



# RainDirector®



## WHAT'S IN THE BOX

|          |  |
|----------|--|
| <b>1</b> | Smart header tank for roof space, including level sensors, float switch and overflow tower. The 91 litre tank measures 665 L x 490 W x 510 H mm.                           |
| <b>2</b> | Flow reducing valves (in plastic pack) for use in Torbeck float valve if mains pressure is too great.  |
| <b>3</b> | Rain Director® control panel with mode indicators, programming buttons and control valves and 230V AC to 12V wall adapter. Control panel measures 325 L x 260 H x 95 D mm. |
| <b>4</b> | Mains electric submersible pump (must be pressure-sensitive and equipped with non-return valve).   |
| <b>5</b> | Cat 5 wire to connect junction box on header tank to underside of control panel.   |
| <b>6</b> | This pictorial installation guide.   |
| <b>7</b> | The comprehensive user and installer manual.   |
| <b>8</b> | Header tank connection box.  |



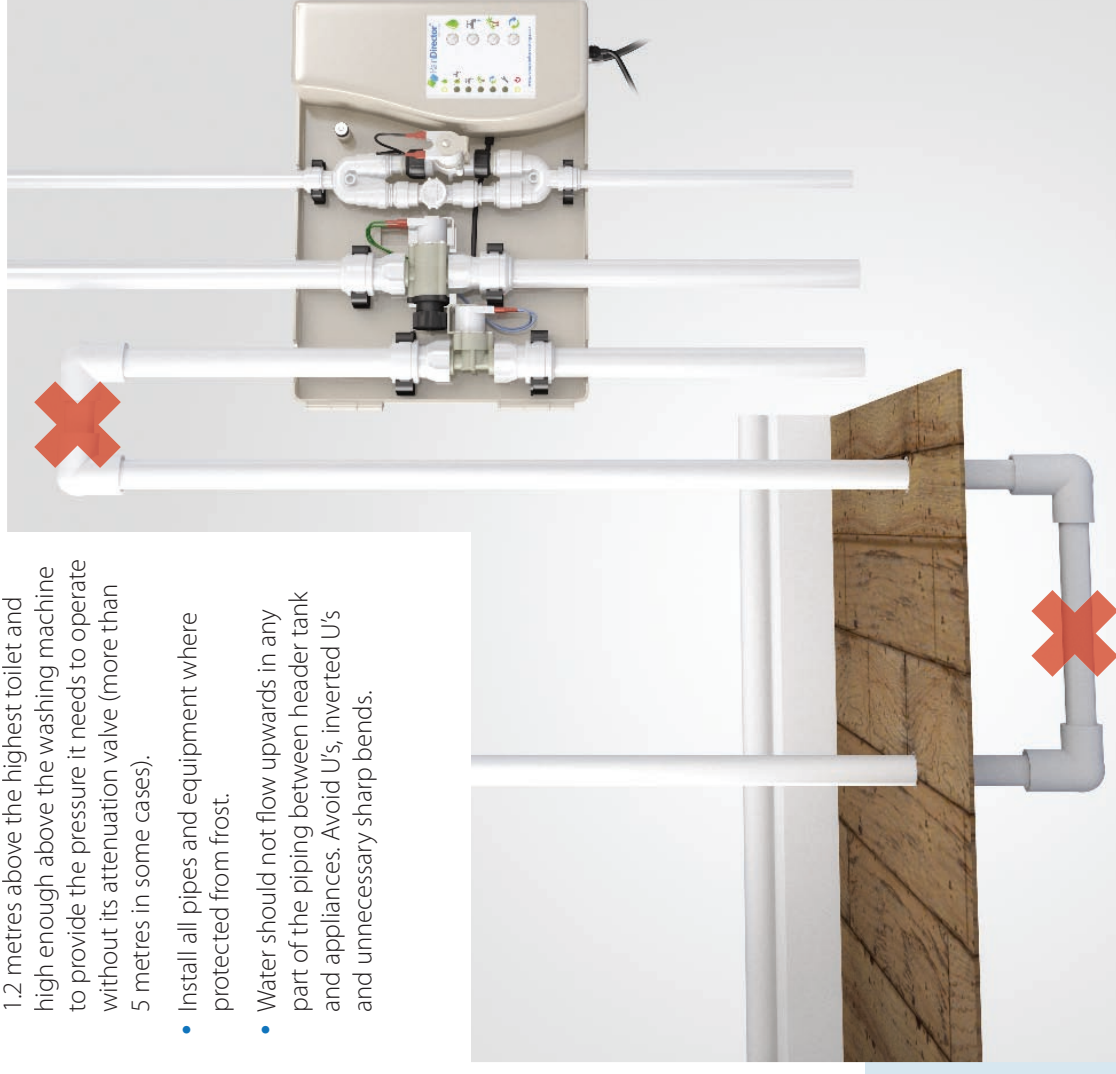
## ESSENTIAL NOTES

- Do not get any dirt into the underground tank, header tank or pipes: risk of blockage of the control valves.
- Only fit pipe 22mm or above between the header tank and appliances as this will reduce the risk of airlocks.
- The header tank must be fitted at least 1.2 metres above the highest toilet and high enough above the washing machine to provide the pressure it needs to operate without its attenuation valve (more than 5 metres in some cases).
- Install all pipes and equipment where protected from frost.
- Water should not flow upwards in any part of the piping between header tank and appliances. Avoid U's, inverted U's and unnecessary sharp bends.



### KEY TO THE CONTROL PANEL AND PIPE DIAMETERS:

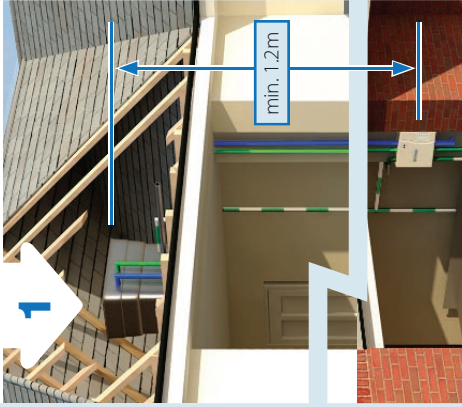
- |          |   |          |   |
|----------|---|----------|---|
