



Monodraught are the recognised market leaders in ultra-low carbon, low energy solutions for Natural Ventilation, Natural Cooling and Natural Lighting.

WINDCATCHER[®], **SUNPIPE**[®] and **COOL-PHASE**[®] brands are synonymous with quality and innovation (ISO9001 & 14001) and are supported by our market leading design service.

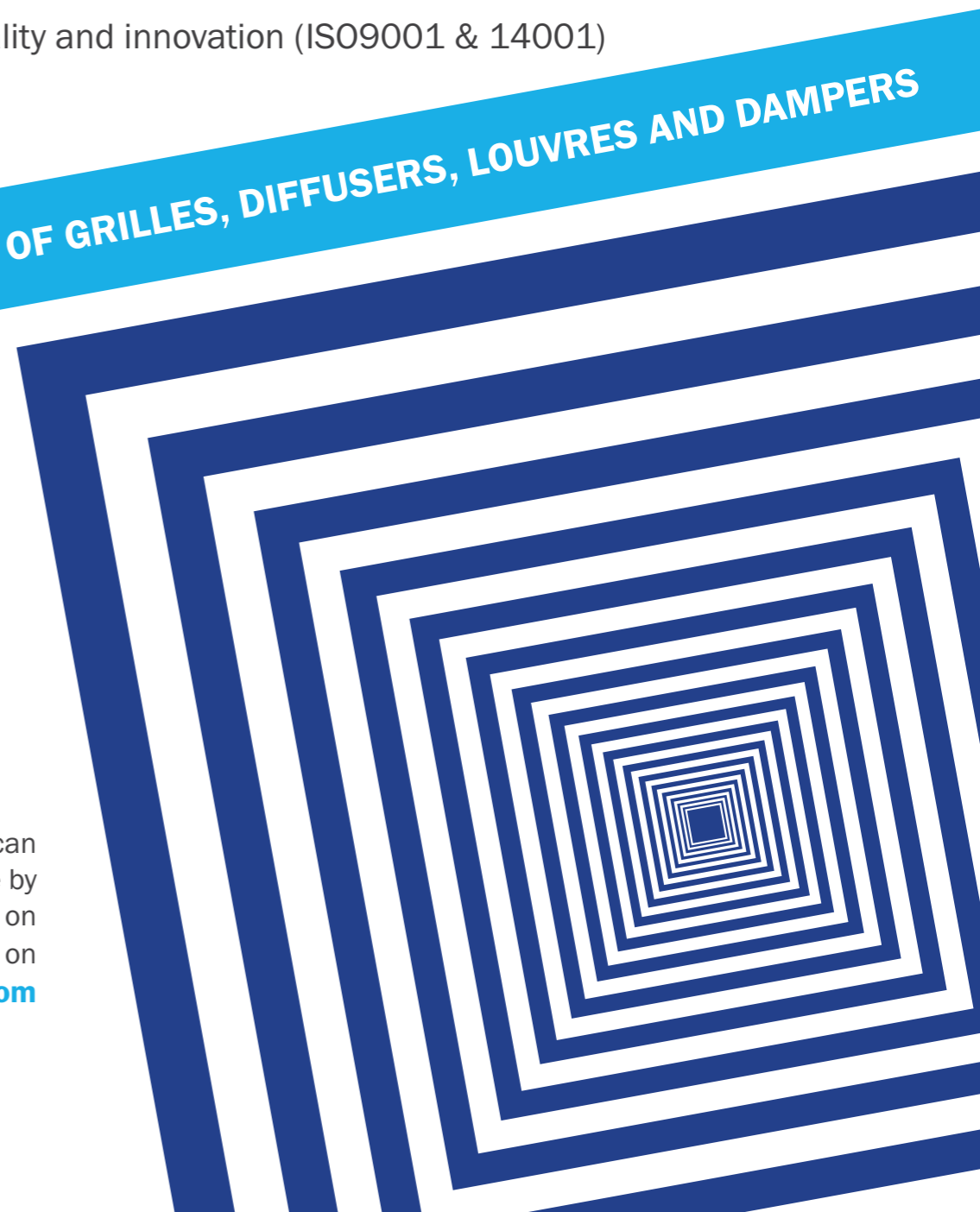
Air-Precision is an addition to Monodraught's portfolio including grilles, diffusers, external louvres and volume control dampers.

