SumpFlush & SumpFlushTwin

Installation and operating guidelines

The SumpFlush pump stations are specifically designed for the removal of groundwater from basement cavity drainage membrane systems. Each system comprises of a polyethylene chamber, locking access cover (pedestrian duty, not suitable for roadways), one or two powerful submersible pumps and internal pipework.

Models

SumpFlush
SumpFlushHP
SumpFlushTwin
SumpFlushHPTwin
SumpFlushTwin c/w Timer Control Panel
SumpFlushPlusHPTwin c/w Timer Control Panel

edincare® PUMPS

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08/20/DM/3.0

SumpFlush and SumpFlushTwin

1. Contents

2. Product summary

The Sumpflush Range is a range of fully automatic waste water pump stations, suitable for pumping ground water from a cavity membrane system and/or surface water from lightwells to a higher level.

The systems comprise of a polyethylene chamber, stainless steel float bracket, 1¼" PVC internal pipework and one or two powerful 240V submersible pumps. The systems are very versatile, enabling the installer to locate inlets to their specifications.

The systems comes with a locking, pedestrian duty, access cover.

It is recommended that a high level alarm product is installed, which alerts the end user if the water rises above the normal operating level within the chamber. High level alarm kits can be purchased to installer specifications.

A battery backup system is also highly recommended especially for ground water applications, where inflow cannot be controlled. Battery backup systems can be purchased to installer specifications.

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 install in conjunction with these guidelines, prior to work commencing.

The chamber is manufactured from polyethylene and as such is extremely robust. However, as with any preformed chamber they are susceptible to floatation and hydrostatic pressures exerted in high water table conditions.

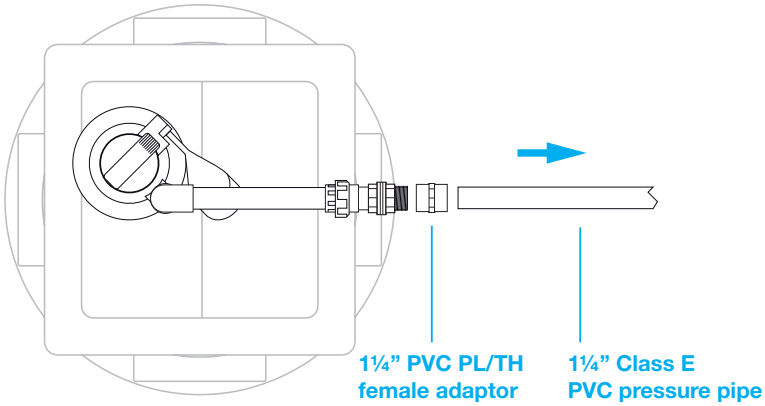
Only qualified personnel should carry out the installation in accordance with the latest IET wiring regulations BS7671. All works should be in line with the Health and Safety at Works Act 1974.

Please read these instructions in full, prior to commencement of installation. If you are unsure on any point then ask for advice before proceeding. Our technical help desk is available on 01442 211554 from 08:30–17:30 Monday to Friday.

3.2 Installing the pumping station

1. We recommend the pumping station discharges to 1¼" Class E PVC pressure pipe. Apply PTFE tape to the male threads of the tank connector and use the supplied 1¼" PVC PL/TH female adaptor.

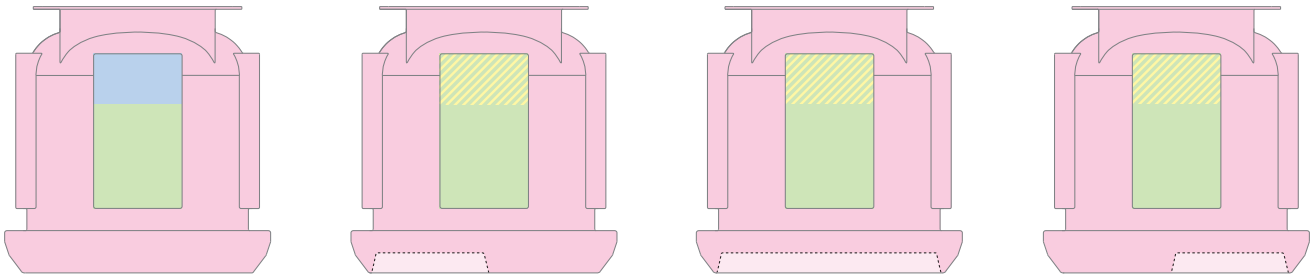
   Do not discharge to white 36mm OD low pressure PVC waste pipe.



