



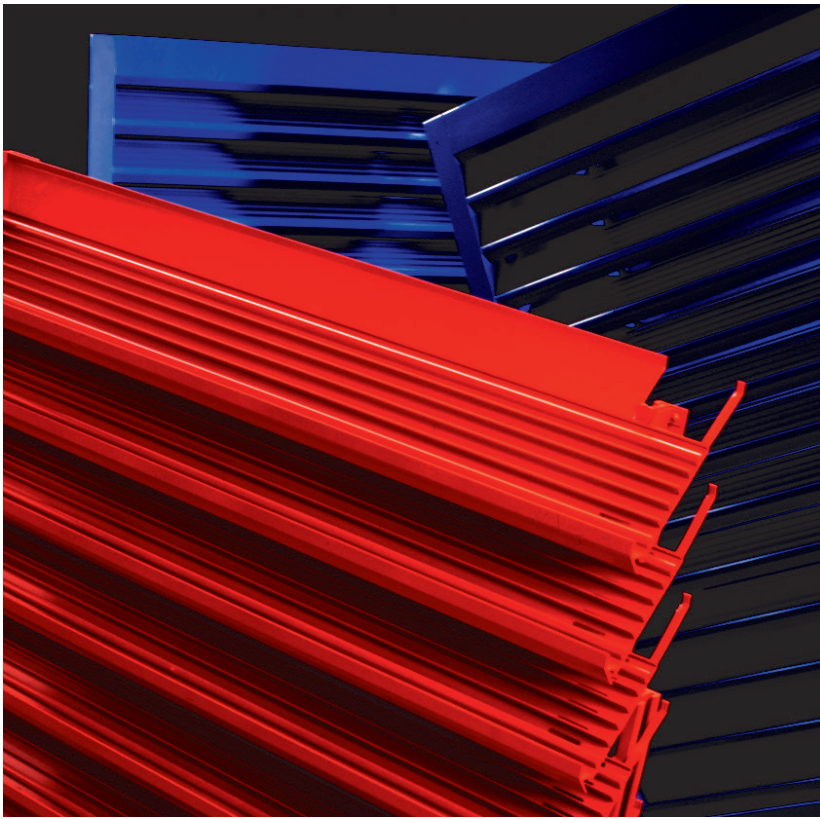
GILBERTS

HIGH PERFORMANCE LOUVRES

Integrated Louvre Systems

January 2026





High Performance Louvres

INTRODUCTION

Gilberts' high performance louvre range complements our standard louvre series providing a comprehensive package of high weather protection louvre designs. Conventional louvres, including Gilberts' own WG Series offer a balanced design, combining a high free area (around 50%) with good all round weather protection. Indeed standard louvres may often meet with all necessary weathering performance requirements, particularly in exhaust or simple screening applications where weather ingress, under most conditions, may be quite limited.

For air intake or other more sensitive applications, where limiting water ingress is important, then a high performance louvre is an important design consideration. This is especially true for intake louvres where airborne carry over of water is an inevitable danger for units in exposed areas or that experience high wind or rain factors.

PERFORMANCE LOUVRE

The traditional approach to high performance louvre design has been to bank conventional louvre panels into double or even triple bank assemblies. Whilst effective in practice this does incur significant penalties which, on the physical side, include depth, weight and handle ability and on the performance side a greatly increased pressure loss, not to mention cost.

In contrast our patented WH Series represent a radical new departure in terms of high performance louvres offering a simple SINGLE bank louvre assembly with outstanding weather resistance. Little removed from a standard louvre unit in terms of physical size or weight, testing in accordance with European Standard EN13030 for weather louvre performance shows the WH unit for example to be 99.5% effective in screening/exhaust applications and 99% effective even with face velocities of up to 1m/sec.

- HIGH WEATHER PERFORMANCE
- STRIKING DESIGN AND APPEARANCE
- SINGLE BANK LOUVRE
- HIGH FREE AREA

EFFICIENCY GRAPH

The performance graphs (page 15) illustrate the effectiveness of our louvre under differing selection parameters. All testing was conducted in accordance with European Standard EN 13030 i.e.: simulated conditions of 13m/sec (30mph) wind speed with heavy rain. Even at extremes of selection our designs can offer excellent weather protection. More weather test data is available separately. Similarly, the pressure loss graph clearly indicates the minimal pressure losses incurred by the WH design/profiles. Performance at this level positions our units amongst the very best in performance louvres and adds an exciting new dimension to louvre options.

BLADE

The blade profiles utilised on the WH Series have been designed to offer maximum weather protection when spaced at the standard louvre pitches of 38 or 75mm. The blade profiles ensure the units retain a good free area ratio to pressure resistance, whilst maximising weather protection, within a slim, single-blade solution.

- LOW PRESSURE RESISTANCE
- WALL OR WINDOW FITTING
- COMPREHENSIVE RANGE

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High performance louvre manufactured to class A weathering specifications with 38mm louvre blades. Designed for small and medium size louvre applications this model can be specified with a glazing bead to fit into window type apertures.	
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High performance louvre to class A weathering specifications comprising 75mm louvre blades designed for medium to large scale louvre applications.	
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WH-38 High Performance Louvres

WH38 HIGH PERFORMANCE LOUVRES

Series WH38 is a small format high performance louvre designed to meet exacting class A weathering performance. Comprising of a 38mm louvre profile the blade design on the WH38 Series is not only unique but is also a critical factor in the louvres weathering performance.

In line with the detailed performance and test data this unit offers exceptional resistance to weather ingress combined with low pressure loss and a good 40% free area. Models with flanged frame, recessed channel frame or a frame for glazing into a window can be selected along with standard Birdguard, Vermin Mesh, Blanking Plates and Insect Screen accessories.

SERIES OPTIONS

WHF/38: Comprises of 1.6mm Louvres on 38mm Centres in a 34mm wide flanged frame.

WHC/38: Comprises of 1.6mm Louvres on 38mm Centres in 38mm deep channel frame.

