AKW
life. style. choice.

UK

AKW M17 DigiPump®

Installation and User Care Instructions

EU Reg Des:
000717541-0001/2/3
GB and World-Wide
Patents Pending

Box contents for

Electric Shower		Mixer Shower
1x		1x
2x		2x
1x		1x
6x		10x
3x		3x

The following items are NOT required or included if an AKW shower interface is to be installed:

1x		2x
1x		2x
2x		4x
2x		4x

Quantities depend on type of Shower kit and waste ordered.

Read all instructions carefully before installation. Leave this booklet with the end user for future reference and servicing.

Contents Page

Product Specifications

AKW M17 DigiPump high performance shower waste water pump.

PUMP CAPACITY - 17 LPM MAX under free head/lift conditions
Derate accordingly for installed conditions.
Max Head: 1.0m (39in).
Max Lift: 0.5m (19in).
MAX COMBINED HEAD + LIFT:1.5m (59in)

SUPPLY: 230V AC ~ 50Hz 73W
T5A fused internally
DUTY CYCLE: 30 mins max on 50% duty
Quiet in operation.
For use with compatible electric or mixer showers.
Pump and controller enclosed in one unit.
Max flow rate: 17 Litres Per Minute (LPM).
Non-handed, selectable inlet/outlet direction.

Note: Increased Head/Lift conditions will affect the pump's performance.

Declaration of Conformity

We declare that the AKW M17 DigiPump shower waste water pump conforms to the requirements of the EMC Directive 89/336/EEC, Low Voltage Directive 73/23/EEC and the following harmonised European and national standards in the confirming assessment.

BS EN 61558-1, BS EN 61558-2-6, BS EN 60335-1, BS EN 60529, BS EN 60335-2-41

AKW Medi-Care Ltd

CE KM507429

Important Safety/Electrical Information

THIS CLASS II APPLIANCE DOES NOT REQUIRE AN EARTH

Caution Danger of Death 230V AC

Lethal Voltage present on the AC supply.

Ensure Mains Power Supply is Switched OFF before starting wiring.

DO NOT take risks with Plumbing or Electrical Installation. This product must be installed and serviced by a competent and qualified person eg. NIC EIC trades person should attempt this electrical installation in accordance with the current edition of the Wiring Regulations (BS7671), local by-laws and the current Building Regulations.

This product must be installed, used and maintained in good working order in accordance with these instructions and recommendations.

If the supply cord is damaged, it must be replaced by the manufacturer in order to avoid hazard.

The 230V AC power supply to this unit must be provided via a two-pole isolator switch and a dedicated circuit with a 30mA RCD device installed in accordance with the latest revision of the IEE Wiring Regulations BS7671. It must be wired into a fused, unswitched, fixed wiring connector fitted with a 5 amp fuse.

The IP45 rating of the AKW pump product refers to the inner casing containing the SELV electrical control gear. The pump motor which operates at SELV and is located within the outer cover.

Before you start... Confirm you have the required tools and parts.

- Drill - Bits
- Suitable wall plugs
- Screwdriver(s)
- Spirit Level
- Pipe cutters (JG, TS)
- 22mm Pipe
- John Guest locking collars

Standard JG pipe connectors ARE NOT SUITABLE for connecting to CHROME or STAINLESS PIPEWORK.
Chrome plating must be completely removed 20mm before JG fittings are connected to pipework.
Always use Collet Clips provided to ensure maximum grip.
It is not possible to connect JS fittings to Stainless Steel Pipe.
AKW Recommend the use of a John Guest chrome pipe adaptor or equivalent.

Mechanical And Plumbing Installation Positioning

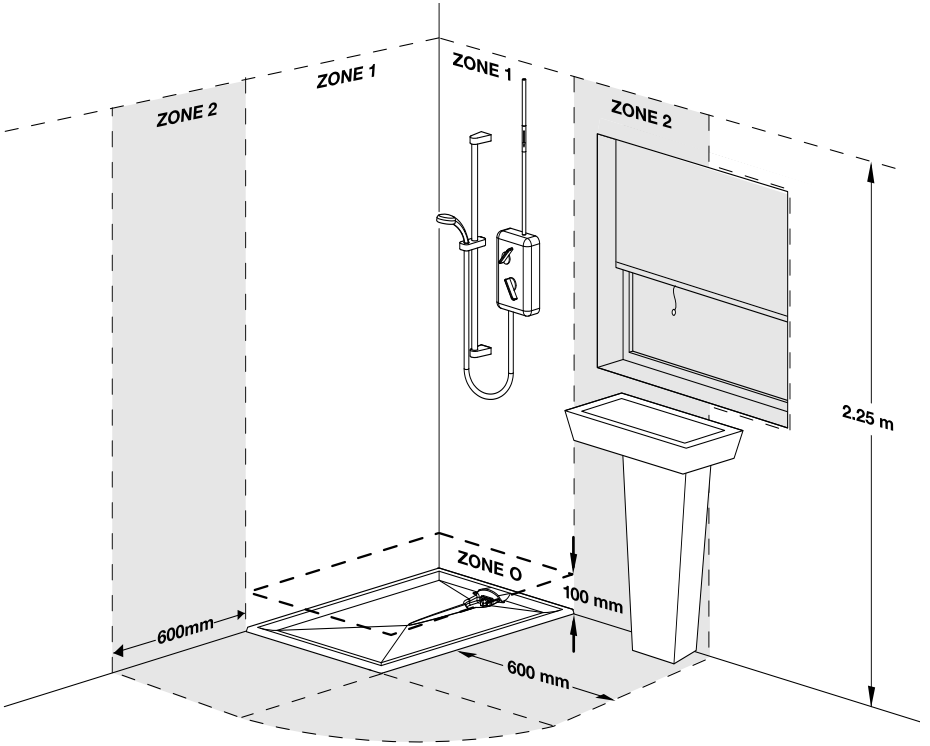
The AKW M17 DigiPump shower waste water pump must be installed by a suitably qualified, competent person eg. NIC EIC, in accordance with current IEE Wiring Regulations (BS7671), building regulations and local by-laws.

