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Agrément Certificate
03/4043
Product Sheet 1

ENVIROVENT POSITIVE INPUT VENTILATION SYSTEMS

ENVIROVENT LOFT MOUNTED POSITIVE INPUT VENTILATION SYSTEMS

This Agrément Certificate Product Sheet(1) relates to EnviroVent Loft Mounted Positive Input Ventilation Systems, for use as continuously running, low-energy, positive input ventilation systems (PIV) suitable for installation in the loft space of a dwelling.

(1) Hereinafter referred to as 'Certificate'.

CERTIFICATION INCLUDES:

- factors relating to compliance with Building Regulations where applicable
- factors relating to additional non-regulatory information where applicable
- independently verified technical specification
- assessment criteria and technical investigations
- design considerations
- installation guidance
- regular surveillance of production
- formal three-yearly review.

KEY FACTORS ASSESSED

Ventilation — the systems can provide up to 58 $l \cdot s^{-1}$ of whole dwelling ventilation (see section 6).

Behaviour in relation to fire — the diffusers are made from thermoplastic material or steel and can satisfy the relevant requirements of the national Building Regulations. The steel diffuser is used for protected stairways/zones (see section 8).

Conservation of fuel and power — the specific fan power of the systems is less than the design limits for energy efficiency and, in the 'loft mode', can be discounted in SAP calculations due to the source loft air being slightly warmer than the outdoor air (see section 9).

Self-generated noise — the outlet noise from the systems should not be considered as intrusive (see section 10).

Durability — subject to maintenance requirements, the systems can continue to perform for the life of the dwelling in which they are installed. The ducting, and fan motor and other electrical components may require replacement during the lifetime of the dwelling (see section 13).

The BBA has awarded this Certificate to the company named above for the systems described herein. These systems 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 Agrément

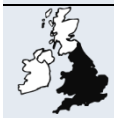
Date of Fourth issue: 27 November 2019

Originally certificated on 1 September 2003

Brian Moore
Director

Regulations

In the opinion of the BBA, EnviroVent Loft Mounted Positive Input Ventilation Systems, if installed, used and maintained in accordance with this Certificate, can satisfy or contribute to satisfying the relevant requirements of the following Building Regulations (the presence of a UK map indicates that the subject is related to the Building Regulations in the region or regions of the UK depicted):



The Building Regulations 2010 (England and Wales) (as amended)

Requirement:	**B1**	**Means of warning and escape**
Comment:		Systems with the steel diffuser can be installed in buildings with a protected stairway. See section 8.2 of this Certificate.
Requirement:	**B2(1)**	**Internal fire spread (linings)**
Comment:		The thermoplastic diffuser can be treated as a lighting diffuser and can satisfy this Standard. The steel diffusers can be incorporated into a ceiling. See sections 8.1 and 8.2 of this Certificate.
Requirement:	**C2(c)**	**Resistance to moisture**
Comment:		The systems can contribute to satisfying this Requirement. See section 7 of this Certificate.
Requirement:	**F1(1)**	**Means of ventilation**
Comment:		The systems can contribute to satisfying this Requirement. See section 6.1 of this Certificate.
Requirement:	**L1(b)(i)**	**Conservation of fuel and power**
Comment:		The systems can contribute to satisfying this Requirement. See sections 9.1 and 9.2 of this Certificate.
Regulation:	**7**	**Materials and workmanship (applicable to Wales only)**
Regulation:	**7(1)**	**Materials and workmanship (applicable to England only)**
Comment:		The systems are acceptable. See section 13 and the *Installation* part of this Certificate.
Regulation:	**26**	**CO_2 emission rates for new buildings**
Regulation:	**26A**	**Fabric energy efficiency rates for new dwellings (applicable to England only)**
Regulation:	**26A**	**Primary energy consumption rates for new buildings (applicable to Wales only)**
Regulation:	**26B**	**Fabric performance values for new dwellings (applicable to Wales only)**
Comment:		The systems' contribution to satisfying this Regulation will depend on their mode of operation. See sections 9.1 and 9.2 of this Certificate.

