24V battery backup pump system

Installation and operating guidelines

The battery backup pump system is designed to protect a property where the possibility of primary pump failure through either a pump fault or loss of mains power would be catastrophic. The system comprises a control panel, 24 VDC backup pump, three float switches and a non-return valve.

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1. Contents

2. Product summary

The 24V battery backup pump system is designed to protect a property where the possibility of primary pump failure through either a pump fault or loss of mains power would be catastrophic. The system comprises a control panel, 24 VDC backup pump, three float switches and a non-return valve.

Key features

- Free standing 24 VDC pump suitable for ground, surface and storm water applications
- Control panel displays system status
- Visual and audible high level alarm indicator
- Trickle charging conditions battery and maintain full charge
- Non-return valve prevents back flow
- Micro floats switches to activate the pump and high level alarm

3. Site preparation and installation

3.1 Advisory

It is important to note that these instructions are for guidance only and it is the installer's responsibility to satisfy themselves that the installation procedure is in accordance with the site conditions and good building practice, to eliminate any potential damage to the system either during or after installation. The installer should also satisfy themselves that the system can be installed in conjunction with these guidelines, prior to work commencing.

Please read these instructions in full prior to commencement of the installation. If you are unsure on any part then please ask for advise before proceeding. Our technical helpdesk is available on 01442 211554 from 08.30–17.30, Monday to Friday.

Only qualified personnel should carry out the installation in accordance with the latest IET wiring regulations BS7671. All works should be in line with the Health and Safety at Works Act 1974.

3.2 Installation

1. Select a suitable location for the control panel, taking into account that the panel must be located within 4 metres of the pump. It is important to bear in mind access to the control panel for maintenance, ensuring it is located in a dry area and the alarm is audible to the end user.
2. Mount the panel to a wall or backboard using the mounting points at the back of the panel and appropriate screws and wall plugs (not supplied).
3. The pump is suitable for connection to 1¼" PVC pipework. All joins in the discharge line must be made with solvent cement, under no circumstances should push fit or compression fittings be used.
4. Once the primary and back-up pumps are connected to the discharge line ensuring that a separate non-return valve is used on both pumps.
5. The three float switches need to be fixed to the metal bracket (supplied) using the fittings provided (plastic washer and nut). Place the float switches into position ensuring that the activation arm is down and fixed into position using the plastic washer and nut.
6. The float switches should be located within the tank ensuring that the following configuration is adhered to:

'**Run**' Float	Top of bracket
'**High level alarm**' Float	Middle of bracket (float is to be higher than the primary pump float switch)
'**Off**' Float	Bottom of bracket

7. The electrical/float cables should be drawn through a cable duct back to the control panel and the appropriate wiring connections should then be made from the 24 V pump and float switches to the panel in accordance to the wiring diagram provided. (Please refer to Section 3.2.3 of this document).
8. The control panel should be connected to a 240 V, 13 amp fused spur by a suitably qualified person in accordance with the Institute of Electrical Engineers Regulations.
9. For connection to the mains supply it is imperative that the panel is connected to a separate power supply to that of the primary pump. This is because should a fault occur with the primary pump and blow its fuse, then the back-up system can still operate.
10. Please ensure that there is suitable slack on the cable to allow for the pump to be removed for maintenance.

To commission the control panel you must connect both the batteries using the connectors provided, a red indicator on the battery charger will inform you that the batteries are now charging, once fully charged the red indicator will turn green. To test the system, disconnect the primary pump from the mains power and fill the tank with water until the backup pump activates. Please note that prior to the back-up pump activating the high level alarm should sound.