Connecting to external discharge pipework

2. Select a suitable location for the pumping station. It is extremely important to site the system with permanent access in mind for routine maintenance of the system.

3. Prepare the chamber for all connection, incoming pipe/s (inlet/s and cable duct). To do this you must select the location and drill the appropriate sized inlet/s and cable duct for the connections (see Section 7 Accessories' for inlet and cable duct rubber seals).



COLOUR KEY	
PINK	No drilling allowed
BLUE	Discharge only
GREEN / YELLOW	Cable ducts or inlets
GREEN	Inlet location only

Positioning discharge, inlets and cable ducts

4. A reinforced waterproof concrete sump must be formed for the chamber to be installed within. This will ensure that any pressure present is not transferred onto the chamber itself. Furthermore, when constructing the reinforced waterproof concrete sump it is important that adequate space is made for connections to the chamber e.g. inlet/s, cable ducts and discharge. Consideration must also be made regarding the depth and orientation of all connections to ensure that they line up with the chamber.

   It is imperative that you consult with a structural and waterproofing engineer when designing the reinforced waterproof concrete sump, ensuring that it allows for the anticipated pressures and that they are not transferred onto the chamber.

5. In all instances, the chamber MUST be positioned on a flat, level, concrete base of dimensions sufficient to fully support the base of the chamber. Once the reinforced waterproof concrete sump has been formed, lay a 100mm mass concrete within your reinforced waterproof concrete sump, carefully position the chamber onto the WET concrete base ensuring that no loose debris is inadvertently knocked onto the base, under the chamber during this procedure. Push the chamber into the wet concrete ensuring that the concrete is fully imbedded into the bottom of the chamber. Position it such that the inlet/s, cable duct and discharge pipe work are correctly aligned.

6. Once the chamber is positioned, connect all pipes (inlet/s, cable duct and discharge) to the chamber.

7. Whilst the concrete base is still WET backfill the chamber with a mass concrete. The concrete must be evenly poured around the chamber ensuring that no voids are left within the concrete. Care must be taken to ensure that any pipes (or other connections) made, are not damaged. During the concrete pour, ensure that the chamber is vertical (by use of a spirit level across the chamber's opening). The chamber MUST be ballasted with water at the same rate as backfilling such that the level difference between the water and the backfill does not exceed 150mm at any time.

   Please ensure that when pouring the concrete backfill, suitable steps are taken to prevent the concrete entering the chamber and any connected pipework.

8. The system is supplied with an access cover, this is loose and should sit directly above the top of the chamber access shaft. Please note that the chamber is only suitable for installation to a maximum of 300mm deeper than supplied from finished floor level.

9. Please note that the ballast water inside the chamber should not be removed until the backfill has fully cured.

10. It is recommended that an external gate valve (see Section 7 Accessories) be installed on the discharge line above slab level should the vertical lift exceed 3 meters.

11. It is extremely important that once the chamber has been installed, before the pump is installed, the system is flushed through and all sand, silt, rubble and general debris removed from the chamber.

    FAILURE TO DO THIS WILL INVALIDATE THE WARRANTY ON THE PUMPS.

12. Install the pumps and draw these cables through the cable duct back to the control equipment/electrical supply.

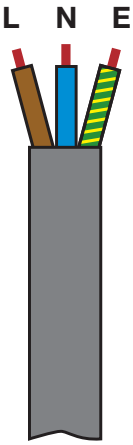
13. Commission the pumping station. A commissioning service is available, simply contact us on 01442 211554 for further information.

