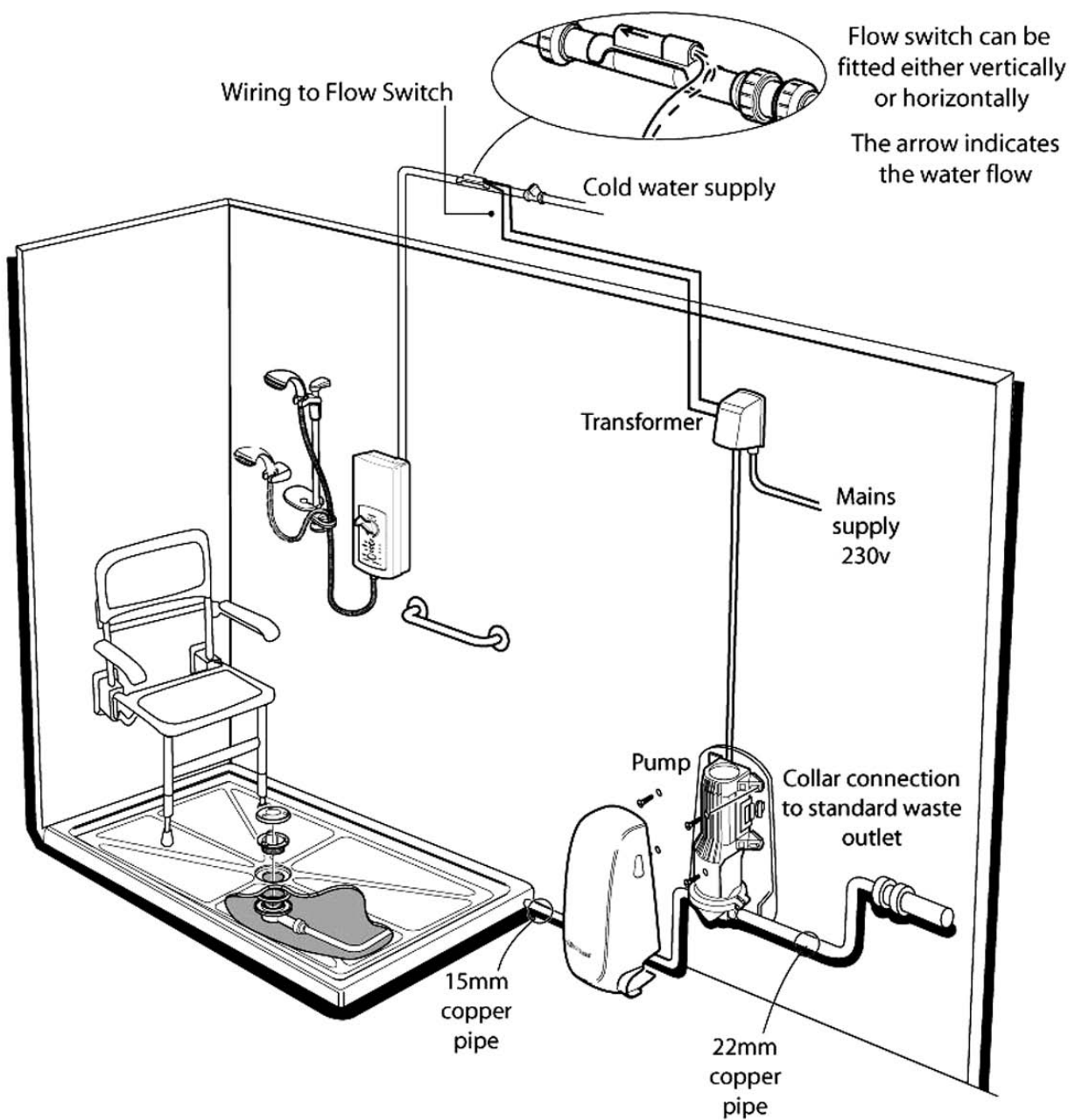


Automatic Pumped Shower Drainage Systems



Installation guidelines for

Model Number	BP1558B	Shower Tray Kit
Model Number	BP1578	Wet Floor Kit

2



Thank you for purchasing this Whale Shower Drain Pump Kit product.

Since 1995 Whale has been the leading manufacturer of pump kits for use with shallow shower trays and wet floors. These kits have the reputation of working reliably for many years without requiring maintenance.

The front cover illustrates the product in a typical Healthcare installation. Assess your installation prior to fitting so as to ensure that the pump, transformer and flow switch are situated in accessible positions.

Typical installations would have these components in an adjacent cupboard i.e. airing cupboard or in a false wall with an access panel.

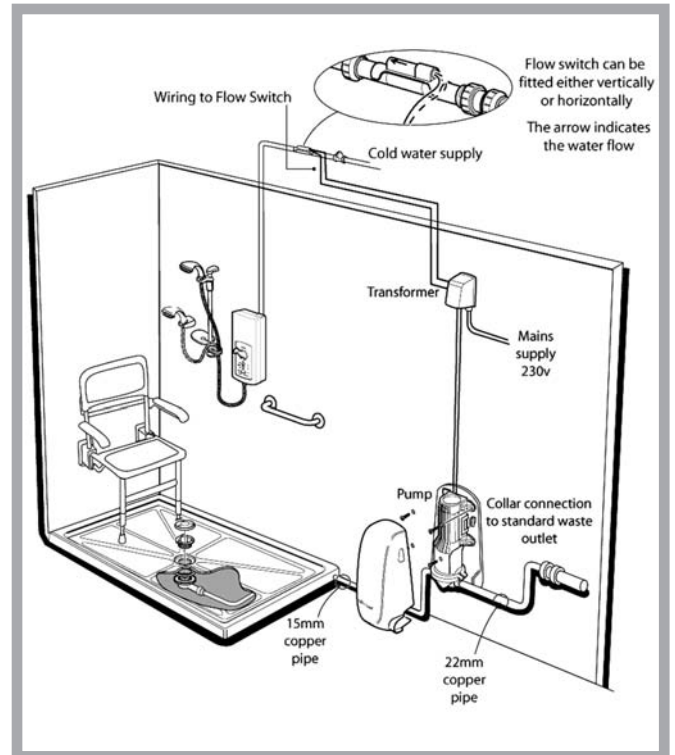


Note: Incorrect installation may invalidate the warranty.

