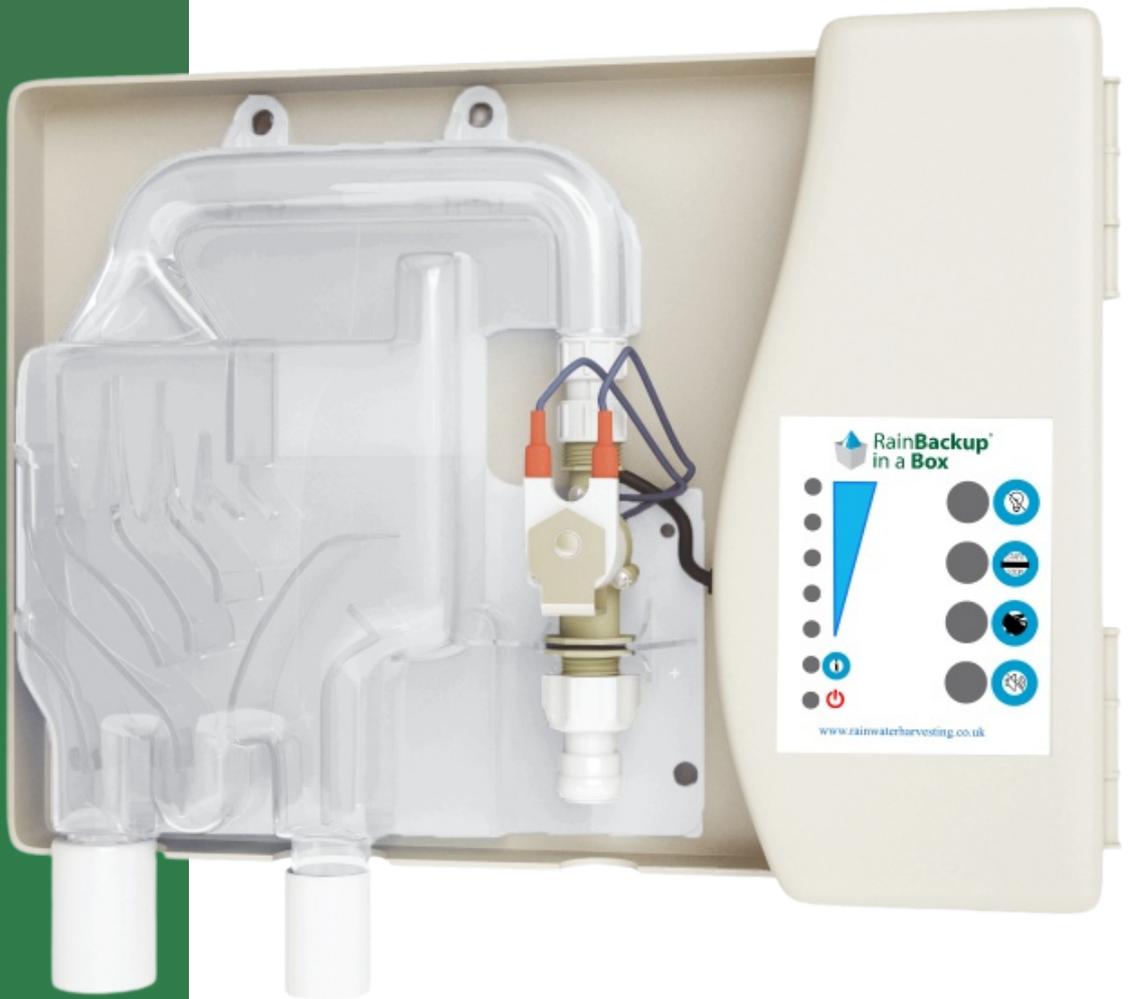




# RainBackup<sup>®</sup> in a Box **PLUS**

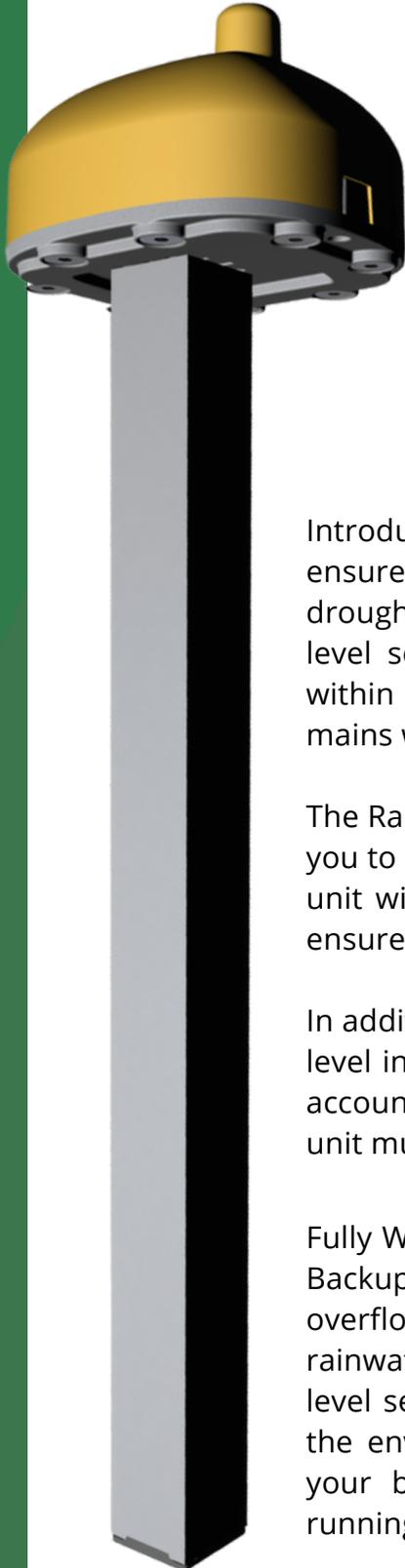
Plug-and-play mains water backup  
for Rainwater Harvesting Systems

RWH-BUB03-P



WRAS Approval Number 2006006

# WHAT IS THE RAIN BACKUP IN A BOX PLUS?



Introducing the Rain Backup in a Box® Plus - an innovative system designed to ensure uninterrupted access to water for your appliances, even in times of drought when your rainwater tank is close to empty. Equipped with a wireless level sensor inside the tank, the system automatically opens a solenoid valve within the control unit when water reaches a critical level, providing a reliable mains water backup.

The Rain Backup in a Box® Plus is equipped with a Rain Acculevel Sensor, allowing you to set the level at which water will start flowing. Once that level is reached, the unit will allow a further 200l to enter the tank, giving you an ample amount to ensure the system is fully maintained.

In addition, the control panel features a clear display that shows the current water level in the tank, which can also be accessed remotely through a personal online account via a web browser or mobile app. To connect to our online servers, the unit must be positioned within your wifi signal.

Fully WRAS approved to meet UK water regulations, the Rain Backup in a Box® Plus includes an anti-splash tundish and overflow in one transparent moulded part to prevent rainwater from flowing back into the mains water supply. The level sensor tube has a range of up to 150m, depending on the environment, and the unit should be positioned inside your building to ensure you can hear any mains water running from the solenoid valve in case of emergency.



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Finally, it is important to note that the Rain Backup in a Box® Plus requires a constant power supply, **and we recommend keeping at least one WC on mains water to prevent any disruption in the event of a power failure.**

# Control Unit Installation



For illustration purposes only



Before proceeding, please ensure that the exterior tank is fully fitted to the specifications provided in the instructions.

