

# WINDOW VENTILATOR RANGE

REQUIREMENTS UNDER PART F: MEANS OF VENTILATION FOR WINDOW MANUFACTURERS AND INSTALLERS SUPPLYING NEW BUILD WINDOWS

Greenwood offers a range of window ventilators for varying application requirements including through frame, glazed in and overframe. All products have been tested in conjunction with BS EN 13141-1 Clause 4 Ventilation for Buildings at third party accredited test houses. All information is available on request.

Product Code	Configuration	Equivalent Area (mm <sup>2</sup> )	Dimensions (mm) (length x height x deep)	Slot Height (mm)	Slot Sizes (mm) Length Central Gap Length
<b>A Vent</b>					
3000A.12	Inner Unit & Outer Canopy	1813	Inner: 280 x 18 x 6.5 Outer: 280 x 26 x 24	12	250
4000A.12	Inner Unit & Outer Canopy	2623	Inner: 375 x 18 x 6.5 Outer: 375 x 26 x 24	12	334
6000A.12	Inner Unit & Outer Canopy	3935	Inner: 555 x 18 x 6.5 Outer: 555 x 26 x 24	12	250 15 250
8000A.12	Inner Unit & Outer Canopy	5013	Inner: 725 x 18 x 6.5 Outer: 725 x 26 x 24	12	334 15 334
3000A.16	Inner Unit & Outer Canopy	1644	Inner: 230 x 18 x 6.5 Outer: 230 x 26 x 24	16	188
4000A.16	Inner Unit & Outer Canopy	2393	Inner: 290 x 18 x 6.5 Outer: 290 x 26 x 24	16	250
6000A.16	Inner Unit & Outer Canopy	3397	Inner: 415 x 18 x 6.5 Outer: 415 x 26 x 24	16	375
8000A.16	Inner Unit & Outer Canopy	3935	Inner: 555 x 18 x 6.5 Outer: 555 x 26 x 24	16	250 15 250
<b>D Vent</b>					
2000DF	Inner Unit & External Grille	1396	Inner: 219 x 26.5 x 11	13	165
4000DF	Inner Unit & External Grille	2770	Inner: 414 x 26.5 x 11	13	165 30 165
2000DWB	Inner Unit & Recessed Flyscreen	1540	Inner: 219 x 26.5 x 11 Outer: 183 x 20 x 14	13	165
4000DWB	Inner Unit & Recessed Flyscreen	3156	Inner: 414 x 26.5 x 11 Outer: 2 x 183 x 20 x 14	13	165 30 165
<b>New F Vent</b>					
1250F	Inner Unit & Outer Canopy	1250	238 x 16.5 x 21	10/12	198
2500F	Inner Unit & Outer Canopy	2500	383 x 16.5 x 21	10/12	167 10 167
<b>HD Vent</b>					
4000HDF	Inner Unit & External Grille	2697	286 x 28.5 x 13	18	235
4000HDF	Inner Unit & Recessed Flyscreen	2559	Inner: 286 x 28.5 x 13 Outer: 290 x 26 x 24	18	Inner: 235 Outer: 257
8000HDF	Inner Unit & External Grille	5605	540 x 28.5 x 13	18	235 20 235
8000HDF	Inner Unit & Recessed Flyscreen	6009	Inner: 540 x 28.5 x 13 Outer: 2 x 290 x 26 x 24	18	Inner: 235 20 235 Outer: 257 20 257
<b>L Vent</b>					
2000LB	Inner Unit & Outer Canopy	1278	263 x 15 x 18	10	203
4000LB	Inner Unit & Outer Canopy	2779	485 x 15 x 18	10	203 20 203
<b>S Vent</b>					
3000S	Inner Unit & Outer Canopy	1753	305 x 22 x 23	12.5	243
4000S	Inner Unit & Outer Canopy	2671	400 x 22 x 23	12.5	163 15.5 163
6000S	Inner Unit & Outer Canopy	3362	550 x 22 x 23	12.5	243 15.5 243
<b>T Vent</b>					
4000TS	Inner Unit & Outer Canopy	3030	Inner: 348 x 27 x 7.8 Outer: 400 x 22 x 23	16	165 15 165
6000TS	Inner Unit & Outer Canopy	3986	Inner: 462 x 27 x 7.8 Outer: 550 x 22 x 23	16	188 15 188
4000TF	Inner Unit & Recessed Flyscreen	3283	Inner: 348 x 27 x 7.8 Outer: 184 x 20 x 15	16	165 15 165
6000TF	Inner Unit & Recessed Flyscreen	4085	Inner: 462 x 27 x 7.8 Outer: 184 x 20 x 15	16	Inner: 188 15 188 Outer: 152 15 152
<b>Glazed In Ventilators</b>					
GVC	Linear metre	9668	Bespoke cut to size	N/A	N/A
PC	Linear metre	14766	Bespoke cut to size	N/A	N/A
Bar Carriers	Slotvent chosen	Slotvent	Bespoke cut to size	N/A	N/A
<b>Overframe Ventilators</b>					
Referb 4000HD	Inner Unit & Recessed Flyscreen	2559	Bespoke cut to size	N/A	N/A
Referb 8000HD	Inner Unit & Recessed Flyscreen	6009	Bespoke cut to size	N/A	N/A
Nubuild 2000D	Inner Unit & Recessed Flyscreen	1540	Bespoke cut to size	N/A	N/A
Nubuild 4000D	Inner Unit & Recessed Flyscreen	3156	Bespoke cut to size	N/A	N/A
Nubuild 4000T	Inner Unit & Recessed Flyscreen	3283	Bespoke cut to size	N/A	N/A
Nubuild 8000T	Inner Unit & Recessed Flyscreen	6566	Bespoke cut to size	N/A	N/A