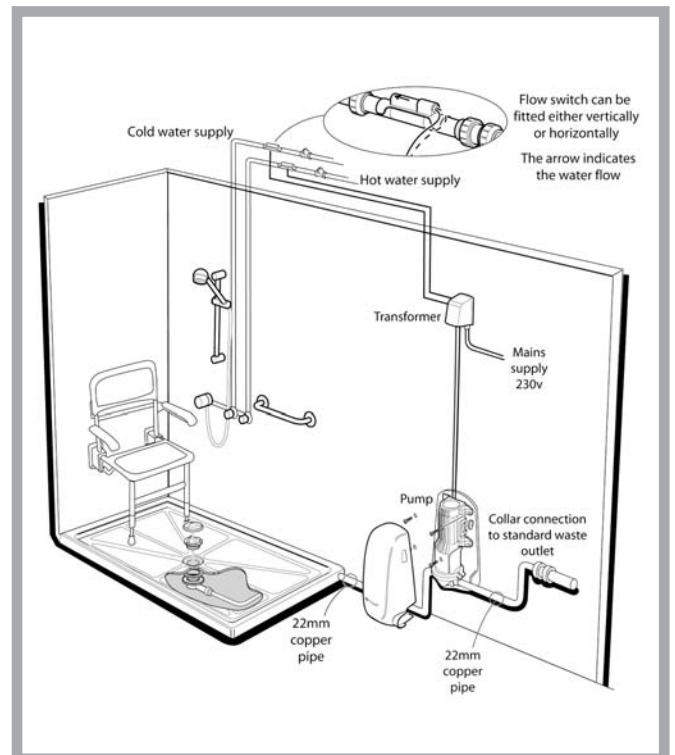
Principles of Operation

This kit has been designed for the pumping of shower waste water. When the shower is turned on the flow switch(s) provides a signal to the transformer to supply dc voltage to the pump.

When the shower is turned off the flow switch sends a signal to the transformer and after a pre-set time delay stops the supply of dc voltage to the pump. After a further 15 minutes the pump will then switch on automatically for a short time at a reduced pumping speed removing any run-off water left in the shower tray/floor.



Electric Shower Installation



Mixer Shower Installation

Installation



WARNING

Warnings

Before installation **read the instructions**.

Contact the **Technical Helpline**

(0845 0694 253) if you are unsure.

- The maximum flow rate the pump is designed to work with is 8 ltrs/min (electric showers) or 12 ltrs/min (mixer shower).
- Do not plumb the pump outlet into waste piping that other appliances drain into as there is a risk of induced syphoning. Use an antisiphon trap where necessary.
- All electrical and mechanical components (transformer, pump, flow switch and filter) **must be accessible** after installation.
- The shower floor must have a fall of 25 mm in 1 m.
- Plumbing installation must comply to latest WRAS regulations.
- The electrical wiring must conform to EU wiring regulations BS7671:2001 Amdt2:2004.

Note: For optimum performance the transformer settings will normally require adjustment.

User Warning



WARNING

This is a non-gravity installation. It is advisable where the property is left unattended for an extended period of time, that the water supply to the shower is shut off.

If there is a reduction in pump performance after installation please contact your installer.

4

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Pump Installation

1.1 Before mounting the pump refer to the plumbing diagram on page 6 for maximum pipe runs. The pump is IP45 compliant and may be installed in Zone 2 of the bathroom (see page 10).

Mount the pump on a solid wall to prevent vibration. Use a back board if this is not possible.

The pump is mounted vertically, as shown, within 3 m of the gully.

To aid servicing the head of the pump must be above the floor by at least 150 mm (maximum height of 500 mm).

Remove the pump cover and place the pump in the back plate and position where the pump is to be fixed. Mark the pump mounting points through the 4 slots in the back plate.

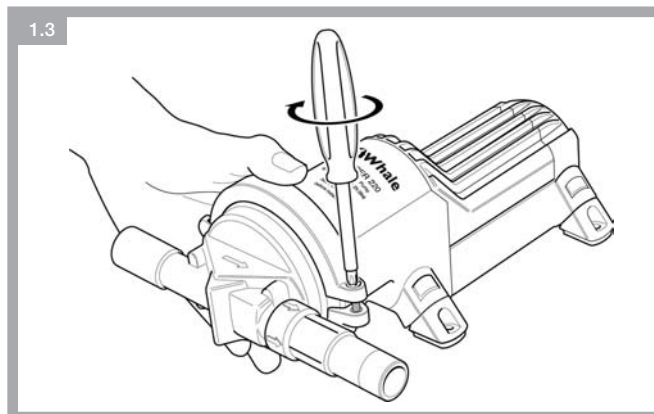
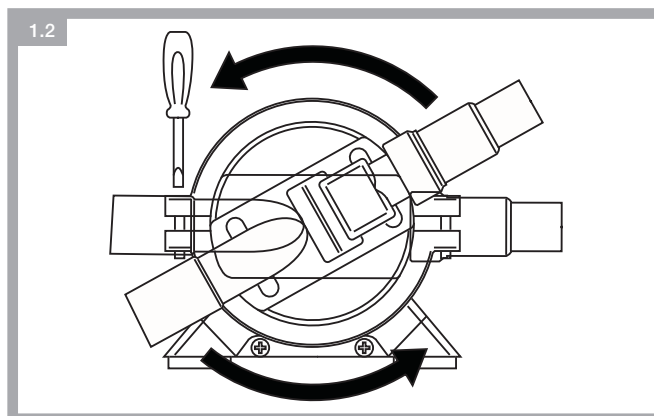
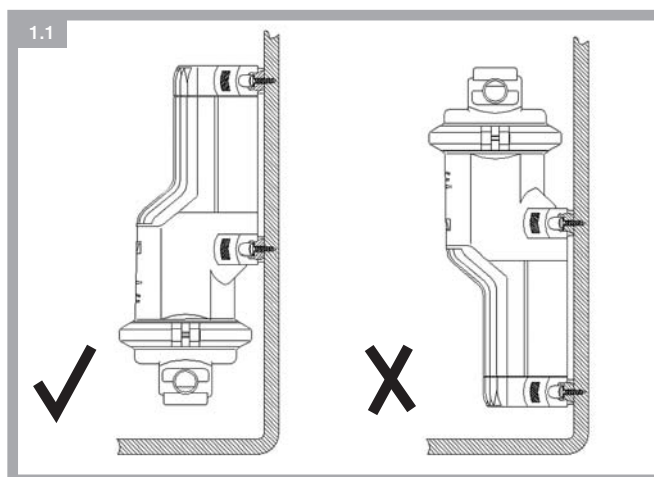
(See additional Quick Guide insert).

1.2 Rotate the pump head if necessary to give a straight run of pipe to the waste. Loosen the clamping ring on the pump head and rotate the head before retightening clamping ring.

Note: Do not remove the pump head.

Using the screws and washers provided fix the pump and backplate in position.

Clip the pump cover onto the backplate once the pipework has been fitted.



