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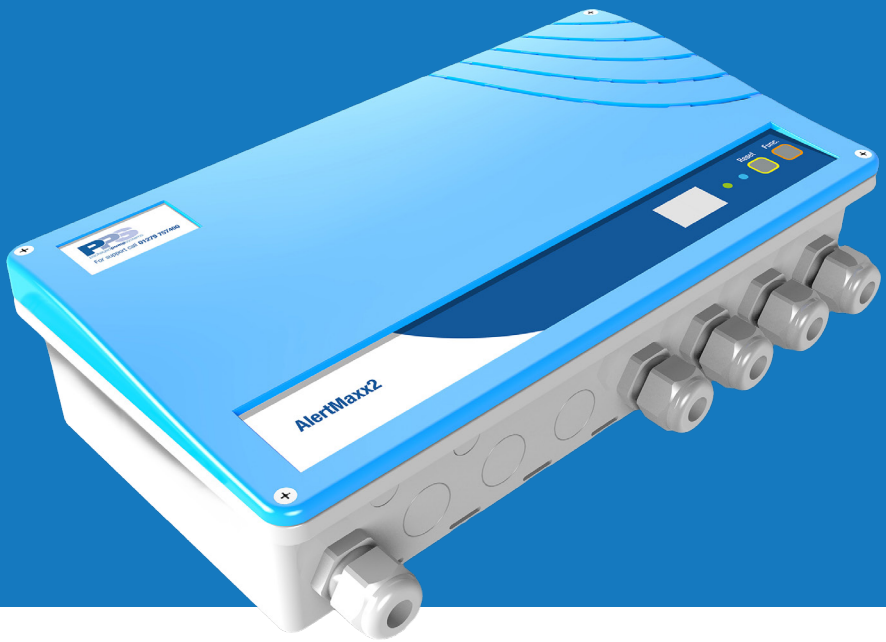
AlertMaxx2

Foul Water

Installation & Operating Manual

Pump Station High Level Alarm



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0330 9000 999
info@ppspumps.com
www.ppspumps.com

Packaged Pumps Systems Ltd.
Unit 11, Haslemere Industrial Estate, Pig Lane, Bishop's Stortford, CM23 3HG

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AM2F-M-V7-07.22

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AlertMaxx2

1.0 AlertMaxx2 overview

The AlertMaxx2 is an intelligent high level alarm, designed to alert home owners when the water level in their pump chamber becomes too high. The unit will also inform home owners when a service is due on their pump station, as well as alert homeowners to mains failures.

CAUTION!
The AlertMaxx2 should only be installed by qualified personnel in accordance with the latest regulations.

2.0 Box contents

2.1 Cardboard box contents

- 1 x AlertMaxx2 Unit
- 1 x Chamber Location Sticker Sheet (For AlertMaxx2)
- 1 x Chamber Location Sticker Sheet (For Spurs)
- 1 x Installation & Operating Manual (this document)
- 1 x Homeowner Pack
- 1 x Pendant Float Switch
- 2 x Cable Ties

2.2 AlertMaxx2 unit contents

- 3 x Large Cable Glands & Nuts
- 5 x Large Blanking Plugs & Nuts
- 1 x Small Cable Gland & Nut
- 2 x Small Blanking Plugs & Nuts
- 1 x 6V Battery

3.0 Technical information

AlertMaxx2 Specification	
Product Code	AMX2G or AMX2F
Size (without cable glands)	310mm x 170mm x 78mm
Weight (with battery installed)	1kg
Mains Supply	200–250V AC (50Hz)
Internal Battery	Pb 6V – 1.2Ah
Sound Level	100db @ 30cm
Operating Temperature	5–35°C
Power (standby)	<2W
IP	IP2X
Approximate Installation Time	1 Hour
Electrical Requirements (Ground)	2 Spurs
Electrical Requirements (Foul)	1 Spur
Warranty	2 Years

4.0 Health & Safety

In order to minimise the risk of ill health or accidents when installing and/or servicing pump chambers and associated accessories, workers must be fully trained and competent. The following guidelines will help safeguard matters:

- Assessing the risk and working in accordance with the control measures identified.
- Ensure electrical power to the equipment is isolated before carrying out installation or maintenance.
- A suitable first aid kit must be close to hand.
- The electrical installation must comply with the requirements of BS 7671:2018 'Requirements for Electrical Installations' incorporating the latest amendment.

