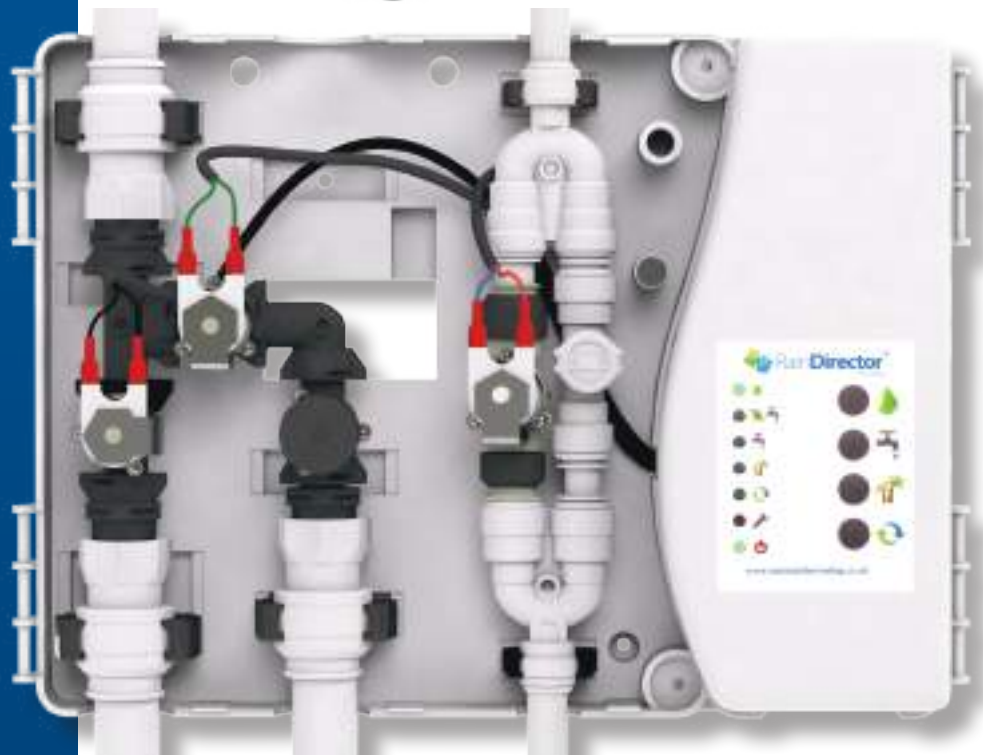