3.3 Electrical requirements

A qualified person in accordance with the Institute of Electrical Engineers Regulations should connect the Submersible Pumps, 24V Battery Backup System and AquaSafe Alarm to the mains supply taking into account all the electrical information provided.

1. Each device (as defined above) should be connected to its own 230V unswitched fused spur. Fuse to be suitably sized based on the electrical specifications as detailed under Technical Specification (see section 4).
2. Each unswitched fused spur to be powered from its own dedicated breaker within the distribution board. Breaker to be suitably sized based on the electrical specifications as detailed under Technical Specification (see section 4).
3. Ensure that the appropriate breaker within the distribution board is clearly marked for isolation of the connected device.
4. Please ensure that there is suitable slack on the cable to allow for the pump/s to be removed for maintenance.

   All unswitched fused spurs should be sited adjacent to the pumps / control panels. The unswitched fused spurs for the pumps should be minimum of 1 metre above the top of the pump station chamber.
5. Please refer to Electrical Configuration (see section 8).
6. This work should be entrusted to a qualified electrician in accordance with the latest IET wiring regulations BS7671.
7. Keep the connection isolated until you are ready to test the system.



L Live (Brown)
N Neutral (Blue)
E Earth (Green/Yellow)

3.4 AquaSafe Alarm

Please refer to the AquaSafe Alarm Installation & Operating Guidelines.

3.5 UPS2000 and UPS3000 battery backup systems

Please refer to the UPS2000 and UPS3000 Installation & Operating Guidelines.

3.6 24V battery backup pump system

Please refer to the 24V Battery Backup Pump System Installation & Operating Guidelines.

3.7 Control panel with 10-hour changeover timer

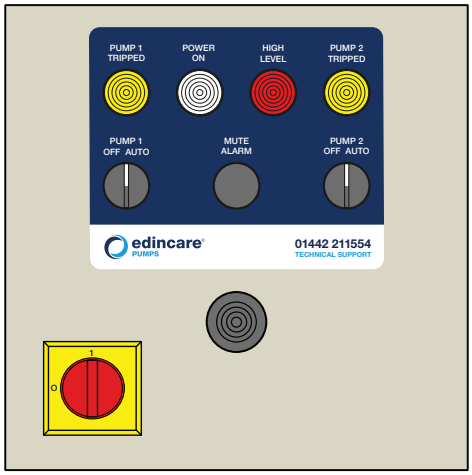
This optional control panel switches the duty of the pumps periodically to even out the wear on the pumps. It also as a high level alarm and volt free contact.

The wiring diagram can be found inside the control panel.

1. Select a suitable location for the control panel, taking into account that the panel must be located within 5m of the pump. It is important to bear in mind access to the control panel for maintenance purposes, ensuring it is located in a dry area and the audio alarm is audible to the end user.
2. Mount the panel to a wall or backboard using the stand off brackets supplied with the panel and appropriate screws and wall plugs (not supplied).
3. The one float switch needs to be fixed to the metal bracket using the fittings provided (plastic washer and nut). Place the float switch into the middle position on the float bracket, ensuring that the activation arm is down and fixed into position using the plastic washer and nut. This float activates the high level alarm.
4. The electrical/float cables should be drawn through the cable duct back to the control panel.
5. The panel should be connected to a 230V 13A unswitched fused spur.
6. Please ensure that there is suitable slack on the cable to allow for the pump to be removed for maintenance.

3.7.1 Control panel operation

The panel consists of both visual and audio indicators that are imperative for both the installer and end user to fully understand.



Visual indicators

Indicator	Meaning
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.
Yellow indicator (Pumped tripped)	This indicates that the pump has tripped. If the duty pump trips, duty is automatically switched to the other pump.
Red indicator c/w sounder (High Level Alarm)	This indicates that the water level within the pumping station is at an excessive level. A fault maybe present with the pumping station.

Audio indicators

The control panel comes complete with an audio alarm to alert the user when there is a high level situation within the chamber. Also located on the front of the panel is an alarm mute button to silence the alarm in a high level situation.