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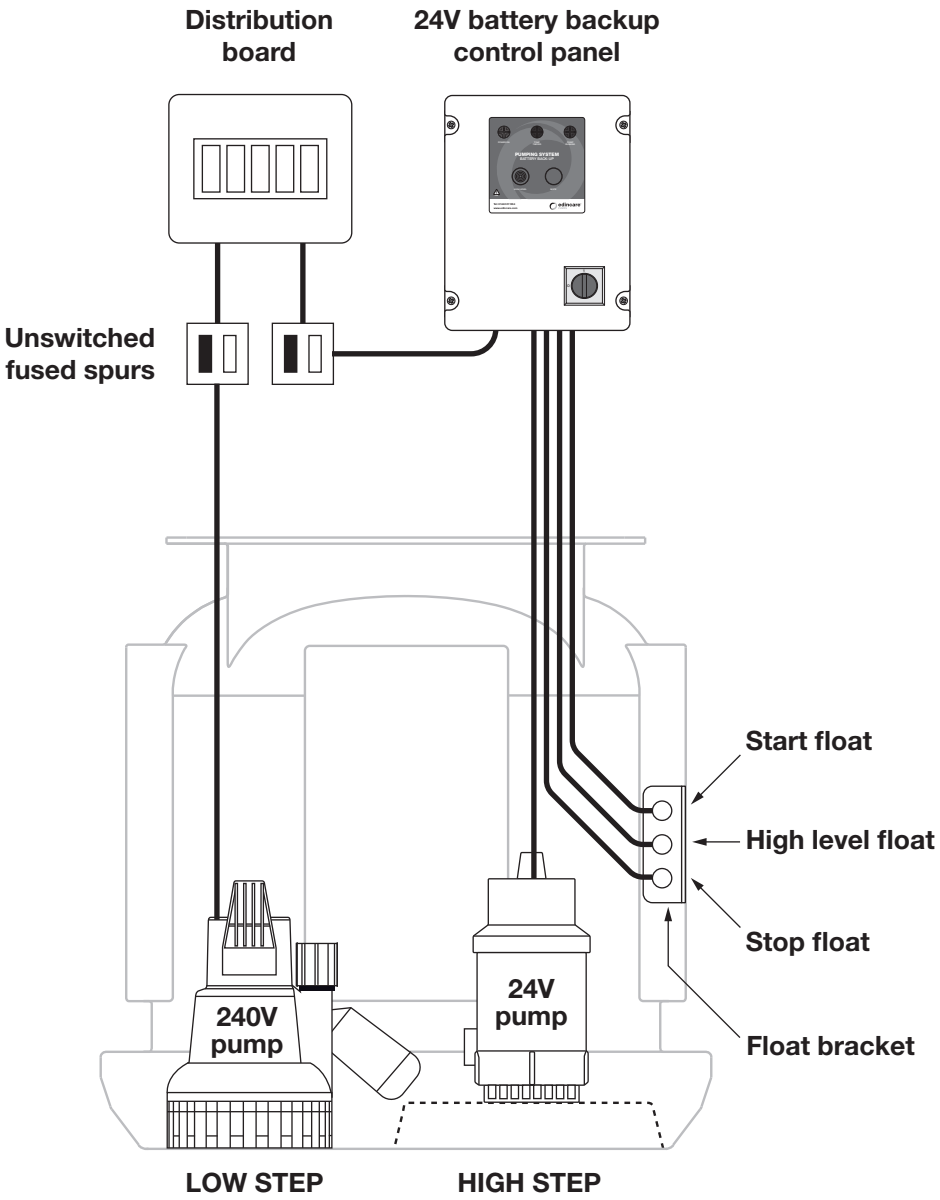
3.2.1 Single pump system schematic