5.0 Warranty

AlertMaxx2 is offered with a 24 month component warranty. This warranty only covers any defects in workmanship, construction or material. This warranty does not cover, defects caused by incorrect installation, installer error, abnormal working conditions, misuse or neglect.

6.0 Unit location

The AlertMaxx2 must be positioned in an area where the alarm can be clearly heard and is permanently accessible for servicing. The unit must be positioned where there is sufficient air circulation to the front and base vents. The AlertMaxx2 must not be located further than 10m from the pump/s it is being used in conjunction with. If cable extensions are required, these must be selected in accordance with BS 7671:2018 'Requirements for Electrical Installations'. If using in conjunction with a PowerMaxx2 battery backup, please ensure the units are no further than a 20m cable length from each other. **The AlertMaxx2 should be positioned in an area where there is a good Wi-Fi signal strength.**

CAUTION!
The AlertMaxx2 unit is not waterproof and must be installed indoors or inside a kiosk.
The AlertMaxx2 must also be installed in a chemically neutral environment
with a relative humidity of <80%.
Installations not following this guidance will void the manufacturers guarantee.

7.0 Mounting the AlertMaxx2 unit

1. Remove the screws from the front of the unit that secure the front fascia (the internal ribbon cable will be disconnected on supply).
2. Using the 4 mounting holes provided, mark, drill and fit suitable wall plugs in to the chosen wall for installation (ensure correct wall plugs are used for the wall type).
3. Secure the AlertMaxx2 unit to the wall using appropriate screws for the wall plugs used.

PLEASE NOTE
When securing the unit to the wall, avoid overtightening the screws
as this may cause the box to crack.

8.0 Wiring schematic

The AlertMaxx2 is different from a standard high level alarm as the pump/s must be fed through the unit. This way of connectivity allows the AlertMaxx2 to collect various different parameters directly from the pumps and when connected via Wi-Fi, this data can be used to intelligently plan maintenance and service schedules to the specific pump station it is connected to (see page 15).

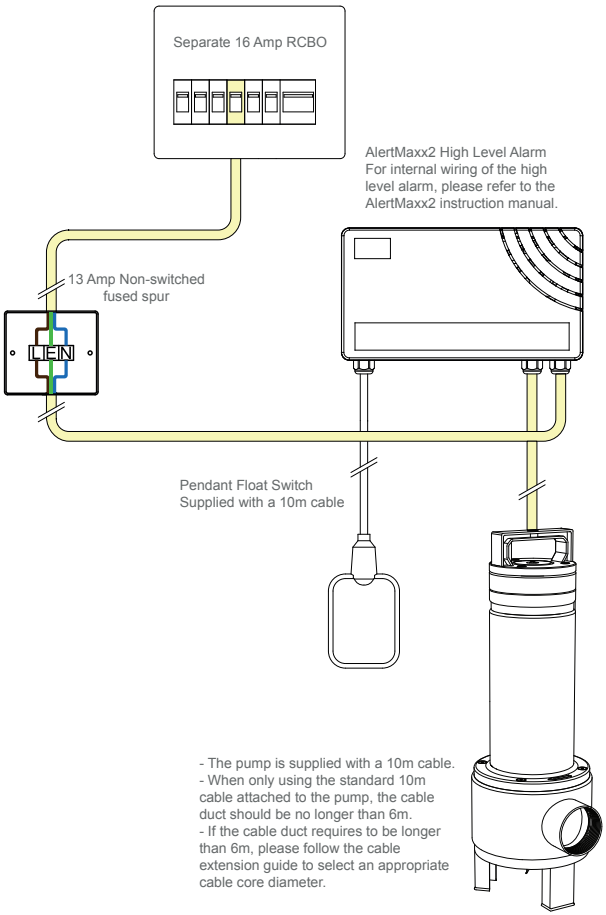

Figure 1. AlertMaxx2 wiring schematic

9.0 Connecting mains power to the AlertMaxx2

1. Insert 2 large cable glands into the far right hand side of the AlertMaxx2 unit.
2. Using the wiring schematic (figure 1), feed the mains power cable through the relevant cable gland and connect the power cable to the corresponding terminal block on the main PCB (figure 2).

