



Hunter Plastics Ltd

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**Agrement
Certificate
No 86/1737**
Second issue*

Designated by Government
to issue
European Technical
Approvals

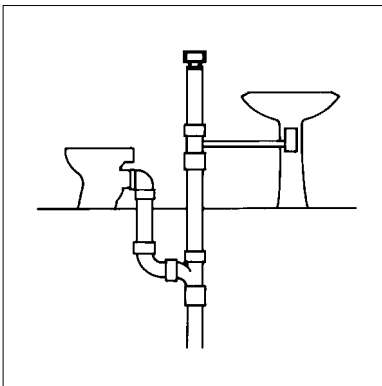
HUNTER NOUVEAU AIR ADMITTANCE VALVE AND HUNTER ANTI-SIPHON UNIT

Vanne d'adduction d'air
Luft Zulassung Ventil

Product


• *THIS CERTIFICATE REPLACES CERTIFICATE No 83/1066 AND RELATES TO THE HUNTER NOUVEAU AIR ADMITTANCE VALVE AND HUNTER ANTI-SIPHON UNIT, FOR ABOVE-GROUND DRAINAGE SYSTEMS.*

- *The products are for use within buildings in above-ground drainage systems designed in accordance with this Certificate.*
- *The valve and unit provide a means of ventilation to the drainage system to prevent the loss of water seals in traps and consequent release of foul air into the building.*
- *The drainage systems and the installation and use of the products must be in accordance with the conditions set out in the Design Data and Installation parts of this Certificate.*




Building Regulations

1 The Building Regulations 1991 (as amended) (England and Wales)

 The Secretary of State has agreed with the British Board of Agrément the requirements of the Building Regulations to which air admittance valves can contribute in achieving compliance. In the opinion of the BBA, Hunter Nouveau Air Admittance Valve and Hunter Anti-Siphon Unit, used in accordance with the provisions of this Certificate, will contribute to meeting the relevant requirements.


Requirement:	H1(1)	Foul water drainage
Comment:	The products will: <ol style="list-style-type: none"> (1) provide adequate ventilation to prevent the loss of water seals in trapped appliances. See sections 6.1, 7.1 to 7.3, 7.8 to 7.10, 8.1 and 8.2 of this Certificate. (2) prevent foul air from entering the building. See section 8.2 of this Certificate. (3) enable access to the sanitary pipework for clearing blockages. See section 7.1 of this Certificate. (4) contribute to the ventilation of underground drains. See sections 7.2 and 7.3 of this Certificate. 	
Requirement:	Regulation 7	Materials and workmanship
Comment:	The products are acceptable.	

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

 In the opinion of the BBA, Hunter Nouveau Air Admittance Valve and Hunter Anti-Siphon Unit, if used in accordance with the provisions of this Certificate, will satisfy the various Regulations as listed below.

Regulation:	10	Fitness of materials
Standards:	B2.1-B2.2	Selection and use of materials, components and other manufactured products
Comment:	The products are acceptable.	
Regulation:	24	Drainage and sanitary facilities
Standard:	M2.2	Drainage system
Comment:	The products can meet the relevant requirements of this Standard. See sections 6.1, 7.1 to 7.3, 7.8, 7.9, 8.1 and 8.2 of this Certificate.	

3 The Building Regulations (Northern Ireland) 1994 (as amended)

 In the opinion of the BBA, Hunter Nouveau Air Admittance Valve and Hunter Anti-Siphon Unit, if used in accordance with the provisions of this Certificate, will satisfy the various Building Regulations as listed below.

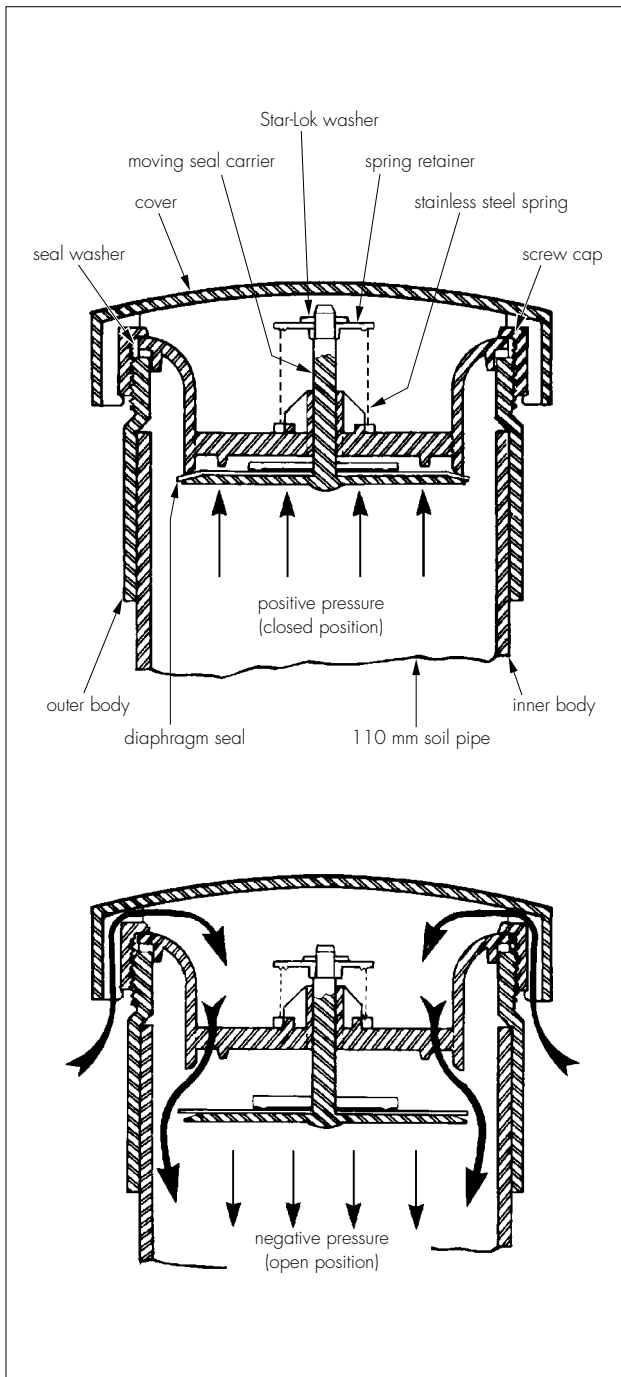
Regulation:	B2	Fitness of materials and workmanship
Comment:	The products are acceptable.	
Regulation:	N2	Drainage systems
Comment:	The valves provide adequate ventilation to prevent the destruction of the water seals in traps. See sections 6.1, 7.1 to 7.3, 7.8, 7.9, 8.1 and 8.2 of this Certificate.	

