



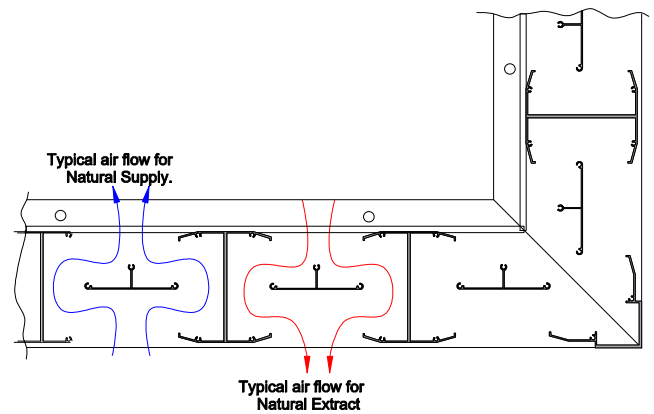
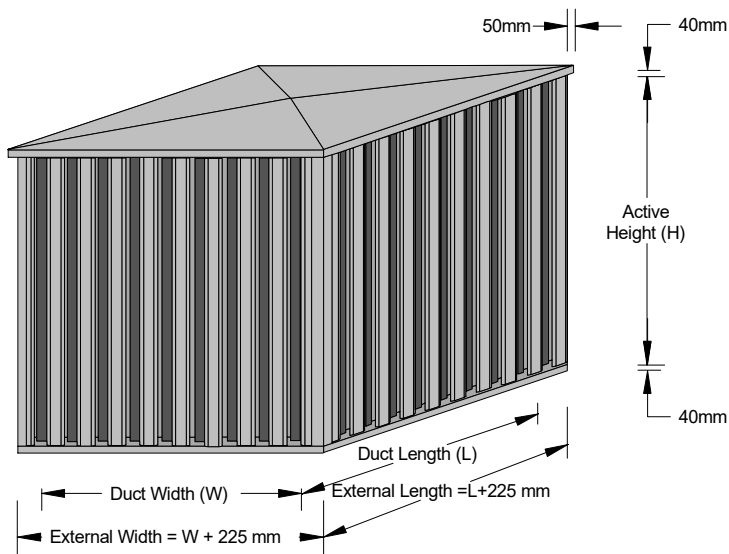
Natural Ventilation & Weather Louvre products for Commercial, Industrial, & Educational Buildings including High Security facilities.

Our High Performance Baffle Terminal has been independently tested and proven to achieve Class A Rain Rejection in accordance with BS EN 13030:2001

Our range includes:

- High Performance Baffle Terminals
- Roof mounted Penthouse Louvre Terminals
- Wall Mounted External Louvres in any shape
- Heavy Duty Security Louvres
- Vandal Resistant Louvres
- Free Standing Louvre Screens
- Acoustic Louvres and Doors
- Louvre Doors suitable for Plant Rooms etc.
- Stainless Steel Louvres suitable for Marine environments

High Performance Baffle Terminal Square / Rectangular, Type HPBT.



HPBT Blade Configuration

PERFORMANCE:

The "WindVent" system has been specifically designed for use in Natural Ventilation Systems where performance and weatherability is paramount. The high performance baffle type blade arrangement was developed to minimise the free pass of strong wind driven rain and snow entering the building which has been a failing of more standard type louvre systems in this application.

Due to the unique blade design there is no line of sight between the blades and as a result the air borne moisture particles are forced to change direction several times coming into contact with the surface of the blades, which in turn drains to the bottom frame.

This bottom frame has an integral upstand set behind the vertical blades which helps to shed the water onto the roof or wall.

CONSTRUCTION:

Blades and frames are high quality extruded aluminium sections with welded corners. The roof is manufactured from 2 or 3mm aluminium sheet depending on the roof span and is pressed or formed to suit. Galvanised Steel Bird Mesh is fitted as standard.

DIMENSIONS:

Minimum internal face size, 335x335mm
Maximum Size, unlimited. Large sizes can be built in modular sections for ease of installation.

OPTIONS & ACCESSORIES:

Internal insulated dividers for use in "Windvent" applications.

Insulated Shut off Dampers for user control, these can be manual or motorised.

Integrated access doors for maintenance of dampers and actuators if access from the roof is required.

ROOF OPTIONS:

Mono Pitch, Apex or Pyramid.
Extended overhang features.
Gutters and drainage.

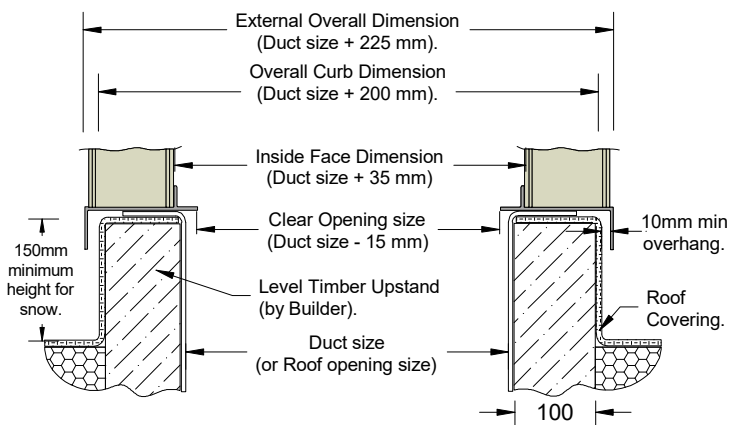
FINISH:

Polyester Powder Coated to any BS or RAL Colour.

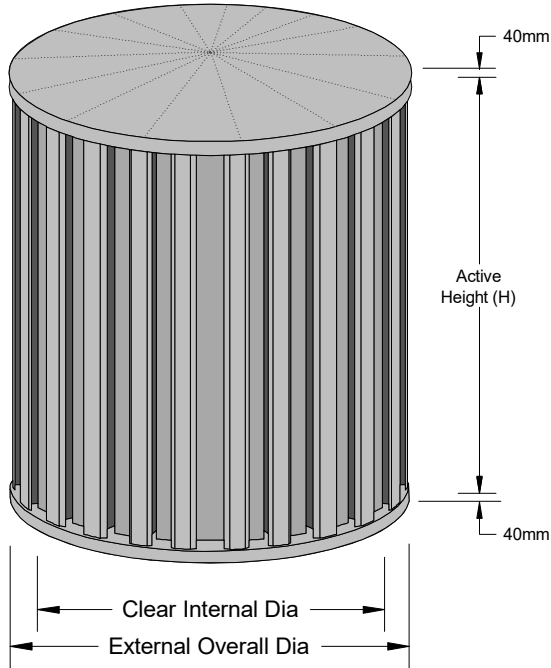
STANDARD DIMENSIONS:

Duct Size (mm)	Clear Opening Size (mm)	Inside Face size (mm)	Overall Curb Size (mm)	External Overall Size (mm)
300	285	335	500	525
450	435	485	650	675
600	585	635	800	825
750	735	785	950	975
900	885	935	1100	1125
1050	1035	1085	1250	1275
1200	1185	1235	1400	1425
1350	1335	1385	1550	1575
1500	1485	1535	1700	1725
1650	1635	1685	1850	1875
1800	1785	1835	2000	2025
1950	1935	1985	2150	2175

Larger dimensions are possible and increase in 150mm increments as standard. Any dimension can be achieved by altering the pitch of the baffles to suit.



