Weather Louvre

Simplicity in design delivers long-life reliability with both the Veotec and Wozair Weather Louvres.

DS-039-R01

Weather Louvre (Veotec)

The Veotec weather louvre unit is a basic weather protection device for removing corrosive rainwater and some sea spray from air intakes and exhaust applications.

With a low pressure drop and low maintenance it makes the ideal first stage protection for HVAC systems or engine air intakes.

It is available in any size to suit the customer requirements and can be fitted with bird and vermin guards if required.

The Weather Louvre has the option to be fitted with a manual closing mechanism to close the blades or a Weathertight Hatch can be fitted to the unit.

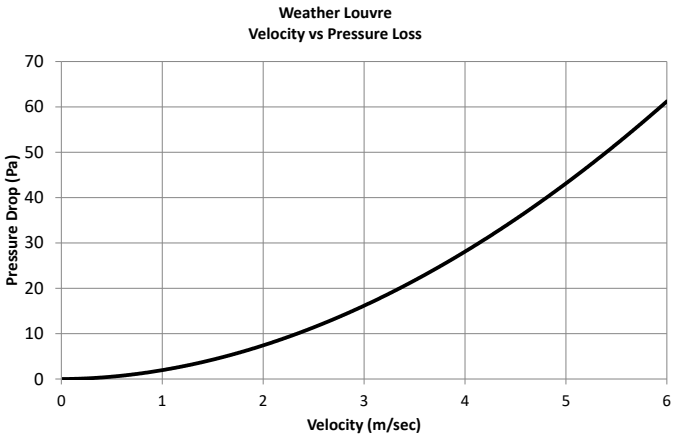
Features

- Removes rain / sea spray from the air
- Low pressure loss
- Low maintenance
- Sized to suit application

Installation

Installation arrangement can be Front Flange, Rear Flange or Duct Mounted (double flange).

Flange drilling patterns may be manufactured to customer specifications or to industry standards such as EN ISO 15138.



Construction

Materials & Methods of Construction - Frame

Material
5083 Aluminium, SS316L, 304L, GAM
Finish
Natural, optional powder coat
Construction
The flange profiles are fully welded together into cast aluminium corner pieces to form a rigid frame

Materials & Methods of Construction - Profiled Blade

Material
5083 Aluminium, SS316L, 304L, GAM
Finish
Natural
Construction
Blade extruded to form optimal shape for pressure loss and drainage

Materials & Methods of Construction - Other

Name Plate
Stainless Steel 316L or Traffolyte

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Weather Louvre (Wozair)

Wozair offer a range of austenitic stainless steel high efficiency weather louvres. The louvres designed primarily for Offshore louvres and Petrochemical industries. These are well suited to ventilation and power generation air intake and cladding systems exhaust applications as well as louvre to prohibit the ingress of wind driven.

The function of the weather louvre is to prevent rain entering into the ventilation system. Three configurations of louvre are available with a range of efficiency performance to suit particular applications. Each configuration has been subject to a performance test by a third party independent test authority (BSRIA).

The type SB is best suited to installation on exhaust ducts, although it can be used on intake systems where some ingress of water is acceptable.

The type SBG is best suited to installation on intake systems requiring a high level of separation efficiency.

The type DBG is best suited to installation on intake systems where a very high level of separation efficiency is required resulting in no or negligible water ingress.

Technical Information

Wozair high efficiency weather louvres offer the following features:

- All stainless steel construction from grade 304L or 316L
- Welded construction
- Integral water drain system via front face or drain boss
- Integral weathergrid on types SBG and DBG to improve water removal
- Channel frame construction for all types with an angle frame option available on the SB
- Optional bird mesh guard (fixed or removable) on type SB

Frame

This is typically fabricated from 2.0 mm or 3.0 mm stainless steel grade 304L or 316L although alternative grades can be considered. It is a continuously welded channel or angle section construction with the flange drilled for mounting the louvre on to the ductwork.

The casings for types SBG and DBG have integral water drain channels within the side frame members.

All types of louvre can be configured for water drainage via the front face or alternatively, for channel frame sections only, be fitted with a collection trough in the base of the frame for drainage via a boss.

Blades

All blades are fabricated from 1.2 mm stainless steel grade 304L or 316L.

Single Bank (type SB)
The blades are mounted horizontally and stitch welded to the frame at each end. Each blade incorporates a weatherlip at the top edge which arrests wind driven rain at this crucial position.

Single Bank with Weathergrid (type SBG)
The blades are as detailed for the type SB louvre but with the following additional features to improve efficiency:

Each blade incorporates an upturned drain lip on the lower edge. Extensive research has shown that the cascading effect of water down the front of the louvre makes a considerable contribution to water penetration since falling droplets can be carried through the louvre by wind force or system operating conditions. The drain lip reduces this cascading effect by diverting the water to the drain channels within the side frame members leading to a significant increase in efficiency.

Double Bank with Weathergrid (type DBG)
The blades are as detailed for the type SBG louvre but with the following additional features to improve efficiency:

A second row of blades mounted vertically immediately behind the first row being stitch welded to the frame at each end. These blades have a lip on their trailing edge to arrest moisture carried over from the first bank of blades and drain to the bottom of the frame.

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Weathergrid/Mesh Guard

Single Bank (type SB)
As an option this louvre can be fitted with a stainless steel wire mesh guard to prevent birds and debris entering the system. The mesh may be specified with apertures 25 mm x 25 mm or 50 mm x 50 mm. Other options can be considered upon request. The mesh can be permanently fixed (welded) to the frame or bolted so as to be removable.

