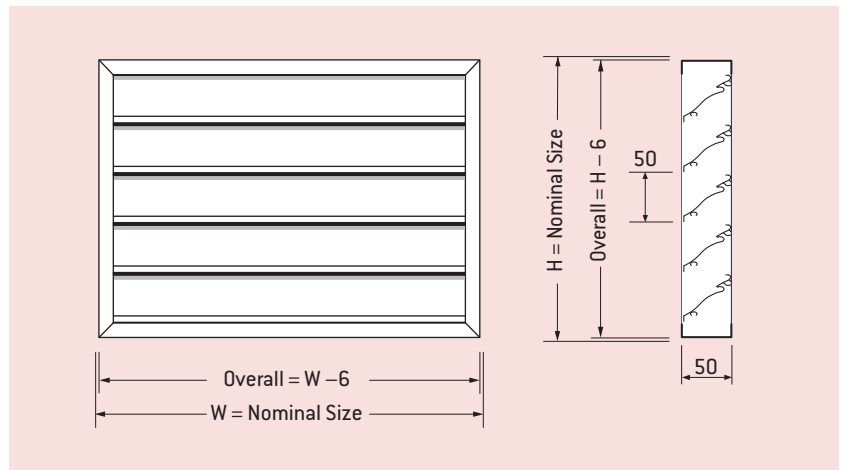
34mm horizontal curved profile louvers in a flanged surround.



Guide Product Weights				
Approximate Weight in Kg.				
Size	OHL-C-34	OHL-F-34	OHL-C-45	OHL-F-45
300 x 300	2	2	1	1
500 x 500	4	4	3	3
900 x 900	12	12	9	9
1200 x 1200	20	20	15	15
1500 x 1800	35	35	26	26

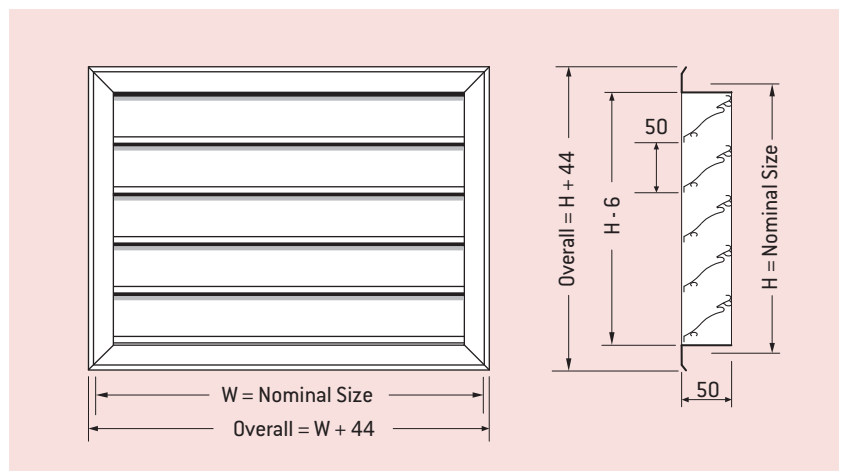
Model: OHL-C-45

45mm horizontal curved profile louvers in a channel surround.



Model: OHL-F-45

45mm horizontal curved profile louvers in a flanged surround.



Notes

- Both OHL-F-34 and OHL-F-45 models are available with the removable core system.
- A 50mm Flange option is available on OHL-F-45.

Models: OHL-C-34 and OHL-F-34

		Effective pressure area (sq. metres)												
Width "W", mm.		300	350	400	450	500	600	750	900	1050	1200	1350	1500	
Height "H", mm.					0.03				0.07			0.10		
300		0.02	0.03	0.03	0.03	0.04	0.04	0.06	0.07	0.08	0.09	0.10	0.11	0.12
400		0.03	0.04	0.04	0.05	0.05	0.06	0.08	0.09	0.11	0.13	0.14	0.16	0.15
500		0.04	0.05	0.05	0.06	0.07	0.08	0.10	0.12	0.14	0.16	0.18	0.21	0.2
600		0.05	0.06	0.07	0.07	0.08	0.10	0.13	0.15	0.18	0.20	0.23	0.25	
700		0.06	0.07	0.08	0.09	0.10	0.12	0.15	0.18	0.21	0.24	0.27	0.30	0.3
800		0.07	0.08	0.09	0.10	0.11	0.14	0.17	0.21	0.24	0.28	0.31	0.35	
900		0.08	0.09	0.10	0.12	0.13	0.16	0.20	0.24	0.27	0.31	0.35	0.39	0.4
1000		0.09	0.10	0.12	0.13	0.14	0.17	0.22	0.26	0.31	0.35	0.40	0.44	
1100		0.09	0.11	0.13	0.14	0.16	0.19	0.24	0.29	0.34	0.39	0.44	0.49	0.5
1200		0.10	0.12	0.14	0.16	0.18	0.21	0.27	0.32	0.37	0.43	0.48	0.53	
1300		0.11	0.13	0.15	0.17	0.19	0.23	0.29	0.35	0.41	0.46	0.52	0.58	
1400		0.12	0.14	0.16	0.19	0.21	0.25	0.31	0.38	0.44	0.50	0.57	0.63	
1500		0.13	0.15	0.18	0.20	0.22	0.27	0.34	0.40	0.47	0.54	0.61	0.68	
1600		0.14	0.16	0.19	0.21	0.24	0.29	0.36	0.43	0.50	0.58	0.65	0.72	
1700		0.15	0.18	0.20	0.23	0.25	0.30	0.38	0.46	0.54	0.62	0.69	0.77	
1800		0.16	0.19	0.21	0.24	0.27	0.32	0.41	0.49	0.57	0.65	0.73	0.82	

Outside Louvers

Models: OHL-C-45 and OHL-F-45

		Effective pressure area (sq. metres)												
Width "W", mm.		300	350	400	450	500	600	750	900	1050	1200	1350	1500	
Height "H", mm.										0.1				
300		0.03	0.04	0.04	0.05	0.06	0.07	0.09	0.10	0.12	0.14	0.15	0.17	0.2
400		0.05	0.06	0.06	0.07	0.08	0.10	0.12	0.15	0.17	0.20	0.22	0.25	0.3
500		0.06	0.07	0.08	0.09	0.11	0.13	0.16	0.19	0.22	0.26	0.29	0.32	
600		0.08	0.09	0.10	0.12	0.13	0.16	0.20	0.24	0.28	0.32	0.36	0.40	0.4
700		0.09	0.11	0.12	0.14	0.15	0.19	0.23	0.28	0.33	0.38	0.42	0.47	0.5
800		0.11	0.12	0.14	0.16	0.18	0.22	0.27	0.32	0.38	0.43	0.49	0.54	
900		0.12	0.14	0.16	0.18	0.20	0.24	0.31	0.37	0.43	0.49	0.56	0.62	
1000		0.13	0.16	0.18	0.20	0.23	0.27	0.34	0.41	0.48	0.55	0.62	0.69	0.75
1100		0.15	0.17	0.20	0.23	0.25	0.30	0.38	0.46	0.54	0.61	0.69	0.77	
1200		0.16	0.19	0.22	0.25	0.28	0.33	0.42	0.50	0.59	0.67	0.76	0.84	
1300		0.18	0.21	0.24	0.27	0.30	0.36	0.45	0.55	0.64	0.73	0.82	0.92	1.0
1400		0.19	0.23	0.26	0.29	0.33	0.39	0.49	0.59	0.69	0.79	0.89	0.99	
1500		0.21	0.24	0.28	0.31	0.35	0.42	0.53	0.64	0.74	0.85	0.96	1.07	
1600		0.22	0.26	0.30	0.34	0.37	0.45	0.57	0.68	0.80	0.91	1.03	1.14	
1700		0.24	0.28	0.32	0.36	0.40	0.48	0.60	0.72	0.85	0.97	1.09	1.21	
1800		0.25	0.29	0.34	0.38	0.42	0.51	0.64	0.77	0.90	1.03	1.16	1.29	

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 exhausting 0.581 m³/s with a pressure requirement of 11 Pa (N/m²).

- From pressure requirement table a velocity of 3.0 m/s is indicated as acceptable for an exhaust pressure of 11 Pa (N/m²).
- The effective pressure area corresponding to this velocity and air quantity is

$$\text{Area} = \frac{\text{m}^3/\text{s}}{\text{velocity}} = \frac{0.581}{3} = 0.19\text{m}^2$$

- For a model OHL-45 louver an effective pressure area of 0.19 m² is approximately satisfied by a 400mm wide x 1100mm high; 750mm x 600mm high, etc.

OVL – Outside Vertical Louvers

Model: OVL-C-99

Outside louver with double weather stop vertical blades mounted in a channel surround.

Model: OVL-F-99

Outside louver with double weather stop and vertical blades with supplementary frame to provide perimeter flange for weather sealing against outer face of wall.

Guide Product Weights

Approximate Weight in Kg.

Size	OVL-C-99	OVL-F-99	OVL-C-148	OVL-F-148
300 x 300	3	3	7	7
500 x 500	6	6	17	17
900 x 900	15	15	51	51
1200 x 1200	25	25	88	88
1500 x 1500	37	37	135	135
1800 x 1800	51	51	191	191

Model: OVL-C-148

Heavy construction, 6 bend 'eliminator' type vertical louver with 6 drainage channels.

All aluminium construction with supplementary frame component to provide for channel mounting.

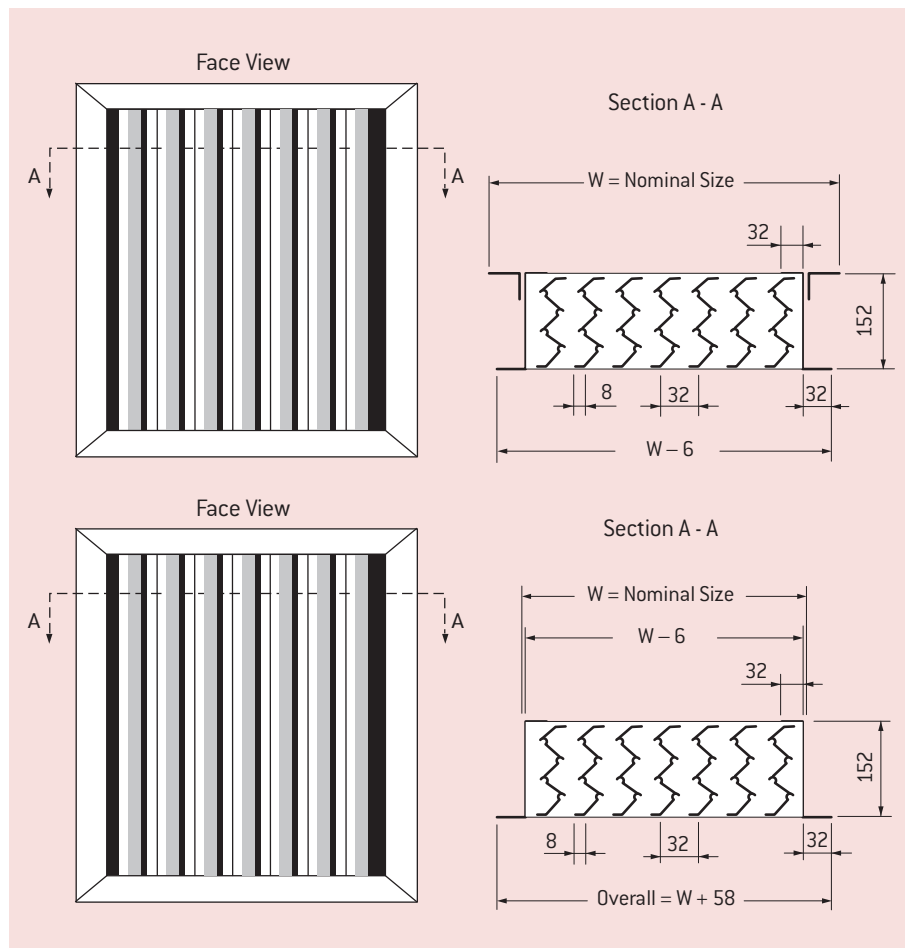
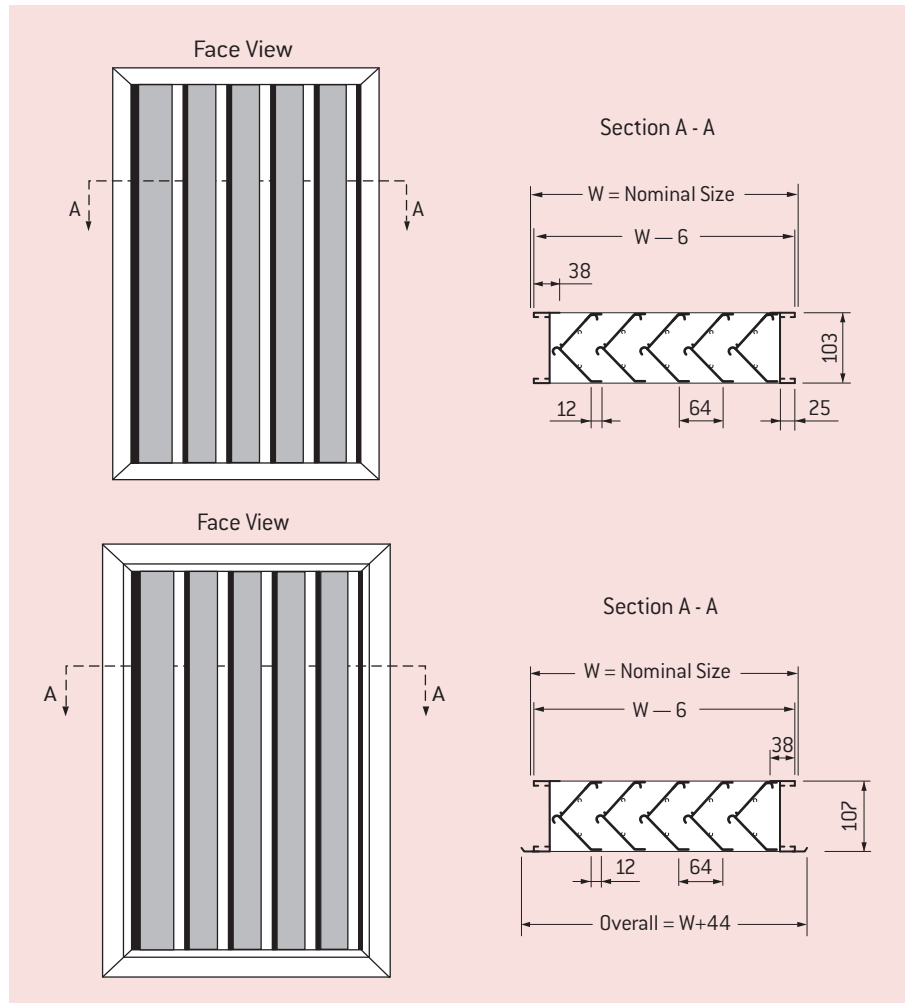
Model: OVL-F-148

Heavy construction, 6 bend 'eliminator' type vertical louver with 6 drainage channels.

