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Agrément Certificate  
**00/3727**  
Product Sheet 1

## NUAIRE VENTILATION SYSTEMS

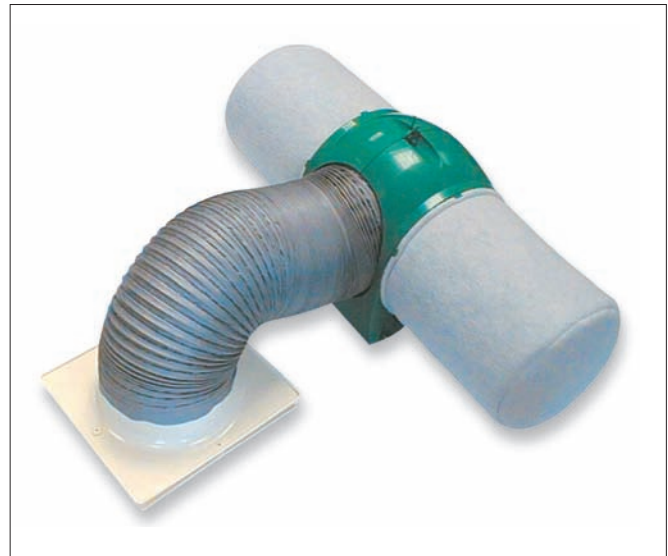
### DRIMASTER, DRIMASTER 3S, DRIMASTER 2000 AND DRIMASTER 2000 3S SYSTEMS

#### PRODUCT SCOPE AND SUMMARY OF CERTIFICATE

This Certificate relates to Drimaster, Drimaster 3S, Drimaster 2000 and Drimaster 2000 3S Systems, low-energy positive input ventilation systems (PIV), for installation in the loft space of a dwelling.

#### AGRÉMENT 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 contribute towards meeting this requirement (see section 5).

**Behaviour in relation to fire** — the diffuser is made from thermoplastic material or aluminium (incorporating intumescent elements) and the relevant requirements apply (see section 6).

**Self-generated noise** — details of the systems' outlet noise are provided (see section 7).

**Conservation of fuel and power** — the systems can contribute to meeting this requirement (see section 8).

**Durability** — the systems are constructed of durable materials (see section 11).

The BBA has awarded this Agrément 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 used, installed and maintained as set out in this Certificate.

On behalf of the British Board of Agrément

Date of First issue: 18 September 2008

Originally certificated on 14 June 2000

Chris Hunt  
Head of Approvals — Physics

Greg Cooper  
Chief Executive

*The BBA is a UKAS accredited certification body — Number 113. The schedule of the current scope of accreditation for product certification is available in pdf format via the UKAS link on the BBA website at [www.bbacerts.co.uk](http://www.bbacerts.co.uk)*

*Readers are advised to check the validity and latest issue number of this Agrément Certificate by either referring to the BBA website or contacting the BBA direct.*

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# Regulations

In the opinion of the BBA, Drimaster, Drimaster 3S, Drimaster 2000 and Drimaster 2000 3S Systems, if used in accordance with the provisions of this Certificate, will meet or contribute to meeting the relevant requirements of the following Building Regulations:



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

Requirement:	B1	Means of warning and escape
Comment:		The systems may be installed in buildings with a protected stairway. See section 6.2 of this Certificate.
Requirement:	B2	Internal fire spread (linings)
Comment:		The diffuser can be incorporated into a ceiling. See sections 6.1 and 6.2 of this Certificate.
Requirement:	C2(c)	Resistance to moisture
Comment:		The systems can contribute to meeting this Requirement. See section 5.5 of this Certificate.
Requirement:	F1	Means of ventilation
Comment:		The systems will contribute to meeting this Requirement. See sections 5.2 to 5.4 of this Certificate.
Requirement:	L1 (a)(ii)(b)	Conservation of fuel and power
Comment:		The systems can contribute to meeting this Requirement. See sections 8.1 and 8.2 of this Certificate.
Requirement:	Regulation 7	Materials and workmanship
Comment:		The systems are acceptable. See sections 11.1 and 11.2 and the <i>Installation</i> part this Certificate.