6

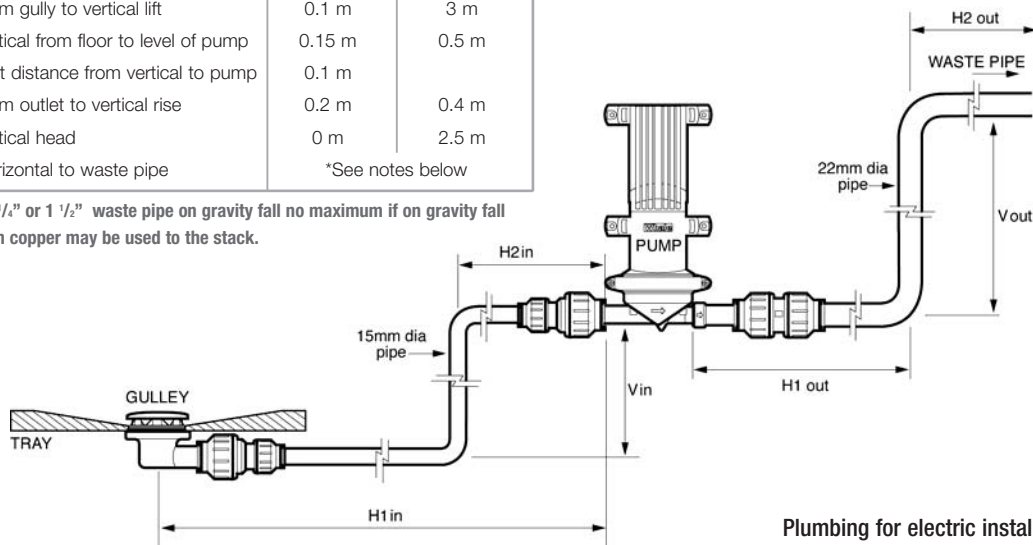
Plumbing Specification

1.4

Maximum and minimum pipe length

Key	Description	Minimum	Maximum
H1 in	From gully to vertical lift	0.1 m	3 m
V in	Vertical from floor to level of pump	0.15 m	0.5 m
H2 in	Inlet distance from vertical to pump	0.1 m	
H1 out	From outlet to vertical rise	0.2 m	0.4 m
V out	Vertical head	0 m	2.5 m
H2 out	Horizontal to waste pipe	*See notes below	

*If > 1 metre use 1 1/4" or 1 1/2" waste pipe on gravity fall no maximum if on gravity fall
If < 1 m then 22 mm copper may be used to the stack.



Plumbing for electric installation shown.
(15mm inlet pipework).

2.1 Push fit fittings are provided to connect the pump to inlet and discharge pipework.

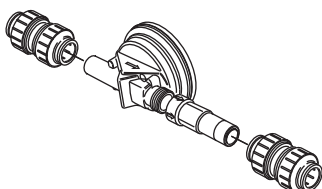
For electric shower installations pipework from the gully into the pump must be **15 mm** to give a flow rate of 8 litres/min. (Do not use **22 mm** pipework on the inlet as this will increase the noise level when pumping).

For mixer shower installations pipework from the gully into the pump must be 22 mm to give a flow rate of 12 litres/min.

Note: For mixer shower installation an additional flow switch and fittings are required. Order Part No. AK1570.

- 2.2
- **Only one vertical** lift on the inlet to the pump and the discharge from the pump is allowed.
 - When laying the pipe under the floor use only slow radius bends.
 - Use slow radius bends above the floor if possible to ease the flow of water and reduce loading on the pump.
 - Use of copper pipe is recommended to reduce risk of air leaks at connections.
 - Ensure edges are burr-free. Burrs may cause a build up of hair etc. that will reduce flow.
 - Pipework **must** be secured to prevent any vibration and noise.
 - **'Twist Lock'** the securing ring on the push fit fittings after the fittings have been pushed home.
 - If semi rigid pipe is being used follow the manufacturer's instructions to prevent air leaks.

1.5



Plumbing Gully

3.1 Whale have developed a unique pumped drain gully that has a profile of 35 mm enabling shower tray installers to fit the drain in a screed floor without penetrating the damp-proof membrane.

When fitting in solid floors, remove enough material for the installation of the waste water pipe and gully. Copper pipe must be lined externally to prevent corrosion.

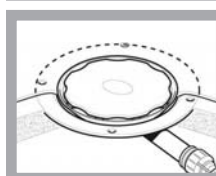
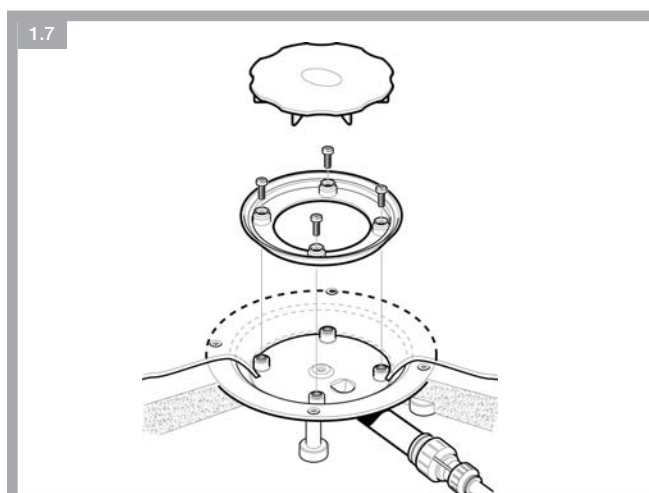
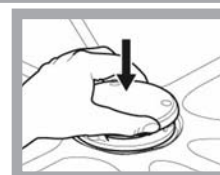
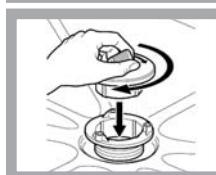
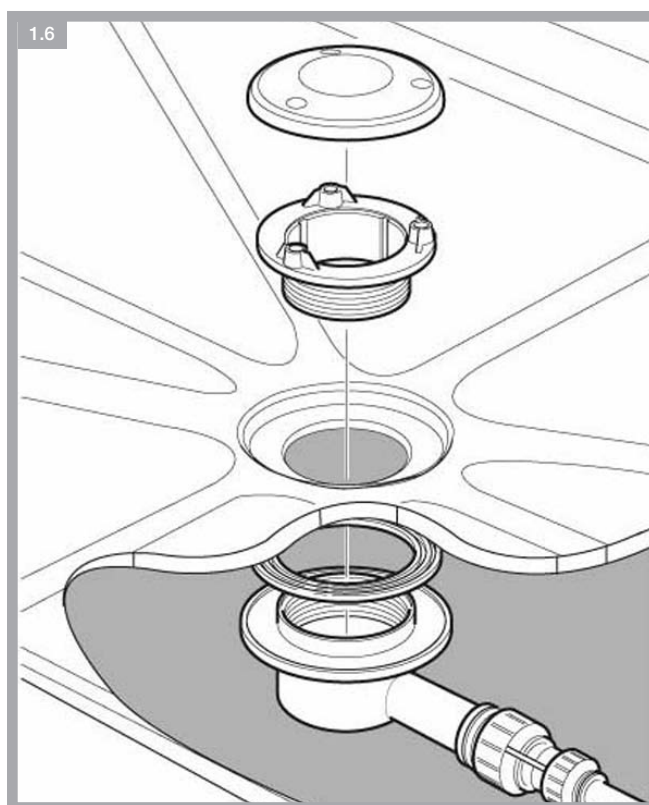
Use silicone on top of the seal to ensure proper sealing beneath tray. Using the hand tool provided to tighten the locking flange, fit the gully cover into the sockets and push down to secure.

Top Tip: Leave the hand tool in place to prevent building debris, grout etc. falling into the gully. Only remove the hand tool and fit the gully cover when the installation is complete.

For alternative gully options see last section of these instructions.

3.2 The Wet Floor Kit (BP1578) is the same as the Standard Shower Tray Kit (BP1558B) apart from the gully which is designed for use in wet floor situations.

Gully supports are provided to maintain the gully level whilst being installed.