All aluminium construction flanged frame. Louver suitable for exposed locations.

Notes

1. Maximum single section height for any OVL louver without intermediate drain tray is 1800 mm.
2. OVL louvers are suitable for exposed locations.
3. OVL 99 heights above 900 mm incorporate concealed intermediate blade stabilizing spacer clips.



Models: OVL-C-99 and OVL-F-99

Effective pressure area (sq. metres)

Width "W", mm.	275	339	403	467	531	595	659	723	787	851	915	979	1043	1107	
Height "H", mm.															0.05
300	0.02	0.03	0.03	0.04	0.05	0.05	0.06	0.06	0.07	0.07	0.08	0.08	0.09	0.10	0.1
400	0.03	0.04	0.05	0.05	0.06	0.07	0.08	0.08	0.09	0.10	0.10	0.11	0.12	0.13	
500	0.04	0.05	0.06	0.07	0.08	0.09	0.09	0.10	0.11	0.12	0.13	0.14	0.15	0.16	
600	0.05	0.06	0.07	0.08	0.09	0.10	0.11	0.12	0.14	0.15	0.16	0.17	0.18	0.19	0.2
700	0.06	0.07	0.08	0.09	0.11	0.12	0.13	0.14	0.16	0.17	0.18	0.20	0.21	0.22	
800	0.06	0.08	0.09	0.11	0.12	0.14	0.15	0.17	0.18	0.19	0.21	0.22	0.24	0.25	0.3
900	0.07	0.09	0.10	0.12	0.14	0.15	0.17	0.19	0.20	0.22	0.24	0.25	0.27	0.29	
1000	0.08	0.10	0.12	0.13	0.15	0.17	0.19	0.21	0.23	0.24	0.26	0.28	0.30	0.32	0.4
1100	0.09	0.11	0.13	0.15	0.17	0.19	0.21	0.23	0.25	0.27	0.29	0.31	0.33	0.35	
1200	0.09	0.12	0.14	0.16	0.18	0.20	0.23	0.25	0.27	0.29	0.31	0.34	0.36	0.38	0.5
1300	0.10	0.13	0.15	0.17	0.20	0.22	0.25	0.27	0.29	0.32	0.34	0.36	0.39	0.41	
1400	0.11	0.14	0.16	0.19	0.21	0.24	0.26	0.29	0.32	0.34	0.37	0.39	0.42	0.44	
1500	0.12	0.15	0.17	0.20	0.23	0.26	0.28	0.31	0.34	0.37	0.39	0.42	0.45	0.48	0.1
1600	0.13	0.16	0.18	0.21	0.24	0.27	0.30	0.33	0.36	0.39	0.42	0.45	0.48	0.51	
1700	0.13	0.16	0.20	0.23	0.26	0.29	0.32	0.35	0.38	0.41	0.45	0.48	0.51	0.54	0.2
1800	0.14	0.17	0.21	0.24	0.27	0.31	0.34	0.37	0.41	0.44	0.47	0.50	0.54	0.57	

Outside Louvers

Models: OVL-C-148 and OVL-F-148

Effective pressure area (sq. metres)

Width "W", mm.	298	362	426	490	554	618	682	746	810	874	938	1002	1066	1130	
Height "H", mm.															0.05
300	0.03	0.04	0.04	0.05	0.06	0.06	0.07	0.07	0.08	0.08	0.08	0.08	0.09	0.11	0.1
400	0.05	0.05	0.06	0.06	0.07	0.08	0.09	0.09	0.10	0.11	0.11	0.12	0.13	0.13	
500	0.06	0.07	0.07	0.08	0.09	0.10	0.11	0.12	0.13	0.14	0.14	0.14	0.15	0.16	
600	0.08	0.08	0.09	0.09	0.11	0.11	0.13	0.13	0.15	0.16	0.16	0.17	0.18	0.20	0.2
700	0.09	0.10	0.10	0.11	0.13	0.13	0.14	0.15	0.17	0.18	0.19	0.20	0.21	0.22	
800	0.09	0.11	0.11	0.13	0.13	0.16	0.16	0.19	0.19	0.20	0.21	0.22	0.24	0.25	0.3
900	0.11	0.13	0.13	0.14	0.16	0.17	0.19	0.21	0.22	0.24	0.25	0.25	0.27	0.29	
1000	0.12	0.14	0.15	0.16	0.17	0.20	0.21	0.23	0.25	0.26	0.27	0.28	0.30	0.31	0.4
1100	0.14	0.16	0.17	0.18	0.20	0.22	0.23	0.25	0.26	0.28	0.29	0.31	0.33	0.35	
1200	0.15	0.17	0.18	0.20	0.21	0.23	0.26	0.27	0.29	0.31	0.32	0.34	0.35	0.38	0.5
1300	0.16	0.18	0.19	0.21	0.23	0.25	0.27	0.29	0.31	0.34	0.35	0.35	0.38	0.40	
1400	0.17	0.20	0.21	0.22	0.25	0.27	0.28	0.32	0.34	0.35	0.37	0.39	0.42	0.43	
1500	0.19	0.21	0.22	0.24	0.27	0.29	0.31	0.34	0.36	0.38	0.39	0.42	0.45	0.47	0.1
1600	0.20	0.22	0.23	0.25	0.28	0.31	0.33	0.35	0.38	0.41	0.42	0.45	0.47	0.49	
1700	0.21	0.23	0.25	0.28	0.30	0.33	0.35	0.37	0.40	0.43	0.46	0.47	0.50	0.53	0.2
1800	0.22	0.24	0.26	0.29	0.31	0.34	0.38	0.40	0.43	0.46	0.47	0.50	0.53	0.56	

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 exhausting 0.581 m³/s with a pressure requirement of 11 Pa [N/m²].

- From pressure requirement table a velocity of 3.0 m/s is indicated as acceptable for an exhaust pressure of 11 Pa [N/m²].
- The effective pressure area corresponding to this velocity and air quantity is

$$\text{Area} = \frac{\text{m}^3/\text{s}}{\text{velocity}} = \frac{0.581}{3} = 0.19\text{m}^2$$

- For a Model OVL-C-99 louver an effective pressure area of 0.19 m² is approximately satisfied by a 851 mm wide x 800 mm high; 659 mm wide x 1000 mm high, etc.

OHL-DRC – Drainable Closable Louver

Model: OHL-DRC

The Holyoake OHL-DRC is a precisely made drainable, closable weather louver. It is constructed from extruded aluminium in a channel, or flanged frame, with special overlapping drainable, closable blades, operated by either manual, or motorised means.

The blades feature a special gutter, so each blade only deals with the water that lands directly onto it. Therefore, water does not stream down the front of the louver, but is directed by means of this gutter on the leading edge of each blade, to the external base of the louver.

In addition to the drainable blades the OHL-DRC also offers the unique combination of a closable louver, operated by a manual handle, or via a motor. This provides the facility to fully, or partially close the louver automatically, when linked to a moisture, or rain sensor, or other building management system.

On a typical horizontal louver, where water cascades down the face, the water builds to a level where the pressure differential and the velocity of air over the louver, is enough to carry over the water to the inside of the louver.

By avoiding this effect the OHL-DRC Drainable Closable louver offers excellent performance, so there is much less water intrusion at a given level and a higher effective velocity can be used, without compromising the water penetration performance. While open, they offer minimum airflow resistance, with low droplet penetration for normal weather.

Typical uses are to provide controlled air movement in Gymnasiums and Sports Halls, with the aesthetically pleasing clean lines of the rear of the louver.

Other uses include Plant Rooms, Factories, Power Stations and Emergency controllable air inlets for smoke clearance systems, (where louvers would normally remain closed, but would open to provide make up air on extract) and similar projects.

Standard Construction

- Frame:** 6063 T5 extruded aluminium, square cut corners, fixed with #10 screws for rigidity.
- Blades:** 6063 T5 extruded aluminium with integral gutter.
- Security**
- Mesh:** Extruded aluminium Gym Mesh.
- Finish:** Powder Coat Finish.

Features

- Drainable blades to minimise water carry over.
- Closable for complete air inlet control.
- 3 way fixing bracket to optimise mounting positions.
- Square cut corners for rigidity.
- Manual Operating Lever.
- Motor Options.

Options

- A range of Powder Coat colours.
- A range of suitable motors to optimise control.

Note

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

Drainable Closable Louver



Selection

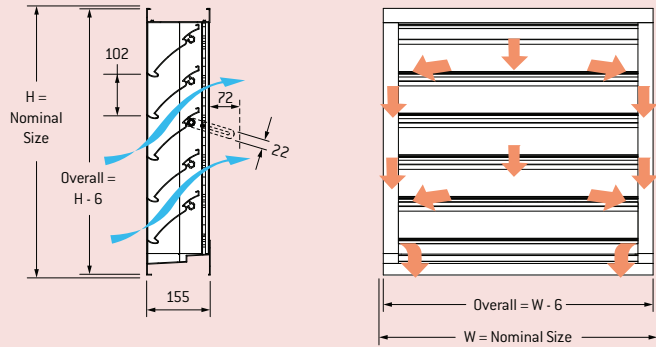
The velocity of the air flow through a louver's effective pressure area must be identified. This establishes if the louver size selected will minimise water penetration (due to weather) and determines a pressure drop due to the air flow.

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.

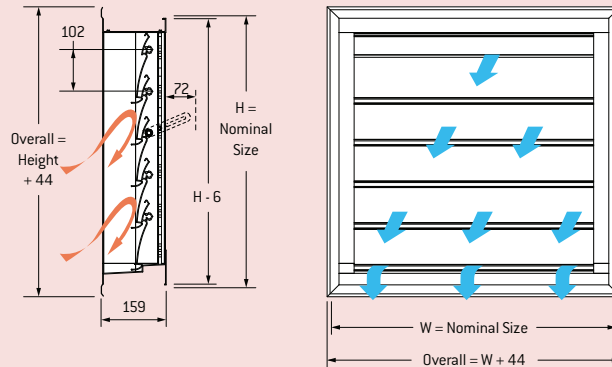
Model: OHL-C-DRC

170 mm horizontal drainable closable louvers in a channel surround. Overlapping blades feature a drainage gutter, to direct water individually to the sides and then down to the external base of the louver. (Illustrated Open).



Model: OHL-F-DRC

170 mm horizontal drainable closable louvers in a flanged surround. Overlapping blades feature a drainage gutter, to direct water individually to the sides and then down to the external base of the louver. (Illustrated Closed).



Models: OHL-F-DRC and OHL-C-DRC

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	0.02	0.03	0.04	0.05	0.05	0.06	0.08	0.09	0.10	0.12	0.13	0.2
400	0.03	0.04	0.06	0.07	0.09	0.10	0.12	0.15	0.18	0.20	0.23	0.26	0.3
500	0.04	0.06	0.08	0.11	0.13	0.15	0.18	0.22	0.26	0.30	0.34	0.38	0.5
600	0.05	0.08	0.11	0.14	0.17	0.19	0.25	0.30	0.35	0.40	0.45	0.50	0.75
700	0.06	0.10	0.14	0.18	0.22	0.24	0.31	0.37	0.43	0.50	0.56	0.63	1.0
800	0.07	0.12	0.17	0.21	0.26	0.29	0.37	0.44	0.52	0.60	0.67	0.75	1.5
900	0.09	0.14	0.19	0.25	0.30	0.34	0.43	0.52	0.60	0.69	0.78	0.87	
1000	0.10	0.16	0.22	0.28	0.34	0.38	0.49	0.59	0.69	0.79	0.89	1.00	
1100	0.11	0.18	0.25	0.32	0.39	0.43	0.55	0.66	0.78	0.89	1.00	1.12	
1200	0.12	0.20	0.28	0.35	0.43	0.48	0.61	0.73	0.86	0.99	1.12	1.24	
1300	0.14	0.22	0.30	0.39	0.47	0.53	0.67	0.81	0.95	1.09	1.23	1.37	
1400	0.15	0.24	0.33	0.42	0.51	0.57	0.73	0.88	1.03	1.18	1.34	1.49	
1500	0.16	0.26	0.36	0.46	0.56	0.62	0.79	0.95	1.12	1.28	1.45	1.61	
1600	0.17	0.28	0.39	0.49	0.60	0.67	0.85	1.03	1.20	1.38	1.56	1.74	
1700	0.18	0.30	0.41	0.53	0.64	0.72	0.91	1.10	1.29	1.48	1.67	1.86	
1800	0.20	0.32	0.44	0.56	0.68	0.77	0.97	1.17	1.37	1.58	1.78	1.98	
1900	0.21	0.34	0.47	0.60	0.73	0.81	1.03	1.24	1.46	1.67	1.89	2.11	
2000	0.22	0.36	0.50	0.63	0.77	0.86	1.09	1.32	1.54	1.77	2.00	2.23	

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-DRC 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-DRC*	648 x 753 O/A	10.54
OHL-F-DRC*	648 x 753 Nominal	12.54

* Excluding Motor

OHCL – Closable Horizontal Louvers

Both OHL-102 and 124 louvers are available as closable options. They offer performance and appearance similar to the basic model with the facility to close the complete louver by means of concealed damper blades, pivoted on the underside of each fixed blade, and gang operated by either manual or motorised means. They are ideally suited for use in high wind storm conditions. While open, they offer minimum air flow resistance with low droplet penetration for normal weather.