The Building (Scotland) Regulations 2004 (as amended)

Regulation:	**8(1)(2)**	**Durability, workmanship and fitness of materials**
Comment:		The systems satisfy the requirements of this Regulation. See sections 12.1, 12.2 and 13 and the *Installation* part of this Certificate.
Regulation:	**9**	**Building standards applicable to construction**
Standard:	2.5	Internal linings
Comment:		The thermoplastic diffuser can be treated as a lighting diffuser and can satisfy this Standard, with reference to clause 2.5.4(1). The steel diffuser can be incorporated into a ceiling. See sections 8.1 and 8.2 of this Certificate.
Standard:	2.9	Escape
Comment:		Systems with the steel diffuser can satisfy this Standard in relation to installations within a protected zone in dwellings containing an apartment or kitchen, with one floor more than 4.5 m above the ground, with reference to clause 2.9.8. See section 8.2 of this Certificate.

Standard:	3.14	Ventilation
Comment:		The systems can contribute to satisfying this Standard, with reference to clause 3.14.11(1). See section 6.1 of this Certificate.
Standard:	3.15	Condensation
Comment:		The systems can contribute to satisfying this Standard, with reference to clauses 3.15.1(1) and 3.15.2(1). See section 7 of this Certificate.
Standard:	6.1(b)	Carbon dioxide emissions
Comment:		The systems' contribution to satisfying this Standard will depend on their mode of operation with reference to clauses 6.1.1(1) and 6.1.6(1). See sections 9.1 and 9.2 of this Certificate.
Standard:	6.6(b)	Mechanical ventilation and air conditioning
Comment:		The systems can contribute to satisfying this Standard with reference to clause 6.6.2(1). See section 9.2 of this Certificate.
Standard:	7.1(a)	Statement of sustainability
Comment:		The systems can contribute to satisfying the relevant requirements of Regulation 9, Standards 1 to 6, and therefore will contribute to a construction meeting a bronze level of sustainability as defined in this Standard. In addition, the systems, depending on their operating mode, can contribute to a construction meeting a higher level of sustainability as defined in this Standard, with reference to clauses 7.1.4(1) [Aspect 1(1)], 7.1.6(1) [Aspect 1(1)] and 7.1.7(1) [Aspect 1(1)]. See sections 9.1 and 9.2 of this Certificate.
Regulation:	**12**	**Building standards applicable to conversions**
Comment:		All comments given for these systems under Regulation 9, Standards 1 to 6, also apply to this Regulation, with reference to clause 0.12.1(1) and Schedule 6(1).

(1) Technical Handbook (Domestic).

The Building Regulations (Northern Ireland) 2012 (as amended)

Regulation:	**23**	**Fitness of materials and workmanship**
Comment:		The systems are acceptable. See section 13 and the *Installation* part of this Certificate.
Regulation:	**29**	**Condensation**
Comment:		The systems can contribute to satisfying the requirements of this Regulation. See section 7 of this Certificate.
Regulation:	**33(c)**	**Means of escape**
Comment:		Systems with the steel diffuser can be installed in dwellings with a protected stairway. See section 8.2 of this Certificate.
Regulation:	**34**	**Internal fire spread — Linings**
Comment:		The thermoplastic diffuser can be treated as a lighting diffuser. The steel diffuser can be incorporated into a ceiling. See sections 8.1 and 8.2 of this Certificate.
Regulation:	**39(b)**	**Conservation measures**
Comment:		The systems can contribute to satisfying this Regulation. See section 9.1 of this Certificate.
Regulation:	**40(2)**	**Target carbon dioxide emission rate**
Comment:		The systems' contribution to satisfying this Regulation will depend on their mode of operation. See section 9.2 of this Certificate.
Regulation:	**65(1)**	**Means of ventilation**
Comment:		The systems can contribute to satisfying this Regulation. See section 6.1 of this Certificate.

