



Trickle Ventilation

April 2013 | V1.0



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Introduction

Welcome to the latest version of the Glazpart Trickle Ventilation catalogue. Totally revised, this is the most comprehensive overview of our ever expanding product range dedicated to the Fenestration industry to comply with prevailing building regulations.

This edition also answers some of the key questions related to the need, use and specification of trickle ventilators. We also try to offer some guidance to the building regulations across the UK and Ireland. This must however be read in conjunction with the prevailing regulations in each country across the United Kingdom and Northern Ireland.

We have for the first time included colour referenced part number tables and highlight product combinations for new applications such as combustion air, sash window and patio or bi-fold doors.

Our trickle ventilator products are available for delivery as;

- packaged in sets (Canopy and Ventilator)
- point of sale (promotional packaging)
- bulk or standard packed (as sets or separate internal ventilators & external grills)
- mix and match colours.

Let us know how you want the parts delivered and we can arrange it!

New in this edition are rendered CAD images to give a clear view of our products. These images are available from your customer services contact as .jpeg, 3D adobe PDF or .stp files to assist you and your design team in the design and development of your products.

New products this year;

- Colour options:
 - vacuum foiling, wood grain and solid colour
 - through moulded colour range, E.g. Anthracite Grey RAL7016
 - printed wood grain colours, E.g. Irish Oak, Mahogany, Rose Wood and Golden Oak
- Colour spraying service where if required parts can be Kolorbond sprayed to ANY RAL, BS or swatch matched colour for special applications.

All these supply benefits and new products from the manufacturer of the only range of BBA certificated Trickle vents in the UK (at the time of publication).

We hope you find this document useful and should you have any feedback please contact me.

Regards

Dean Bradley

Dean Bradley,
Sales and Marketing Manager
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Why are trickle ventilators needed?

This has long been a controversial and puzzling question in the fenestration market since its introduction. The typical question has been -

"Why having developed thermally efficient window systems do we then rout a hole in the top?"

Over the last few revisions of the regulations, the airtightness of buildings has become an increasing issue. On the one hand there has been a drive to improve the thermal efficiency of windows whilst reducing energy consumption, as we build greener buildings. The consequence has been that as dwellings are made more airtight and internally generated pollutants affect disproportionately indoor air quality. This may cause adverse health effects unless unobtrusive background ventilation is installed.

Background ventilation is therefore necessary to provide a healthy indoor environment for the occupants. The primary purpose of trickle ventilation is to remove polluted indoor air from a building and replace it with 'Fresh' outside air. Background Ventilation is a key product for a healthy living environment. These small trickle ventilators are designed to deliver controllable whole room ventilation.

Background ventilation using trickle ventilators provides;

- Low Co2 footprint,** as this system consumes no electrical power once installed.
- Security,** installation foot prints prevent intrusion into the property. Whilst allowing constant ventilation even when the window is locked, as even locking handles can be a risk.
- Controllable,** ventilators are designed to deflect the airflow to minimize draughts.
- Cost effective,** the lowest cost route for provision of background ventilation without the need for air bricks and no ongoing electricity costs.
- Cleaner building designs:** as background ventilation is delivered through the window reveal no additional means of ventilation need be installed.
- Noise reduction,** a property in a noisier location, E.g. near a busy road or airport. Trickle ventilators provide ventilation without the need to open the windows, reducing noise levels.
- Condensation reduction,** some properties may have an existing problem with condensation especially in colder weather. Fitting windows with suitable trickle ventilation may improve the problem and potential risk of mould growth is reduced, which could minimise damage to internal surfaces.
- Clean, fresh background air** may reduce health problems, E.g. Asthma sufferers. Whilst also helping to manage the levels of pollutants such as carbon monoxide and carbon dioxide. The building regulations require the number of inhabitants in a property to be a consideration when planning a ventilation requirement.
- 24 hours operation,** even at night and whilst you are on holiday they can still operate.
- Controlled heat loss,** by using calculated background ventilation the need for purge and extraction of warm air is managed. Background ventilation can assist with air temperature movement between the habitable room and the atmosphere.
- Thermal comfort,** trickle vents are designed and located (typically 1.70 m above floor level) to control air movement (draughts) in habitable rooms.

Other ventilation types include 'Purge' and 'Extraction' is mechanical and is used locally within a building typically for kitchens and bathrooms where pollutants and water vapour are removed to prevent spreading throughout the building.



What are the Free and Equivalent areas of background trickle ventilators?

Equivalent area (EQA) is used instead of **free area** for the sizing of trickle ventilators as it is a better measure of the ventilators air flow performance.

Free area is the geometric cross sectional area of the opening of the ventilator. This however may not accurately reflect the air flow performance achieved by the ventilator. The more complex and/or restricted route of the air flow through the ventilator, the less air can flow through it.

Therefore, two separate ventilators with equal free areas may have different ventilation performance.

In order to calculate the EQA, the F1 Approved document uses a method defined in European Standard, BS EN 131 41-1 :2004 (Clause 4), for measuring the **EQA** of **background ventilators**.

EQA cannot be assessed on site, so it will be difficult to demonstrate that trickle ventilators have the correct **EQA**, so it is preferable to use ventilators which have the **EQA** (mm² at 1 Pa pressure difference), marked on the ventilator in a visible location, in the room to be ventilated, when installed.

The **EQA** is determined in accordance with BS EN 13141:2006 Part 1 "Ventilation for Buildings - Performance testing of components/products for residential ventilation - Part 1: Externally and internally mounted air transfer devices".

Clause 4.1 defines the test; "Flow Rate/Pressure" of BS EN13141 - 1 at pressures between 1 and 100Pa. The equivalent free area test calculates a value in mm² at a pressure difference of 1Pa.

The **EQA** is calculated using characteristic K at six pressures to measure the airflow. At 1Pa pressure difference the K value equals the corrected volume air flow rate Qvcor in l/s. This is multiplied by the coefficient C to give the equivalent free area in mm².

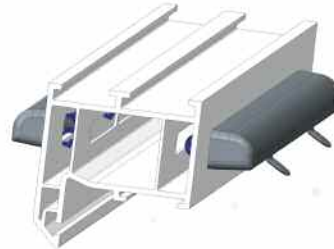
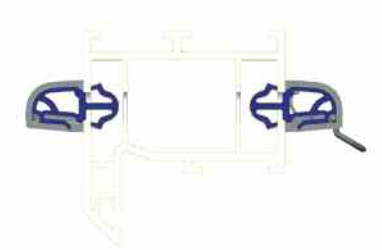
This information is for guidance only and is based upon Approved Document F1 at the time of publication.

Demonstrating this difference below is the geometric and EQA values of our modular ventilator range.

Vent Type	E.Q.A. (Equivalent Area)	Geometric Area
Modular 2000 Mk 3	1480 mm ²	2000 mm ²
Modular 4000 Mk 3	2590 mm ²	4000 mm ²
Modular 2000 + Grill	1380 mm ²	2000 mm ²
Modular 2000 + Hood	1390 mm ²	2000 mm ²
Modular 4000 + Hood	2580 mm ²	4000 mm ²
Modular 4000 + Grill	2700 mm ²	4000 mm ²
Modular 8000 + Hood	5170 mm ²	8000 mm ²
Modular 8000 + Grill	5940 mm ²	8000 mm ²



Slimline Trickle Ventilator ("Clip Fit")



Product Overview

The Slimline Ventilator will provide Trickle Ventilation in accordance with the Building Regulations 2000: Part F: Approved Document F1 October 2010 and Scottish Building Regulations October 2011 Standard 3.14.

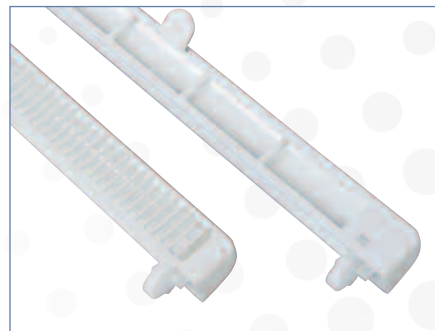
The product is specifically designed for "Through Profile" PVC-U applications using a 10 mm routed slot, and is available in two sizes. All ventilators are "Clip" fixed with the advantage of rapid fitting to profiles.

The products key features are as follows:

- Spring Clip fitting (No Screws) (Saves over 1 minute per window to install)
- Unique closure mechanism provides for adjustable ventilation with a positive action
- "BBA" Certification
- Sash window application - "Offset" clips are available

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- 1 Product Detail
- 2 Physical Data
- 3 Materials Of Construction
- 4 Performance Data
- 5 Acoustic Values
- 6 Installation Instructions
- 7 Slimline Vent Routing Detail
- 8 BBA Certification
- 9 Part numbers



1. Product Detail

The product consists of an internal ventilator with adjustable closures to regulate incoming air flow and an external canopy with integral fly screen.

Internal ventilator

This is injection moulded in PVC-U, with UV resistant Acetal spring clips that enable the ventilators to be firmly snapped into the routed slot in the profile. The installation of this vent provides time cost savings when compared with 'screw fitting' alternatives.

The closure plate has a positive action and multiple units in the 4000 version provide control of airflow.





A variety of custom fixing clips are available to offset the ventilator vertically relative to the 10mm slot for applications such as sash windows, where space is at a premium. These give offsets of +/- 2mm.

External canopy

This is complimentary to the interior unit and features the same materials and fixing methods. The canopy has an integral fly screen. A flat grill is available see page 23.

2. Physical Data

Dimensions & Weights

	Internal		External	
	Dimension	Weight	Dimension	Weight
Slimline MK3 2000	18 mm x 242 mm Depth 20 mm	40g	18 mm x 242 mm Depth 20 mm	31g
Slimline MK3 4000	18 mm x 455 mm Depth 20 mm	74g	18 mm x 455 mm Depth 20 mm	55g

All dimensions are nominal

For colour options please see page 24 - 27.

3. Materials of Construction

Internal and external units are primarily moulded in UV stabilised PVC-U. The spring fixing clips are in UV stabilised Acetal. Suppliers data sheets for these polymers are available on request.

4. Performance Data

Vent Type	E.Q.A. (Equivalent Area)	Geometric Free Area
Slimline MK3 2000	1480 mm ²	2000 mm ²
Slimline MK3 4000	2590 mm ²	4000 mm ²

5. Acoustic Values

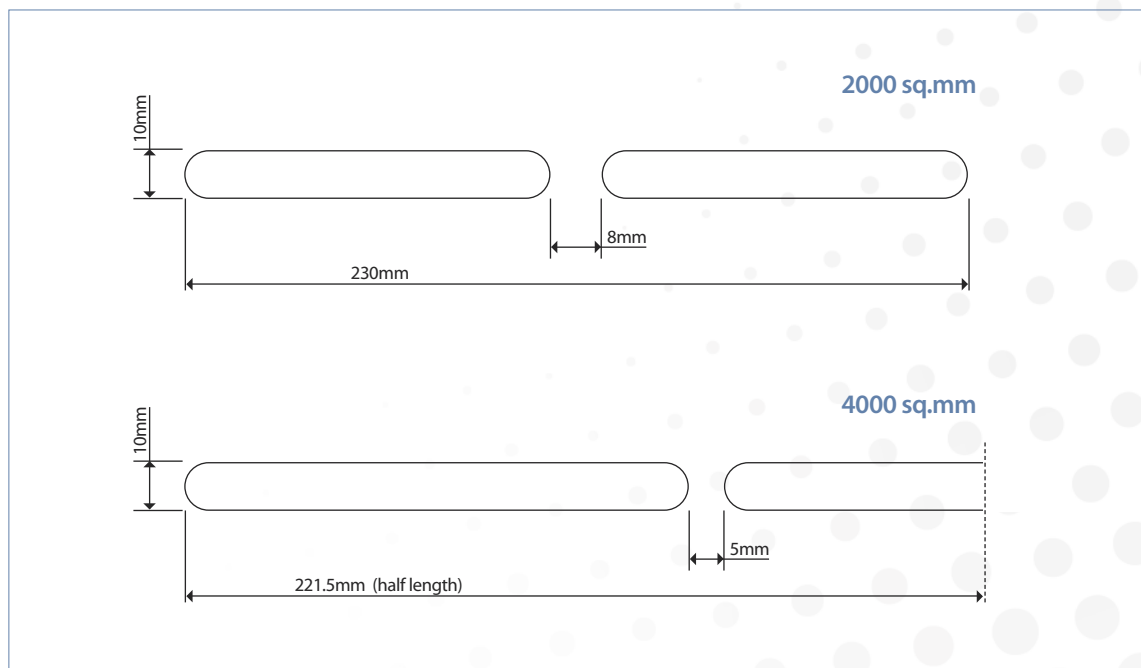
Vent Type	Values D.n.e.w.
Slimline MK 3 4000 Open	33dB
Slimline MK 3 4000 Closed	35dB
Slimline MK 3 2000 Open	37dB
Slimline MK 3 2000 Closed	40dB



6. Installation Instructions

1. The ventilator is normally fitted in the head of the frame or sash in a section that does not contain a reinforcing member.
2. Rout a 10 mm slot as detailed in the below diagrams.
3. Units are fitted by locating the spring fixings into the routed slots and pressing firmly into place.