## The Building (Scotland) Regulations 2004 (as amended)

Regulation:	8(1)(2)	Fitness and durability of materials and workmanship
Comment:		The systems satisfy the requirements of this Regulation. See sections 10.1, 11.1 and 11.2 and the <i>Installation</i> part of this Certificate.
Regulation:	9	Building standards — construction
Standard:	2.5	Internal linings
Comment:		The diffusers can satisfy this Standard, with reference to clause 2.5.1 <sup>(1)</sup> . See sections 6.1 and 6.2 of this Certificate.
Standard:	2.9	Escape
Comment:		The systems can satisfy this Standard in relation to installation within a protected enclosure in a house containing an apartment or kitchen in a storey at a height of more than 4.5 m, with reference to clauses 2.9.26 <sup>(1)</sup> and 2.9.31 <sup>(1)</sup> . See section 6.2 of this Certificate.
Standard:	3.14	Ventilation
Comment:		The systems can contribute to satisfying this Standard, with reference to clauses 3.14.2 <sup>(1)</sup> , 3.14.8 <sup>(1)</sup> and 3.14.10 <sup>(1)</sup> . See sections 5.2 to 5.4 of this Certificate.
Standard:	3.15	Condensation
Comment:		The systems can satisfy this Standard, with reference to clauses 3.15.1 <sup>(1)</sup> and 3.15.2 <sup>(1)</sup> . See section 5.5 of this Certificate.
Standard:	6.1(a)(b)	Carbon dioxide emissions
Comment:		The systems can contribute to satisfying this Standard, with reference to clause 6.1.1 <sup>(1)</sup> . See section 8.2 of this Certificate. (1) Technical Handbook (Domestic).



## The Building Regulations (Northern Ireland) 2000 (as amended)

Regulation:	B2	Fitness of materials and workmanship
Comment:		The systems are acceptable. See sections 11.1 and 11.2 and the <i>Installation</i> part of this Certificate.
Regulation:	B3(2)	Suitability of certain materials
Comment:		The systems are acceptable. See section 10.1 of this Certificate.
Regulation:	C5	Condensation
Comment:		The systems can contribute to meeting the requirements of this Regulation. See section 5.5 of this Certificate.
Regulation:	E2(c)	Means of escape
Comment:		The systems may be installed in buildings with a protected stairway. See section 6.2 of this Certificate.
Regulation:	E3	Internal fire spread — Linings
Comment:		The diffuser can be incorporated into a ceiling. See sections 6.1 and 6.2 of this Certificate.
Regulation:	F2(b)	Conservation measures
Regulation:	F3	Target carbon dioxide Emissions Rate
Comment:		The systems can contribute to meeting these Regulations. See sections 8.1 and 8.2 of this Certificate.
Regulation:	K2	Means of ventilation
Comment:		The systems will contribute to meeting this Regulation. See sections 5.2 to 5.4 of this Certificate.

## Construction (Design and Management) Regulations 2007 (as amended)

## Construction (Design and Management) Regulations (Northern Ireland) 2007

Information in this Certificate may assist the client, CDM co-ordinator, designer and contractors to address their obligations under these Regulations.

See sections: 4 *Practicability of installation*, 9 *Provision of an electrical supply and electrical safety* (9.1 to 9.4) and 12 *Installation* (12.2) of this Certificate.

## The Electrical Equipment (Safety) Regulations 1994 and the Electromagnetic Compatibility Regulations 2005

These Regulations implement the Low Voltage Directive 2006/95/EC and the Electromagnetic Compatibility Directive 2004/108/EC and require manufacturers to carry out assessment of their products against the criteria given in the Directives. Declarations of Conformity have been provided by the Certificate holder. The BBA has not assessed the product for compliance with these Directives.