PRODUCT RANGE OF GRILLES, DIFFUSERS, LOUVRES AND DAMPERS

We are supporting this range with:

- £1 million of fast moving stock
- Bespoke manufacture with any standard RAL colour within 5 days
- 15 dedicated selection experts
- Designed with industry leading software
- Belimo actuators used throughout
- AA5 anodisation (ISO7599) utilised
- Market leading quality fully supported by a **10 year guarantee**

We are confident that we can beat any quotation you have by 10% so please contact us on **01494897700** or email us on **air-precision@monodraught.com**



Penthouse Louvres - PHL



Series PHL penthouse louvres, also known as turret louvres, are roof mounted ventilation terminals, suitable for performing both intake and exhaust functions.

Commonly used in natural ventilation applications, penthouse louvres allow temperature differentials and the force of the wind to be used in place of energy intensive forced ventilation. This can present significant savings of both cost and energy over the life of the building.

Air-Precision Series PHL penthouse louvres are manufactured to order and are available with a comprehensive range of options to both functionality and appearance, including integrated volume control dampers and internal dividers.

Materials:

- Louvre bank: Extruded aluminium
- BZP steel screws
- Roof: Galvanised steel

Roof Design:

- FR: Flat roof
- SR: Single slant roof
- DR: Double slant roof

Blade:

- 50 mm or 75 mm pitch both with 45° face slope

Debris Screen:

- BS: Bird Screen (12 mm x 12 mm mesh)
- IS: Insect Screen

Frame:

- Standard: To suit raised curb
- Optional: To suit flat roof

Free area:

- Approx 50%

Important Note: Free area is not a reliable guide to performance. It is possible to have two louvres with identical geometric free areas but different airflow characteristics.

Series:

- PHL50: Penthouse louvre - 50 mm pitch blades
- PHL75: Penthouse louvre - 75 mm pitch blades
- HPHL75: High performance penthouse louvre - 75 mm pitch blades

BSRIA Testing:

Series PHL high penthouse louvres are derived from Series WL50 and WL75 standard weather louvres and Series HPHL75 high performance penthouse louvres are derived from Series HPL high performance louvres.

All louvre types have been tested against:

BS EN 13030:2001

The testing was carried out in April 2013 by BSRIA in Bracknell, Berkshire, England.



Performance:

Both WL50 and WL75 louvres were tested with an optional rear mounted drip tray, this will have had negligible impact on airflow but a large impact on rain resistance.

Headline figures for each series are shown here:

WL50 - DT (complete with rear mounted drip tray):

- **Mean Airflow Coefficient:** 0.314 (class 2)
- **Rain Rejection:** Class C up to 2 m/s draw velocity and Class D above 2 m/s draw velocity

WL75 - DT (complete with rear mounted drip tray):

- **Mean Airflow Coefficient:** 0.252 (class 3)
- **Rain Rejection:** Class C up to approx 1.4 m/s draw velocity and Class D above approx 1.4 m/s draw velocity