Construction (Design and Management) Regulations 2015
Construction (Design and Management) Regulations (Northern Ireland) 2016

Information in this Certificate may assist the client, designer (including Principal Designer) and contractor (including Principal Contractor) to address their obligations under these Regulations.

See sections: 5 *Practicability of installation* and 11 *Provision of an electrical supply and electrical safety* of this Certificate.

The Electrical Equipment (Safety) Regulations 2016

The Electrical Equipment (Safety) Regulations 2016 implement Directive 2014/35/EU(1) of the European Parliament relating to the making available on the market electrical equipment designed for use within certain voltage limits. The BBA has not assessed the systems for compliance with these Regulations.

(1) This Directive repeals and replaces Directive 2006/95/EC which was implemented in the United Kingdom by the *Electrical Equipment (Safety) Regulations* 1994 (S.I. 1994/3260). The Electrical Equipment (Safety) Regulations 2016 revoke and replace the 1994 Regulations.

The Electromagnetic Compatibility Regulations 2016

The Electromagnetic Compatibility Regulations 2016 implement Directive 2014/30/EU(1) of the European Parliament relating to electromagnetic compatibility. The BBA has not assessed the systems for compliance with these Regulations.

(1) This Directive repeals and replaces Directive 2004/108/EC of the European Parliament which was implemented in the United Kingdom by the *Electromagnetic Compatibility Regulations* 2006.

Additional Information

NHBC Standards 2019

In the opinion of the BBA, EnviroVent Loft Mounted Positive Input Ventilation Systems, if installed, used and maintained in accordance with this Certificate, can satisfy or contribute to satisfying the relevant requirements in relation to *NHBC Standards*, Chapter 8.1 *Internal services*, Clauses 8.1.10 and 8.1.12.

Technical Specification

1 Description

1.1 EnviroVent Loft Mounted Positive Input Ventilation Systems comprise a fan unit mounted in the loft space, together with filter(s) and plastic ducting. A diffuser is mounted in the ceiling. Air is drawn through the filters or in from outside by the fan and expelled through the ducting and out of the diffuser into the dwelling. See Figure 1 and Tables 1, 2 and 3.

1.2 EnviroVent offer either thermoplastic or steel diffusers. The steel diffuser incorporates intumescent materials which provide resistance to the spread of flame.

Figure 1 Loft-mounted ventilation unit

1.3 The main components of the systems are:

- outer casing of the fan unit
- centrifugal impeller
- filter(s)
- ducting
- ceiling diffuser (thermoplastic or steel).

1.4 The systems can be supplied with a 500 watt internal heater (see Table 1). The heater, when enabled by the installer or the user, ensures that air supplied to the dwelling does not fall below 10°C. This feature is intended to minimise discomfort caused by cold air and has not been assessed as a secondary heating system; however, indicative assessments in the 'loft mode' suggest that the heater may be on for between 5% and 9% of the time, depending on the fan speed setting, at loft temperatures below 10°C.

1.5 The systems are as follows (see Figure 2):

- Standard (EVL, EVL-H, EVL-W and EVL-H-W) — draws air from the loft
- Air Source (EVLAS, EVLAS-H, EVLAS-W and EVLAS-HWS) — draws air from the loft, and from outside when the temperature in the loft rises above 25°C
- Inline (EVL-IN and EVL-H-IN) — draws air from outside

Figure 2 Loft-mounted ventilation units

1.6 All units incorporate a selector button, which allows four settings (see Tables 2 and 3). The setting required depends on the size, layout and occupancy of the property.

1.7 Airflow rate automatically increases by about 10% when the loft or external air is > 19°C.

1.8 Depending on the system, when the incoming temperature is above 25°C, the sensor either switches the unit off until a fall in temperature re-activates the fan (in the case of the Standard loft system) or switches the unit to draw air from outside until a fall in loft temperature de-activates the bypass and the unit reverts to drawing air from the loft space (in the case of the Air Source system).

