



# RainDirector®



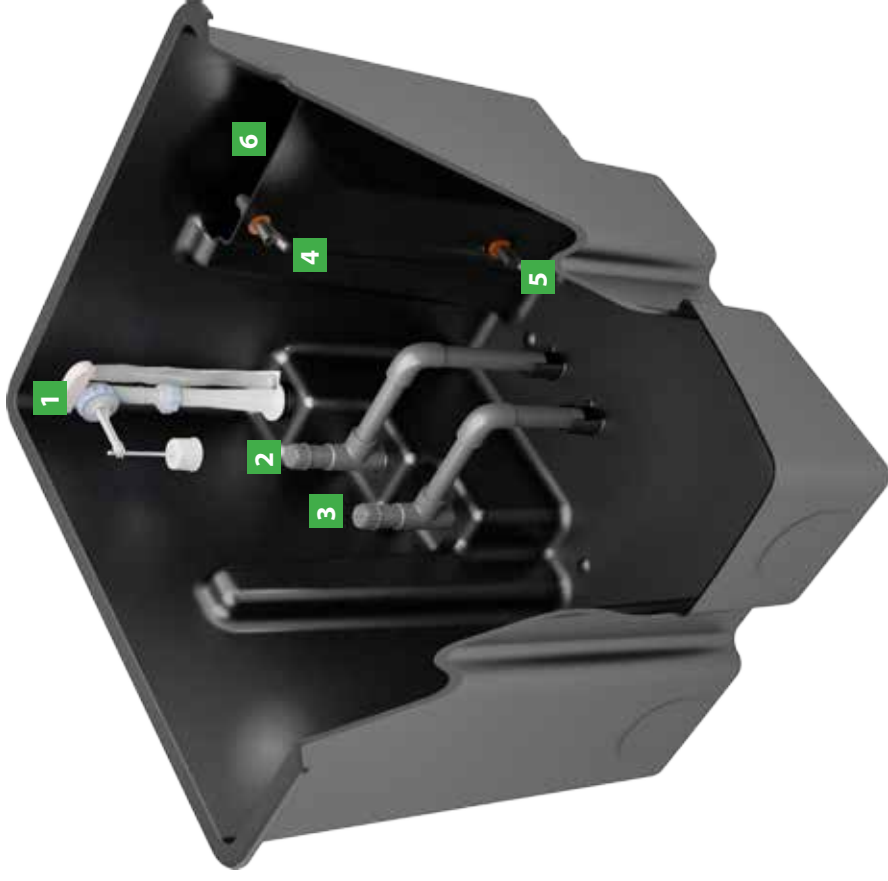
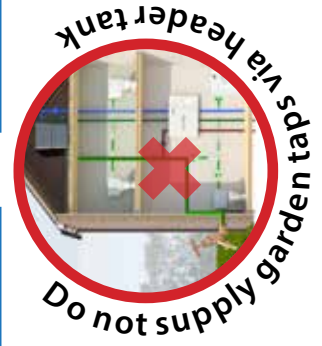
## WHAT'S IN THE BOX

1	Rain Director® control panel with mode indicators, programming buttons and control valves and 230 V AC to 12 V wall adapter. Control panel measures 380mm W x 270mm H x 95mm D.
2	Cat 5 cable to connect junction box on header tank to underside of control panel. <b>Do Not Cut!</b>
3	Smart header tank for roof space, including level sensors, float switch, Cat5 connection box and overflow tower. The 100 litre tank measures 600mm W x 490mm H x 500mm D.
4	Flow reducing valves (in plastic pack) for use in Torbeck float valve if mains pressure is too great.
5	Mains electric submersible pump (must be pressure-sensitive and equipped with non-return valve).



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

- A** Refresh outlet to underground tank - 22mm.
- B** Rainwater inlet from pump - 22mm.
- C** Mains water inlet - 15mm.
- D** Refresh inlet from services - 22mm.
- E** Rainwater outlet to header tank - 22mm.
- F** Mains water outlet to header tank - 15mm.
- G** 12v power from wall adapter and Cat 5 cable to header tank.
- H** Mains water manual bypass valve.
- I** Rainwater valve and removable filter.



### KEY TO THE SMART HEADER TANK AND PIPES

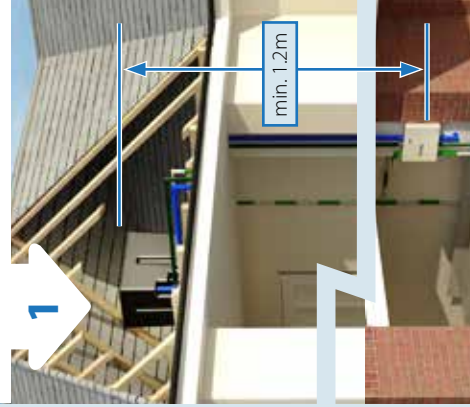
- 1** Mains water inlet from control unit - 15mm.
- 2** Rainwater inlet from control unit - 22mm.
- 3** Services outlet - 22mm.
- 4** Top level sensor.
- 5** Bottom level sensor.
- 6** Overflow straight out of the house - 40mm.