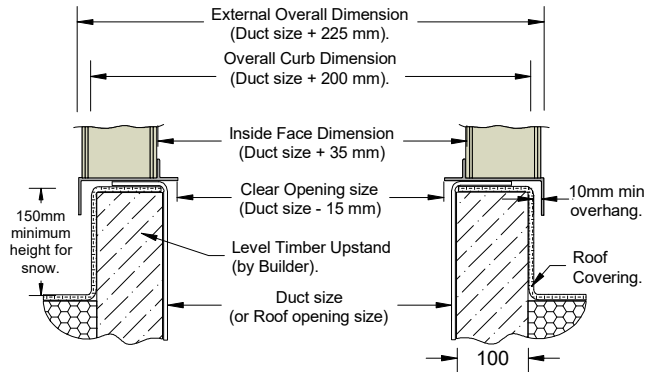
High Performance Baffle Terminal Circular, Type C-HPBT.



Duct Size (mm Dia)	Clear Opening (mm Dia)	Inside Face (mm Dia)	Overall Curb (mm Dia)	External Overall Size (mm Dia)
450	435	485	650	675
600	585	635	800	825
750	735	785	950	975
900	885	935	1100	1125
1050	1035	1085	1250	1275
1200	1185	1235	1400	1425
1350	1335	1385	1550	1575
1500	1485	1535	1700	1725
1650	1635	1685	1850	1875
1800	1785	1835	2000	2025

DIMENSIONS:

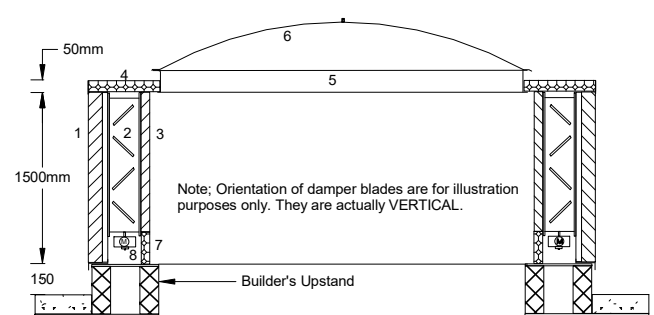
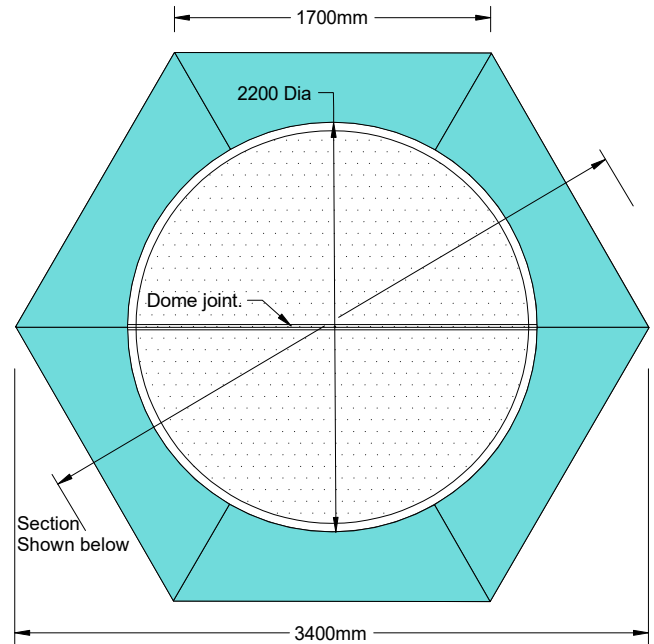
Minimum internal face size, 450mm Dia
Maximum Size, unlimited. Large sizes can be built in modular sections for ease of installation.



Natural Ventilation system combined with Natural light facility. Type NVL

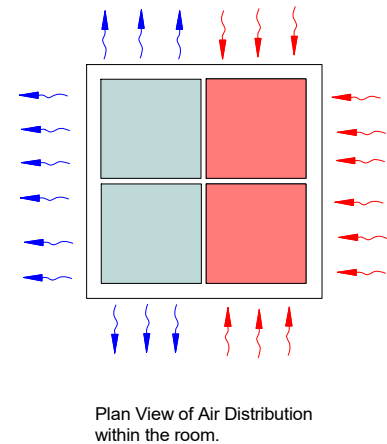
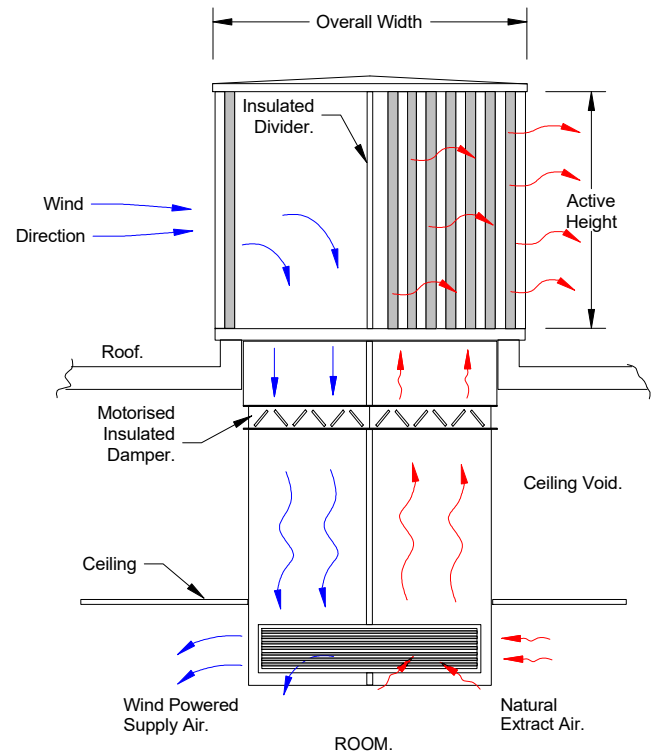
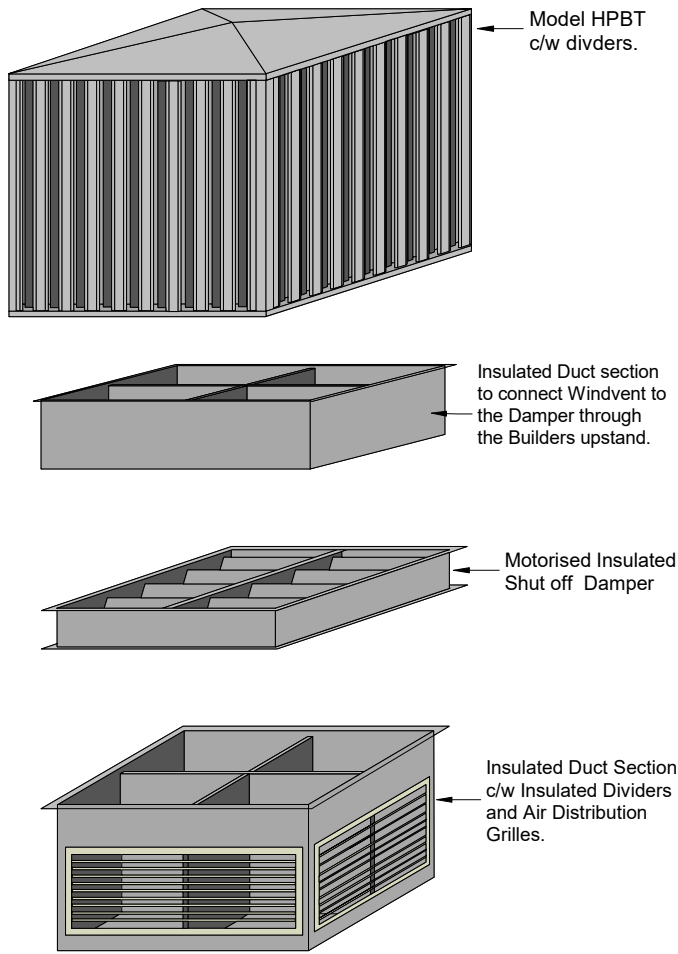


Natural Ventilation Dome. DEFRA. HQ (York)



- 1) WL75/100 External Weather Louvre.
- 2) 6 No Insulated Dampers, one on each side.
- 3) WL50 Internal Louvre on all sides.
- 4) Double skin Insulated roof panel.
- 5) 100mm Upstand to support Dome, internal dimension 2100mm.
- 6) Double Skin Clear Polycarbonate Dome (2100mm Dia internal).
- 7) Insulated Access panel for actuator, full width of louvre.
- 8) 240v Motor Open / Close Actuator. Other options are available.