Typical uses are to provide controlled air movement in conjunction with powered and natural ventilation schemes in factories, plant rooms, power stations and similar projects.

Other suitable applications include controllable air inlets operating with smoke clearance systems, where louvers would normally remain closed, but would open in the event of an emergency.

Bird screen material slides horizontally into tracks between blades so that linkages are not obstructed.

Standard Construction

Frame:

6063 T5 extruded aluminium, mitred corners, mechanically locked with heavy aluminium gussets.

Blades (Fixed):

6063 T5 extruded aluminium with screw pipes for end fixing, clip lugs for snap on mullion supports and channels for bird screen and hinge.

Blades (Operating):

6063 T5 extruded aluminium (black anodised) with integral hinge and edge seal of extruded vinyl.

Bird Screen:

Expanded aluminium.

Finish:

Mill finish, natural or colour anodised, or powder coated. In all cases hinged control blade is black anodised.

MODELS:

OHCL-C-102 or 124 (Channel Frame)

OHCL-F-102 or 124 (Flanged Frame)

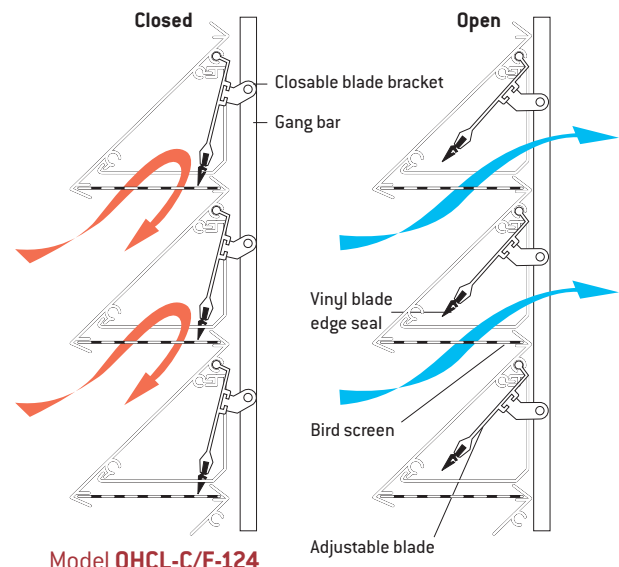
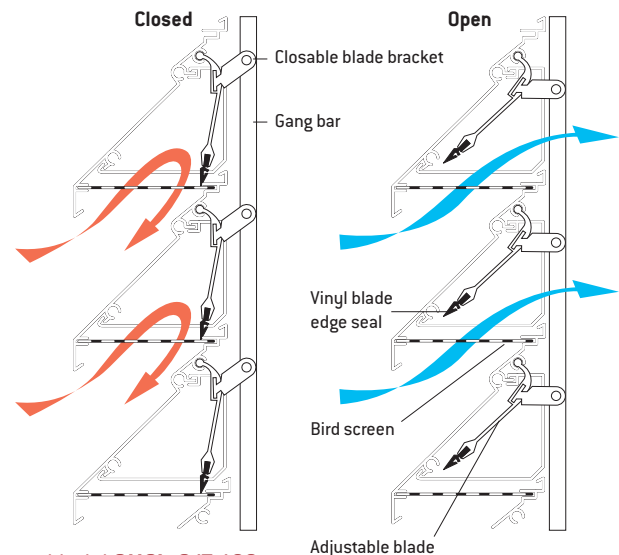
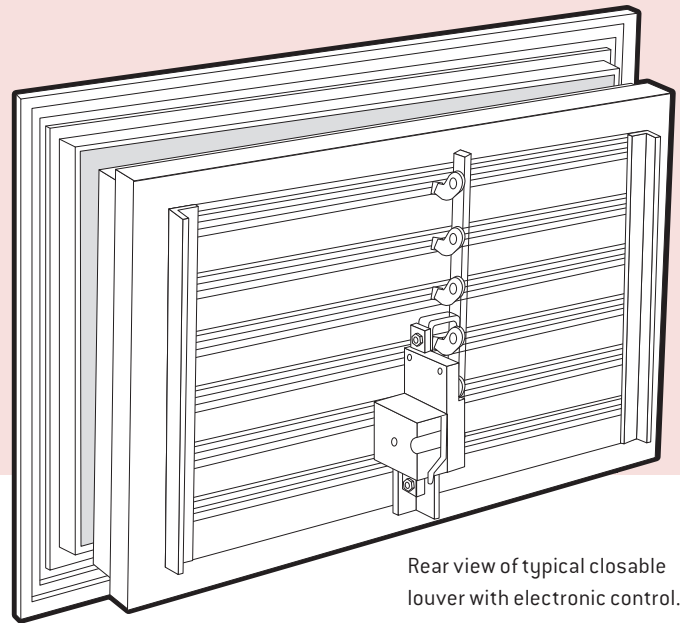
For continuous appearance with this model, contact your local Holyoake branch.

* Note: Motor can be mounted Top, or Bottom. Specify when ordering.

Performance Note

Models OHCL 102 and OHL 102 share the same effective pressure area chart. Model OHCL 124 has slightly lower effective pressure area than OHL 124. Refer to chart pertaining to appropriate model.

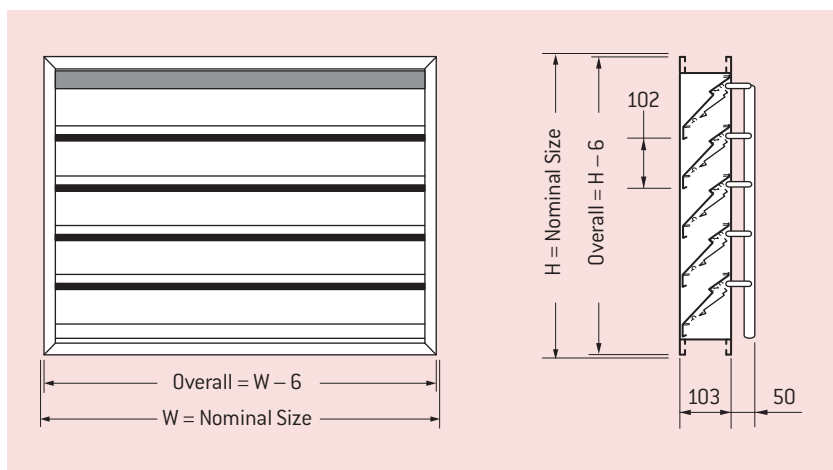
Closable Weather Louvers



Closable Horizontal Louvers – OHCL

Model: OHCL-C-102

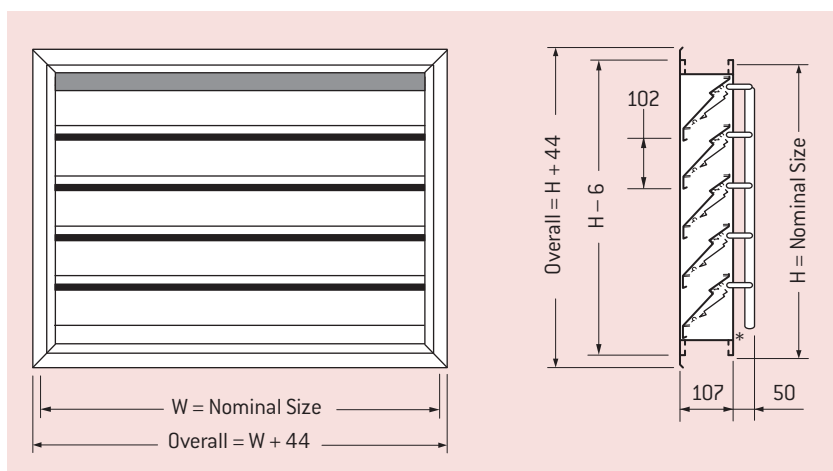
102mm Horizontal closable louver, curved blade profile, in a channel surround.



Model: OHCL-F-102

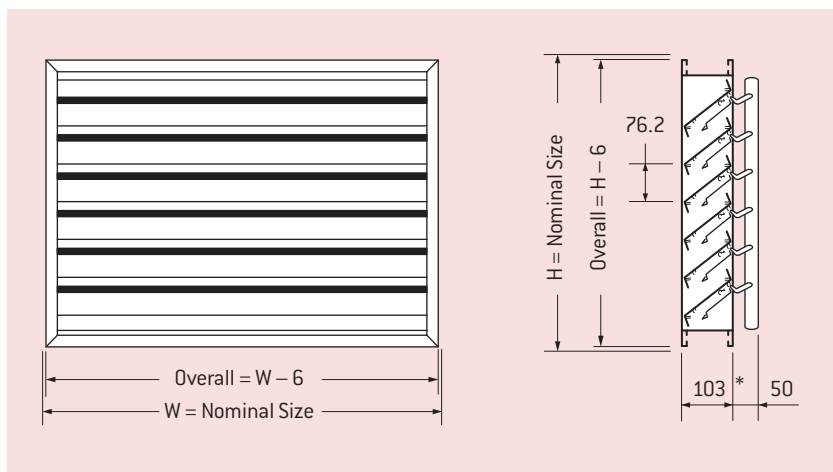
102mm Horizontal closable louver, curved blade profile in a flanged surround.

Guide Product Weights				
Approximate Weight in Kg.				
Size	OHCL-C-102	OHCL-F-102	OHCL-C-124	OHCL-F-124
300 x 300	2	2	2	2
700 x 700	11	12	11	12
1050 x 1000	22	23	22	23
1500 x 1500	46	48	46	48
2500 x 2000	102	107	102	107



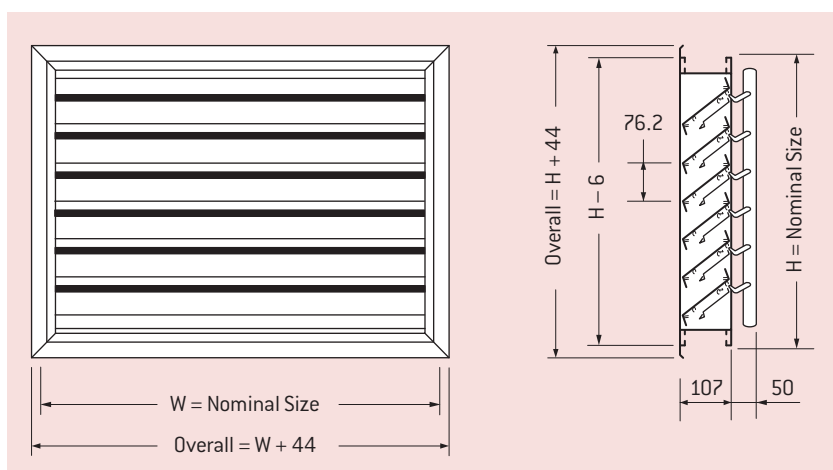
Model: OHCL-C-124

76mm Horizontal closable louver, straight blade profile in a channel surround.



Model: OHCL-F-124

76mm Horizontal closable louver, straight blade profile in a flanged surround.



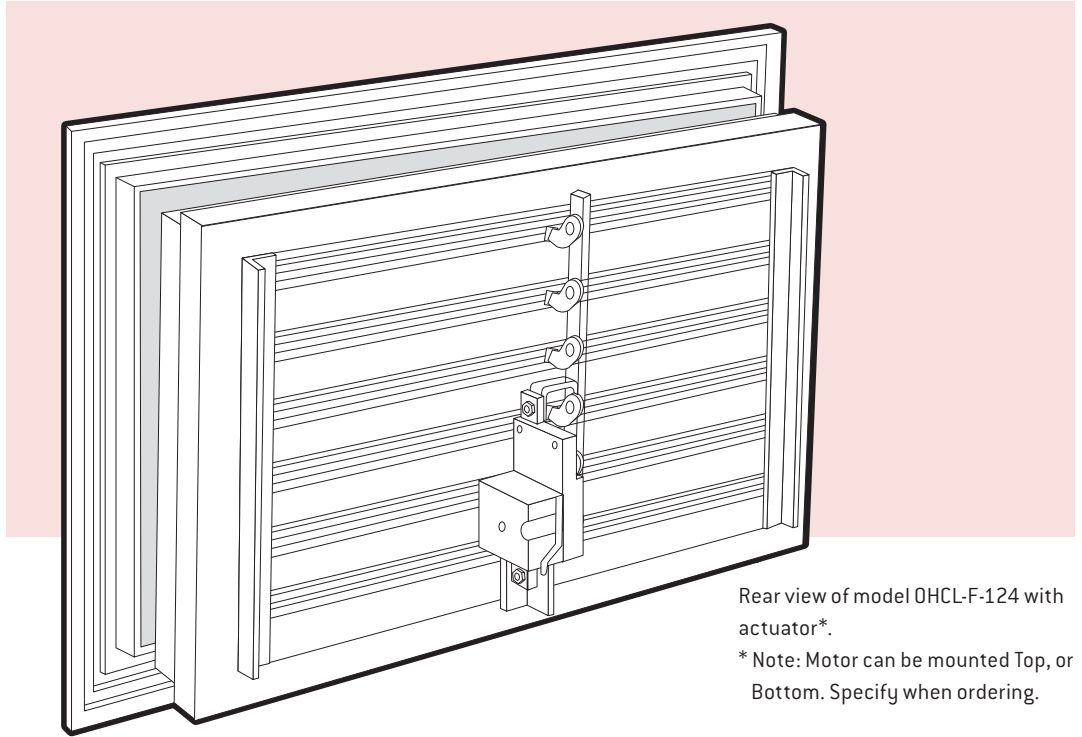
Notes

- The number of Actuators or Manual Operators required is dependent on the overall size of the closable louver. Large applications will require several. Please refer to your local Holyoake branch for further details.
- *110 mm minimum clearance should be allowed for motor fitment.