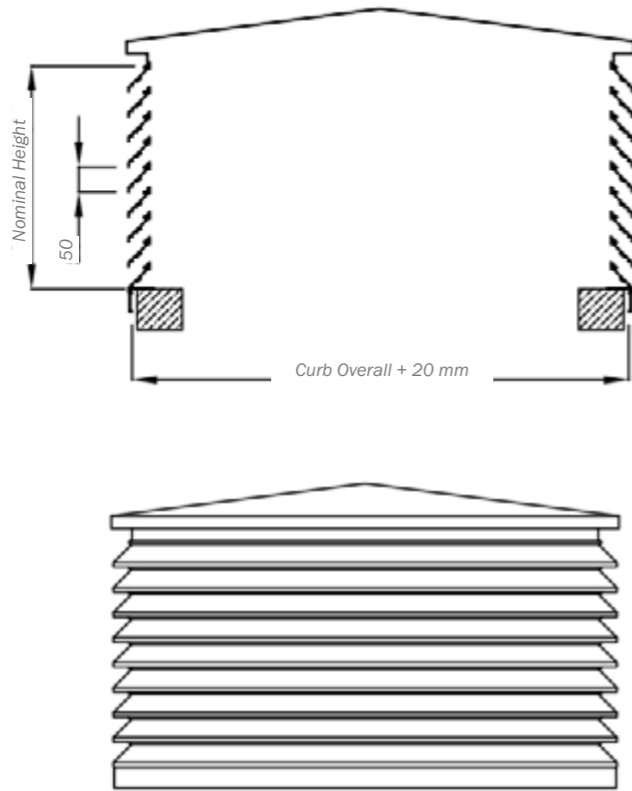
HPL: High Performance Louvre

- **Mean Airflow Coefficient:** 0.126 (class 4)
- **Rain Rejection:** Class A up to 0.5 m/s draw velocity, Class B above 0.5 m/s draw velocity, up to 2.5 m/s and Class C above 2.5 m/s draw velocity

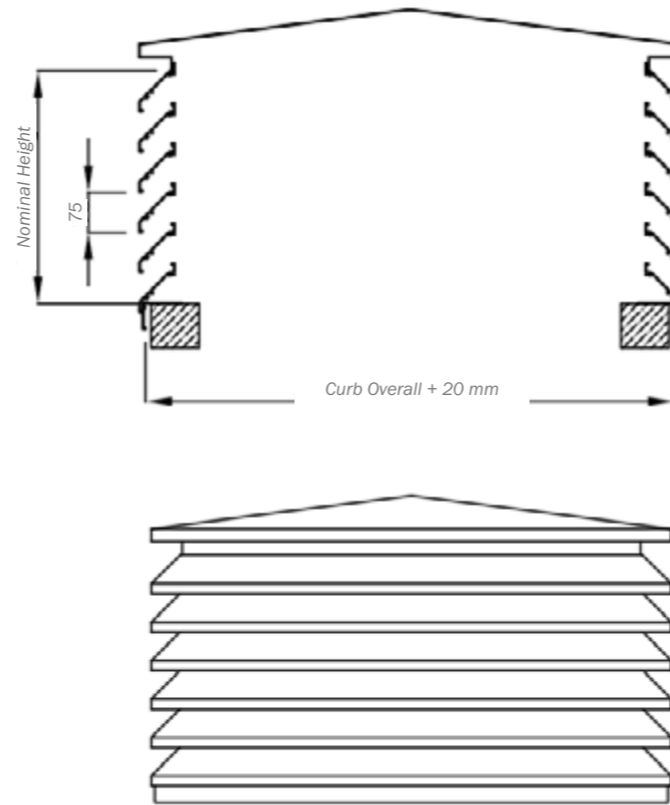
Penthouse Louvres - PHL

Technical Drawings:

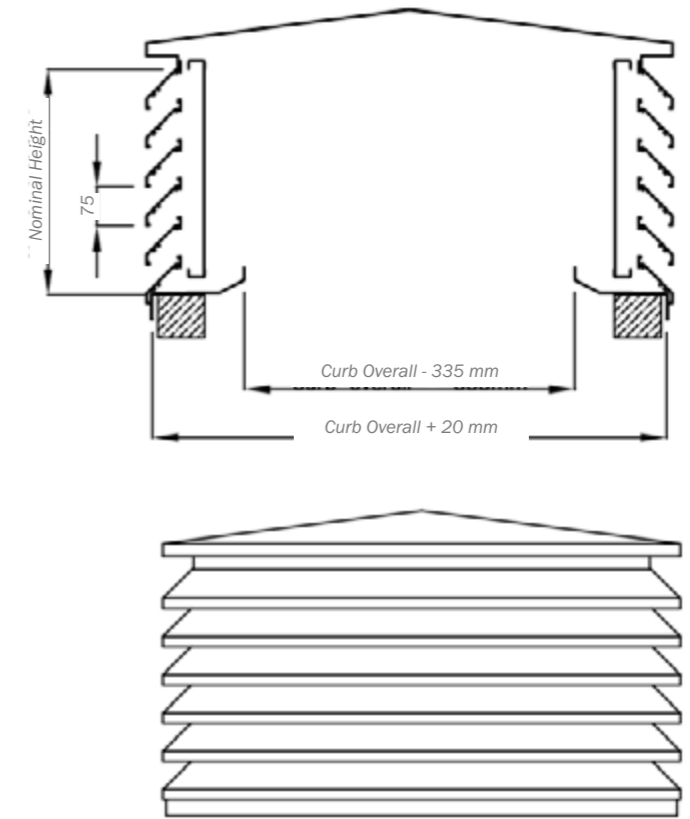
- PHL50



- PHL75



- HPHL75



Options:

Base Type

Penthouse louvres can be manufactured with a base to suit a raised curb or a base to suit a flat roof.

We recommend the use of raised curbs in order to avoid possible problems with water ingress.

Flat Roof



Curb



Access Panels and Doors

Access panels are often required to access internal equipment such as volume control dampers.

Available fully removable panels (shown) or as lockable doors.



Penthouse Louvres - PHL

*Options like doors and internal dividers do not have ordering codes.
Any requirements for these options should be discussed directly with Monodraught.*

Further Options:

Internal Dividers:

Internal dividers greatly enhance louvre functionality by creating separate compartments within a single penthouse louvre.

This allows the natural forces of wind and thermal buoyancy to be taken advantage of, ventilating the building without the use of forced ventilation equipment.

Dividers are manufactured from galvanised steel and can be insulated with Pyrosorb type foam if required.

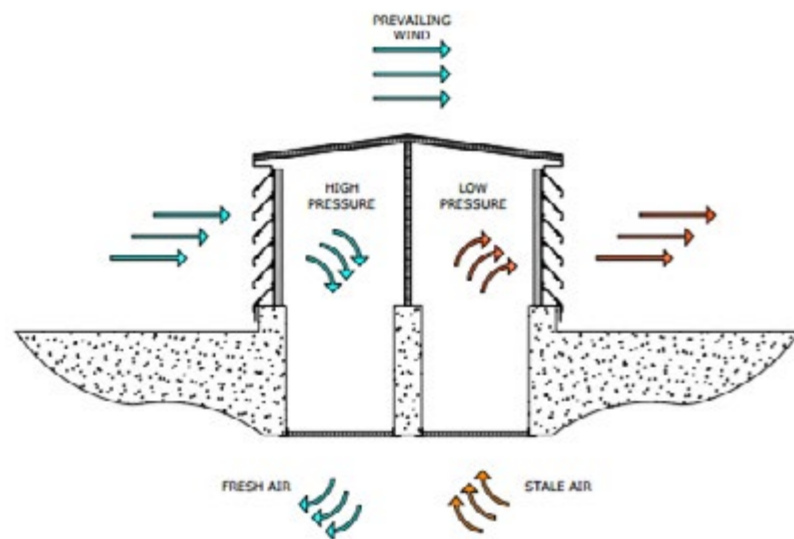
Wind Driven:

This set up uses wind to force fresh air into one section of the PHL, creating high pressure and forcing air down the ventilation shaft.

The fresh air enters the living space below through a diffuser or grille, creating high pressure within the room.

At the same time, the other side of the penthouse has a lower pressure as the wind blows away from it.

This creates a constant pressure imbalance on each side of the louvre, constantly supplying fresh air and extracting stale air.

