



## Saniflo Ltd

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**Agrément  
Certificate  
No 95/3194**

Designated by Government  
to issue  
European Technical  
Approvals

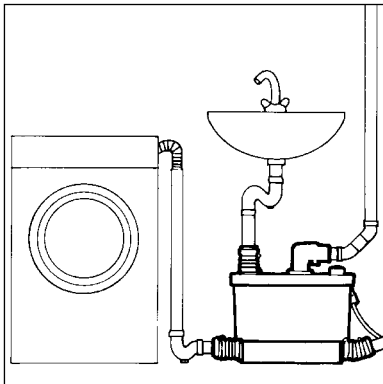
## SANIFLO SMALL BORE SANITARY PUMPING SYSTEMS

Système sanitaire de pompage  
Sanitare Pumpanlage

### Product


• *THIS CERTIFICATE RELATES TO THE SANIFLO SMALL BORE SANITARY PUMPING SYSTEMS.*

- *The systems dispose of wastewater from sanitary appliances through small bore pipework to a gravity drain.*
- *A gravity drain must be within pumping distance of the system.*
- *It is essential that the systems are installed in accordance with the relevant Detail Sheet.*




## Regulations and Water Byelaws — Detail Sheet 1

### 1 The Building Regulations 1991 (as amended 1994) (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 small bore sanitary pumping systems with the Building Regulations. In the opinion of the BBA, Saniflo Small Bore Sanitary Pumping Systems, if used in accordance with the provisions of this Certificate, will meet the relevant requirements.


Requirement:	G1	Sanitary conveniences and washing facilities
Comment:		The requirements of this Regulation can be met by the installation of the systems subject to discharging directly to a gravity system. See the relevant sections of the accompanying Detail Sheets.
Requirement:	H1(1)	Foul water drainage
Comment:		The systems are acceptable. They will convey the wastewater and minimise the risk of blockage or leakage. See the relevant sections of the accompanying Detail Sheets.
Requirement:	Regulation 7	Materials and workmanship
Comment:		The systems are acceptable. See the relevant sections of the accompanying Detail Sheets.

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

 In the opinion of the BBA, Saniflo Small Bore Sanitary Pumping Systems, if used in accordance with the provisions of this Certificate, will satisfy or contribute to satisfying the various Regulations and Technical Standards as listed below.

Regulation:	10	Fitness of materials
Standard:	B2.1	Selection and use of materials and components
Comment:		The systems comply with the requirements of this Standard. See the relevant sections of the accompanying Detail Sheets.
Regulations:	24 and 25	Drainage and sanitary facilities
Standard:	M2.1	Drainage system
Comment:		The systems can contribute to meeting these requirements subject to discharging directly to a gravity system. See the relevant sections of the accompanying Detail Sheets.
Regulation:	26	Electrical installations
Standard:	N2.1	Electrical installations
Comment:		The systems are acceptable.

### 3 The Building Regulations (Northern Ireland) 1994

 In the opinion of the BBA, Saniflo Small Bore Sanitary Pumping Systems, 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 systems are acceptable. See the relevant sections of the accompanying Detail Sheets.
Regulation:	N3	Sanitary pipework
Comment:		Correctly designed pipework, incorporating the systems, will meet the requirements of this Regulation. See the relevant sections of the accompanying Detail Sheets.

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Regulation: P2

Provision of sanitary appliances

Comment:

The systems can meet the relevant requirements of this Regulation subject to discharging directly to a gravity system. See the relevant sections of the accompanying Detail Sheets.

Regulation: P3

Sanitary appliances

Comment:

The systems meet the requirements of this Regulation. See the relevant sections of the accompanying Detail Sheets.

## 4 Water Byelaws England, Wales and Scotland and Water Regulations Northern Ireland

### England and Wales

The products satisfy the current requirements of the Water Byelaws.

### Scotland

The products satisfy the Water Byelaws issued by the Water Authorities.

### Northern Ireland

The products satisfy the Water Regulations (Northern Ireland) 1991.

## Conditions of Certification

### 5 Conditions

5.1 Where reference is made in this Certificate to any Act of Parliament, Regulation made thereunder, Statutory Instrument, Code of Practice, British Standard, manufacturer's instruction or similar publication, it shall be construed as reference to such publication in the form in which it is in force at the date of this Certificate.