This product is rated at IP45 and suitable to be installed in Zone 1 or Zone 2 of a shower room only if these instructions are fully complied with.

The unit must be located away from the direct line of water jets.

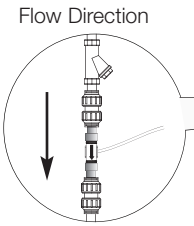
Note: Zone 1 lies above zone 0 and below 2250mm (88in) vertically above a shower tray or wet floor area.

The perimeter of zone 1 of a wet floor is within a 1.2 metres (47in) radius of the shower head position. Consult BS7671 for further clarification.



FOR GUIDANCE ONLY- PLEASE REFER TO BS7671 FOR FURTHER DETAILS

Electric Shower Installation



Flow Direction

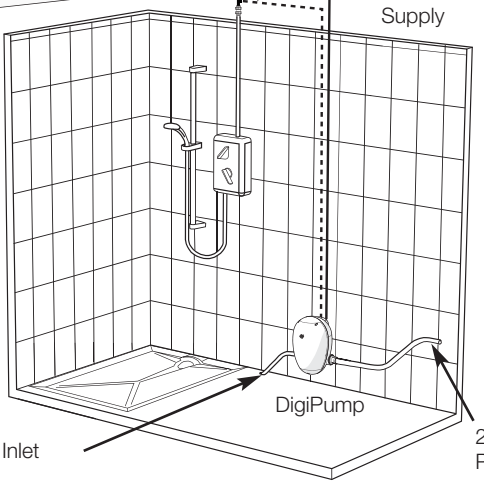
Fit Strainer before Sensor

Fit one flow sensor to cold water-feed pipe

12V DC Sensor Cable

From Flow Sensor or compatable electric shower.

230V AC Supply



Cable routing and separation must conform to wiring Regs BS7671.

Ensure Sensor and Strainer are in an easily accessible location.

Ensure shower water supply pipework is flushed before connecting to the shower sensor via the strainer.

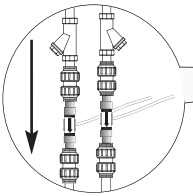
Ensure all cables and plumbing are behind water resistant surface.

DigiPump

22mm Pipework to Pump Inlet

22mm Outlet Pipework

Mixer Shower Installation



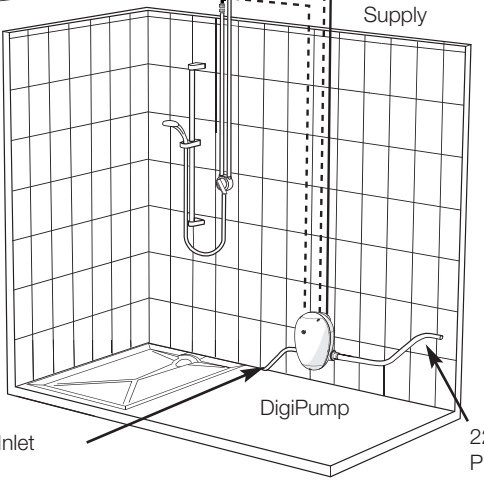
Flow Direction

Fit Strainer before Sensor

Fit two Flow Sensors. One to hot and one to cold water-feed pipes

12V DC Sensor Cable

230V AC Supply



Cable routing and separation must conform to wiring Regs BS7671.

Ensure Sensor(s) and Strainer(s) are in an easily accessible location.

Ensure shower water supply pipework is flushed before connecting to the shower sensor via the strainer.

Ensure all cables and plumbing are behind water resistant surface.

DigiPump

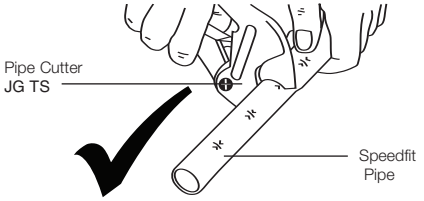
22mm Pipework to Pump Inlet

22mm Outlet Pipework

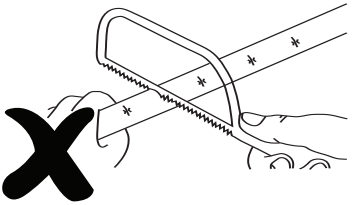
Note: REMOVE ALL BUILDING RUBBISH FROM TRAY

Otherwise you will be called out again to clear pump blockages!

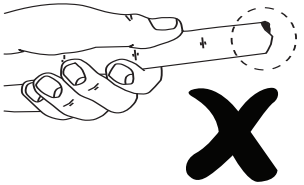
For Optimum Performance



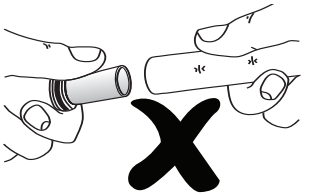
DO Cut plastic pipe using a pipe cutter



Do **NOT** use a hacksaw to cut plastic pipe



Do **NOT** use damaged pipe



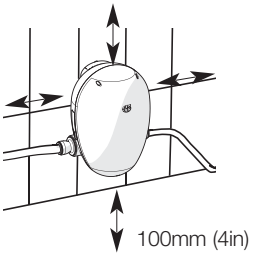
Do **NOT** use *Speedfit*® pipe inserts on low pressure lines as they create blockages

Note: JG PIPE CONNECTORS ARE NOT SUITABLE FOR CONNECTION WITH CHROME OR STAINLESS PIPEWORK. Remove any chrome plating on pipework of at least 20mm before inserting this type of pipe into JG fittings.