7. Slim Vent Routing Detail



8. BBA Certification

Glazpart are the manufacturer of the only range of BBA certificated Trickle vents in the UK.

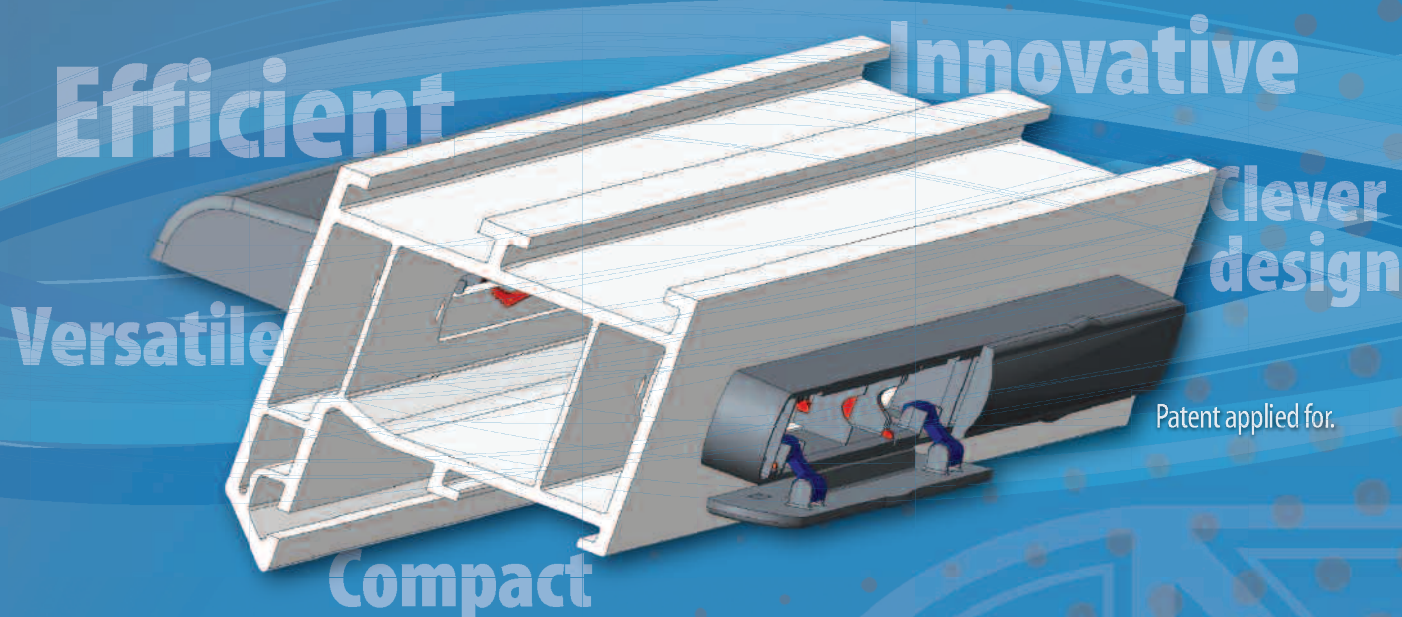
Current BBA Certification cover the standard production colours (white, brown, tan, cream and black). Three additional colours and surface decorations are available but are not covered by existing certification. However, independent test data is available.





Introducing the NEW Glazpart Link-Vent 5000 & 2500

Glazpart is proud to launch a new range of plastic injection moulded trickle vents to meet the needs of today's building designers, window fabricators and installers. At the FITSHOW 2013, we launch the first of the "Link-vent" range of trickle ventilators.



- Link-vent 5000 EQA delivers significantly more EQA performance compared to similar length (traditional) 4000mm² (free area) ventilators.
- 2500 EQA is delivered through a 204 mm x 13 mm slot size, reducing routing machine times and waste materials generated.
- 1000's of colour options, delivered in any combination or packaging requirement.
- Simple, user friendly opening of the vent finishes with a positive closing action.
- Clever design allows for use on uPVC, aluminium or timber windows. The screw fix option eliminates the need for end caps whilst the clip fix pawls deliver fast installation.

For more information about our
new vents and other products visit:

www.glazpart.com



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 www.glazpart.com

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9. Part numbers – Slimline 2000

DECORATION	External													
	White	Brown	Black	White	White	Oak/Brown	Cream 357	Mahogany	Rosewood	Light Oak	Irish Oak	Grey 7015	Grey 7016	Blue
White 839	2300700	2300790	2300792	V235-00200	V235-00201	2300974	V235-00202	V235-00102	V235-00103	V235-00104	V235-00105	V235-00100	V235-00101	V235-00203
Brown		2300701	V235-00205	V235-00206	V235-00207	V235-00208	V235-00209	V235-00210	V235-00211	V235-00212	V235-00213	V235-00214	V235-00215	V235-00216
Black			2300702	V235-00217	V235-00218	V235-00219	V235-00220	V235-00221	V235-00222	V235-00223	V235-00224	V235-00225	V235-00226	V235-00227
White 850				2300703	V235-00228	V235-00229	V235-00230	V235-00231	V235-00232	V235-00233	V235-00234	V235-00235	V235-00236	V235-00237
White 994					2300704	V235-00238	V235-00239	V235-00240	V235-00241	V235-00242	V235-00243	V235-00244	V235-00245	V235-00246
Oak Brown RM766K						2300706	V235-00247	V235-00248	V235-00249	V235-00250	V235-00251	V235-00252	V235-00253	V235-00254
Cream 357							2000709	V235-00255	V235-00256	V235-00257	V235-00258	V235-00259	V235-00260	V235-00261
Mahogany								V235-00051	V235-00262	V235-00263	V235-00264	V235-00265	V235-00266	V235-00267
Rosewood									V235-00050	V235-00268	V235-00269	V235-00270	V235-00271	V235-00272
Light Oak									V235-00052	V235-00273	V235-00274	V235-00275	V235-00276	V235-00277
Irish Oak										V235-00053	V235-00277	V235-00278	V235-00279	V235-00280
Grey 7015											V235-00074	V235-00280	V235-00281	V235-00282
Grey 7016												V235-00075	V235-00282	V235-00078
Blue														

DECORATION	BULK PACK ASSEMBLES	BULK PACK VENTILATORS ONLY	BULK PACK CANOPYS ONLY
White 839	2300700B	2300720B	2300710B
Brown	2300701B	2300721B	2300711B
Black	2300702B	2300722B	2300712B
Oak Brown Tan 21	2300706B	2300726B	2300716B
Grey 7015	V235-00076B	V235-00063B	V235-00061B
Grey 7016	V235-00077B	V235-00068B	V235-00065B
Mahogany (Aqua)	V235-00051B	V235-00041B	V235-00038B
Rosewood (Aqua)	V235-00050B	V235-00042B	V235-00058B
Light Oak (Aqua)	V235-00052B	V235-00043B	V235-00040B
Irish Oak (Aqua)	V235-00073B	V235-00075B	V235-00074B



Made in Britain



Trickle Ventilation: V1.0



Glass and Glazing Federation



Part numbers – Slimline 4000

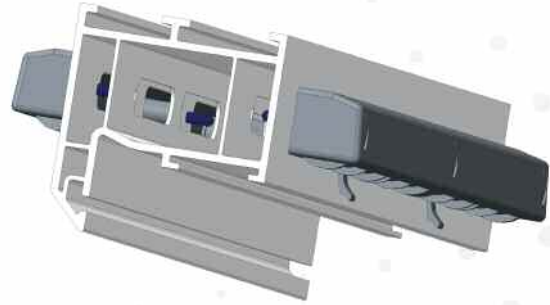
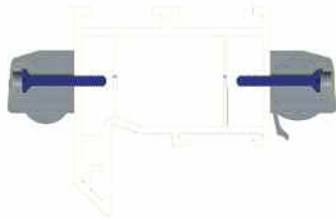
SLIMLINE 4000	External													
	White	Brown	Black	White	White	Oak Brown	Cream 357	Mahogany	Rosewood	Light Oak	Irish Oak	Grey 7015	Grey 7016	Blue
White 839	4300700	4300790	4300792	V435-00200	V435-00201	4300974	V435-00202	V435-00102	V435-00103	V435-00104	V435-00105	V435-00100	V435-00101	V435-00203
Brown		4300701	V435-00205	V435-00206	V435-00207	V435-00208	V435-00209	V435-00210	V435-00211	V435-00212	V435-00213	V435-00214	V435-00215	V435-00216
Black			4300702	V435-00217	V435-00218	V435-00219	V435-00220	V435-00221	V435-00222	V435-00223	V435-00224	V435-00225	V435-00226	V435-00227
White 850			4300703	V435-00228	V435-00229	V435-00230	V435-00231	V435-00232	V435-00233	V435-00234	V435-00235	V435-00236	V435-00237	
White 994					4300704	V435-00238	V435-00239	V435-00240	V435-00241	V435-00242	V435-00243	V435-00244	V435-00245	V435-00246
Oak Brown RM766K						4300706	V435-00247	V435-00248	V435-00249	V435-00250	V435-00251	V435-00252	V435-00253	V435-00254
Cream 357							4000709	V435-00255	V435-00256	V435-00257	V435-00258	V435-00259	V435-00260	V435-00261
Mahogany								V435-00051	V435-00262	V435-00263	V435-00264	V435-00265	V435-00266	V435-00267
Rosewood									V435-00050	V435-00268	V435-00269	V435-00270	V435-00271	V435-00272
Light Oak										V435-00052	V435-00273	V435-00274	V435-00275	V435-00276
Irish Oak											V435-00053	V435-00277	V435-00278	V435-00279
Grey 7015												V435-00074	V435-00280	V435-00281
Grey 7016													V435-00075	V435-00282
Blue														V435-00078



DECORATION	BULK PACK ASSEMBLES			BULK PACK VENTILATORS ONLY			BULK PACK CANOPY'S ONLY														
	4300700B	4300701B	4300702B	4300706B	V435-00063B	V435-00068B	V435-00034B	V435-00043B	V435-00033B	V435-00025B	4300710B	4300711B	4300712B	4300716B	V435-00061B	V435-00065B	V435-00036B	V435-00037B	V435-00058B	V435-00074B	
White 839																					
Brown																					
Black																					
Oak Brown Tan 21																					
Grey 7015																					
Grey 7016																					
Mahogany (Aqua)																					
Rosewood (Aqua)																					
Light Oak (Aqua)																					
Irish Oak (Aqua)																					



Standard Ventilator ("Screw Fit")



Product Overview

The Standard Ventilator will provide Trickle Ventilation in accordance with the Building Regulations 2000:Part F: Approved Document F1: October 2010 Scottish Building Regulations October 2011: Standard 3.14.