To install the Rain Backup in a Box® Plus unit, please follow these steps:

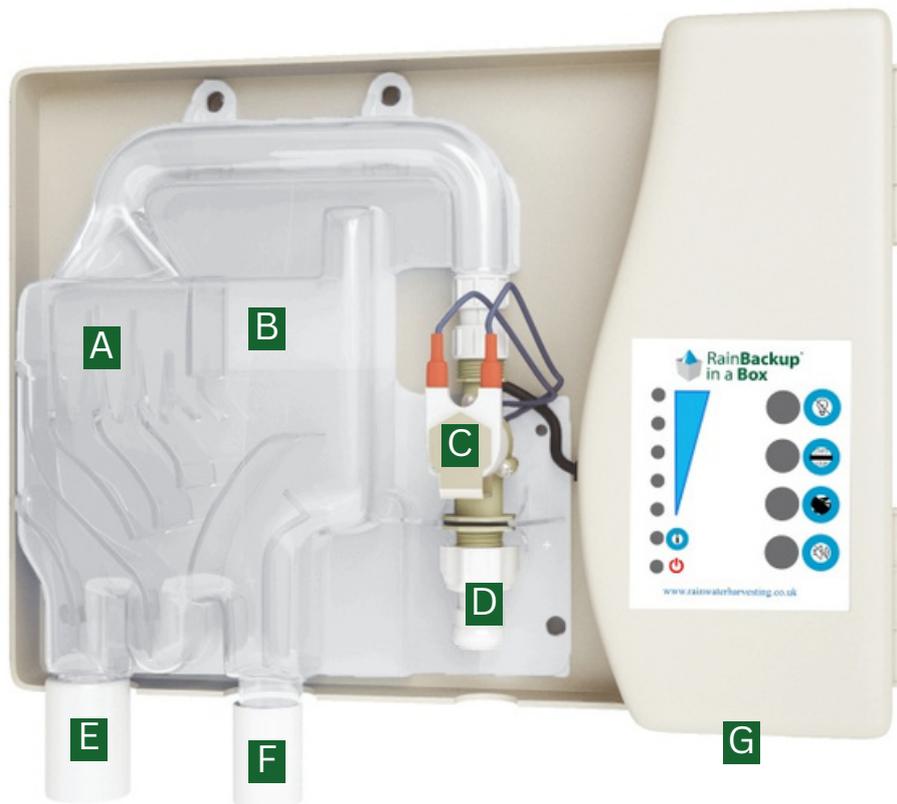
Locate the best position for the unit:

- The unit should be placed inside the building where occupants can easily see and hear it, making it accessible for occasional checks.
- It should be placed within a metre of a 220v AC wall socket for the 12v power connection.
- The unit should be accessible to a mains water pipe.
- It should be placed higher than the top of the storage tank so that the backup mains water can flow by gravity.
- Mount the unit securely flush to the wall and ensure that it is not angled in any way, to avoid the possibility of water escaping from the 1" air gap.

**Ensure that there is a minimum 300mm drop for the water feed pipe to the tank (left-hand side outlet) before the first bend.**

If you have any questions or require further assistance during the installation process, please consult with a professional plumber or contact our customer service team for additional support on 01733 405111.