Fixing pump to surface

Important: For service & maintenance purposes this product must be installed in an accessible location.
Pipe connections must be easily accessible and a clearance of 100mm around the base and sides is recommended.

The pump unit must be located on a vertical surface with the inlet/outlet connections at the bottom of the unit in horizontal alignment, with the AKW case logo uppermost.

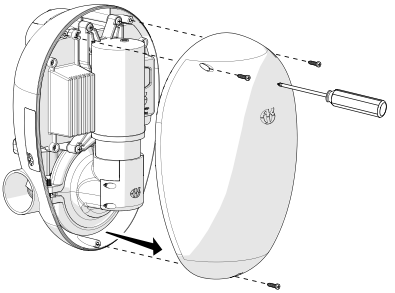


The unit must be located away from the direct line of water jets whenever possible.
DO NOT tile up to the pump unit on the wall, only fix onto surface.

Fixing pump to surface

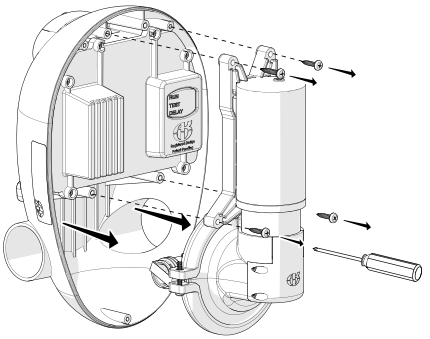
1

Remove front cover with a screwdriver.



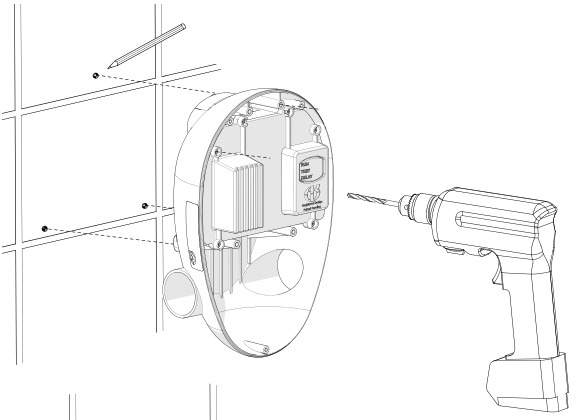
2

Disconnect cable.
Remove pump assembly from the back plate to access the fixing holes.



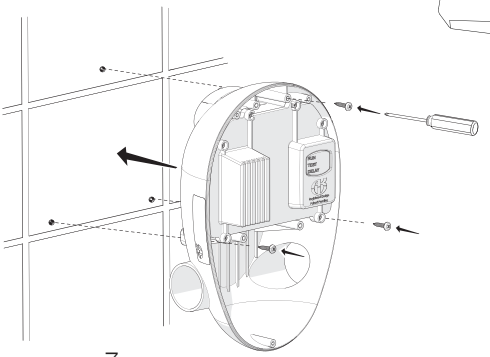
3

Fit to a finished surface.
Do not tile up to Pump case.
Using the back plate as a template mark the fixing holes. Drill and plug the wall taking care there are no hidden cables or pipes.
Use all the screw fixing positions.



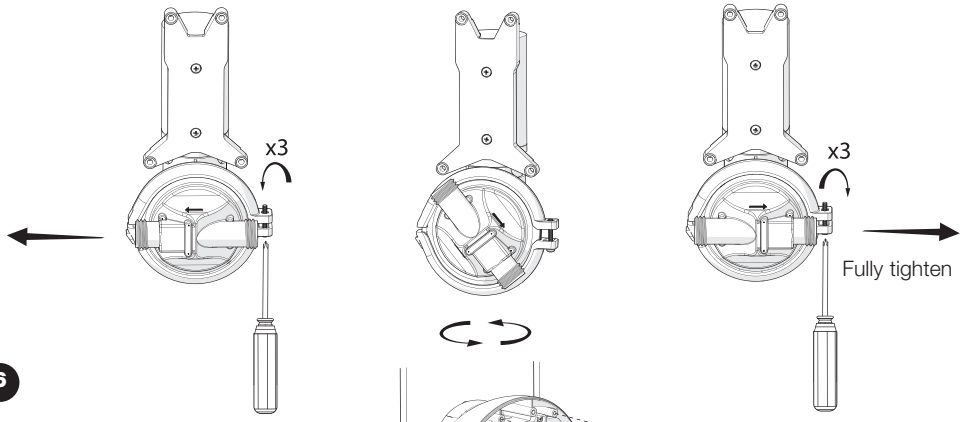
4

Mount the pump to the finished surface using all the wall fixings.
Use the Pump Spacers to prevent the cables being trapped.
See pump spacers installation instructions on page 13.



Fixing pump to surface

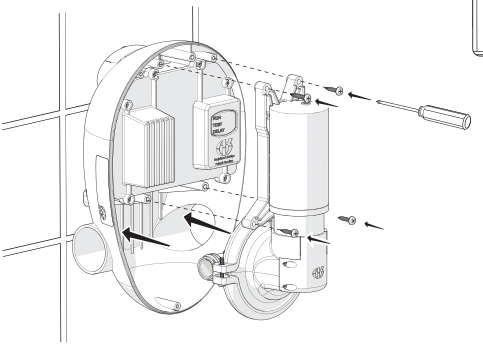
5 Check that the flow is in the required direction, reverse as required. Loosen the pump head housing, rotate and fully tighten home.