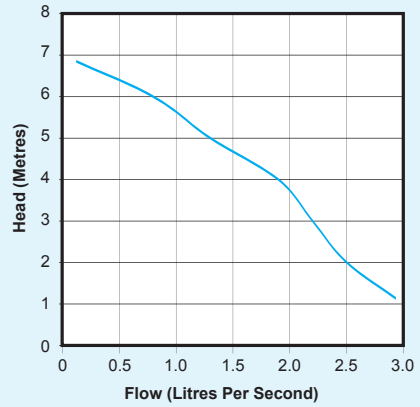
Upon notification of this audio indicator, please check that the Pump Tripped indicators are not illuminated. It is also advisable that you check the mains supply to the 240V pump/s is present.

4. Technical specifications

4.1 Sumpflush Range

Model	Standard (EA31 pump)	HP (EA33 pump)
Power Supply	230V AC	230V AC
Rated Current	1.9A per pump	4.9A per pump
Motor Rating	180W per pump	500W per pump
Frequency	50Hz	50Hz
Revolutions Per Min.	2800rpm per pump	2800rpm per pump
Max Vertical Output	6.7m	12.5m
Max Flow Rate	2.9 l/s	3.9 l/s
Max Liquid Temp.	<50°C	<50°C
Discharge size	1¼" / 32mm	1¼" / 32mm
Free passage	10mm	10mm
Cable Length	5m	5m
Colour	Red	Red

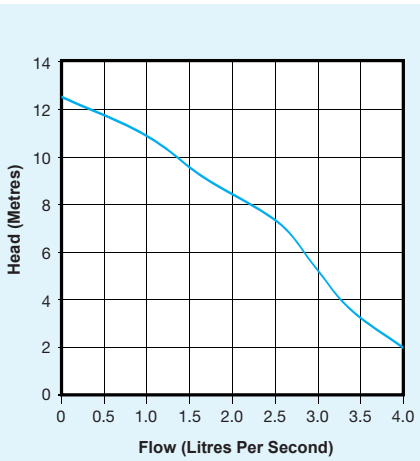
SumpFlush



4.2 Weight (excluding packaging and accessories)

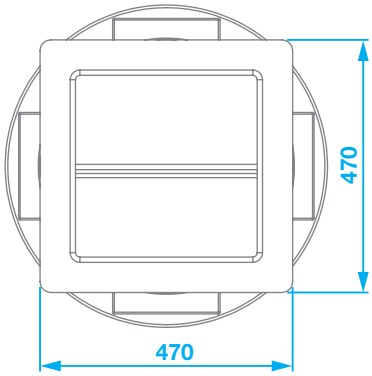
Model	Weight
SumpFlush	16.5kg
SumpFlushHP	18.5kg
SumpFlushTwin	22.5kg
SumpFlushHPTwin	26.5kg
SumpFlushTwin c/w Timer Control Panel	32.5kg
SumpFlushPlusHPTwin c/w Timer Control Panel	36.5kg

