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Farmer Controls Plc

Envirovent House
Hornbeam Business Park
Hookstone Road
Harrogate
North Yorkshire HG2 8PA
Tel: 01423 810810 Fax: 01423 810910
e-mail: info@envirovent.com
website: www.envirovent.com

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**Agrément
Certificate
No 03/4043**

Designated by Government
to issue
European Technical
Approvals

ENVIROVENT LOFT AND FLAT UNIT SYSTEMS

Ventilateur
Schalldammventilator

Product




• THIS CERTIFICATE RELATES TO ENVIROVENT LOFT AND FLAT UNIT SYSTEMS, COMPRISING LOW-ENERGY, POSITIVE-INPUT VENTILATION UNITS, DIFFUSER (LOFT ONLY), AND PLASTIC DUCTING.

- The units are for use in eliminating or reducing surface condensation and/or providing whole home ventilation within dwellings.
- The loft unit is installed in the loft space and transfers air from the loft through the ceiling via the 'envirovent' diffuser.
- The flat unit is installed internally and transfers air from the outside to the inside either directly or via ducting through a grille.

Regulations

1 The Building Regulations 2000 (as amended) (England and Wales)

 The Secretary of State has agreed with the British Board of Agrément the aspects of performance to be used by the BBA in assessing the compliance of ventilation units with the Building Regulations. In the opinion of the BBA, Envirovent Loft and Flat Unit Systems, if used in accordance with the provisions of this Certificate, will meet or contribute towards meeting the relevant requirements.

Requirement: B2(1)	Internal fire spread (linings)
Comment:	The product meets this Requirement. See section 11 of this Certificate.
Requirement: F1	Means of ventilation
Comment:	The product will meet or contribute to meeting this Requirement. See sections 9.2 to 9.4 of this Certificate.
Requirement: L1	Dwellings
Comment:	The product can contribute to meeting this Requirement. See sections 14.1 to 14.3 of this Certificate.
Requirement: Regulation 7	Materials and workmanship
Comment:	The product is acceptable. See sections 15.1 and 15.2 of this Certificate.

Readers are advised to check the validity of this Certificate by either referring to the BBA's website (www.bbacerts.co.uk) or contacting the BBA direct (Telephone Hotline 01923 665400).

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2 The Building Standards (Scotland) Regulations 1990 (as amended)



In the opinion of the BBA, Envirovent Loft and Flat Unit Systems, if used in accordance with the provisions of this Certificate, will satisfy or contribute to satisfying the various Regulations and related Technical Standards as listed below.

Regulation:	10	Fitness of materials and workmanship
Standard:	B2.1	Selection and use of materials, fittings, and components, and workmanship
Comment:		The product can contribute to a construction meeting this Standard. See the <i>Installation</i> part of this Certificate.
Standard:	B2.2	Selection and use of materials, fittings, and components, and workmanship
Comment:		The product is an acceptable material. See sections 15.1 and 15.2 of this Certificate.
Regulation:	12	Structural fire precautions
Standard:	D7.1	Fire spread on internal linings — Principles
Comment:		The product satisfies this Standard. See section 11 of this Certificate.
Regulation:	18	Resistance to condensation
Standard:	G4.2	Condensation — Surface condensation
Comment:		The product can contribute to satisfying the requirements of this Standard. See section 9.5 of this Certificate.
Regulation:	23	Ventilation of buildings
Standard:	K2.1	Ventilation of buildings other than garages
Comment:		The product can meet or contribute to meeting this Standard. See sections 9.2 to 9.4 of this Certificate.
Standard:	K4.9	General ventilation requirements — Mechanical ventilation
Comment:		The product uses positive pressurisation to ventilate as described and is shown in Figure 2, section 2 of BS 5925 : 1991 and cannot meet Standard K4.8. In the opinion of the BBA it would be reasonable to seek a relaxation of this Standard.

3 The Building Regulations (Northern Ireland) 2000



In the opinion of the BBA, Envirovent Loft and Flat Unit Systems, if used in accordance with the requirements of this Certificate, will satisfy or contribute to satisfying the various Building Regulations listed below.