Table 1 EnviroVent Loft Mounted Positive Input Ventilation Systems — summary

Model code	Model name			Heater	Remote control[1][2]
	Standard	Air Source	Inline		
EVL	✓				
EVL-H	✓			✓	
EVL-W	✓				✓
EVL-H-W	✓			✓	✓
EVLAS		✓			
EVLAS-H		✓		✓	
EVLAS-W		✓			✓
EVLAS-HWS		✓		✓	✓
EVL-IN			✓		
EVL-H-IN			✓	✓	

(1) The EnviroVent PIV units are available with an optional remote control system incorporating five mode settings (including four airflow modes): 1, 2, 3, 4 and an auto mode that enables or disables the auto heater.
(2) The remote control system uses wireless technology which enables the user to control the main unit functions from anywhere within the property.

Figure 3 Typical installation of Standard units

Figure 4 Typical installation of Air Source units

Figure 5 Typical installation of Inline units

1.9 The 200 mm thermoplastic diffuser is available with blanking plates: up to two sides can be blanked off.

1.10 The 125, 150 and 200 mm steel diffusers are used with Standard units EVL-W and EVL-H-W. Other sizes are available for the Air Source and Inline models.

Table 2 Indicative performance levels with the thermoplastic diffuser

Model, operating mode and model code		Fan speed setting	Airflow ($l \cdot s^{-1}$)	Power (W)	Specific fan power (SFP)(1) ($W \cdot l^{-1}\ s^{-1}$)
	Standard: air drawn from loft space via wraparound side filters — EVL and EVL-H	1	21	4	0.17
		2	29	4	0.15
		3	38	6	0.16
		4	49	9	0.19
	Standard (remote control): air drawn from loft space via wraparound side filters — EVL-W, EVL-HW	1	17	2	0.11
		2	26	3	0.10
		3	35	4	0.12
		4	58	13	0.21
	Air Source: air drawn from the loft space via the top filter. Switches to the 'in-line' mode >25°C — EVLAS, EVLAS-H, EVLAS-W and EVLAS-HWS	1	22	3	0.14
		2	29	4	0.14
		3	35	5	0.15
		4	43	8	0.18
	Inline: air drawn from outside via ducting and external grilles or vents — EVL-IN and EVL-H-IN	1	20	2	0.10
		2	28	3	0.09
		3	35	4	0.10
		4	44	6	0.14

(1) Specific fan power S.f.p ($W \cdot l^{-1}\ s^{-1}$) = $\frac{\text{Power (W)}}{\text{Airflow } (l \cdot s^{-1})}$

The values include flexible ducting between the fan unit and the diffuser. The 'in-line' mode values include a 1 m rigid duct with a simple external grille. Longer ducting, flexible ducting, bends and complex air inlet vents/grilles are available, but will significantly reduce the volume airflow rates. One blanking plate can reduce volume airflow rate by up to 10% and two plates by up to 20%.

Table 3 Example indicative performance levels with the steel diffuser

Model code and diffuser diameter size	Fan speed setting	Airflow ($l \cdot s^{-1}$)	Power (W)	Specific fan power (SFP) ($W \cdot l^{-1}\ s^{-1}$)
EVL-HW 125 mm	1	14	2	0.18
	2	18	3	0.18
	3	22	4	0.19
	4	37	12	0.33
EVL-HW 150 mm	1	15	2	0.16
	2	22	3	0.15
	3	28	5	0.16
	4	44	12	0.28
EVL-HW 200 mm	1	20	3	0.13
	2	27	3	0.13
	3	34	5	0.14
	4	53	13	0.25

Notes:
The values include flexible ducting between the fan unit and the diffuser.

1.11 The control electronics of the systems have not been assessed by the BBA.

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

2 Manufacture

2.1 The production process consists of the assembly and testing of printed circuit boards and the mechanical assembly of the fan unit.

2.2 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 inspected to ensure correct assembly, operation and electrical safety.