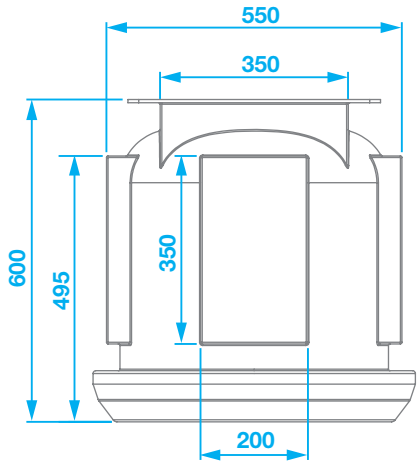
SumpFlushHP

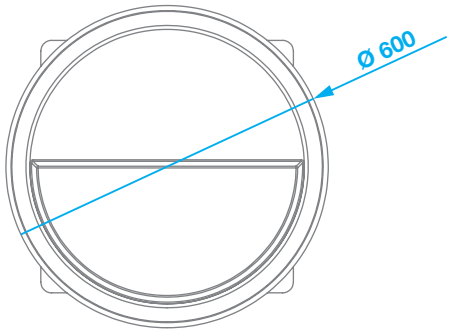


5. Dimensions

Model	All models
Diameter	600mm
Height	600mm







6. Parts list

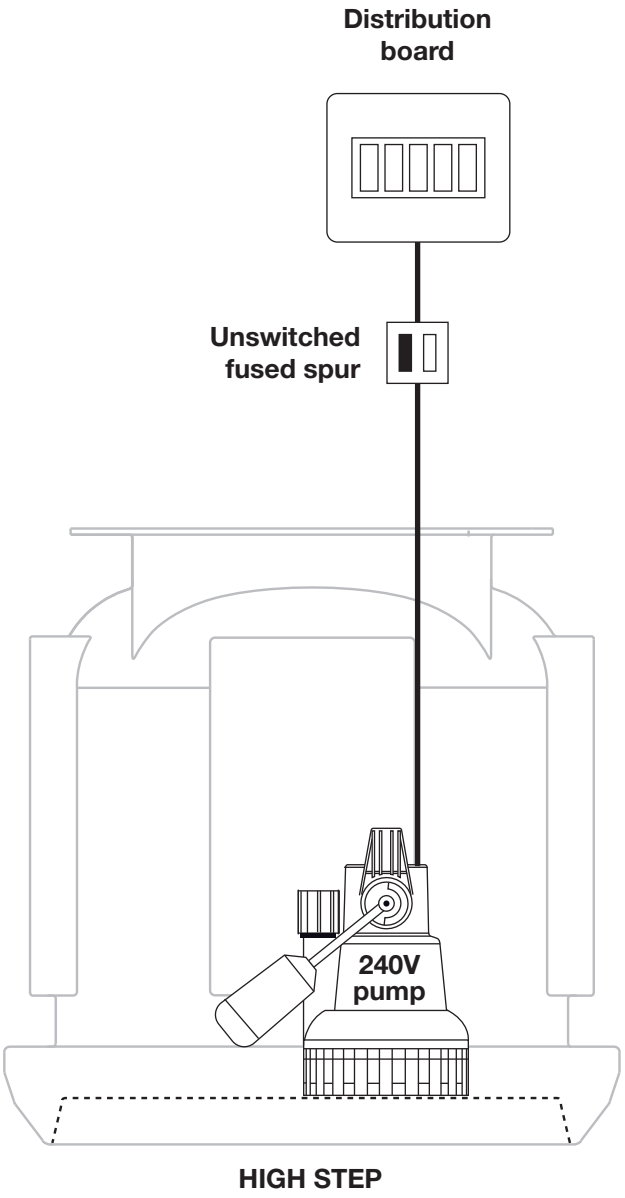
Part name	Quantity by pumping station					
	SumpFlush	SumpFlushHP	SumpFlushTwin	SumpFlushHPTwin	SumpFlushTwin c/w Timer Control Panel	SumpFlushHPTwin c/w Timer Control Panel
Chamber c/w stainless steel micro float bracket	1	1	1	1	1	1
Edincare EA31 240 V pump	1	0	2	0	2	0
Edincare EA33 240 V pump	0	1	0	2	0	2
240 V pump float arm and locknut	1	1	2	2	2	2
240 V pump integral non-return valve	1	1	2	2	2	2
Access cover, locking, galvanised, solid top, 350mm x 350mm (Facta AA)	1	1	1	1	1	1
10-hour changeover timer control panel, metal, 1-phase (1-4kW) c/w VFC	0	0	0	0	1	1
Float switch 'Mini' (5m cable)	0	0	0	0	1	1
1¼" PVC pipework kit	Kit A	Kit A	Kit A & Kit B	Kit A & Kit B	Kit A & Kit B	Kit A & Kit B