# Pipework Installation



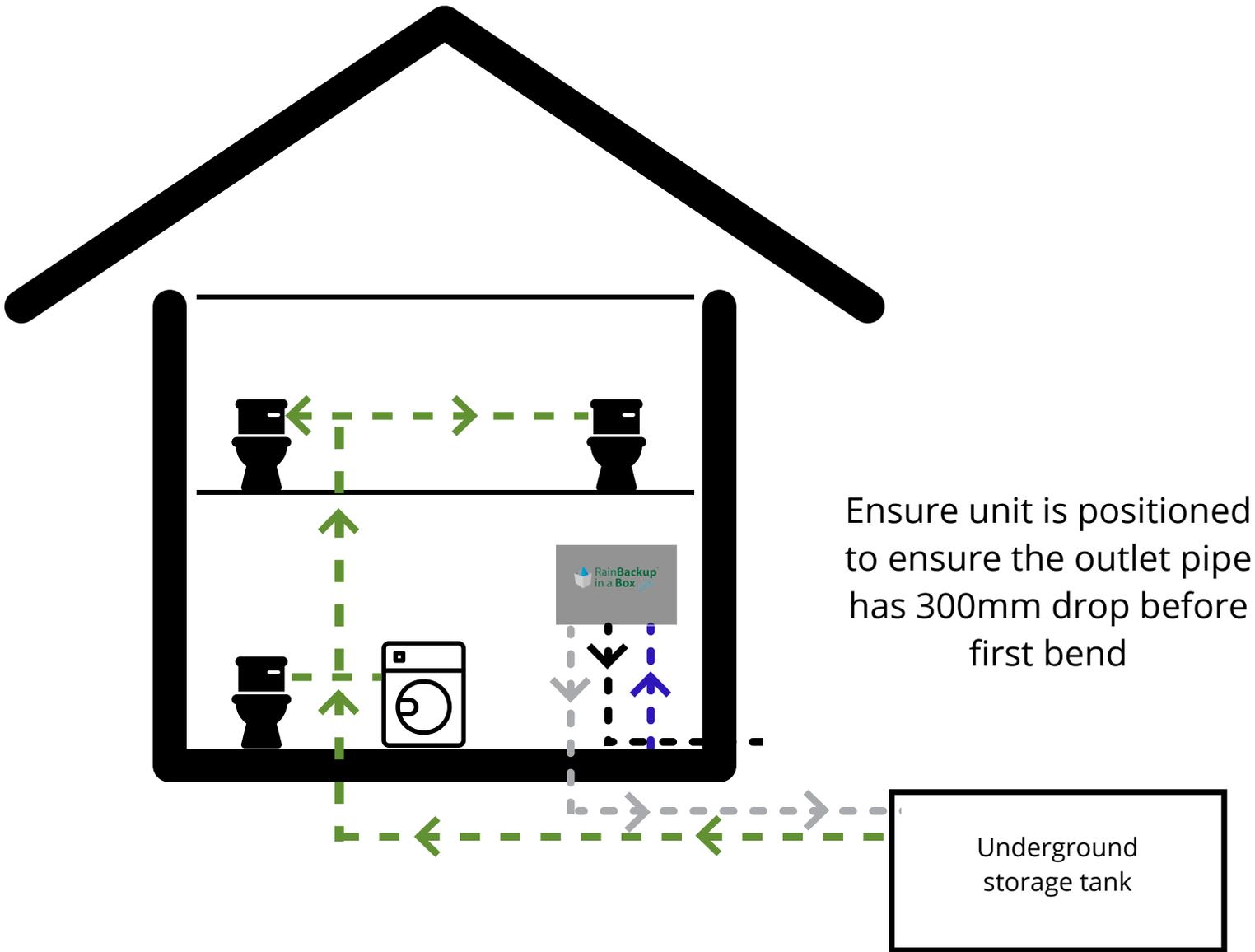
## KEY TO THE CONTROL PANEL & PIPE DIAMETERS

- A** Multi-route anti splash tundish
- B** 1" air gap
- C** Solenoid valve
- D** Mains in 15mm pushfit/copper
- E** Mains to tank 32mm pipe
- F** Overflow 32mm pipe
- G** Power adapter 230v AC



- Connect the 15mm mains water pipe to the solenoid valve inlet located at the bottom right of the unit (**D**).
- Use 32mm waste pipe to connect the tundish outlet (**E**) located at the bottom left of the unit to the water storage tank. **The first 300mm of the pipe must be vertical and straight with the remaining run having sufficient fall for the water to flow under gravity to the tank.** Avoid angling the pipe close to the unit as this may cause water to back up and flow back out of the tundish. If the system is to be used to top up a rainwater tank, you can channel the outlet to the nearest rainwater downpipe that leads to the storage tank from the roof. Alternatively, you can run the pipe directly to the tank.
- The overflow pipe in the middle of the Rain Backup in a Box (**F**) should flow to the exterior through a pipe which offers no constriction. It is designed to avoid water overflowing if the pipe from the tundish to the underground tank is blocked up, and to provide a visual alert to the building occupants.
- The installation of the control unit is finished. Please refer to the setup instructions for the level sensor in the tank.
- Note that the flow rate from the control unit to the underground tank is restricted to 4 litres per minute, typically slower than the water flow out of the submersible pump.
- **Ensure the water flow is tested from the unit to the tank before the service pipe is covered to ensure there are no flow restrictions.**