The product is specifically designed for "Through Profile" applications using a 12.5 mm routed slot, and is available in two sizes - for details of equivalent area see Section 4.

The products key features are as follows:

- All PVC-U construction.
- Extremely rugged design
- "BBA" Certification on most versions

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- 1 Product Detail
- 2 Physical Data
- 3 Materials Of Construction
- 4 Performance Data
- 5 Acoustic Values
- 6 Installation Instructions
- 7 Standard Trickle Ventilator Routing
- 8 BBA Certification
- 9 Part numbers



1. Product Detail

The product consists of an internal ventilator with adjustable closures to regulate incoming air flow and an external canopy or an integral fly screen is available. A flat exterior grille is also available for use on patio doors. Units are screwed into position using self drilling fixings. Plastic screw covers are supplied.

Internal ventilator

Air flow regulation is afforded by the use of adjustable tumblers.

External canopy

This is complimentary to the interior unit and features the same materials and fixing methods. A flat grill available see page 23.





2. Physical Data

Dimensions & Weights

	Internal		External Canopy		External Grill	
	Dimension	Weight	Dimension	Weight	Dimension	Weight
2000	26 mm x 230 mm Depth 24 mm	58g	26 mm x 230 mm Depth 24 mm	50g	25 mm x 230 mm Depth 24 mm	9g
4000	26 mm x 444 mm Depth 24 mm	103g	26 mm x 444 mm Depth 24 mm	86g	25 mm x 444 mm Depth 24 mm	18g

All dimensions are nominal

For colour options please see page 24 - 27.

3. Materials of Construction

Both internal and external units are moulded in PVC-U. Supplier's data sheets for the polymer are available on request.

4. Performance Data

Vent Type	E.Q.A. (Equivalent Area)	Geometric Free Area
Standard 2000 + Hood	1380 mm ²	2000 mm ²
Standard 2000 + Grill	1360 mm ²	2000 mm ²
Standard 4000 + Hood	2580 mm ²	4000 mm ²
Standard 4000 + Grill	2700 mm ²	4000 mm ²

5. Acoustic Values

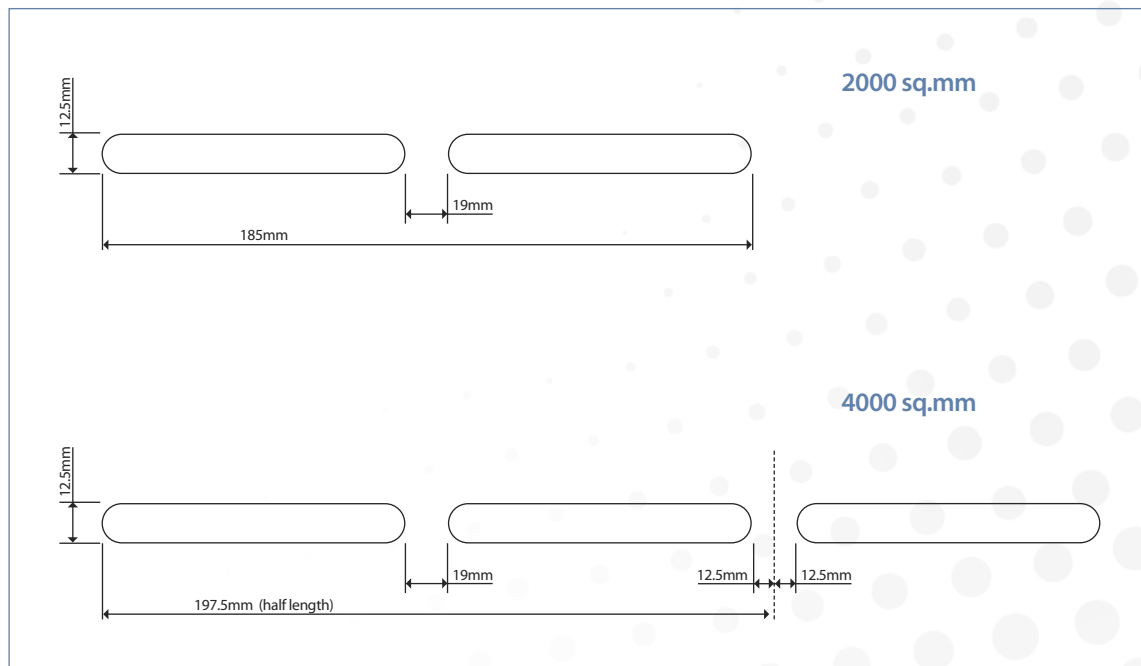
Vent Type	Values D.n.e.w.
Standard 2000 Open	34dB
Standard 2000 Closed	39dB
Standard 4000 Open	31dB
Standard 4000 Closed	36dB



6. Installation Instructions

1. The ventilator is normally fitted in the head of the frame or sash in a section that does not contain a reinforcing member.
2. Rout a 12.5 mm slot as detailed in the below diagrams.
3. Units are fitted by locating over the routed slots and screwing the fixings into place.

7. Standard Trickle Ventilator Routing Detail



8. BBA Certification

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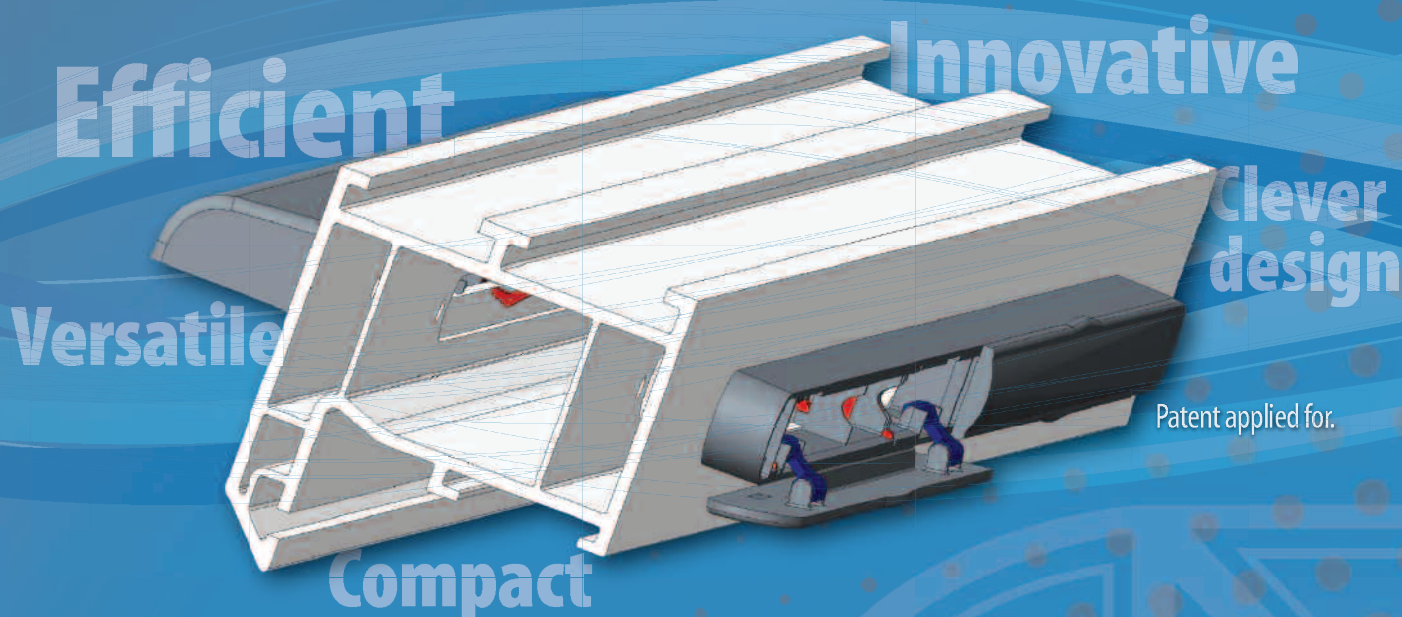
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Glazpart is proud to launch a new range of plastic injection moulded trickle vents to meet the needs of today's building designers, window fabricators and installers. At the FITSHOW 2013, we launch the first of the "Link-vent" range of trickle ventilators.



- Link-vent 5000 EQA delivers significantly more EQA performance compared to similar length (traditional) 4000mm² (free area) ventilators.
- 2500 EQA is delivered through a 204 mm x 13 mm slot size, reducing routing machine times and waste materials generated.
- 1000's of colour options, delivered in any combination or packaging requirement.
- Simple, user friendly opening of the vent finishes with a positive closing action.
- Clever design allows for use on uPVC, aluminium or timber windows. The screw fix option eliminates the need for end caps whilst the clip fix pawls deliver fast installation.

For more information about our
new vents and other products visit:

www.glazpart.com



9. Part numbers – Standard 2000

DECORATION	BULK PACK ASSEMBLES	BULK PACK VENTILATORS ONLY	BULK PACK CANOPIES ONLY	External															
				White	Brown	Black	White	White	Oak Brown	Oak Brown	Cream 252	Cream 357	Mahogany	Rosewood	Light Oak	Irish Oak	Grey 7015	Grey 7016	Blue
White 839	2000100	2000900	2000902	V200-00200	V200-00201	2000906	V200-00202	V200-00203	V200-00204	V200-00102	V200-00103	V200-00213	V200-00214	V200-00215	V200-00216	V200-00217	V200-00218	2000907	
Brown	2000101	V200-00205	V200-00206	V200-00207	V200-00208	V200-00209	V200-00210	V200-00211	V200-00212	V200-00213	V200-00214	V200-00215	V200-00216	V200-00217	V200-00218	V200-00219	V200-00220	V200-00231	
Black	2000102	V200-00219	V200-00220	V200-00221	V200-00222	V200-00223	V200-00224	V200-00225	V200-00226	V200-00227	V200-00228	V200-00229	V200-00230	V200-00231	V200-00232	V200-00233	V200-00234	V200-00235	
White 850	2000103	V200-00232	V200-00233	V200-00234	V200-00235	V200-00236	V200-00237	V200-00238	V200-00239	V200-00240	V200-00241	V200-00242	V200-00243	V200-00244	V200-00245	V200-00246	V200-00247	V200-00248	
White 994	2000104	V200-00244	V200-00245	V200-00246	V200-00247	V200-00248	V200-00249	V200-00250	V200-00251	V200-00252	V200-00253	V200-00254	V200-00255	V200-00256	V200-00257	V200-00258	V200-00259	V200-00260	
Oak Brown Tan 21	2000105	V200-00255	V200-00256	V200-00257	V200-00258	V200-00259	V200-00260	V200-00261	V200-00262	V200-00263	V200-00264	V200-00265	V200-00266	V200-00267	V200-00268	V200-00269	V200-00270	V200-00271	
Oak Brown BR83	2000106	V200-00265	V200-00266	V200-00267	V200-00268	V200-00269	V200-00270	V200-00271	V200-00272	V200-00273	V200-00274	V200-00275	V200-00276	V200-00277	V200-00278	V200-00279	V200-00280	V200-00281	
Cream 252	2000108	V200-00274	V200-00275	V200-00276	V200-00277	V200-00278	V200-00279	V200-00280	V200-00281	V200-00282	V200-00283	V200-00284	V200-00285	V200-00286	V200-00287	V200-00288	V200-00289	V200-00290	
Cream 357	2000109	V200-00282	V200-00283	V200-00284	V200-00285	V200-00286	V200-00287	V200-00288	V200-00289	V200-00290	V200-00291	V200-00292	V200-00293	V200-00294	V200-00295	V200-00296	V200-00297	V200-00298	
Mahogany	V200-00002	V200-00289	V200-00290	V200-00291	V200-00292	V200-00293	V200-00294	V200-00295	V200-00296	V200-00297	V200-00298	V200-00299	V200-00300	V200-00301	V200-00302	V200-00303	V200-00304	V200-00305	
Rosewood	V200-00003	V200-00295	V200-00296	V200-00297	V200-00298	V200-00299	V200-00300	V200-00301	V200-00302	V200-00303	V200-00304	V200-00305	V200-00306	V200-00307	V200-00308	V200-00309	V200-00310	V200-00311	
Light Oak	V200-00001	V200-00300	V200-00301	V200-00302	V200-00303	V200-00304	V200-00305	V200-00306	V200-00307	V200-00308	V200-00309	V200-00310	V200-00311	V200-00312	V200-00313	V200-00314	V200-00315	V200-00316	
Irish Oak	V200-00043	V200-00304	V200-00305	V200-00306	V200-00307	V200-00308	V200-00309	V200-00310	V200-00311	V200-00312	V200-00313	V200-00314	V200-00315	V200-00316	V200-00317	V200-00318	V200-00319	V200-00320	
Grey 7015	V200-00060	V200-00307	V200-00308	V200-00309	V200-00310	V200-00311	V200-00312	V200-00313	V200-00314	V200-00315	V200-00316	V200-00317	V200-00318	V200-00319	V200-00320	V200-00321	V200-00322	V200-00323	
Grey 7016	V200-00061	V200-00310	V200-00311	V200-00312	V200-00313	V200-00314	V200-00315	V200-00316	V200-00317	V200-00318	V200-00319	V200-00320	V200-00321	V200-00322	V200-00323	V200-00324	V200-00325	V200-00326	
Rosewood (Aqua)	V200-00058	V200-00059	V200-00060	V200-00061	V200-00062	V200-00063	V200-00064	V200-00065	V200-00066	V200-00067	V200-00068	V200-00069	V200-00070	V200-00071	V200-00072	V200-00073	V200-00074	V200-00075	
Light Oak (Aqua)	V200-00011	V200-00012	V200-00013	V200-00014	V200-00015	V200-00016	V200-00017	V200-00018	V200-00019	V200-00020	V200-00021	V200-00022	V200-00023	V200-00024	V200-00025	V200-00026	V200-00027	V200-00028	
Irish Oak (Aqua)	V200-00053	V200-00054	V200-00055	V200-00056	V200-00057	V200-00058	V200-00059	V200-00060	V200-00061	V200-00062	V200-00063	V200-00064	V200-00065	V200-00066	V200-00067	V200-00068	V200-00069	V200-00070	