5.2 The quality of materials and the method of manufacture have been examined and found satisfactory by the BBA and must be maintained to this standard during the period of validity of this Certificate. This Certificate will remain valid for an unlimited period provided:

- (a) the specification of the product is unchanged; and
- (b) the manufacturer continues to have the product checked by the BBA.

5.3 This Certificate will apply only to the product that is installed, used and maintained as set out in this Certificate.

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

(a) the presence or absence of patent or similar rights subsisting in the product; and

(b) the legal right of Saniflo Ltd to market, install or maintain the product; and

(c) the nature of individual installations of the product, including methods and workmanship.

5.5 It should be noted that any recommendations relating to the safe use 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 or Common Law Duties of care, or of any duty of care which 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 or Common law duties 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 use of this product.



In the opinion of the British Board of Agrément, Saniflo Small Bore Sanitary Pumping Systems are fit for their intended use provided they are installed, used and maintained as set out in this Certificate. Certificate No 95/3194 is accordingly awarded to Saniflo Ltd.

On behalf of the British Board of Agrément

Date of issue: 16th November 1995

Director



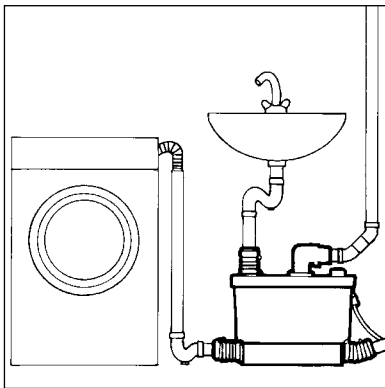
Saniflo Ltd

Certificate No 95/3194

## SANIVITE SMALL BORE SANITARY PUMPING SYSTEM

**DETAIL SHEET 2**

### Product



- THIS DETAIL SHEET RELATES TO THE SANIVITE SMALL BORE SANITARY PUMPING SYSTEM.
- The system disposes of wastewater from a wash-basin, domestic automatic washing machine and dish washing machine.
- The Sanivite unit pumps the wastewater through 40 mm diameter pipework to a gravity drain discharge stack.
- Wastewater can be pumped vertically upwards (maximum working head 3.5 metres) or horizontally (maximum 40 metres). See sections 3.4 and 3.5.
- It is essential that the system is installed in accordance with the conditions set out in this Detail Sheet.
- The product is manufactured in France by Société Française d'Assainissement and marketed in the United Kingdom by Saniflo Ltd.

### Technical Specification

#### 1 Description

1.1 The Sanivite unit is a pump device contained in a polypropylene housing and comprises the external components shown in Figure 1.

1.2 The Sanivite unit incorporates a 40 mm diameter outlet spigot and four 40 mm diameter inlet spigot connections. Where a wash-basin is used it should be connected to the top inlet, whilst an automatic washing machine and a dishwasher can be connected to the bottom end inlets or the top inlets.

1.3 The 40 mm diameter outlet spigot incorporates a non-return valve and is supplied with a rubber 90° elbow connector with two worm-drive clips.

1.4 The two top inlet spigots are supplied factory sealed and the seals must be removed before connection. Both the bottom inlet connections incorporate a flap valve to prevent backflow from the unit. Flexible rubber connectors with two worm-drive clips are supplied for the connection points.