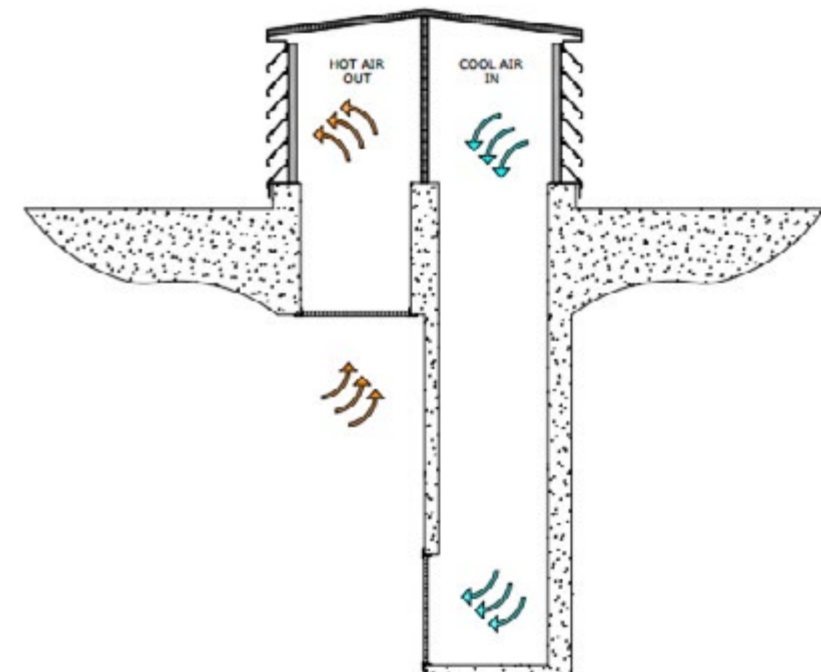


Thermally Driven:

This relies on warmth created by the sun and/or occupants to drive the airflow.

The natural buoyancy of warm air inside a room causes it to rise to the ceiling and a strategically placed grille allows it to rise through a ventilation shaft and out of one side of the penthouse louvre.

The other side of the louvre will then allow cool fresh air to be pulled in due to the pressure differential created when the warm air escaped.



Penthouse Louvres - PHL

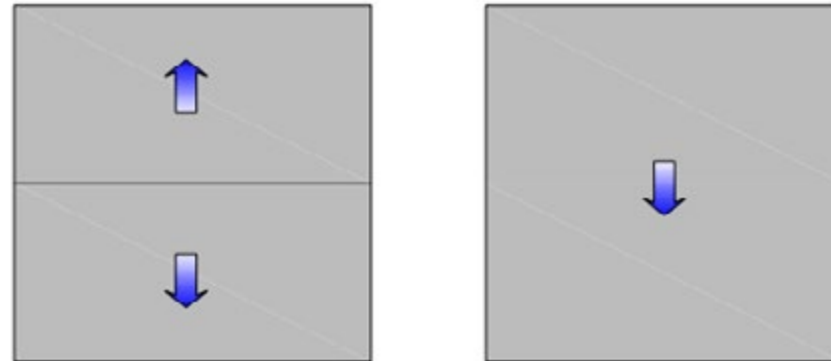
Further Options:

Roof Types and Insulation:

Roofs are manufactured from galvanised steel and are supplied separately to the louvre body for fitting on site.

Available in:

- Single slant
- Double slant



Roofs can also be internally insulated.

This options has two benefits:

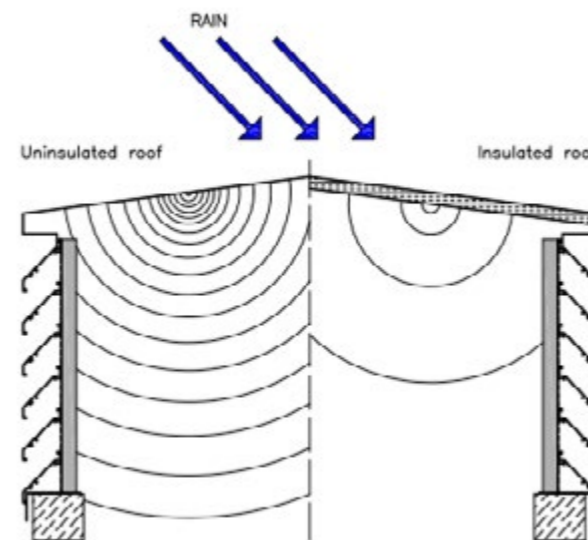
- **Acoustic Insulation:**

An uninsulated steel roof essentially acts like a drum during rain, meaning occupant comfort could be reduced in below areas during periods of rain

- **Condensation Prevention:**

A large steel surface exposed to the elements on one side and exposed to warm moist air on the other is certain to produce condensation.


Under the right conditions large amounts of water could easily be formed inside the louvre, dripping down into occupied areas and damaging building internals.





Finish:


- Mill aluminium (standard)
- RAL: Polyester powder coated to RAL
- BS: Polyester powder coated to BS



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