| <b>A</b> | Refresh output to underground tank. Min. 22mm.          | <b>E</b> | Rainwater output to header tank. Min 22mm.                  |
| <b>B</b> | Rainwater input from pump. Min. 25mm, 32mm recommended. | <b>F</b> | Mains water output to header tank. 15mm.                    |
| <b>C</b> | Mains water input. 15mm.                                | <b>G</b> | 12v power from wall adapter and Cat 5 cable to header tank. |
| <b>D</b> | Refresh input. Min. 22mm.                               | <b>H</b> | Mains water manual bypass valve.                            |
|          |   | <b>I</b> | Rainwater valve and removable filter.                       |



## INSTALLATION

Ensure mains water and mains electric power is available where the Control Panel is fitted. Establish all piping routes prior to installation (see schematic). Reduce number of angle bends. **Avoid U bends and inverted U bends.**

Locate the Control Panel where the rainwater enters the building on wall (at least 1.2m below header tank).



Header Tank in loft space must be accessible for maintenance. Ensure lid is secure and kept in place during installation. Keep dirt out. Insulate if required. The overflow (40mm) is to exit the building directly.



Take all pipes that are to be connected to the Control Panel and flush thoroughly. Ensure no dirt will enter the valves on the Control Panel.



Connect to **(A)** the refresh output pipe back to tank. Connect rainwater feed to **(B)**, and mains water (via a shut-off valve) to **(C)**.

The refresh (header tank flush) pipe must not flow to drain that is supplying the rainwater underground tank.

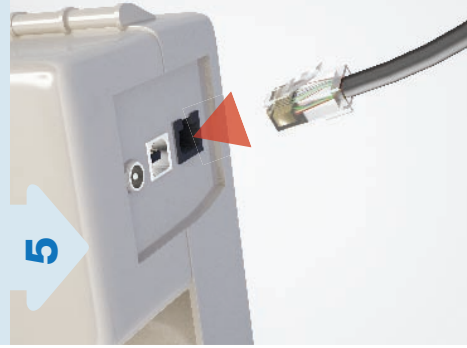
Use pipe fittings which will permit removal of solenoids.

Connect any part of the 22mm gravity feed piping that's above the control panel to the refresh input **(D)**.

Connect the rain pipe to the header to connector **(E)** and mains water pipe to connector **(F)**.