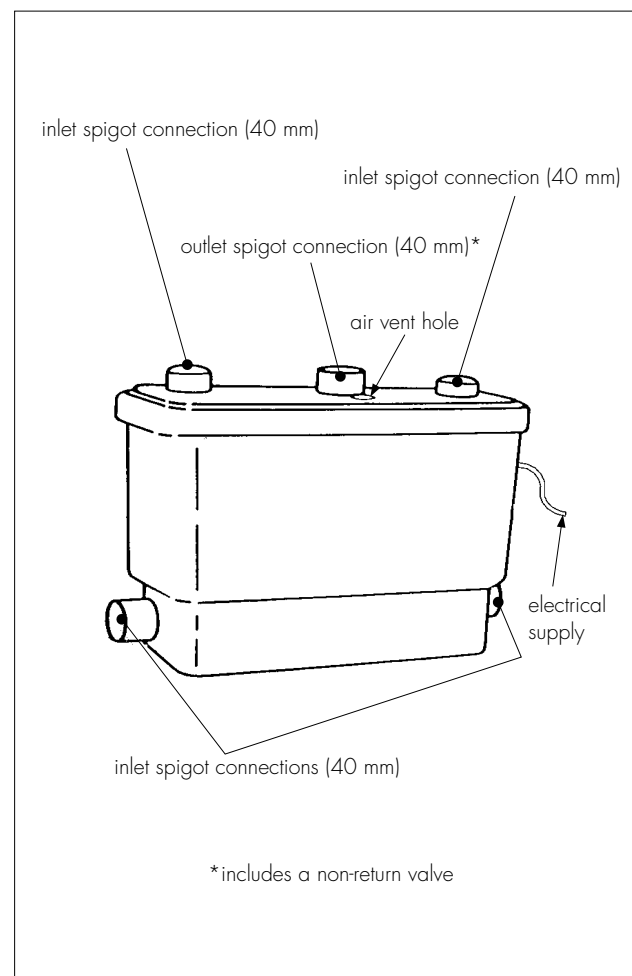
1.5 The electrical supply cable is for connection to an unswitched, fused (5 amp) outlet (240 volt), single phase domestic supply.

1.6 A microswitch in the pressure chamber is activated by the level of wastewater in the unit arising from the discharge from the wash-basin, the automatic washing machine or the dishwasher.

1.7 The Sanivite unit is assembled using the items bought in to Société Française d'Assainissement specification.

1.8 Quality control on each unit includes visual checks, check on correct operation of pressure microswitch and electric motor, and watertightness.

Figure 1 Sanivite unit



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## 2 Delivery

2.1 The Sanivite units are packaged in polystyrene containers and cardboard boxes. Each unit is supplied with a 90° rubber outlet elbow, three 40 mm flexible connectors, two covers (to blank-off unused inlets), and six worm-drive clips for on-site assembly.


2.2 Each Sanivite unit bears a Sanivite' label, a serial number, the name of the manufacturer, the name of the marketing company and the BBA identification mark incorporating the number of this Certificate.

## Design Data

## 3 General

3.1 The Sanivite Small Bore Sanitary Pumping System is suitable for disposing of wastewater from a wash-basin, domestic automatic washing machine and dishwasher with a maximum temperature of 70°C. When evaluated in accordance with BS 5572 : 1994 the unit is capable of disposing in excess of the peak flows associated with the use of the unit with this group of appliances. It should not be used with kitchen sink waste disposal units.

3.2 The wastewater discharged from the appliances must drain freely into the Sanivite unit through inlet pipes 40 mm diameter installed with a fall of at least 1 in 40.

 3.3 The pipe and fittings used in the discharge pipe from the Sanivite unit should have a nominal outside diameter of 40 mm and conform to BS 5254 : 1976 and BS 5255 : 1989. The discharge pipework should incorporate solvent weld joints, long radius bends and be adequately supported to prevent movement and vibration.

3.4 The Sanivite unit can be used to pump wastewater horizontally with a maximum working head of 40 metres, or vertically with a maximum working head of 3.5 metres. Horizontal pipe runs should be installed with a minimum fall of 1 in 200, and be supported at regular intervals to prevent sagging.

3.5 Only one vertical lift is permissible and this must be within 300 mm of the unit. If a horizontal run follows a vertical lift the maximum allowable length of pipe run can be calculated assuming the combinations of horizontal/vertical pipes in accordance with Figure 2.

3.6 The horizontal section of the discharge pipe can be considered as a conventional discharge pipe if the fall is increased to 1 in 40 to the discharge stack. In such cases the full vertical lift of 3.5 metres can be utilised without reduction of the horizontal run.

3.7 All pipework must be adequately insulated where freezing conditions (0°C or less) are likely to occur.

Figure 2 Horizontal run and vertical lift discharge pipe lengths



## 4 Strength

The Sanivite unit has adequate strength to withstand accidental and normal service loads.