Part numbers – Standard 4000

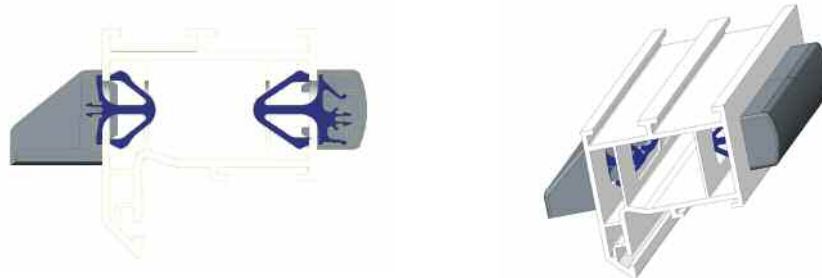
STANDARD 4000	External																
	White	Brown	Black	White	White	Oak Brown	Oak Brown	Oak Brown	Cream 252	Cream 357	Mahogany	Rosewood	Light Oak	Irish Oak	Grey 7015	Grey 7016	Blue
White 839	4000100	4000900	4000902	V400-00200	V400-00206	V400-00207	V400-00201	4000906	V400-00202	V400-00204	V400-00102	V400-00103	V400-00104	V400-00105	V400-00100	V400-00101	4000907
Brown		4000101	V400-00205	V400-00206	V400-00207	V400-00208	V400-00209	V400-00210	V400-00211	V400-00212	V400-00213	V400-00214	V400-00215	V400-00216	V400-00217	V400-00218	
Black			4000102	V400-00219	V400-00220	V400-00221	V400-00222	V400-00223	V400-00224	V400-00225	V400-00226	V400-00227	V400-00228	V400-00229	V400-00230	V400-00231	
White 850				4000103	V400-00232	V400-00233	V400-00234	V400-00235	V400-00236	V400-00237	V400-00238	V400-00239	V400-00240	V400-00241	V400-00242	V400-00243	
White 994					4000104	V400-00244	V400-00245	V400-00246	V400-00247	V400-00248	V400-00249	V400-00250	V400-00251	V400-00252	V400-00253	V400-00254	
Oak Brown Tan 21						4000105	V400-00255	V400-00256	V400-00257	V400-00258	V400-00259	V400-00260	V400-00261	V400-00262	V400-00263	V400-00264	
Oak Brown BR83							4000106	V400-00265	V400-00266	V400-00267	V400-00268	V400-00269	V400-00270	V400-00271	V400-00272	V400-00273	
Cream 252								4000108	V400-00274	V400-00275	V400-00276	V400-00277	V400-00278	V400-00279	V400-00280	V400-00281	
Cream 357									4000109	V400-00282	V400-00283	V400-00284	V400-00285	V400-00286	V400-00287	V400-00288	
Mahogany										V400-00002	V400-00289	V400-00290	V400-00291	V400-00292	V400-00293	V400-00294	
Rosewood											V400-00003	V400-00295	V400-00296	V400-00297	V400-00298	V400-00299	
Light Oak												V400-00001	V400-00300	V400-00301	V400-00302	V400-00303	
Irish Oak													V400-00043	V400-00304	V400-00305	V400-00306	
Grey 7015														V400-00060	V400-00307	V400-00308	
Grey 7016															V400-00061	V400-00309	
Blue																V400-00310	



DECORATION	BULK PACK ASSEMBLES			BULK PACK VENTILATORS ONLY			BULK PACK CANOPIES ONLY								
	4000100B	4000120B	4000130B	4000101B	4000121B	4000131B	4000102B	4000122B	4000132B	4000103B	4000123B	4000133B	4000104B	4000124B	4000134B
White 839															
Brown															
Black															
Oak Brown															
Grey 7015															
Grey 7016															
Mahogany (Aqua)															
Rosewood (Aqua)															
Light Oak (Aqua)															
Irish Oak (Aqua)															



Modular Ventilator ("Clip Fit")



Product Overview

The Modular Ventilator will provide Trickle Ventilation in accordance with the Building Regulations 2000: Part F: Approved Document F1: October 2010 Scottish Building Regulations October 2011: Standard 3.14

This product is better suited for use with frame extension or header profiles and as such should be considered an 'over the top vent'.

The products key features are as follows:

- Modular design allows various equivalent area vents to be built from the standard base module. This reduces stockholdings. The Modular design is available assembled if required.
- BBA Certification
- Small footprint of only 138 mm x 26 mm for the base 2000 module. Spring clip fitting. (No screws)
- Unique closure mechanism provides for adjustable ventilation with a positive action.
- Optional modular grille or conventional canopy for exterior use.

Contents

- 1 Product Detail
- 2 Physical Data
- 3 Materials Of Construction
- 4 Performance Data
- 5 Acoustic Values
- 6 Installation Instructions
- 7 Modular Trickle Ventilator Routing Detail
- 8 BBA Certification



1. Product Detail

The product consists of an internal unit with adjustable closures to regulate incoming air flow and a choice of external protective screens.

Internal ventilator

The product is based on a modular concept. The base module carries a male and female dovetail on opposite ends. This allows them to be quickly joined to give the required equivalent area. Complimentary end caps are then fitted to complete the assembly. Product is of course available assembled to customers requirements.

The modules carry a moulded pair of spring clips that enable them to be firmly snapped into the routed slot in the profile. This has obvious cost savings when compared with "Screw Fitting" alternatives.





The unique patented closure action, gives two intermediate opening positions as well as “Closed” and “Fully Open”.

External canopy

The modular and snap fitting features, as well as footprint, are common between internal and external units.

An alternative exterior units are available.

FLAT GRILLE Designed primarily for installation in a near horizontal plane.

2. Physical Data

Dimensions & Weights

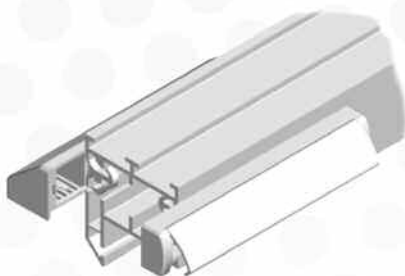
	Internal		External (Flat Grill)		External (Full Canopy)	
	Dimension	Weight	Dimension	Weight	Dimension	Weight
Modular 2000	26 mm x 145 mm Depth 16.5 mm	30g	26 mm x 145 mm Depth 16.5 mm	12g	26 mm x 145 mm Depth 16.5 mm	33g
Modular 4000	26 mm x 283 mm Depth 16.5 mm	57g	26 mm x 283 mm Depth 16.5 mm	23g	26 mm x 283 mm Depth 16.5 mm	64g
Modular 6000	26 mm x 421 mm Depth 16.5 mm	84g	26 mm x 421 mm Depth 16.5 mm	34g	26 mm x 421 mm Depth 16.5 mm	95g
Modular 8000	26 mm x 559 mm Depth 16.5 mm	111g	26 mm x 559 mm Depth 16.5 mm	45g	26 mm x 559 mm Depth 16.5 mm	126g

All dimensions are nominal

3. Materials of Construction

Both internal and external units are primarily moulded in UV stabilised PVC-U. The spring fixing clips are in UV stabilised Acetal.

Suppliers data sheets for these polymers are available on request.





4. Performance Data

Vent Type	E.Q.A. (Equivalent Area)	Geometric Free Area
Modular 2000 + Hood	1293 mm ²	2000 mm ²
Modular 2000 + Grill	1485 mm ²	2000 mm ²
Modular 4000 + Hood	2585 mm ²	4000 mm ²
Modular 4000 + Grill	2970 mm ²	4000 mm ²
Modular 6000 + Hood	3878 mm ²	6000 mm ²
Modular 6000 + Grill	4455 mm ²	6000 mm ²
Modular 8000 + Hood	5170 mm ²	8000 mm ²
Modular 8000 + Grill	5940 mm ²	8000 mm ²

5. Acoustic Values

Vent Type	Values D.n.e.w.
Modular 2000 Open	34dB
Modular 2000 Closed	40dB
Modular 4000 Open	31dB
Modular 4000 Closed	37dB
Modular 6000 Open	29dB
Modular 6000 Closed	35dB
Modular 8000 Open	28dB
Modular 8000 Closed	34dB

6. Installation Instructions

Installation simply requires the routing of a 19 mm (3/4 inch) slot through the profile. In order to preserve the maximum structural integrity of the profile the use of separate slots for each 2000 Module is recommended. i.e. Leave 6.5 mm bridgings between modules.

Ensure that the ventilator is correctly positioned relative to the routed slots prior to snapping the ventilator into place; as the installation is permanent.