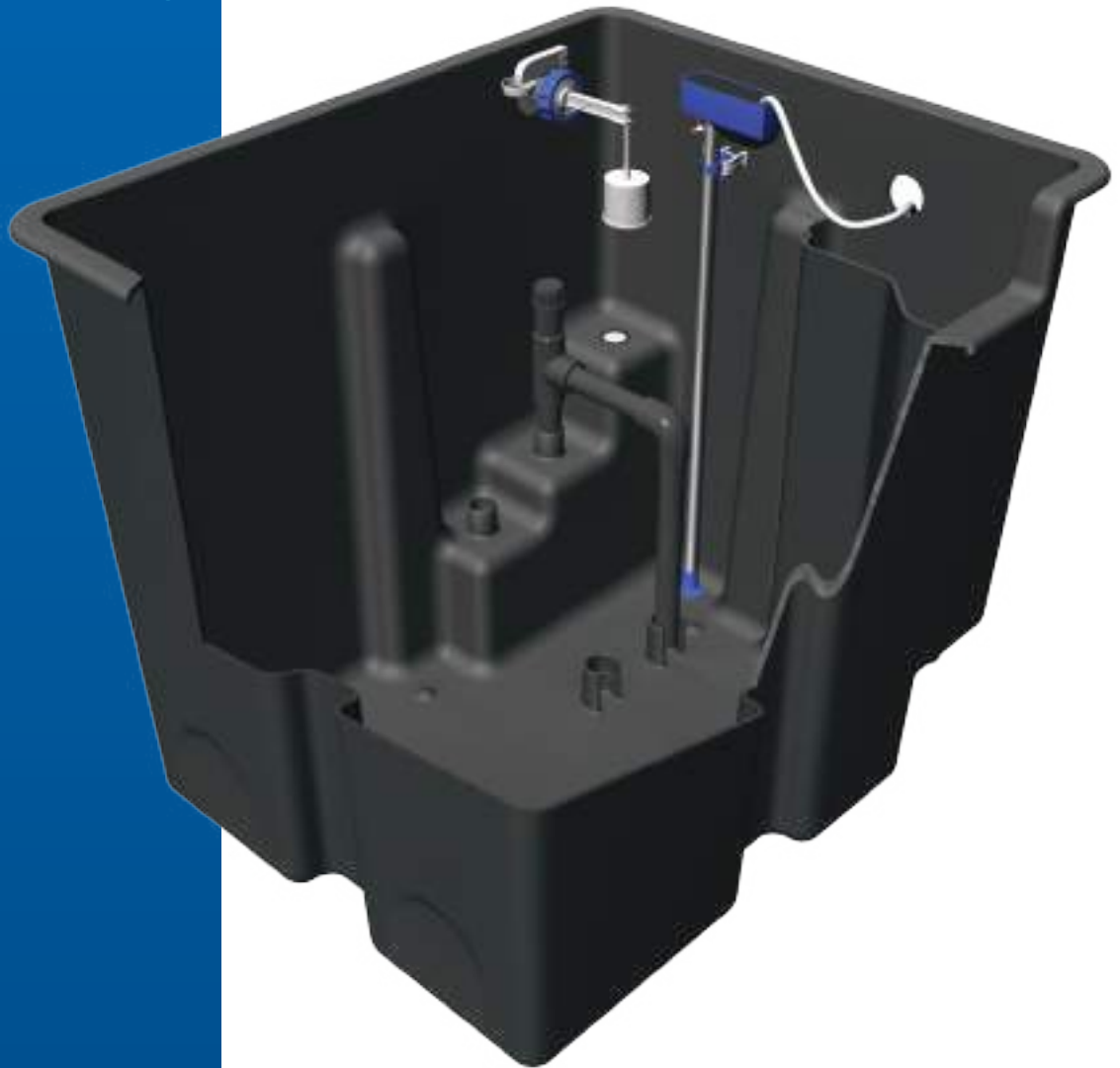