## 5 Watertightness

The Sanivite system will remain watertight under conditions of hydrostatic pressure in excess of the normal operating conditions of 0.8 to 0.9 metre hydrostatic pressure head.

## 6 Resistance to chemicals

The parts of the Sanivite unit exposed to domestic wastewater have adequate resistance to those chemicals likely to be present.

## 7 Noise

The noise created by the operation of the Sanivite system is no more than that of a domestic washing machine or dishwasher.

## 8 Health

When correctly installed the system will not present a health hazard.

## 9 Ventilation

Ventilation of the Sanivite unit is not necessary since an adequate inflow of air occurs during each discharge of the appliance connected to the unit. The air vent hole in the top of the unit allows the hot air caused by hot water discharged through the unit to dissipate.

## 10 Electrical safety

The product has been tested to the relevant requirements of EN 60335 : Part 1 : 1988 and complies with SI 728 : 1989 Low Voltage Electrical Equipment (Safety) Regulations. The product does not present a safety hazard.

## 11 Maintenance

11.1 Saniflo Ltd operate a network of approved service engineers to repair/replace components in the Sanivite unit.

11.2 A build-up of grease or fat in the Sanivite unit may have to be cleaned out periodically, as with other drainage systems. The frequency will depend on the usage of the system.

## 12 Durability



12.1 The Sanivite system is manufactured from conventional materials and is fit for its intended use.

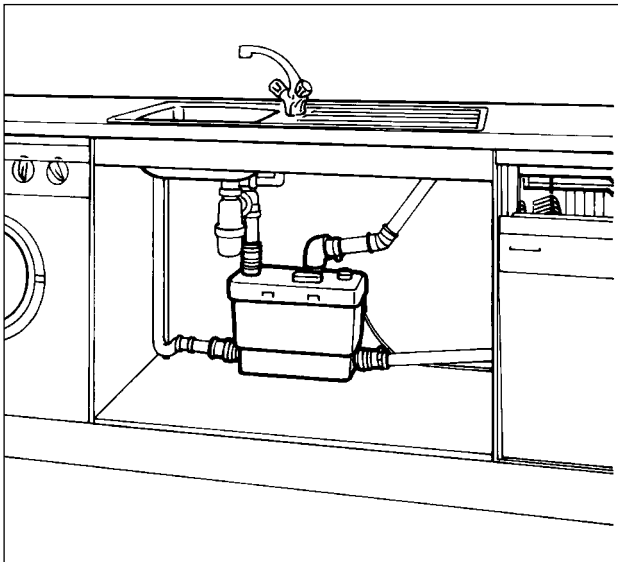
12.2 The Sanivite system, including the electrical components, is guaranteed for 24 months by Saniflo Ltd.

## Installation

### 13 General

13.1 The Sanivite Small Bore Sanitary Pumping System must be installed in accordance with the marketing company's installation instructions and the recommendations given in the *Design Data* part of this Certificate. (For suggested installation see Figure 3).

Figure 3 Typical Sanivite system installation



13.2 The system must be assembled in accordance with the manufacturer's instructions and positioned as required. When a top inlet connection is selected a fine-toothed saw should be used to carefully remove the factory seal.

13.3 The sanitary pipework from a wash-basin, domestic automatic washing machine and dish washing machine to the Sanivite unit, and where applicable the discharge pipework from the Sanivite unit, must be in accordance with BS 5572 : 1994.

13.4 The electrical wiring to the Sanivite unit must be installed in accordance with BS 7671 : 1992 to ensure safety.

## Technical Investigations

The following is a summary of the technical investigations carried out on the Sanivite Small Bore Sanitary Pumping System.

### 14 Tests

Tests were carried out to determine:

- accuracy of main unit dimensions
- resistance of unit to hydrostatic pressure head of 0.8 to 1.33 metres
- minimum volume of wastewater required for unit to operate (activator response)
- effect of 20000 operations, with discharge wastewater at 70°C on the motor assembly
- effect of simulated blockage in discharge pipework on the unit
- effect of simulated blockage of air vent on the unit
- pumping capability of unit:
  - effect of discharge at 70°C
  - effect of discharge at 99°C
  - effect of continuous discharge into unit from a wash-basin/sink
- electrical safety — tests by ETL Albury Laboratories, in accordance with EN 603355 : Part 1 : 1988 to comply with Low Voltage Electrical Equipment (Safety) Regulations : SI 728 : 1989.