8

Plumbing of Waste Pipe

4.1 The outlet of the pump may be connected into the waste stack as there are three non return valves in the pump head to prevent odours from passing back into the bathroom.

Put the discharge from the pump into the waste using the black rubber fittings provided.

Do not plumb pump outlet into the waste piping that other appliances drain into as there is a risk of induced siphoning.

4.2 In confined bathrooms you can plumb the pump discharge into the sink waste pipe. McAlpine™ offer waste adaptors with 22 mm inlets. At time of print A10V and V33T offer a solution.

Use with a Macerator Pump

4.3 Where the situation demands, or if the pipe run is greater than that specified for the Whale pump (see diagram 1.4 page 6) a macerator pump may be used.

The discharge from the Whale pump must go into the top of the macerator box and not into lower side entries.

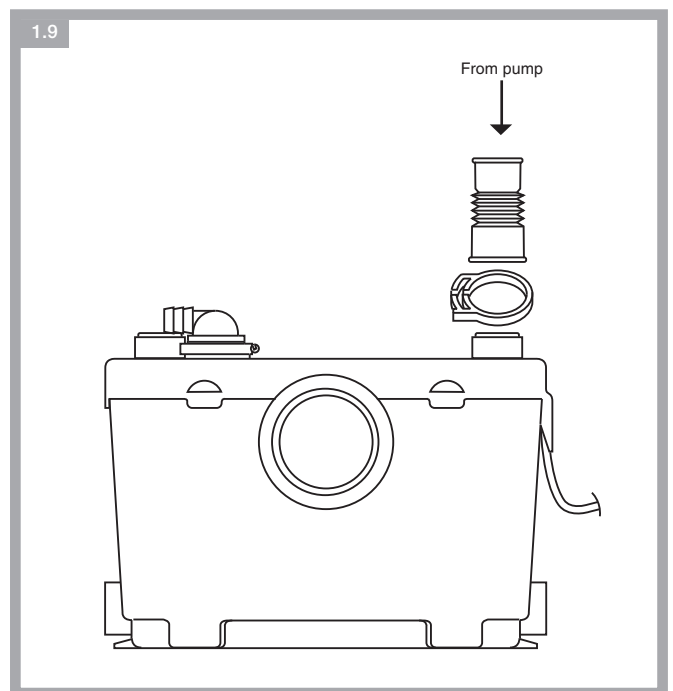
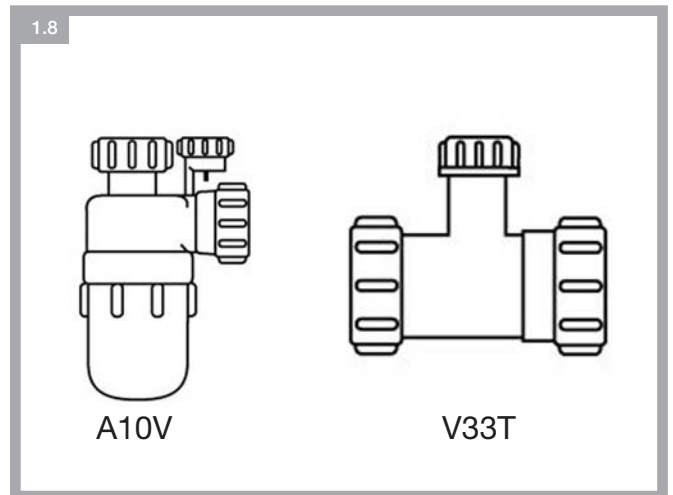
Do not use the bottom entries.

It is preferable to have two separate discharge lines to waste and drainage when used in the same room as a macerator pump.

Any failure of the macerator will not be detected by the Whale pump.



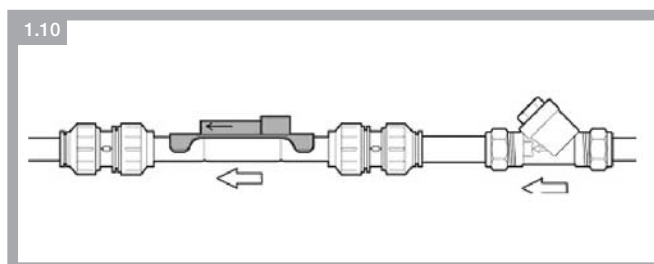
WARNING



Flow Switch Connect

Fitting of Flow Switch and Filter

- 5.1** Install the flow switch and filter in the water supply to the electric shower downstream of any other connections to the water supply. **Ensure the flow switch is accessible** and mounted in a length of straight unstressed pipe.
- 5.2** If a mixer valve is being used then an additional flow switch and filter must be installed in the hot water supply (**Order Part No. AK1570**). The wires must be joined together in parallel.
- 5.3** The flow switch is not polarity sensitive. Prior to installation flush through the pipe to remove any debris. Only use the push-fit fittings supplied to connect the flow switch.
- The arrow must be in the direction of water flow. The flow switch may be mounted in any orientation.



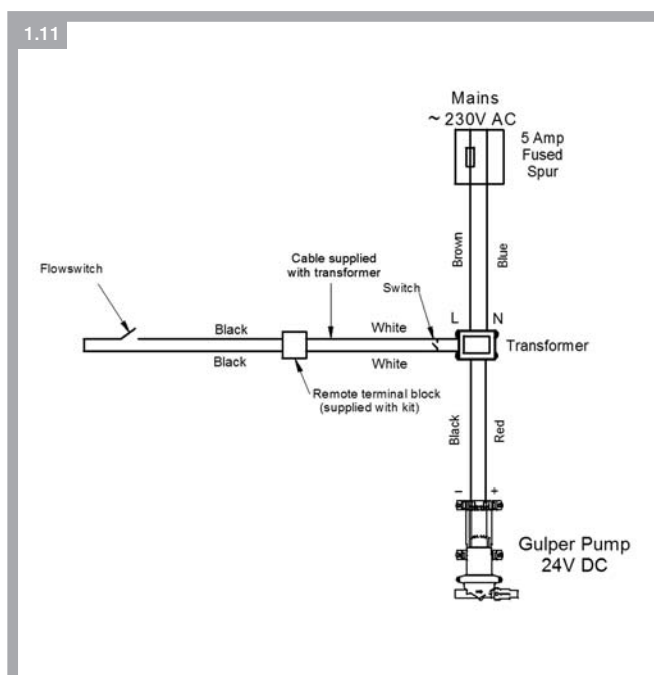
Flow Switch Operation

The flow switch is operated by a float with an internal magnet housed in the copper pipe. In a plastic housing on the outside of the pipe is a magnetic reed switch. When the water flows the float pushes against a spring. At above 1.5 litres/minute the magnet moves sufficiently to activate the magnetic reed switch. When the contacts are joined this signals the transformer to switch power to the pump.

Note: The electric motor in the pump creates a strong magnetic field which can hold the magnetic reed switch open or closed. We recommend the flow switch is not placed within 1 meter of the pump.