OHCL – Selection Data

Models: **OHCL-C-124**
and **OHCL-F-124**

Outside Louvers



Rear view of model OHCL-F-124 with actuator*.

* Note: Motor can be mounted Top, or Bottom. Specify when ordering.

Effective pressure area (sq. metres)

Blade Spaces	HEIGHT mm (NOMINAL)	WIDTH mm (NOMINAL)												
		300	450	600	750	900	1050	1250	1500	1750	2000	2250		2500
2	299	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.10	0.12	0.14	0.16	0.18	0.2
3	375	0.03	0.04	0.06	0.07	0.09	0.10	0.13	0.15	0.18	0.21	0.24	0.26	
4	451	0.04	0.06	0.08	0.10	0.12	0.13	0.17	0.21	0.24	0.28	0.31	0.35	
5	527	0.04	0.07	0.10	0.12	0.15	0.17	0.21	0.26	0.30	0.35	0.39	0.44	0.5
6	603	0.05	0.08	0.12	0.15	0.18	0.20	0.26	0.31	0.36	0.42	0.47	0.53	
7	680	0.06	0.10	0.14	0.17	0.21	0.24	0.30	0.36	0.43	0.49	0.55	0.61	
8	756	0.07	0.11	0.16	0.20	0.24	0.27	0.34	0.41	0.49	0.56	0.63	0.70	
9	832	0.08	0.13	0.18	0.22	0.27	0.30	0.39	0.47	0.55	0.63	0.71	0.79	
10	908	0.09	0.14	0.20	0.25	0.30	0.34	0.43	0.52	0.61	0.70	0.79	0.88	
11	984	0.10	0.16	0.21	0.27	0.33	0.37	0.47	0.57	0.67	0.77	0.87	0.97	1.0
12	1061	0.10	0.17	0.23	0.30	0.36	0.41	0.51	0.62	0.73	0.84	0.95	1.06	
13	1137	0.11	0.18	0.25	0.32	0.39	0.44	0.56	0.67	0.79	0.91	1.03	1.14	
14	1213	0.12	0.20	0.27	0.35	0.42	0.47	0.60	0.73	0.85	0.98	1.10	1.23	
15	1289	0.13	0.21	0.29	0.37	0.45	0.51	0.64	0.78	0.91	1.05	1.18	1.32	
16	1365	0.14	0.23	0.31	0.40	0.49	0.54	0.69	0.83	0.97	1.12	1.26	1.41	
17	1442	0.15	0.24	0.33	0.42	0.52	0.58	0.73	0.88	1.04	1.19	1.34	1.49	
18	1518	0.16	0.25	0.35	0.45	0.55	0.61	0.77	0.93	1.10	1.26	1.42	1.58	

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 exhausting 0.581 m³/s with a pressure requirement of 11 Pa (N/m²).

- From pressure requirement table a velocity of 3.0 m/s is indicated as acceptable for an exhaust pressure of 11 Pa (N/m²).
- The effective pressure area corresponding to this velocity and air quantity is
- For a model OHCL-C-124 louver, an effective pressure area of 0.19 m² is satisfied by a 750 wide x 756 high louver at 0.2 m², etc.

$$\text{Area} = \frac{\text{m}^3/\text{s}}{\text{velocity}} = \frac{0.581}{3} = 0.19\text{m}^2$$

OHCL - 125

CLOSABLE WEATHER LOUVER

MODEL OHCL-125

FEATURES

- High Performance Louver
- Water Penetration Performance
- Motorised or Manual Operation
- Bold Straight Blade Profile
- Obstructed Line of Sight
- Dual Weather Stop Blade

OPTIONS

- The OHCL-125 is available in two surrounds:
 - 40mm flange cover as standard
 - Flangeless channel surround (on request)
- Motorised operation via 24V or 230V:
 - Linear actuators as standard
 - Spring return rotary actuators available for fail-safe applications (on request)
- Finish:
 - Natural anodised 25um finish as standard
 - Duralloy Powder Coat finish (on request)
 - Warranty powder coatings available (on request)
- The OHCL-125 can be ordered with no closable blades (on request) - this option improves the performance but eliminates the operability of the louver (ordering code: OHL-125)
- Insect screens (on request)
- Blank-off panels (on request)
- Head and/or sill flashing (on request)
- Security bars (on request)
- Filter racks (on request)



The OHCL-125 is a closable louver designed from proven Holyoake louver technology, featuring improved weather performance alongside a high free area.

The OHCL-125 is an operable, closable louver that offers functionality through black anodised damper blades. These blades are pivoted on the underside of each fixed blade and operated by either manual or motorised means. While open the closing blades offer minimal additional air flow resistance.

TYPICAL APPLICATIONS

The OHCL-125 louver can be installed as part of the Mechanical Services System for either intake or exhaust applications and is suited for applications where high airflow is required.

Typical uses are to provide controlled air movement in conjunction with powered and natural ventilation systems in stadiums, data centres, factories, plant rooms, power stations, and projects that require similar large air volumes.

CONSTRUCTION

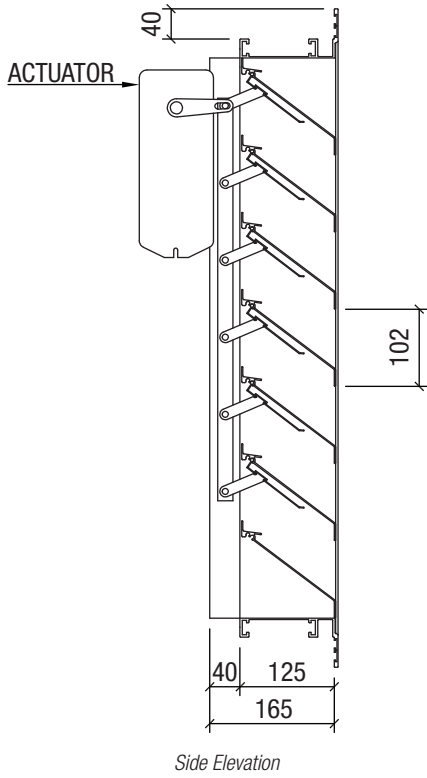
The OHCL-125 louver is constructed with 6063 T6 extruded aluminium, mechanically locked together ensuring a reliable and resilient louver. The integral extruded closing blades, hinged off the fixed blades, are finished black anodised. Various mesh options are available for fitting to the rear of the louver.

Surround:	125mm deep
Blades:	37° x 2mm thick
Closing Blade:	1.5mm thick, black anodised
Mesh:	- Stainless steel 10 x 10 x 0.9mm as standard - Stainless steel 6 x 6 x 0.5mm (on request)
Mullion:	Fitted to rear at either edge and at intervals no greater than 1000mm spacing
Hardware:	All stainless steel
Free Area:	1200mm x 1200mm unit - (0.63m ²) 44%
Minimum Nominal Size:	300mm (wide) x 280mm (high)
Maximum Nominal Size:	OHCL-125: 1128mm (wide) x 5788mm (high) or (single section) 5800mm (wide) x 1198mm (high)
	OHL-125: 1128mm (wide) x 5788mm (high) or 5800mm (wide) x 1504mm (high)

5 YEAR WARRANTY

ALL DIMENSIONS IN MM
INFORMATION IS SUBJECT TO CHANGE WITHOUT NOTICE OR OBLIGATION
PRICE HOLYOAKE OHCL-125 FEBRUARY 2024

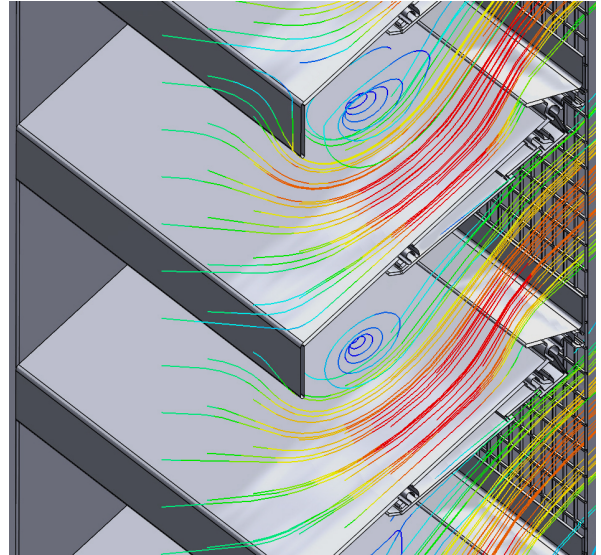
PRODUCT INFORMATION - DIMENSIONS



PRODUCT INFORMATION - WEIGHTS

OHCL-125 PRODUCT GUIDE WEIGHTS (KG)			
600 x 600	13	1500 x 1500	56
900 x 900	24	2000 x 3500	160
1200 x 1200	41	4000 x 1500	135