Regulation:	B2	Fitness of materials and workmanship
Comment:		The product is acceptable. See sections 15.1 and 15.2 of this Certificate.
Regulation:	C5	Condensation
Comment:		The product can contribute to meeting the requirements of this Regulation. See section 9.5 of this Certificate.
Regulation:	E3	Internal fire spread — Linings
Comment:		The product meets this Regulation. See section 11 of this Certificate.
Regulation:	K2	Means of ventilation
Comment:		The product meets or contributes to meeting this Regulation. See sections 9.2 to 9.4 of this Certificate.

4 Construction (Design and Management) Regulations 1994 (as amended) Construction (Design and Management) Regulations (Northern Ireland) 1995 (as amended)

Information in this Certificate may assist the client, planning supervisor, designer and contractors to address their obligations under these Regulations.

See sections: 12 *Electrical safety* and 16 *Installation* (16.1) of this Certificate.

5 The Electrical Equipment (Safety) Regulations 1994 and the Electromagnetic Compatibility Regulations 1994

These Regulations implement the Low Voltage Directive 73/23/EEC (as amended by the CE marking Directive 93/68/EEC) and the Electromagnetic Compatibility Directive 89/336/EEC and require manufacturers to carry out assessment of their products against the criteria given in the Directives.

Declarations of Conformity have been provided by Farmer Controls Plc. The BBA has not assessed the product for compliance with these Directives.

Technical Specification

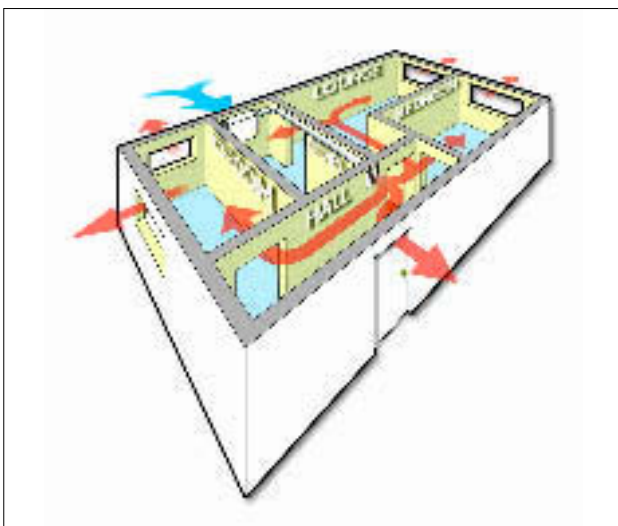
6 Description

6.1 The Envirovent Loft and Flat Unit Systems (see Figures 1 and 2) comprise a fan unit mounted in the loft/wall space respectively, together with filters and plastic ducting. The loft unit has a plastic diffuser mounted in the ceiling or wall. Air is drawn through the filters by the fan and expelled through the ducting and out of the diffuser into the dwelling.

Figure 1 Loft ventilation unit



Figure 2 Flat ventilation unit



6.2 The fan speed is set by rotating a central switch to control the airflow to suit the size of the dwelling. The unit also incorporates a sensor that increases or decreases the volume of airflow to the dwelling, depending on the temperature of the loft space (see Table 1). When the incoming temperature is above 19°C the increased volume of airflow can contribute to the heating of the dwelling. When the incoming temperature is above

25°C the sensor switches the unit off until a fall in temperature re-activates the fan.

Table 1 Indicative performance levels

Incoming air temperature (°C)	Fan speed setting	Airflow (ls ⁻¹)	Power usage (W)
loft unit			
<19 ⁽¹⁾	trickle	24	4.1
	medium	36	6.2
	large	48	8.6
	boost	60	11.1
≥19 ⁽²⁾	trickle	36	6.2
	medium	48	8.6
	large	60	11.1
	boost	72	14.0
flat unit			
<19 ⁽¹⁾	trickle	11	5.7
	medium	15	6.7
	large	19	7.7
	boost	26	10.9
≥19 ⁽²⁾	trickle	18	6.0
	medium	24	9.0
	large	30	12.0
	boost	36	16.0

(1) The unit performs in 'condensation control mode' at air temperatures below 19°C.

(2) The unit performs in 'heat recovery mode' at air temperatures above 19°C.

6.3 The loft unit is normally supplied without an internal heater but can be fitted on request. The flat unit is normally supplied with an internal heater but can be omitted on request. The heater, when enabled, is activated when the temperature of the incoming air falls below 10°C.

6.4 The units are supplied with fixing kits to enable the installer to fix the unit in position in accordance with the Certificate holder's instructions.