Single Bank (type SBG) or Double Bank (type DBG)
These louvres are fitted with a weathergrid between adjacent blades. The grid acts as an air equalising screen to assist aerodynamic performance and disperse any wind driven rain that may penetrate upwards.

The apertures in the weathergrids are sized to prevent birds and debris from entering the system and therefore eliminate the necessity for a separate mesh guard.

Dimensional Limits
The minimum louvre size is 200 mm wide x 200 mm high and the maximum is 2000 mm wide x 2000 mm high. For larger duct or airway sizes the louvre can comprise a number of modules with fixing details designed to suit the installation. The maximum recommended face velocity is 2.5 m/s for an intake system and 3.0 m/s for an exhaust system.

Performance Data
The aerodynamic performance and water ingress efficiency, based on an intake application, for each louvre type is given in the graphs that follow.

All performance testing on these products was conducted by the Building Services Research and Information (BSRIA) in accordance with the Heating, Ventilating and Air Conditioning Manufacturers Association (HEVAC) standard for weather louvre tests.

BSRIA test reports for the products are available on request.

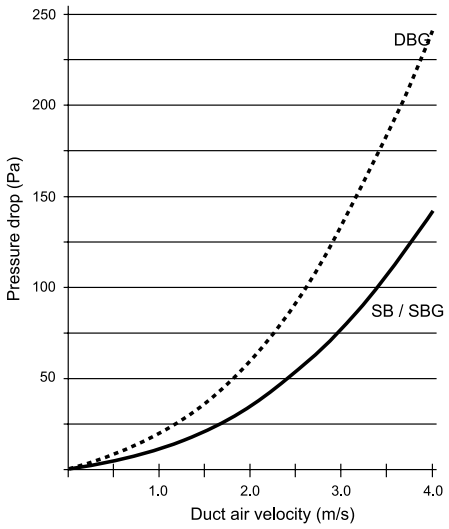
Efficiency
The efficiency of each louvre type against airflow rate for an intake application is presented on the graphs. With a fan drawing air through the louvre wind driven rainfall was simulated using:

- An incident wind of 13 m/s (29.08 mph) incident to the louvre face
- A nominal rainfall rate of 75 mm/hr

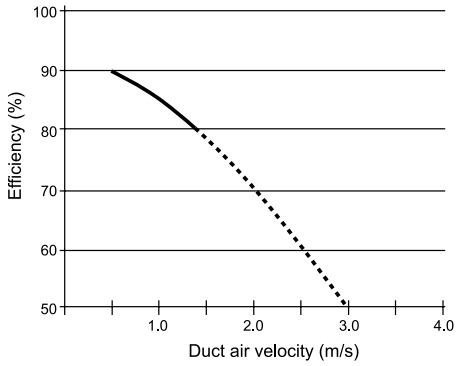
An increase in efficiency will result if either of these criteria is reduced or the louvre is used for an exhaust application.

The efficiency is a measure of the ability of the louvre to prevent water droplets from entering the system. For example at an efficiency of 99% only 1% of the rainfall will pass through the louvre.

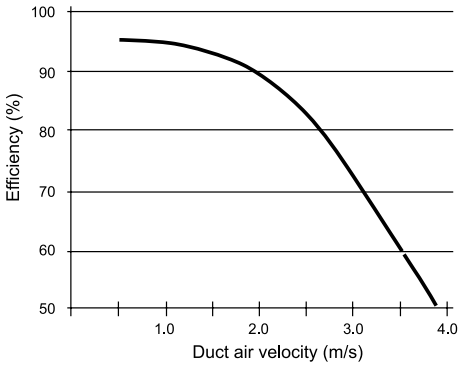
Pressure Drop Characteristics



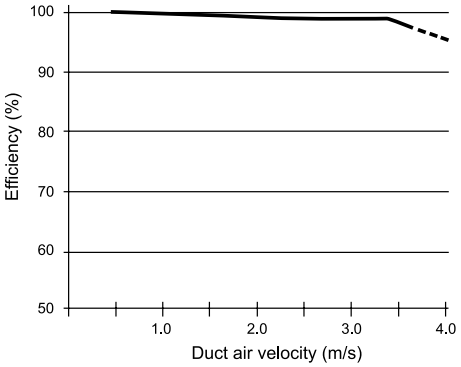
Type SB



Type SBG



Type DBG



Ordering

Quantities, surface finish and other special requirements are to be stated separately.

Type: DBG	**Nominal Width:** 1000
Duct Height: 500	
Type Wozair: Double Bank Grid Louvre	

Legend:

Louvre Type

SB Single Bank
SBG Single Bank with Grid
DBG Double Bank with Grid

Material

SS316 Stainless Steel (with grade)

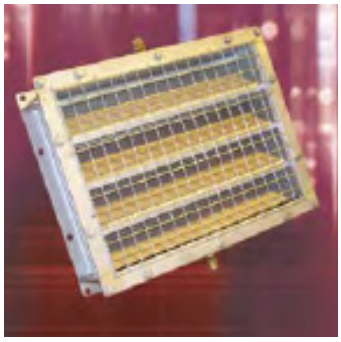
Frame Thickness

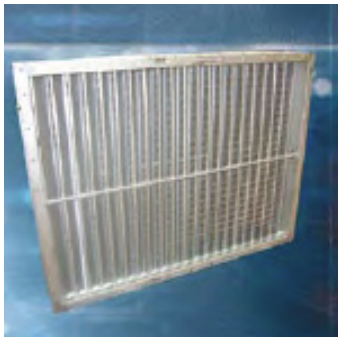
2.0 mm or 3.0 mm (refer to description)

Nominal Duct Size

Clear inside duct dimensions
'Quote' (Width x Height)

Order Code Example:
DBG/316L/2.0/1000W/500H/200D/





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