WHZ/38: Comprises of 1.6mm Louvres on 38mm Centres in a glazing frame suitable for beading into a window

SIZE RANGE (width x height)

Available sizes range from 200mm square up to 3m square in one unit, depending on frame type. Check with the Head Office on any size over 1.5m square.

Guideline Weight	WH38 Approx 12 Kg/m ²
------------------	-------------------------------------

Length of Blade	Vertical Mullion when required
Up to 700	None
701 - 1401	One
1401 - 2001	One Every 1000

FIXING

WHF/38: Standard method is flange screw fixing using the predrilled countersunk fixing Holes and screws. Flanges can be supplied undrilled upon request.

WHC/38: Screw fixing through fixing angles located at the back of the unit.

WHZ/38: Designed to fit into window rebate like a double-glazing unit.

FINISH

Classic option is a Polyester Powder finish in standard specification. This standard powder finish can however be upgraded to marine grade or qualicoat class 2 standards where required.

Units can also be supplied mill finish (unpainted) where preferred.

More complex alternatives such as anodising may also be possible. Please contact our sales team for advice.

WEATHER RATING

Class A (with insect screen) up to 1m/sec

Class A (without insect screen) up to 0m/sec

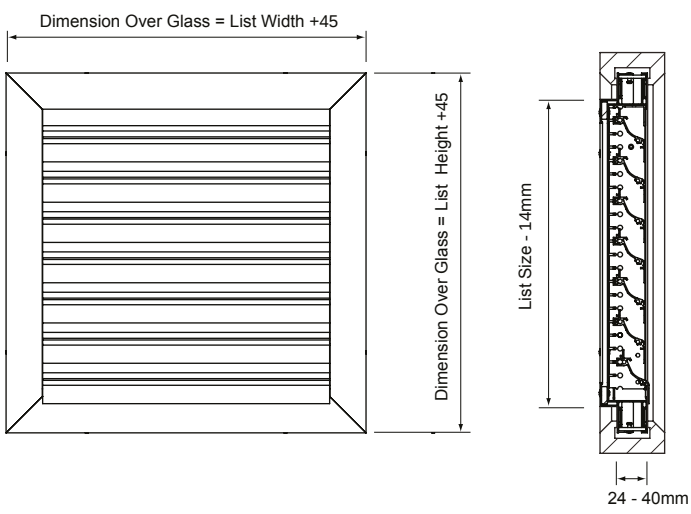
Class B (without insect screen) up to 1m/sec

Please note - Under extremely cold conditions moisture can cause the Insect Screen to "ice-up" and potentially create a complete blockage to airflow.

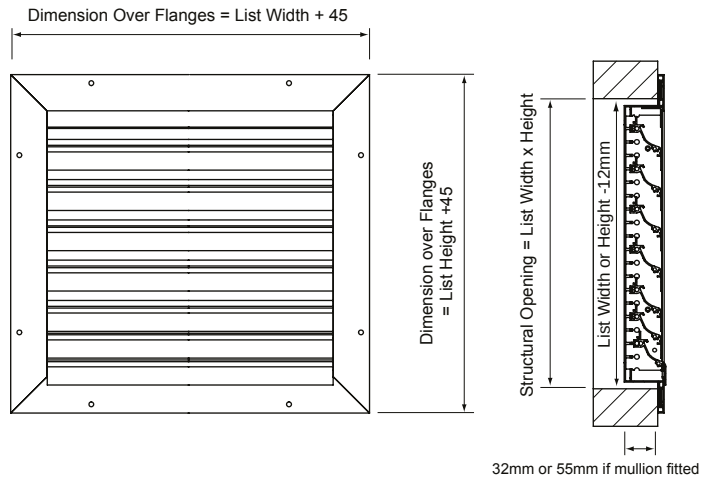
Build-up of dust/debris can also limit airflow. Louvres should be checked regularly.