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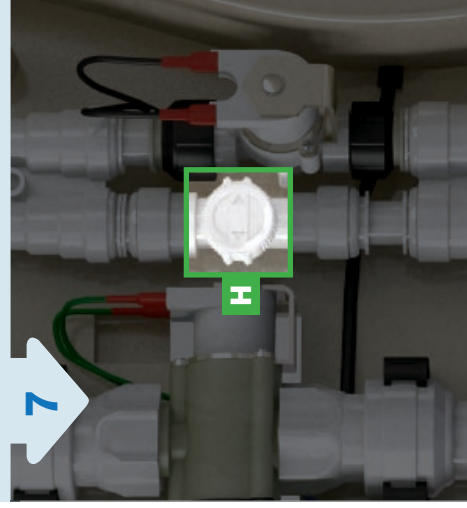
Connect the Cat 5 cable to connector **(G)** at the control panel and similar connector at the header tank.



Connect the mains pipe to the float valve **(J)** and the rainwater pipe to the other inlet **(K)**, both on the upper rear of the header tank using a 90 degree connector so as not to distort the back plate.



Check all connections and ensure Mains Bypass Valve **(H)** is closed. Install pump as per pump installation guide and power up. Turn on mains water. Check thoroughly for leaks at panel and header tank.



Commission system by pressing bottom two buttons together. Commissioning can take an hour or more while three emptying and filling cycles are completed. Check the filter on the rain feed valve **(I)** and remove dirt. Repeat after a week.



# PLUMBING SCHEMATIC

# WIRING SCHEMATIC

### NOT TO SCALE

The overflow pipe must flow directly to the outside of the house with minimum restriction.

15 mm mains water to header.

22 mm rainwater to header.

Domestic 22 mm feed.

22mm refresh pipe to control panel and underground tank.

Refresh pipe output must not rise above level of control panel.

Optional outdoor tap must be connected to the rainwater pipe before the controller.

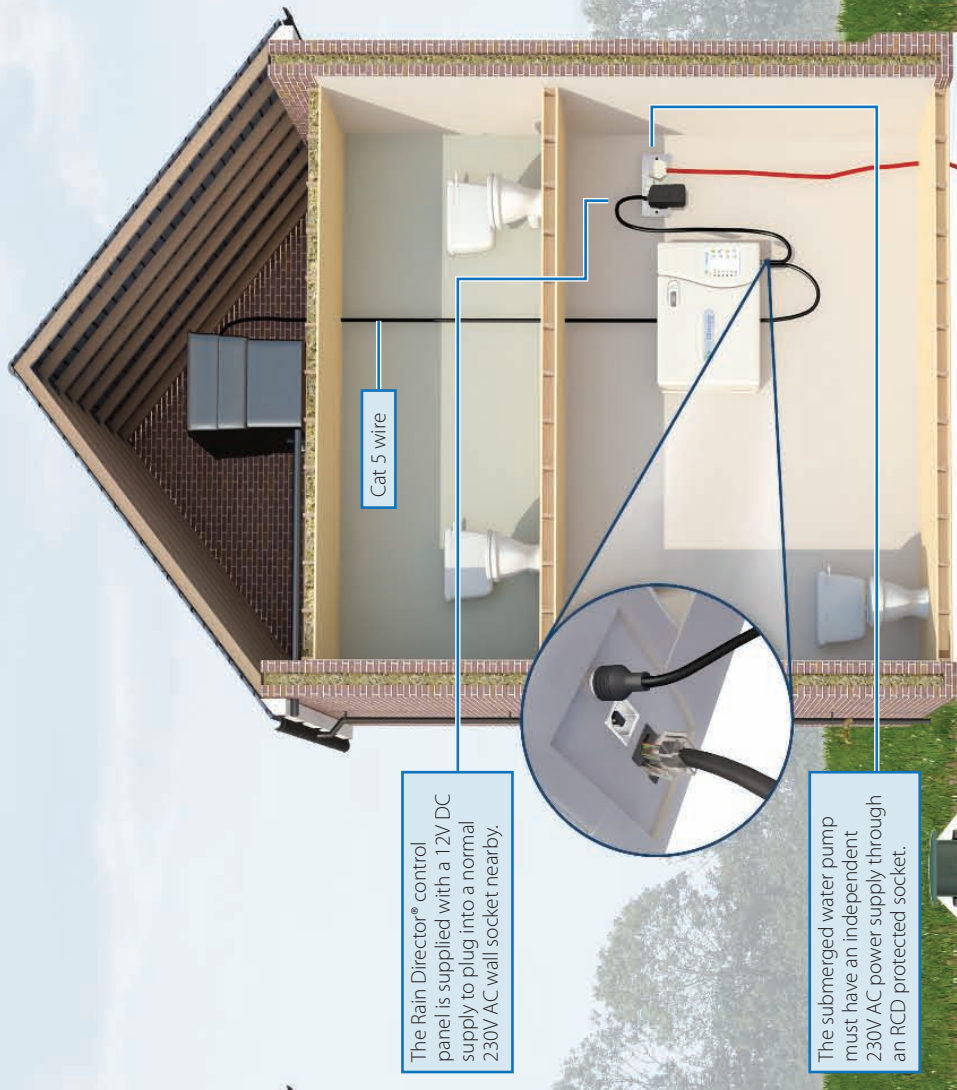
25 or 32mm rainwater pipe to building, reduced to 22mm at control panel.