RD01 V13



# RainDirector®

# INSTALLATION MANUAL

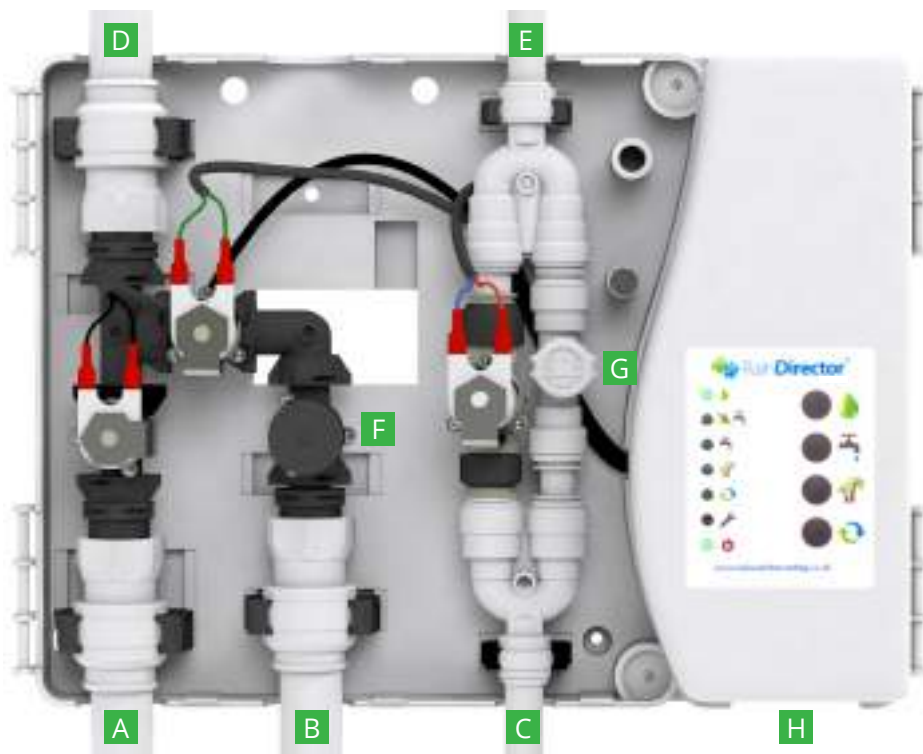


## WHAT'S IN THE BOX?



- 1 Rain Director® control panel with mode indicators, programming buttons, control valves, and 230v AC to 12v 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. **Do Not Cut!**
- 3 Smart header tank for roof space, including level sensor with Cat 5 connection, mains water float valve and overflow weir.  
The 100 litre tank measures:  
600mm W x 490mm H x 500mm D.
- 4 Mains electric submersible pump (must be pressure-sensitive and equipped with non-return valve).





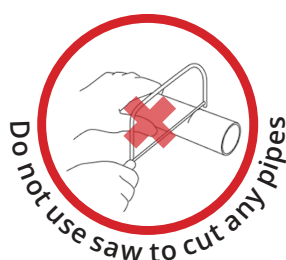
## KEY TO THE CONTROL PANEL & PIPE DIAMETERS:

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



## KEY TO THE SMART HEADER TANK & PIPES

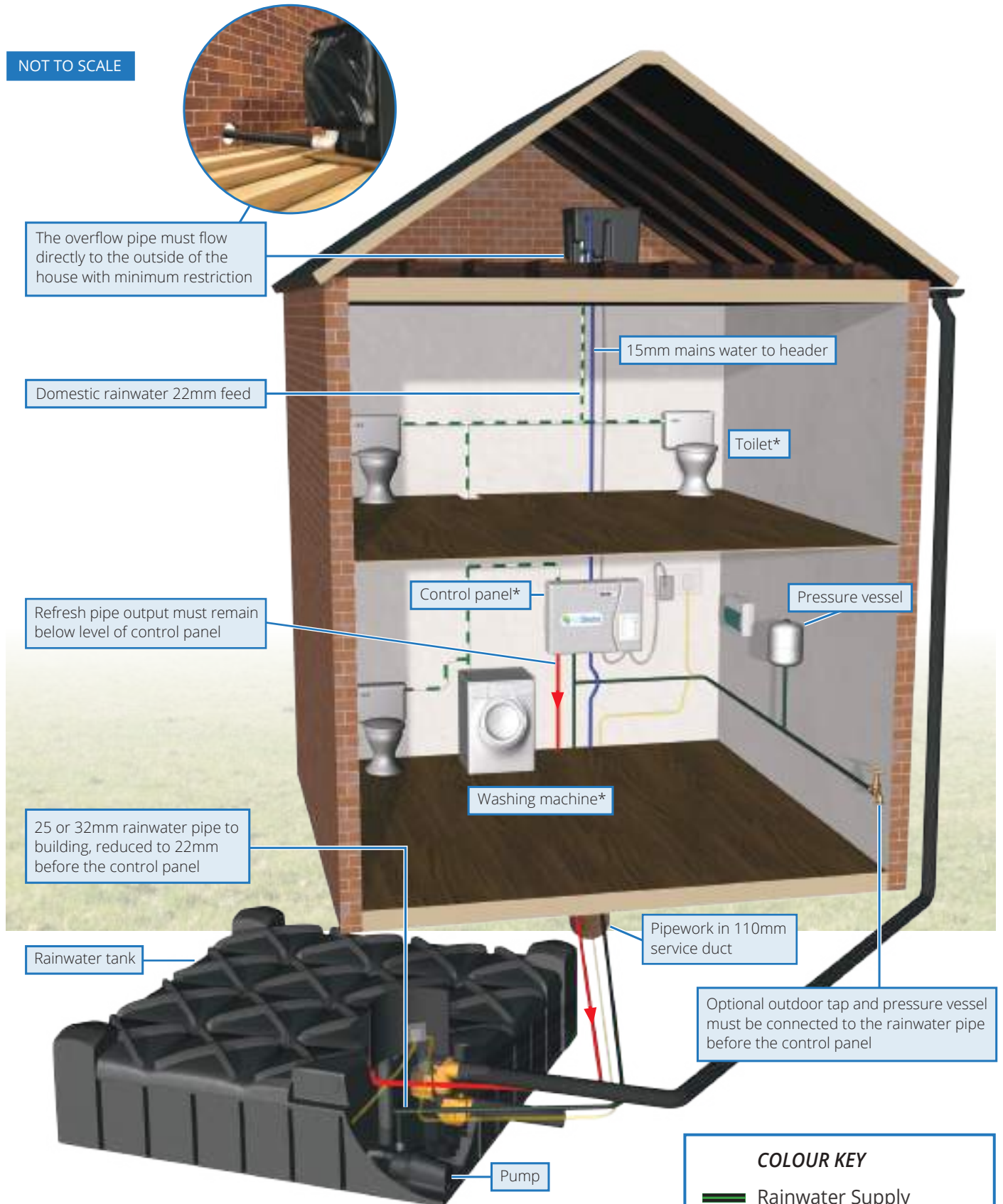
- 1** Mains water inlet from control panel - 15mm. (Design of inlet may vary to comply with local water regulations.)
- 2** Rainwater inlet from control panel - 22mm and services outlet.
- 3** Header tank level sensor.
- 4** Overflow weir straight out of the house - 40mm.