Technical Specification

4 Description

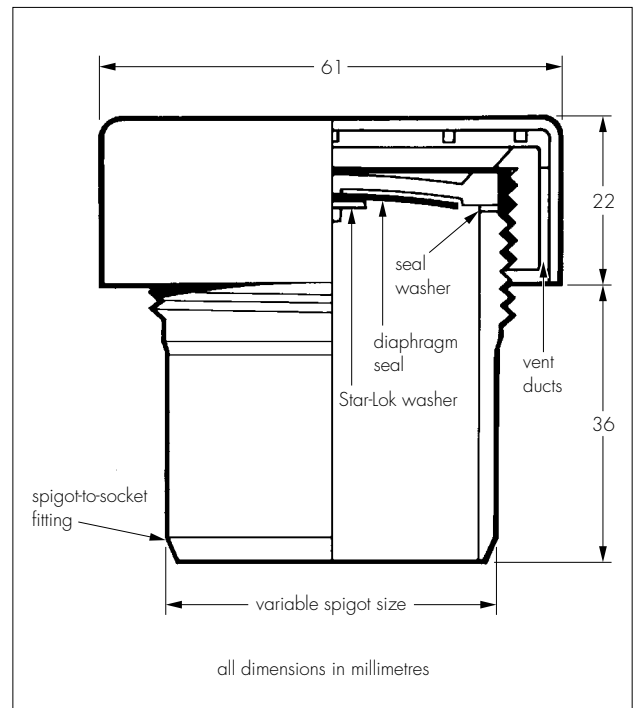
4.1 The Nouveau Air Admittance Valve comprises a two-part acrylonitrile-butadiene-styrene (ABS) inner body, seal carrier, spring retainer and cover, an unplasticized polyvinyl chloride (PVC-U) outer body and screw cap, a neoprene diaphragm seal to BS 2752 : 1990, a nitrile seal washer to BS 2494 : 1990, a stainless steel spring and a stainless steel Star-Lok washer (see Figure 1).

Figure 1 Hunter Nouveau Air Admittance Valve



4.2 The Hunter Anti-Siphon Unit comprises an ABS seal carrier, cover, body and screw cap, a nitrile diaphragm and washer to BS 2494 : 1990, and a stainless steel Star-Lok washer (see Figure 2).

Figure 2 Hunter Anti-Siphon Unit



4.3 The Nouveau Air Admittance Valve incorporates a socket for solvent welding to 110 mm PVC-U soil pipe to BS 4514 : 1983, or a 110 mm diameter spigot for connection to 110 mm socket to BS 4514 : 1983.

4.4 With the use of an appropriate adaptor to BS 4514 : 1983 the Hunter Nouveau Air Admittance Valve can be connected to other materials (eg cast iron).

4.5 The Anti-Siphon Units are available in five spigot outlet sizes to connect to either 32 mm or 40 mm waste systems to BS 5255 : 1989 or 32 mm, 40 mm and 50 mm metric waste pipe systems.

4.6 The ABS and PVC-U parts are manufactured by injection moulding.

4.7 The diaphragm seals, seal washer, stainless steel Star-Lok washers and springs are bought in.

4.8 Continuous quality control is carried out during manufacture and assembly of the valves and units, including visual checks, checks on dimensional accuracy, airtightness and stress relief. At hourly intervals the ABS components of the Hunter Nouveau Air Admittance Valve are assembled and checked for freedom of rotation and flatness. The raw materials and bought-in components are also subject to quality control checks.

5 Delivery and site handling

5.1 The manufacturer's emblem and the BBA identification mark incorporating the number of this Certificate are printed on the cover of each Hunter Nouveau Air Admittance Valve.

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5.2 The valves are individually packed in plastic bags or cardboard boxes and should remain stored upright and so protected until they are required for use.

5.3 The manufacturer's emblem and the BBA identification mark incorporating the number of this Certificate are printed on the cover of each Hunter Anti-Siphon Unit.

5.4 The units are packed in a plastic bag. Each bag carries a label bearing the BBA identification mark incorporating the number of this Certificate.

Design Data

6 General

6.1 When used in accordance with the provisions of this Certificate in above-ground drainage systems designed in accordance with BS 5572 : 1994, the valves:

(a) admit air under conditions of reduced pressure in the discharge pipes and prevent water seals in traps from being drawn

(b) prevent the release of foul air from the drainage system, and

(c) contribute to the ventilation of the main drain to which the discharge stack incorporating the valve is connected.