A range of control and colour options are available for each product range. Please call for further information.



### INDOOR AIR QUALITY

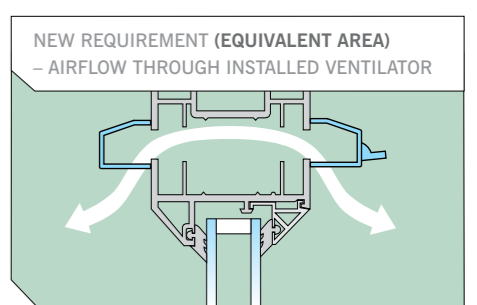
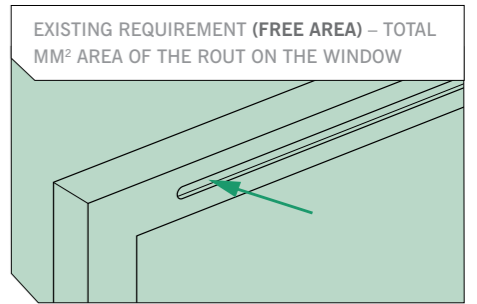
Condensation and mould have been issues in housing for a number of years and the need to safeguard against them has not been diminished. They have potentially been made worse by better performing heating and insulation in addition to new airborne particles that have been introduced into dwellings as a result of new types of flooring materials, furnishings and cleaning products. Good indoor air quality and effective ventilation is more important now than ever, not only for buildings but for occupants.

### ADF 2006

The revision of Part F has effectively re-positioned ventilation in the construction industry as energy efficiency and modern construction methods have improved. The new requirements, based on a whole house approach now take indoor air quality and building performance into consideration as ventilation systems are bespoke to dwelling size. Mechanical and passive ventilation provisions are also now integrated to ensure whole building ventilation rates and effective airflow within the dwelling.

### EQUIVALENT AREA

The performance measurement for background (trickle) ventilators referenced in the new document has been changed to move in line with the new performance approach. **Equivalent Area** now replaces **Free Area** for the measurement of vents installed in new build and refurbishment. This change represents a more logical step in achieving the air changes in dwellings with products tested in situ.



### BS EN 13141-1: 2004 VENTILATION FOR BUILDINGS

Trickle vents should be tested to the above standard and the performance at 1Pa permanently and visibly marked on the ventilator for inspection by building control.

## NEW BUILDINGS

Ventilation requirements for new build are now based on a performance approach where mechanical and passive solutions are integrated to provide a whole building performance rate. Performance based ventilation has been introduced to ensure effective ventilation is achieved in dwellings that are being built to high energy efficient standards and to improve indoor air quality for occupants.