2.3 As part of the assessment and ongoing surveillance of product quality, the BBA has:

- agreed with the manufacturer the quality control procedures and product testing to be undertaken
- assessed and agreed the quality control operated over batches of incoming materials
- monitored the production process and verified that it is in accordance with the documented process
- evaluated the process for management of nonconformities
- checked that equipment has been properly tested and calibrated
- undertaken to carry out the above measures on a regular basis through a surveillance process, to verify that the specifications and quality control operated by the manufacturer are being maintained.

2.4 The management system of EnviroVent Ltd has been assessed and registered as meeting the requirements of BS EN ISO 9001 : 2015 by the British Assessment Bureau (Certificate 185037).

3 Delivery and site handling

3.1 The units are supplied in cardboard cartons and include the fan unit, ducting, diffuser, fixing kit, installation and user guide. Each carton bears the BBA logo incorporating the number of this Certificate.

3.2 Boxes should be stored inside and kept dry.

Assessment and Technical Investigations

The following is a summary of the assessment and technical investigations carried out on EnviroVent Loft Mounted Positive Input Ventilation Systems.

Design Considerations

4 Use

4.1 EnviroVent Loft Mounted Positive Input Ventilation Systems are continuously running, low-energy positive input ventilation systems that will contribute to eliminating or reducing surface condensation and/or contribute to providing whole-home ventilation within dwellings. It is essential that the loft space is adequately ventilated to the outside (for example, as described in BS 5250 : 2011) and any ceiling penetrations (for example, pipes and loft hatches) are well sealed.

4.2 The 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.

4.3 The thermoplastic diffuser is suitable for use in one- and two-storey dwellings up to 4.5 m high (ground floor and first floor). In single-storey buildings, the diffuser should be sited in the entrance hall or lobby.

4.4 The steel diffuser is for use in dwellings with one floor more than 4.5 m above ground level.

4.5 The use of positive input ventilation systems is detailed in BRE Report BR 281 : 1995.

4.6 The BBA has not assessed the units in respect of radon or other harmful gas mitigation.

5 Practicability of installation

Although the systems are designed to be installed by a competent general builder or a contractor experienced with these types of systems, 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. See section 11 and the *Installation* part of this Certificate.

6 Ventilation

6.1 The systems can provide adequate whole-dwelling ventilation; see Tables 2 and 3.

6.2 Specifiers must ensure that in the overall design:

(a) all rooms have an appropriately sized ventilation opening, for example an opening window, for rapid (purge) ventilation
(b) any kitchen, bathroom, utility room or sanitary accommodation is directly accessible from the central hallway or landing into which the unit delivers air
(c) internal doors are not tight fitting; an undercut of 10 mm above the floor finish should be sufficient (standard methods of construction should provide sufficient leakage)
(d) the dwelling volume is > 120 m^3, and as-built(1) airtightness is > 3 m^3 (h m^2)$^{-1}$ at 50 Pa for two storeys
(e) the dwelling volume is > 120 m^3 and as-built(1) airtightness is > 5 m^3 (h m^2)$^{-1}$ at 50 Pa for three storeys.

(1) A higher design target will be required as referred to in Approved Document F, section 5.10.

6.3 Where a design condition specified in section 6.2 is not met, additional measures should be considered, as appropriate, details of which can be obtained from the Certificate holder.

6.4 For detailed guidance, designers should refer to the documents supporting the national Building Regulations.

7 Condensation risk

The systems will contribute to eliminating or reducing condensation in dwellings when installed in accordance with the manufacturer's instructions and this Certificate. The systems supply the building with air drawn from the loft space which, normally, will have a moisture content less than that in the occupied part of the building.

8 Behaviour in relation to fire

8.1 The thermoplastic diffuser is classified as TP(b) and can be installed in one- and two-storey dwellings but not in protected stairways (or, in Scotland, protected zones).

8.2 The steel diffuser incorporates an intumescent pad which expands to seal the valve in a fire. This provides a 60-minute fire rating to BS EN 1365-2 : 1999 and may therefore be used in protected stairways (or, in Scotland, protected zones) in dwellings with one floor more than 4.5 m above ground. In such cases, only one steel diffuser from a single spigot unit can be installed.