7. Accessories

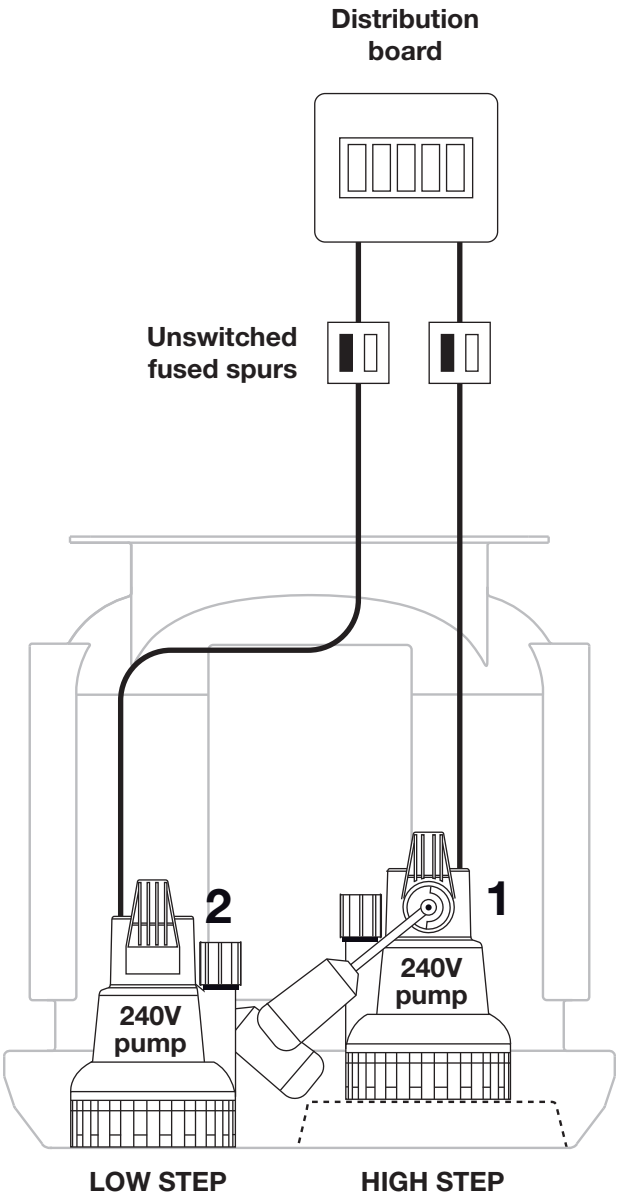
Product name	Product code
AquaSafe Alarm (Mini)	22070
Float switch 'Mini' (5m cable)	23020
UPS 2000 battery backup system	29161
UPS 3000 battery backup system	29000
24V battery backup system	2198
Pipework Kit D (for 24V battery backup system, single discharge)	2223
Pipework Kit E (for 24V battery backup system, twin discharge)	2224
1¼" brass gate valve	10003
110 mm rubber seal (drainage inlet)	17010
50 mm rubber seal (inlet/cable duct)	17012
12 V, 7 Ah battery	10122
Access cover, sealed, locking, recessed, 450 mm x 450 mm (pedestrian duty)	18011