## ESSENTIAL NOTES

**Do not install the Rain Director® in any way other than as given here and do not disassemble Rain Director® components for installation. Incorrect installation invalidates all warranties.**

- Do not get any dirt into the underground tank, header tank or pipes: risk of blockage in the solenoid valves.
- Do not cut or modify the supplied CAT 5 cable. Only use the cable supplied by Rainwater Harvesting Ltd. Longer cables are available upon request.
- The header tank must be fitted at least 1.2 metres above the control unit and highest toilet.
- The header tank must be fitted a minimum of 5 metres high to provide the pressure required for washing machines.
- Run all garden taps directly from the pump NOT from the header tank.
- Install all pipes and equipment where protected from frost.
- All pipework must have a degree of fall.
- Install pipes to the control unit allowing sufficient movement for removal of the solenoids.
- All pipes should be thoroughly flushed prior to connecting to the system.
- Internal pipe work should be labelled as rainwater every 0.5m using label pack supplied.
- Either plastic or copper pipe may be used.
- Only cut the pipe using MDPE pipe cutters. Swarf caused by cutting pipe using a saw blocks the solenoids.
- Only fit 22mm pipe or larger between the header tank and appliances. 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.

Locate the control unit where the rainwater enters the building on a wall in a frost protected area. (at least 1.2m below header tank)



The header tank must be accessible for maintenance. Ensure the lid is secure and kept in place during installation. **Keep dirt out!** Insulate if required.



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



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

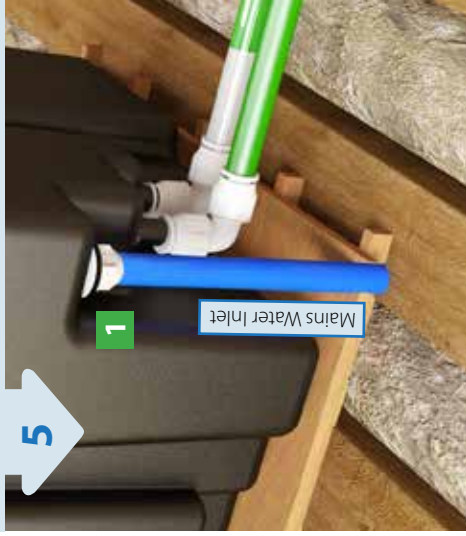
Connect any part of the 22mm gravity feed piping that's above the control unit for services, running from the services outlet **(3)** of the header tank, to the refresh inlet **(D)**.

Connect the rainwater outlet **(E)** to the header tank **(2)** and mains water outlet **(F)** to the header tank **(1)**.

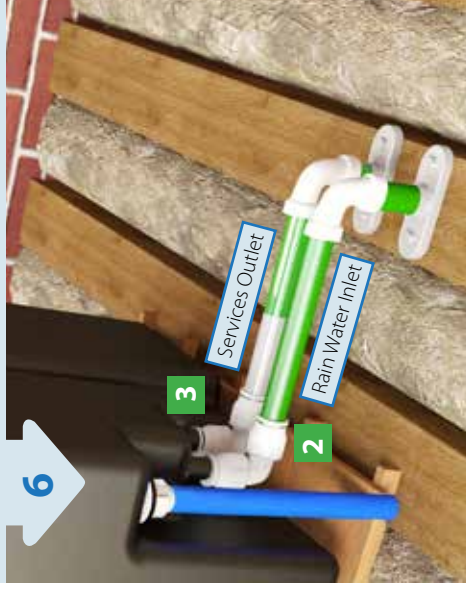
Use pipe fittings which will permit removal of solenoids.

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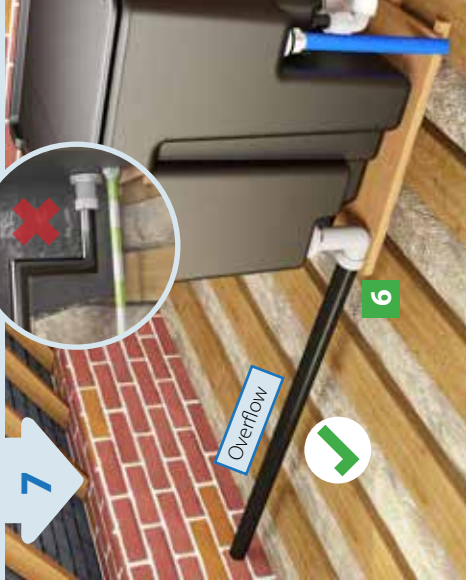
Connect the mains outlet from the control unit **(F)** to the header tank mains water inlet **(1)** using 1/2 inch BSP.