6

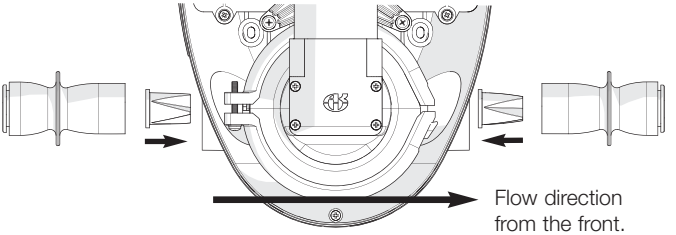
REMOVE SHIPPING TAPES from ends.

Refit the pump to the back plate.
Reconnect cable.



7

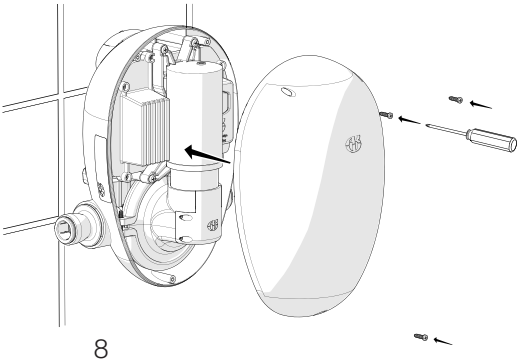
Fit the pump connectors to the pump.
Screw both ends into place. No thread sealant needed, firmly hand tighten only.



Check that you have not overtightened and distorted the valves before connecting the pipework.

8

Refit the front cover.

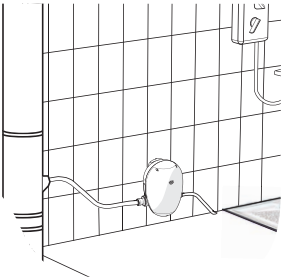


Plumbing Connections

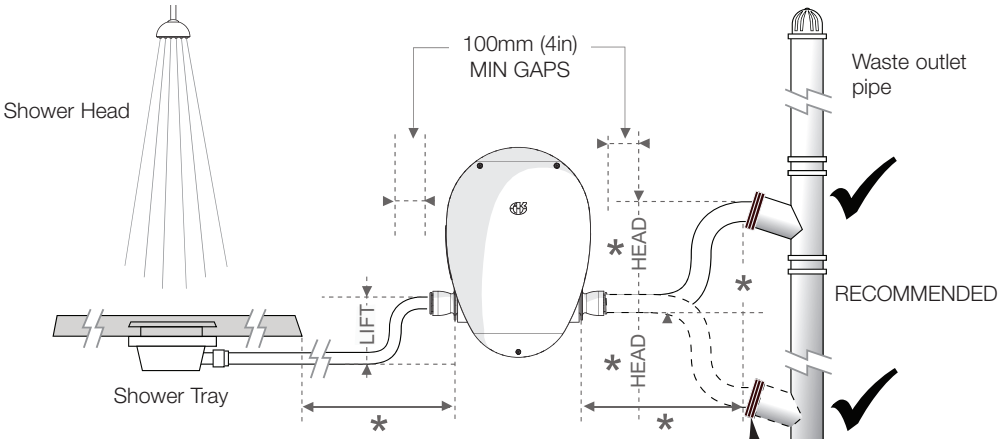
This AKW M17 DigiPump is rated for combined lift and head of 1.5m (59in) max.

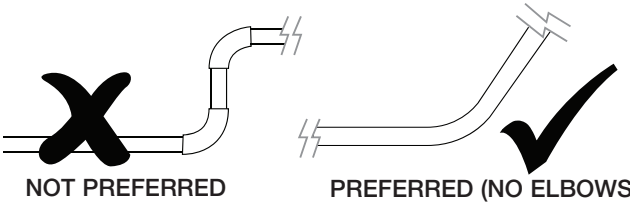
Max Head: 1.0m (39in) Max Lift: 0.5m (19in)

For best performance locate within 1m (39in) of shower and minimise the number of lifts, bends and the length of all pipes connecting the Pump to the waste outlet pipe.



Note: Increased Head/Lift conditions will affect the pump's performance.



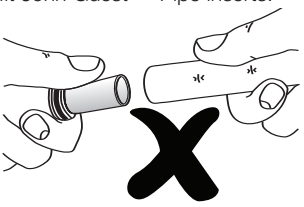


NOT PREFERRED **PREFERRED (NO ELBOWS)**

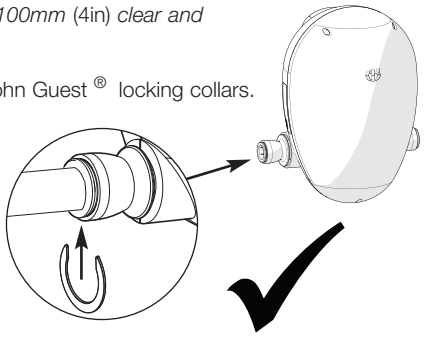
Important: *For service & maintenance purposes this product must be installed in an accessible location. Pipe connections must be easily accessed.*

Important: *All external pipe connections must be at least 100mm* (4in) *clear and suitable for pump removal.*

NEVER fit John Guest ® Pipe inserts.



ALWAYS fit John Guest ® locking collars.



Fitting Supply Flow Sensor To Electric Shower

The electric shower has one supply line – cold water – fit **one flow sensor** to this line.

Install the filter which is a Y-Pattern strainer, in the correct position to the shower water supply line and then fit the flow sensor between the filter and the shower heater.

NOTE: Direction of flow arrow moulded on casing is in the correct orientation.