8. Electrical configuration

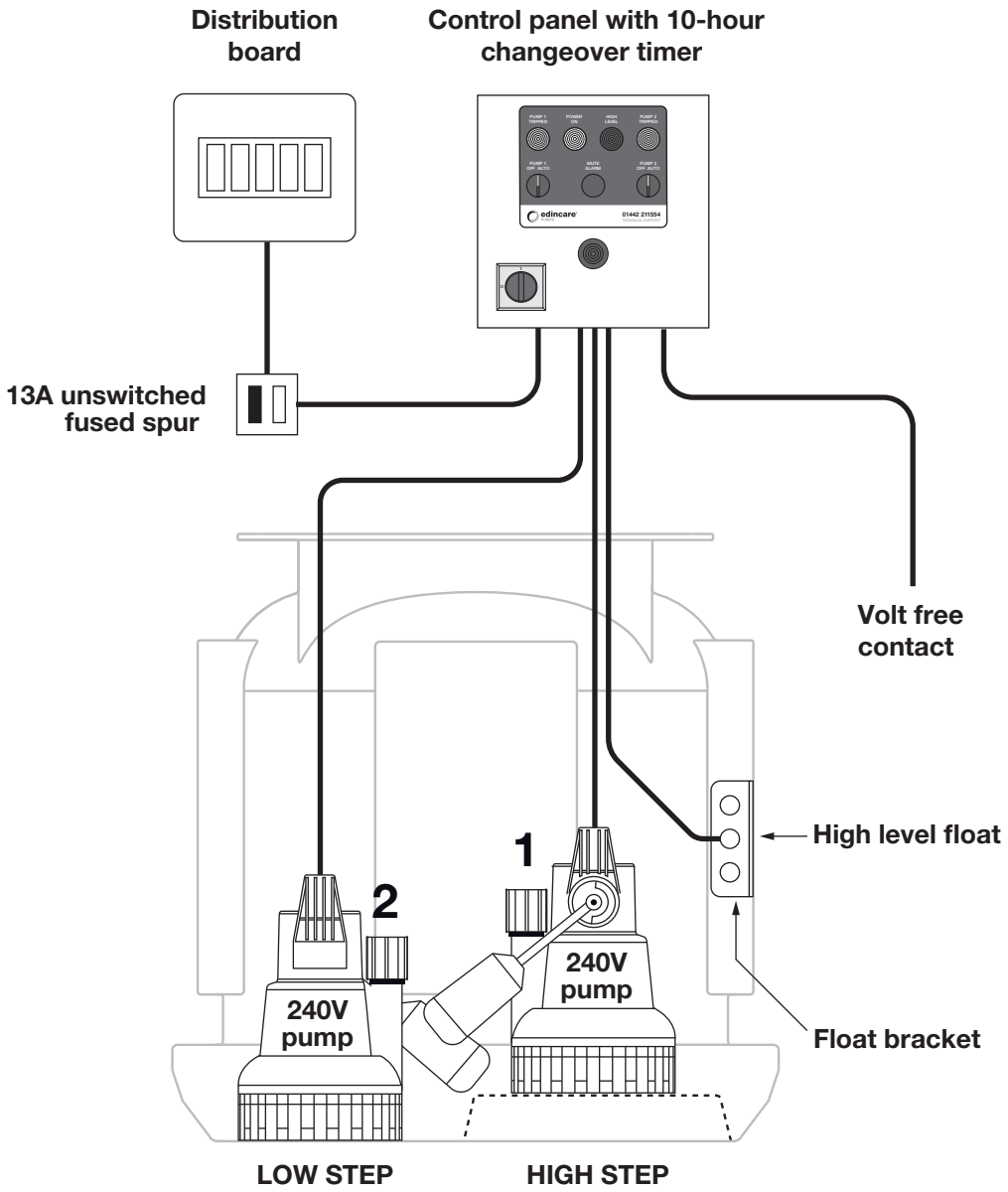
8.1 Single pump



8.2 Twin pump



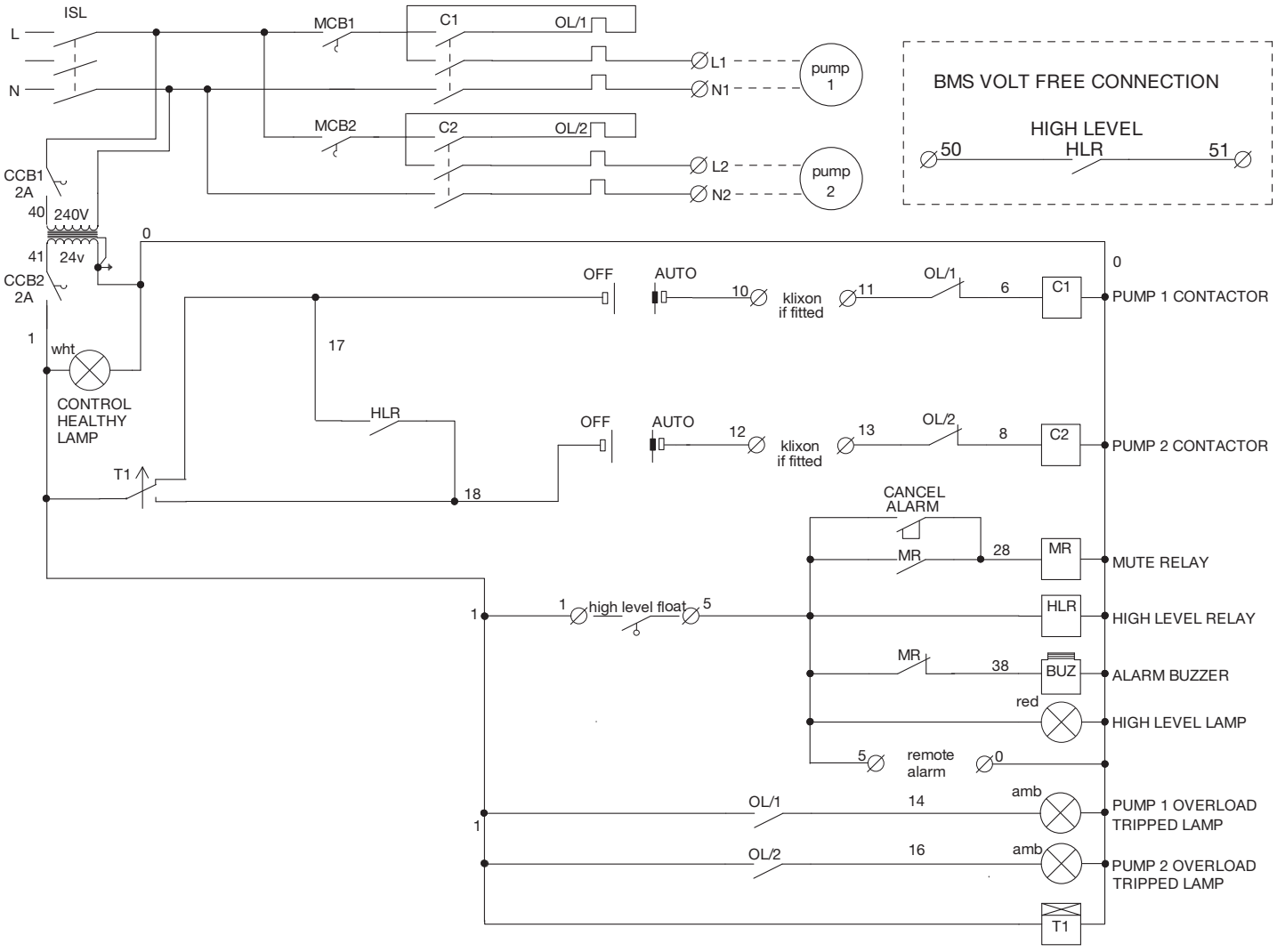
8.3 Twin pump with 10-hour changeover control panel



9. Wiring diagrams

Wiring diagrams can be found within the panel control/s. Should you require further assistance please contact our technical helpdesk on 01442 211554 from 08:30–17:30, Monday to Friday.

9.1 Twin pump with 10-hour changeover control panel



L1	N1	10	11	E	L2	N2	12	13	E	1	5	0	5	50	51
PUMP 1		KLIXON IF FITTED			PUMP 2		KLIXON IF FITTED			HIGH LEVEL FLOAT		REMOTE ALARM		VOLT FREE	

10. Transport

The pump/s are shipped disconnected from the pipe work and fittings to avoid damaged in transit.

Carefully unpack the product from its packing and inspect for any signs of damage. Should there be any damage present it must be reported immediately (no claim will be considered after 24hours from time of delivery).

Please refer to the parts list in Section 6.

During transport the unit should not be dropped or thrown.

The unit should never be raised or lowered by the power cable.

Any hoist used must be adequately dimensioned for the weight of the unit.

11. Maintenance

All maintenance works (inspections and services) MUST be undertaken by a technically qualified/ competent company/engineer.

When undertaking works within the chamber suitable measures MUST to taken to ensure safe access in accordance with current safety regulations. (see section 12).

Please refer to section 14 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 info@edincare.com for further information.

12. Health and safety

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

12.1 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.

12.2 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.

12.3 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.

13. Product guarantee

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

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

14. 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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