8.3 Where protected stairways (or, in Scotland, protected zones) exist, smoke detectors must be provided by the contractor and wired into the fan unit using the correct connections.

8.4 Designers should refer to the documents supporting the national Building Regulations for detailed guidance relating to the risks of smoke or fire spread into the protected stairway or zone.

9 Conservation of fuel and power

9.1 The specific fan power of the systems (see Tables 2 and 3) does not exceed the maximum design limit of 0.5 $W \cdot l^{-1} \cdot s^{-1}$ specified in documents supporting the national Building Regulations.

9.2 For the purposes of SAP calculations, the energy used by the fan in 'loft mode' may be taken as counterbalanced by the effect of using slightly warmer air from the loft space compared with outside. For other modes, the specific fan power of 0.5 $W \cdot l^{-1} \cdot s^{-1}$ should be used (see section 8.1 of this Certificate).

9.3 It is essential that the ceiling construction minimises any circulation of air from the dwelling to the roof space.

10 Self-generated noise

Outlet noise depends on the fan setting but measurements indicate that these are minimal and should not be considered intrusive.

11 Provision of an electrical supply and electrical safety

11.1 For electrical safety, provision of an electrical supply and the connection of the unit to the supply should be carried out by a qualified electrician.

11.2 The systems should be connected to a suitable mains electrical supply through an isolating spur. A fuse rated at a maximum of 3A should be used. The provision of the electrical supply should be in accordance with the *IET Wiring Regulations*.

11.3 In England and Wales, all installations must satisfy the requirements of the Building Regulations 2010 (England and Wales) (as amended), Part P — *Electrical Safety*. Notification should be made to the Local Authority Building Control in advance of installation. As an alternative to this procedure, electrical connections can be carried out by a person registered with a government-approved competent person's scheme (CPS) for electrical work, using materials suitable for the purpose.

11.4 In Scotland, to satisfy the requirements of Mandatory Standard 4.5, with reference to clause 4.5.1(1) of The Building (Scotland) Regulations 2004 (as amended), all installations should be designed, constructed and tested in accordance with the requirements of BS 7671 : 2018.

(1) Technical Handbook (Domestic).

12 Maintenance

12.1 Under normal operating conditions, the filters should be replaced every five years.

12.2 The intumescent closure elements of the steel diffuser must be inspected annually for mechanical damage or blockage. The elements must not be exposed to water.

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

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

12.5 Reasonable provision should be made to ensure that the owner/occupier of the building is provided with sufficient information about the system so that it can be operated and maintained.

13 Durability

13.1 The fan unit case and diffusers are constructed of durable materials and, under normal operating conditions, will have a life equal to that of the dwelling in which they are installed.

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

Installation

14 General

14.1 Before work commences, the installer must ensure familiarity and compliance with all national requirements.

14.2 Installation of EnviroVent Loft Mounted Positive Input Ventilation Systems should be in accordance with the manufacturer's instructions provided with each unit (see section 11).

14.3 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 sides of the diffuser.

14.4 In the case of steel diffusers, they will require repositioning.

14.5 In the case of thermoplastic diffusers (200 mm only), if they cannot be repositioned, up to two sides may be closed off(1) to encourage air through the open sides. The open sides must be situated at least 1.5 m from a smoke alarm.

(1) using the two clip-in blanking plates supplied.

15 Procedure

15.1 A hole for the diffuser is cut in the ceiling (using the template supplied), between two convenient joists.

15.2 The unit should be positioned on 50 by 25 mm wooden battens (not supplied) laid across the joists, or raised platform if the loft insulation is thicker than the joists, to ensure the flexible ducting between the unit and the diffuser is not impeded.

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

15.4 The flexible ducting is connected to the neck of the diffuser, without stretching, 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.

15.5 For systems taking air from outside (EVLAS, EVLAS-H, EVLAS-W EVLAS-HWS, EVL-IN and EVL-H-IN), the external grille can be located in the gable wall or roof.