# PLUMBING SCHEMATIC

NOT TO SCALE



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

**\*Control panel & toilets have to be a minimum 1.2 metres below header tank**

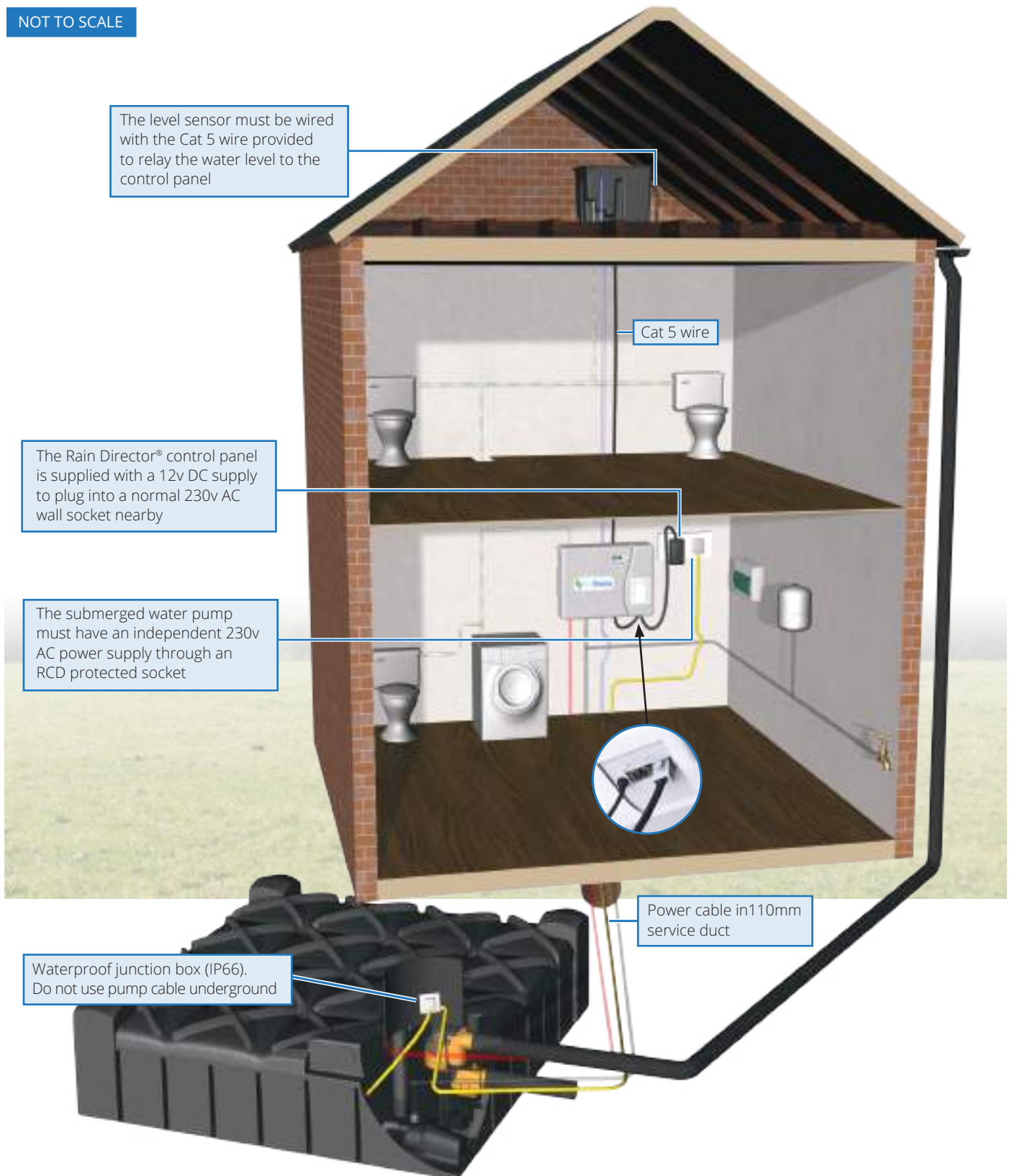
**\* Washing machine has to be a minimum 5 metres below header tank**

## COLOUR KEY

- Rainwater Supply
- Mains Water Supply
- Water Used In The House
- Overflow Water
- Refreshed Water

# WIRING SCHEMATIC

NOT TO SCALE



Plumbing Schematic  
Explained



Wiring Schematic  
Explained



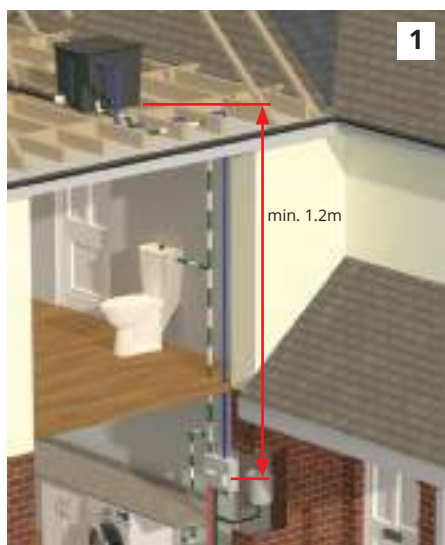
How to Install the  
Control Panel



How to Install the  
Header Tank

# INSTALLATION INSTRUCTIONS

**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.**



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



**2)** 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.



**3)** 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.

*See page 3 for reference for below*

**4)** 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)** to a mains water feed.

Connect any part of the 22mm gravity feed piping that's above the control panel for services, running from the services outlet **(2)** of the header tank, to the services connection in the control panel **(D)**.