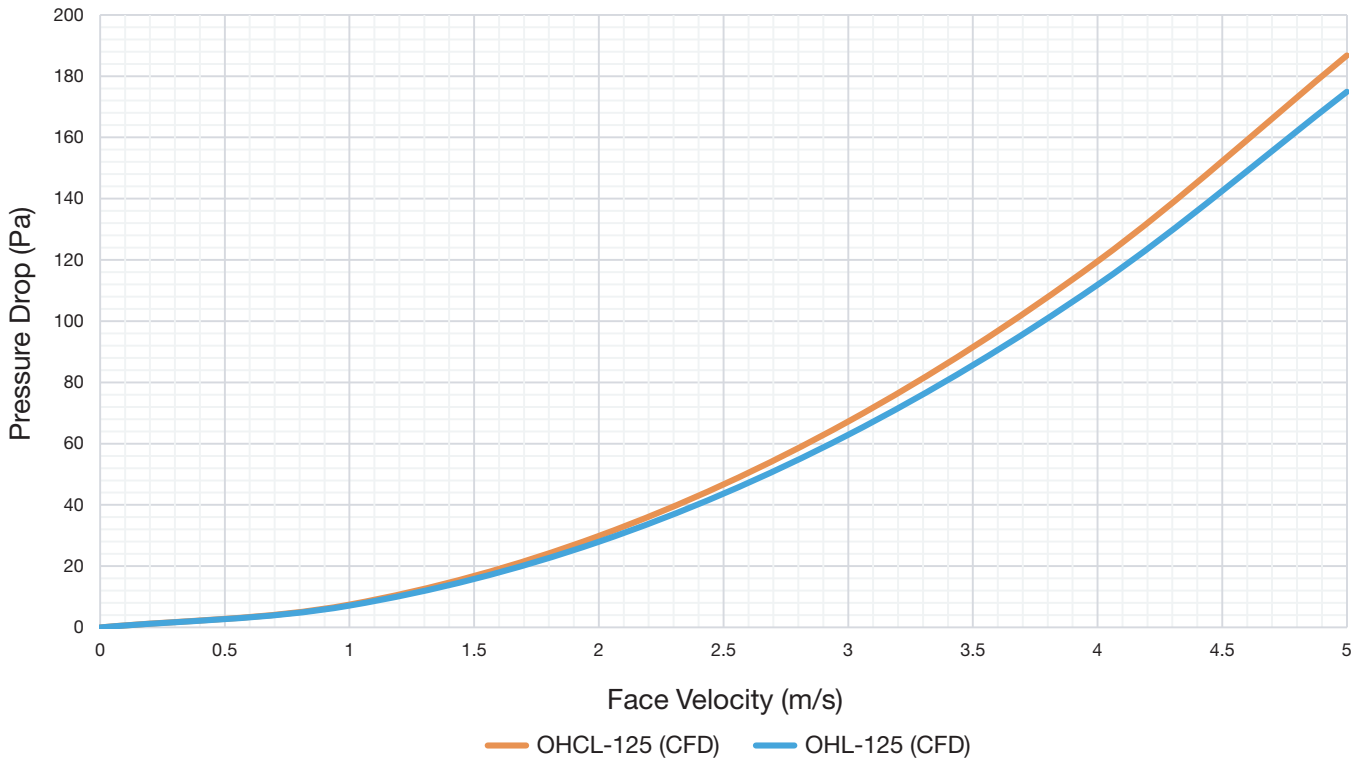
PRESSURE DROP - CFD ANALYSIS



PERFORMANCE DATA - FACE VELOCITY

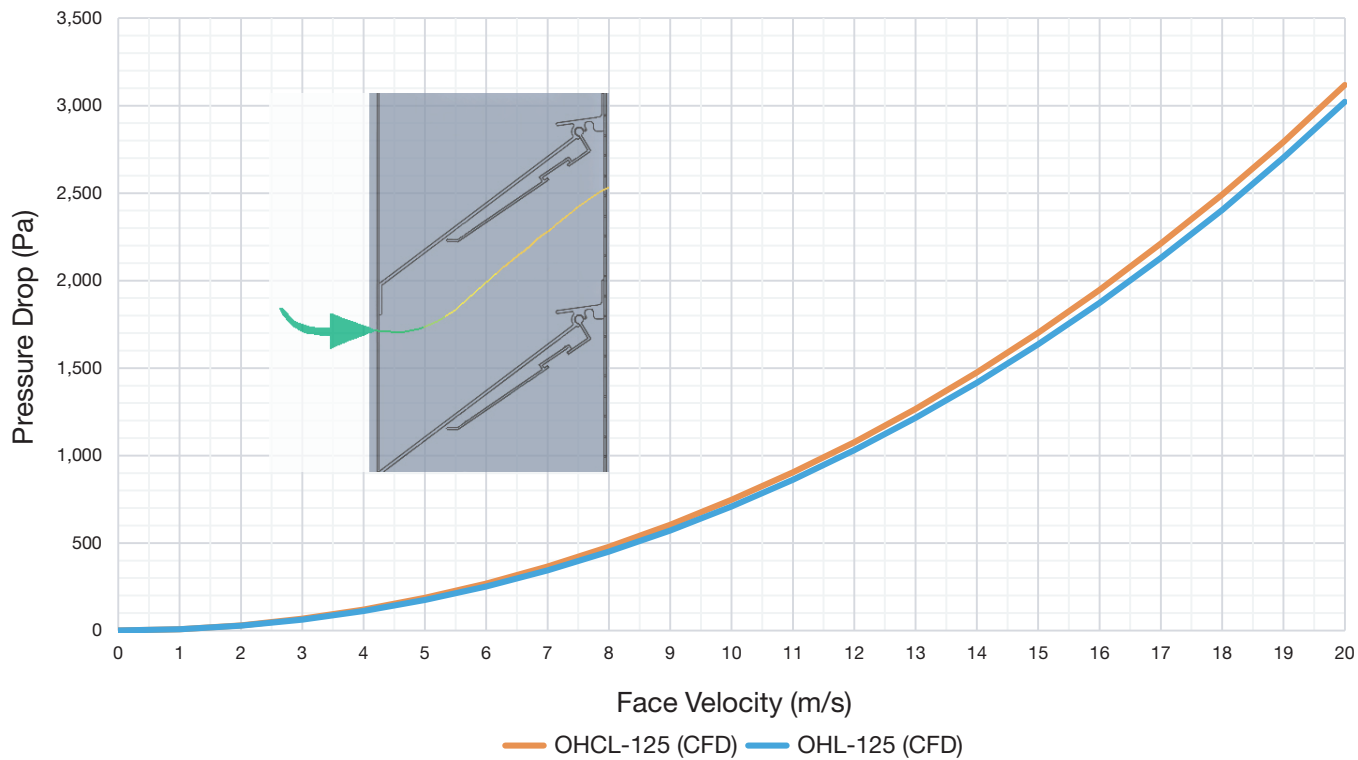
(0m/s - 5m/s for increased resolution)

Pressure Drop Performance Analysis



PERFORMANCE DATA - FACE VELOCITY

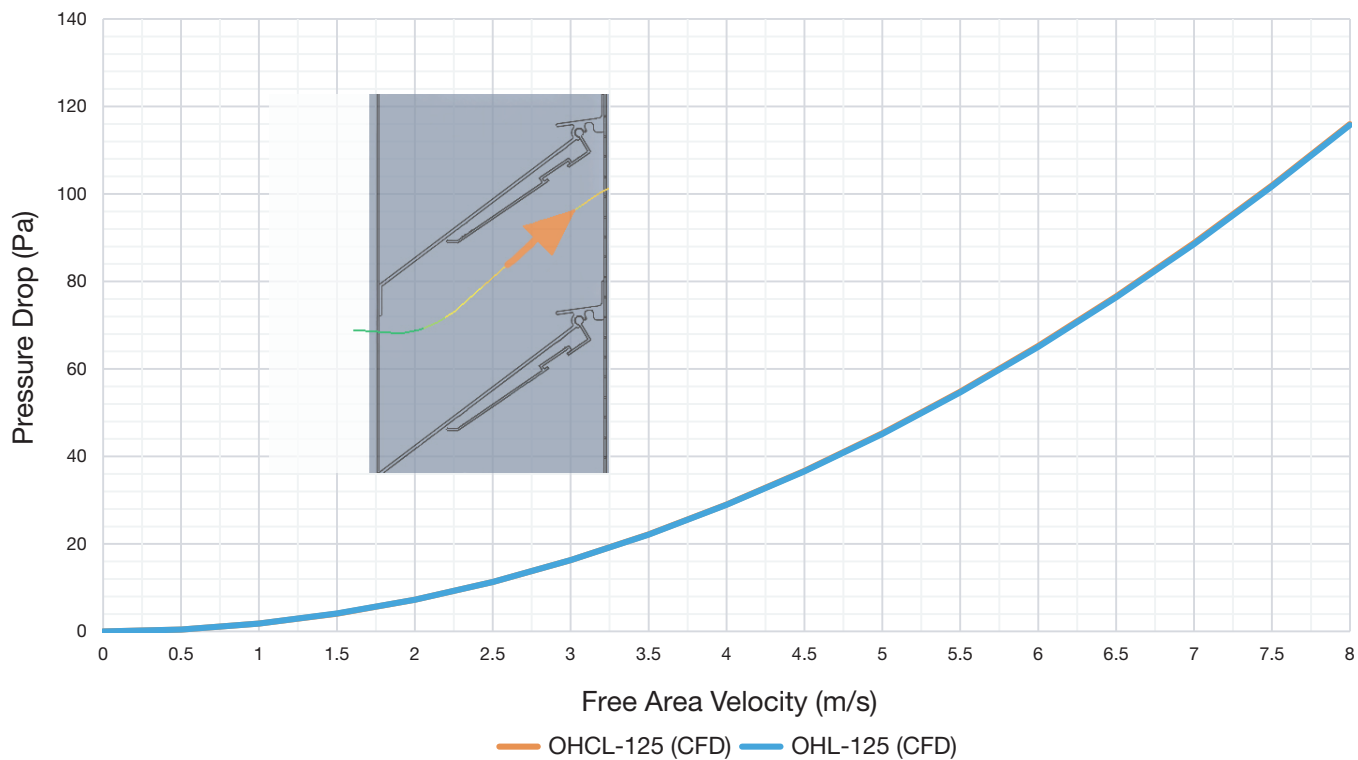
Pressure Drop Performance Analysis



The face area of a louver is the total area within the frame of the louver.
(face area velocity is illustrated by the green arrow)

PERFORMANCE DATA - FREE AREA VELOCITY

Pressure Drop Performance Analysis



The free area of a louver is the total minimum area between the louver blades that air can pass through.
(free area velocity is illustrated by the orange arrow)

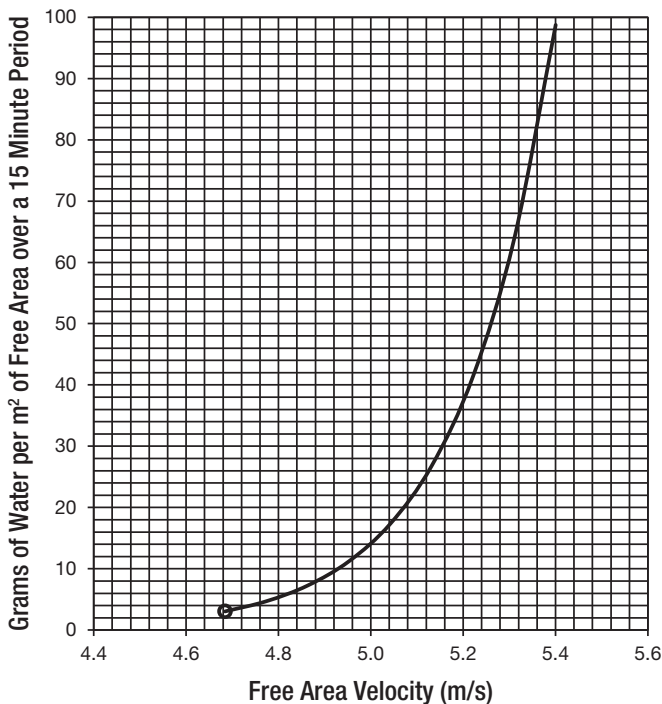
PERFORMANCE DATA - FREE AREA (m²)

Height (mm)	Width (mm)																	
	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000
280	0.02	0.02	0.03	0.03	0.04	0.05	0.05	0.06	0.06	0.07	0.08	0.08	0.09	0.09	0.10	0.11	0.11	0.12
382	0.03	0.04	0.05	0.07	0.08	0.09	0.10	0.12	0.13	0.14	0.15	0.16	0.18	0.19	0.20	0.21	0.23	0.24
484	0.05	0.06	0.08	0.10	0.12	0.14	0.16	0.17	0.19	0.21	0.23	0.25	0.27	0.28	0.30	0.32	0.34	0.36
586	0.06	0.09	0.11	0.13	0.16	0.18	0.21	0.23	0.26	0.28	0.31	0.33	0.35	0.38	0.40	0.43	0.45	0.48
688	0.08	0.11	0.14	0.17	0.20	0.23	0.26	0.29	0.32	0.35	0.38	0.41	0.44	0.47	0.50	0.53	0.56	0.59
790	0.09	0.13	0.16	0.20	0.24	0.27	0.31	0.35	0.38	0.42	0.46	0.49	0.53	0.57	0.60	0.64	0.68	0.71
892	0.11	0.15	0.19	0.23	0.28	0.32	0.36	0.41	0.45	0.49	0.53	0.58	0.62	0.66	0.70	0.75	0.79	0.83
994	0.12	0.17	0.22	0.27	0.32	0.37	0.41	0.46	0.51	0.56	0.61	0.66	0.71	0.76	0.81	0.85	0.90	0.95
1096	0.14	0.19	0.25	0.30	0.36	0.41	0.47	0.52	0.58	0.63	0.69	0.74	0.80	0.85	0.91	0.96	1.02	1.07
1198	0.15	0.21	0.27	0.34	0.40	0.46	0.52	0.58	0.64	0.70	0.76	0.82	0.88	0.95	1.01	1.07	1.13	1.19
1300	0.17	0.23	0.30	0.37	0.44	0.50	0.57	0.64	0.70	0.77	0.84	0.91	0.97	1.04	1.11	1.17	1.24	1.31
1402	0.18	0.26	0.33	0.40	0.48	0.55	0.62	0.70	0.77	0.84	0.92	0.99	1.06	1.13	1.21	1.28	1.35	1.43
1504	0.20	0.28	0.36	0.44	0.52	0.59	0.67	0.75	0.83	0.91	0.99	1.07	1.15	1.23	1.31	1.39	1.47	1.55
1606	0.21	0.30	0.38	0.47	0.56	0.64	0.73	0.81	0.90	0.98	1.07	1.15	1.24	1.32	1.41	1.49	1.58	1.67
1708	0.23	0.32	0.41	0.50	0.59	0.69	0.78	0.87	0.96	1.05	1.14	1.24	1.33	1.42	1.51	1.60	1.69	1.78
1810	0.24	0.34	0.44	0.54	0.63	0.73	0.83	0.93	1.02	1.12	1.22	1.32	1.42	1.51	1.61	1.71	1.81	1.90
1912	0.26	0.36	0.47	0.57	0.67	0.78	0.88	0.99	1.09	1.19	1.30	1.40	1.50	1.61	1.71	1.81	1.92	2.02
2014	0.27	0.38	0.49	0.60	0.71	0.82	0.93	1.04	1.15	1.26	1.37	1.48	1.59	1.70	1.81	1.92	2.03	2.14

PERFORMANCE DATA - WATER PENETRATION

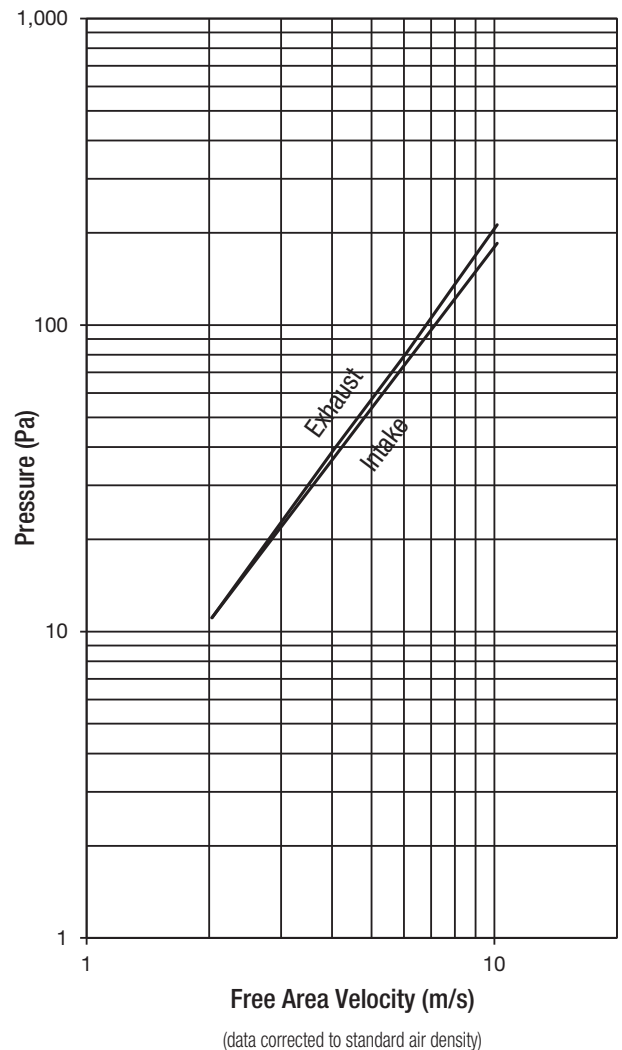
AMCA defines the beginning point of water penetration as the free area velocity at the intersection of a simple linear regression of test data and the line of 3 grams of water per square metre of free area measured through a 1219 mm x 1219 mm louver during a 15 minute period. The AMCA water penetration test provides a method for comparing louver models and designs as to their efficiency in resisting the penetration of rainfall under specific lab conditions. We recommend that intake louvers are selected with a reasonable margin of safety below the beginning point of water penetration in order to avoid unwanted penetration during severe storm conditions.