6.5 All components and raw materials are subject to inspection. Items designated as critical to the operation or performance of the fan are sampled in accordance with the requirements of BS 6001-1 : 1999. All completed units are subjected to inspection to ensure correct assembly, operation and electrical safety to BEAB requirements.

7 Delivery and site handling

7.1 The units are supplied in cardboard cartons and include the fan unit, ducting, diffuser, fixing kit and installation instructions. Each carton bears the BBA identification mark incorporating the number of this Certificate.

7.2 Boxes should be stored internally and kept dry.

Design Data

8 General

8.1 The Envirovent Loft and Flat Unit Systems will contribute to eliminating or reducing surface condensation in dwellings. Each unit supplies the building with air drawn from the loft space or from outside, that normally will have lower relative humidity than that in the occupied part of the


building. It is essential that the loft space is adequately ventilated to the outside and any ceiling penetrations, for example pipes and loft hatches, are sufficiently sealed.

8.2 The loft unit diffuser is mounted in the ceiling of the upper landing as near as possible to the centre, as far as possible from all doors and, preferably, above the stairwell. In single-storey buildings the diffuser should be sited in the entrance hall or lobby.

8.3 The flat unit transfers air from the outside to the inside either directly or via an arrangement of rigid plastic ducting and connectors to a grille or grilles, depending on the layout of the dwelling.

9 Ventilation

9.1 The ventilation rates, when measured in accordance with BS 848-1 : 1997, are given in Table 1.

 9.2 The product when fitted in dwellings will meet or contribute to meeting the requirements for ventilation in the national Building Regulations and Standards as detailed below, if the provisions outlined in sections 9.3 to 9.4 are met:

England and Wales

Approved Document F

Scotland

Technical Standards, Part K of the *Provisions deemed to satisfy*

Northern Ireland

Technical Booklet K.

9.3 Either unit will enable a dwelling to meet the national Building Regulations and Standards above if the following criteria apply:

(a) Internal doors are not unusually tight fitting (standard methods of construction should provide sufficient leakage).

(b) All rooms (spaces in Scotland) have a ventilation opening, for example an opening window, for rapid ventilation (a minimum of 1/20th of the floor area for habitable rooms and sanitary accommodation in England and Wales and Northern Ireland. A minimum of 1/30th of the floor area is required for a room or water-closet in Scotland).

(c) Any kitchen, bathroom (and shower-room in Scotland), utility room or sanitary accommodation (water-closet in Scotland) is directly accessible from the central hallway or landing into which the unit delivers air.

9.4 In circumstances where the requirements of section 9.3(b) and/or section 9.3(c) do not apply, a dwelling incorporating the unit will only contribute to meeting the Requirements, Standards and Regulations. Therefore, the following additional measures⁽¹⁾ outlined, should be included to enable a dwelling fitted with the unit to meet the national

Building Regulations and Standards detailed in section 9.2:


(a) Any kitchen, bathroom (and shower-room in Scotland), utility room or sanitary accommodation (water-closet in Scotland) not complying with 9.3(b) should be fitted with a mechanical extract fan capable of continuous operation at low background level with boost extraction facility (nominal air flow rates should be as detailed in the relevant Building Requirements, Regulations and Standards) or passive stack ventilation.

(b) Any kitchen, bathroom (and shower-room in Scotland) or utility room not complying with section 9.3(c) should either be supplemented by the measures given in (a) or have air transfer grilles fitted in walls/doors as required, to allow free flow of air to and from these areas and the central hallway or landing fitted with the diffuser. This may involve air passing through habitable rooms (room in Scotland), and therefore this option can only be adopted if each of these areas is separated from the central hallway or landing by no more than one habitable room (two habitable rooms may be treated as a single room if there is an area of permanent opening between them equal to at least 1/20th of the combined floor area).

(c) Any sanitary accommodation (water-closet in Scotland) not complying with section 9.3(c) should either be supplemented by the measures given in (b) above or have background ventilation (trickle-ventilation in Scotland) as detailed in the relevant Building Requirements, Regulations and Standards. (A minimum of 4000 mm² in England and Wales, Northern Ireland and Scotland).

(1) With these measures, it should be noted that:

Mechanical extract ventilation shall not be provided (and is not required) where an open-flued, solid fuel burning appliance is installed. Mechanical ventilation need not be provided where an open-flued appliance is installed having a flue with a free area of at least equivalent to 125 mm diameter duct and when the appliance's combustion air inlet and dilution air inlet are permanently open when the appliance is not in use.