WH-38 Series

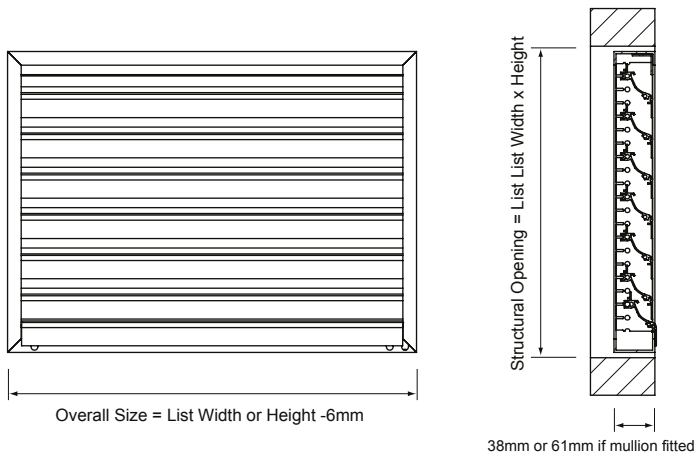
WHZ-38 Glazing Frame



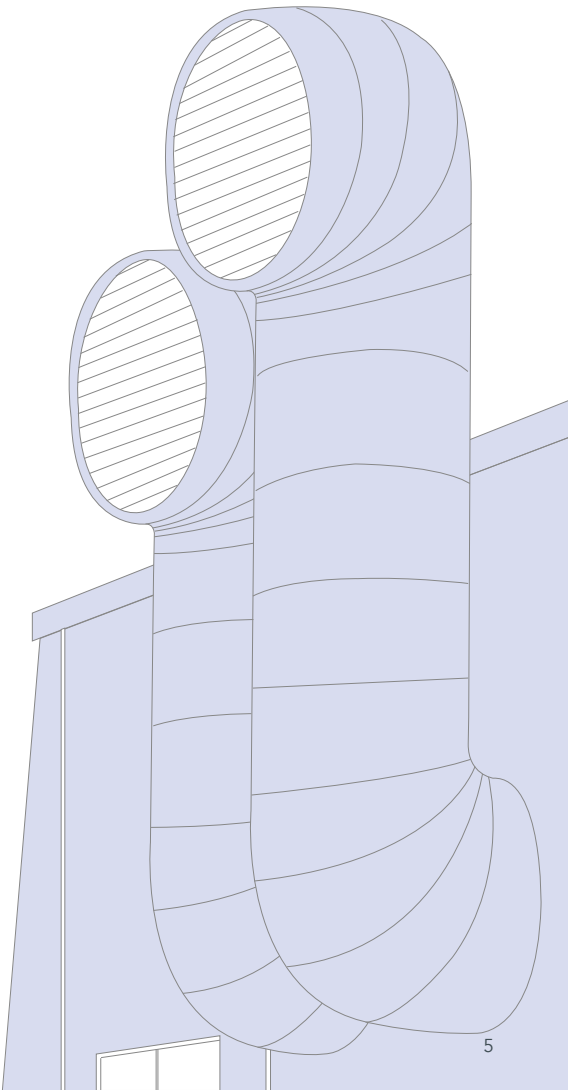
WHF-38 Flange Frame



WHC-38 Channel Frame



Series:	Flanged ☐ WHF Channel Frame ☐ WHC Glazing Frame ☐ WHZ	WHZ
Blade Pitch:	38mm	38
Size:	(mm Width x Height)	1200 x 800
Options:	Birdguard ☐ BG Insect Screen ☐ IS Vermin Mesh ☐ VM	BG
Extra Options:	Weather Cill ☐ WC	WC
Glazing Bead:	Depth (Type WHZ only)	24
Special Fixing Options:	Rear Lug Fixing ☐ RLF	RLF
Blanking Plate Options:	Standard ☐ SBP Insulated ☐ IBP	SBP
Finish:	(Please Specify)	Mill Finish (Standard Finish)
Number Required:		15





WH-75 High Performance Louvres

WH75 HIGH PERFORMANCE LOUVRES

Series WH75 is the principle profile in the Gilberts high performance range offering a 75mm blade pitch which is equally suitable for both small and large louvre panels and screens.

The blade design on the WH Series is not only unique but is also a critical factor in the louvres weathering performance which, ultimately, revolves around drainage and the need to remove water from the louvre surface. On the WH Series water collected on the blades can flow into drain channels located in the louvre frame which can carry the water to the bottom of the louvre for discharge.

In line with the detailed performance and test data (separate) this unit offers exceptional resistance to weather ingress combined with low pressure loss and a good 50% free area and both flanged and recessed channel frame options can be selected along with standard Birdguard and Insect Screen accessories.

SERIES OPTIONS

WHF/75: Comprises of 1.6mm Louvres on 75mm Centres in a 38mm wide flanged frame.

WHC/75: Comprises of 1.6mm Louvres on 75mm Centres in 121mm deep channel frame.

Guideline Weight	WH/75 Approx 22kg/m ²
------------------	-------------------------------------

Length of Blade	Vertical Mullion when required
Up to 1200	None
1200-2000	One
Over 2000	One Every 1000

SIZE RANGE (width x height)

Available sizes range from 300mm square up to 1800 x 1500mm in one unit. Above this size Louvres are supplied as multiple units with a continuous appearance for assembly on site.

FIXING

WHF/75: Standard method is flange screw fixing using the predrilled countersunk fixing Holes and screws. Flanges can be supplied undrilled upon request. Alternative method as WHC below.

WHC/75: Screw Fixing through adjustable cleats, located at the back of the unit.

FINISH

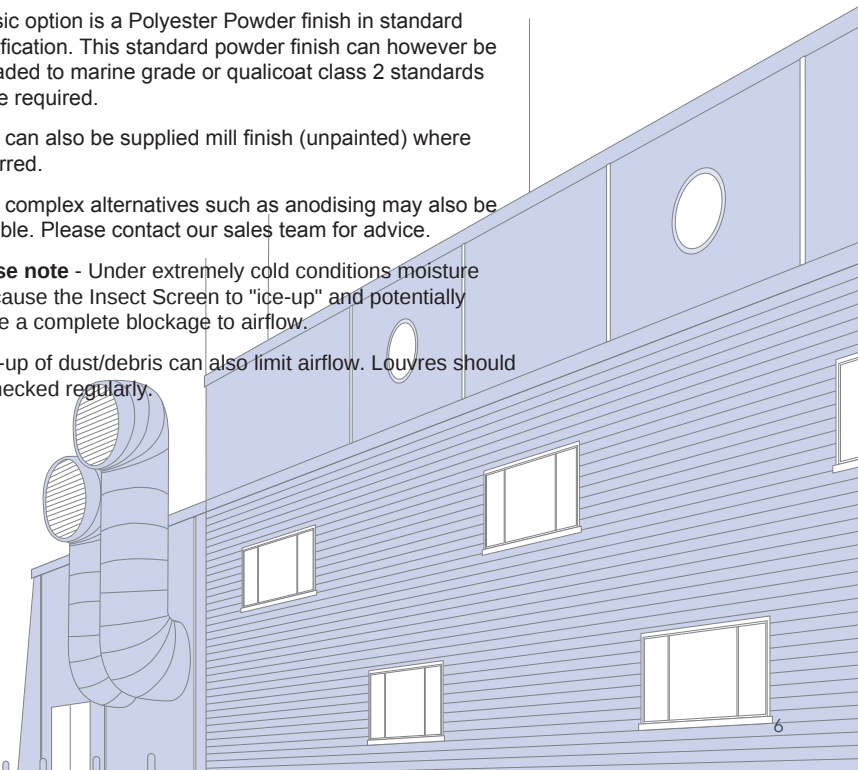
Classic option is a Polyester Powder finish in standard specification. This standard powder finish can however be upgraded to marine grade or qualicoat class 2 standards where required.

Units can also be supplied mill finish (unpainted) where preferred.

More complex alternatives such as anodising may also be possible. Please contact our sales team for advice.