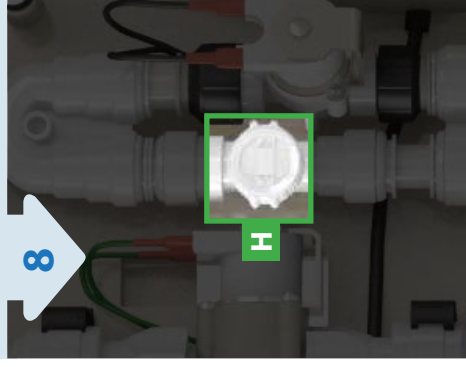
Connect the rainwater pipe to the rainwater inlet spigot **(2)** and connect the gravity feed pipe to the services outlet spigot **(3)**. Both designed to accept a 22mm **push-fit** fitting.



The overflow **(6)** must run straight out of the house without obstruction, bends, or decreasing pipe diameter. Use 40mm waste pipe elbow, either solvent or compression fitting.

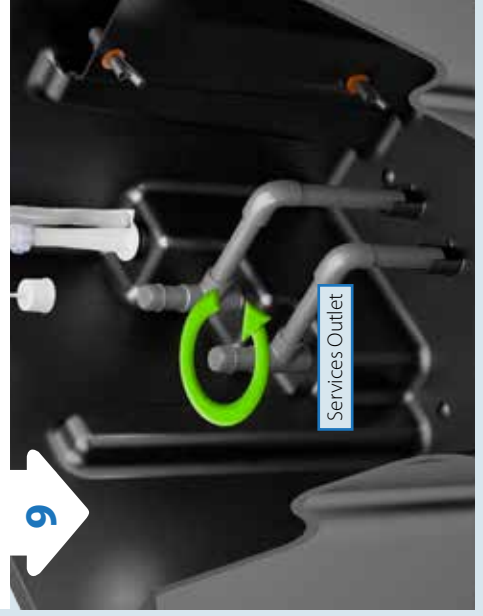


Use the quarter turn valve on the control unit **(H)** to partially fill the header tank. Check thoroughly for leaks at all connections.



Fully fill the header tank and unscrew services cap. Wait for all air to leave the system to eliminate airlocks then replace cap ensuring that the black washer under the cap is replaced.

**Turn the quarter turn valve (H) back off.**



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



Press the bottom two buttons to begin commissioning sequence. Commissioning cycle has started when the bottom light flashes. This process may take roughly one hour.