WARNING!
Ensure mains power is isolated before connecting and wiring to the AlertMaxx2 unit.

PLEASE NOTE
For ease of installation, each gland is located directly opposite its relevant terminal block. Follow the internal sticker for wiring guidance.

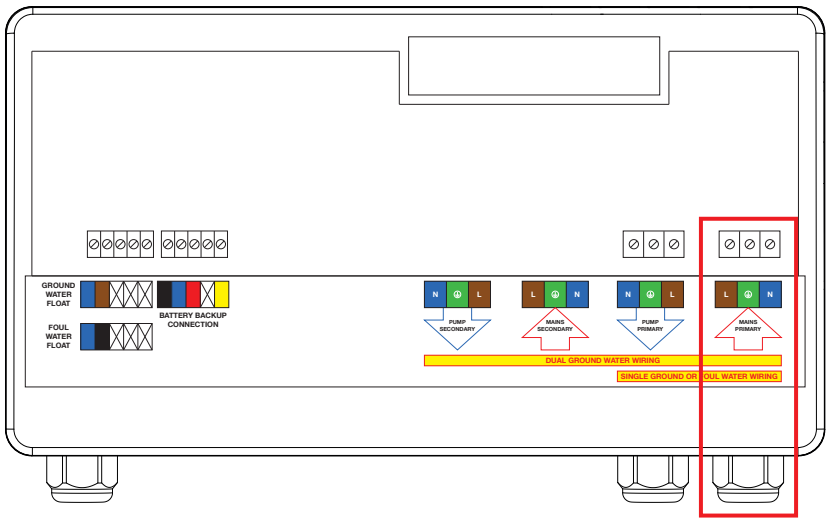

Figure 2. Connecting mains power

10.0 Connecting a pump to the AlertMaxx2

1. Using the remaining cable gland previously installed in section 9.0, feed the pump cable through the gland and connect to the corresponding terminal block on the main PCB (figure 3).

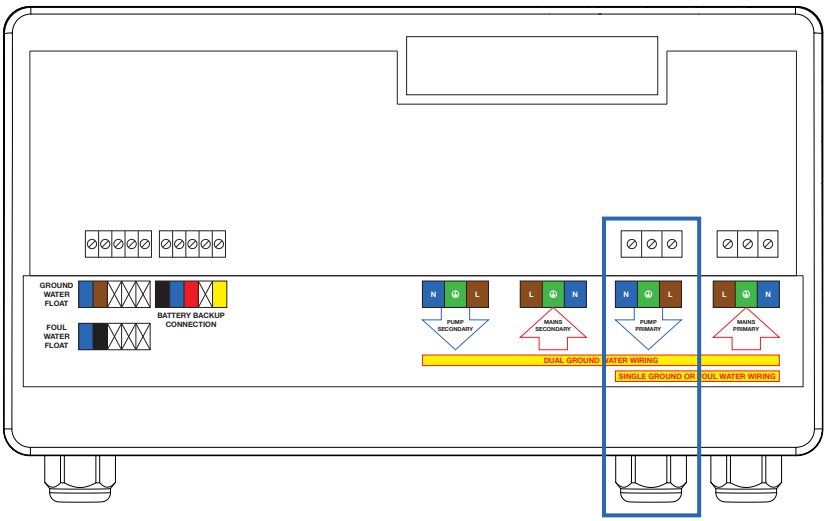

Figure 3. Connecting pump

11.0 Installing a pendant float into a foul water chamber

Option 1 - Free standing foul pump

1. Using the cable tie provided, attach the float cable to the discharge arm allowing the bottom of the float switch to hang approximately 200mm above the base of the chamber (figure 5).

Option 2 - Guide rail mounted foul pump

1. Pull the float cable through the float weight.
2. Using a cable tie, secure the float weight to the float cable so there is 80mm of float cable between the top of the float switch and the bottom of the float weight.
3. Drill a hole through the float bracket. Hang the pendant float from the float bracket so the bottom of the float switch hangs approximately 400mm from the base of the chamber. Once the pendant float is at the correct height, secure the float cable to the float bracket using a cable tie.

PLEASE NOTE
The pendant float switch should be located in a position where the float can pivot with rising water levels and not become obstructed (figure 4).