Electrical Connections

- 6.1** Electrical connections are as shown.
- 6.2** Mains supply to the transformer should be made using a 5 amp fused spur.
- 6.3** Flow switch connections to the transformer bell-wire are not polarity sensitive and can be made using the electrical connector block supplied.
- 6.4** The transformer 24v RED and BLACK cable supply to the pump should be terminated using the crimp connectors supplied. Connect to the pump RED and BLACK male crimps. The polarity of the connection must be correct for the pump to operate.



10

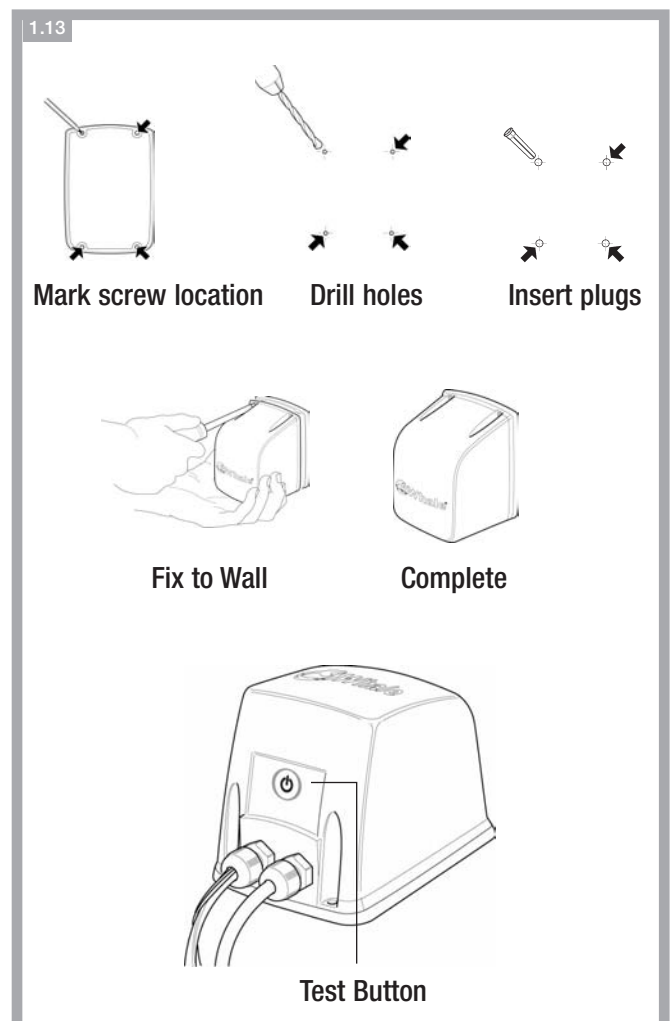
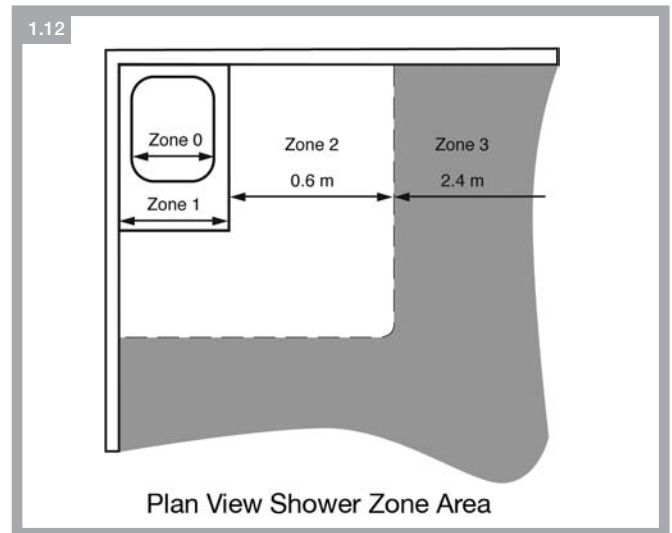
Transformer Installation

Location of transformer

- 7.1** The transformer is IP45 compliant with the base plate fitted. The transformer must be mounted vertically with wires exiting from the base of the transformer. Locate the transformer outside the showering area (as per BS7671: 2001 in zone 2 or 3) as shown.
- 7.2** Use the transformer backplate to mark the position of mounting screws. Fit back cover plate with clean mating surfaces to the transformer and secure to a flat surface.
- 7.3** Connect transformer to 240V AC supply via a 5 amp fused spur.

Test Button

- 8.1** The transformer has a built in Test Button on the face of the transformer above the cable entry points.
- 8.2** The Test Button bypasses the flow switch enabling a quick and convenient way to test the transformer and pump operation.
- 8.3** Pressing and releasing the button energises the transformer. When the button is released the pump should continue to run for the time set by the Off Delay jumper.



Transformer Settings

Note: For optimum performance the transformer settings will normally require adjustment.

8.1 To make adjustments move the jumpers on the base of the transformer to connect pairs of contacts to suit the particular installation as follows:-

Setting 1

Start Delay (1 or 2) This adjusts the delay between the pump being switched on and the pump starting so that the gully is full of water before the pump starts.

- 1 Short Delay (Default Setting) for small shower trays.
- 2 Long Delay is designed for wet floor and standard shower installations.

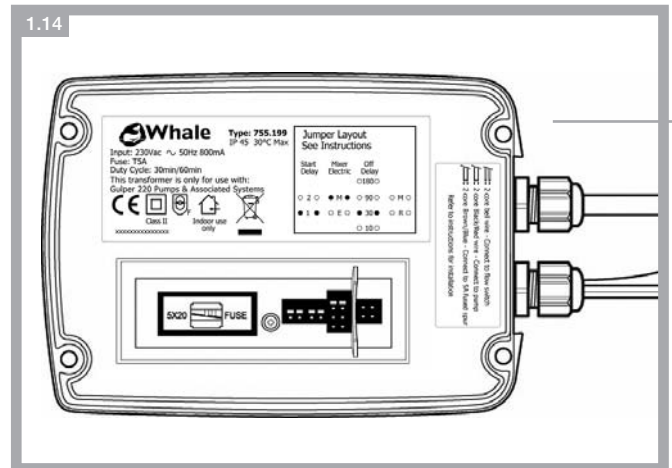
Setting 2

Mixer Electric (M/E) Select your type of installation.

- M (Default Setting) for Mixer Valve
- E Electric shower setting.

Setting 3

Off Delay (10, 30, 90, 180 seconds) Adjust the time that the pump will over-run to clear the shower tray/area to suit the installation.



10 Seconds: Suitable for most electric shower installations.

30 Seconds: (Default Setting) Designed for wet floor areas.

90 & 180 Seconds:

These settings are suitable for larger wet floor areas.

Setting 4

M & R - unused

8.2 Purge Cycle After 15 minutes the transformer will reactivate the pump for approx 10 seconds to remove any run-off or condensation that has collected in the gully to leave the shower area dry.