“WindVent” Type WV-HPBT. Natural Supply & Extract System.



Natural Stack Ventilation (for extract air) has been around and used successfully for many years, however with the development of technology and a wider understanding of the benefits of wind powered systems we can now provide better controlled supply air ventilation in a similar way.

By harnessing the wind pressure we can force fresh air into a building and when coupled with the natural buoyancy of the warm air developed internally within we can combine the two to provide a virtually “free to run” ventilation system.

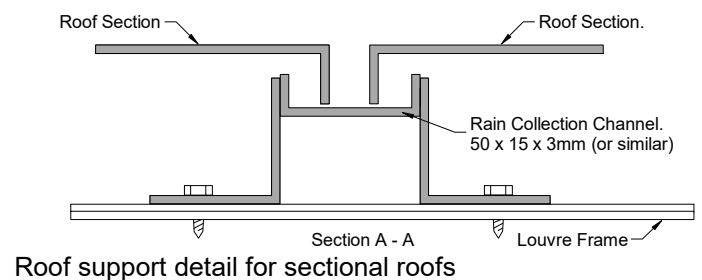
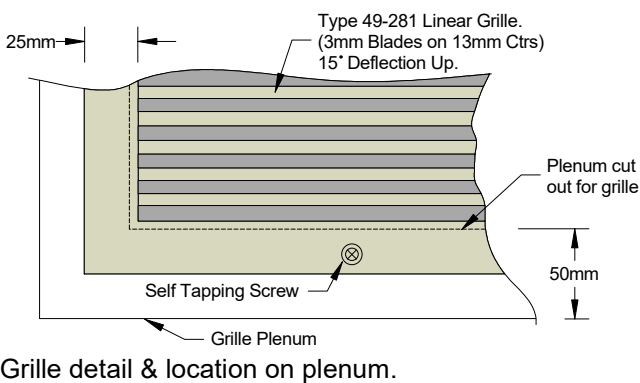
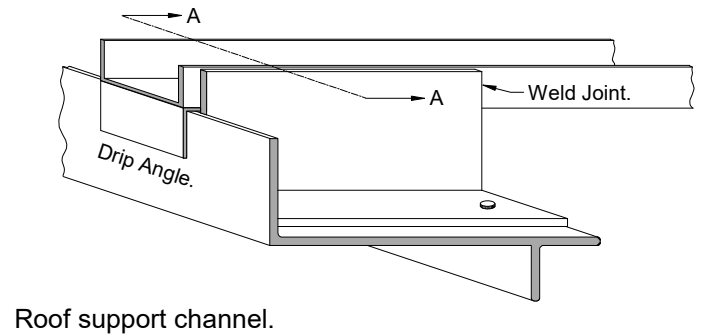
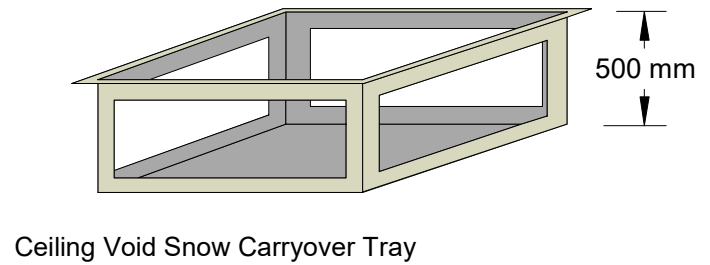
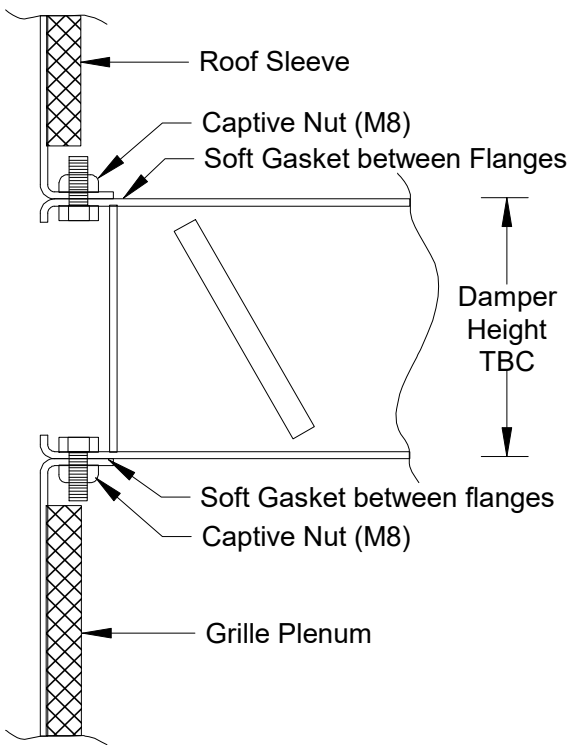
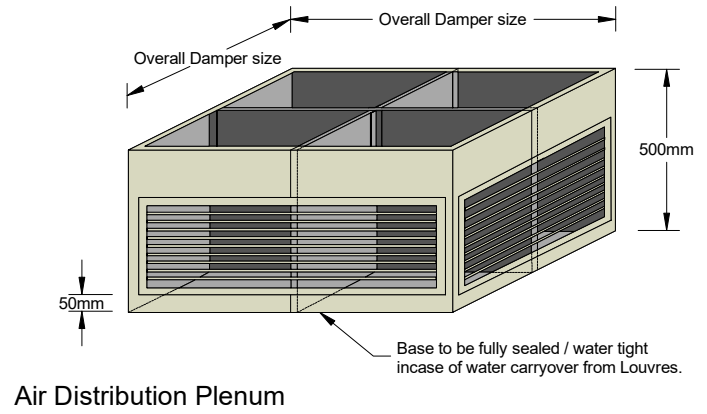
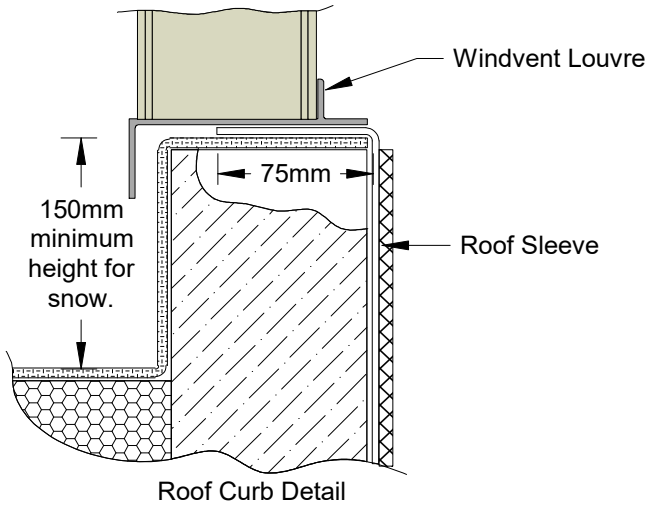
The obvious benefits are energy and maintenance reductions due to the omission of fans in the system. If however a boost in ventilation is required in say, a still warm day, a fan can be incorporated at design stage to satisfy this with the knowledge that its use will be periodic and thus saving energy for the majority of the year.