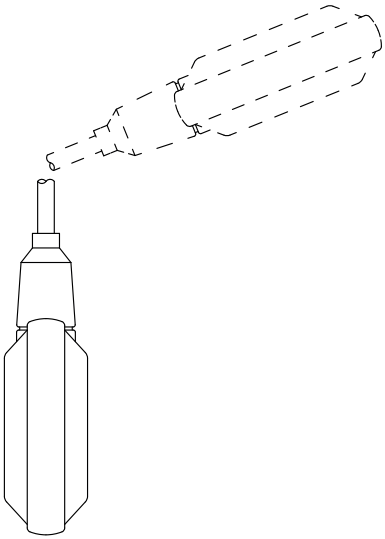

Figure 4. Foul Water Float Switch

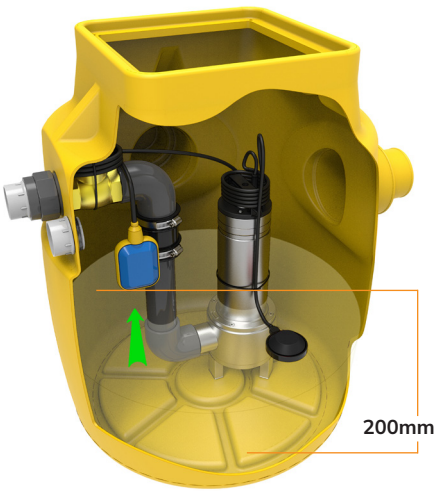

Figure 5. Foul Water Sump

12.0 Connecting a pendant float to the AlertMaxx2 unit

1. Using a draw cord, pull the float cable through the cable duct on the chamber.
2. Insert a large cable gland into the far left hole of the AlertMaxx2 unit.
3. Pull the float cable through the large cable gland on the AlertMaxx2 unit.
4. Connect the black and blue cables from the float switch cable to the terminal strip (figure 6).
   The brown cable should be disregarded and isolated to avoid possible shorting.

PLEASE NOTE
If the cable supplied with the float switch is too short, the cable can be extended using a cable with a minimum core cross sectional area of 1mm².

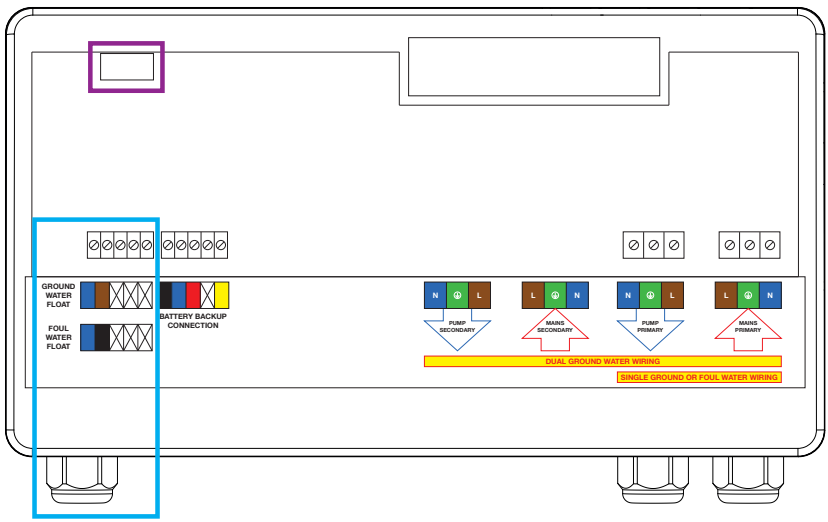

Figure 6. Wiring a pendant float switch

PLEASE NOTE
Only the first two (far left) inputs on the float terminal block are used - **Blue & Black**

13.0 Activating & testing the AlertMaxx2 unit

Before going through the testing process, ensure the mains power to the AlertMaxx2 unit is isolated.

13.1 Connecting the ribbon cable

On supply, the ribbon cable that is used to pass communication between the PCB on the fascia and the motherboard is disconnected from the terminal on the motherboard.

This must be connected before proceeding to section 13.2

See highlighted area at the top left of figure 6 (page 10) for terminal block location.