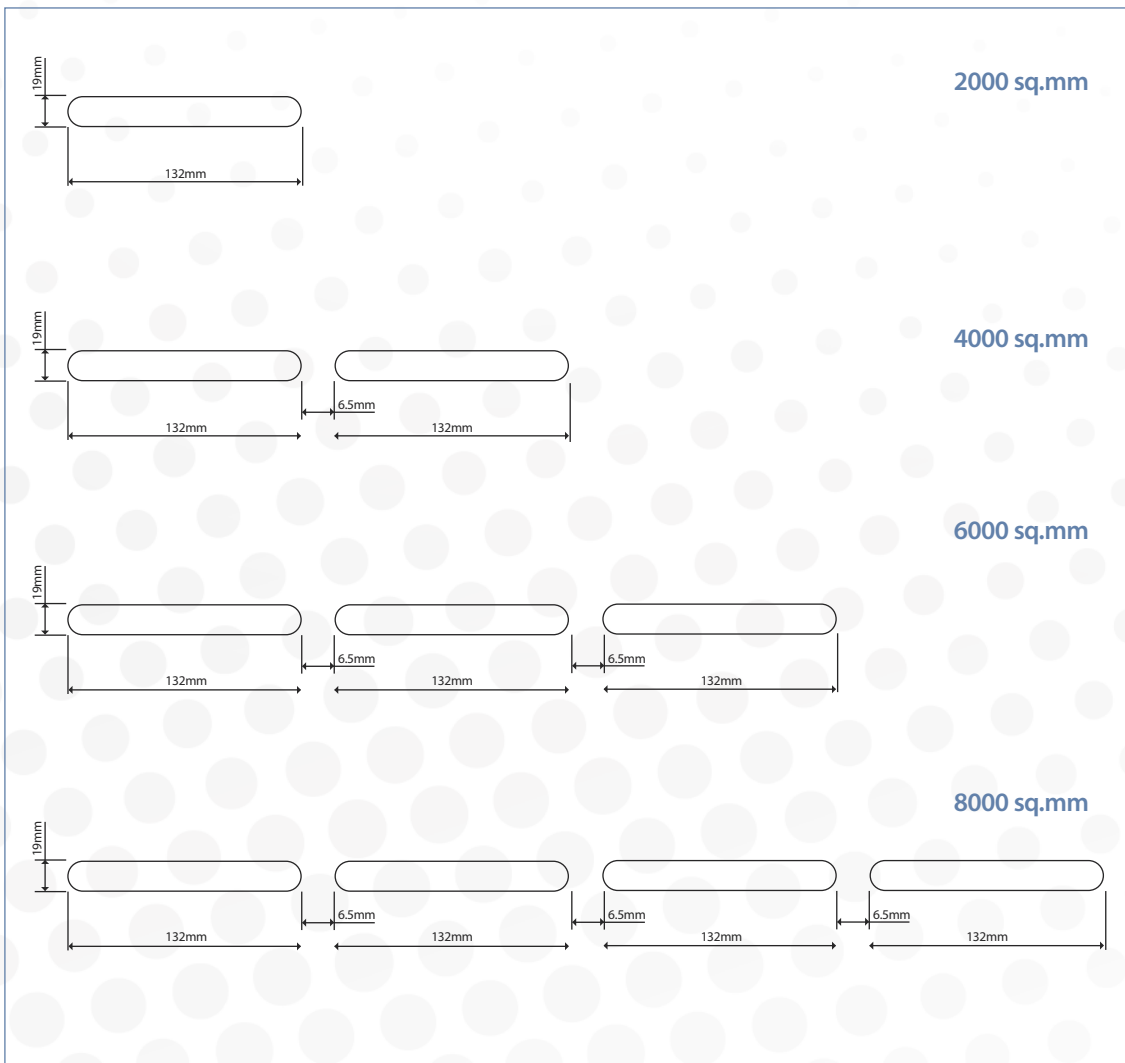
Fitting Instructions

1. Typical of all sizes
2. Use a 19 mm or 3/4 inch diameter cutter
3. Rout a Slot 132 mm x 19 mm for each Module
4. Leave 6.5 mm Lands between modules for multi-module installations





7. Modular Vent Routing Detail

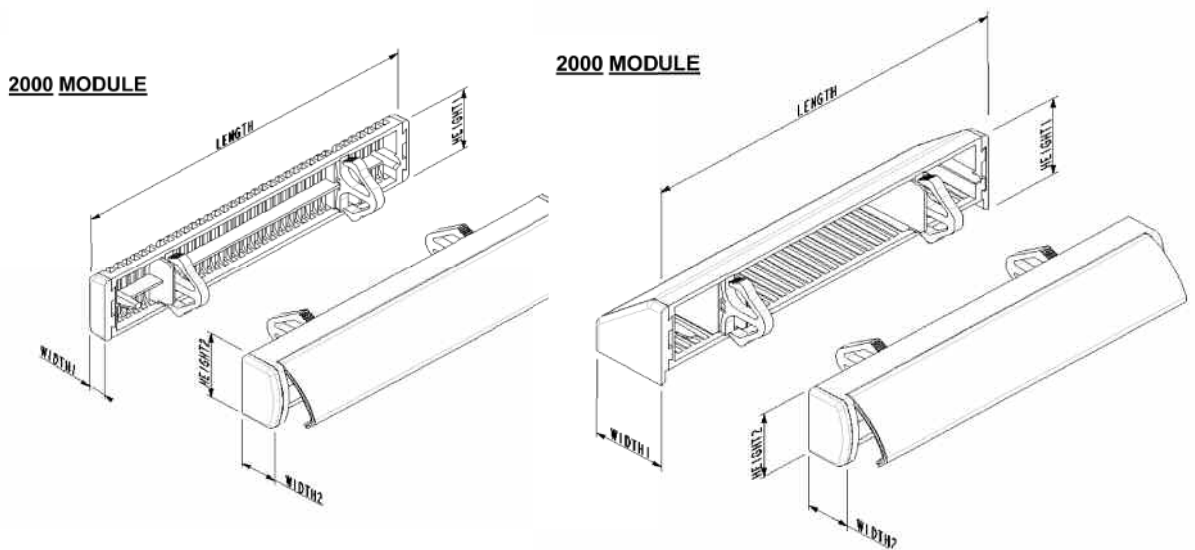


8. BBA Certification

Glazpart are the manufacturer of the only range of BBA certified Trickle vents in the UK.

Current BBA Certification cover the standard production colours (white, brown, tan, cream and black). Three additional colours and surface decorations are available but are not covered by existing certification. However, independent test data is available.





9. Part numbers

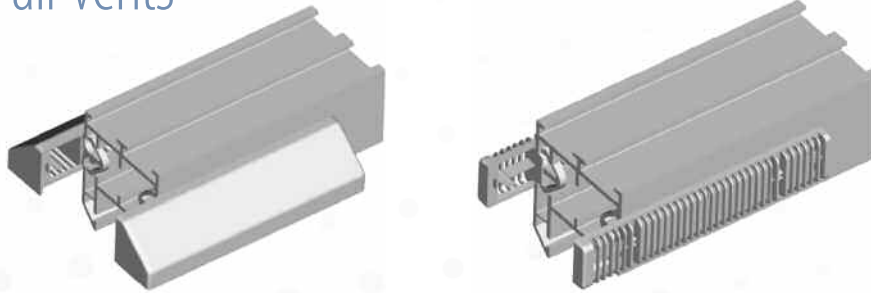
		Modular Vents		Combustion Air Vents		
Colour	Packing	Vent with Grill	Vent with Canopy	Gas Vent with Canopy	Gas Vent with Grill	
2000 Modular Vent						
White	Standard packing	5002000	5202000	5302000	5102000	
Brown		5002001	5202001	5302001	5102001	
Black		5002002	5202002	5302002	5102002	
4000 Modular Vent						
White		5004000	5204000	5304000	5104000	
Brown		5004001	5204001	5304001	5104001	
Black		5004002	5204002	5304002	5104002	
Oak Brown			5204007			
6000 Modular Vent						
White		5006000	5206000	5306000	5106000	
Brown		5006001	5206001	5306001	5106001	
Black		5006002	5206002	5306002	5106002	
8000 Modular Vent						
White	5008000	5208000	5308000	5108000		
Brown	5008001	5208001	5308001	5108001		
Black	5008002	5208002	5308002	5108002		
Oak Brown		5208007				
Bulk packed components						
	Bulk packed sub components	Modular Vent	Modular Grill	Modular Canopy	Size: 2000	
White		5002170B	5002180B	5002200B		
Brown		5002171B	5002181B	5002201B		
Black		5002172B	5002182B	5002202B		
Oak Brown	5002176B	5002186B	5002206B			





Special Applications

Combustion air vents



Combustion air vents provide a permanent supply of combustion air to rooms containing fuel-burning appliances which are not room-sealed. Maybe used to meet gas safety regulations and the requirements of Building Regulations Approved Document J1.

Requirements

All open-flued fuel-burning appliances require an adequate supply of combustion air from the room so that:

- The appliance and its flue operate efficiently.
- Fuel is properly burnt, so harmful fumes are not produced.
- The appliance will not draw oxygen from the air in the room.
- Combustion products are properly vented through the flue to avoid any risk of build up inside the room.

The provision of an adequate air supply is a mandatory requirement of the Building Regulations J1. There is also a legal obligation when installing or servicing appliances to ensure that there is an adequate air supply.

This is particularly important when new windows or doors have been fitted, which are usually weather stripped, so cutting down the 'Infiltration' air supply.

To meet the requirement, a vent should be installed which must not be closeable, should prevent draughts, and must be large enough for the rating of the appliance.

Capacity

Based on Approved Document J1/2/3, one pair of Combustion Air Vents is suitable for:

- Gas appliances up to 18kW (61 000Btu/h) input.
- Solid fuel closed appliances up to 14kW (47 000Btu/h) output.
- Solid fuel open appliances up to 10,000 mm² throat opening area.
- Oil burning appliances up to 14kW (47 000Btu/h) output.

Part numbers

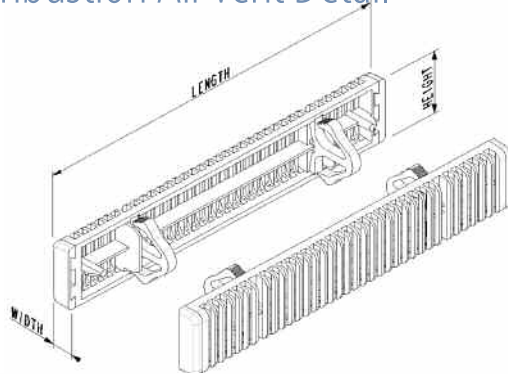
These can be found on page 20 as they are based on the modular vent.