Beginning Point of Water Penetration = 4.7 m/s



PERFORMANCE DATA - PRESSURE LOSS

Pressure loss testing has been completed on a 1219 mm x 1219 mm louver in accordance with Figure 5.5 of AMCA Standard 500-L.



Outside Horizontal Louvers – OHL-LAOGS

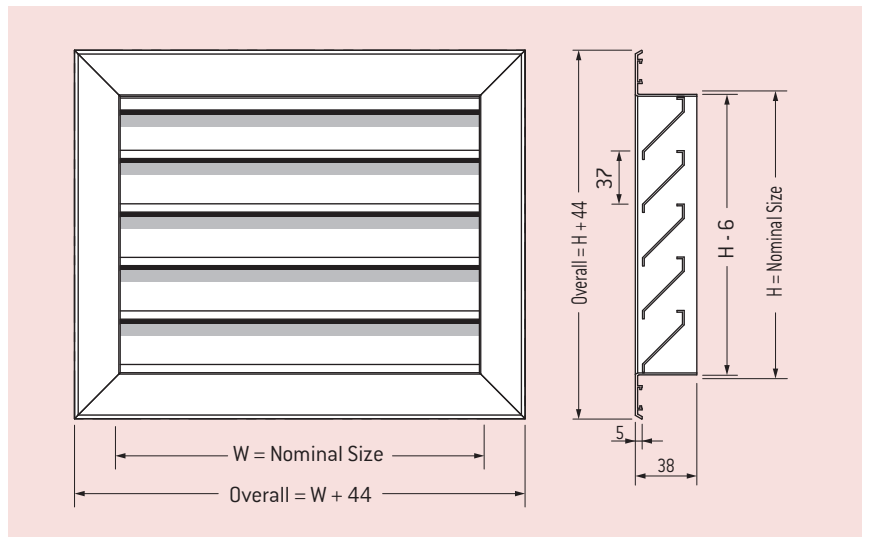
Model: OHL-LAOGS

LAOGS outside louvers are suitable for intake and exhaust applications.

All components are manufactured from mill finish aluminium, with 37 mm straight profile louvers and are available in Mill Finish, Powder Coated, or Anodised.

Bird mesh is fitted to the rear of the louver as standard.

LAOGS maximum one-piece construction size is 1500 x 1800. Larger sizes can be made in multiple sections.



Outside Louvers

Model: OHL-LAOGS - Selection Data

Effective pressure area (sq. metres)

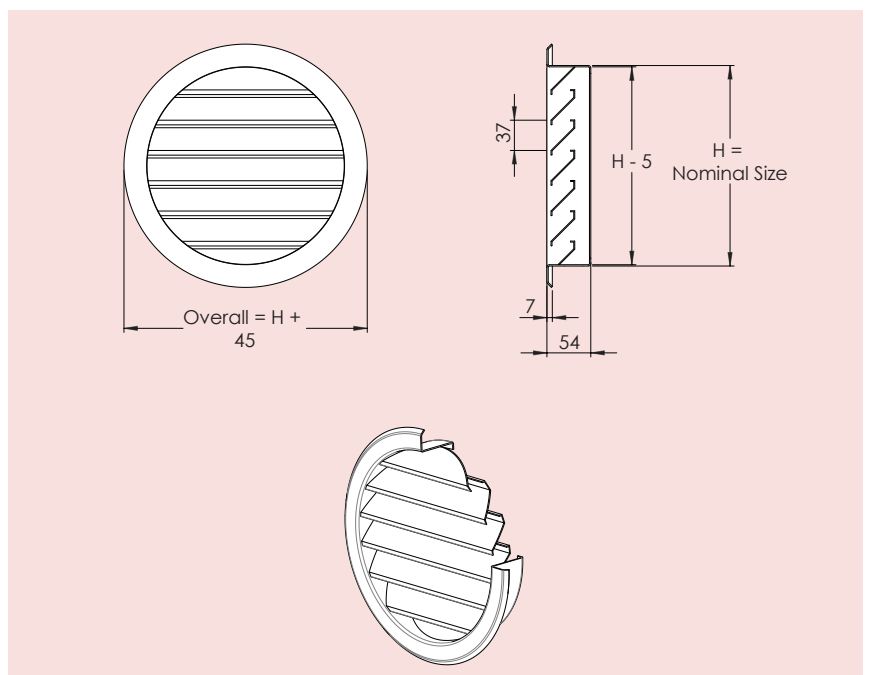
Width "W", mm.	300	350	400	450	500	600	750	900	1050	1200	1350	1500	
Height "H", mm.									0.1				
300	0.03	0.04	0.04	0.05	0.05	0.06	0.08	0.10	0.11	0.13	0.15	0.16	0.2
400	0.05	0.05	0.06	0.07	0.08	0.09	0.12	0.14	0.16	0.19	0.21	0.23	0.3
500	0.06	0.07	0.08	0.09	0.10	0.12	0.15	0.18	0.21	0.24	0.27	0.30	0.37
600	0.07	0.09	0.10	0.11	0.12	0.15	0.19	0.22	0.26	0.30	0.34	0.37	0.49
700	0.08	0.10	0.11	0.12	0.14	0.17	0.21	0.25	0.29	0.34	0.38	0.42	0.56
800	0.10	0.11	0.13	0.15	0.16	0.19	0.24	0.29	0.34	0.39	0.44	0.49	0.61
900	0.11	0.13	0.15	0.17	0.18	0.22	0.28	0.33	0.39	0.45	0.50	0.56	0.68
1000	0.12	0.14	0.16	0.18	0.20	0.24	0.30	0.36	0.42	0.48	0.55	0.61	0.75
1100	0.13	0.16	0.18	0.20	0.22	0.27	0.34	0.40	0.47	0.54	0.61	0.68	0.86
1200	0.15	0.17	0.20	0.22	0.25	0.30	0.37	0.45	0.52	0.60	0.67	0.75	0.93
1300	0.16	0.18	0.21	0.24	0.26	0.32	0.39	0.47	0.55	0.63	0.71	0.79	1.00
1400	0.17	0.20	0.23	0.26	0.29	0.34	0.43	0.52	0.60	0.69	0.78	0.86	1.05
1500	0.18	0.21	0.25	0.28	0.31	0.37	0.46	0.56	0.65	0.75	0.84	0.93	1.12
1600	0.20	0.23	0.26	0.30	0.33	0.40	0.50	0.60	0.70	0.80	0.90	1.00	
1700	0.21	0.24	0.28	0.31	0.35	0.42	0.52	0.63	0.73	0.84	0.94	1.05	
1800	0.22	0.26	0.30	0.33	0.37	0.44	0.56	0.67	0.78	0.89	1.01	1.12	

The LAOGS outside louver is also available in a round aluminium spinning in the following nominal sizes: 150, 200, 250, 300.

Effective Pressure Area	
Nominal Size	Effective Pressure Area (sq. metres)
150	0.006
200	0.012
250	0.019
300	0.027

Guide Product Weights	
Approximate Weight in Kg.	
Size	OHL-LAOGS
300 x 300	2
500 x 500	4
900 x 900	12
1200 x 1200	20
1500 x 1800	35

Refer to previous page for pressure requirements and example louver selection.



AHL Series

ACOUSTIC LOUVER

MODEL AHL-150

FEATURES

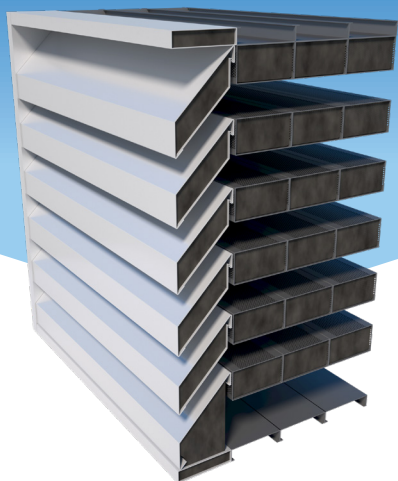
- High Attenuation Performance
- Add-on Acoustic Traps for Increased Performance
- Flat Blade Profile
- Obstructed Line of Sight
- Flangeless Channel Surround

CONSTRUCTION

The AHL-150 louver system is constructed entirely of 6063 T5 extruded aluminium. The acoustic insulation is manufactured from 100% polyester. Rear acoustic traps are supplied in black anodised as standard. All louvers are manufactured to the highest fabrication and performance standards.

OPTIONS

- Powder Coat finishes (Duratec warranty coatings available on request)
- Natural Anodised finish
- Aluminium or Stainless Steel bird mesh
- Add-on Acoustic Traps
- 25mm Flange Cover available



*AHL shown with optional rear acoustic traps



The Holyoake AHL-150 louver offers an attractive louver system that provides ventilation and sound attenuation. Based on proven Holyoake louver technology, the louver has been designed to efficiently allow air to pass through the facade of a building while reducing radiated noise.



The acoustic insulation has been engineered to maximise sound absorption whilst minimising moisture absorption. Even when exposed to an atmosphere of 50°C at 90% relative humidity for four days it showed a moisture absorption by weight of less than 0.03%.



The AHL-150 is able to be ordered with acoustic traps that are fixed to the rear of the louver for additional, improved attenuation performance.



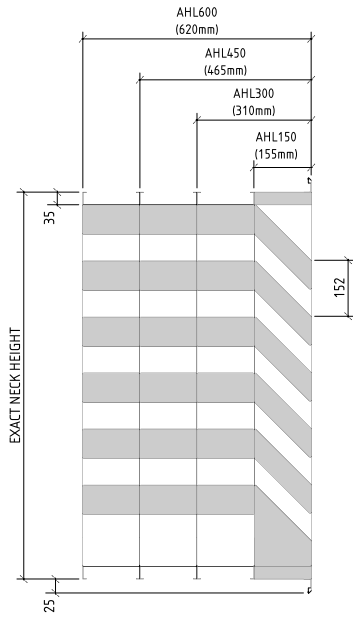
Maximum, recommended velocity of 2.5m/s through the louver.

TYPICAL APPLICATIONS

High performance acoustic louvers have proven to be a very effective sound barrier in high density locations. They are suitable for applications where noise can be disruptive or irritating to patrons, businesses, and families. Utilising the AHL-150 can assist in creating spaces, such as dining and recreational areas, which would typically be unusable due to the high noise level.



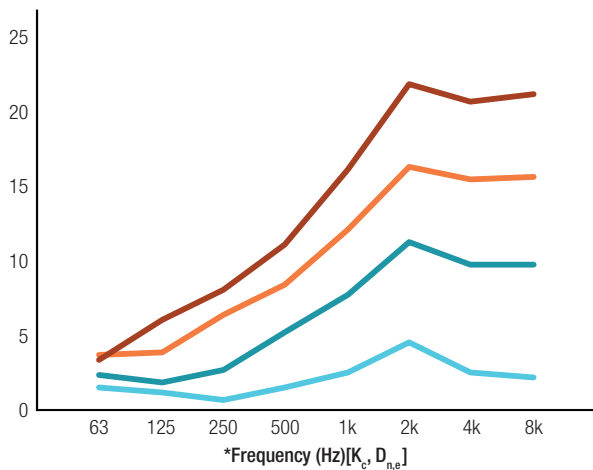
DIMENSIONAL DATA



ACOUSTIC DATA

Test specimen name	STC
AHL150	15
AHL300 (AHL150 + 1 acoustic trap)	21
AHL450 (AHL150 + 2 acoustic traps)	22
AHL600 (AHL150 + 3 acoustic traps)	24

INSERTION LOSS_{STATIC} (dB)



— AHL150
— AHL300 (AHL150 + 1 acoustic trap)
— AHL450 (AHL150 + 2 acoustic traps)
— AHL600 (AHL150 + 3 acoustic traps)

*The single octave data has been calculated from measured third octave data.

*The Insertion Loss [L_{static}] has been measured from data using the ISO 15186-1 method.

*8kHz data extrapolated from 6.3kHz data.

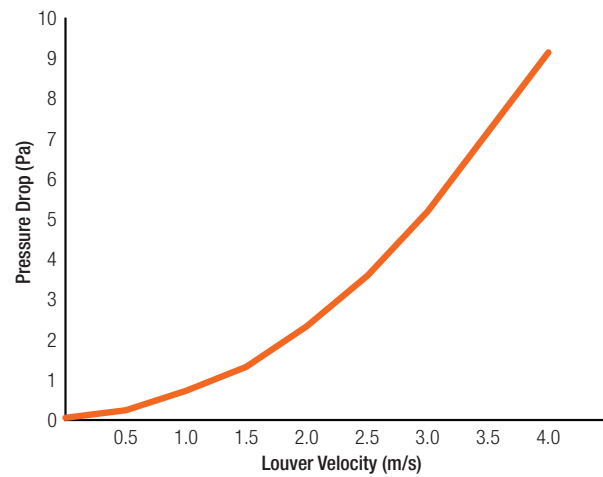
*Testing undertaken by Canterbury Acoustic Testing Services Ltd with independent peer review being completed by Price Research Center North (PRCN).