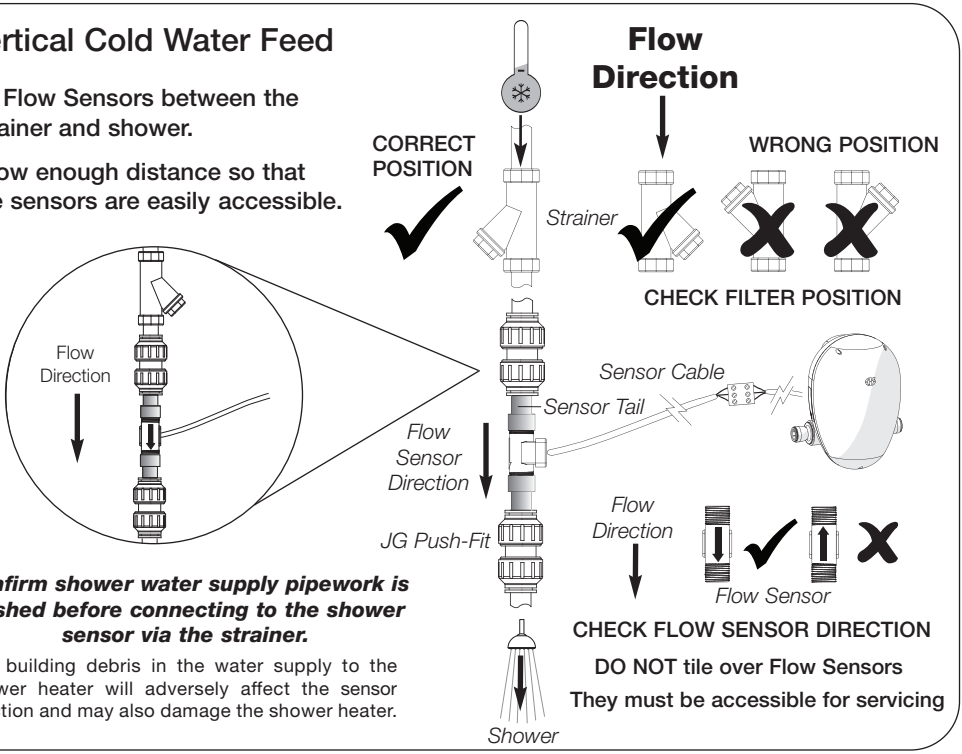
Connect the sensor cables from the flow sensor to the pump (see electrical installation).

Ensure sensors and strainers are accessible for service and maintenance purposes.

Vertical Cold Water Feed

Fit Flow Sensors between the strainer and shower.

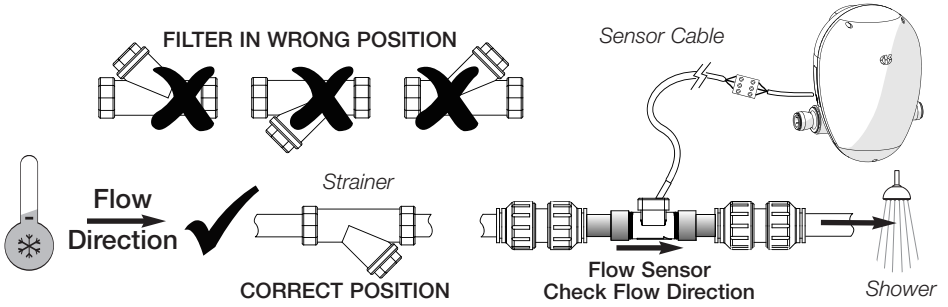
Allow enough distance so that the sensors are easily accessible.



Confirm shower water supply pipework is flushed before connecting to the shower sensor via the strainer.

Any building debris in the water supply to the shower heater will adversely affect the sensor function and may also damage the shower heater.

Horizontal Cold Water Feed



All cable connections must be in a dry location. **DO NOT tile over Flow Sensors.**

Failure to install the Strainer may invalidate any warranty for the product.

Fit sensor using an approved liquid based thread sealant suitable for nylon threads.

Fitting Supply Flow Sensor To Mixer Shower

The Mixer shower has two supply lines – hot and cold water– fit **one flow sensor** to **each** line.

Install the filter which is a Y-Pattern strainer, in the correct position to the shower water supply line(s) and then fit the flow sensor between the filter and the shower heater.

NOTE: Direction of flow arrow moulded on casing is in the correct orientation.

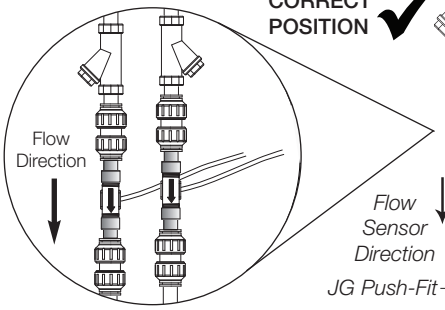
Connect the sensor cables from the flow sensor to the pump (see electrical installation).

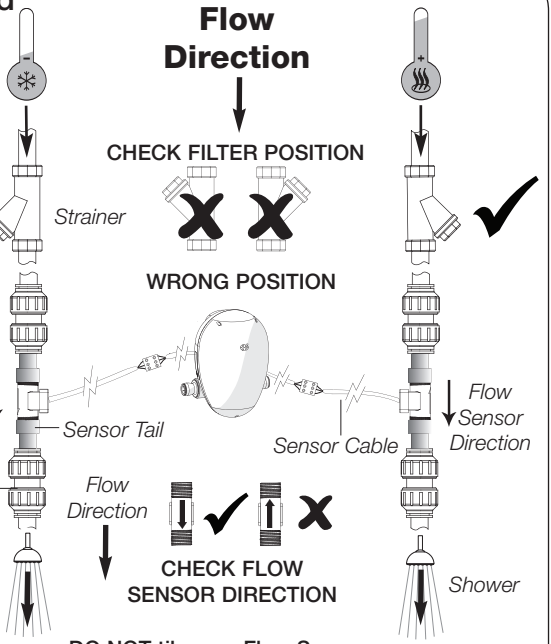
Ensure sensors and strainers are accessible for service and maintenance purposes.