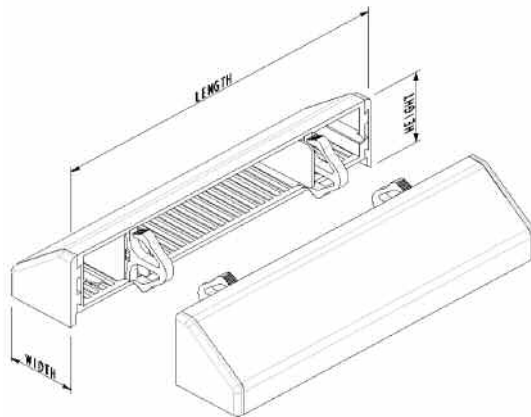


Special Applications Combustion air vent

Combustion Air Vent Detail



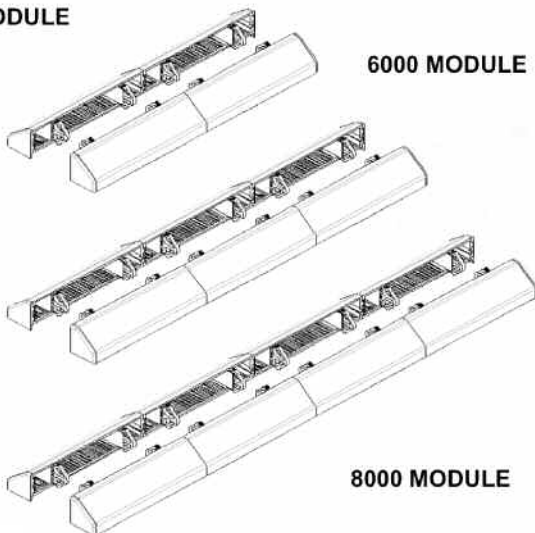
Combustion Air Vent with Grill 2000



Combustion Air Vent with Canopy 2000

Combustion Air Vent Arrangement

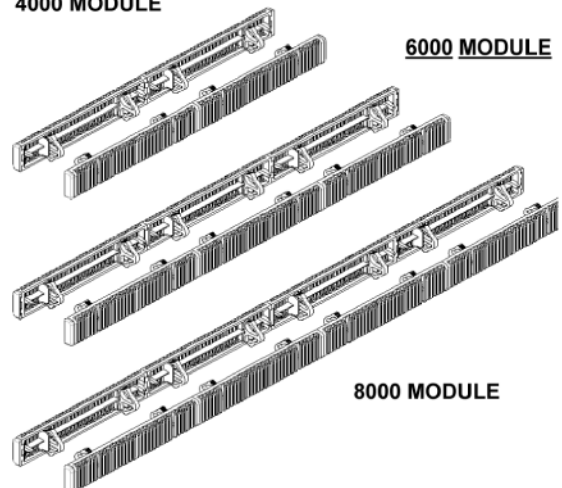
4000 MODULE



6000 MODULE

8000 MODULE

4000 MODULE



6000 MODULE

8000 MODULE

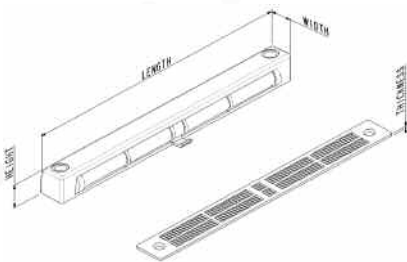




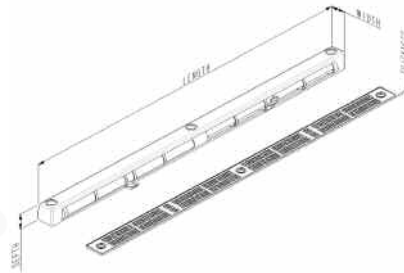
Special Applications

Bi-fold / Patio vent

Glazpart have led the market for special applications developing a flat fly screen (grill) to allow background ventilation to be supplied through operating bi-fold / patio door sets.



Bi-fold / Patio Door Vent 2000



Bi-fold / Patio Door Vent 4000

External Grills & Fly Screens - EQA rating mm²

External Grill	Flyscreen	Free area mm ²	Standard vent model		
			2000	4000	
2000					
Vent standard moulded colours	White 839	2000140	2000	1360 EQA	
	Brown 926	2000141			
	Black 9162	2000142			
	White 850	2000143			
	White 1354	2000144			
	Oak Brown	2000145			
	Brown BR83	2000149			
	Cream	2000189			
	Blue 126	NO PART NUMBER AVAILABLE			
	Grey	NO PART NUMBER AVAILABLE			
4000					
Vent standard moulded colours	White 839	4000140	4000	2700 EQA	
	Brown 926	4000141			
	Black 9162	4000142			
	White 850	4000143			
	White 1354	4000144			
	Oak Brown	4000145			
	Blue 126	4000147			
	Grey	4000148			
	Brown BR83	4000149			
	Cream	4000152			

All grills can have a woodgrain effect finish (Page 26) or through moulded in any ventilator or canopy colour option offered. E.g. Anthracite grey (RAL 7016)

Sash Windows

Specifically designed for sash windows using the slimline trickle ventilator. Glazpart developed an offset clip to allow for lower plaster lines the ventilator is moved vertically relative to the 10mm slot for applications such as sash windows, where space is at a premium. These give offsets of +/- 2mm.





Colour Options

Vacuum Foil – Woodgrain Effects

	Anteak 30.30.11.0113.011		Natural Oak ST-F2 9.3118.076.116800		Shogun AD 30.30.11.0172.000
	Antique Oak 30.30.11.0080.001		Oregon Pine 30.30.11.0008.157		Siena PN 30.30.11.0166.002
	Black Cherry 30.30.11.0059.062		Piedmont A 9.0049.186.101100		Siena PR 30.30.11.0165.002
	Dark Oak FL-F1 30.30.11.0012.224		Regency A 9.0049.177.101100		Soft Cherry 30.30.11.0108.001
	Golden Oak 30.30.11.0031.274		Rustic Cherry 30.30.11.0086.001		Stripe Douglas 30.30.11.0047.157
	Irish Oak 30.30.11.0109.002		Rustic Oak 1 30.30.11.0046.213		Swamp Oak ST-F 30.30.11.0053.166
	Light Oak 30.30.11.0013.204		Sapeli 30.30.11.0016.230		Walnut V 30.30.11.0033.112
	Macore 30.30.11.0051.146		Sherwood G 9.0049.158.101100		Winchester XA 30.30.11.0167.002
	Mahogany 30.30.11.0019.279		Sherwood W 9.0049.201.101100		
	Mountain Pine 30.30.11.0039.129		Shogun AC 30.30.11.0174.000		

Note:

Colours are reproduced as near as possible, and we recommend samples are approved to compare compatibility. Foil numbers are for Renolit foils and should be quoted to clearly identify foil colour or pattern.



Rely on it.



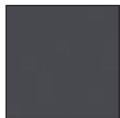


Colour Options

Vacuum Foil – Solid Colour Effects



Agate Grey
30.30.10.0061.085
RAL: 7038



Anthracite Grey
30.30.10.0054.167
30.30.10.0053.060
RAL: 7016



Basalt Grey
30.30.10.0050.049
RAL: 7012



Beck Brown
30.30.10.0213.003
RAL: 8022



Black Brown
30.30.10.0078.228
RAL: 8022



Brilliant Blue
30.30.10.0031.119
RAL: 5007



Chartwell Green
49246



Chocolate Brown
30.30.10.0080.187
RAL: 8022



Cream White
30.30.10.0018.166
RAL: 9001



Crystal White
02.12.91.000005.116701
RAL:



Dark Green
30.30.10.0045.225
RAL: 6009



Dark Red
30.30.10.0026.187
RAL: 3011



Gale Grey
30.30.10.0220.001
RAL: 7016
Finesse available



Grey
30.30.10.0064.176
RAL: 7001
Emboss available



Hazy Grey Finesse
30.30.10.0216.002
RAL: 7001
Sovereign available



Light Grey
30.30.10.0067.086
RAL: 7035



Light Ivory
02.12.11.000028.116701



Moss Green
30.30.10.0042.153
RAL: 6005



Quartz Grey
30.30.10.0062.013
RAL: 7039



Signal Grey
30.30.10.0047.049
RAL: 7004



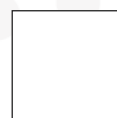
Silver Platinum
30.30.11.0167.002



Slate Grey
30.30.11.0167.002
RAL: 7015
Emboss & Finesse available



Steel Blue
30.30.10.0037.171
RAL: 5011



White
30.30.10.0087.164
RAL: 9010



Wine Red Finesse
30.30.10.0022.111
RAL: 3005

Note:

RAL numbers are for reference only and samples should be approved. Colours are reproduced as near as possible, and we recommend samples are approved to compare compatibility. Foil numbers are for Renolit foils and should be quoted to clearly identify foil colour or pattern



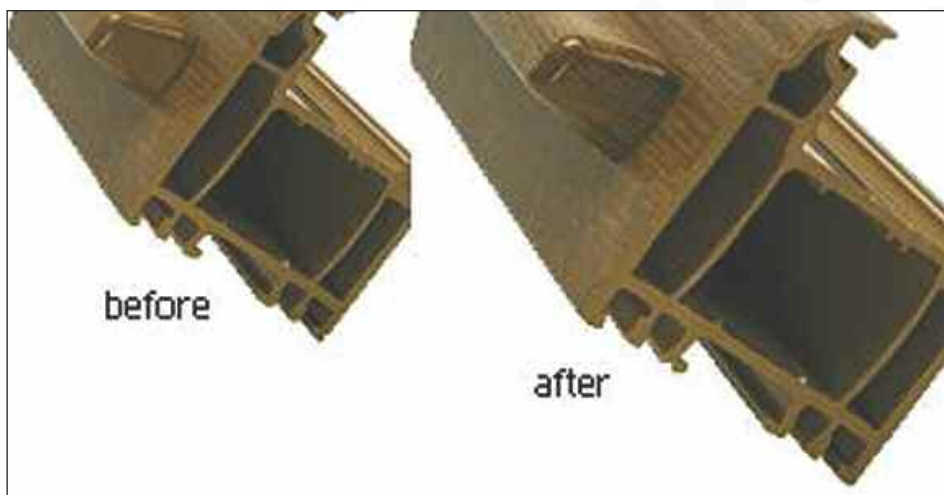
Rely on it.





Colour Options Woodgrain Print Effect

Close Match Woodgrain	Woodgrains Available
SIENA PR SOFT CHERRY	Black Cherry
ANTIQUE OAK MOUNTAIN PINE NATURAL OAK ST-F2 RUSTIC OAK 1	Irish Oak
DARK OAK FL-F1 MACORE PIEDMONT A REGENCY A SAPELI SHERWOOD W SIENA PN SWAMP OAK ST-F WALNUTV	Mahogany
GOLDEN OAK OREGON PINE RUSTIC CHERRY SHERWOOD G SHOGUN AD STRIPE DOUGLAS WINCHESTER XA	Light Oak
ANTEAK	None available
SHOGUN AC	





Colour Options Spraying

Glazpart are proud to be an approved colour paint sprayer for Kolorbond – the paint for plastic

The spray system is a special coating designed to paint uPVC and other hard plastic such as ABS, polycarbonate and acrylic where the system forms a molecular cross bond with the plastic surface.

To enable the production of coloured window frames, coloured doors and coloured conservatories thousands of colours are available. We can offer all standard RAL and BS colours and match to most other colour systems. In addition, we have a specialist colour matching service that allows us to match non-standard colours and supplied colour samples.

The system is extremely colour stable and resistant to UV, so will hold its colour without excessive fading.

Technical data sheets show that the system does not contain lead, cadmium, zinc, formaldehyde or isocyanates so is kinder to the environment and safer for operators.

KOLORBOND® PVC Paint is

- The original paint for uPVC
- Very colour stable
- UV resistant (perfect for Conservatories and Patio Doors)
- Resistant to Abrasion – ideal for doors and windows
- Available in almost any colour
- Available in gloss, satin or matt finish
- Available in metallic and pearlescent finishes
- Proven in the field for over 15 years
- Only made by Technispray Paints Ltd
- Only sold as KOLORBOND – we don't make paint for anyone else
- So well established that adding colour to PVCu is often referred to as KOLORBONDING





Colour Options Coverage

Component		Ventilator type						
		Ventilators			Combustion Air		EQA vents	
		Slimline MK3	Standard	Modular	(Canopy type)	(Grille type)	(Clip in type)	(Screw fix type)
Wood grain print	External Grille (outer face)	✓	✓	✓	✓	✓	✓	✓
	External Grille (flyscreen stands)	✓	✓	✓	✓	✓	✓	✓
	Internal Ventilator (Chassis)	✓	✓	✓	✓	✓	✓	✓
	Internal Ventilator (Deflector)	✓	✗	✗	✗	✗	✓	✓
	Matching colour clips (available)	✓	✗	✓	✓	✓	✓	✗
	Matching colour screw covers	✗	✓	✗	✗	✗	✗	✓

Component		Ventilator type						
		Ventilators			Combustion Air		EQA vents	
		Slimline MK3	Standard	Modular	(Canopy type)	(Grille type)	(Clip in type)	(Screw fix type)
Vaccum Foil effect	External Grille (outer face)	✓	✓	✓	✓	✗	✓	✓
	External Grille (flyscreen stands)	✗	✗	✗	✗	✗	✗	✗
	Internal Ventilator (Chassis)	✓	✓	✓	✗	✗	✓	✓
	Internal Ventilator (Deflector)	✓	✗	✗	✗	✗	✓	✓
	Matching colour clips (available)	✓	✗	✓	✓	✓	✓	✗
	Matching colour screw covers	✗	✓	✗	✗	✗	✗	✓