6.2 The Hunter Nouveau Air Admittance Valve is for use on discharge stacks serving up to five storeys.

6.3 The Hunter Anti-Siphon Unit is for use on branch discharge pipes.

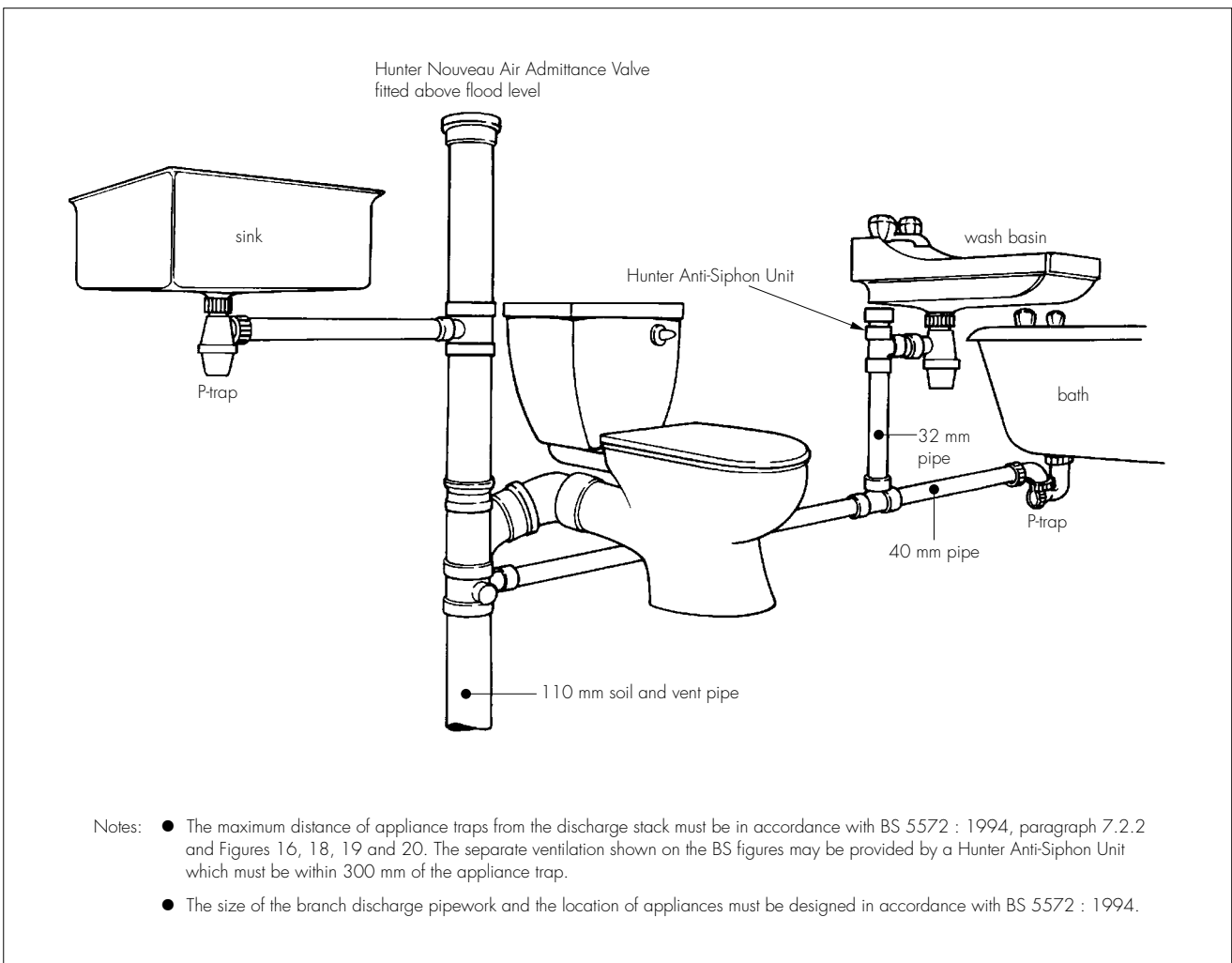
6.4 The valve and unit are for use in association with each other or separately.

7 Drainage system design

7.1 The following above-ground drainage systems, designed in accordance with BS 5572 : 1994 and incorporating Hunter valves and units, have been assessed as satisfactory:

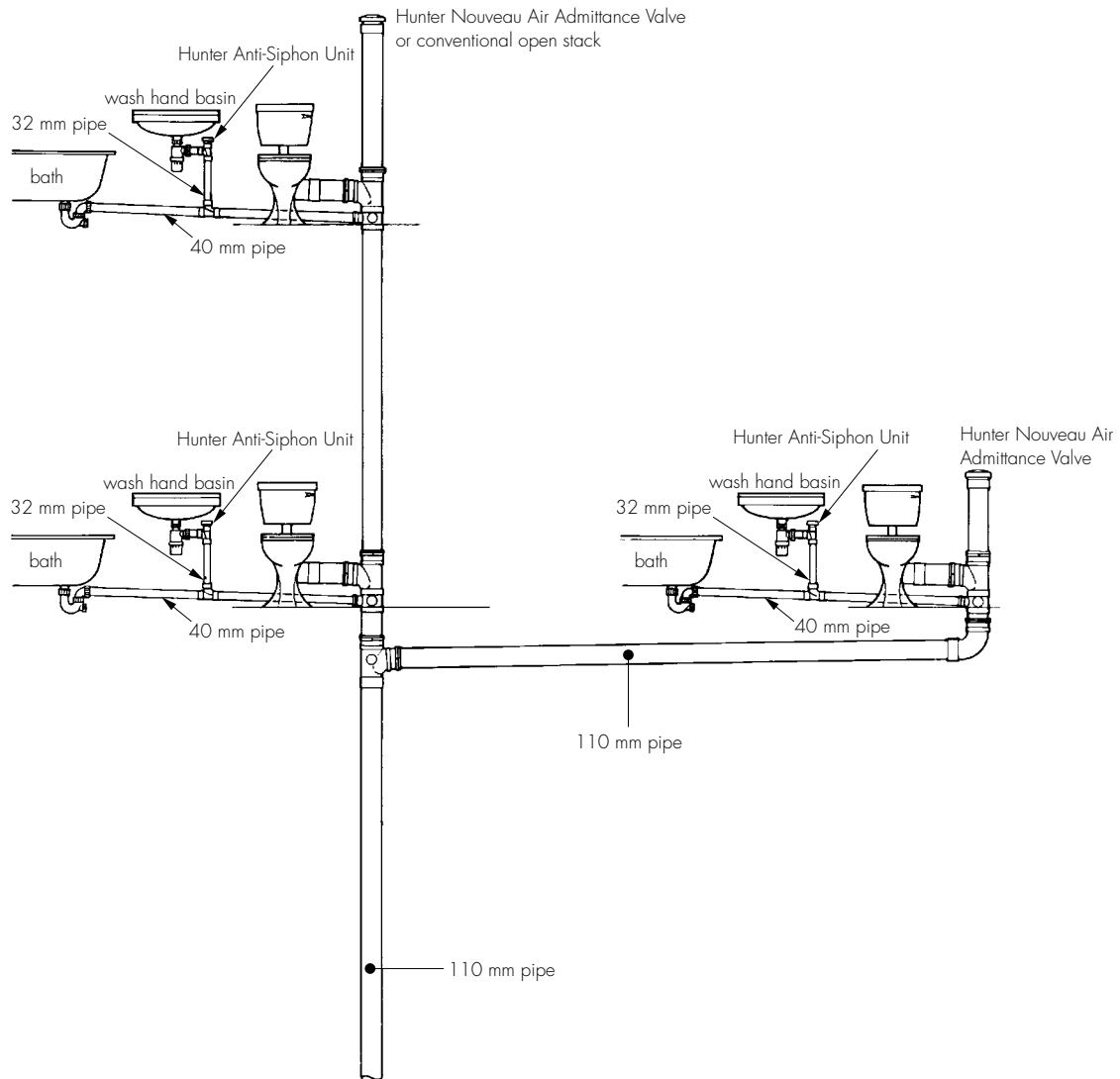
(a) Domestic buildings (eg bungalows, houses, multi-storey flats, halls of residence) — satisfactory drainage systems incorporating the valves and units are shown in Figures 3, 4 and 5.

Figure 3 Typical domestic installation



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Figure 4 Typical layout using Hunter Nouveau Air Admittance Valve and Hunter Anti-Siphon Unit on a 110 mm branch line



- Notes:
- Maximum of two groups of appliances per floor.
 - A group of appliances consists of one wc, one wash basin, one sink and one bath (and/or shower).
 - The maximum distance of appliance traps from the discharge stack must be in accordance with BS 5572 : 1994, paragraph 7.2.2 and Figures 16, 18, 19 and 20. The separate ventilation shown on the BS figures may be provided by a Hunter Anti-Siphon Unit which must be within 300 mm of the appliance trap.
 - The size of the branch discharge pipework and the location of appliances must be designed in accordance with BS 5572 : 1994.