13.2 Turning on the AlertMaxx2 unit for the first time

1. Ensure the small black switch on the main PCB is set to the '**NO-SEU**' position.
2. Remove the plastic covers on the battery terminals and connect the red and black leads from the PCB on to the battery, red to red and black to black.
3. Once the battery has been connected, the display will pulse in a left to right startup sequence.
4. After approximately 20-60 seconds, the display will flash a **P1** error code.
5. Refit the front fascia.
6. Turn on the mains feed supplying the AlertMaxx2 unit, within 60 seconds the **P1** code will disappear and the green LED will flash once every 2 seconds.

CAUTION!
If the battery is misconnected to the AlertMaxx2 (i.e. black to red), this will destroy the unit.
This can be detected by the manufacturer and will void the guarantee.

13.3 Testing the AlertMaxx2 unit

1. Test the alarm by pressing and holding the 'FUNC' button for 3-5 seconds and release. The alarm will sound and the display will show an **F1** code.
2. Press the 'RESET' button to clear the error code and sound.
3. Test the float switch by raising the float switch to its upright position. The alarm will activate within 10-15 seconds.
4. Release the float switch. The sounder will stop within 30 seconds and the display will flash an **F3** code. Press the 'RESET' button, the green LED will flash once every 2 seconds and the error code will clear.
5. Activate the float arm on the pump to start the pump. The display will show a cycling graphic which indicates the pump is running.
6. The activation & testing is now complete and the AlertMaxx2 unit is ready for use.

Once the AlertMaxx2 has been installed and fully tested, please apply one of the chamber location stickers, (provided in the box), to the main label of the AlertMaxx2 fascia and one to its relevant fuse spur. This is to signify which pump station the high level alarm is connected to and which spur/s feed it.

14.0 Connecting external devices

The AlertMaxx2 unit has volt free contacts to connect external devices such as a sounder or beacon. When the alarm is activated the relay sends a signal continuously.

The volt free relay is designed to accept devices with a maximum load of 0.5A and voltage up to 30V. If external devices fall outside these parameters, the device must be powered by an external power supply.

You can use the AlertMaxx2 to power external devices with a maximum voltage of 6-7V.

15.0 Energy monitoring

The AlertMaxx2 monitors energy consumption from the pumps. This is measured in kWh and is viewable by pressing the FUNC button for 1-2 seconds. If there are two pumps connected, the screen will alternate between two figures showing each pump.

16.0 Servicing

The AlertMaxx2 will alert home owners when their pump station requires servicing. This is indicated by an **S1** error code followed by one beep every minute. The beep can be muted by pressing the 'RESET' button (the code will remain illuminated). The beep will return 7 days from pressing the 'RESET' button until a service technician resets the alarm unit.

The AlertMaxx2 unit has a factory default service interval of 12 months.

Code	Fault	Action
S1	Pump Station Service Required	Your pump station requires a service. The AlertMaxx2 will beep every minute. Please contact PPS to arrange a service visit.
S2	Battery Replacement (AlertMaxx2)	The battery in the AlertMaxx2 needs to be replaced. Please contact PPS to arrange a service visit.

17.0 Spares

Part No.	Description
CAS-FS-01	Pendant float switch
CAS-B6V-01	Rechargeable 6V battery

18.0 Error codes

Code	Fault	Action
F1	Flood	There is a high level in the pump station. Contact PPS urgently.
F3	Flood has occurred	There has been a high level in the pump station which has returned back to normal. If this problem arises again, contact PPS.
P1	Mains Failure	There is a power failure to the pump. If you have had a power cut this will return to normal when power returns. **If you have no PowerMaxx2 in place, there is the potential of flooding.** AlertMaxx2 will run on battery power for 2 days. If you haven't had a power cut, try to restore power and if the problem persists, contact PPS as soon as possible.
E1	Float/Cabling Error	There is an error with the float cabling which will need to be rectified. Please contact PPS.
E2	Cannot find the SEU card	Please contact PPS to rectify.
E3	Problem with the SEU card	Please contact PPS to rectify.
E4	No response from server	Normally intermitent and will clear itself.
E5	Cannot find PowerMaxx	The AlertMaxx2 cannot communicate with the PowerMaxx, the units will continue to work correctly but data will not be transmitted. Please contact PPS to rectify the cabling.
E7	No internal battery connected	Connect a battery or contact PPS to rectify. If the battery is depleted it will usually take 10 minutes of charging before the unit will start. It will take 6 hours to charge to 80%.
E8	SW error	There is a software error on the AlertMaxx2 and this will need to be updated. Please contact PPS to update.
E9	SW error (panel cannot talk to system)	There is a software error on the AlertMaxx2 and this will need to be updated. Please contact PPS to update.
CA	Call PPS	If you see this code, please contact PPS at your earliest convenience.
PA	PPS is aware of your situation and will be in contact	If you see this code it means PPS are aware of the situation at your property. PPS will be in contact.

