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.

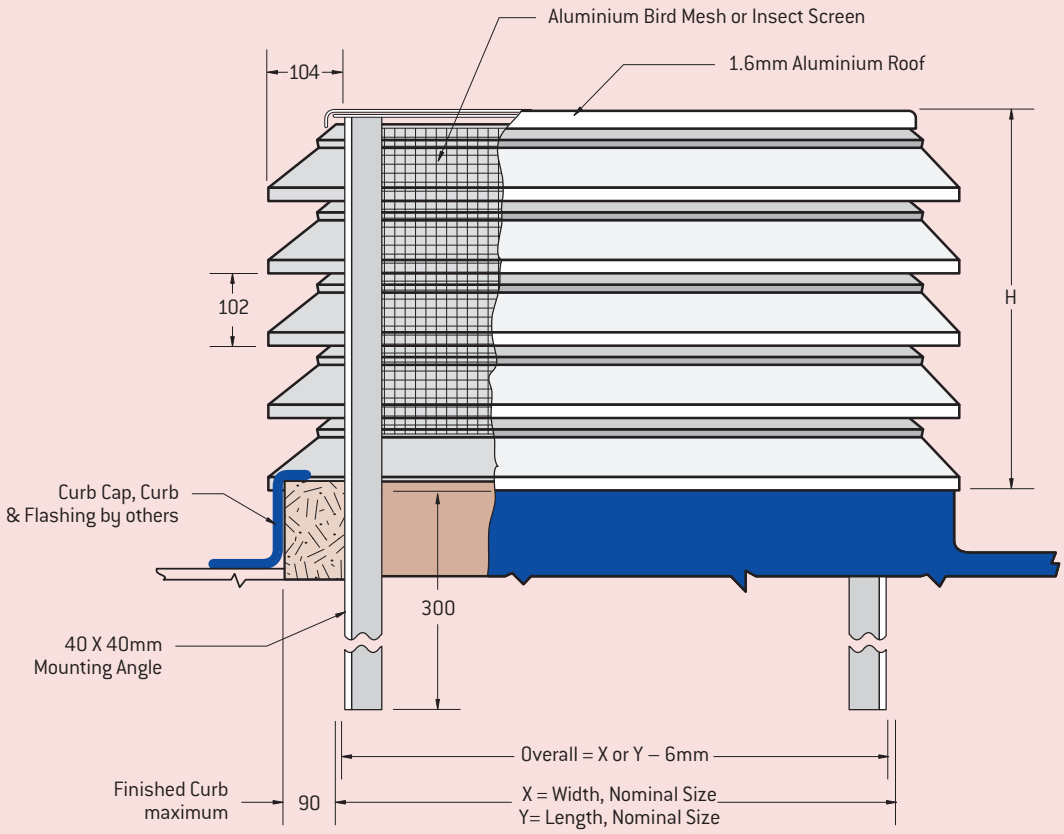
Features

- 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, m²	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, m²		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, m²			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, m²				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, m²					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, m²						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, m²							1.49	1.86	2.23	2.60	2.97	3.34	3.72
1500	H,mm								1060	1060	1160	1160	1160	1260
	A, m²								2.32	2.79	3.25	3.72	4.18	4.65
1800	H,mm									1185	1185	1285	1285	1385
	A, m²									3.34	3.90	4.46	5.02	5.57
2100	H,mm										1285	1385	1385	1485
	A, m²										4.55	5.20	5.85	5.50
2400	H,mm											1485	1485	1500
	A, m²											5.95	6.69	7.43
2700	H,mm												1585	1585
	A, m²												7.52	8.36
3000	H,mm													1685
	A, m²													9.29

Performance Notes

1. When the Effective Pressure Area of the Penthouse equals the Duct Area or opening to the Penthouse, the Pressure Requirements are nearly a minimum.
2. The Table of Recommended Heights for Penthouses gives the proportions which result in Penthouse Effective Pressure Areas nearly equal to the Duct Areas.
3. Where used as an intake, velocities should not exceed 4.0 m/s.
4. The areas in the above table are the Duct Areas in m^2 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 m^3/s from 750 x 1200mm duct opening.

1. From the above table the recommended height is 760mm.
2. Since the recommended height is used the duct area (0.93m^2) should be used to determine the pressure requirements.

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

3. From the pressure requirement table a velocity of 3.0 m/s indicates a total pressure requirement of 17 Pa (N/m^2).

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

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

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

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

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

- OHL: Model - Outside Horizontal Louver
- LAOGS: Type
- W x H: Opening
- BM/IS: Bird Mesh or Insect Screen
- FINISH: 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

OVL – [F / C] – [99 / 148] – W x H – [BM/IS] – FINISH

- OVL — Model - Outside Vertical Louver
- [F / C] — Frame Style (F = Flange, C = Channel)
- [99 / 148] — Blade Size and Configuration
- W x H — Opening
- [BM/IS] — Bird Mesh or Insect Screen
- FINISH — Powder Coat Anodised Mill Aluminium

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/m^2.

Louvers shall be type OVL-C-99.

All shall be as manufactured by Holyoake.

(Example specification shown is for OVL-C-99).

OHL-KD – 100 – W x H – [BM/IS] – FINISH

- OHL-KD — Model - Outside Horizontal Louver - Knock Down
- 100 — Blade Style
- W x H — Opening
- [BM/IS] — Bird Mesh or Insect Screen
- FINISH — Powder Coat Anodised Mill Aluminium

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.

Louvers shall be type OHL - KD - 100.

All shall be as manufactured by Holyoake.

PHL – [102 / 124] – W x L x H – [BM/IS] – FINISH

- PHL — Model - Penthouse Louver
- [102 / 124] — Blade Style
- W x L x H — Opening x Height
- [BM/IS] — Bird Mesh or Insect Screen
- FINISH — Powder Coat Mill Aluminium

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.

Penthouse Louvers shall be Series PHL-102, or PHL-124.

All shall be as manufactured by Holyoake.

[OHL – ST2 / ST4] – W x H – FINISH

- OHL – ST2 / ST4 — Model - ST2 (2 Row) ST4 (4 Row) Sound Trap
- W x H — Opening
- FINISH — Mill Aluminium

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.

Sound Traps shall be Series OHL - ST2, or OHL - ST4.

All shall be as manufactured by Holyoake.

OHL-LOUVER DOOR – [F / C] – [34 / 45 / 102 / 124 / D] – W x H – [BM/IS] – FINISH

- OHL-LOUVER DOOR — Model - Outside Horizontal Louver Door
- [F / C] — Frame Style (F = Flange, C = Channel)
- [34 / 45 / 102 / 124 / D] — Blade Size and Configuration
- W x H — Opening
- [BM/IS] — Bird Mesh or Insect Screen
- FINISH — Powder Coat Anodised Mill Aluminium

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.

Louver Doors shall be Series OHL-Louver Doors.

All shall be as manufactured by Holyoake.

OHL – [F / C] – 100WT – W x H – [BM/IS] – FINISH

- OHL — Model - Two stage weather trap louver
- [F / C] — Frame Style (F = Flange, C = Channel)
- 100WT — Blade Size and Configuration
- W x H — Opening
- [BM/IS] — Bird Mesh or Insect Screen
- FINISH — Powder Coat Anodised Mill Aluminium

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.

Louvers shall be type OHL-F-100WT.

All shall be as manufactured by Holyoake.

Visit www.productspec.net/holyoake for product drawings in REVIT.