### 15 Other investigations

15.1 An assessment was made of:

- suitability of materials used
- practicability of installation
- flow characteristics
- design of discharge pipework
- effectiveness of flap valves in unit
- impact resistance
- ease of cleaning.

15.2 The manufacturing processes were examined, including the methods adopted for quality control, and details were obtained of the quality and composition of the materials used.

## Bibliography

BS 5254 : 1976 *Specification for polypropylene waste pipe and fittings (external diameter 34.6 mm, 41.0 mm and 54.1 mm)*

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

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

BS 7671 : 1992 *Requirements for electrical installations. IEE Wiring Regulations. Sixteenth edition.*



On behalf of the British Board of Agrément

Date of issue: 16th November 1995

Director



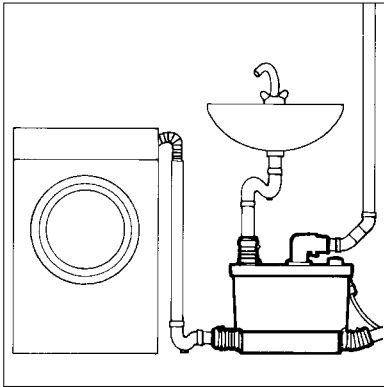
Saniflo Ltd

Certificate No 95/3194

DETAIL SHEET 3

## SANISHOWER SMALL BORE SANITARY PUMPING SYSTEM

### Product



- THIS DETAIL SHEET RELATES TO THE SANISHOWER SMALL BORE SANITARY PUMPING SYSTEM.
- The system disposes of wastewater from domestic showers and wash-basins.
- The Sanishower unit pumps the wastewater through 22 mm or 32 mm diameter pipework to a gravity drain discharge stack.
- Wastewater can be pumped vertically upwards (maximum working head 4 metres) or horizontally (maximum 50 metres). See sections 3.4 and 3.5.
- It is essential that the system is installed in accordance with the conditions set out in this Detail Sheet.
- The product is manufactured in France by Société Française d'Assainissement and marketed in the United Kingdom by Saniflo Ltd.