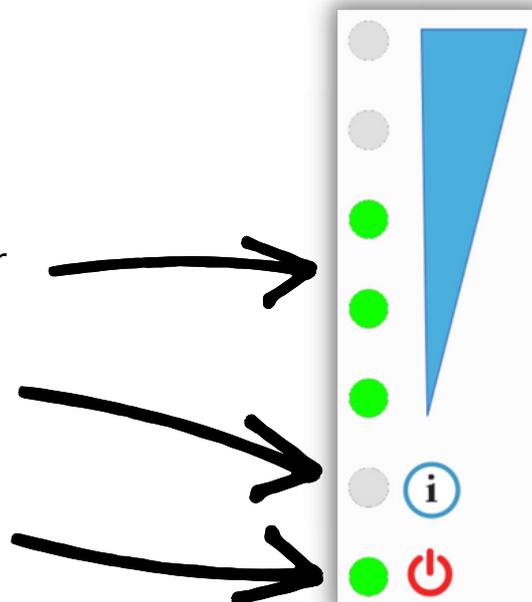
# Typical House Installation



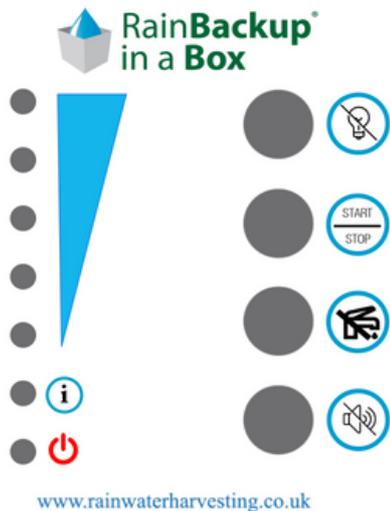
- - - - 22mm plastic or copper pipework, label according to water regs
- - - - Mains to tank 32mm waste pipe. Ensure min 300mm fall on pipework for water flow to the tank
- - - - 32mm overflow waste pipe
- - - - 15mm mains water feed

## LED Lights Explained

- Water level indicator
- Information light
- Power light



# Control Panel Explanation



## 1) Display Water Level

By pressing the display button, the LED water level indicators will switch on or off. If you have chosen for the indicator lights to be turned off, all information can still be accessed via the app

## 2) Start/Stop Mains Water Flow

This has two features:

### a) Start mode

If water is above the minimum level pressing the start/stop button will allow 30 minutes of water to flow into the tank.

Useful if an expected increase of water usage for example for the garden.

### b) Stop Mode

If the water is below the minimum level and the mains water backup has been activated pressing the start/stop button will pause the mains supply for 24 hours and the indicator light will flash red. This is useful if the tank is likely to be topped up in the next day and the mains water backup would have been a waste. The system will revert back to normal mode after the 24 hours.

Should the tank require water, pressing the start/stop button will again revert back to standard mode and mains water will flow into the storage tank.

## 3) Manual Override of Mains Water

Pressing the override button will prevent any further mains water entering the tank. This can be used if you would want to drain the tank completely empty for tank maintenance, or mains water was in short supply.

The information LED will flash red to indicate this mode has been selected.

Pressing the override button again will cancel the command.

## 4) Silence Alarm

If the system detects a fault the alarm will sound.

Pressing the silence button will silence the alarm so that the fault can be identified and rectified. Please note the system will not leave fault mode, until the issue has been fixed, only the alarm will stop sounding.

Holding this button for 5s at any point will put the system back into setup mode, with the information light turning on.



# Level Sensor and Wifi install

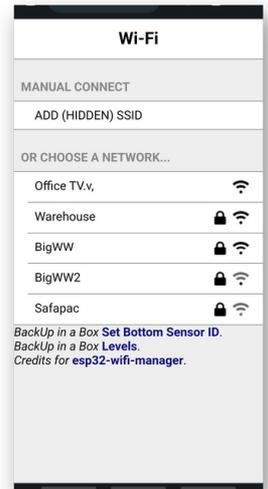
To install the physical level sensor tube, please follow the separate instructions provided with your AccuLevel.