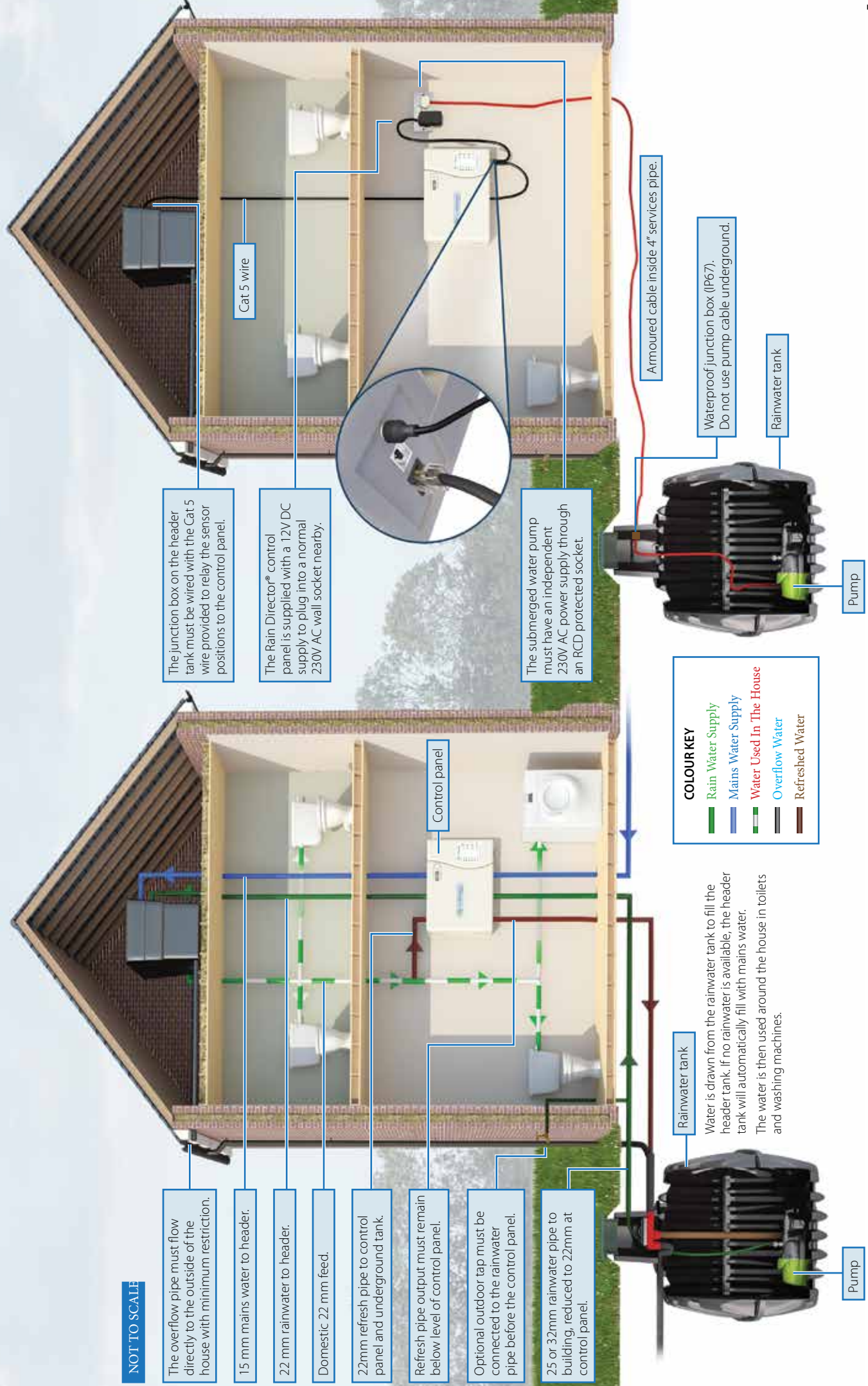


Commissioning has finished when the rainwater light and mains water light flash alternately. Press the rainwater button to revert the system to rain mode.



# PLUMBING SCHEMATIC

# WIRING SCHEMATIC





- » **Rain Mode (Normal Mode):** System will use rainwater within the home. If rainwater is not available in the underground storage tank, the system will automatically register and switch over to mains water.
- » **Mains Water Mode:** Press during a dry period or hose pipe ban to run internal appliances on mains water and conserve rainwater for garden use.
- » **Holiday Mode:** If leaving the home for a prolonged period of time (over 1 week) press the holiday button to empty the header tank and refill with treated mains water. This prevents water quality issues. When the system is used again it will automatically revert back to Rain mode. It may be sensible to flush each toilet twice to leave treated water in the cistern and bowl.
- » **Refresh Function:** If no activity is registered the system will automatically refresh the water within the smart header tank every 3 days. The system will drain the smart header tank back to the underground tank, and refill the smart header tank with fresh rainwater. This guarantees high quality water with no risk of discolouration or smells. Although the system refreshes automatically, the user can press the button to refresh the system at any point.

### Technical Support Line 01733 405 111 (opt. 3)

Problem	Probable cause	Remedy
<b>Flashing red spanner light during initial switch on</b>	Both float switches in low position	Part fill header tank (as per point 8) Check Cat 5 connection is secure.
<b>Flashing red spanner during commissioning</b>	Wiring fault	Check Cat 5 connection is secure, the wire provided with the system and has not been cut at any point.
<b>Solid red spanner light during commissioning</b>	Filling fault	Check Rainwater and mains water are available to the system, repeat process 9 to remove airlocks from the system. Clear solenoid valves (contact supplier).
<b>Mains water or refresh solenoid constantly open</b>	Solenoid blocked open	Clear solenoid (contact supplier).
<b>Mains filling light showing during normal mode</b>	Rainwater tank empty, pump not functioning	Check rainwater level in underground tank. If level high refer to pump guide.
<b>Mains filling light showing despite rainwater working and filling first</b>	Slow fill causing commissioning time-out	Check/clean rain solenoid (contact supplier) recommission system (refer to point 11).
<b>No lights on circuit board</b>	No power reaching PCB board	Check power to the Control unit, contact supplier for further advice if problem persists.
<b>Toilets not filling/system airlocked</b>	Water supply less than demand	Check plumbing for obstructions, remove booster pumps, REMOVE GARDEN TAPS DIRECT FROM HEADER TANK, repeat.
<b>Header tank overflow to waste</b>	Rain or Mains Solenoid blocked open	Clear solenoid (contact supplier).
<b>Power cut in the home</b>	Pump & control unit not functioning	Use the quarter turn valve <b>(H)</b> to bypass the system with mains water.
<b>Poor rainwater flow into the header tank</b>	Rain filter blocked	Check the filter on the rain feed valve <b>(I)</b> and remove dirt (turn off the pump first). Repeat after a week.

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. 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 according to this installation manual is required for manufacturers' warranties to be valid.**



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