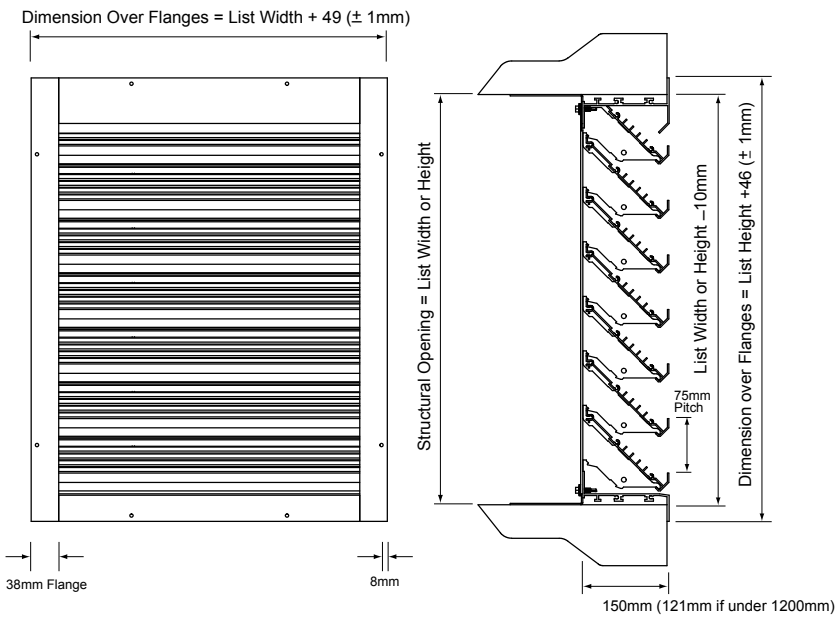
Please note - Under extremely cold conditions moisture can cause the Insect Screen to "ice-up" and potentially create a complete blockage to airflow.

Build-up of dust/debris can also limit airflow. Louvres should be checked regularly.

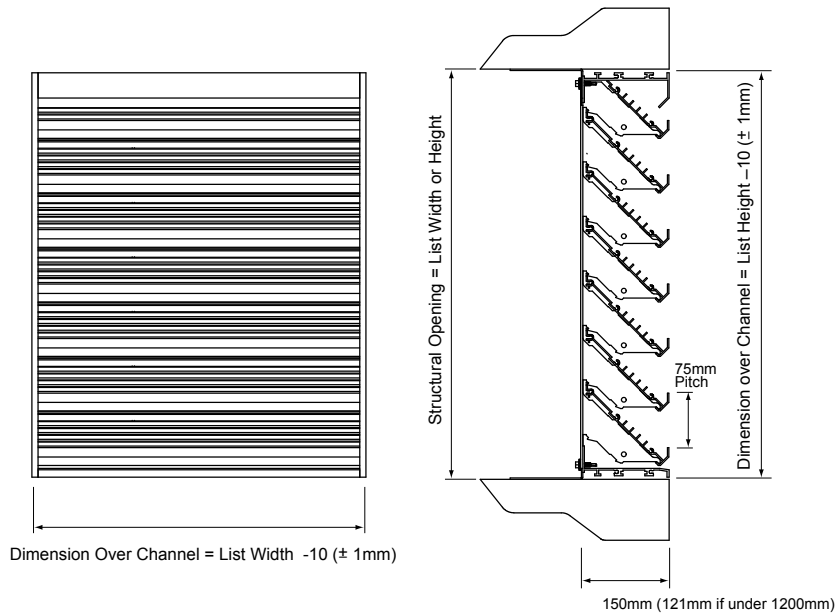


WH-75 Series

WHF-75



WHC-75



Series:	Flanged ☐ WHF Channel Frame ☐ WHC	WHF
Blade Pitch:	75mm	75
Size:	(mm Width x Height)	1200 x 800
Options:	Birdguard ☐ BG Insect Screen ☐ IS Vermin Mesh ☐ VM	BG
Extra Options:	Weather Cill ☐ WC	WC
Special Fixing Options:	Rear Lug Fixing ☐ RLF	RLF
Blanking Plate Options:	Standard ☐ SBP Insulated ☐ IBP	SBP
Finish:	(Please Specify)	Mill Finish (Standard Finish)
Number Required:		15



High Performance Louvre Doors

LOUVRED DOORS

For applications where ventilation and access is required to Plant Room or Generator equipment Gilberts' single and double leaf, inward or outward opening, Louvred Doors can provide an ideal solution. Designed for use both as stand alone units or as part of a continuous Louvre Screen they constitute ready made units complete with all necessary equipment such as Door Stays, Mortice Locks, Barrel Bolts, and, if required, Birdguard, Vermin Mesh, Blanking Plates or Insect Screens.

SERIES OPTIONS

WHDS/75: Single hinged louvre door comprising 1.6mm louvres on 75mm Centres. Class A/B

WHDD/75: Double hinged louvre doors comprising 1.6mm louvres on 75mm Centres. Class A/B

Semi-continuous appearance also available utilising an angle frame not box section.

Please note - Under extremely cold conditions moisture can cause the Insect Screen to "ice-up" and potentially create a complete blockage to airflow.

Build-up of dust/debris can also limit airflow. Louvres should be checked regularly.

SIZE RANGE (width x height)

Available sizes on the single option range from 500 x 500 up to 1000 x 2100mm in angle frame and 1200 x 2100mm in box section frame. The double ranges from 600 x 600 up to 2100 x 2100mm in angle frame and 2400 x 2100mm in box section frame.

Standard sizes as detailed.

For larger sizes, please check with our Head Office for details.

FIXING

Two alternative fixing methods are available on Louvred Doors as detailed.