### Technical Specification

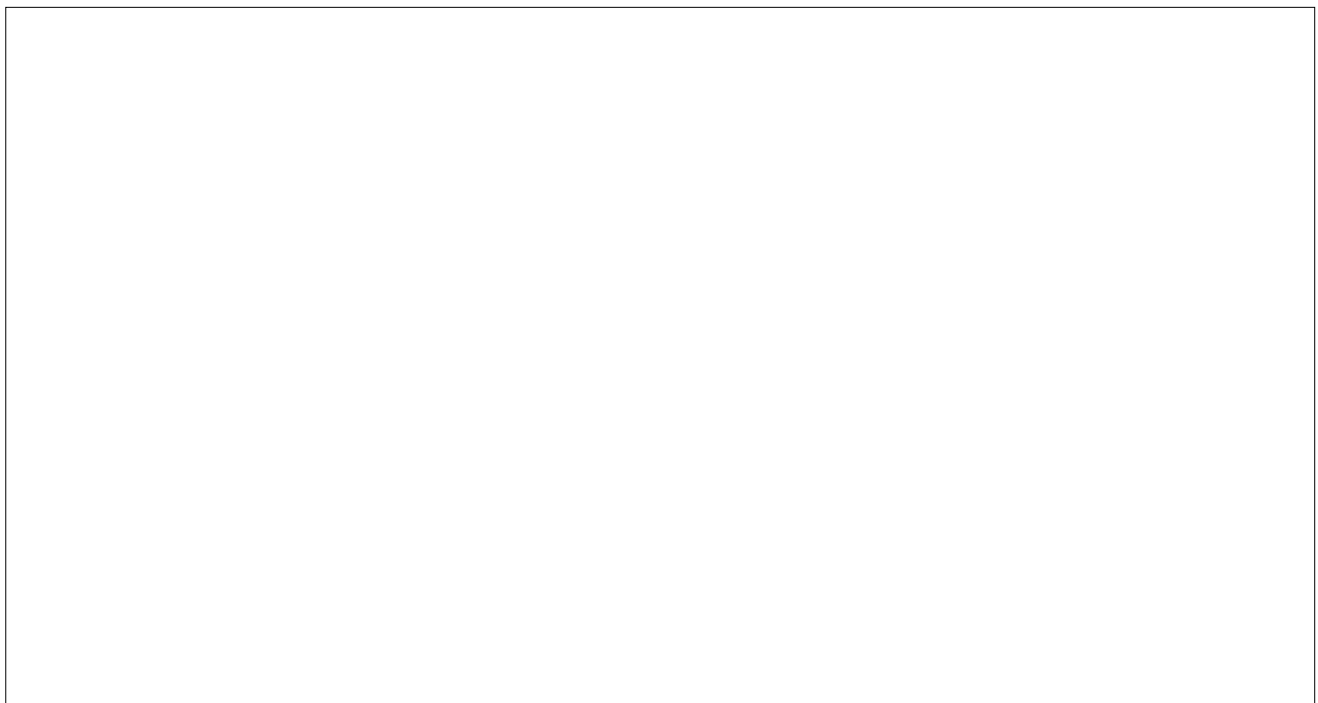
#### 1 Description

1.1 The Sanishower unit is a pump device contained in a polypropylene housing and comprises the external components shown in Figure 1.

1.2 The unit incorporates a 22 mm diameter outlet socket and two 40 mm diameter inlet spigot connections. Where a wash-basin is used it should be connected to the top inlet, whilst a shower is connected to the bottom inlet.

1.3 The 22 mm diameter outlet socket incorporates a non-return valve and is supplied with a rubber 90° elbow connector with two worm-drive clips.

Figure 1 Sanishower unit



1.4 Inlet connections incorporate a flap valve to prevent backflow from the unit. Flexible rubber connectors with two plastic clips are supplied for the connection points.

1.5 The electrical supply cable is for connection to an unswitched, fused (5 amp) outlet (240 volt), single phase domestic supply.

1.6 A microswitch in the pressure chamber is activated by the level of wastewater in the unit arising from the discharge from the wash-basin, or shower.

1.7 The Sanishower unit is assembled using the items bought in to Société Française d'Assainissement specification.

1.8 Quality control on each unit includes visual checks, check on correct operation of pressure switch and electric motor, and watertightness.

## 2 Delivery

2.1 The Sanishower units are packaged in polystyrene containers and cardboard boxes. Each unit is supplied with a 90° outlet elbow discharge pipe, a non-return valve, two 40 mm flexible connectors, one plug (to blank-off unused inlet), three worm-drive clips and two plastic clips for on-site assembly.

2.2 Each unit bears a Sanishower label, a serial number, the name of the manufacturer, the name of the marketing company and the BBA identification mark incorporating the number of this Certificate.

## Design Data

### 3 General

3.1 The Sanishower Small Bore Sanitary Pumping System is suitable for disposing of wastewater from a domestic shower and a wash-basin, with a maximum temperature of 45°C. When evaluated in accordance with BS 5572 : 1994 the unit is capable of disposing in excess of the peak flows associated with the use of the unit with this group of appliances.

3.2 The wastewater discharged from the appliances must drain freely into the Sanishower unit through inlet pipes 40 mm diameter installed with a fall from the shower tray which should be at least 60 mm above floor level.



3.3 The pipe and fittings used in the discharge pipe from the Sanishower unit should have a nominal outside diameter of:

22 mm copper pipe to BS EN 1057 : 1996  
22 mm plastic pipe<sup>(1)</sup> BSI kitemarked or the subject of a current Agrément Certificate  
or 32 mm plastic pipe to BS 5255 : 1989.