## Non-regulatory Information

### NHBC Standards 2008

NHBC accepts the use of Drimaster, Drimaster 3S, Drimaster 2000 and Drimaster 2000 3S, when installed and used in accordance with this Certificate, in relation to *NHBC Standards*, Chapter 8.1 *Internal services*, Clauses D10 and D11.

### Zurich Building Guarantee Technical Manual 2007

In the opinion of the BBA, Drimaster, Drimaster 3S, Drimaster 2000 and Drimaster 2000 3S, when installed and used in accordance with this Certificate, satisfy the requirements of the *Zurich Building Guarantee Technical Manual*, Section 5 *Internal/external works, services & finishes*, Sub-section *Services* (pages 298, 301 and 326).

## General

This Certificate relates to Drimaster, Drimaster 3S, Drimaster 2000 and Drimaster 2000 3S Systems, for use in eliminating or reducing surface condensation and/or providing whole-home ventilation within dwellings.

The systems are installed in the loft space with a diffuser fitted in the ceiling below.

It is important that the designers, planners, contractors and/or installers ensure that the systems are installed and used in accordance with the Certificate holder's instructions and the information given in this Certificate (see section 5.3).

## Technical Specification

### 1 Description

1.1 Drimaster, Drimaster 3S, Drimaster 2000 and Drimaster 2000 3S Systems each comprise a fan unit mounted in the loft space, together with filters and ducting. A diffuser is mounted in the ceiling. Air is drawn through the filters by the fan and expelled through the ducting and out of the diffuser into the dwelling (see Figure 1).

Figure 1 Typical installation of ventilation unit

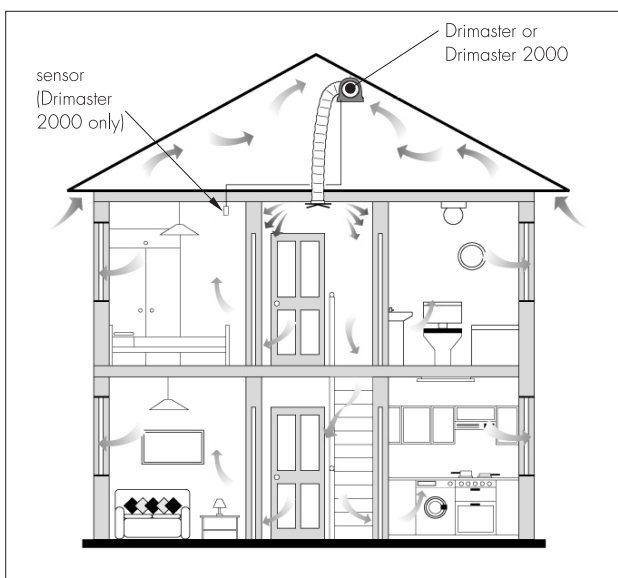


Figure 2 Drimaster 2000 remote sensor



1.2 The Drimaster and Drimaster 3S fan units include an internal sensor to regulate the fan speed according to the temperature of the loft. The Drimaster 2000 and Drimaster 2000 3S units include an internal sensor and a remote sensor (and status indicator) located in the house (see Figure 2). This is to increase airflow to the dwelling when the loft is warmer than the house. Details of the standard default temperature control strategy are given in Table 1. The unit can be programmed for different temperature control strategies and may be wired for control by smoke sensors. Details are available from the Certificate holder.

1.3 The systems incorporate a selector switch, allowing six settings (see Table 1). The setting required is dependent upon the size of the property, layout and the level of moisture being produced in the property. The standard factory default setting is setting 2.