Factory default settings



Type: 755.199
IP 45 30°C Max

Input: 230Vac ~ 50Hz 800mA
Fuse: T5A
Duty Cycle: 30min/60min
This transformer is only for use with:
Gulper 220 Pumps & Associated Systems

Class II Indoor use only

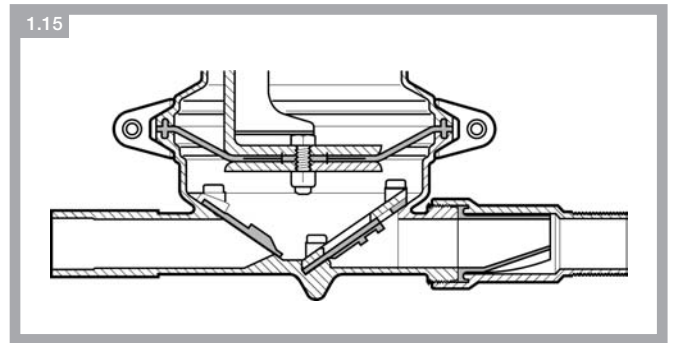
Jumper Layout
See Instructions

Start Delay	Mixer Electric	Off Delay
○ 2 ○	● M ●	○ 90 ○
● 1 ●	○ E ○	○ 180 ○
		○ 30 ○
		○ 10 ○

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Pump Operation

- 9.1** The Whale Gulper pump uses a single membrane to pump the water away. On the suction stroke water and debris are drawn in through the inlet valve. With a chamber full of water the pump discharges the water through the two non-return outlet valves on the purge stroke. The two outlet valves protect the pump against losing prime.
- 9.2** The aggressive flushing keeps the pump valves clear of debris resulting in a pump which does not require regular maintenance.
- 9.3** Unlike other pumps, the Whale Gulper has the ability to run dry without causing damage to the pump.
- 9.4** An additional advantage of the three non-return valves in the pump head, is that no smells can be passed back from the waste stack into the shower area.



Commissioning Checklist

- 10.1** Before setting up the shower and running water through the system ensure that the shower area and gully are completely free of building debris.
- 10.2** Check the following:-
- All push fit fittings must have the twist lock in the locked position.
 - Ensure flow switch is unstressed.
 - Check plumbing for leaks whilst pump is running.
 - Turn the shower on and check for correct operation.

Note: 15 minutes after showering is finished, the pump will switch on for a brief period in order to remove any water that may have pooled.

Safety Warning



WARNING

The Transformer is for indoor use only.

The Transformer contains no user serviceable parts. External components for service are fuse and adjustment jumpers only.

Where there is damage to the transformer or cabling, contact your Whale distributor for a replacement.

Do not connect mains to the pump as this will cause permanent damage and result in an electrical hazard.

Installation must conform to EU Wiring Regulations BS7671:2001 Amdt2:2004

Specification

Pump

- Model: Gulper 220
- Voltage: 21.5 V DC
- Dry running current: 1.2 amp
- Maximum Head: 2.5 m
- Maximum Lift: 500 rnm
- Maximum Head & Lift: 2.5 m

Transformer

- 92 Watts intermittent rating
- Double insulated
- Thermal protected
- Mains cable 1.8 m (2 core, 0.5 mm²)
- Low voltage cables 5 m (10 amp rating)
- Pump control cable (2 core 5 m)
- Start delay - short or long
- Shower type selector
- Off Delay of 10, 30, 90, 180 seconds
- 5 amp Slow blow fuse

Whale's policy is one of continuous improvement and we reserve the right to change specifications without prior notice.

Maintenance

- Isolate the electrical transformer supply from mains supply.
- Remove the pump head clamping ring. Unscrew the clamping screw to release pump head. Do not take clamping ring apart.
(Note: to catch water spillage, place tray under pump head).
- Check diaphragm and internal valves and tricupsid valve for wear, damage or cracks and replace if necessary. Service kit: AK1550.
- Ensure that the outer sealing edge of the diaphragm is located securely in the groove between the body and gear housing (failure to do this will cause the pump not to prime)
- Refit clamping ring and tighten screw.

Warranty

The Whale Shower Drain System is guaranteed for **two years** from date of purchase against defects in materials and workmanship. If the system proves faulty, return it to your distributor with proof of purchase and purchase date. The manufacturer cannot be held responsible for claims arising from incorrect installation, unauthorised modification or misuse of the product.

For full warranty statement please see whalepumps.com

EU Declaration of Conformity

Description of Equipment: Shower Drain System

Manufacturer's Declaration

We hereby declare, under our sole responsibility, that the above equipment complies with the provisions of the following EC Directives.

Electromagnetic Compatibility Directive
89/336/EEC, amended by 92/31/EEC and
93/68/EEC on the approximation of the laws of the
Member States relating to electromagnetic
compatibility.

Low Voltage Directive 73/23/EEC amended by
93/68/EEC on the harmonization of the laws of the
Member States relating to electrical equipment
designed for use within certain voltage limits.

CE mark affixed: 03/06/05

Basis on which conformity is declared

The above equipment complies with the protection
requirements of the EMC Directive and the
principal elements of the safety objectives of the
Low Voltage Directive.

Standards applied

EN 60335-1:2002/A11:2004 Safety of household
and similar electrical appliances

EN 60335-2-41:2003 Particular requirements for
pumps

EN 55014-1:2000 Electromagnetic compatibility.
Requirements for household appliances, electric
tools and similar apparatus. Emission

EN 55014-2:1997 Electromagnetic compatibility.
Requirements for household appliances, electric
tools and similar apparatus. Immunity.