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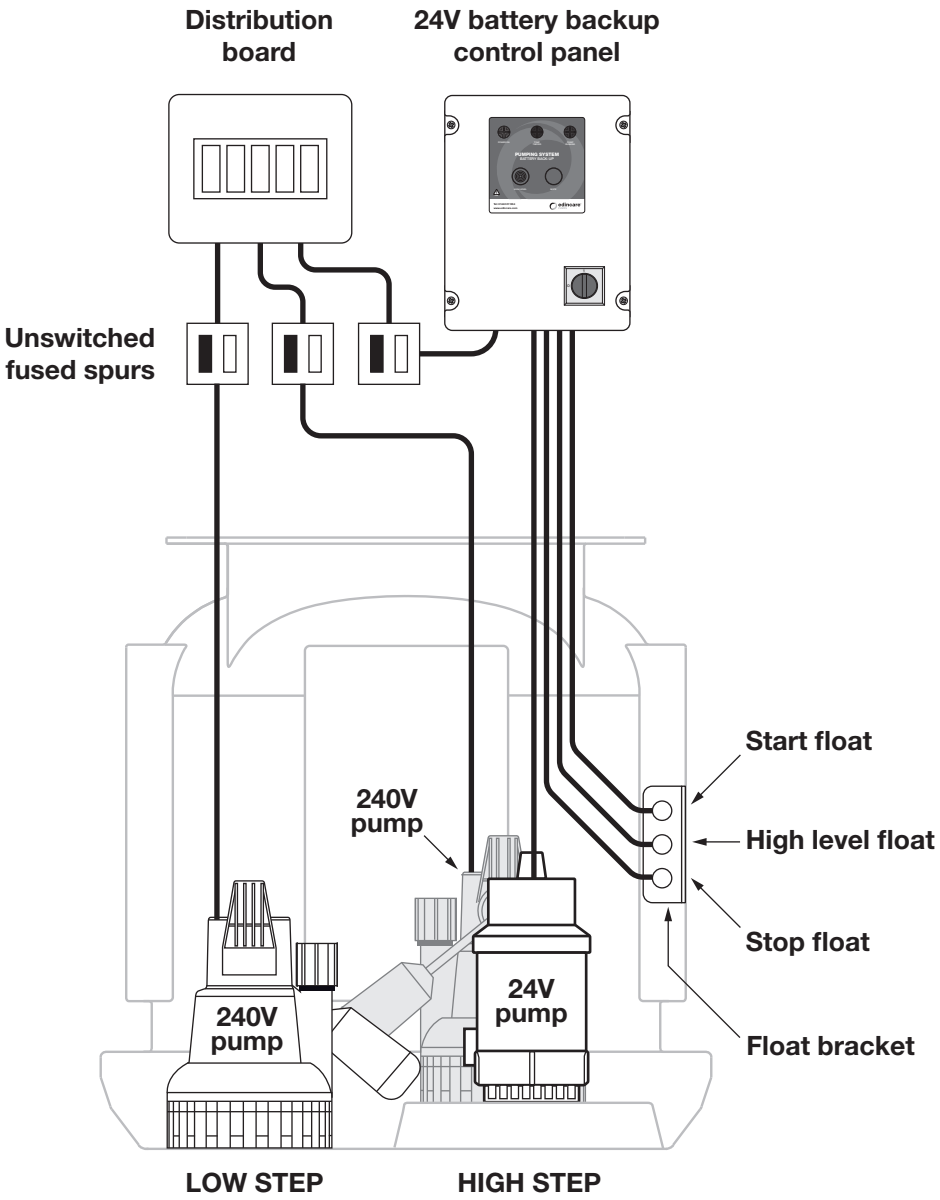
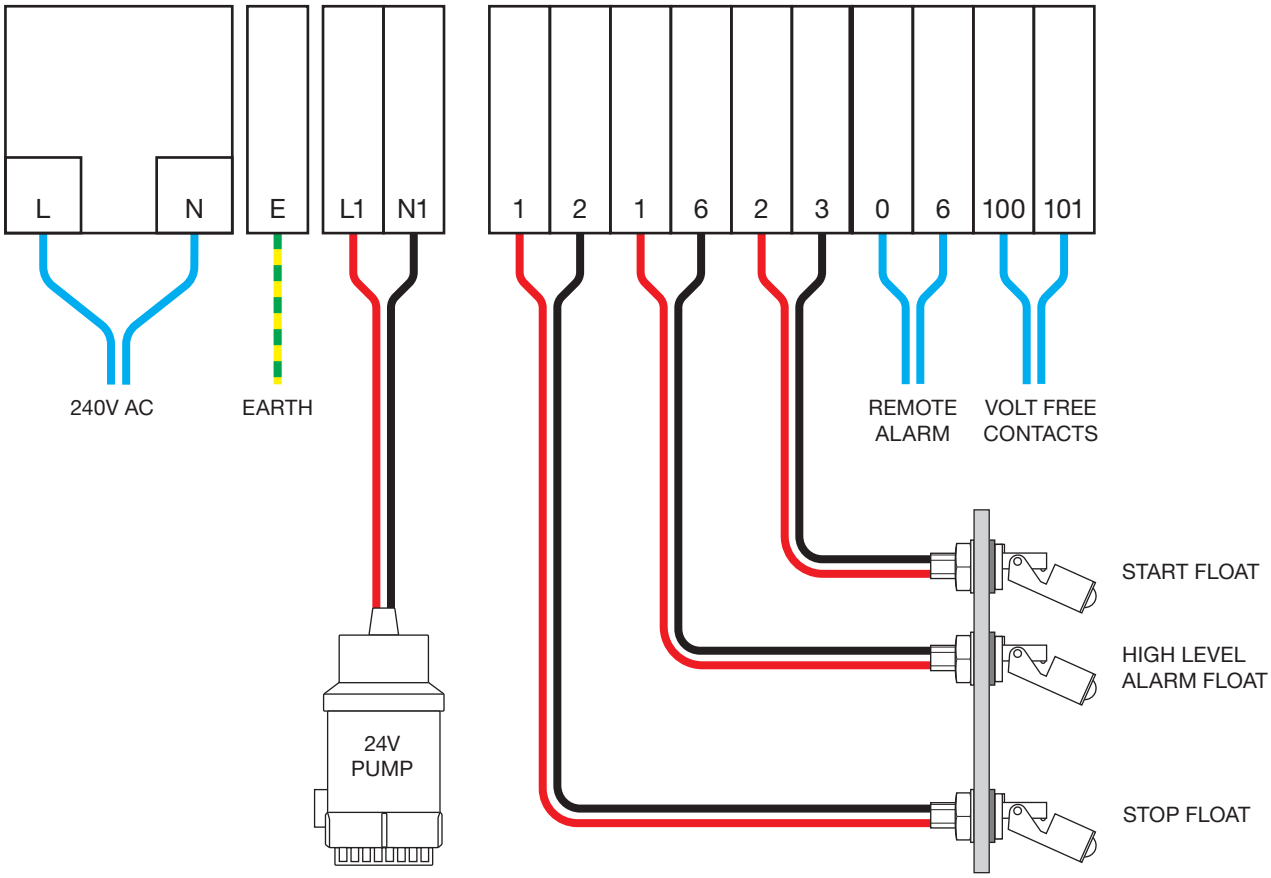
3.2.2 Twin pump system schematic