Table 1 Nominal performance levels<sup>(1)</sup>

Loft temperature (°C)	Fan speed setting	Airflow (ls <sup>-1</sup> )		Power (W)
		Thermoplastic diffuser	Aluminium diffuser	
<19	1	10	9.5	2.6
	2	20	18.3	2.9
	3	30	26.9	3.6
	4	40	35.1	4.9
	5	52	46.3	7.5
	6	60	56.4	10.4
19 to 23	1	30	26.7	3.6
	2	35	31.0	4.2
	3	42	37.1	5.2
	4	52	46.3	7.5
	5	62	55.2	11.2
	6	70	60.1	15.3
>23	1	0	0	1.6
	2	0	0	1.6
	3	0	0	1.6
	4	0	0	1.6
	5	0	0	1.6
	6	0	0	1.6

(1) The values given relate to the Drimaster unit. Drimaster 2000 unit airflow rates are adjusted automatically to suit individual loft and house temperatures to optimise heat available in the loft.

1.4 The main components comprise:

- spherical outer casing of the fan unit
- centrifugal impeller
- filters
- ducting<sup>(1)</sup>
- ceiling diffuser (thermoplastic or aluminium)<sup>(2)</sup>.

(1) Sourced via the Certificate holder or externally.

(2) Depending on the use, the diffuser can be supplied either in thermoplastic material or aluminium (code suffix 3S). The aluminium version includes intumescent closure elements.

1.5 A fixing kit is supplied comprising screws, suspension kit, blanking strips and a fused spur.

1.6 The motor is fitted with sealed, self-lubricating bearings and locked rotor protection.

1.7 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.

## 2 Delivery and site handling

2.1 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.

2.2 Boxes should be stored internally and kept dry.

## Assessment and Technical Investigations

The following is a summary of the assessment and technical investigations carried out on Drimaster, Drimaster 3S, Drimaster 2000 and Drimaster 2000 3S Systems.

## Design Considerations

### 3 Use

3.1 Drimaster, Drimaster 3S, Drimaster 2000 and Drimaster 2000 3S Systems will contribute to eliminating or reducing surface condensation in dwellings. Each unit supplies the building with air drawn from the loft space that, normally, will have moisture content less than that in the occupied part of the building. It is essential that the loft space is adequately ventilated to the outside, for example as described in BS 5250 : 2002, and any ceiling penetrations, such as pipes and loft hatches, are sufficiently sealed.

3.2 The diffuser is mounted in the ceiling of the upper landing as near as possible to the centre, as far as is possible from all doors and, preferably, above the stairwell.

3.3 The thermoplastic diffuser, fitted with the Drimaster and Drimaster 2000, is suitable for use in one- and two-storey dwellings (ground floor and first floor). In single-storey buildings the diffuser should be sited in the entrance hall or lobby. The aluminium diffuser, fitted with the Drimaster 3S and Drimaster 2000 3S, is for use in dwellings with one floor more than 4.5 m above ground level.

### 4 Practicability of installation

Although installation of the 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 (see sections 9.1 to 9.4 and the *Installation* part of this Certificate).

## 5 Ventilation

5.1 The ventilation rates, when measured in accordance with BS 848-1 : 2007, are given in Table 1.



5.2 Dwellings incorporating the systems will meet or contribute to meeting the national Building Regulations and Standards for background ventilation as detailed below (see also sections 5.3 and 5.4). However, provision for rapid (purge) ventilation, eg opening windows must also be made:

**England and Wales** — Approved Document F

**Scotland** — Mandatory Standard 3.14, clauses 3.14.2<sup>(1)</sup>, 3.14.8<sup>(1)</sup> and 3.14.10<sup>(1)</sup>

(1) Technical Booklet (Domestic).