Rainwater tank

Water is drawn from the rainwater tank to fill the header tank. If no more rainwater, header filled with mains water.  
The water is then used around the house in toilets and washing machines.

Pump



Cat 5 wire

The Rain Director® control panel is supplied with a 12V DC supply to plug into a normal 230V AC wall socket nearby.

The submerged water pump must have an independent 230V AC power supply through an RCD protected socket.

Rainwater tank

The junction box on the header tank must be wired with the Cat 5 wire provided to relay the sensor positions to the control panel.

Pump

### COLOUR KEY

- █ Rain Water Supply
- █ Mains Water Supply
- █ Water Used in The House
- █ Overflow Water
- █ Refreshed Water

## OVERVIEW

The Rain Director® rainwater management system includes a header tank, pump and programmable control valve unit that directs the flow of rainwater to washing machines, toilets, the garden and other uses. The smart header tank in the roof space is controlled by electronic level sensors. These sensors drive the valves through the programmable control panel. The result is a constant head of pressure of water to the toilet, washing machine or outdoor tap.

### The advantages over direct feed rainwater pumping systems are:

- The header tank only refills once it's nearly empty (while normal rainwater systems make the pump start every time any amount of water is used) so pump cycling is eliminated, power consumption, wear and tear on the pump and appliances are all reduced.
- Provides a constant flow of rainwater under gravity at any time, including during power cuts.
- Mains water backup is automated by level sensors not stop valve or ball cock.
- Rain Director®'s dashboard indicates present mode and allows special modes to be selected.
- Rain Director®'s auto-flush function detects when the occupant is away from home (for example, for holidays) and refreshes header tank to avoid rainwater there going stale (yellowish water).



The Rain Director® is built in the UK by ADL Products to the highest standards for, and under the control of, the leading provider of consumer rainwater harvesting products Rainwater Harvesting Ltd.

All components have been designed to comply with the UK Building Regulations and WRAS (Water Regulations Advisory Scheme). WRAS Approval No.0912064 was awarded in December 2009.



**CE** Rainwater Harvesting Ltd. certifies that the Rain Director® is compliant with the safety requirements of the Machine Directive 89/392/EC and amendments, of the Low Voltage Directive 73/23/EC and in the Electromagnetic Compatibility Directive 89/336/EC and amendments. The materials and manufacturing of this product are guaranteed for 2 years from the date of purchase if the installation instructions are complied with and dirt has not been admitted to the solenoids. In the event of an apparent fault, the retailer or installer should be contacted first. Rainwater Harvesting Ltd. declines responsibility for incidents or damage caused by negligence or by ignoring these instructions.

Installation Guide correct for Rain Director RD01 models from March 2012 onwards. Check online for documentation for earlier models which have the order of pipes at the control panel reversed."

Installation according to this guide and the comprehensive user and installer manual is required for manufacturers' warranties to be valid. For the Rain Director® variations RD02, RD03 or RD04 please refer in addition to the separate manual: [http://www.rainwaterharvesting.co.uk/downloads/raindirector\\_variations.pdf](http://www.rainwaterharvesting.co.uk/downloads/raindirector_variations.pdf)



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