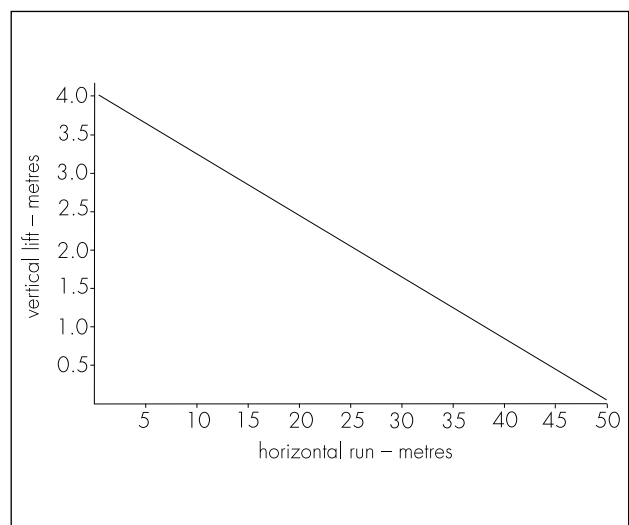
The discharge pipework should incorporate long radius bends where possible and be adequately supported to prevent movement and vibration.

(1) Suitable for these service conditions defined as class H or S to BS 7291 : Part 1 : 1990 with solvent weld or compression joints (demountable) provided the internal diameter of pipe is equivalent to that of 22 mm copper pipe.

3.4 The Sanishower unit can be used to pump wastewater horizontally with a maximum working head of 50 metres, or vertically with a maximum working head of four metres. Horizontal pipe runs should be installed with a minimum fall of 1 in 200, and be supported at regular intervals to prevent sagging.

3.5 Only one vertical lift is permissible and this must be within 300 mm of the unit. If a horizontal run follows a vertical lift the maximum allowable length of pipe run can be calculated assuming the combinations of horizontal/vertical pipes in accordance with Figure 2.

Figure 2 Horizontal run and vertical lift discharge pipe lengths



3.6 The horizontal section of the discharge pipe can be considered as a conventional discharge pipe if the fall is increased to 1 in 40 to the discharge stack. In such cases the full vertical lift of four metres can be utilised without reduction of the horizontal run.

3.7 All pipework must be adequately insulated where freezing conditions (0°C or less) are likely to occur.

### 4 Strength

The Sanishower unit has adequate strength to withstand accidental and normal service loads.

### 5 Watertightness

The Sanishower system will remain watertight under conditions of hydrostatic pressure in excess of the normal operating conditions of 0.8 metre to 0.9 metre hydrostatic pressure head.

## 6 Resistance to chemicals

The parts of the Sanishower unit exposed to domestic wastewater have adequate resistance to those chemicals likely to be present.

## 7 Noise

The noise created by the operation of the Sanishower system is no more than that of a domestic washing machine or dishwasher.

## 8 Health

When correctly installed the system will not present a health hazard.

## 9 Ventilation

Ventilation of the Sanishower unit is not necessary since an adequate inflow of air occurs during each discharge of the appliance connected to the unit. The air vent hole in the top of the unit allows the hot air caused by hot water discharged through the unit to dissipate.

## 10 Electrical safety

The product has been tested to the relevant requirements of EN 60335-1 : 1995 and complies with SI 728 : 1989 *Low Voltage Electrical Equipment (Safety) Regulations*. The product does not present a safety hazard.

## 11 Maintenance

11.1 Saniflo Ltd operate a network of approved service engineers to repair/replace components in the Sanishower unit.

11.2 A build-up of grease or fat in the unit may have to be cleaned out periodically, as with other drainage systems. The frequency will depend on the usage of the system.