24V battery backup pump system

3.2.3 Wiring diagram

Should you require further assistance please contact our technical helpdesk on 01442 211554 from 8:30am – 5:30pm, Monday to Friday.



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3.3 Control panel operation

The most important element of the battery back-up system is the control panel as it controls and monitors the status of the complete system.

The panel consists of both visual and audio indicators. It is imperative that both the installer and end user fully understand their function.

3.3.1 Visual indicators

White Indicator (Supply On)	This indicates whether there is a mains supply connected to the unit. Should the mains supply be removed (i.e. power failure, blown fuse) the light will go out.
Red Indicator (Fault)	This indicates whether there is a fault with the back-up pump, such as a blockage, blown fuse or that the batteries have run dry.
Green Indicator (Running)	This indicates that the back-up pump is in operation.

3.3.2 Audio indicators

The battery back-up system comes complete with an audio alarm to alert the user when there is a high level situation within the tank. Also located on the front of the panel is an alarm mute button to silence the alarm in a high level situation.

A. Power Indicator. When lit this indicates there is a mains supply connected to the unit. Should the mains supply be removed (i.e. power failure, blown fuse) the light will go out.

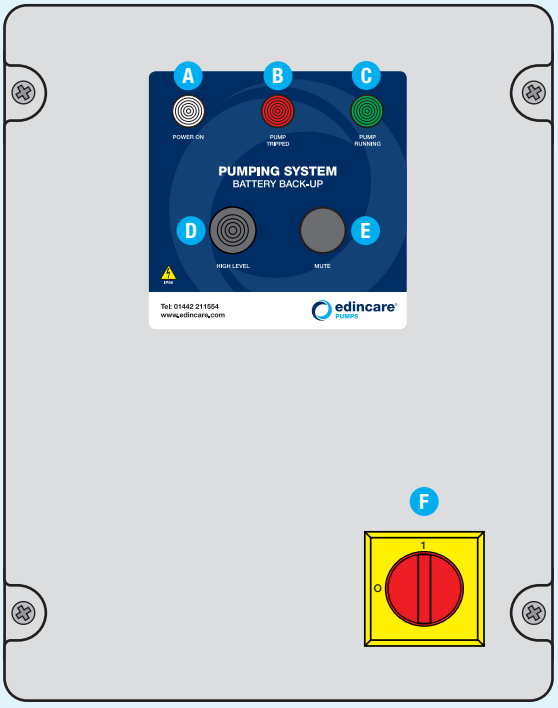
B. Pump Tripped Indicator. When lit this indicates there is a fault with the back-up pump, such as a blockage, blown fuse or that the batteries have run dry.