Vertical Hot & Cold Water Feed

Fit Flow Sensors between the strainer and shower.

Allow enough distance so that the sensors are easily accessible.



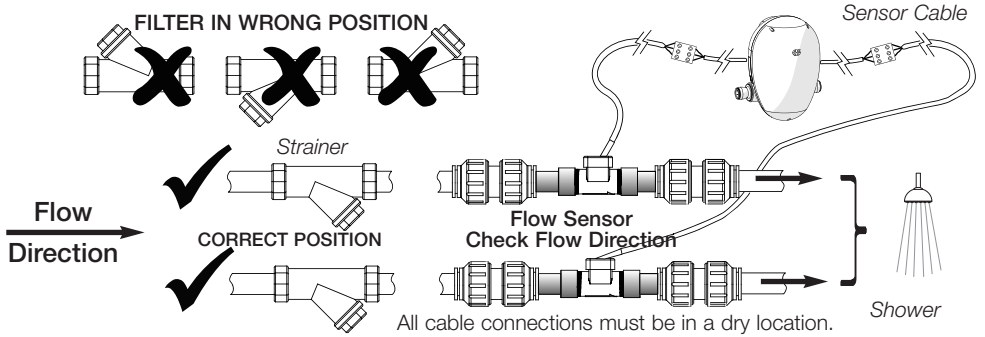


Confirm shower water supply pipework is flushed before connecting to the shower sensor via the strainer.

Any building debris in the water supply to the shower heater will adversely affect the sensor function and may also damage the shower heater.

DO NOT tile over Flow Sensors
They must be accessible for servicing

Horizontal Hot & Cold Water Feed



All cable connections must be in a dry location.

Failure to install the Strainer may invalidate any warranty for the product.

Fit sensor using an approved liquid based thread sealant suitable for nylon threads.

Electrical Installation

Ensure Mains Power Supply is Switched OFF before starting wiring.

DO NOT take risks with Plumbing or Electrical Installation.
Only a competent trades person should attempt this installation.

The AKW M17 DigiPump shower waste pump must be installed in accordance with the current IEE wiring regulations (BS7671) and local by-laws. NIC EIC recommended.

This product is rated at IP45 and may be installed in Zone 1 of a shower room only if the following conditions are fully complied with:

The pump unit must be located on a vertical surface with the inlet/outlet connections at the bottom of the unit in horizontal alignment, with the AKW case logo uppermost.

The unit must be located away from the direct line of water jets whenever possible.

Cable to and from the pump must be run directly out of zone 1 by the shortest route below the unit or directly behind into the vertical surface. All such routes must be sealed to prevent water ingress.

Cables routed from above, down into the device, act as a drip path and should not be used.

Cables must be protected against mechanical damage and sealed against water ingress.

The case must not be cut except for the thin rear shroud. Do not pierce casing.

The clearance behind the unit and separation from the wall must be maintained and the gap from case to wall must not be sealed.

The Pump Spacers kit supplied can be used to route the cables behind and below the unit if required.

All casing cable glands must be visually checked for presence of the elastomeric centre sealing grommet and tightness checked and confirmed before installing against the wall.

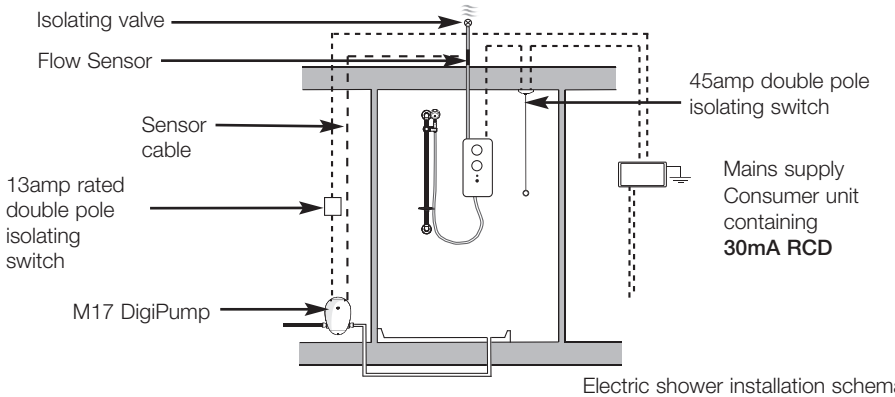
No cable joints may be made in zone 1.

The unit inner cover must not be disturbed and the outer cover must be correctly fitted.

The 230V AC power supply to this unit must be provided via a two-pole isolator switch and a dedicated circuit with a 30mA RCD device installed in accordance with the latest revision of the IEE Wiring Regulations BS7671.
It must be wired into a fused, unswitched, fixed wiring connector fitted with a 5 amp fuse.