 9.5 Either unit will contribute to eliminating or reducing condensation in dwellings when installed in accordance with the manufacturer's instructions and this Certificate. Therefore, the unit will contribute to meeting or contribute to satisfying the relevant national Building Regulations and Standards:

Scotland

Technical Standard G

Northern Ireland

Technical Booklet C.

10 Noise generation

The outlet noise, as measured in accordance with BS 848-2 : 1985, is given in Table 2.

Table 2 Outlet noise

Fan speed setting	Outlet noise [dB(A) at 1 m]	
	Loft	Flat
trickle	21.9	25.8
medium	26.3	29.9
large	26.1	31.3
boost	28.3	38.3

11 Behaviour in relation to fire



The diffuser is made from a thermoplastics material and meets the requirements of the national Building Regulations and Standards thus:

England and Wales

The diffuser is classified as TP(b) in accordance with Approved Document B, Table 11 and Appendix A and, therefore, may be treated in the same manner as a lighting diffuser and is suitable for use in rooms and circulation spaces, but not protected stairways

Scotland

Technical Standards, Part D7.1 of the *Provisions deemed to satisfy the Standards*. The diffuser meets the requirements for use in rooms and escape routes other than protected zones

Northern Ireland

The diffuser is classified as TP(b) in accordance with Technical Booklet E. It meets the requirements for use in rooms and circulation spaces.

12 Electrical safety

The unit should be connected to a suitable mains electrical supply through an isolating spur. A fuse rated at a maximum of 1A should be used. The provision of the electrical supply should be in accordance with the IEE Wiring Regulations.

13 Maintenance

13.1 The units should be serviced at five-yearly intervals with filters replaced at five-year intervals (loft units) and replaced or cleaned at three-yearly intervals (flat units).

13.2 The ducting should not require maintenance unless it is subject to impact damage.

13.3 The motor is fitted with a sealed-for-life bearing that will not require maintenance or lubrication.

14 Conservation of fuel and power



14.1 The product when fitted in dwellings can contribute to meeting the requirements of the Building Regulations of England and

Wales, Approved Document L as outlined in section 14.2 of this Certificate.

14.2 The loft unit can take advantage of some of the heat loss through a ceiling by conduction and solar gain into the loft, thus giving a net gain over electrical energy used in operating the unit. However, there will be little or no solar gain in conditions such as low sky radiation temperatures.

14.3 The ceiling sealing measures, required for successful operation, will contribute to reducing heat loss by air leakage into the loft space.

14.4 Reference may be made to Table 1 for power consumption.

15 Durability



15.1 The fan unit case and diffuser are constructed of durable materials.

15.2 The ducting, fan motor and other electrical components may require replacing during the lifetime of the unit.

Installation

16 General

16.1 Although installation of Envirovent Loft and Flat Unit Systems may be achieved by suitable craftsmen, the provision of an electrical supply and the connection of the unit to the supply should be carried out only by a suitably qualified electrician.

16.2 Installation of the unit should be in accordance with the manufacturer's instructions provided with each unit.

16.3 The diffuser must not be allowed to discharge air if there is an obstruction, such as a wall or smoke alarm, within one metre of the diffuser sides. If the diffuser cannot be repositioned, up to two sides may be closed off (using the two clip-in blanking plates supplied) to encourage air through the open sides that have at least one metre of unobstructed area.

17 Procedure

Loft unit

17.1 For the loft vent, a hole for the diffuser is cut in the ceiling (using the template supplied), between two convenient joists.

17.2 The unit should be positioned on 50 mm by 25 mm wooden battens (not supplied) laid across the joists to ensure the flexible ducting between the unit and the diffuser is not impeded.

17.3 The battens are fastened with screws to the joist through the rubber mounts and washer provided. The trunking is fitted to the unit spigot using the tape provided.

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17.4 The flexible ducting is connected to the neck of the diffuser using the tape provided, and the ducting pushed through the hole in the ceiling. After ensuring the diffuser is aligned correctly with the walls of the hallway, the diffuser is fixed in position using plasterboard plugs and screws provided.