C. Pump Running Indicator. When lit this signifies that the 24V battery backup pump is in operation.

D. High Level Alarm. This is the audio sounder that will activate if there is a high level condition within the chamber.

E. Alarm Mute Button. This button will silence the audio sounder should there be a high level condition within the chamber.

F. Mains Isolator Switch. This switch controls the main electrical supply to the unit.



Control panel

24V battery backup pump system

4. Technical specifications

Model	24V battery backup pump
Power supply to panel	230V AC
Power supply to pump (via panel)	24V DC
Motor rating	280W
Rated current	13A
Max. certical output	6m
Max. flow Rate	150l/min
Max. liquid temperature	<40°C
Discharge size	1¼"
Cable length	3m
Weight	4.8kg
Colour	Blue / Black
Impellor type	Vortex
Control	Manual / Automatic

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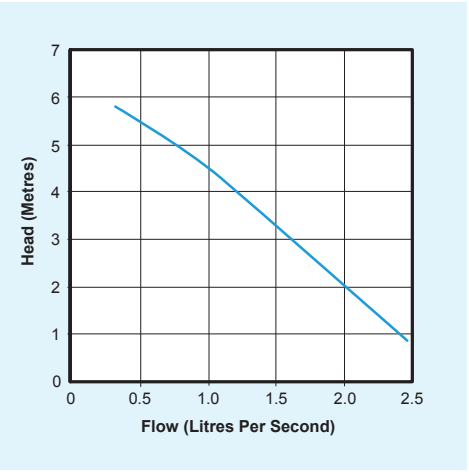


5. Dimensions

Product	Height	Width	Depth
Control panel	495mm	370mm	200mm
Pump	130mm	150mm	320mm

6. Parts list

Qty	Description	Code
1	NCC 24V back-up Pump	11012
3	'Mini' float switches	9101
1	Control panel	3003
1	1¼" non-return valve (brass)	1019
1	Float bracket ('L', 3 float)	24000

7. Transport

The pump and panel will be packed in bubble wrap and boxed. Carefully unpack the battery back-up system from the packaging and inspect it for any signs of damage. Should there be any damage present it must be reported immediately (no claim will be considered after 24 hours from time of delivery).

8. Maintenance

Before carrying out any maintenance work the unit should be completely disconnected from the mains, and measures should be taken to prevent the unit being inadvertently switched back on.

8.1 Maintenance overview

Please note that all batteries relating to high level alarms and battery backup systems must be replaced every 2 years.

When undertaking works within the chamber suitable measures MUST to taken to ensure safe access in accordance with current safety regulations (see Section 9).

Please refer to Section 11 for further information on service agreements offered by Edincare Pumps. To arrange a service please call our technical helpdesk on 01442 211554 from 8.30am–5.30pm, Monday to Friday or via email aftersales@edincare.com.

8.2 Batteries

Periodically check the efficiency of the battery with particular attention to the state of charge. The batteries are sealed, so do not try to open them to top them up. They contain corrosive acid which is dangerous to the eyes in particular. Furthermore, periodically simulate a blackout during the control phase, by removing the external mains voltage by means of the external thermomagnetic circuit breaker.

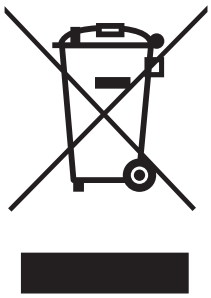
8.3 Disposal

The dispersion into the environment of harmful substances such as acids present in batteries, fuels, oil, plastic, copper, etc. can seriously harm the environment and people's health.

After installation of the switchboard, dispose of waste materials in the most suitable way according to the laws in force.

This product assembly is classified as Electrical or Electronic equipment and should not be disposed of in normal domestic or commercial waste. The mandatory crossed out wheeled bin symbol on the product indicates that the product shall not be mixed or disposed of in household or commercial waste. Under the WEEE Directive, the equipment should be recycled using the best possible techniques to minimise environmental impact and avoid unnecessary landfill.