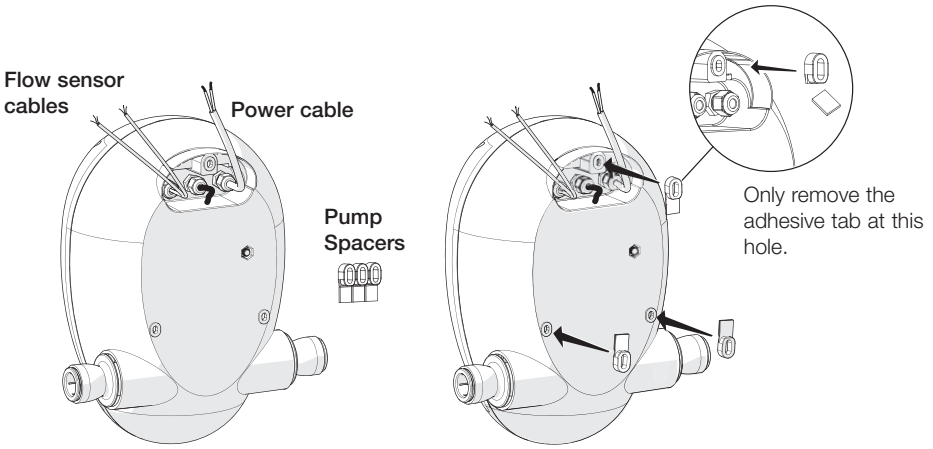
The IP45 rating of the AKW pump product refers to the inner casing containing the SELV electrical control gear. The pump motor which operates at SELV 24V DC (maximum) is located within the outer cover.

THIS CLASS II APPLIANCE DOES NOT REQUIRE AN EARTH



Electric shower installation schematic

Flow Sensor Connection



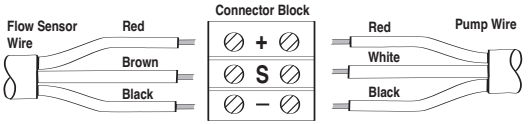
Pump spacer connection

Seperate the spacers, remove the adhesive backing and snap into position.

CONNECTING FLOW SENSOR TO M17 DIGIPUMP

Flow Sensor			Pump
+	**Red**	Connects to	**Red**
S	**Brown**	Connects to	**White**
-	**Black**	Connects to	**Black**

All cable connections must be in a dry location.



Any unused sensor wires must be terminated in a connector block and insulated using electrical insulation tape at a dry location. Failure to do this may damage the pump.

Ensure the pump spacers are used to prevent the cables from being trapped.

CONNECTING FLOW SENSOR TO COMPATIBLE SHOWER

To connect the flow sensor cable directly to a compatible electric shower please see the instructions supplied with your electric shower.

Pump set up

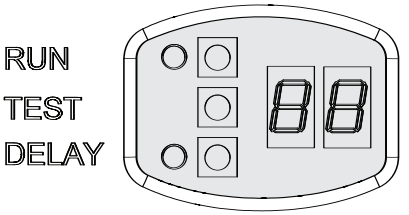
M17 Pump Calibration is only to be carried out by a suitably competent trades persons to prevent the risk of future adjustments causing flooding.

Control Button Description

Top Button = RUN (Sets shower stop run-on time)

Centre Button = TEST (Calibration)

Bottom Button = DELAY (Sets shower start delay to run)



Test

When power is supplied to the pump the upper run LED (yellow) should glow indicating a voltage present, and the digital display will show the run on timer setting in seconds (factory set is 20).

Press the TEST button. The digital display will show the start delay in seconds (factory set is 5) and the bottom LED will flash and start the following test sequence:-

Test sequence once button is pressed

1. Start delay timer counts down. (bottom LED flashing)
2. The pump runs with top LED flashing and the display shows the time to run.
3. The display returns to the set run on time.

This test can be carried out with or without water present and also the sensor fitted or not.

Calibration

The AKW M17 DigiPump allows for precise pump control of the shower water by calculating the amount of water the shower is producing. It may be necessary to adjust the pump once installation is complete. (the pump may be over or under pumping).

To calibrate the pump and compensate for this, press and hold the TEST button for around 5 seconds, until both LEDs flash. The pump is now in calibration mode. The display shows the factory calibration value stored (default is 50).

This can be adjusted using the RUN button (up) and the DELAY button (down). The value can be adjusted from 0-99.

Run the shower at the expected normal flow rate. The pump must run at a speed which removes the same amount of water as is flowing in.

Adjust the calibration value so the water level stays approximately the same. If the water level drops, decrease the value on the display so the pump runs slower. If the water level rises, increase the value on the display so the pump runs faster. When the value is set correctly, press the test button to store. The controller will then return to its normal operating mode.

Timer Adjustment

With the pump in normal operating mode and the LED showing the run on time:

Adjust Run on time. (the time the pump will run after the shower has stopped)

Press the RUN button: this will increase the time by 1 second, holding the button will increase the time rapidly, once the time reaches 99 it will roll over to 01.

Start Delay (the time before the pumps starts after the shower is operating)

Press the DELAY button: this will increase the time by 1 second, holding the button will increase the time rapidly, once the time reaches 99 it will roll over to 01.

Commissioning Checks

As a general precaution and check before installation, always ensure the supply pipework to the shower has been fully purged with at least 20 litres (2 buckets) of water through it before the flow sensor or shower water heater are fitted. Any building debris in the water supply to the shower heater will adversely affect the sensor function and may also damage the shower heater.

Install Pump according to these instructions. Failure to do so will void warranty. Confirm all push-fit pipes are fully inserted 20mm into fittings.

↓

Brush out all dust, grit and debris from shower tray

↓

Thoroughly clean out waste

↓

Confirm shower water supply pipework is flushed before connecting to the shower sensor via the strainer

↓

Turn on power to Pump

↓

Turn shower on Low Flow and confirm pump operates after approx 5 secs. Run for 2-3 mins

↓

Set shower to Maximum Flow

↓

Follow the Calibration setting, adjust pump speed on controller to match maximum shower flow

↓

Adjust RUN-ON and repeat until tray is cleared and pump stops with minimum RUN-ON

↓

Switch shower OFF. Pump will RUN-ON

↓

If you experience problems see Problem Solving section

Care and Maintenance

The integrity of the case and the RCD device operation must be checked quarterly as part of a routine safety and maintainance activity on the installation.