## 12 Durability



12.1 The Sanishower system is manufactured from conventional materials and is fit for its intended use.

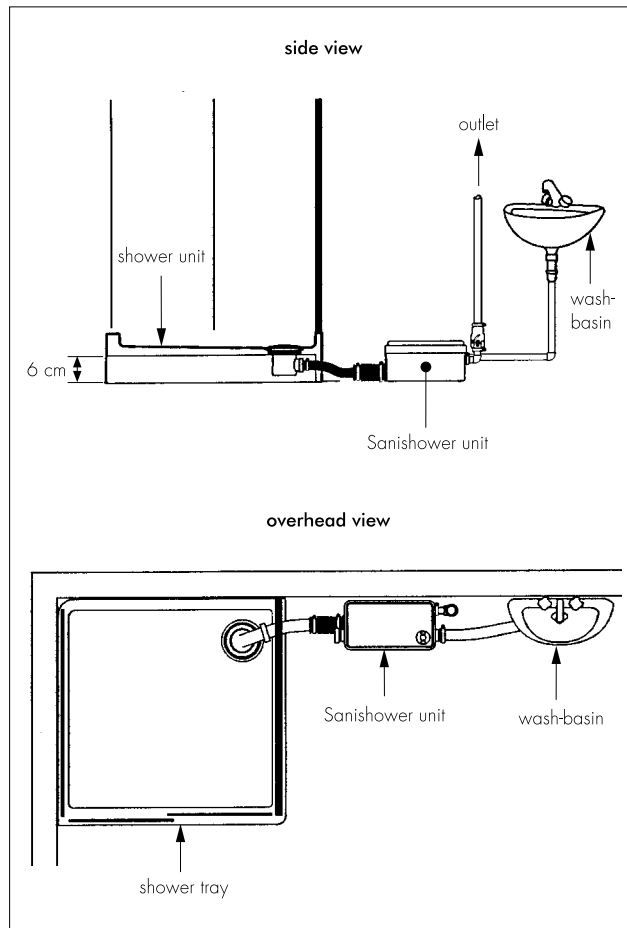
12.2 The system, including the electrical components, is guaranteed for 24 months by Saniflo Ltd.

## Installation

### 13 General

13.1 The Sanishower Small Bore Sanitary Pumping System must be installed in accordance with the marketing company's installation instructions and the recommendations given in the *Design Data* part of this Certificate. (For suggested installation see Figure 3).

Figure 3 Typical Sanishower system installation



13.2 The system must be assembled in accordance with the manufacturer's instructions and positioned as required. The higher inlet is for use with a wash-basin, whilst the lower inlet is for a shower discharge. If the higher inlet is not used it must be plugged with the plug provided.

13.3 The sanitary pipework from a wash-basin and shower to the Sanishower unit, and where applicable the discharge pipework from the Sanishower unit, must be in accordance with BS 5572 : 1994.

13.4 The electrical wiring to the unit must be installed in accordance with BS 7671 : 1992 to ensure safety.

## Technical Investigations

The following is a summary of the technical investigations carried out on the Sanishower Small Bore Sanitary Pumping System.

### 14 Tests

Tests were carried out to determine:  
accuracy of main unit dimensions  
resistance of unit to hydrostatic pressure head of 0.8 metres to 1.33 metres  
minimum volume of wastewater required for unit to operate (activator response)

effect of 20000 operations, with discharge wastewater at 41°C on the motor assembly  
effect of simulated blockage in discharge pipework on the unit  
effect of simulated blockage of air vent on the unit  
pumping capability of unit:  
effect of discharge at 65°C  
effect of continuous discharge into unit from a wash-basin/sink (50000 operations)  
electrical safety — tests in accordance with EN 60335-1 : 1995 to comply with *Low Voltage Electrical Equipment (Safety) Regulations* : SI 728 : 1989.

## 15 Other investigations

15.1 An assessment was made of:

suitability of materials used  
practicability of installation  
flow characteristics  
design of discharge pipework  
effectiveness of flap valves in unit  
impact resistance  
ease of cleaning.

15.2 The manufacturing processes were examined, including the methods adopted for quality control, and details were obtained of the quality and composition of the materials used.

## Bibliography

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

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

BS 7291 *Thermoplastics pipes and associated fittings for hot and cold water for domestic purposes and heating installations in buildings*  
Part 1 : 1990 *General requirements*

BS 7671 : 1992 *Requirements for electrical installations. IEE Wiring Regulations. Sixteenth edition*

BS EN 1057 : 1996 *Copper and copper alloys. Seamless, round copper tubes for water and gas in sanitary and heating applications*

EN 60335 *Specification for safety of household and similar electrical appliances*

EN 60335-1 : 1995 *General requirements*



On behalf of the British Board of Agrément

Date of issue: 17th August 1999

A handwritten signature in black ink, appearing to read 'P. C. Newson'.

Chief Executive