Various control options are available from manual hand operation via “Teleflex” cables (or similar) through to fully integrated BMS controlled systems including the likes of CO² and temperature detection with links to smoke and fire alarm activation be it fail safe closed or open depending on the clients requirements.

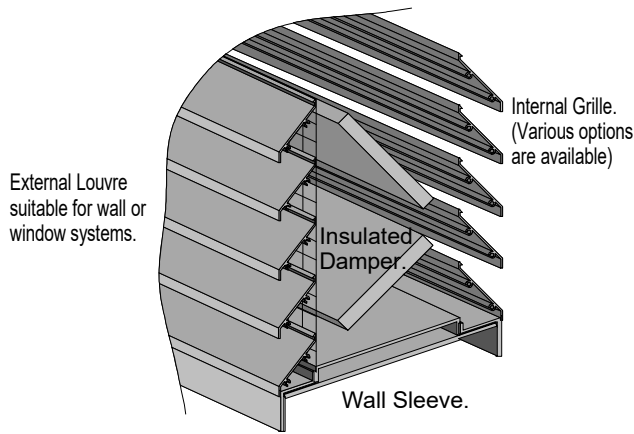
As can be seen in the diagram above, the wind helps to drive or push the fresh air through the roof mounted baffle terminal which incorporates a series of insulated dividers forcing the air down through the open damper into the air distribution plenum prior to being delivered horizontally into room being served. This horizontal distribution minimises the risk of draughts unlike most other systems that have an open grille on the bottom for the air to pass through.

Due to the positive pressure of the wind on what is known as the “Windward” side, only half of the roof terminal can be used for fresh air supply as the opposite side known as the “Leeward” side is under negative pressure which enhances any natural extract that may occur from the “stack effect” helping to provide a balanced supply and extract system.

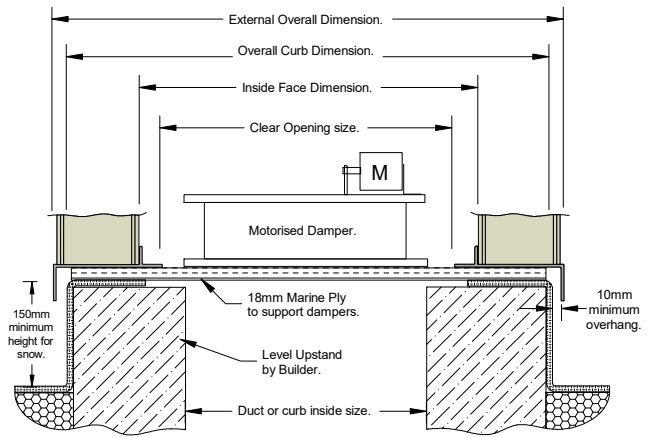
WindVent / HPBT Installation Details & helpful information.



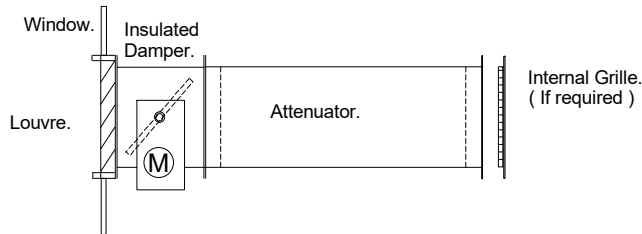
Other Natural Ventilation Products & Alternative Design Solutions.



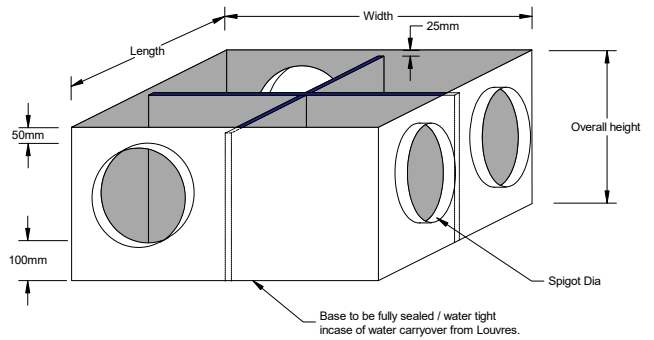
Wall or Window unit.



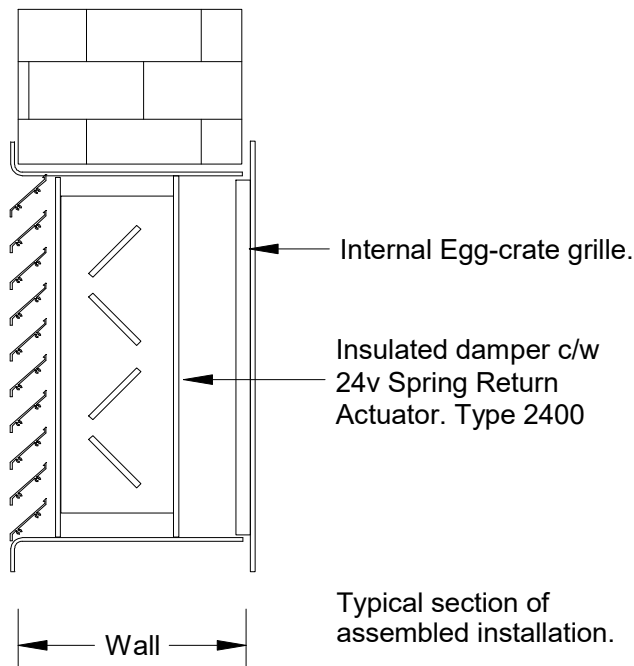
Alternative Damper Location



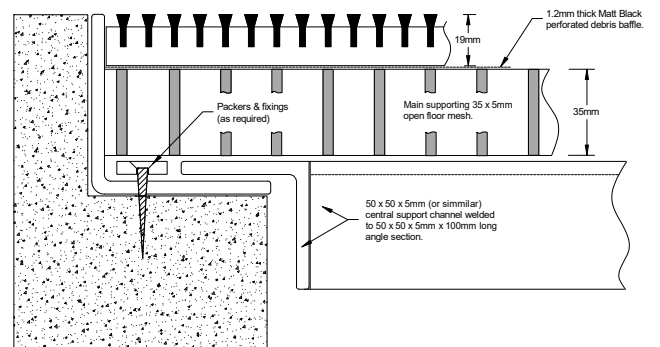
Wall or Window unit with Attenuator.