Signed

David Cresswell

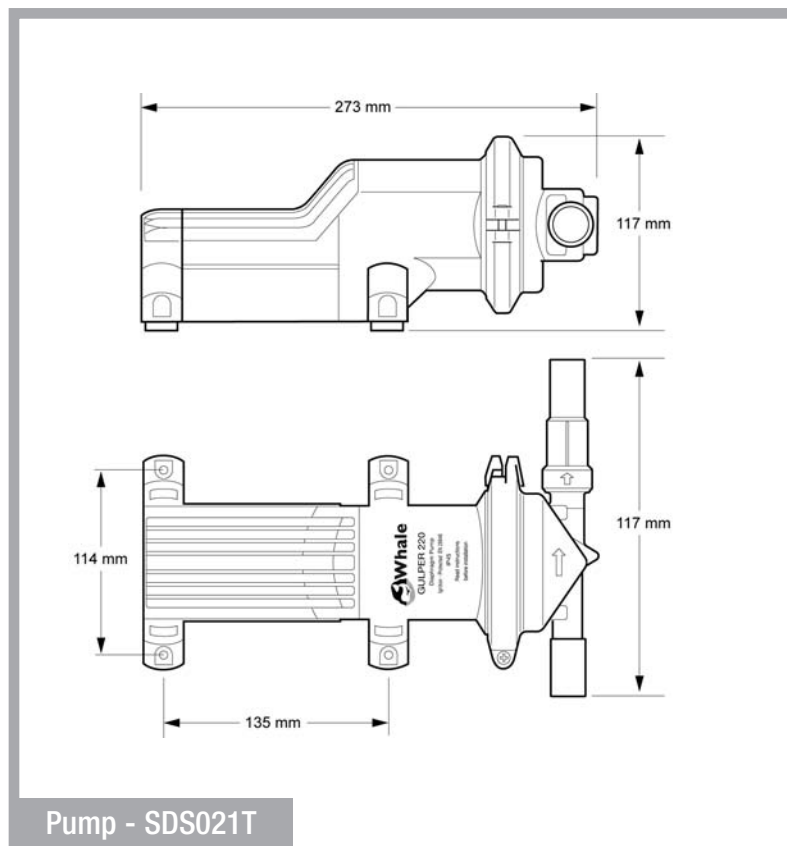
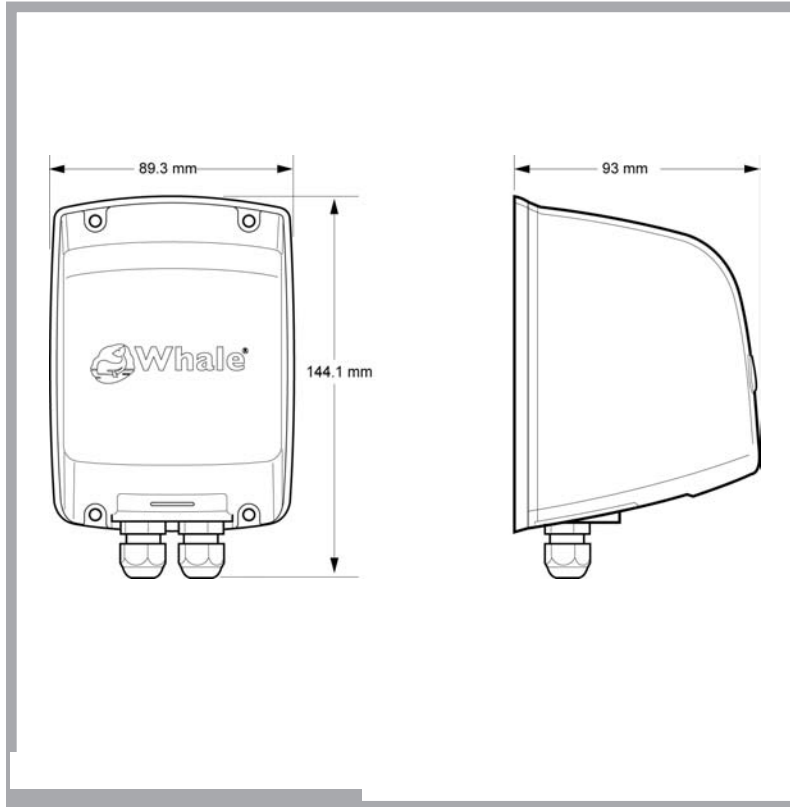
Engineering Director

Munster Simms Engineering Ltd.

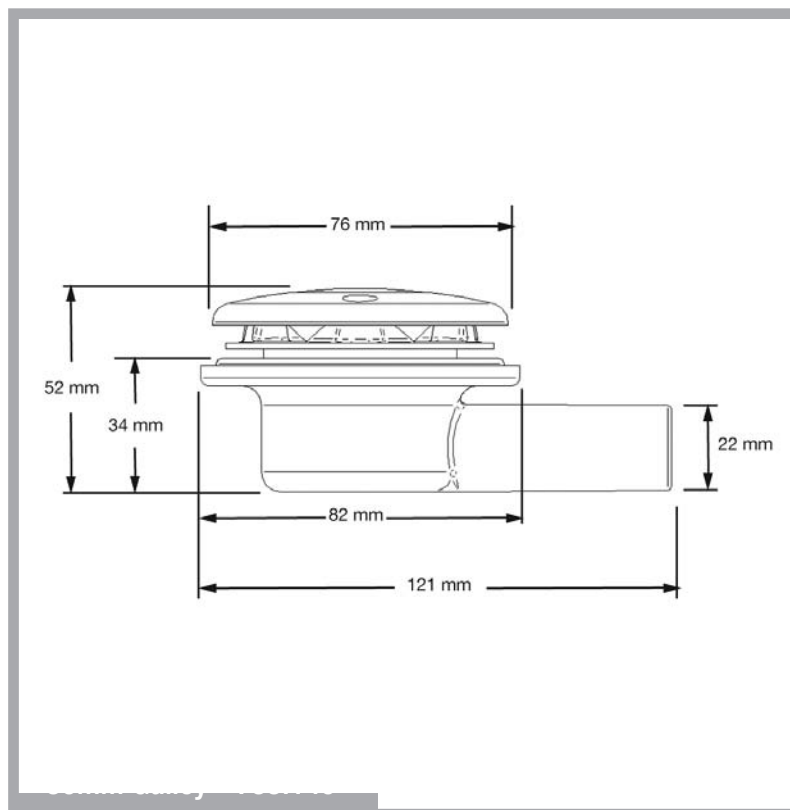
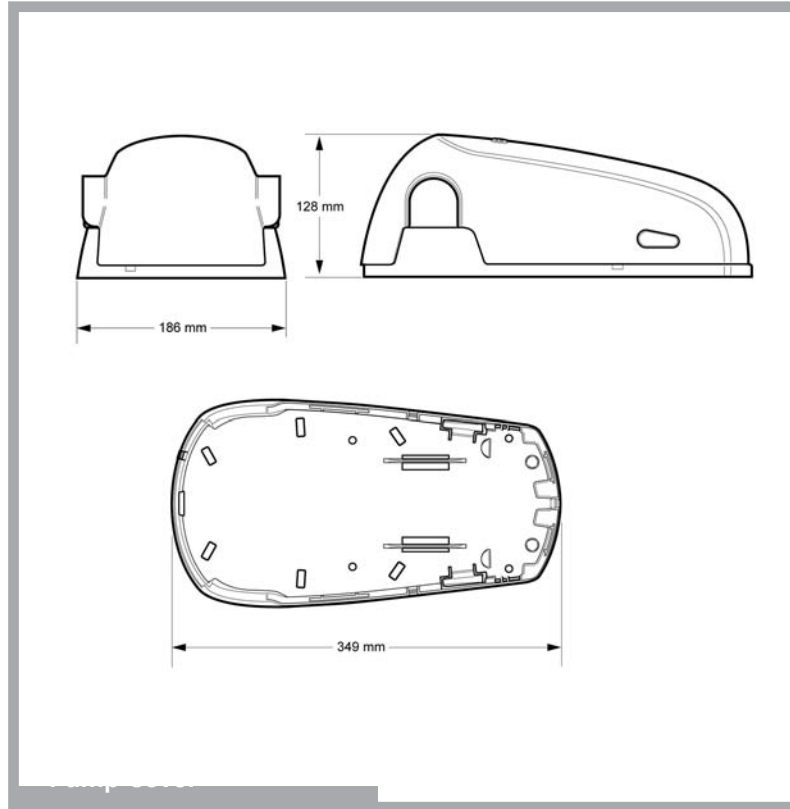
277-279 Old Belfast Road

