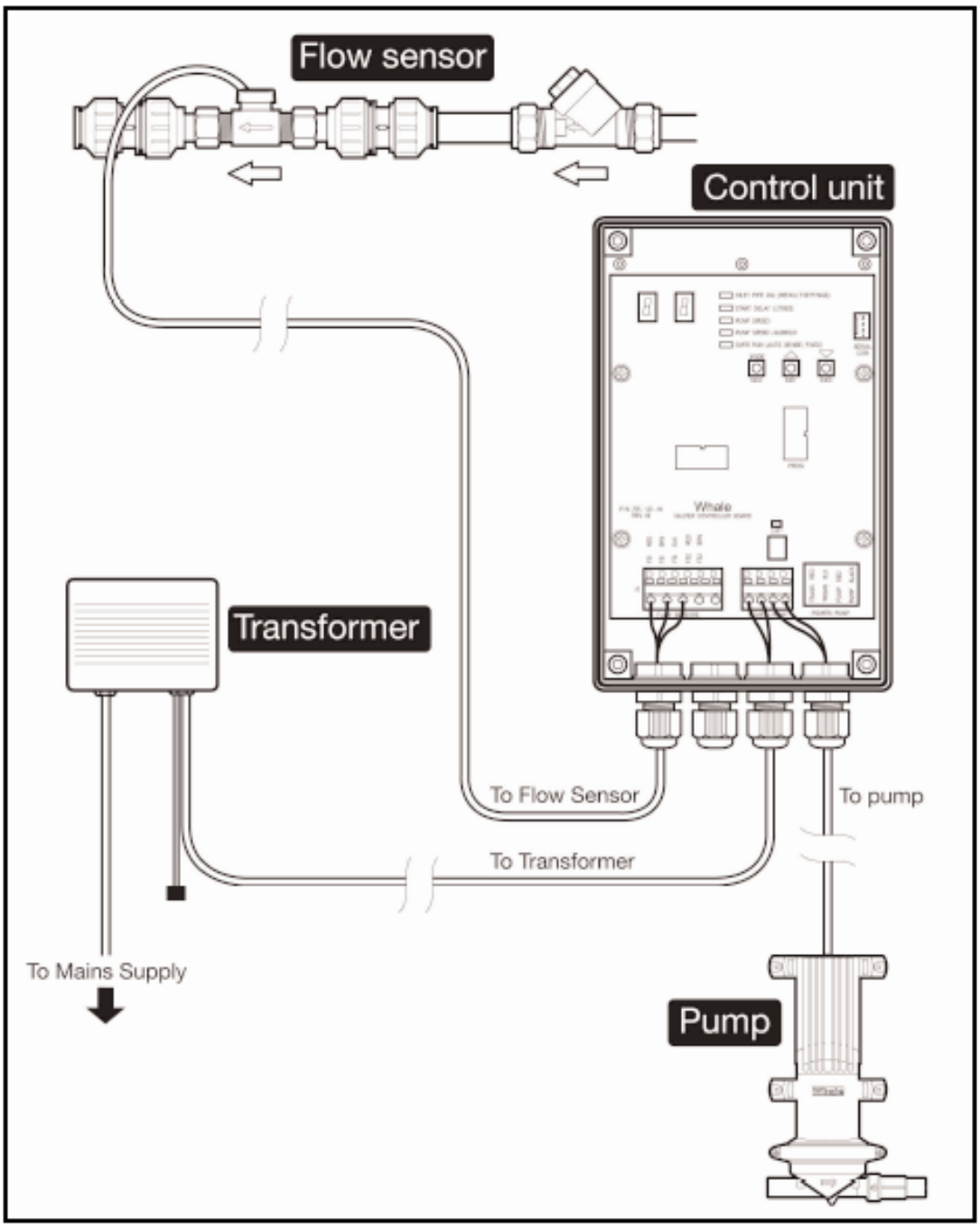
Automatic Pumped Shower Drainage Systems



Installation guidelines for

Model Number	BP1535	Smoothflow Upgrade Kit

This booklet should be given to the customer after installation and demonstration

User Information

This product uses an electrical pump to dispose of waste water.
Warning: In the event of a power failure do not use the shower.

This is a non-gravity installation. It is recommended, where the property is unattended for an extended period, that the water supply is shut-off.

If the water is not removed from the shower tray for any reason, please contact your installer.
15 minutes after showering is finished, the pump will switch on for a brief period in order to clear the run-off (remaining water in shower tray/condensation).