**Northern Ireland** — Technical Booklet K.

5.3 The systems will enable a dwelling to meet the national Building Regulations and Standards above if the following criteria apply:

- as internal doors are not unusually tight fitting, an undercut of 10 mm should be sufficient (standard methods of construction should provide sufficient leakage)
- all rooms have a ventilation opening, for example an opening window, for rapid (purge) 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 toilet in Scotland)
- any kitchen, bathroom, utility room or sanitary accommodation is directly accessible from the central hallway or landing into which the unit delivers air
- appropriately sized background ventilators must be fitted throughout the building in homes less than 120 m<sup>3</sup> in volume to prevent excessive pressurisation, or for envelope airtightness values less than 3m<sup>3</sup> (hm<sup>2</sup>)<sup>-1</sup> at 50 Pa (dwellings up to 4.5 m) or less than 5m<sup>3</sup>(hm<sup>2</sup>)<sup>-1</sup> at 50 Pa (dwellings with one floor more than 4.5 m above ground level).

5.4 In circumstances where the requirements of section 5.3(b) and/or section 5.3(c) do not apply, a dwelling incorporating one of the systems will only contribute to meeting the Requirements, Standards and Regulations.

Therefore, additional measures<sup>(1)</sup> outlined below should be included to enable a dwelling fitted with the unit to meet the national Building Regulations and Standards detailed in section 5.2:

- any kitchen, bathroom, utility room or sanitary accommodation not complying with 5.3(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)
  - any kitchen, bathroom or utility room not complying with section 5.3(c) should either be supplemented by the measures given in 5.4(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 (see section 6.2) 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 and 1/15th in Scotland)
  - any sanitary accommodation not complying with section 5.3(c) should either be supplemented by the measures given in 5.4(b) or have background ventilation (trickle-ventilation in Scotland) as detailed in the relevant Building Requirements, Regulations and Standards (a minimum of 4000 mm<sup>2</sup> 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.

5.5 The systems 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:

**England** — Approved Document C2

**Scotland** — Mandatory Standard 3.15, clauses 3.15.1<sup>(1)</sup> and 3.15.2<sup>(1)</sup>

(1) Technical Handbook (Domestic).

**Northern Ireland** — Technical Booklet C.

## 6 Behaviour in relation to fire



6.1 The thermoplastic diffuser can be installed in one- and two-storey dwellings (see section 3.3) 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, Volume 1, Table 2 and Appendix A, and, therefore, can be considered in a similar manner to an integral lighting diffuser and is suitable for use in rooms and circulation spaces, but not protected stairways

**Scotland** — Mandatory Standard 2.5, clause 2.5.1<sup>(1)</sup> — the diffuser can be classified as TP(b) material in accordance with clause 2.5.4<sup>(1)</sup> and treated as a lighting diffuser in accordance with clause 2.5.7<sup>(1)</sup>. The diffuser meets the requirements for use in rooms and escape routes other than protected zones

(1) Technical Handbook (Domestic).

**Northern Ireland** — the diffuser is classified as TP(b) in accordance with Technical Booklet E, Clause 2.5. It meets the requirements for use in rooms and circulation spaces, but not protected stairwells.

6.2 For dwellings with one floor more than 4.5 m above ground, the systems may be installed with the air diffuser in the ceiling above the required protected stairway. The aluminium diffuser, incorporating intumescent closure elements, must be used. In all cases smoke detectors must be provided and wired into the fan unit using the connections provided. The following points must be noted in relation to regulatory compliance:

**England and Wales** — Approved Document B, Volume 1, *Dwelling Houses*. Provision for escape must be provided as set out in Clause 2.5 and 2.6. Where the cavity barrier, required by Clause 2.14, is provided by a fire-resisting ceiling above the stairway, as in Diagram 6b to the Approved Document, the diffuser may be fitted into this part of the ceiling. The provisions of Clauses 2.16 and 2.17a to 2.17e must be met. The provisions of Clause 2.17d will be met by the smoke detection and fan cut-off facility

**Scotland** — Mandatory Standard 2.9, clause 2.9.31<sup>(1)</sup> — where a house contains an apartment or kitchen in a storey at a height of more than 4.5 m, the outlet diffuser may be installed, in the required protected enclosure to the stair, provided the aluminium version is used. Use of this diffuser also satisfies clause 2.9.26<sup>(1)</sup>. Requirements for smoke control can be met by the smoke detection and fan cut-off facility

(1) Technical Handbook (Domestic).