FINISH

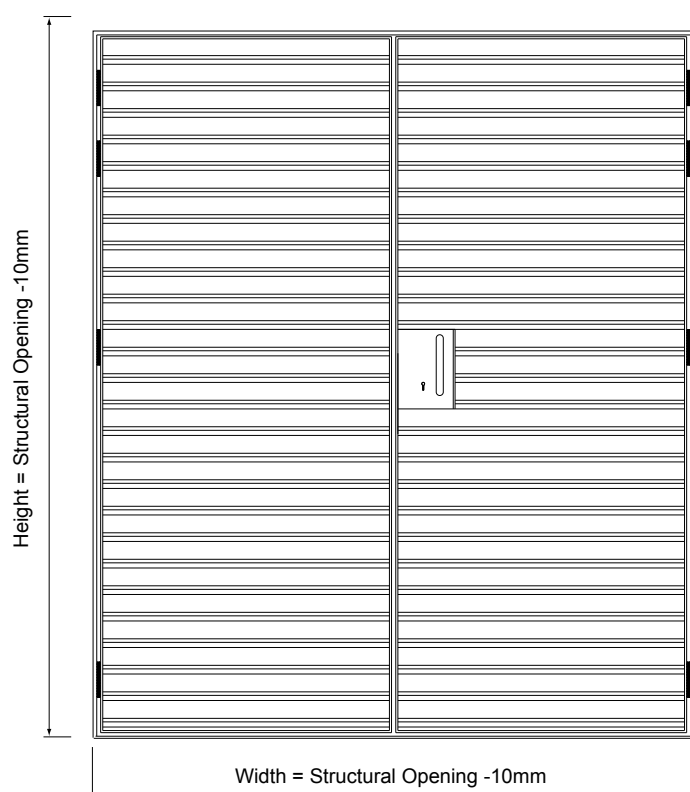
Classic option is a Polyester Powder finish in standard specification. This standard powder finish can however be upgraded to marine grade or qualicoat class 2 standards where required.

Units can also be supplied mill finish (unpainted) where preferred.

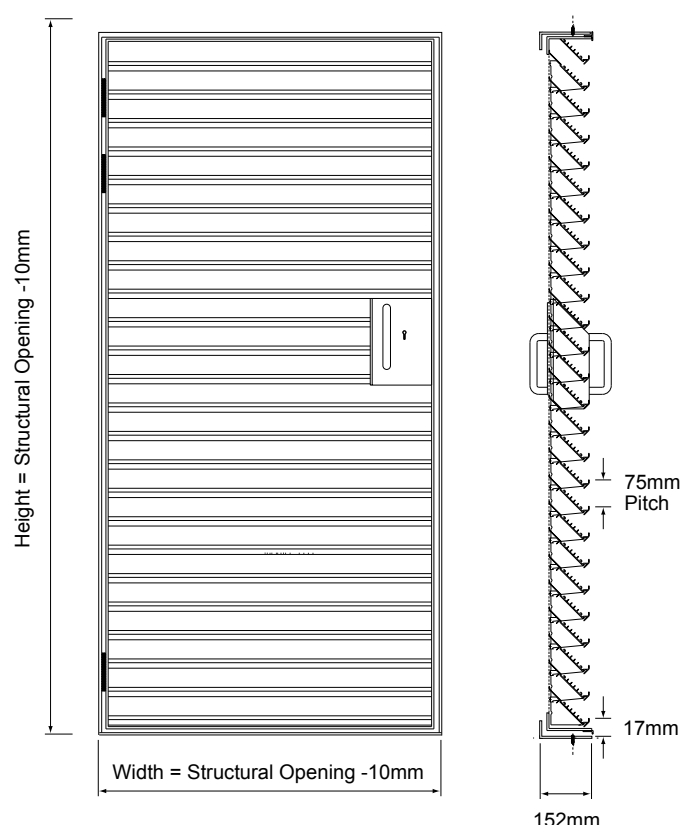
More complex alternatives such as anodising may also be possible. Please contact our sales team for advice.

WHD Series

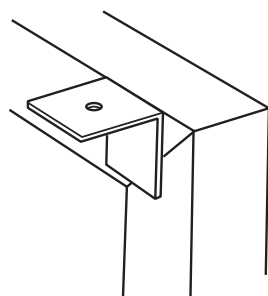
TYPE WHDD



TYPE WHDS

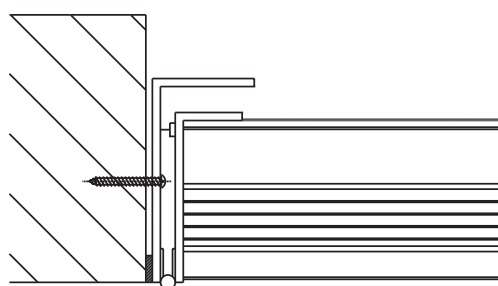


FIXING ARRANGEMENT A (BOX SECTION)



Unit secured with M6 expansion bolts through Fixing Angle Cleats mounted at 600mm centres at rear

FIXING ARRANGEMENT B (STANDARD)



Unit secured with M6 expansion bolts on 600mm centres through outer frame

Series:	WHDS	WHDS
Door:	Single ☐ S Double ☐ D	S
Blade Pitch:	75mm	75
Size:	(mm Width x Height)	1200 x 800
Options:	Birdguard ☐ BG Insect Screen ☐ IS Vermin Mesh ☐ VM	BG
Opening Details:	Inward Opening ☐ IO Outward Opening ☐ OO	IO
Hinge Details (single door)	Left Hand Hinge ☐ LH Right Hand Hinge ☐ RH	LH
Door Fixing Arrangements:	A or B	A
Finish:	(Please Specify)	Mill Finish (Standard Finish)
Number Required:		15

DOOR SIZES

Type A

Single door structural opening size 1000 x 2100. Clear opening size 796 x 2029. Leaf size 957 x 2056.

Double door structural opening size 2100 x 2100. Clear opening size 1734 x 2029. Leaf sizes 1023 x 2056.

Type B

Single door structural opening size 1200 x 2100. Clear opening size 954 x 2013. Leaf size 1068 x 2010.

Double door structural opening size 2400 x 2100. Clear opening size 2016 x 2013. Leaf sizes 1129 x 2010.

Note: For larger than standard sizes type B construction is provided.



Performance Penthouse Louvres

PENTHOUSE LOUVRES

Providing a range of roof mounting fixed Blade Louvre Housings suitable for air intake or discharge over ventilation shafts etc. Designed upon the High Performance profile blade, the Penthouses are supplied complete with continuous corners and sloping roof. Vermin Mesh (VM) must be selected for NHS projects to comply with HTM-03-01.

Available with alternative fixing borders to suit plinth units offer a good 50% free area combined with the excellent weathering characteristics associated with this design.

SERIES OPTIONS

PHH/75: Comprises of 1.6mm Aluminium Louvres on a 75mm Pitch with blade drainage features. Insect screens and vermin mesh available as an optional extra.