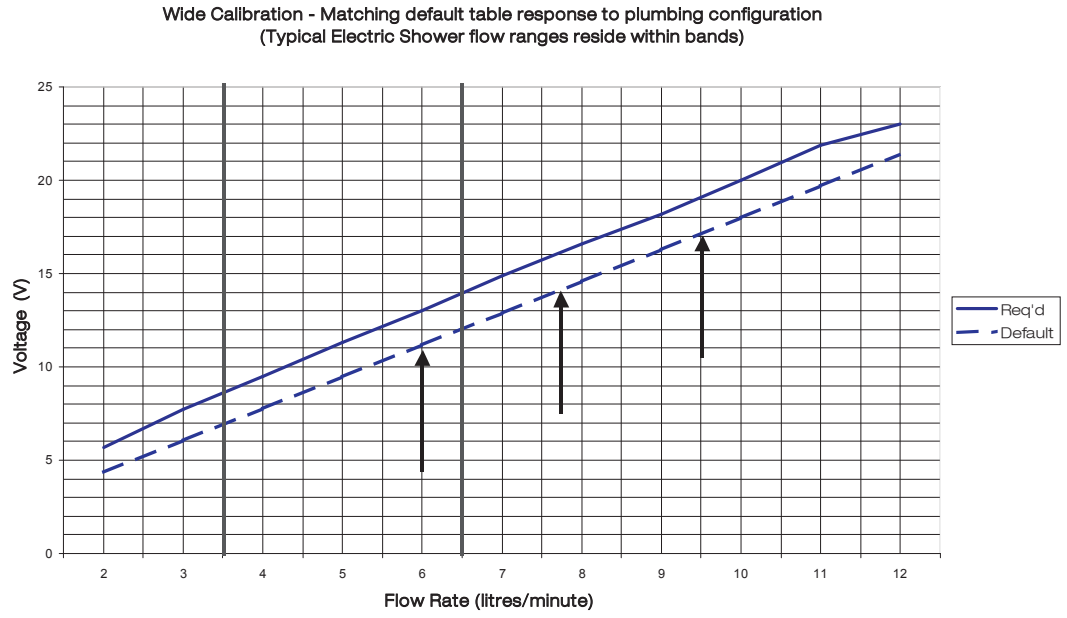
Components in Smoothflow kit

- Smoothflow Control Unit
- Flow Sensor + Plumbing fittings
- 'Y' Filter
- Outer Pump Valve

Principles of Operation

This Smoothflow control unit uses a flow sensor to measure the flow rate of water into the shower. The pump speed is controlled directly from the Smoothflow unit which uses the signals sent from the flow sensor to adjust the pump speed proportionally. Some set-up is required to match the pump performance to the unique characteristics of the plumbing installation.

The graph below shows the flow rate of the pump versus voltage. For each installation, the default settings must be adjusted to match the characteristics of the plumbing installation.



Compatibility with Transformer

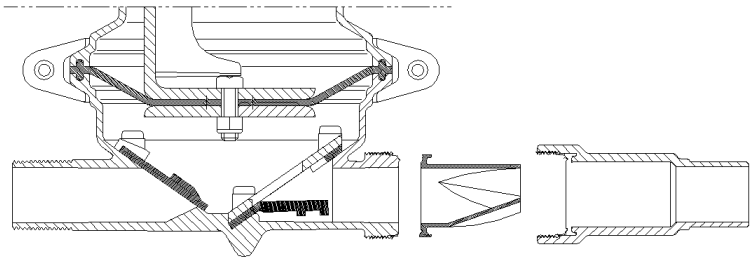
The Smoothflow is designed to operate with the following Whale transformers. Model codes:-

755.53	755.83	755.85
755.07	755.120	755.121

If the transformer controlling the pump is not one of these models then contact the Whale Technical Helpline 0845 0694253 or your Whale distributor.

Pump Service

When upgrading an existing pump installation we recommend that the pump is serviced. Please replace the outer valve with the one enclosed in the kit. Ensure that the inside of the pump head is clean.