Component		Ventilator type						
		Ventilators			Combustion Air		EQA vents	
		Slimline MK3	Standard	Modular	(Canopy type)	(Grille type)	(Clip in type)	(Screw fix type)
Sprayed (Paint)	External Grille (outer face)	✓	✓	✓	✓	✓	✓	✓
	External Grille (flyscreen stands)	✓	✓	✓	✓	✓	✓	✓
	Internal Ventilator (Chassis)	✓	✓	✓	✗	✗	✓	✓
	Internal Ventilator (Deflector)	✓	✗	✗	✗	✗	✓	✓
	Matching colour clips (available)	✓	✗	✓	✓	✓	✓	✗
	Matching colour screw covers	✗	✓	✗	✗	✗	✗	✓

Component		Ventilator type						
		Ventilators			Combustion Air		EQA vents	
		Slimline MK3	Standard	Modular	(Canopy type)	(Grille type)	(Clip in type)	(Screw fix type)
Through moulded colours	External Grille (outer face)	✓	✓	✓	✓	✓	✓	✓
	External Grille (flyscreen stands)	✓	✓	✓	✓	✓	✓	✓
	Internal Ventilator (Chassis)	✓	✓	✓	✓	✓	✓	✓
	Internal Ventilator (Deflector)	✓	✓	✓	✓	✓	✓	✓
	Matching colour clips (available)	✓	✗	✓	✓	✓	✓	✗
	Matching colour screw covers	✗	✓	✗	✗	✗	✗	✓





Trickle Ventilation Comparison

Part Description	Physical Data												Performance Data								
	Internal				External				Assembly				E.Q.A (Equivalent area)		Acoustic value - Open	Acoustic value - Closed					
	Ventilator				Canopy				Grille (Timber, Sliding door, Sash)				Attachment type	Rout height			Rout length	Stand width	Cross sectional area		
	Height	Length	Depth	Weight	Height	Length	Depth	Weight	Height	Length	Depth	Weight									
Slimline MK3 2000	18 mm	242 mm	20 mm	40 g	18 mm	242 mm	20 mm	31 g					Spring Clip	10 mm	230 mm	8 mm	1480 mm ²		2000 mm ²	37 dB	40 dB
Slimline MK3 4000		455 mm		74 g		455 mm		55 g							445 mm	5 mm	2590 mm ²		4000 mm ²	33 dB	35 dB
Standard 2000	26 mm	230 mm	24 mm	58 g	26 mm	230 mm	24 mm	50 g	25 mm	230 mm	24 mm	9 g	Screw in	12.5 mm	185 mm	19 mm	1380 mm ²	1360 mm ²	2000 mm ²	34 dB	39 dB
Standard 4000		444 mm		103 g		444 mm		86 g		444 mm		18 g			395 mm		2580 mm ²	2700 mm ²	4000 mm ²	31 dB	36 dB
Modular 2000	26 mm	145 mm	16.5 mm	30 g	26 mm	145 mm	16.5 mm	33 g	26 mm	145 mm	16.5 mm	12 g	Spring Clip	19 mm	132 mm	na	1293 mm ²	1485 mm ²	2000 mm ²	34 dB	40 dB
Modular 4000		283 mm		57 g		283 mm		64 g		283 mm		23 g			270.5 mm	6.5 mm	2585 mm ²	2970 mm ²	4000 mm ²	31 dB	37 dB
Modular 6000		421 mm		84 g		421 mm		95 g		421 mm		34 g			409 mm		3878 mm ²	4455 mm ²	6000 mm ²	29 dB	35 dB
Modular 8000		559 mm		111 g		559 mm		126 g		559 mm		4 g			547.5 mm		5170 mm ²	5940 mm ²	8000 mm ²	28 dB	34 dB

All dimensions are nominal



Building Regulations 2000: Part F: Approved Document F1: October 2010

Meeting the F1 Building Regulations 2012 for Background Ventilation

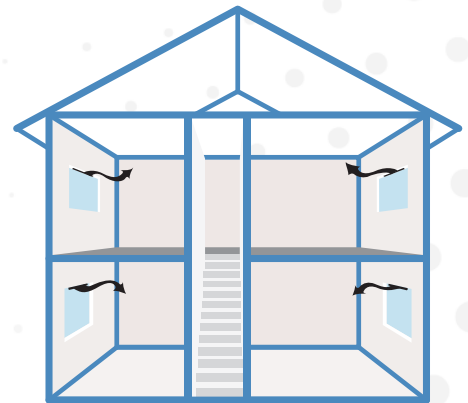
The Building Regulations in England and Wales require 'that there shall be adequate means for ventilation provided for people in the building. It however now differentiates between windows for residential installation in either a Replacement or New build application.

Replacement windows

If the window being removed has trickle vents fitted, then the replacement window should also have them – **to the same level of performance.**

The ventilators fitted to the replacement window should therefore offer at least the same capacity as the ventilators fitted to the removed window.

Typically these ventilators will be either 4000mm² or 2000mm² in their geometric free area.



Where it is not possible to ascertain the capacity of the outgoing vents;

- Habitable rooms should have a minimum of 5000 mm² EA*
- Wet rooms should have a minimum of 2500 mm² EA*

*Equivalent Area EA, figures will vary for Scotland, Northern Ireland and Eire.

If the window being removed did not have trickle vents fitted, **it is recommended to provide the background ventilation** in the replacement window, due to the health benefits.





Additional Guidance for Replacement Windows within England and Wales

The Building Regulations Requirement F1 – Means of ventilation, states:

There shall be adequate means of ventilation provided for people in the building.

When assessing a property for replacement windows the following should be considered regarding the use of trickle ventilators and other forms of ventilation within replacement windows:

Trickle ventilators are not mandatory unless the existing windows have them, however it is always good practice to consider their use when replacing windows. Alternatively ventilators may be replaced by an air brick.

Replacement ventilators must be no smaller in geometric open area than the existing ventilators. If the geometric area is not known, habitable rooms should have trickle ventilator of 5000mm² equivalent area and wet rooms should have 2500mm² equivalent area.

Although not mandatory, increasing ventilation by the provision of new or additional ventilators to maintain good air quality should be considered between the supplier and the customer (ref: GGF publication "Advice to consumers regarding ventilation when replacing windows").

Two stage locking handles are an acceptable form of trickle ventilation, where security is not compromised and draughts will not create a problem. This would usually mean not on the ground floor.

The provision of permanent ventilators for combustion appliances is a different matter and compliance with Approved Document J is mandatory

New Houses

Ventilation levels within a house or dwelling are dependant upon a number of factors. Guidance tables can be found within Approved document F – or alternatively ventilator manufacturers maybe able to assist.



What are the building regulations? General Guidance Tables

England and Wales*

Basic requirement is 5,000 mm² EQA for a habitable room.
 Overall calculations are by floor area.

Total equivalent ventilator area (mm²) for a new dwelling with any design air permeability (EQA)

Total floor area (m ²)	Number of bedrooms \geq				
	1	2	3	4	5
< 50	35000	40000	50000	60000	65000
51 - 60	35000	40000	50000	60000	65000
61 - 70	45000	45000	50000	60000	65000
71 - 80	50000	50000	50000	60000	65000
81 - 90	55000	60000	60000	60000	65000
91 - 100	65000	65000	65000	65000	65000
> 100	Add 7000 mm ² for every additional 10 m ² floor area				

Total equivalent ventilator area (mm²) for a new dwelling with a designed air permeability leakier than (>) 5 m³/(h.m1) at 50 Pa (EQA)

Total floor area (m ²)	Number of bedrooms \geq				
	1	2	3	4	5
< 50	25000	35000	45000	45000	55000
51 - 60	25000	30000	40000	45000	55000
61 - 70	30000	30000	30000	45000	55000
71 - 80	35000	35000	35000	45000	55000
81 - 90	40000	40000	40000	45000	55000
91 - 100	45000	45000	45000	45000	55000
> 100	Add 5000 mm ² for every additional 10 m ² floor area				

Notes:

This is based on two occupants in the main bedroom and a single occupant in others. For a greater level of occupancy, assume a greater number of bedrooms. For more than five bedrooms, add 10000 mm² per bedroom.





Building Regulations Part F (England & Wales)

A systems approach

Due to the increasing complexity of the Regulations, ventilation strategies and system design must be considered at the earliest stages of building design.

3 three ventilation types:

“Whole Building” background ventilation to provide fresh air to dilute and disperse low levels of water vapour and pollutants, usually by the provision of background ventilators or mechanical supply ventilation.

“Local extract” extract ventilation in rooms where most water vapour or concentrated pollutants are released.

“Purge” rapid ventilation for the rapid dilution and removal of high concentrations of pollutants from occasional activities, usually by opening windows as set out in Appendix B of Part F.

Approved Systems of Ventilation

• Background Ventilation & Intermittent Extract:

This method requires background ventilators with at least 5000 mm² EQA in habitable rooms with external walls and a combination extract and background ventilators with at least 2500 mm² EQA installed in wet rooms.

• Passive Stack (PSV) & Background Ventilation:

This method requires the installation of a stack system into wet rooms/kitchens with background ventilators with at least 5000 mm² EQA fitted in all habitable rooms with external walls and background ventilators with at least 2500 mm² EQA installed in wet rooms not containing PSV units. Open flued appliances still require air supply as given in approved document J.

• Continuous Mechanical Extract Ventilation:

Continuous mechanical extract ventilation is an alliance of a central extract unit and trickle ventilators to ensure fresher air is drawn through the property. All habitable rooms require 2500 mm² of equivalent area to ensure property does not dry out.

• Continuous Mechanical Supply & Extract, with Heat Recovery:

No requirement for trickle vents.

The performance for each “System” approach set out in Part F are the minimum requirements needed. The occupant’s health could be at risk if they are compromised.

Systems may be manually or automatically controlled. For each system air must be able to flow through the dwelling. The Regulations make provision for this via internal door undercuts to maintain a minimum gap of 10mm above the finished floor. This provides a 7600mm² permanent opening when a door is closed.



E.g. System 1 – Intermittent extract fans and background ventilators. This is the most commonly used system in the UK.

Where can it be used?

It is suitable for use in houses and flats or apartments with multiple façades. In some circumstances, especially in dwellings with a single façade.

How does it work?

The system comprises of background ventilators, fitted to windows and extract fans fitted in moisture producing areas or “wet rooms” (kitchens and bathrooms). The background ventilators provide the whole building ventilation and also supply air to the intermittently operated extract fans which provide the extract ventilation.

How are ventilation rates calculated?

Guidance on minimum provisions for extract and whole building ventilation is set out in tables of Approved Document.

The whole building ventilation rate for background ventilators is determined by a number of factors:

- Dwelling floor area
- Number of bedrooms, occupants, storeys and number of façades.

What benefits does it offer?

- Simplicity
- Operation familiar to most occupants
- Straightforward installation
- Inhabitants control

What difficulties could we encounter?

- Perceived high running costs
- Noise potential of low quality or poorly installed fans
- Single façade dwellings require additional background ventilators fitted at low level





Specific Ventilator requirements - approved F1 revised document 2006

- Ventilator areas are now described in terms of equivalent area, as opposed to the geometric measurement.
- Where replacement windows are fitted, these must have Ventilators if the old units contained them. Ideally vents should be fitted in all cases.

Performance-based Guidance introduced

- What level of ventilation should be sufficient, rather than how it should be achieved.
- The designer has the freedom to use whatever ventilation provisions suit a particular building.

Standard Requirements

- All Vents to be Marked with Equivalent Area in a visible location.
- All trickle vents must now be tested to BS13141-1:2004.

Ventilator Location

- Ventilator should be typically located at 1.7 metres from finished floor level, this is to avoid the potential discomfort of draughts.
- Single façade properties where both 'High' and 'Low' level ventilation is required, low level should be approx, 1 metre below the high level ventilation.
- When using intermittent extract fans, the frame vent should be located at least 0.5 metre's from the extract fan.