To comply with the new regulations the following dwelling factors are taken into consideration:

- Total Floor Area
- No of Bedrooms
- No of Occupants

4 Ventilation methodologies are detailed in the document, each with their own performance requirements:

- Background Ventilators and Intermittent Extract Fans
- Passive Stack Ventilation
- Continuous Mechanical Extract
- Continuous Mechanical Supply and Extract Ventilation with Heat Recovery

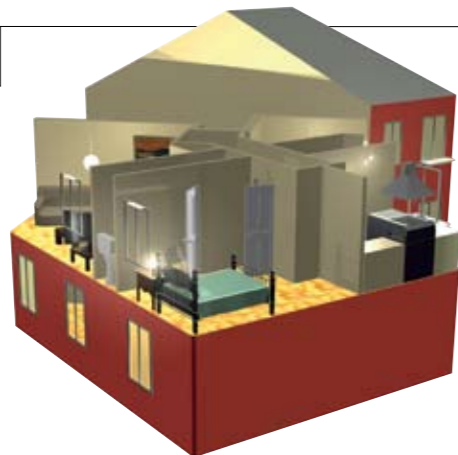
## HOUSE SPECIFICATION

- 4 Bedrooms  
(2 en-suite)
- 1 Bathroom
- 1WC
- Kitchen
- Utility Room
- 3 Reception Rooms
- Total Floor Area 174m<sup>2</sup>



## APARTMENT SPECIFICATION

- 2 Bedrooms  
(1 en-suite)
- Bathroom
- Kitchen
- 2 Reception Rooms
- Total Floor Area 62.5m<sup>2</sup>



## SYSTEM 1

## Background Ventilators and Intermittent Extract Fans

Mechanical Ventilation requirements calculated from Table 1.1A and 1.1B in ADF 2006.

TRICKLE VENT REQUIREMENTS  
Table 1.2a

**House** – 85,000mm<sup>2</sup> equivalent area required throughout dwelling.  
11 Windows = Approx 8,000mm<sup>2</sup> per window

**Apartment** – 30,000mm<sup>2</sup> equivalent area required throughout dwelling.  
4 Windows = Approx 7,500mm<sup>2</sup> per window

## SYSTEM 2

## Passive Stack Ventilation

Extract Unit requirements calculated from ADF 2006 – System 2.

TRICKLE VENT REQUIREMENTS  
Table 1.2a

**House** – 70,000mm<sup>2</sup> equivalent area required throughout dwelling.  
11 Windows = Approx 8,000mm<sup>2</sup> per window.

**Apartment** – 22,500mm<sup>2</sup> equivalent area required throughout dwelling.  
4 Windows = Approx 5,625mm<sup>2</sup> per window.

## SYSTEM 3

## Continuous Mechanical Extract

Mechanical Ventilation requirements calculated from Table 1.1A and 1.1B in ADF 2006.

TRICKLE VENT REQUIREMENTS  
Table 1.2a

2,500mm<sup>2</sup> per habitable room.

## SYSTEM 4

## Continuous Mechanical Supply &amp; Extract with Heat Recovery

Mechanical Ventilation requirements calculated from Table 1.1A and 1.1B in ADF 2006.

TRICKLE VENT REQUIREMENTS  
Table 1.2a

Not required.

## Application &amp; Design – How do window fabricators apply the new build regulations for background ventilation?

As window manufacturers and installers in the new build sector, this may bring complexity to your design and production processes as the requirements for background ventilation will be based on the whole house and have to be divided according to the number of windows in the new dwelling. The maximum amount of ventilation that can be achieved will also be driven by the size of the windows and in some instances, the level required under certain methodologies may not be practically achievable. In single facade dwellings where System 1 is being used, the provision of background ventilation for the dwelling must also be installed at the bottom of the window to ensure cross ventilation within the dwelling.

## Greenwood Expertise

As a manufacturer of both mechanical and passive ventilation products we have an thorough understanding of the changes and the impacts they will have within the supply chain. The integration of mechanical and passive ventilation within 4 methodologies will present a challenging time for developers, consultants and contractors, however we have the expertise to ensure specification of solutions that are most suitable for installation, building performance an occupants for all suppliers.

**For detailed information on the range of Greenwood Ventilators please contact us:**

Greenwood Sales: **0870 900 1880**

Greenwood Technical Services: **01903 777135**

Website: **www.greenwood.co.uk and www.partf.com**

Email: **info@greenwood.co.uk**

All information believed to be correct at the time of going to press. All goods are sold according to Greenwood Air Management Ltd's standard condition of sales that are available on request. All dimensions in millimetres unless otherwise shown. Greenwood Air Management reserves the right to change specifications and prices without prior notice. Registered trademarks and patents protect Greenwood products.

Due to the nature of the performance approach, ventilation system design is moving away from a standardised approach as each type of dwelling will require a different ventilation rate. Greenwood Airvac provides a full design and quotation service and advises on suitable product specification to comply with regulations.