SIZE RANGE (length x width x height)

Available sizes range from 600 x 600 x 225mm upwards. For maximum unit sizes in one piece please refer to Head Office. Multiple assemblies can be supplied upon request.

FIXING

The PH series Penthouse Louvres are available with two types of Base Border options both to suit a plinth/upstand. These borders are supplied with fixing holes to suit M8 expansion bolts on standard 600mm centres. Other fixing details available to order.

FINISH

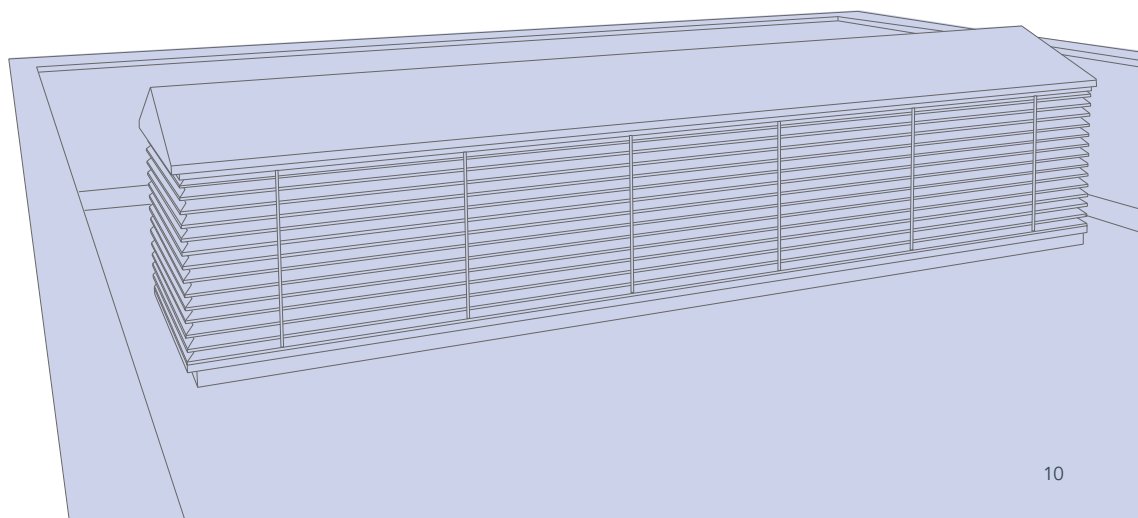
Classic option is a Polyester Powder finish in standard specification. This standard powder finish can however be upgraded to marine grade or qualicoat class 2 standards where required.

Units can also be supplied mill finish (unpainted) where preferred.

More complex alternatives such as anodising may also be possible. Please contact our sales team for advice.

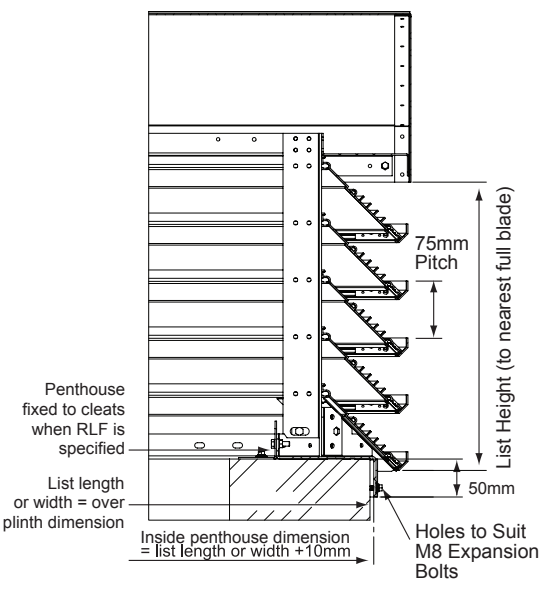
Please note - Under extremely cold conditions moisture can cause the Insect Screen to "ice-up" and potentially create a complete blockage to airflow.

Build-up of dust/debris can also limit airflow. Louvres should be checked regularly.



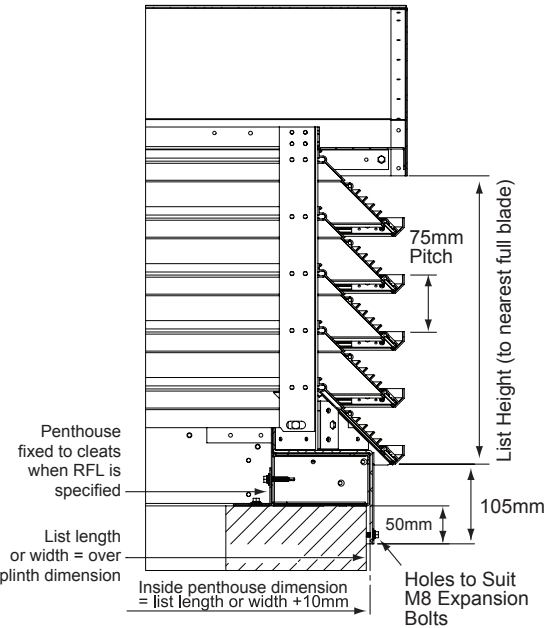
PHH Series

PHH BORDER STYLE B1



B1 Border: Minimum list length/width of 600mm, maximum 1900mm in one piece. Over these sizes supplied in kitform up to a maximum of 4100 x 2400mm.

PHH BORDER STYLE B3



B3 Border: Minimum list length/width of 1000mm, maximum in one piece up to 4100 x 2400mm. Over these sizes available in sectional format. Please contact Head Office for details.