Vent opening configuration and method used to calculate equivalent area @ 1Pa. Tested to EN 131141.

- New Build Dwelling – The trickle ventilation requirement for a house is based upon the overall floor area and number of bedrooms. (Dependent on ventilation method used.)
- Existing Dwellings – Trickle ventilators supplied in all rooms, 5000mm² minimum in habitable rooms, 2500mm² in wet rooms.
- Regulations now apply to Conservatories and Extensions.



General Guidance Table for Background Ventilation Requirements

Scotland*

These tables are basic and should be read with the regulations as there are additional requirements and allowances.

	Trickle vent (Free Area)
Apartment A ventilator with an opening area of at least 1/30th of the floor area it serves	12,000 mm ²
Kitchen either:	10,000 mm ²
a. mechanical extraction capable of at least 30 l/sec (intermittent) above a hob [3]; or	
b. mechanical extraction capable of at least 60 l/sec (intermittent) if elsewhere [3]; or	
c. a passive stack ventilation system [4].	
Utility room either:	10,000 mm ²
a. mechanical extraction capable of at least 30 l/sec (intermittent) [3]; or	
c. a passive stack ventilation system [4].	
Bathroom or shower room either:	10,000 mm ²
a. mechanical extraction capable of at least 15 l/sec (intermittent); or	
b. a passive stack ventilation system [4].	
Toilet either:	10,000 mm ²
a. a ventilator with an opening area of at least 1/30th of the floor area it serves; or	
b. mechanical extraction capable of at least 3 air changes per hour.	

* These tables are based on data available at the time of print.

Eire

Basic ventilation provision using background ventilators and extract and purge ventilation			
Room or Space	General ventilation	Extract ventilation	Purge ventilation
	Minimum equivalent area of background ventilator (mm ²)	Extract fan – Minimum extract rate (l/s)	Opening window or external door – Minimum provision h
Habitable Room	5000	-	1/20th of room floor area
Kitchen	2500	60 l/s	Window opening section
Utility Room	2500	30 l/s	Window opening section
Bathroom	2500	15 l/s	Window opening section
Sanitary Accommodation (no bath or shower)	2500	6 l/s	Window opening section





Northern Ireland

Ventilation of rooms direct to external air			
Room	Rapid ventilation opening(s) (minimum free area)	Background ventilation opening(s) (minimum free area)	Mechanical extract ventilation (nominal airflow rates)
Habitable Room	1/20th of floor area	8000 mm ²	-
Kitchen	1/20th of floor area	4000 mm ²	30 l/s adjacent to a hob or 60 l/s elsewhere
Utility Room	1/20th of floor area	4000 mm ²	30 l/s
Bathroom	1/20th of floor area	4000 mm ²	15 l/s
Sanitary Accommodation (separate from bathroom)	1/20th of floor area	4000 mm ²	-

Ventilation of rooms direct to external air			
Room	Rapid ventilation opening(s) (minimum free area)	Background ventilation opening(s) (minimum free area)	Mechanical extract ventilation (nominal airflow rates)
Occupiable room	1/20th of floor area	for floor areas -- (i) up to 10 m ² - 4000 mm ² (ii) greater than 10 m ² - at the rate of 400 mm ² /m ² of floor area	-
Kitchen	1/20th of floor area	4000 mm ²	30 l/s adjacent to a hob or 60 l/s elsewhere
Bathroom (inc. shower room)	1/20th of floor area	4000 mm ²	30 l/s
Sanitary Accommodation (separate from bathroom)	1/20th of floor area	4000 mm ²	15 l/s

Useful links for building regulations

England & Wales

www.planningportal.gov.uk/buildingregulations/approveddocuments/partf/

Scotland (Scottish Government)

www.scotland.gov.uk/Topics/Built-Environment/Building/Building-standards/publications/pubtech

Eire

www.environ.ie/en/Publications/DevelopmentandHousing/BuildingStandards/

Northern Ireland

www.dfpni.gov.uk/index/buildings-energy-efficiency-buildings/building-regulations/br-technical-booklets/br-booklet-ventilation.htm





Performance-based ventilation an overview

Introduction

The new F1 regulations are designed to be performance based to control both moisture and pollutants in buildings.

Performance criteria for dwellings

Performance criteria for moisture:

No visible mould on external walls.

Performance criteria used for pollutants:

The pollutants listed are harmful to occupants.

Exposure to the following limits of nitrogen dioxide (NO₂)

- 288 µg/m³ – 1 hour average
- 40 µg/m³ – long-term average

Exposure to the following limits of carbon monoxide (CO)

- 100 mg/m³ – 15 minute average time
- 60 mg/m³ – 30 minute average time
- 30 mg/m³ – 1 hour average time
- 10 mg/m³ – 8 hours average time

Exposure to total volatile organic compound (TVOC) levels should not exceed 300 µg/m³ over 8 hours.

Table below show surface water activity

Moving average period	Surface water activity
1 month	0.75
1 week	0.85
1 day	0.95

(For the assumptions see the F1 approved document Section 5)





The moisture criteria in table below are likely to be met if the moving average relative humidity (RH) is less than the value given in table below.

Table below show humidity levels

Moving average period	Room air relative humidity
1 month	65%
1 week	75%
1 day	85%

Performance criteria for buildings other than dwellings

Guidance for offices

- A supply rate of 10 l/s/person, as below this level health effects become increasingly significant.
- No visible mould on external walls in a properly heated building.
- Exposure to the limits of nitrogen dioxide (NO)
288 $\mu\text{g}/\text{m}^3$ (150 ppb)
40 $\mu\text{g}/\text{m}^3$ (21 ppb)
- Exposure to the limits of carbon monoxide (CO)
100 mg/m^3 (90 ppm) – 15 minute averaging time
60 mg/m^3 (50 ppm) – 30 minute averaging time
- Carbon monoxide for occupational exposure should not be exceeded 35 mg/m^3 (30 ppm) - 8 hours averaging time
- Exposure to total volatile organic compound (TVOC) levels should not exceed 300 $\mu\text{g}/\text{m}^3$ over 8 hours
- Ozone levels should not exceed 100 $\mu\text{g}/\text{m}^3$

(For the assumptions see the F1 approved document in Section 2)



Certificates

BBA APPROVED
AGREEMENT CERTIFICATE
FOR TRICKLE VENTILATION

Glazpart Limited
Wildmere Industrial Estate
Banbury
OX16 3JU
Tel: 01295 264533 Fax: 01295 266699
email: sales@glazpart.co.uk
website: www.glazpart.com

Agreement Certificate
96/3217
Product Sheet 3

GLAZPART TRICKLE VENTILATORS

GLAZPART TRICKLE VENTILATORS 2000 LETTERBOX MODULAR VENTS

PRODUCT SHEET WITH SUMMARY OF CERTIFICATE

The Certificate replaces Certificate 03/2017 to give wider to Glazpart Trickle Ventilator 2000 Letterbox Modular Vents, a range of window ventilators for use in new and existing windows and commercial buildings, ventilation in both domestic and commercial buildings.

AGREEMENT CERTIFICATION INCLUDES:

- factory relating to compliance with Building Regulations where applicable
- factory relating to additional investigatory information where applicable
- independently verified technical specifications
- assessment criteria and technical investigations
- design considerations
- installation guidance
- regular surveillance of production
- final inspection by witness

KEY FACTORS ASSESSED

Ventilation – the products can contribute to satisfying the required background ventilation requirements of the national Building Regulations. The important aspect of the vents was also determined (see section 5).

Weatherfastness – use of the products will not affect the ability of a wall or roof to comply with national Building Regulations (see section 7).

Condensation – the products can contribute to limiting the risk of surface and interstitial condensation (see section 7).

Durability – the products will have a life equivalent to that of the windows into which they are fitted (see section 10).

The BBA has awarded this Agreement Certificate to the company named above for the products described herein. These products have been assessed by the BBA as being fit for their intended use provided they are installed, used and maintained as set out in this Certificate.

On behalf of the British Board of Agreement

Chris Hunt
Head of Approvals – Physics

Greg Cooper
Chief Executive

Date of First Issue: 28 January 2010

Originally certified in a former issue: N/A

The BBA is a UKAS accredited certification body – Number 111. The website of the current scope of accreditation for product certification is available in full form on the UKAS site on the BBA website at www.bba.org.uk

Members are advised to check the validity and latest issue number of this Agreement Certificate by either visiting the BBA website or contacting the BBA office.

British Board of Agreement
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BBA APPROVED
AGREEMENT CERTIFICATE
FOR TRICKLE VENTILATION

Glazpart Limited
Wildmere Industrial Estate
Banbury
OX16 3JU
Tel: 01295 264533 Fax: 01295 266699
email: sales@glazpart.co.uk
website: www.glazpart.com

Agreement Certificate
96/3217
Product Sheet 1

GLAZPART TRICKLE VENTILATORS

GLAZPART TRICKLE VENTILATORS 2000 AND 4000

PRODUCT SHEET WITH SUMMARY OF CERTIFICATE

The Certificate replaces Certificate 03/2017 and the products are used for in new and existing windows and commercial buildings.

AGREEMENT CERTIFICATION INCLUDES:

- factory relating to compliance with Building Regulations where applicable
- factory relating to additional investigatory information where applicable
- independently verified technical specifications
- assessment criteria and technical investigations
- design considerations
- installation guidance
- regular surveillance of production
- final inspection by witness

KEY FACTORS ASSESSED

Ventilation – the products can contribute to satisfying the required background ventilation requirements of the national Building Regulations. The important aspect of the vents was also determined (see section 5).

Weatherfastness – use of the products will not affect the ability of a wall to comply with national Building Regulations (see section 7).

Condensation – the products can contribute to limiting the risk of surface condensation (see section 7).

Durability – the products will have a life equivalent to that of the windows into which they are fitted (see section 10).

The BBA has awarded this Agreement Certificate to the company named above for the products described herein. These products have been assessed by the BBA as being fit for their intended use provided they are installed, used and maintained as set out in this Certificate.

On behalf of the British Board of Agreement

Chris Hunt
Head of Approvals – Physics

Greg Cooper
Chief Executive

Date of First Issue: 4 November 2009

Originally certified in a former issue: N/A

The BBA is a UKAS accredited certification body – Number 111. The website of the current scope of accreditation for product certification is available in full form on the UKAS site on the BBA website at www.bba.org.uk

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British Board of Agreement
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Certificate of Registration

QUALITY MANAGEMENT SYSTEM • ISO 9001:2008

This is to certify that:

Glazpart Limited
Wildmere Industrial Estate
Banbury
OX16 3JU
United Kingdom

holds Certificate No: **FR 19024**

and operates a Quality Management System which complies with the requirements of ISO 9001:2008 for the following scope:

Development, manufacture and assembly of injection moulded plastic components for the construction, packaging, electronic and automotive industries. Press capacity up to 250 tonnes. Unit weight up to 715 grammes.

For and on behalf of BSI

Robbie
Managing Director, BSI ZMEA

Expiry Date: 29/06/2013

Originally registered: 01/06/1990

Latest Issue: 24/02/2010

Page: 1 of 1

BSI
ANAB

The certificate will remain valid provided and subject to the terms and conditions of BSI and is issued by the certificate holder. The certificate holder is required to maintain the certificate in accordance with the terms and conditions of the certificate. The certificate holder is required to maintain the certificate in accordance with the terms and conditions of the certificate. The certificate holder is required to maintain the certificate in accordance with the terms and conditions of the certificate.

GGF

Certifies that

Glazpart Ltd

is a member of the

Glass and Glazing Federation

www.ggf.org.uk

Membership No: **H2854**

Member since: **03 August 2012**

Robbie
GGF Chief Executive

Glass and Glazing Federation, 64 Ames Street, London, SE1 1EU

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