15.6 The fan unit must be connected to a suitable electrical supply through an isolating spur.

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

15.8 The selector button on the fan unit should be set to the required setting, depending on the size, occupancy and layout of the property and the level of moisture being produced in the property.

15.9 The unit should be checked for correct operation in accordance with the manufacturer's installation instructions.

15.10 In England and Wales, the unit should be checked for correct operation in accordance with the relevant requirements of the *Domestic Ventilation Compliance Guide*.

15.11 In Scotland, the unit should be checked for correct operation in accordance with the relevant requirements of the *Building Standards Supporting Guidance Domestic Ventilation*.

Technical Investigations

16 Tests

Results of tests were assessed to determine:

- outlet noise
- fan performance
- fire performance of the steel diffuser.

17 Investigations

17.1 The diffusers' behaviour in relation to fire was assessed.

17.2 The manufacturing process was evaluated, including the methods adopted for quality control, and details were obtained of the quality and composition of materials used.

Bibliography

BRE Report 281 (BR 281 : 1995) *Positive pressurisation : a BRE guide to radon remedial measures in existing dwellings*

BS 5250 : 2011 + A1 : 2016 *Code of practice for control of condensation in buildings*

BS 6001-1 : 1999 + A1 : 2011 *Sampling procedures for inspection by attributes — Sampling schemes indexed by acceptance quality limit (AQL) for lot-by-lot inspection*

BS 7671 : 2018 *Requirements for electrical installations — IET Wiring Regulations*

BS EN 1365-2 : 1999 *Fire resistance tests for loadbearing elements — Floors and roofs*

BS EN ISO 9001 : 2015 *Quality management systems — Requirements*

Building Standards Supporting Guidance Domestic Ventilation — 2nd Edition

Domestic Ventilation Compliance Guide — 2013 Edition

18 Conditions

18.1 This Certificate:

- relates only to the product/system that is named and described on the front page
- is issued only to the company, firm, organisation or person named on the front page – no other company, firm, organisation or person may hold or claim that this Certificate has been issued to them
- is valid only within the UK
- has to be read, considered and used as a whole document – it may be misleading and will be incomplete to be selective
- is copyright of the BBA
- is subject to English Law.

18.2 Publications, documents, specifications, legislation, regulations, standards and the like referenced in this Certificate are those that were current and/or deemed relevant by the BBA at the date of issue or reissue of this Certificate.

18.3 This Certificate will remain valid for an unlimited period provided that the product/system and its manufacture and/or fabrication, including all related and relevant parts and processes thereof:

- are maintained at or above the levels which have been assessed and found to be satisfactory by the BBA
- continue to be checked as and when deemed appropriate by the BBA under arrangements that it will determine
- are reviewed by the BBA as and when it considers appropriate.

18.4 The BBA has used due skill, care and diligence in preparing this Certificate, but no warranty is provided.

18.5 In issuing this Certificate the BBA is not responsible and is excluded from any liability to any company, firm, organisation or person, for any matters arising directly or indirectly from:

- the presence or absence of any patent, intellectual property or similar rights subsisting in the product/system or any other product/system
- the right of the Certificate holder to manufacture, supply, install, maintain or market the product/system
- actual installations of the product/system, including their nature, design, methods, performance, workmanship and maintenance
- any works and constructions in which the product/system is installed, including their nature, design, methods, performance, workmanship and maintenance
- any loss or damage, including personal injury, howsoever caused by the product/system, including its manufacture, supply, installation, use, maintenance and removal
- any claims by the manufacturer relating to CE marking.

18.6 Any information relating to the manufacture, supply, installation, use, maintenance and removal of this product/system which is contained or referred to in this Certificate is the minimum required to be met when the product/system is manufactured, supplied, installed, used, maintained and removed. It does not purport in any way to restate the requirements of the Health and Safety at Work etc. Act 1974, or of any other statutory, common law or other duty which may exist at the date of issue or reissue of this Certificate; nor is conformity with such information to be taken as satisfying the requirements of the 1974 Act or of any statutory, common law or other duty of care.