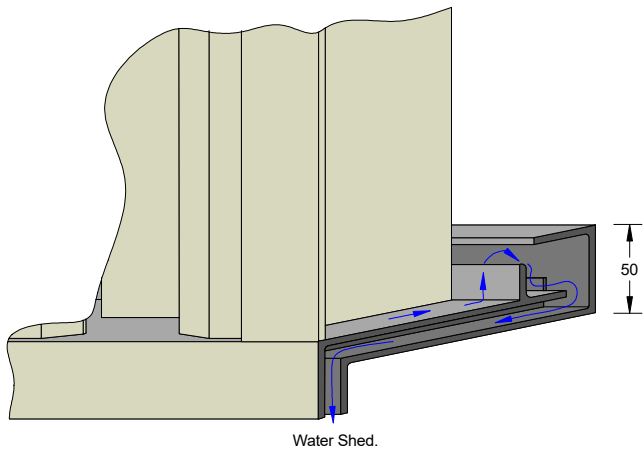
Ceiling Void Distribution Plenum.



Typical section of assembled installation.



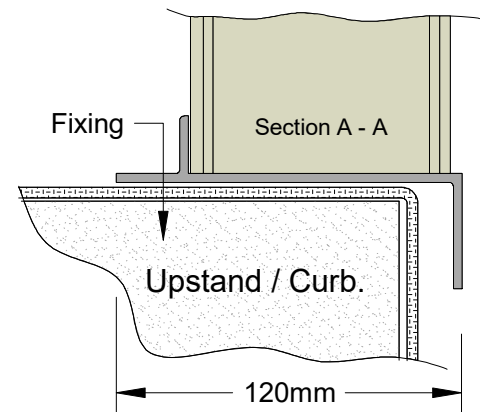
Floor Terminal for Underground Natural Ventilation.



Water Shed Frame for Exposed Applications.



Internal View of the Natural Ventilation Dome supplied to DEFRA.



Typical Installation method without the Water Shed Frame

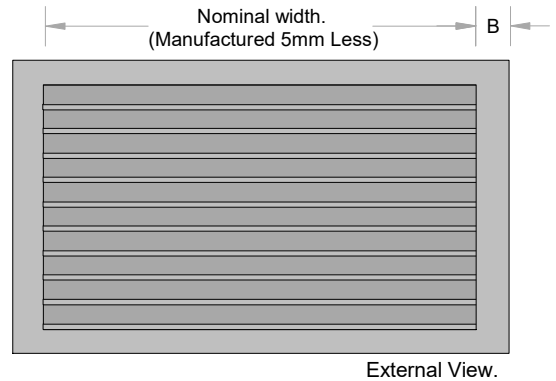
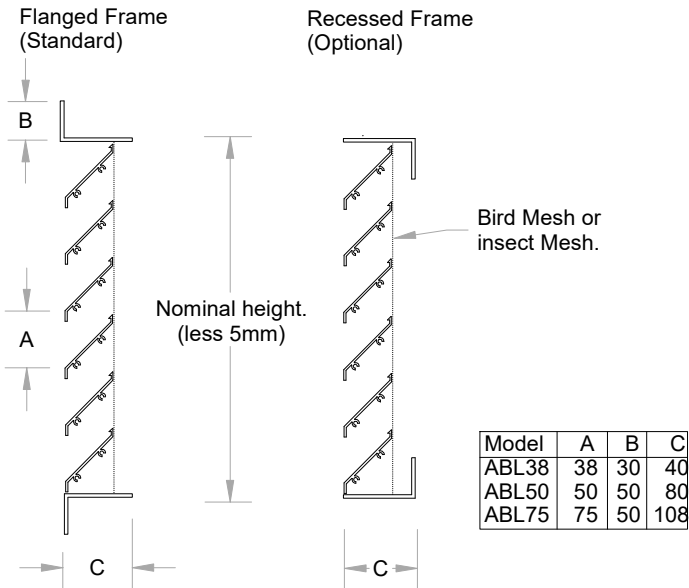


HPBT units supplied to Durham County Council.
St John's Square, Seaham.



HPBT Blade profile giving approximately 50% Free Area.

Aluminium Blade Louvres Type ABL38, 50 & 75.



APPLICATIONS:

The ABL range has been specifically designed for use in walls & soffits where a light weight yet robust louver is required. Applications such as high level openings in buildings or rooftops where a louver screen or weather resistance is required. Such as shopping centres, factories, bus or train stations, schools and plant rooms etc. Being manufactured from high quality extrusions a superior finish is easily obtainable to satisfy all architectural requirements.

SPECIALS:

Due to the flexible manufacturing process it is possible to provide many different blade arrangements in terms of thickness and angle as well as depth for increased strength. Alternative shapes are possible e.g. circular, triangular & hexagonal.

SPECIFICATION / CONSTRUCTION:

The Louvres shall be constructed from high quality extruded aluminium section blades and frames. The Frame shall be mitred, welded and (or) crimped at the corners. The Blades shall be securely fixed into the frame using the reinforcing bosses on each blade. Larger units shall have a rear mullion secured to each blade to minimise deflection and enhance stability of the Louvre frame.

FINISH: Polyester Powder Coated to a BS or RAL colour. Alternatively the Louvre can be left mill finish depending on the clients requirements.

DIMENSIONS:

ABL38.

Minimum size is 100 x 100
Maximum single section size is 1200 x 1200.

NOTE: As this is a small blade louver we would recommend the ABL50 series for sizes over 600 x 600 where robustness is required.

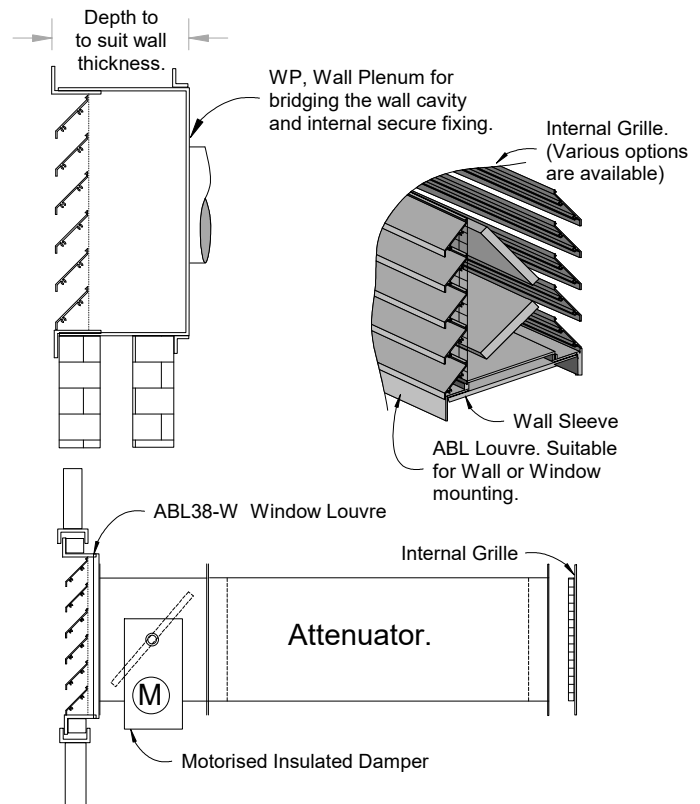
ABL50 & ABL75.

Minimum size is 200 x 200
Maximum single section size is 2000 x 2000.
Any size can be manufactured in suitable modular sections using concealed self supporting mullions to the rear of the louver blades.