Series:	PHH 75	PHH 75
Size:	(mm Length x Width x Height)	1200 x 1200 x 750
Options:	Insect Screen ☐ IS Vermin Mesh ☐ VM	IS
Base Border Style:	Border Style 1 ☐ B1 Border Style 2 ☐ B2 Border Style 3 ☐ B2	B1
Finish:	(Please Specify)	Mill Finish (Standard Finish)
Number Required:		15



75mm Pitch High Performance Continuous Louvres

HIGH PERFORMANCE CONTINUOUS LOUVRE

For applications where larger Louvre assemblies are required such as for Wall or Rooftop Screening and Ventilation Applications our Series WH75 can be supplied any size in multiple panels, purpose built to assemble into a continuous Louvre Screen. Dispatched with all the necessary fixing Angles and Bolts for their assembly all louvre panels can be banked horizontally designed to incorporate additional features such as:

- Internal/External Mitred Corners.
- Dummy, Blanked and Active Sections.
- Horizontal Blade Sections.
- Single and Double Hinged Doors.

Unusual and irregular profiles can typically be catered for with accurate face alignment provided by the predrilled assembly holes and blade alignment pieces. Rear mounted Mullion Supports are provided for additional strength where required.

Our standard fixing and assembly details are illustrated herein. The individuality and complexity of continuous screening applications will however require, in each case, the preparation of detailed manufacturing drawings to ensure that the unit not only meets all the clients' requirements but is also easy to assemble, install and fix on site.

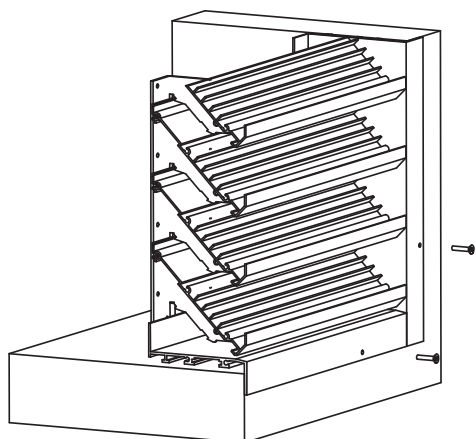
Our company has been specially tailored to provide this all inclusive service with:

- Initial site surveys to obtain construction work details.
- Preparation of detailed manufacturing drawings in accordance with the clients' requirements and the results of the initial survey.
- Final manufacture and appropriate finishing to blend or contrast, as required, with the building structure.
- Expert site installation by our own team of skilled engineers.

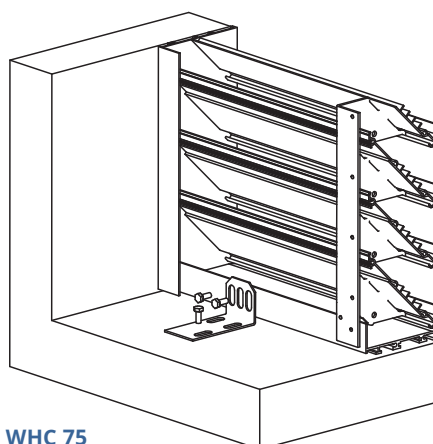
In this way a thorough and trouble free installation can be ensured, and our Technical Department will be pleased to give any advice or guidance you may require for a particular application.

WH-75 Series

FRONT FACE



REAR CLEAT



WHC 75

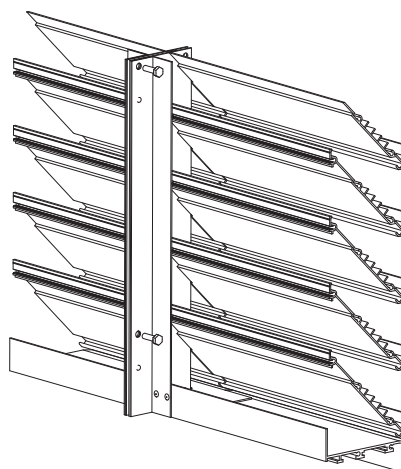
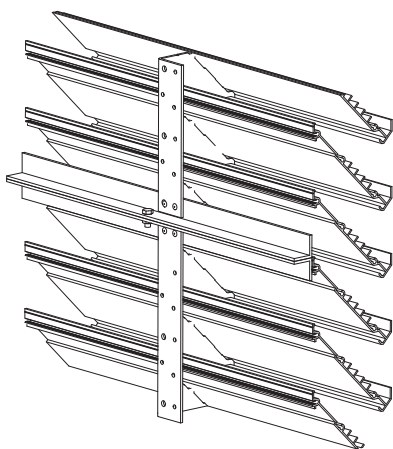
FIXING DETAILS

For all channel frame units aluzinc angle brackets, adjustable for height, are located at the rear allowing for flexible positioning and individual adjustment to suit fixing tolerances.

Elongated slotted fixing holes in the bracket are designed for M8 expansion bolt or other suitable fixing.

On flange border units face fixing is available as well as the angle brackets detailed above.

For unusual or complex applications other types of special fixing can be devised.



CONCEALED MULLION FEATURE

The unique Mullion feature has an important role to play in multiple assemblies providing for virtually invisible joining between horizontal louvre panels. Accurate blade alignment on the face is ensured by the support clips and predrilled assembly holes for fixing the closure plate. Provision for louvre expansion is also made at these junctions by using slotted holes in the closure plate.

VERTICAL ASSEMBLY

For assembly of Vertical Panels alignment strips are fitted to the Mullions and frame for initial positioning. The joint is then secured with a closure plate. This provides for an accurately and easily assembled joint which maintains the correct blade pitch and external appearance yet remains invisible from the louvre face.

Selection Procedure

INTRODUCTION

Gilberts offer an inventive range of high performance louvres with the WH Series. Conventional louvres offer a balanced design, combining a high free area with good all round weather protection. For more sensitive applications where limited water ingress is important, a high performance louvre is an essential option especially for units in exposed areas with high wind or rain factors

EFFICIENCY GRAPH

The performance graphs are designed to illustrate the effectiveness of the louvre under differing selection parameters. All testing was conducted in accordance with European Standard EN 13030 i.e. simulated conditions of 13m/sec (30mph) wind speed and simulated rainfall at 75l/h. Even at extremes of selection the units offer excellent weather protection. Similarly, the pressure loss graph clearly indicates the minimal pressure losses incurred by the WH design/profile. Performance at this level ranks the units alongside the very best in performance louvres.

CLASSIFICATION

From the European Standard EN13030, louvres will be classified using both the CO-EFFICIENT OF ENTRY or DISCHARGE (CE or CD) and a water penetration rate.