**Northern Ireland** — Technical Booklet E, Section 1 *Means of escape* and Section 3 *Internal fire spread — Structure*. In dwelling houses with one-storey more than 4.5 m above ground, the provisions of Clauses 1.12a or 1.12b must be observed. Where the cavity barrier above a protected stairway, with reference to Clause 3.35, is provided by a fire-resisting ceiling, as in Diagram 3.6 to the Technical Booklet, the aluminium diffuser may be installed in that ceiling.

## 7 Self-generated noise

The outlet noise, as measured in accordance with BS 848-2.2 : 2004, is given in Table 2.

Table 2 Nominal outlet noise

Fan speed setting	Outlet noise [dB(A) at 3 m]
1	<15
2	<15
3	≤15
4	15–18
5	18–22
6	21–24

## 8 Conservation of fuel and power



8.1 The Specific Fan Power of the products (see Table 3) does not exceed the maximum design limit of  $0.8 \text{ Wl}^{-1}\text{s}^{-1}$  specified in supporting documents to the national Building Regulations.

Table 3 Specific Fan Power

Loft temperature (°C)	Fan speed setting	Specific Fan Power ( $\text{Wl}^{-1}\text{s}^{-1}$ )	
		Thermoplastic diffuser	Aluminium diffuser
<19	1	0.26	0.27
	2	0.15	0.16
	3	0.12	0.13
	4	0.12	0.14
	5	0.14	0.16
	6	0.17	0.18
19 to 23	1	0.12	0.13
	2	0.12	0.14
	3	0.12	0.14
	4	0.14	0.16
	5	0.18	0.20
	6	0.22	0.25



8.2 For the purposes of SAP calculations, the energy used by the fan may be taken as counterbalancing the effect of using slightly warmer air from the loft space compared with outside.

8.3 Reasonable provision should be made to ensure that the owner/occupier of the building is provided with sufficient information about the products so that they can be operated and maintained to maximise their potential for the conservation of fuel and power.

8.4 It is essential to minimise any circulation of air from the dwelling to the roof space by ensuring the ceiling is airtight.

## 9 Provision of an electrical supply and electrical safety

9.1 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.

9.2 The systems 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.

9.3 In England and Wales, all installations must meet the requirements of The Building Regulations 2000 (as amended) (England and Wales), 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 persons scheme for electrical work, using materials suitable for the purpose.

9.4 In Scotland, to meet the requirements of Mandatory Standard 4.5, with reference to clause 4.5.1<sup>(1)</sup> of The Building (Scotland) Regulations 2004 (as amended), all installations should be designed, constructed and tested such that they are in accordance with the requirements of BS 7671 : 2008.

(1) Technical Handbook – (Domestic).

## 10 Maintenance



10.1 The units are fitted with the large, low maintenance filters, these should be replaced every five years under normal operating conditions.

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

10.3 When the aluminium diffuser is used, a durable notice is attached to the fan unit containing information on the maintenance of the intumescent closure elements.

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

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

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

## 11 Durability



11.1 The fan unit case and diffusers are constructed of durable materials. They will have a life equal to that of the dwelling in which they are installed.

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

## Installation

### 12 General

12.1 Installation of the unit should be in accordance with the manufacturer's instructions provided with each unit (see also section 9).

12.2 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 two of the three blanking strips supplied) to encourage air through the open sides that have at least one metre of unobstructed area.

12.3 An open side of the diffuser must not be placed within one metre of a smoke alarm. If the diffuser cannot be repositioned, three sides of the diffuser must be closed off using the blanking strips supplied to encourage air through the remaining open side that faces at least 1.5 metres of unobstructed area away from the smoke alarm sensor. A smoke alarm may be fitted directly onto the underside of the diffuser.