Figure 5 Domestic discharge system

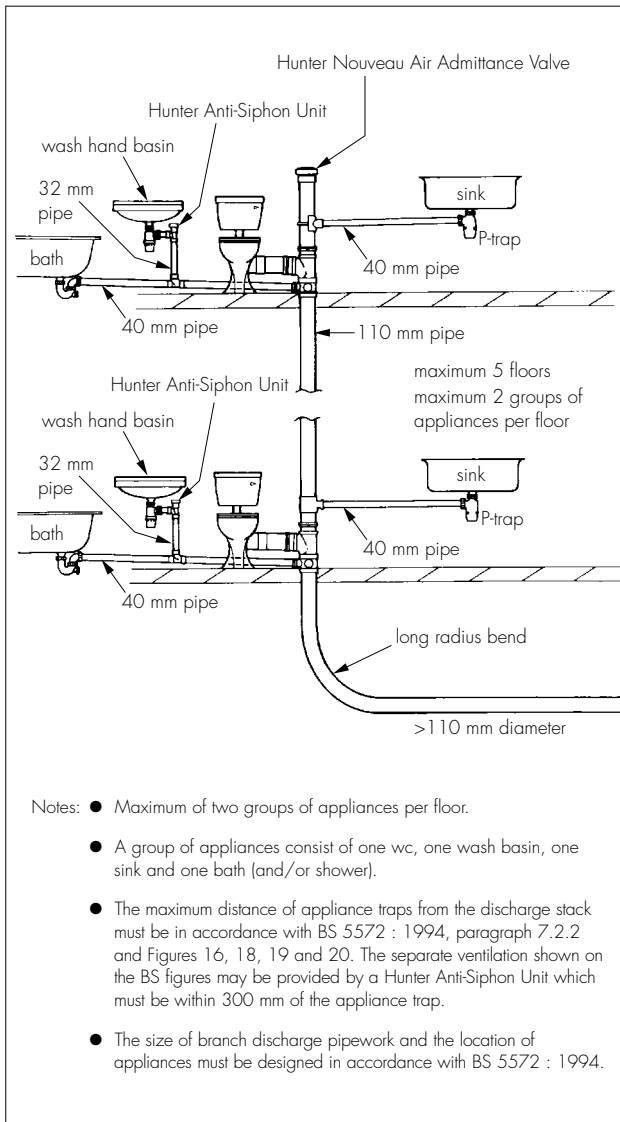
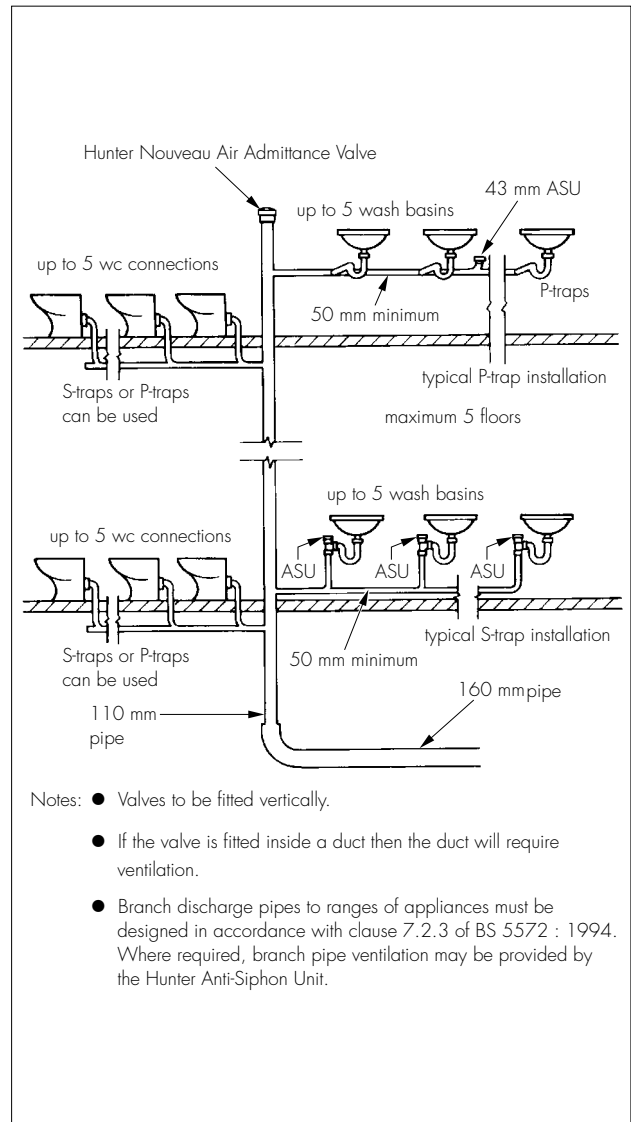
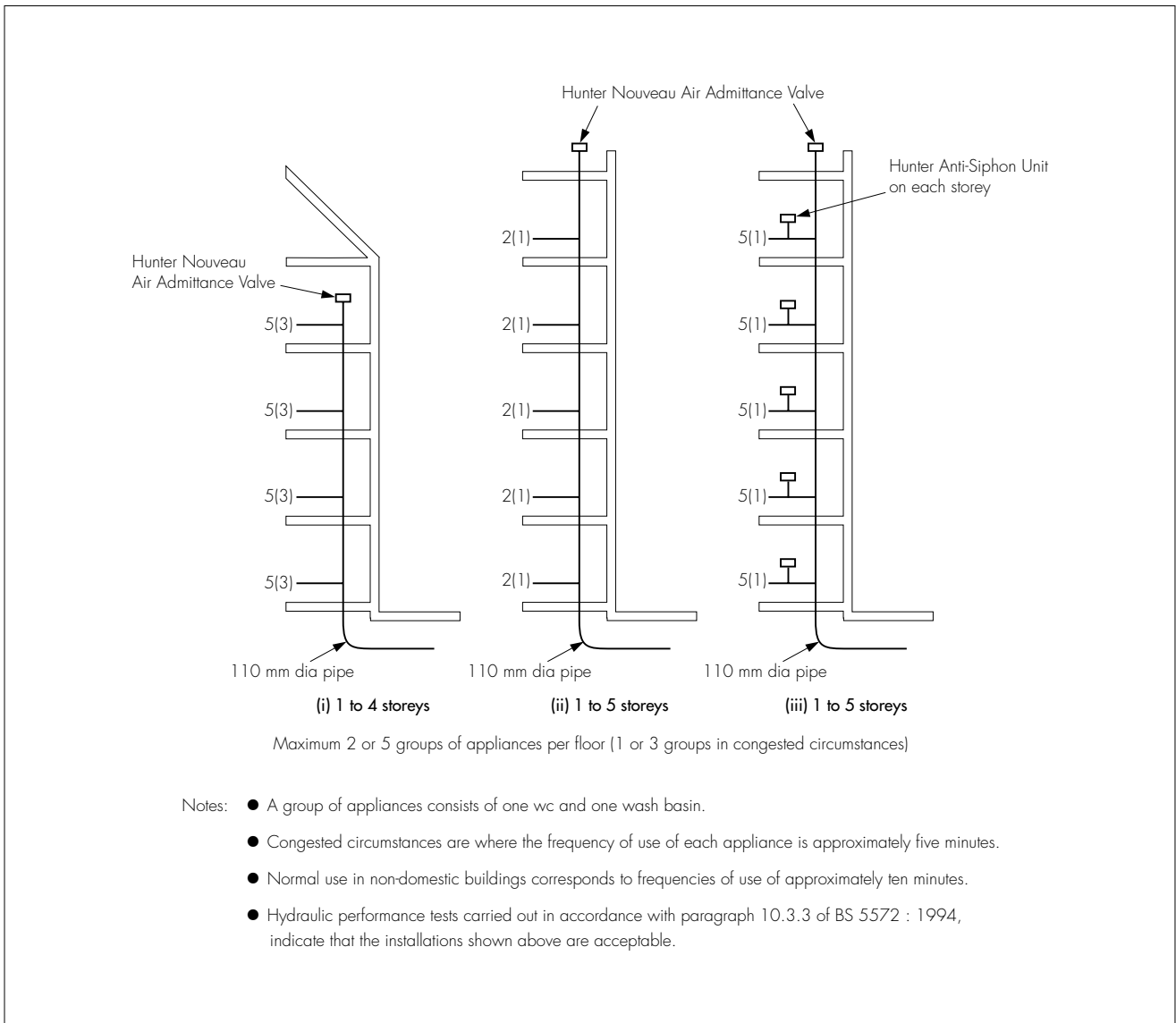