Class	Loss-Co Efficient
1	0.4 and above
2	0.3 to 0.399
3	0.2 to 0.299
4	0.199 to and below

The water repellent classification is denoted by the following table:

Class	Effectiveness
A	1 to 0.99
B	0.989 to 0.95
C	0.949 to 0.80
D	Below 0.8

e.g. 0.99 EFFECTIVENESS = 99% water repellent efficiency. The combined classification would have the water repellent class reference first followed by the coefficient of entry or discharge e.g. A3 (up to 1m/s face velocity).

TEST RESULTS

All Gilberts louvres have been subject to simulated weather conditions at BSRIA which follow the requirements and specification of the European Standard EN13030. All graphs and information are developed from test results.

Series WH/75 louvre assemblies have a CD/CE of approximately 0.29

Series WH/38 louvre assemblies have a CD of approximately 0.19

Series WH/75/IS = Class A3 up to 1m/s

Series WH/38/IS = Class A4 up to 1m/s

SIZING & SELECTION

To effectively size a high performance louvre you should first establish the key parameters for the system design. These may be:

a) Maximum pressure drop through the louvre as calculated from Table 1.

b) Maximum effectiveness based upon a wind velocity of 13m/s established from Table 2.

Example 1

Type WHF/38/IS is selected and is required to pass an air volume of 0.3m³/s with a Class B weather resistance. A class B rating selection should be based on a face velocity of 1.5m/s maximum.

To simply calculate the unit size the equation to use is Volume ÷ Velocity = Louvre Total area

In this example 0.3m³/s Volume divided by 1.5m/s Velocity = 0.2m² for the total louvre area.

This louvre area of 0.2m² can then be converted into a List size. A simple square root calculation of the 0.2 gives 0.447 which equates to a 450x450mm size or if a specific height or length is required then simply divide the 0.2 by that dimension to obtain a rectangular size i.e

0.2/0.4m = max height is therefore 500mm high giving a 400mm x 500mm unit.

Example 2

Type WHF/75/IS is selected and is required to pass an air volume of 1.5m³/s with a maximum pressure drop of 20Pa. This unit can be sized using the airflow resistance graph (table 1) on page 15.

Reviewing the 20Pa value on table 1, we can see this falls at a face velocity of approx. 1.7m/s. Taking this value into our equation:

Volume in m³/s divided by Velocity in m/s will calculate the unit size so in this case we take 1.5m³/s / 1.7m/s = 0.882m² face area.

Again, this louvre area of 0.882m² can then be converted into a List size. A simple square root calculation of the 0.882 gives 0.939 which equates to a 939x939mm. Typically this would be rounded up to a standard size interval of 975x975mm. Again, if a specific height or length is required then simply divide the 0.882 by that dimension to obtain a rectangular size.



AIRFLOW RESISTANCE

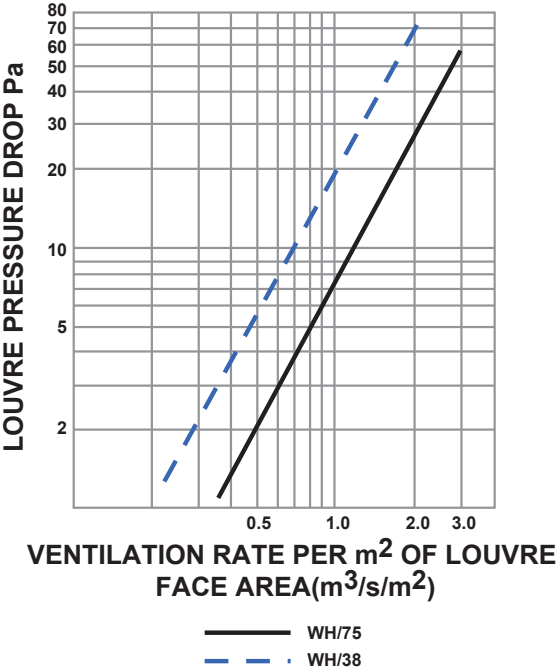
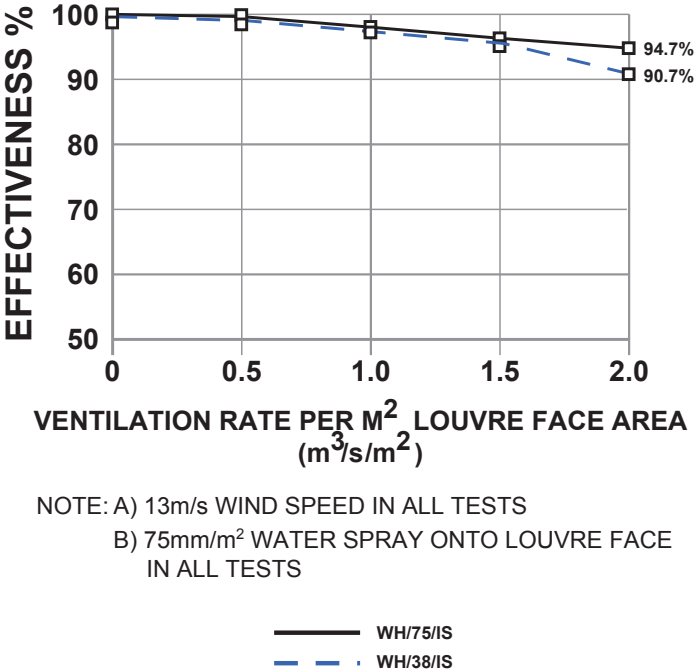


Table 1

WEATHER EFFICIENCY



NOTE: A) 13m/s WIND SPEED IN ALL TESTS
B) 75mm/m² WATER SPRAY ONTO LOUVRE FACE IN ALL TESTS

Table 2



INTEGRATED LOUVRE SYSTEMS

OTHER RANGES AVAILABLE INCLUDE:

STANDARD PERFORMANCE LOUVRES

SITE ASSEMBLY LOUVRES

ACOUSTIC LOUVRES

GILBERTS

Head Office and Works

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Telephone: **(01253) 766911**

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