18.0 Error codes cont.

LED	Meaning
GREEN **slow flash**	All systems OK
BLUE **slow flash**	Wi-Fi OK - connected to Gateway OK
BLUE **fast flash**	Wi-Fi transmitting
BLUE **fixed**	Wi-Fi in setup mode
BLUE **No light**	Wi-Fi not installed or not functioning

19.0 Troubleshooting

Fault	Cause
The unit does not turn on.	The battery is flat – charge the battery by connecting mains to the alarm unit. Still doesn't turn on after 3 minutes – alarm unit or internal battery is faulty.
The decimal points on the displays jump from left to right.	Low battery - charge the battery by connecting mains to the alarm unit.
The alarm does not activate when the float switch is lifted.	Float switch cable is faulty – check float switch connections and cable for damage. Float switch is broken – replace float switch. Float cable is broken – replace float switch.
The alarm does not activate when pressing the 'FUNC' button for 3-5 seconds.	Faulty unit.
Alarm continuously active.	Float has been incorrectly wired – check the cables are connected correctly as per the internal label. Float switch cable is faulty – check float switch connections and cable for damage. Float switch is broken – replace float switch. Float cable is broken – replace float switch.

20.0 Packaged Pumps Systems Technical Department

If you are experiencing any technical issues, please contact the Packaged Pumps Systems Technical department on **0330 9000 999** from 9:00am - 5:00pm or email **info@ppspumps.com**.

21.0 PowerMaxx Connection

The AlertMaxx2 can be connected to a Hi-PowerMaxx2-XL to provide additional battery backup and if connected via Wi-Fi, battery backup capacity and condition is fed directly to the Packaged Pumps Systems Op-Centre.

The Hi-PowerMaxx2-XL are supplied with 3m of 4 core MaxxConnect cable.

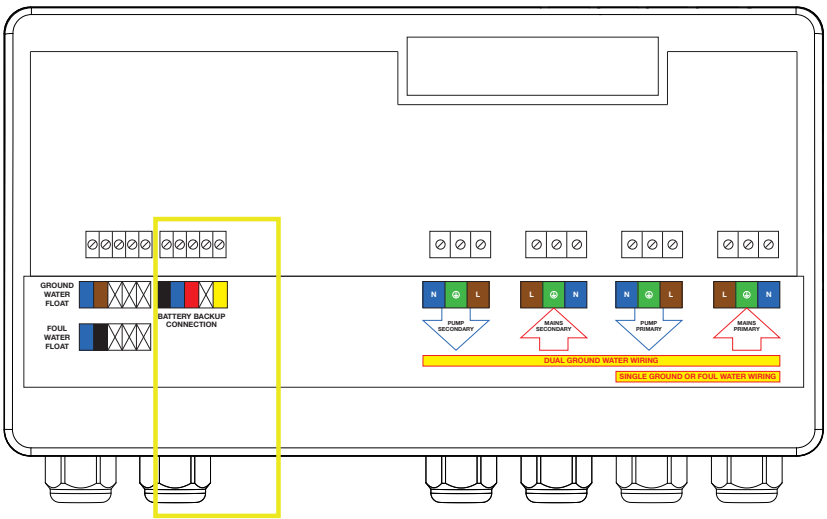

Figure 7. AlertMaxx2/PowerMaxx2 connection terminal

PLEASE NOTE

For wiring the pumps, please refer to the PowerMaxx2 manual.

The AlertMaxx2 must be installed in series to the PowerMaxx2 – this means the AlertMaxx2 must be installed in between the PowerMaxx2 & the pump/s.

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Packaged Pumps Systems Ltd.
Unit 11, Haslemere Industrial Estate, Pig Lane, Bishop's Stortford, CM23 3HG