TESTING STANDARDS

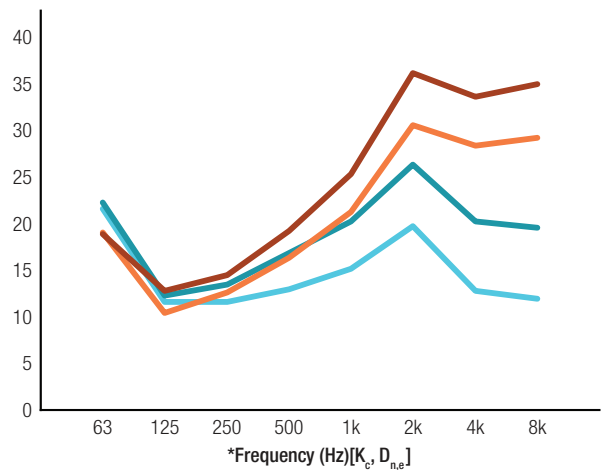
The insulation has been tested and is compliant with:
 ISO 9705 receiving a Group 1-S Classification with a Smoke Production Rate of less than 5m²/s as required by the NZBC C/VM2; and,
 AS 1530.3:

Ignitability Index	0
Heat Evolved Index	0
Spread of Flame Index	0
Smoke Developed Index	2

PERFORMANCE DATA



TRANSMISSION LOSS (dB)



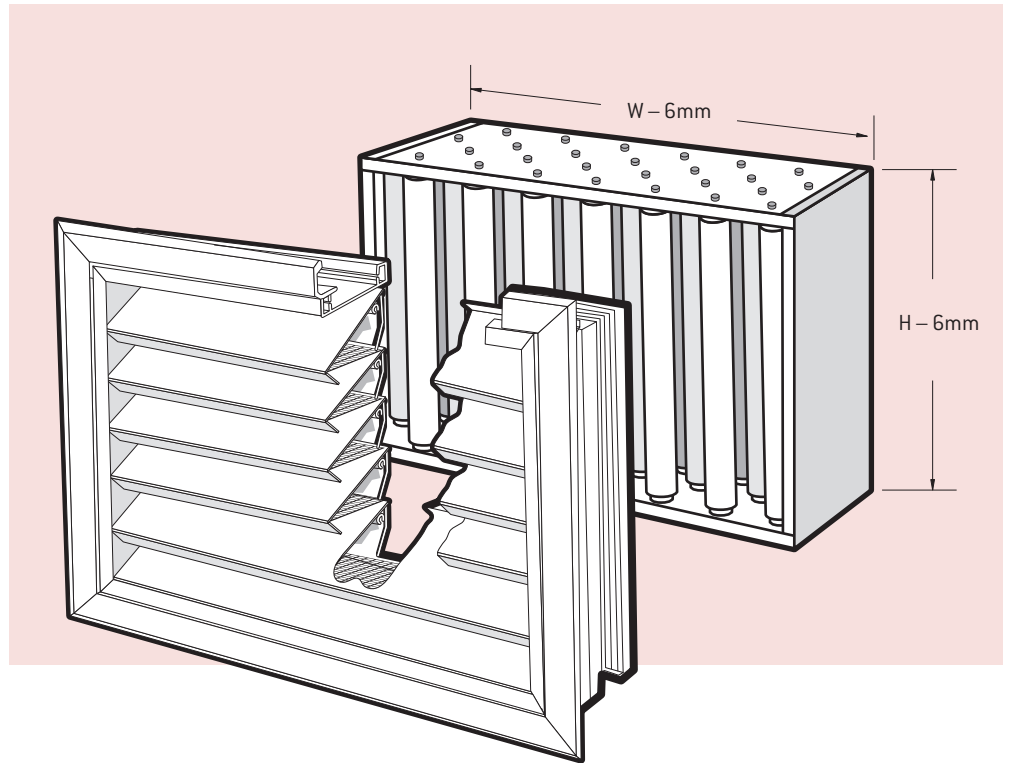
OHL – Sound Trap Attachment

Models: **OHL-ST2 (2 Row)**
and **OHL-ST4 (4 Row)**

Outside Louvers



The Holyoake sound trap attachment is a modular assembly designed primarily to be attached to the rear of any Holyoake weather louver, to reduce the sound transmission to and from the environment.



Description

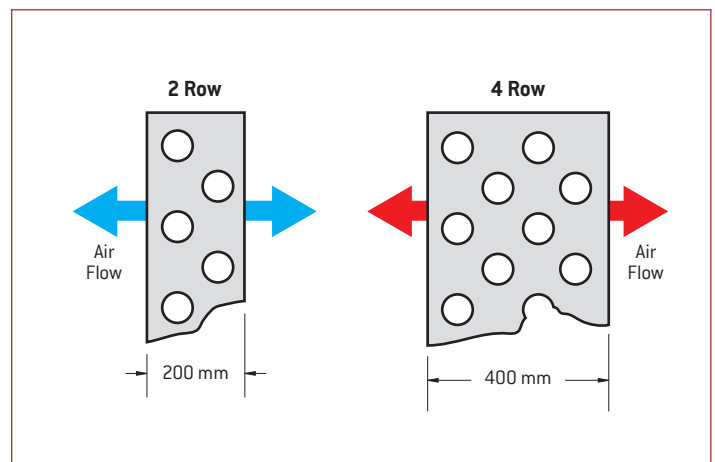
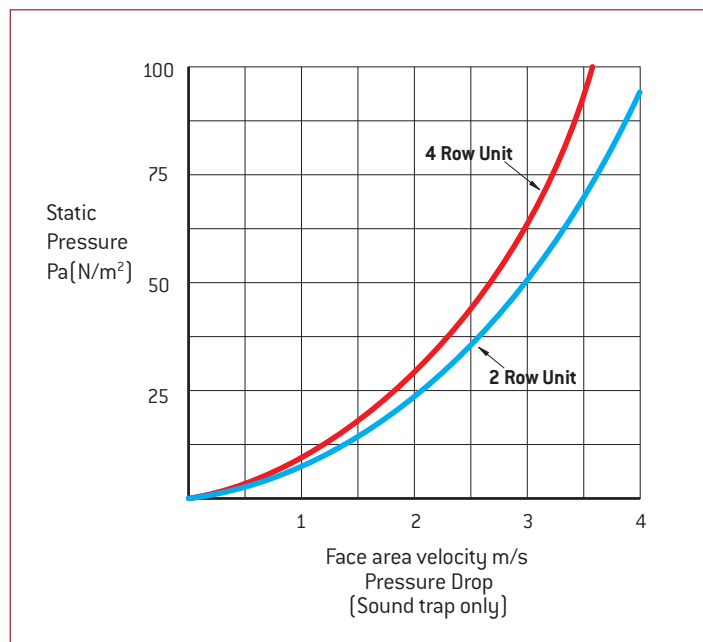
The unit consists of a number of cylindrical sound absorbing elements, in a staggered arrangement and mounted either vertically or horizontally. These elements are mounted in a sheet aluminium housing which matches the selected louver and can be supplied as either two or four row deep units as required by the desired attenuation level.

Maximum Single Unit Size: 2400 x 1000.

Noise Reduction to Free Field [dB]								
Frequency Hz	63	125	250	500	1K	2K	4K	8K
2 Row Unit - ST2	14	15	17	20	24	26	27	27
4 Row Unit - ST4	16	17	19	24	35	40	41	39
Insertion Loss [dB]								
2 Row Unit - ST2	0	1	3	5	6	13	8	11
4 Row Unit - ST4	0	1	6	9	12	19	18	15

Guide Product Weights

Description	Approximate Weight in Kg.
OHL-ST2	Dependant on Style & Construction.
OHL-ST4	
Contact your local Holyoake Branch	



Note

Data is for sound trap only, excluding louver.

Louver Door – OHL- LOUVER DOOR

Model: OHL-Louver Door

The Holyoake Louver Door System has been designed to incorporate all of the features that you could think of in an architectural door and still be compatible with our entire range of outside louvers.

The Louver Door System is robustly constructed in extruded aluminium box section to provide the strength required to hang a large louver door. All of the on site fixings are designed to be concealed once the door has been installed. The doors are hung with high quality stainless steel hinges that have been selected to take the load of a large door.

The outer frame of the door system can be supplied in either flanged or channel form. If the frame is supplied in channel form a sealant cavity is left to allow for a flush mounted installation. The inside edge of the door frame has an edge to trim to. This edge also gives the option of fitting timber reveals or, if the door is installed in a thinner wall, this edge has been designed to be easily removed.

The louver doors are constructed with a rigid square frame to fix the hinges and the lock set to.* The doors come standard with a high quality lock set. The front of the door has a rubber seal on the closing face to eliminate door rattle. This also gives the door a positive closure feeling. The hinged posts of the doors have a security lip on the inside edge. This lip is there to prevent the doors being lifted out even if the hinge pins are removed.

With all of these features incorporated into the Holyoake Louver Door system as standard it now makes the appearance and installation of our louver doors second to none.

***Note: Hinge Handing and Handle/Lock options are available, refer to your local Holyoake branch.**



Louver Door System

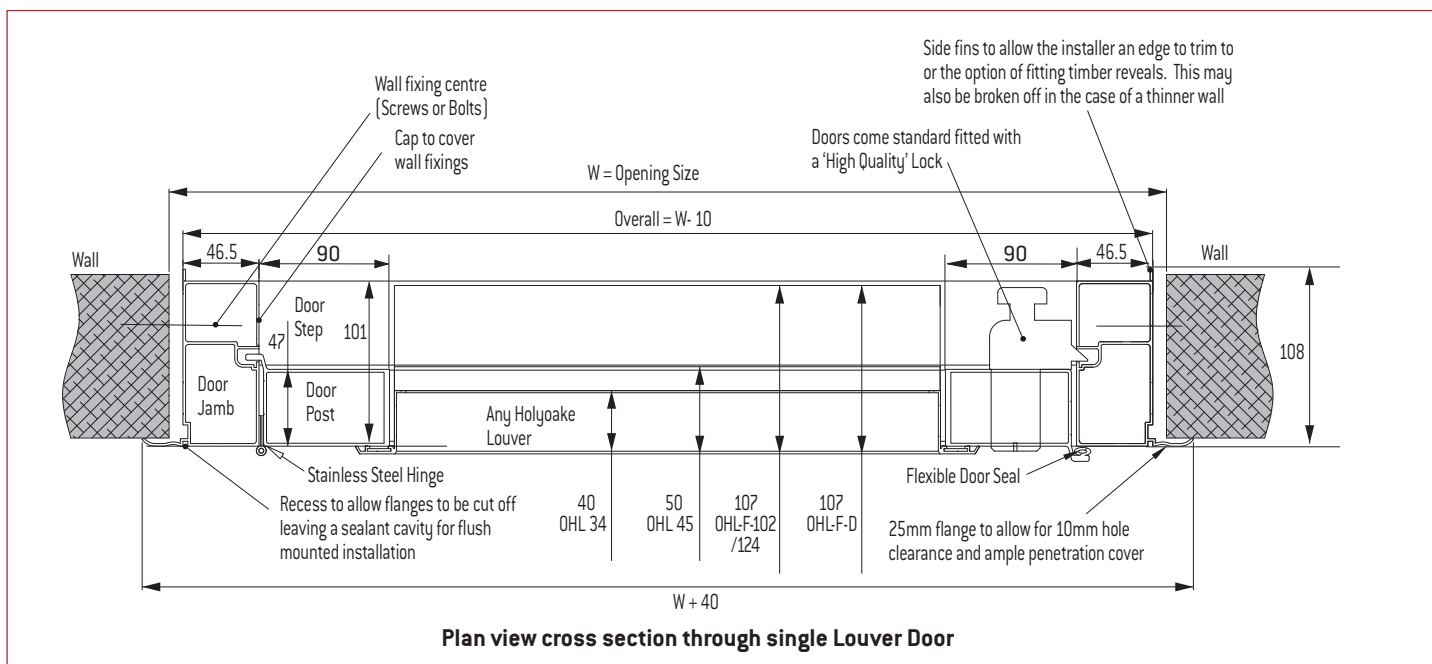
Outside Louvers

	Louver Width	Louver Height
Single Door	W-300	H-300
Double Door	W/2 - 225	H-300

W = Opening width

H = Opening height

Guide Product Weights	
Description	Approximate Weight in Kg.
OHL-Louver Door	Dependant on Style & Construction.
Contact your local Holyoake Branch	



PHL – Penthouse

Models: PHL-102 and PHL-124

Material: Extruded Aluminium sections, Welded Construction.

Model PHL-124 uses flat blade section - refer OHL-C-124.