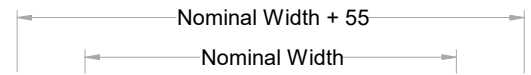
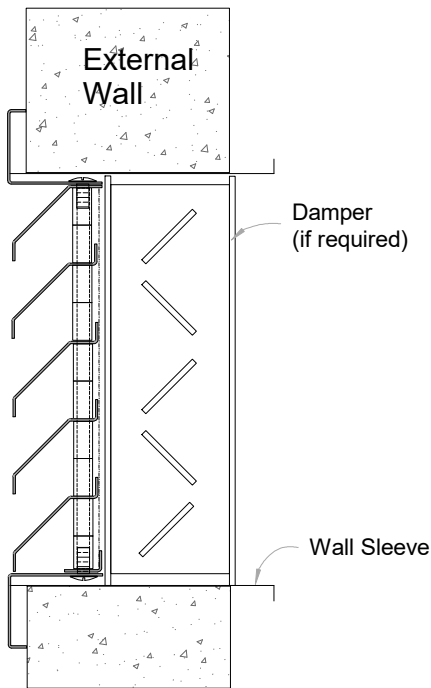
OPTIONS:

Surface Flange (standard) or Recessed Frame.
Bird Mesh (standard) or Insect Mesh.
Additional security bars welded to frame.
Building in lugs for use during construction of wall.
Removable & Hinged cores.
Attenuators designed to minimise noise break-out or break-in.
Various frame types are available.
Filter frames & Wall sleeves.
Volume control & Fire dampers.
Fire rated & standard plenums.

OPTIONS & ACCESSORIES:



Stainless Steel Louvre. (Small Blade) Type: SBL-SS



APPLICATION:

The SBL-SS is a small blade Stainless Steel Weather Louvre which has been specifically designed for use in Walls where conventional aluminium or mild steel products are not desirable either for hygiene, corrosion resistancy or perhaps just simply for quality & aesthetic reasons.

This product by nature of the manufacturing process remains robust and resistant to many chemicals & cleaning fluids etc. Applications such as Laboratories, hospitals, pharmaceutical and industrial premises as well as wide range of marine facilities.

SPECIALS:

Due to the flexible manufacturing process it is possible to provide many different blade and frame arrangements in terms of thickness and angle as well as depth for increased strength. Alternative shapes are also possible such as circular, arched, triangular and hexagonal for example.

STANDARD:

Our standard construction is of 304 grade Stainless Steel with a Brush finish known as Dull Polish. Bird Mesh is fitted as standard, Insect Mesh is optional.

MATERIALS:

Stainless Steel 304 or 316 DP1 marine grade with a minimum thickness of 1mm depending louvre dimensions.

CONSTRUCTION:

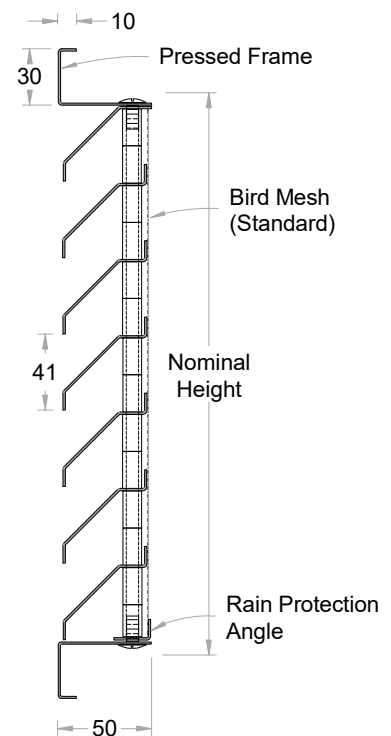
Pressed formed frame & blades with rod and spacer assembled core providing added rigidity to the frame. Alternative materials and thicknesses are available.

ALTERNATIVE FINISH:

Polyester Powder Coated. (for mild steel or Aluminum option)
Galvanized after manufacture.
Mill finish Stainless Steel.
Polished Stainless Steel.
Polished Brass.

DIMENSIONS:

All dimensions are in mm.
Width and height can be manufactured to any size.
Overall depth can be manufactured to 25, 30, 40 & 50.
The "Pitch" dimension is 41 as standard however can be adjusted to any dimension to suit the clients requirements.



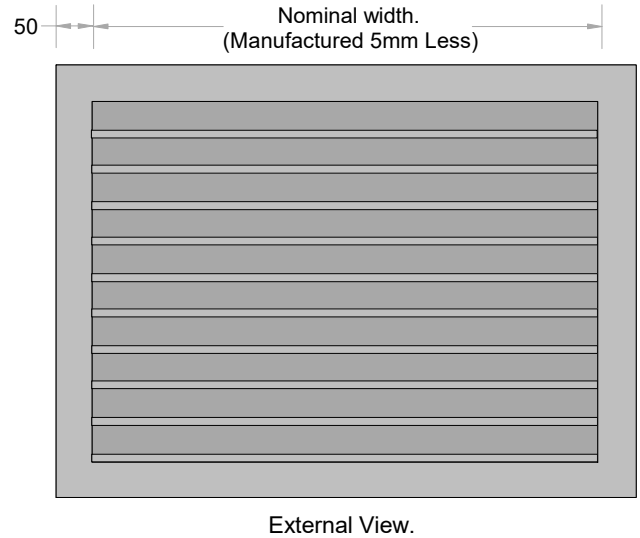
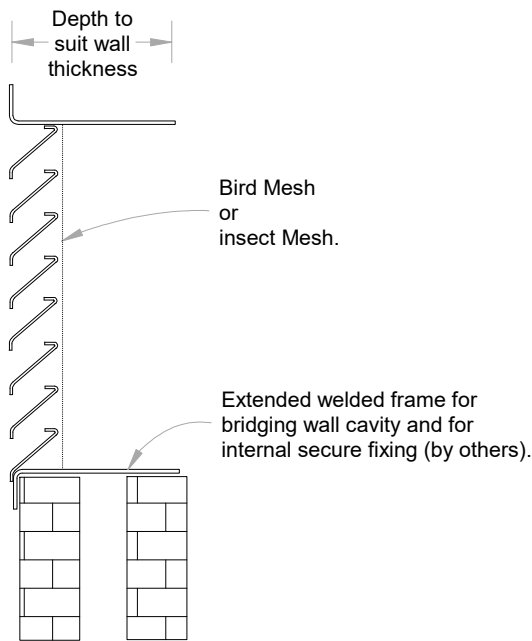
OPTIONS:

Removable & Hinged cores.
Various frame types & Concealed fixings are available.
Filter frames & Insect mesh.
Volume control & Fire dampers.
Fire rated & standard plenums / Wall Sleeves.

SPECIFICATION:

The Flanged frame is to be manufactured from 1mm thick Dull Polished Stainless Steel sheet press formed from a single section of material to give a complete jointless corner on the face flanges.
The 45 Deg core is 45-50% free area and manufactured from matching material of the frame. The grain of the brush finish of the core is to be the same direction as the frame.
The core is to be securely fixed to the frame using rods and spacers. Screw Holes (countersunk or flat) shall be specified if required.
The Stainless Steel Grade shall also be specified i.e. 304 or 316 etc.

Heavy Duty / Security Louvres Type HDSL & HDSL-SS



APPLICATIONS:

The HDSL range has been specifically designed for use in walls & soffits where a robust secure or anti-vandal louvre is required. Applications such as low level openings in buildings or rooftops where a louvre screen or weather resistance is required in shopping centres, factories, bus or train stations, car parks, schools and plant rooms etc. Being manufactured from high quality sheet material a superior finish is easily obtainable to satisfy all architectural requirements.

SPECIALS:

Due to the flexible manufacturing process it is possible to provide many different blade arrangements in terms of thickness and angle as well as depth for increased strength. Alternative shapes are possible e.g. circular, triangular & hexagonal.