Flat unit

17.5 A hole is cored (at least 107 mm diameter) in the external wall and the intake grille is positioned and sealed. The flat unit is installed on the inside wall to meet the intake grille and when connected, will transfer air from the outside to the inside — either directly or via an arrangement of rigid plastic ducting and connectors to a grille or grilles, depending on the layout of the dwelling.

17.6 When it is not possible to fit the unit directly to an outside wall, the ducting which delivers air from the external grille to the unit (cold side ducting) must be insulated to prevent condensation from forming on the surface in extreme conditions.

General

17.7 The unit must be connected to a suitable electrical supply by a two-core cable (or three-core cable when optional heater is fitted) through an isolating spur.

17.8 The power supply to the unit should be switched on.

17.9 The selector switch on the fan unit should be set to the required setting dependent on the size and layout of the property and the level of moisture being produced in the property.

17.10 The unit should be checked for correct operation.

Technical Investigations

The following is a summary of the technical investigations carried out on Envirovent Loft and Flat Unit Systems.

18 Tests

Tests were carried out by the manufacturer to determine:

- outlet noise to BS 848-2 : 1985
- fan performance to BS 848-1 : 1997.

19 Investigations

19.1 The performance in use was examined by a survey of users of the product.

19.2 The procedures and equipment of the manufacturer were examined and found to be satisfactory.

19.3 The unit's behaviour in relation to fire was assessed.

Bibliography

BS 848-1 : 1997 *Fans for general purposes — Performance testing using standardized airways*
BS 848-2 : 1985 *Fans for general purposes — Methods of noise testing*

BS 5925 : 1991 *Code of practice for ventilation principles and designing for natural ventilation*

BS 6001-1 : 1999 *Sampling procedures for inspection by attributes — Sampling schemes indexed by acceptable quality limit (AQL) for lot-by-lot inspection*

Conditions of Certification

20 Conditions

20.1 This Certificate:

- (a) relates only to the product that is described, installed, used and maintained as set out in this Certificate;
- (b) is granted only to the company, firm or person identified on the front cover — no other company, firm or person may hold or claim any entitlement to this Certificate;
- (c) has to be read, considered and used as a whole document — it may be misleading and will be incomplete to be selective;
- (d) is copyright of the BBA.

20.2 References in this Certificate to any Act of Parliament, Regulation made thereunder, Directive or Regulation of the European Union, Statutory Instrument, Code of Practice, British Standard, manufacturers' instructions or similar publication, shall be construed as references to such publication in the form in which it was current at the date of this Certificate.

20.3 This Certificate will remain valid for an unlimited period provided that the product and the manufacture and/or fabricating process(es) thereof:

- (a) are maintained at or above the levels which have been assessed and found to be satisfactory by the BBA;

(b) continue to be checked by the BBA or its agents; and

(c) are reviewed by the BBA as and when it considers appropriate.

20.4 In granting this Certificate, the BBA makes no representation as to:

- (a) the presence or absence of any patent or similar rights subsisting in the product or any other product;
- (b) the right of the Certificate holder to market, supply, install or maintain the product; and
- (c) the nature of individual installations of the product, including methods and workmanship.

20.5 Any recommendations relating to the use or installation of this product which are contained or referred to in this Certificate are the minimum standards required to be met when the product is used. They do not purport in any way to restate the requirements of the Health & Safety at Work etc Act 1974, or of any other statutory, common law or other duty which may exist at the date of this Certificate or in the future; nor is conformity with such recommendations to be taken as satisfying the requirements of the 1974 Act or of any present or future statutory, common law or other duty of care. In granting this Certificate, the BBA does not accept responsibility to any person or body for any loss or damage, including personal injury, arising as a direct or indirect result of the installation and use of this product.



In the opinion of the British Board of Agrément, Envirovent Loft and Flat Unit Systems are fit for their intended use provided they are installed, used and maintained as set out in this Certificate. Certificate No 03/4043 is accordingly awarded to Farmer Controls Plc.

On behalf of the British Board of Agrément

Date of issue: 1st September 2003

Chief Executive

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British Board of Agrément

P O Box No 195, Bucknalls Lane
Garston, Watford, Herts WD25 9BA
Fax: 01923 665301

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e-mail: mail@bba.star.co.uk
website: www.bbacerts.co.uk



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contact the Certificate holder (see
front page).
For information about the Agrément
Certificate, including validity and
scope, tel: Hotline 01923 665400,
or check the BBA website.