Figure 6 Commercial and public discharge system




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Figure 7 Permitted number of appliances in non-domestic buildings (eg offices, factories, schools and other types of public buildings)



(b) Non-domestic buildings (eg offices, factories, schools and other types of public buildings) — satisfactory drainage systems incorporating the valves and units are shown in Figures 6 and 7.

Note: In each case referred to, different combinations of sanitary fittings are permissible, provided the siphonage effects occurring within the systems are not made more onerous. Where individual appliances are liable to self-siphonage (eg S-trap connections), venting with an additional Hunter Anti-Siphon Unit may be required.

 7.2 The Nouveau Air Admittance Valve must be fitted in a vertical position above the flood level of the appliance being served.

7.3 To contribute to the ventilation of the underground drain and to minimise the effects of excessive back pressures when a drain blockage occurs, the branch or main drain serving a stack or

stacks fitted with Hunter valves and units may require venting at a point upstream of the stack connection. For guidance the following should be noted (see Figure 8):

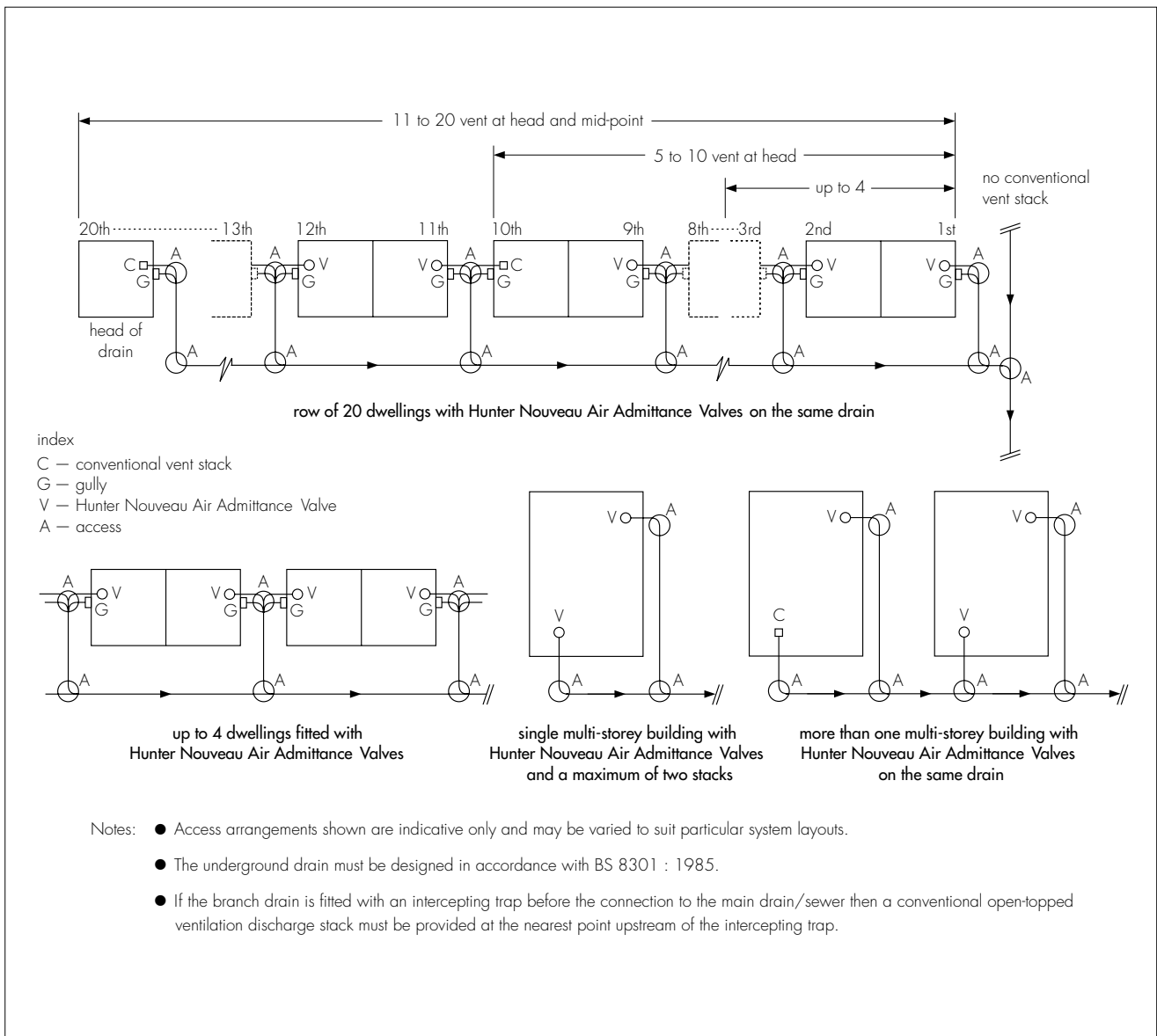
(a) For up to and including four dwellings, 1, 2, or 3 storeys in height, additional drain venting is not required. Where a drain serves more than four such dwellings equipped with the valve or unit, the drain should be vented according to the following rule, by either a conventional open-topped ventilation or a discharge stack:

5 to 10 such dwellings — conventional ventilation to be provided at the head of the system.