To connect your Backup in a Box Plus unit to tanklevels.co.uk, you must connect it to your home Wi-Fi network. While the system can function offline, certain features such as tank level monitoring will not be available without an active Wi-Fi connection.

To connect your device to Wi-Fi, you will need a phone or tablet with Wi-Fi capabilities. We recommend turning off mobile data during this process.

Open your device's available Wi-Fi networks and locate the network name that matches the one listed under "Wi-Fi Connection" on the serial label (it will start with RWH\_, followed by four digits). Enter the password provided underneath the label. Alternatively, you can scan the QR code above the Wi-Fi connection details to automatically connect your device.

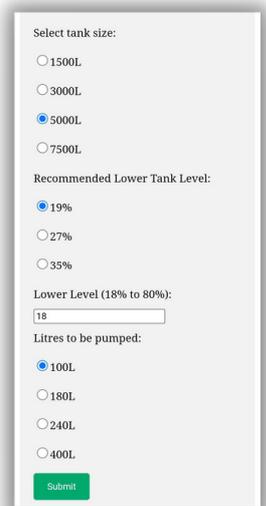
If your device does not automatically open a page, or if you accidentally close it, you can open any web browser and enter 10.10.0.1 to access the setup page.



On the setup page, click "Enter Level Sensor ID" and add the three words from your AccuLevel sensor in order. As you type, each word should autofill. Once all three words have been entered, click "Submit" and then return to the home screen.

Next, click "Settings" to specify the type of tank you have. You will be able to adjust the minimum level in the tank before the unit begins to fill. You can also set how many litres of water you would like to enter your tank when top up is required. We recommend using the default levels once you have set your tank size. Once you are satisfied with your settings, click "Submit" and then return to the home screen.

Finally, select your home Wi-Fi network from the list and enter your password. Once connected, your Backup in a Box Plus unit will be linked to the cloud and start saving your readings. You can monitor your system from [www.tanklevels.co.uk](http://www.tanklevels.co.uk).



# Troubleshooting

## Light Indicators Explanation

Symbol	Problem	Remedy
 <b>SOLID BLUE</b>	The system has not been set up	
 <b>FLASHING BLUE</b>	LoRa sensor is not sending messages	Check the Aqualevel App for last update. If longer than 2 hours contact RWH
 <b>SOLID PURPLE</b>	WiFi is not connected	<ul style="list-style-type: none"> <li>• Check Wifi connection.</li> <li>• Turn off power to the unit for 10 seconds then reconnect.</li> <li>• Recommission by pressing and holding the bottom button for 3 seconds.</li> <li>• Scan the top QR code on the unit.</li> <li>• Contact RWH</li> </ul>
 <b>SOLID RED</b>	Mains water has been flowing for 3 hours. An alarm will sound and the water will stop flowing	<ul style="list-style-type: none"> <li>• Silence the alarm by pressing the bottom button.</li> <li>• Compare your level on the Acculevel app to the physical water level in the tank. Do they match?</li> <li>• If the levels match roughly then check that mains water is flowing through the unit.</li> <li>• Check whether the pump is running which means more water is leaving the tank than entering it.</li> <li>• Contact RWH</li> </ul>
 <b>FLASHING RED</b>	Manual override of mains water	

Problem	Probable Cause	Remedy
Overflowing water from the control unit	Water not flowing correctly through the outlet to the tank	Ensure there is a 300mm fall from the bottom of the unit to the first bend. Ensure there is sufficient fall to the underground tank.
Nothing happening at all	Connections	Ensure the power supply is operational and the level sensor installed correctly

 01733 405111

 [support@rainwaterharvesting.co.uk](mailto:support@rainwaterharvesting.co.uk)

 [www.rainwaterharvesting.co.uk](http://www.rainwaterharvesting.co.uk)



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