SPECIFICATION / CONSTRUCTION:

The HDSL Heavy Duty Security Louvres shall be constructed from 3mm Zintec Mild steel or 2mm Stainless Steel (304 or 316) grade material for off shore applications. The Frame shall be mitred, fully welded and dressed at the corners. The Blades shall be "Jigged" and securely welded into position so as to form a substantial joint between the blade and frame preventing removal. Larger units shall have a rear mullions welded to each blade to minimise deflection caused by vandalism and enhance security.

WEIGHT: 78 kg/m² (1000 x 1000 x 3mm mild steel including frame).

FINISH: Polyester Powder Coated for Zintec Mild Steel units. Stainless Steel units to be mill finish or polished, depending on the client requirements.

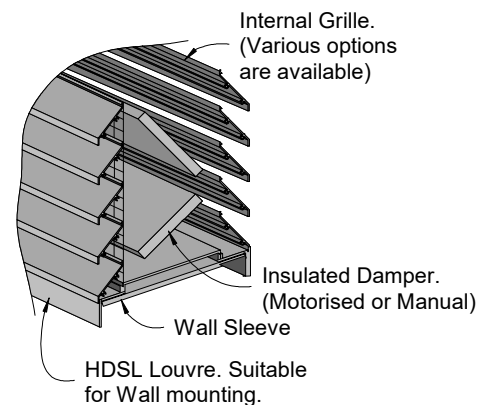
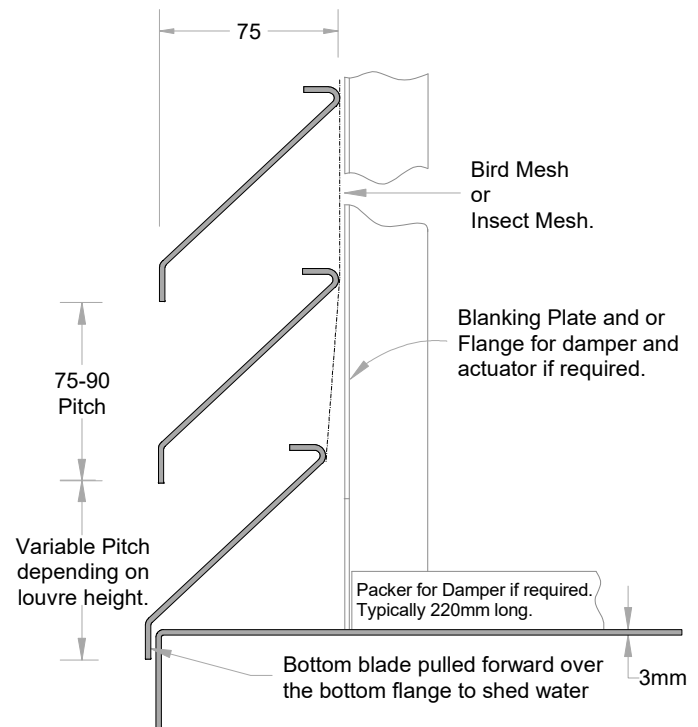
DIMENSIONS:

Minimum size is 300 x 300
Maximum single section size is 3000 x 2400 overall. (for transport)

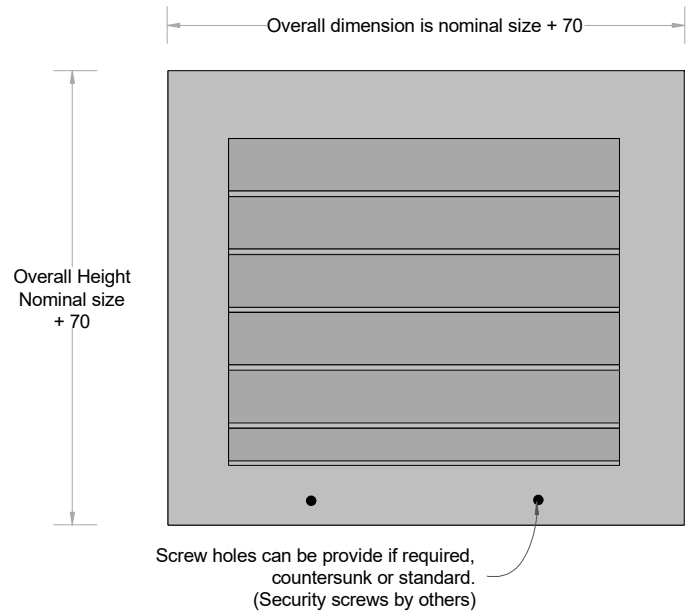
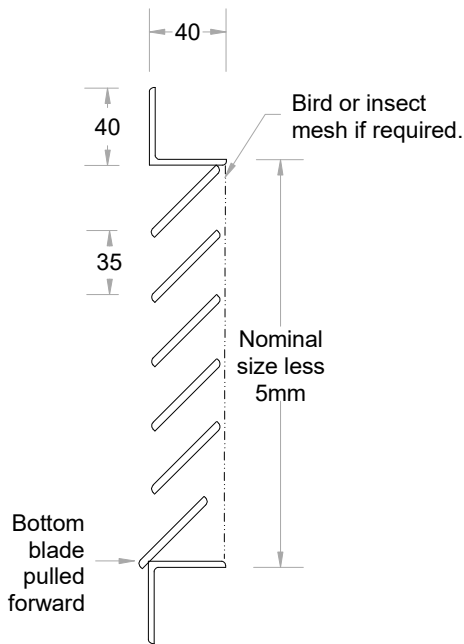
Any size can be manufactured in suitable modular sections using concealed self supporting mullions to the rear of the louvre blades.

OPTIONS & ACCESSORIES:

- Surface Flange (standard) or Recessed Frame.
- Bird Mesh (standard) or Insect Mesh.
- Additional security bars welded to frame.
- Building in lugs for use during construction of wall.
- Removable & Hinged cores.
- Attenuators designed to minimise noise break-out or break-in.
- Various frame types are available.
- Filter frames & Wall sleeves.
- Volume control & Fire dampers.
- Fire rated & standard plenums.



Small Blade Security Louvre. Type: SBSL



APPLICATION:

The SBSL has been specifically designed for use in walls & soffits where a very robust louvre is required. Applications such as car parks, shopping malls, bus or train stations, schools, plant rooms etc.

Being manufactured from mild or stainless steel materials with a fully welded construction ensures a greater impact and vandal resistance compared to regular aluminium external louvres.

SPECIALS:

Due to the flexible manufacturing process it is possible to provide many different blade arrangements in terms of thickness and angle as well as depth for increased strength.

Alternative shapes are possible e.g. circular, triangular & hexagonal.

STANDARD:

Our standard construction is of mild steel with a polyester powder coated finish to any B.S. or RAL stock colour.

MATERIALS:

Mild Steel or Stainless Steel.

CONSTRUCTION:

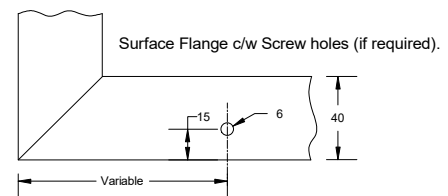
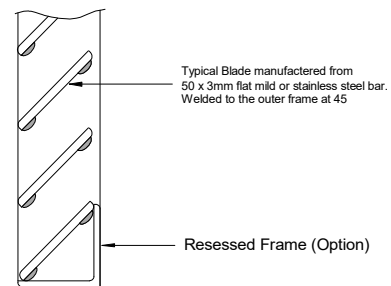
Welded and mitred frame with welded core. Alternative material thicknesses are available.

FINISH:

Polyester Powder Coated. (for mild steel option)
Galvanized after manufacture.
Mill finish Stainless Steel.
Polished Stainless Steel.