For further information visit www.legislation.gov.uk/uksi/2013/3113/contents/made



9. Health and safety

Please pay attention to the following regulations when installing the product or ask your qualified electrician/distributor.

9.1 Safety precautions

In order to minimise the risk of accidents in connection with the service and installation work the following rules should be followed:

- Make sure there are no poisonous gases within the work area.
- Check the explosion risk before using electric hand tools.
- Do not ignore health hazards.
- Observe strict cleanliness.
- Bear in mind the risk of electrical accidents.
- Make sure you have a clear path of retreat.
- Use a safety helmet, safety goggles and protective shoes.
- If working at height or in confined spaces, please ensure you meet the current health and safety regulations.
- A first aid kit must be close to hand.
- No unauthorised modifications should be made.
- Operation should be in accordance with this guide.

9.2 Electrical connections

Anyone carrying out electrical work must ensure that reasonable provision has been made in the design and installation of the electrical installations in order to protect any persons who might use, maintain or alter the electrical installation of that dwelling from fire and injury, including electric shock, this should be done in accordance with the latest IET wiring regulations BS7671.

- The following works should only be done by qualified and authorized electricians.
- Safeguard Europe disclaims all responsibility for work done by untrained or/and unauthorized personnel.
- Heed operating voltage (as shown in Section 4 and additional labels).
- Take out the main fuses to isolate the mains power supply from the control system before repairs or any other works and ensure it cannot be energized again.
- Before starting check the efficiency of the protective arrangements of the pump and the monitoring equipment. Failure to heed this warning may cause a lethal accident.
- Do not put the lead ends into water! Irruption of water may cause malfunctions.
- If persons are likely to come into physical contact with the pump or pumped media, the earthed (grounded) socket must have an additional connection to an earth (ground) fault protection device (GFI). (See earthing)
- Connection only to a mains power supply installed in accordance to the local regulations. Please consider the voltage drop of long supply cables.
- Replace the cable if the cable jacket is damaged. Do not pinch the cable or pull it around sharp bends.
- Always install the control unit in a dry and well-ventilated room above the backpressure level. Never install the control unit within the chamber.

9.3 Earthing

For safety reasons, the earth conductor should be approximately 50mm (2”) longer than the phase conductors. If the motor cable is jerked loose by mistake, the earth conductor should be the last conductor to come loose from the first terminal. This applies to both ends of the cable. Ensure the correct earthing of the pump and control system.

DO NOT OPEN THIS UNIT IF NOT QUALIFIED TO DO SO

To reduce the risk of electric shock, do not remove cover. No user-serviceable parts inside. Refer servicing to qualified service personnel.

DISCONNECT FROM MAINS BEFORE REMOVING COVER.

10. Product guarantee

12-month guarantee (please refer to our Terms and Conditions for further information).

https://www.edincare.com/general-information/terms-conditions/#Guarantee

11. Service agreement

Our service agreements consist of planned preventive maintenance visits at an agreed frequency. As part of all service visits, a detailed service check list is utilised that covers all visual inspections, working tests, system adjustments and electrical safety checks.

Service agreement benefits:

- 10% discount off of all parts.
- Flexible payment options (Monthly Direct Debit).
- Service terms available between 2 – 5 years (discounts offered subject to service term).
- Out of hours service.
- Service visits to suit your schedule.
- Reduced emergency call out rates.
- Provide full reporting on all works undertaken, this includes current condition of equipment and any recommended works.
- Preferential scheduling of emergency call outs.
- Increased life expectancy of equipment.
- Reduced risk of breakdowns with their associated costs and inconvenience.
- Free technical advice available via our help line.
- Fully trained service engineers.
- Nationwide coverage.

Service visit intervals:

Please note; in accordance with BS EN 12056-4 and Edincare Pumps recommendations the pump equipment must be maintained at intervals of:

- Once per annum – Single residential dwelling
- Twice per annum – Single residential dwelling where there is a risk of flooding as a result of product failure (for example, basement applications) & Multiple residential dwellings
- Four times per annum – Commercial premises

A service agreement can be arranged by contacting Edincare Aftersales on 01442 211554 (option 2) and/or at aftersales@edincare.com

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PUMPS

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