Guidelines

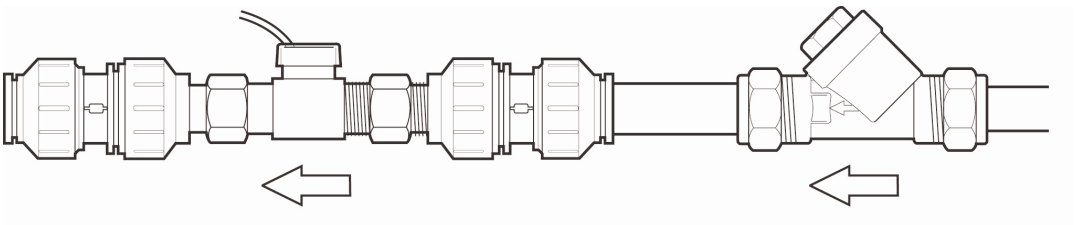
This is an electromechanical product therefore active components must be accessible.

Plumbing

Note: This product is designed to work with 22mm plumbing from the outlet of the pump to the waste. Change outlet plumbing if required.

Disconnect the flow switch prior to installing the flow sensor.

Place the flow sensor with the arrow pointed in the direction of the flow on the supply to the shower, downstream of any other connections to the water supply. Where a mixer valve is used a flow sensor is needed on both hot and cold supply's. Each sensor must be protected by a 'Y' filter which is supplied in the kit.
Flow sensor to be mounted in a straight length of unstressed pipe.



Note: Do not remove, tighten or tamper with this device as this will invalidate the warranty.

Warning: The maximum flow rate of the pump is 12ltrs/min.
If an extra flow sensor is required please order AK1555 from your Whale distributor.

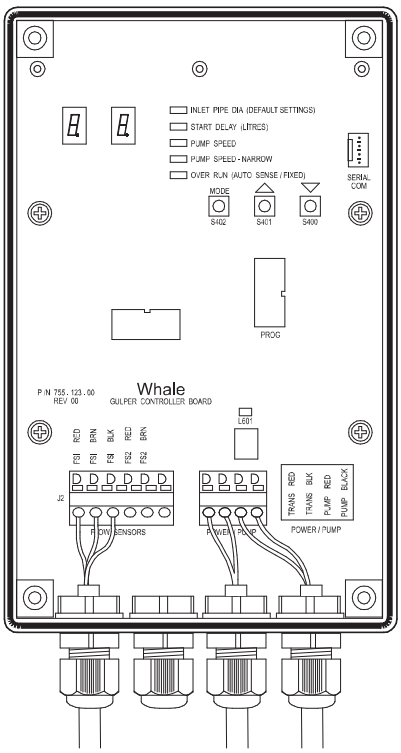
Electrical Connectiions

Note: Switch off the power to the transformer while making connections.
Before connecting the control unit, disconnect the existing flow switch wires (bell wire). Cut this wire 6 inches from the transformer, short the wires together and insulate. This will switch power from the transformer through to the control unit.

Mount the control unit in a position where it is not easily accessible to the user. The control unit is IP45 rated and may be mounted in Zone 2 of the bathroom.

Strip wires 10mm and twist prior to inserting in spring loaded contacts. Push contact arm back with a finger or small screwdriver before inserting wire, and then release. Check for good connection with a gentle tug on the wire.

1. Connect the output of the Whale transformer to the 'Trans Red' and 'Trans Black' connections as marked on the controller board.
2. Connect pump supply wires to 'Pump Red' and 'Pump Black' connections.
3. Connect flow sensor to sensor connections using the colours as indicated on the controller board. For cold supply use 'FS1' and for hot supply use 'FS2' connections - see below.



Set-up

1. Switch power on - the numeric LEDs will blink alternately

Adjusting the settings

a. Pressing the 'Mode' button will switch between the various mode settings.
b. The 'Up' and 'Down' arrow buttons are used to adjust the value.
c. Holding down the 'Mode' button programs the setting for the current mode. This is indicated by the relevant mode LED blinking.

2.. Inlet pipe size

a. Program in the size of pipe work from the gulley to the pump. Either 15mm or 22mm.
Note: This will also reset all the factory default settings including the pump speed.

3. Start Delay (Litres)

a. Select the initial volume of water in the tray before pumping starts. This should come above the level of the sump. (Factory default is set at 0.4ltrs)

4. Pump speed setting

a. Prior to making adjustments turn shower on and wait till pump runs.
Note: This uses a relative speed of '50' from which you vary the speed up and down. Each time you program the selected value the LED will reset to show '50'.