11 to 20 such dwellings — conventional ventilation to be provided at the mid-point and at the head of the system.

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Figure 8 Examples of drain ventilation provisions



(b) For multi-storey domestic dwellings (other than those referred to above) and non-domestic buildings, conventional drain venting should be provided if more than one such building, each equipped with the valves and units, is connected to a common drain which is not itself vented by means of a ventilation stack or a discharge stack not fitted with a valve or unit.

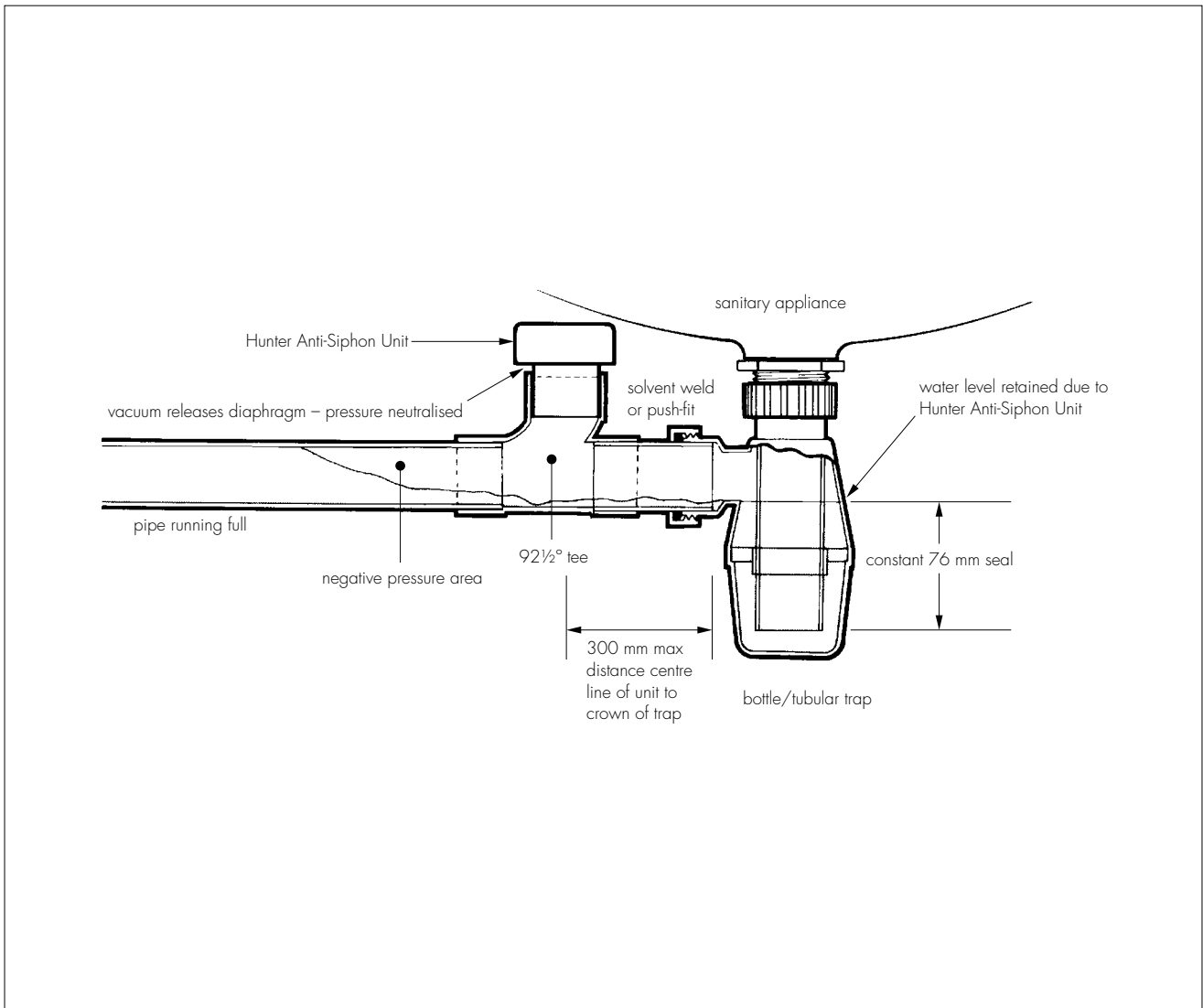
7.4 In installations other than as shown in Figure 8 stacks should not be fitted with the valves when the connecting drain(s) are subject to periodic surcharging or are fitted with intercepting traps. An open-topped discharge stack or ventilating stack should be used in such cases.


7.5 The valve should be installed within the building, preferably in a non-habitable space, such as a duct or roof, where there is no risk of freezing, and where it is easily accessible but not subject to interference by vandals.

7.6 If the valve is to be installed in, or in close proximity to, a habitable space where noise of operation may cause a nuisance, then consideration must be given to the use of a suitable form of sound insulation.


7.7 To prevent self-siphonage, a connection to the Hunter Anti-Siphon Unit is required within 300 mm of the trap (see Figure 9).

Figure 9 Typical installation of the Hunter Anti-Siphon Unit




 7.8 To prevent induced siphonage in a row of wash basins, a Hunter Anti-Siphon Unit should be fitted near the end of the branch remote from the discharge stack (see Figure 6).