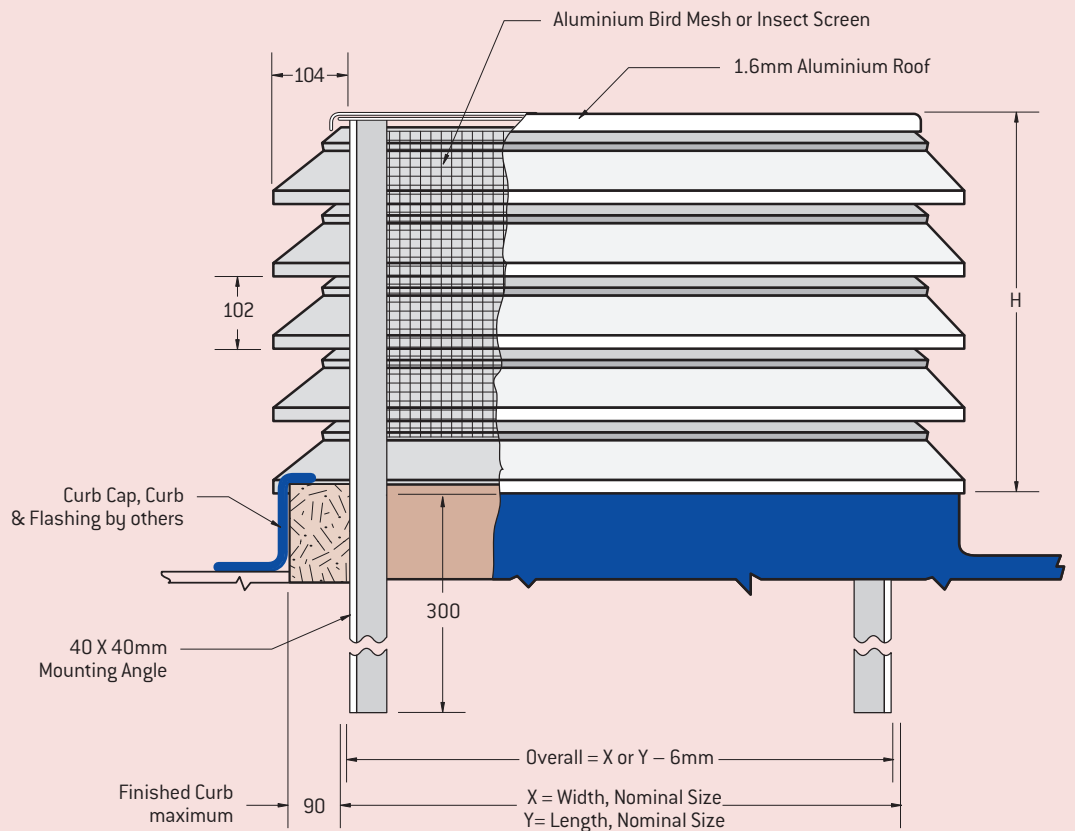
Features

- Model PHL-102 has blades with double weather stop.
- Choice of bird mesh or insect screen.
- Mitred, mig-welded corners.
- Heavy, extruded aluminium blades.
- Heavy gauge aluminium roof.
- 40 x 40mm vertical mounting angle in each corner.
- Optional box section corners are available.

Note

Other Material and Construction options may be available. Contact your local Holyoake branch.

Model PHL-102 illustrated.



Holyoake penthouses are designed and built to become a permanent part of the building. They maintain their attractive appearance and effective weather protection for many years as a result of their solid, extruded aluminium construction and careful workmanship.

These penthouses incorporate either the 102mm or 124mm horizontal outside louvers, or a choice of standard blade sections and screen mesh sizes. They are finished with mounting angles for easy and versatile mounting on a variety of roof curbs.



Models: **PHL-102** and **PHL-124** (mitred corners)

Recommended Penthouse Heights

X,mm	Y,mm	300	400	500	600	750	900	1200	1500	1800	2100	2400	2700	3000
300	H,mm	460	560	560	560	560	560	560	560	560	660	660	660	660
	A, m ²	0.09	0.12	0.16	0.19	0.23	0.28	0.37	0.46	0.56	0.65	0.74	0.84	0.93
400	H,mm		560	660	660	660	660	660	660	660	660	660	660	660
	A, m ²		0.17	0.21	0.25	0.31	0.37	0.50	0.62	0.74	0.87	0.99	1.11	1.24
500	H,mm			660	660	660	660	660	660	760	760	760	760	760
	A, m ²			0.26	0.31	0.39	0.46	0.62	0.77	0.93	1.09	1.24	1.35	1.55
600	H,mm				660	660	660	660	760	760	760	760	760	760
	A, m ²				0.37	0.46	0.56	0.74	0.93	1.11	1.30	1.49	1.67	1.86
750	H,mm					660	760	760	760	860	860	860	860	860
	A, m ²					0.58	0.70	0.93	1.16	1.39	1.63	1.86	2.09	2.32
900	H,mm						760	860	860	860	960	960	960	960
	A, m ²						0.84	1.11	1.39	1.67	1.95	2.23	2.51	2.79
1200	H,mm							860	960	960	1060	1060	1060	1160
	A, m ²							1.49	1.86	2.23	2.60	2.97	3.34	3.72
1500	H,mm								1060	1060	1160	1160	1160	1260
	A, m ²								2.32	2.79	3.25	3.72	4.18	4.65
1800	H,mm									1185	1185	1285	1285	1385
	A, m ²									3.34	3.90	4.46	5.02	5.57
2100	H,mm										1285	1385	1385	1485
	A, m ²										4.55	5.20	5.85	5.50
2400	H,mm											1485	1485	1500
	A, m ²											5.95	6.69	7.43
2700	H,mm												1585	1585
	A, m ²												7.52	8.36
3000	H,mm													1685
	A, m ²													9.29

Outside Louvers

Performance Notes

- When the Effective Pressure Area of the Penthouse equals the Duct Area or opening to the Penthouse, the Pressure Requirements are nearly a minimum.
- The Table of Recommended Heights for Penthouses gives the proportions which result in Penthouse Effective Pressure Areas nearly equal to the Duct Areas.
- Where used as an intake, velocities should not exceed 4.0 m/s.
- The areas in the above table are the Duct Areas in m² for the opening sizes listed and the effective pressure areas for the given height.

Guide Product Weights

Description	Approximate Weight in Kg.
PHL-102	Dependant on Style & Construction.
PHL-124	
Contact your local Holyoake Branch	

Pressure requirements for extruded aluminium penthouses

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	15	21	27	34	42	51	61	72	83	95
Exhaust*	2	4	7	12	17	23	30	38	47	57	67	79	92	105

*Total Pressure Pa (N/m²) ** Velocity corresponding to the Duct Area or Effective Pressure Area, which ever is less.
m³/s = Velocity Times Effective Pressure Area.

Example of Selection

Select a Penthouse height and determine the pressure requirement for exhausting 2.850 m³/s from 750 x 1200mm duct opening.

- From the above table the recommended height is 760mm.
- Since the recommended height is used the duct area (0.93m²) should be used to determine the pressure requirements.
- From the pressure requirement table a velocity of 3.0 m/s indicates a total pressure requirement of 17 Pa (N/m²).

$$\text{Velocity} = \frac{\text{m}^3/\text{s}}{\text{Area}} = \frac{2.850}{0.93} = 3.06\text{m/s}$$

OHCL, OHL, OHL-D, OHL-DRC, & OHL-LAOGS

Louver Description Code Examples and Suggested Specifications

OHCL	—	F C	—	102 124	—	W x H	—	OPTIONS	—	FINISH
Model - Closable Outside Horizontal Louver		Frame Style (F = Flange, C = Channel)		Blade size & configuration		Opening		24 V AC/DC Motor 230 V AC Motor		Powder Coat Anodised Mill Aluminium

Closable Horizontal Outside Louvers shall be of extruded aluminium construction with black anodised blades with integral flange and extruded vinyl edge seal. Fixed blades incorporate expanded aluminium bird screen. Blade closure is via Gang Linkage bars either manually, or by a factory fitted linear motor. Closable Louvers shall be Series OHCL. All shall be as manufactured by Holyoake.

OHL	—	F C	—	34 45 102 124	—	W x H	—	BM/IS	—	FINISH
Model - Outside Horizontal Louver		Frame Style (F = Flange, C = Channel)		Blade size & configuration		Opening		Bird Mesh or Insect Screen		Powder Coat Anodised Mill Aluminium

Horizontal Outside Louvers shall be of extruded aluminium construction with 100 mm blades fixed at their ends with stainless steel screws into a welded aluminium frame. The bottom louver shall overlap the frame and the structure shall be designed to withstand a wind load of 95 Kg/m². Louvers shall be type OHL - F - 102. All shall be as manufactured by Holyoake. [Example specification shown is for a flanged OHL-F-102].

OHL	—	F C	—	D	—	W x H	—	BM/IS	—	FINISH
Model - Outside Horizontal Louver		Frame Style (F = Flange, C = Channel)		Drainable Blade		Opening		Bird Mesh or Insect Screen		Powder Coat Anodised Mill Aluminium

Drainable Horizontal Outside Louvers shall be of extruded aluminium construction with blades which drain through vertical down pipes to discharge water at the bottom of the louver. Louvers shall be type OHL - D. All shall be as manufactured by Holyoake.

OHL	—	F C	—	DRC	—	W x H	—	SECURITY MESH	—	OPTIONS	—	FINISH
Model - Outside Horizontal Louver		Frame Style (F = Flange, C = Channel)		Drainable Closable Blade		Opening		Gym Mesh		24 V AC/DC Motor 230 V AC Motor		Powder Coat Anodised

Drainable Closable Horizontal Outside Louvers, shall be of extruded aluminium construction, with special overlapping drainable closable blades and complete with extruded aluminium security mesh on the rear. Blade closure is via Linkage bars in a concealed cavity, either manually, or by a suitable factory fitted motor. Drainable Closable Louvers shall be Series OHL - DRC. All shall be as manufactured by Holyoake.

OHL	—	LAOGS	—	W x H	—	BM/IS	—	FINISH
Model - Outside Horizontal Louver		Type		Opening		Bird Mesh or Insect Screen		Powder Coat Anodised Mill Aluminium

OHL - LAOGS Horizontal Outside Louvers shall be constructed from welded aluminium construction. Bird Mesh is fitted to the rear as standard. Louvers shall be type OHL-LAOGS. All shall be as manufactured by Holyoake.

OVL, OHL-KD, PHL, ST2/4 & LOUVER DOOR

Louver Description Code Examples and Suggested Specifications

<p>OVL – [F] – [99] – W x H – [BM/IS] – FINISH</p> <p style="text-align: center;"> C 148 </p>	<p>Model - Outside Vertical Louver</p> <p>Frame Style (F = Flange, C = Channel)</p> <p>Blade Size and Configuration</p> <p>Opening</p> <p>Bird Mesh or Insect Screen</p> <p>Powder Coat Anodised Mill Aluminium</p>	<p>Vertical Outside Louvers shall be of extruded aluminium construction with blades fixed at ends with stainless steel screws into a mitred and mechanically locked extruded aluminium frame. Intermediate blade stabilizing spacer clips shall be fitted where blade length exceeds 900mm and the structure shall be designed to withstand a wind load of 95kg/m².</p> <p>Louvers shall be type OVL-C-99.</p> <p>All shall be as manufactured by Holyoake.</p> <p>(Example specification shown is for OVL-C-99).</p>
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<p>OHL-KD – 100 – W x H – [BM/IS] – FINISH</p>	<p>Model - Outside Horizontal Louver - Knock Down</p> <p>Blade Style</p> <p>Opening</p> <p>Bird Mesh or Insect Screen</p> <p>Powder Coat Anodised Mill Aluminium</p>	<p>OHL-KD (Knock Down) Outside Horizontal Louvers shall be manufactured from aluminium extrusion and are supplied in Kit Form for on site assembly, by others. The louver blades shall be sight proof, complete with two water stops and may be provided in a powder coat finish, with Bird Mesh, or Insect Screen.</p> <p>Louvers shall be type OHL - KD - 100.</p> <p>All shall be as manufactured by Holyoake.</p>
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<p>PHL – [102] – W x L x H – [BM/IS] – FINISH</p> <p style="text-align: center;"> 124 </p>	<p>Model - Penthouse Louver</p> <p>Blade Style</p> <p>Opening x Height</p> <p>Bird Mesh or Insect Screen</p> <p>Powder Coat Mill Aluminium</p>	<p>PHL Penthouse Louvers shall be constructed from welded aluminium extrusion with mitred corners. Heavy, extruded aluminium blades and heavy gauge aluminium roof, with bird mesh, or insect screen.</p> <p>Penthouse Louvers shall be Series PHL-102, or PHL-124.</p> <p>All shall be as manufactured by Holyoake.</p>
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<p>[OHL – ST2] – W x H – FINISH</p> <p style="text-align: center;"> ST4 </p>	<p>Model - ST2 (2 Row) ST4 (4 Row) Sound Trap</p> <p>Opening</p> <p>Mill Aluminium</p>	<p>OHL-ST Sound Trap attachments shall be constructed of a number of cylindrical sound absorbing elements, all housed in a sheet aluminium surround which matches the selected OHL louver.</p> <p>Sound Traps shall be Series OHL - ST2, or OHL - ST4.</p> <p>All shall be as manufactured by Holyoake.</p>
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<p>OHL-LOUVER DOOR – [F] – [34] – W x H – [BM/IS] – FINISH</p> <p style="text-align: center;"> C 45 102 124 D </p>	<p>Model - Outside Horizontal Louver Door</p> <p>Frame Style (F = Flange, C = Channel)</p> <p>Blade Size and Configuration</p> <p>Opening</p> <p>Bird Mesh or Insect Screen</p> <p>Powder Coat Anodised Mill Aluminium</p>	<p>OHL-LOUVER DOORS are robustly constructed with Aluminium box section frames and extruded aluminium blades of the size and configuration required. High quality stainless steel hinges shall be used to support the relevant door loads. A 'High Quality' lock set and handle shall be provided as standard, as well as rubber seals to eliminate door rattle.</p> <p>Louver Doors shall be Series OHL-Louver Doors.</p> <p>All shall be as manufactured by Holyoake.</p>
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<p>OHL – [F] – 100WT – W x H – [BM/IS] – FINISH</p> <p style="text-align: center;"> C </p>	<p>Model - Two stage weather trap louver</p> <p>Frame Style (F = Flange, C = Channel)</p> <p>Blade Size and Configuration</p> <p>Opening</p> <p>Bird Mesh or Insect Screen</p> <p>Powder Coat Anodised Mill Aluminium</p>	<p>Horizontal Outside weather trap louvers shall be of extruded aluminium construction with 100mm front blades fixed at their ends and complete with second stage blades at the rear. The bottom louver shall overlap the frame and the structure shall be designed to withstand a wind load of 95 kg/m².</p> <p>Louvers shall be type OHL-F-100WT.</p> <p>All shall be as manufactured by Holyoake.</p>
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OUTSIDE HORIZONTAL LOUVERS