DIMENSIONS:

All dimensions are in mm.
Width and height can be manufactured to any size.
Overall depth can be manufactured to 25, 30, 40 & 50.
The "Pitch" dimension is 35mm as standard however can be adjusted to any dimension to suit the clients requirements.



OPTIONS:

Surface Flange (standard) or Recessed Frame.
Bird Mesh (standard) or Insect Mesh.
Additional security bars welded to frame.
Building in lugs for use during construction of wall.
Removable & Hinged cores.
Various frame types are available.
Filter frames & Wall sleeves.
Volume control & Fire dampers.
Fire rated & standard plenums.

External Louvre Performance Data

Type ABL 38, 50 & 75. SBSL & HDSL



The table (1) below details the effective "Face Area" for the corresponding louvre dimensions.

HEIGHT (mm)	WIDTH (mm)																
	150	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700
150	0.019	0.026	0.038	0.054	0.068	0.081	0.095	0.108	0.128	0.143	0.157	0.171	0.185	0.200	0.214	0.228	0.242
200	0.026	0.034	0.051	0.072	0.090	0.108	0.126	0.144	0.171	0.190	0.209	0.228	0.247	0.266	0.285	0.304	0.323
250	0.037	0.043	0.064	0.090	0.113	0.135	0.158	0.180	0.214	0.238	0.261	0.285	0.309	0.333	0.356	0.380	0.404
300	0.038	0.051	0.076	0.108	0.135	0.162	0.189	0.216	0.257	0.285	0.314	0.342	0.371	0.399	0.427	0.456	0.485
400	0.051	0.068	0.102	0.144	0.180	0.216	0.252	0.288	0.342	0.380	0.418	0.456	0.494	0.534	0.570	0.608	0.646
500	0.068	0.085	0.128	0.180	0.225	0.270	0.315	0.360	0.428	0.475	0.523	0.570	0.618	0.665	0.713	0.760	0.808
600	0.081	0.102	0.153	0.216	0.270	0.324	0.378	0.432	0.513	0.570	0.627	0.684	0.741	0.798	0.855	0.912	0.969
700	0.095	0.119	0.179	0.252	0.315	0.378	0.441	0.504	0.599	0.665	0.732	0.798	0.865	0.931	0.998	1.064	1.131
800	0.108	0.136	0.204	0.288	0.360	0.432	0.504	0.576	0.684	0.760	0.836	0.912	0.988	1.064	1.140	1.216	1.292
900	0.121	0.153	0.230	0.324	0.405	0.486	0.567	0.648	0.770	0.855	0.941	1.026	1.112	1.197	1.283	1.368	1.453
1000	0.135	0.170	0.255	0.360	0.450	0.540	0.630	0.720	0.855	0.950	1.045	1.140	1.235	1.330	1.425	1.520	1.615
1100	0.148	0.187	0.281	0.396	0.495	0.594	0.693	0.792	0.941	1.045	1.150	1.254	1.359	1.463	1.568	1.672	1.777
1200	0.162	0.204	0.306	0.432	0.540	0.648	0.756	0.864	1.026	1.140	1.254	1.368	1.482	1.596	1.710	1.824	1.938
1300	0.176	0.221	0.332	0.468	0.585	0.702	0.819	0.936	1.112	1.235	1.359	1.482	1.606	1.729	1.853	1.976	2.100
1400	0.189	0.238	0.357	0.504	0.630	0.756	0.882	1.008	1.197	1.330	1.463	1.596	1.729	1.862	1.995	2.128	2.261
1500	0.203	0.255	0.383	0.540	0.675	0.810	0.945	1.080	1.283	1.425	1.568	1.710	1.853	1.995	2.138	2.280	2.423
1600	0.228	0.304	0.456	0.608	0.760	0.912	1.064	1.212	1.368	1.520	1.672	1.824	1.976	2.218	2.280	2.432	2.584
1700	0.242	0.323	0.485	0.646	0.808	0.969	1.131	1.292	1.454	1.615	1.777	1.938	2.100	2.261	2.423	2.584	2.746
1800	0.257	0.342	0.513	0.684	0.855	1.026	1.197	1.368	1.539	1.710	1.881	2.052	2.223	2.394	2.565	2.736	2.907
1900	0.270	0.361	0.542	0.722	0.903	1.083	1.264	1.444	1.625	1.805	1.986	2.166	2.347	2.527	2.708	2.888	3.067
2000	0.285	0.380	0.570	0.760	0.950	1.140	1.330	1.520	1.710	1.900	2.090	2.280	2.470	2.660	2.850	3.040	3.230

The table (2) below shows the resultant "Pressure Loss" (Pa) for the chosen Face Area velocity (m/s).

Face Area 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
Intake Pressure loss (Pa)	4	10	16	28	38	51	66	85	105	125	150
Exhaust Pressure Loss (Pa)	4	10	20	30	40	55	73	90	115	135	160

NOTE: The maximum recommended intake face area velocity is 2.5m/s to minimise the ingress of rain in exposed applications.

Selection Example:

Air Volume Required: 1.44m³/s

Pressure loss available 30 Pa

From the table above we can see that at 28 Pa (Intake) the face area velocity is 2.5m/s.

Take the required air volume of 1.44 and divide by the face area velocity of 2.5 to achieve the effective face area of Louvre required. For this example we can see that it equates to 0.576m² giving a preliminary selection of 800 x 800.

There are other suitable sizes detailed in table 1 above, it depends of course which best suits the application.

$$\frac{1.44 \text{ (Vol)}}{2.5 \text{ (Vel)}} = 0.576 \text{ (Effective Face Area)}$$

Specialist Ventilation Design Services.

Specialist Ventilation Services Ltd have been providing Design assistance and technical support to the Building Services Industry and Mechanical Consulting Engineers since our incorporation in 1998.

We have been offering a full design and selection service for our comprehensive range of ventilation products and are proud to represent some of our more specialist suppliers who are the market leaders in their field.

Our main area of expertise is the design & manufacture of bespoke ventilation products and systems to suit our clients specific requirements. We focus on high efficiency products and systems to enable our clients to achieve as minimum an environmental impact as possible using low energy consumption products and innovative system designs.

These can vary from complete turnkey specialist packages, to the supply only of basic products. We aim to offer a service which represents value for money as well as being a high quality technically evaluated solution.

Our factory in County Durham covers the whole of the United Kingdom and Ireland.

Head Office:
Specialist Ventilation Services Ltd.
Unit 3, Greencroft Industrial Park,
Annfield Plain, Stanley, County Durham,
DH9 7YB
Tel: 01207 529333 Fax: 01207 529444

E-mail: sales@specialistventilation.com
Website: www.specialistventilation.com

Specialist Ventilation Products.

Kitchen Ventilation Canopies, Ceilings, Service Spines & Gas Interlocks.

Odour Control systems, UV & Ozone.

Natural Ventilation Wall / Window units and High Performance Roof Terminals.

Fabric Duct systems.

Displacement Ventilation Terminals.

Fire, Smoke & Insulated Dampers.

Smoke and Ventilation Control Panels.

Fire & Smoke activated Transfer Grilles.

Louvre Screens, Grilles & Diffusers.

Stainless Steel ventilation components and accessories.

Prison Grilles, and other Security or Vandal resistant products.

Laboratory Extract Benches, Bench Extract units, Laminar Flow units, HEPA Filter Grilles & Containment Hoods.

Fire Rated Wall, Ceiling, Transfer Grilles & Plenums