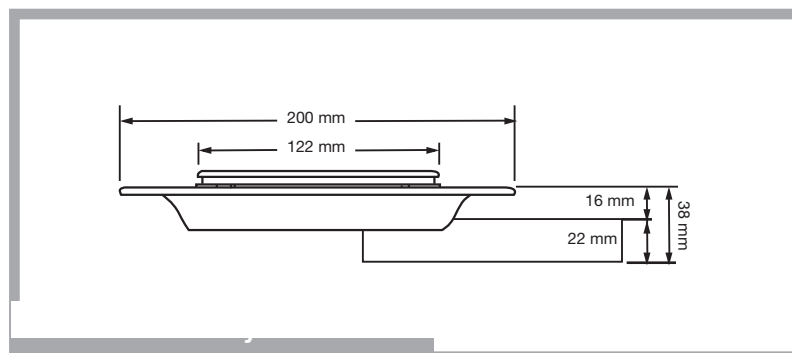
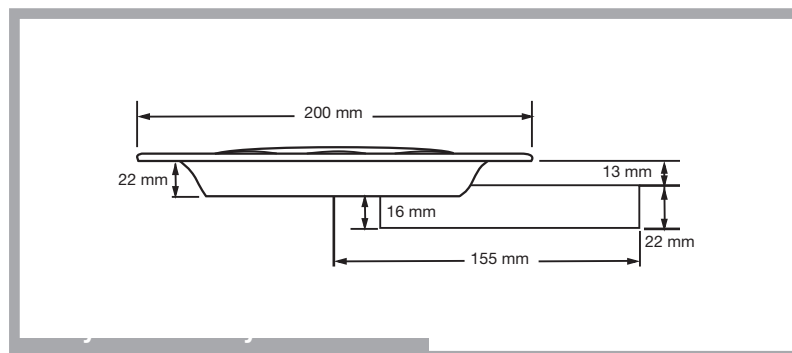
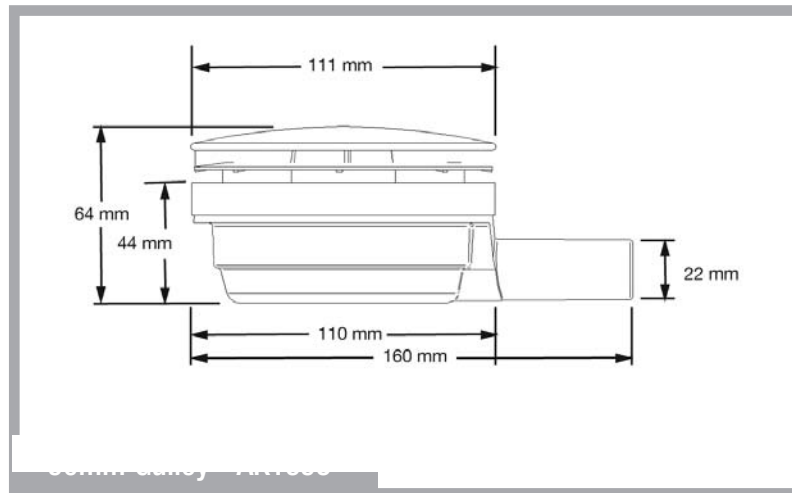
Bangor, Co. Down, BT19 1LT

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Pump - SDS021T

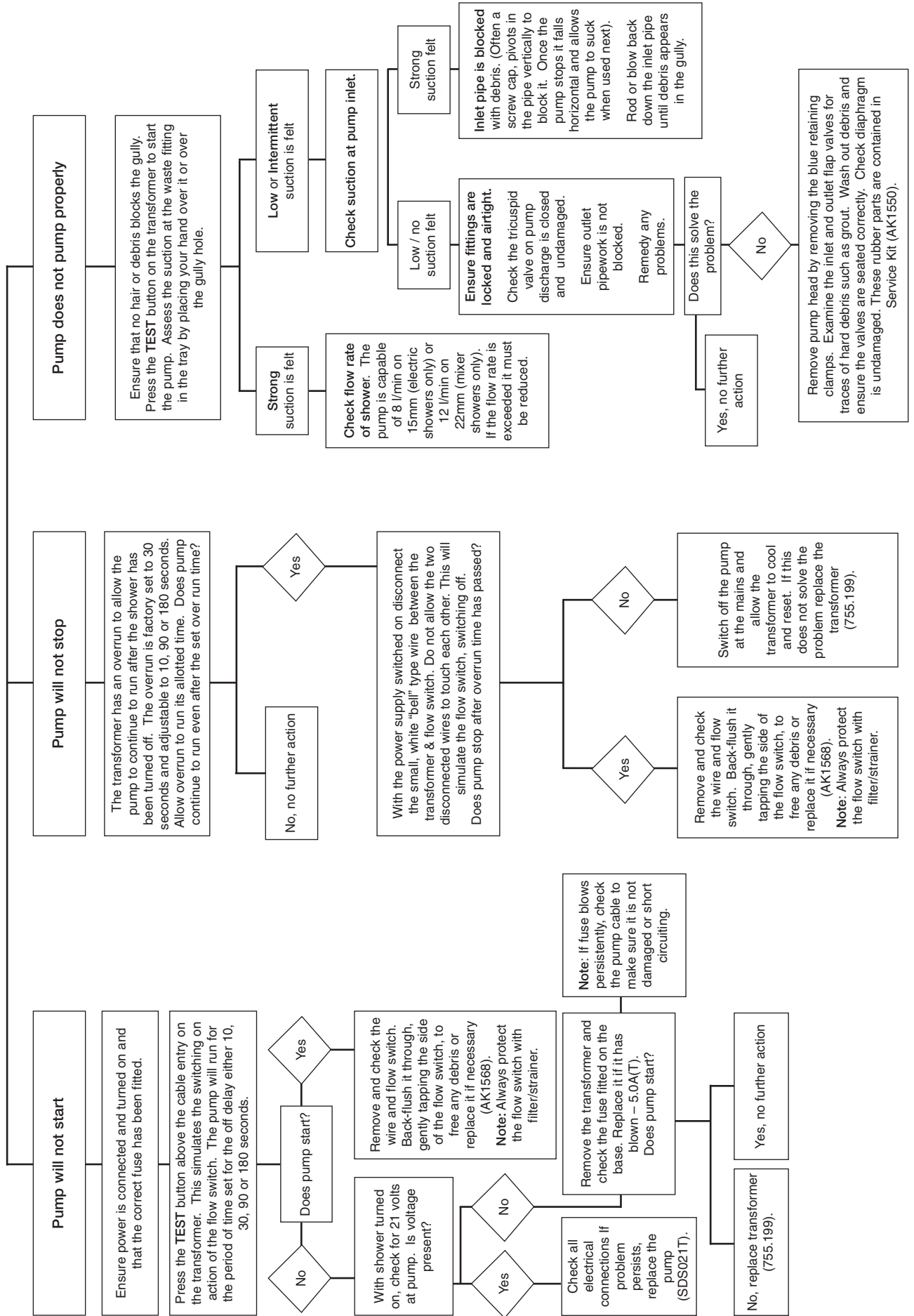




Spares for BP1558B and BP1578

Pump Only	SDS021T
Flow Switch	AK1568
Diaphragm Service Kit	AK1550
Mixer Valve Conversion Kit	AK1570
Transformer	755.199

What is the fault?



Contact Details

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Old Belfast Road, Bangor BT19 1LT, N. Ireland.

UK Technical Helpline: 0845 0694 253

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fax: +44 (0)28 9146 6421