7.9 The Anti-Siphon Unit must be fitted in a vertical position above the pipe being ventilated.

 7.10 Air admittance valves should not be used when the soil stack provides the only ventilation to septic tanks or cesspools.

8 Effect on water seals


 8.1 The valves will admit sufficient quantities of air into the stack when they are subjected to a reduced pressure and thereby prevent loss of the water seals in appliance traps.

8.2 Under conditions of increased pressure in the drainage system, each valve will remain closed,

thereby preventing the release of foul air into the building.

8.3 A pressure increase sufficient to raise the level in the water seal or to cause foul air to bubble up through the seal is an indication that a drain blockage has occurred or that the system is being overloaded or otherwise misused.

9 Durability

 Hunter valves and anti-siphon units are manufactured from materials conventionally used in drainage systems. Repeated opening and closing will not adversely affect the sealing or operation of the valve. When used in the context of this Certificate the product will not be subject to significant deterioration and will have a life equivalent to that of the drainage system in which it is installed.

10 Procedure

10.1 Installation must be carried out in accordance with the manufacturer's instructions for the products

10.2 The Hunter Nouveau Air Admittance Valve must be fitted to the top of the discharge stack above the over-spill level of the highest appliance. The 110 mm diameter spigot tail valve may be push fitted into ring seal sockets after applying Hunter's lubricant to the spigot tail, or solvent welded into PVC-U sockets. The 110 mm socket outlet is for solvent welding to PVC-U pipe.

10.3 The Hunter Anti-Siphon Units (code Nos W150 and W151) may be push fitted into 32 mm or 40 mm polypropylene ring seal sockets to BS 5255 : 1989 after applying Hunter's lubricant to the spigot tail. They may also be solvent welded into 32 mm or 40 mm ABS or MuPVC waste fittings to BS 5255 : 1989, using solvent cement conforming to BS 6209 : 1982.

The cementing procedure should follow the instructions on the Hunter solvent cement label. The 32 mm, 40 mm and 50 mm metric waste pipe sizes may be jointed to polypropylene on thermoplastic systems, using the methods described here.

10.4 Care must be taken in making solvent welded joints to prevent contamination of the moving parts.

11 Maintenance

11.1 The Hunter Nouveau Air Admittance Valve does not normally require maintenance. However, in the event of accidental damage or vandalism the cover can be unscrewed and the damaged component parts or the complete assembly replaced.

11.2 The Hunter Anti-Siphon Unit does not normally require maintenance. However, in the event of misuse, accidental damage or vandalism the cover can be removed and the diaphragm seal cleaned, or the complete assembly replaced if necessary.

Technical Investigations

The following is a summary of the technical investigations carried out on the Hunter Nouveau Air Admittance Valve and Hunter Anti-Siphon Unit.

12 Tests

Tests were carried out to determine:

- effect of pressure cycling
- performance in use on a stack when tested in accordance with BS 5572 : 1994
- airtightness under normal operating conditions
- airtightness when tested to pressures of 40 mm and 200 mm water gauge
- airtightness at low positive pressure
- reduced pressure required to open the valve
- watertightness under positive pressure
- effect on the seal depth of a bottle trap when fitted near an anti-siphon unit with the discharge pipe running full
- prevention of loss of trap seals due to induced and self-siphonage
- Vicat softening point to BS 2782 : Part 1 : Method 120B : 1976(1983)
- tensile strength
- Shore hardness of diaphragm seals
- dimension
- practicability of installation
- load test on the spring
- corrosion resistance of materials
- effects of impact drop test and correct functioning
- effect of repeated operation.

13 Other investigations

13.1 The manufacturing process was examined, including the methods adopted for quality control,

and details were obtained of the quality and composition of materials used.

13.2 An examination was made of data on induced siphonage.

13.3 A user survey was carried out to evaluate the performance in use.

13.4 No failures of the product have been reported to the BBA.

13.5 An examination was made on airflow capacity.

Bibliography

BS 2494 : 1990 *Specification for elastomeric seals for joints in pipework and pipelines*

BS 2752 : 1990(1997) *Specification for chloroprene rubber compounds*

BS 2782 *Methods of testing plastics*

Part 1 *Thermal properties*

Method 120B : 1990 *Determination of Vicat softening temperature of thermoplastics*

BS 4514 : 1983 *Specification for unplasticized PVC soil and ventilating pipes, fittings and accessories*

BS 5255 : 1989 *Specification for thermoplastics waste pipe and fittings*

BS 5572 : 1994 *Code of practice for sanitary pipework*

BS 6209 : 1982 *Specification for solvent cement for non-pressure thermoplastics pipe systems*

BS 8301 : 1985 *Code of practice for building drainage*

Conditions of Certification

14 Conditions

14.1 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.

14.2 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.

14.3 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.

14.4 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.

14.5 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, Hunter Nouveau Air Admittance Valve and Hunter Anti-Siphon Unit are fit for their intended use provided they are installed, used and maintained as set out in this Certificate. Certificate No 86/1737 is accordingly awarded to Hunter Plastics Ltd.

On behalf of the British Board of Agrément

A handwritten signature in black ink, appearing to read 'P. C. Newstead', is written over a light grey background.

Date of Second issue: 24th November 1998

Director

**Original Certificate issued to Hunter Building Products Ltd on 15th September 1986. This amended version includes change of Certificate holder's name, addition of spigot connector to range, reference to revised Building Regulations and associated text, revised British Standards and Conditions of Certification, and addition of Bibliography.*

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British Board of Agrément

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