12.4 In installations in dwellings with a floor over 4.5 m above ground level, smoke sensors must be installed in the vicinity of the diffuser and must be wired to shut down the fan if smoke is detected.

### 13 Procedure

13.1 A hole for the diffuser is cut in the ceiling (225 mm in diameter), between two convenient joists. The diffuser base may be fitted from below and fixed using the screws provided. The diffuser cover is fitted onto the cover and fixed with two screws.

13.2 The fan unit should be mounted in the loft space at a minimum distance of 800 mm from the diffuser and the flexible ducting should be connected without stretching.

13.3 If the fan unit is to be mounted directly onto the joists, two battens (50 mm by 25 mm) are cut long enough to span between two joists and, with the resilient mountings that can be supplied on request, the unit is fixed to the joists, ensuring that the fixings are not over tightened. The fan unit should be fixed centrally to the battens.

13.4 The fan unit may also be suspended from the roof structure, using the suspension kit supplied, in accordance with the Certificate holder's instructions.

13.5 The flexible ducting is factory fitted to the fan unit (it can be easily disconnected on site if required) and is connected to the diffuser spigot on site using the tie band supplied. All duct joints should be made airtight.

13.6 The fan unit must be connected to a suitable electrical supply by the three-core flying lead, through the isolating spur.

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

13.8 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.

13.9 The unit should be checked for correct operation.

13.10 The sensor of the Drimaster 2000 and Drimaster 2000 3S should be located in a suitable area convenient for temperature sensing and reading.

## Technical Investigations

### 14 Tests

Tests were carried out by the manufacturer on Drimaster, Drimaster 3S, Drimaster 2000 and Drimaster 2000 3S Systems to determine:

- outlet noise to BS 848-2.2 : 2004
- fan performance to BS 848-1 : 2007.

### 15 Investigations

15.1 The performance in use was examined by a survey of users of the systems.

15.2 The procedures and equipment of the manufacturer's test laboratory were examined and found to be satisfactory.

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

15.4 The unit's performance in use was assessed by computer modelling and evaluation of an external investigation carried out by BRE.

## Additional information

The Drimaster, Drimaster 3S, Drimaster 2000 and Drimaster 2000 3S Systems are positive input ventilation systems and the use of such systems is detailed in *Positive pressurisation : a BRE guide to radon remedial measures in existing dwellings*. The BBA has not assessed the units in respect of radon mitigation.



## Bibliography

BS 848-1 : 2007 *Industrial fans — Performance testing using standardized airways*

BS 848-2.2 : 2004 *Industrial fans — Determination of fan sound power levels under standardized laboratory conditions — Part 2: Reverberant room method*

BS 5250 : 2002 *Code of practice for control of condensation in buildings*

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

BS 7671 : 2008 *Requirements for electrical installations. IEE Wiring Regulations. Seventeenth Edition*

## 16 Conditions

16.1 This Certificate:

- relates only to the product/system that is named and described on the front page
- is granted only to the company, firm or person named on the front page — no other company, firm or person may hold or claim any entitlement to this Certificate
- 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.

16.2 References in this Certificate to any Act of Parliament, Statutory Instrument, Directive or Regulation of the European Union, British, European or International Standard, Code of Practice, manufacturers' instructions or similar publication, are references to such publication in the form in which it was current at the date of this Certificate.

16.3 This Certificate will remain valid for an unlimited period provided that the product/system and the manufacture and/or fabrication including all related and relevant 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.

16.4 In granting this Certificate, the BBA is not responsible for:

- 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
- individual installations of the product/system, including the nature, design, methods and workmanship of or related to the installation
- the actual works in which the product/system is installed, used and maintained, including the nature, design, methods and workmanship of such works.

16.5 Any information relating to the manufacture, supply, installation, use and maintenance 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 and maintained. It does 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; 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. 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 manufacture, supply, installation, use and maintenance of this product/system.