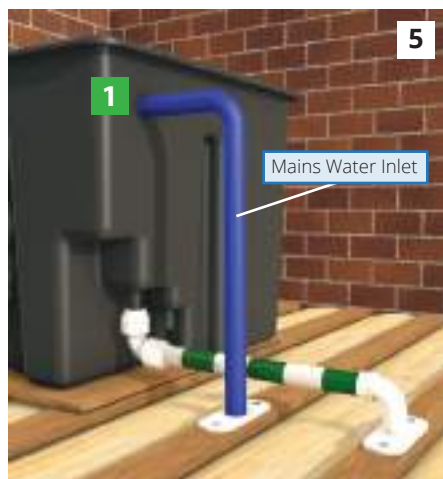
Connect the mains water outlet **(E)** to the float valve in the header tank **(1)**.

Use pipe fittings which will permit removal of solenoids, including shut off valves above and below the control panel.

- 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.
- The header tank must be fitted at least 1.2 metres above the control panel and highest toilet.
- The header tank must be fitted a minimum of 5 metres above a washing machine to provide sufficient pressure.
- Run all garden taps **directly from the pump** and **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 panel 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.



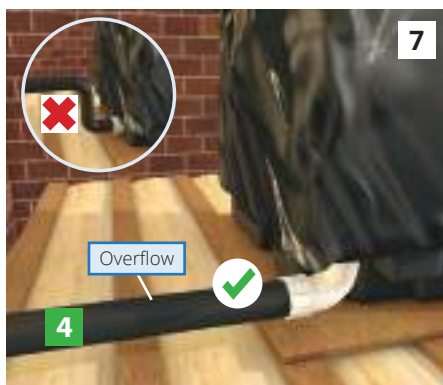
# INSTALLATION INSTRUCTIONS



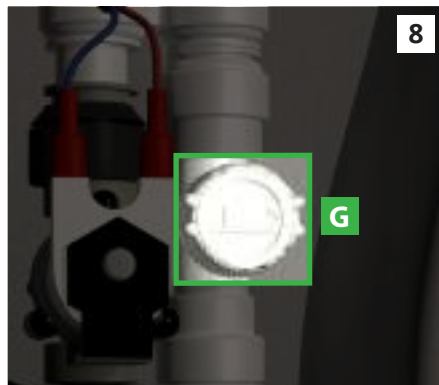
**5)** Connect the mains water outlet from the control panel (**E**) to the header tank mains water inlet (**1**) using 1/2 inch BSP.



**6)** Connect the services feed from the control panel (**D**) to the header tank services inlet/outlet (**2**).



**7)** The overflow (**4**) must run straight out of the house without obstruction, bends, or decreasing pipe diameter. Use 40mm waste pipe elbow, either solvent or compression fitting.



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



**9)** Fully fill the header tank and unscrew the air release 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 (G) back off.**



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



**11)** On the first install, once the unit is powered on, the commissioning sequence will begin. While commissioning, different light sequences will flash. This process may take up to twenty minutes.



**12)** Commissioning has finished once the rainwater light and power light are on. The system is now in rain mode.



How to commission a system



How to use engineering mode



For any issues please refer to our troubleshooting website at

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



» **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.

Problem	Probable Cause	Remedy
<b>Flashing red spanner light during initial power up/commission.</b>	Sensor bar is not connected or wiring fault.	Check connections of the Cat 5, making sure it's plugged in at the Rain Director and header tank.
<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 process 11).
<b>No lights on circuit board.</b>	No power reaching PCB board	Check power to the control panel, 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 panel not functioning.	The system will auto fill with mains water. If this fails, use the quarter turn valve (G) to bypass the system and refill the header tank with mains water.
<b>Poor rainwater flow into the header tank.</b>	Rain filter blocked	Check the filter on the rain feed valve (F) and remove dirt (turn off the pump and isolate from header tank). 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. 2010039



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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