If the case shows any mechanical damage the unit must be isolated electrically and the entire unit replaced.

Pipework connections must be made to the unit with sufficient clearance (100mm minimum separation to any pipe bend or fitting adjacent to the inlet/outlet connections) to permit removal of the pump/head for routine maintenance and replacement.

The unit must be regularly cleaned using normal bathroom cleaning materials and rinsed down with clean water and wiped dry with a soft cloth to remove any cleaning residue.

Do not use strong or concentrated acidic or alkaline cleaning materials as these may discolour or otherwise damage the product. Do not use an abrasive cloth.

Problem solving

PUMP WILL NOT START

Please refer to pump instructions to ensure the pump is installed correctly.

Ensure flow sensor is connected to pump controller and power is on to pump controller.

Ensure that all pipe work is fully flushed before the flow sensor is installed, and the in-line strainer is in place.
Check flow sensor is installed in right orientation (Flow direction arrow moulded on the casing).
Most flow sensor problems are due to debris being caught inside the flow sensor. Remove sensor and check for debris.
If required reverse flush with water.

PUMP WILL START BUT NOT PUMP WATER

Check Non-Return Valves are fitted in inlet and outlet.

*Confirm plastic pipe inserts are **NOT** used. (see page 1 of instructions)*

Ensure all push-fit pipe connections are fully sealed and O-rings are not damaged or displaced.

The water pumping capacity can be adjusted by adjusting pump speed. Adjust pump speed using the calibration setting. Please refer to instructions overleaf

When increasing the pump speed, if the pump still performs low or no suction, take off the pump head by removing the clamp ring. Examine the inlet and outlet flap valves for traces of hard debris such as grit. If so, wash out all debris and ensure the valves are seated correctly.*

If problem persists, check all connections for air leaks or blockage in either the inlet or outlet pipework. Repair any leaks or clean blockages.

PUMP WILL NOT STOP

The pump has an overrun timer to allow it to continue to run after the shower has been switched off. This timer is factory set to 20 seconds.

With the power supply switched on, disconnect the flow sensor. Separate the disconnected wires. This will simulate the flow sensor turning off. Pump should stop after the overrun time. If not, check the controller display panel or cabling. If the pump has not stopped, disconnect power supply and contact customer services.

If controller is OK, remove and check the flow sensor, flush it through with water or replace it as necessary.

** Please See Pump Set Up*

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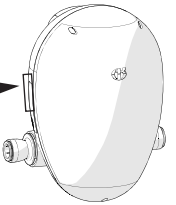
To be completed by Installer

Product Identification label
can be found on the pump case
and also on the outer packaging.



Model/Part Number _____

Pump Serial Number (SN) _____

_____

INSTALLED ON _____

INSTALLED BY _____

ADDRESS _____

_____

_____

CONTACT _____

_____

Please complete the registration card within 30 days and return to us in the prepaid envelope for your Free Warranty to start.

WARRANTY

This warranty is in addition to your statutory and other legal rights.

To validate and start the warranty, you must return your completed registration card.

AKW Medi-Care Ltd warranty covers your shower waste water pump against any defect in materials or workmanship for 5 years from the date of installation.
Within this period we will resolve defects free of charge by repairing or replacing as we may choose. To be free of charge work must only be undertaken by AKW or our approved agents in the UK or the Republic of Ireland and with prior agreement.

Any action taken under this warranty does not extend the stated 5-year expiry date.

NOT COVERED BY THIS WARRANTY

Damage or defects arising from incorrect installation, improper use, lack of maintenance including the build-up of limescale or any unauthorised modifications.

Actions taken to dismantle, repair or modify beyond that shown in this installation guide, by persons who are not AKW Medi-Care Ltd authorised service staff or agents.

Damage resulting from water freezing.

BEFORE USING YOUR SHOWER WASTE PUMP

Please take time to read and understand the operating and safety instructions detailed in this manual.

WHAT TO DO IF SOMETHING GOES WRONG

If your shower does not work correctly first follow the **Problem solving** chart on page 16, then contact your installer.

Should this not resolve your problem, contact AKW Customer Services who will provide further advice and if necessary arrange for our service engineer to visit, or discuss our comprehensive after-sales service. As part of our quality and training program calls may be monitored or recorded.

None of the forgoing affects your statutory rights.

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Important Safety Information

DANGER OF DEATH! 230V AC

Lethal Voltage present on the AC supply to the pump inner case. This unit must be connected to a double-pole switched supply, suitably fused and provided with a RCD protection..

Isolate this unit before access for maintenance or any other purpose.
Do not immerse in water.

No USER serviceable parts within case. The cover must only be removed by an authorised service person or electrician.

This product must be installed by a qualified and competent electrician and in accordance with the current edition of the Wiring Regulations BS7671. This appliance must be located to comply with the safety zones as defined in the wiring regulations.

Failure to install this AKW MediCare product in accordance with supplied instructions or the making of any unauthorised modifications will invalidate any warranty and will affect product safety.

The measurements throughout these installation and user care instructions have been converted from metric to its equivalent in imperial, therefore all dimensions are approximate and subject to manufacturing tolerances.
This information is furnished upon the condition that the person receiving it shall make his/her own tests to determine the suitability thereof for his/her particular purpose.

For further details on this and other AKW products please contact your distributor - see details on outer packaging