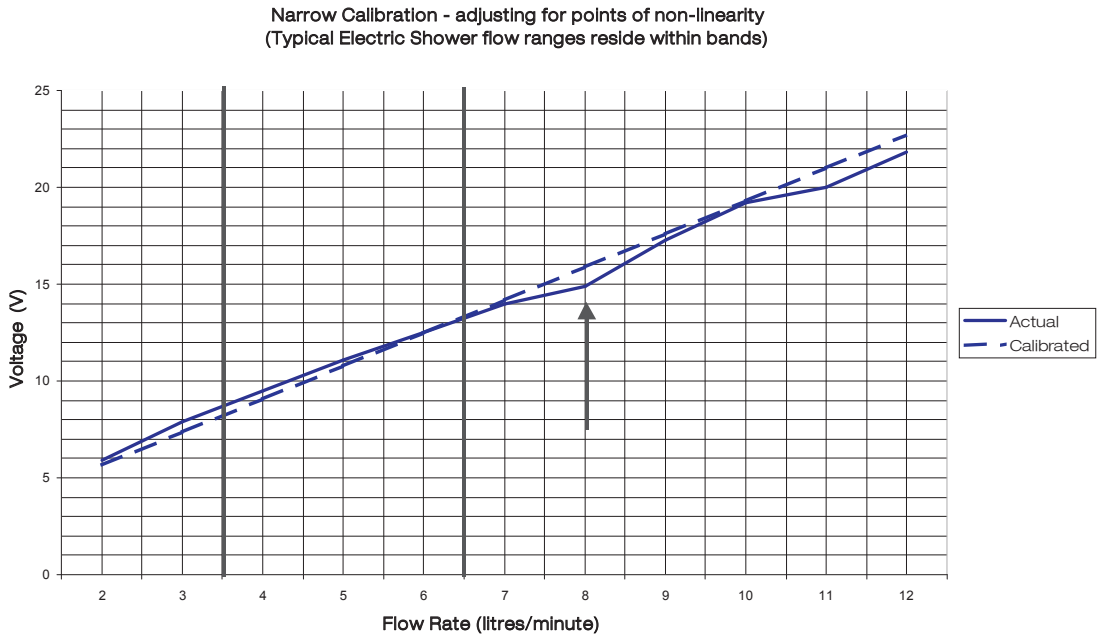
b. Watch the level of water within the shower using the gulley cover as a guide. If the water level is lowering, reduce the speed of pump by pressing the 'Down' arrow. Use initial increments of 5 until fine tuning is required. When water level is rising, increase speed of pump using the 'Up' arrow. After making a change watch the water level until you see if it is rising or falling. When the water level is constant, program in the speed setting by holding down the 'Mode' button until the LED blinks.

5. Pump speed - 'Narrow' setting (Only for use with mixer showers)

a. 'Pump speed' must be set first as per above using a mid-range flow setting.

b. Increase the flow from the shower and watch the water level in shower. If this is rising or falling over time, make adjustment on speed until constant level is observed and then program in setting.

c. This process may be repeated as required. The narrow adjustment corrects the flow rate over a range 1 ltr/min either side of the flow rate that is being calibrated.
Note: 'The Pump Speed Narrow' setting will only be required in some mixer valve installations. This is neccessary where the calibrated flow rate does not match actual flow rate from the pump. (see graph below)



6. 'Over Run (AS/Fixed)' setting.

a. To set Auto Sense Over Run (indicated by 'AS' on the LED), turn the shower off. When the pump is drawing air with no water in the sump, hold down the 'Mode' button.

b. To set a Fixed Over Run delay use the 'Up' and 'Down' arrows. Each digit represents a delay of 5 seconds. Hold the 'Mode' button down to program.

7. Commissioning Checklist.

Check:-

a. All push fit fittings must have collets fitted or the twist lock is in the locked position.
b. All plumbing for leaks.
c. Waste water plumbing for leaks while pump is running.
d. Flow sensor is protected by the filter.

After programming all the settings, 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 clear the run-off (remaining water in shower tray/condensation).

Warranty

The Whale Shower Drain Control Unit is guaranteed for one year 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.

EC Declaration of Conformity

We herewith declare that the Whale Shower Drain Control Unit conforms to the requirements of the EC, EMC directive 89/336/EEC, and to the following other relevant Directives, and has used the following harmonised European and national standards in the confirming assessment.

Standards

EN60730-1:2000
EN60529:1991/A1:2000
EN55014-1:2000/A1:2001/A2:2002
EN55014-2:1997/A1:2001
EN55022:1998/Class B
EN61000-3-2:2000
EN61000-3-3:1995/A1:2001

Signed: (Authorised person)

Please contact the Whale Technical Helpline 0845 0694253 for help with any queries.