



Rainwater Harvesting System **Recommended Maintenance Routine**

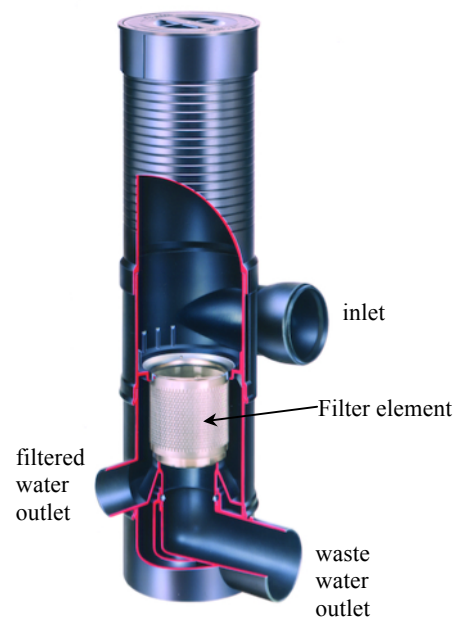


***Rainharvesting Systems offer an Annual Maintenance Service.
Please call 01452 772000 to enquire.***

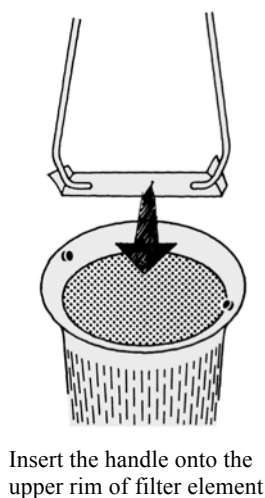
Every 3 months

Vortex filter

The element of the filter unit must be kept clean – failure to do so will cause a serious lack in efficiency, and eventually the filter will cease to divert water to the storage tank. Remove the lid of the filter unit by twisting it a few degrees anti-clockwise and lifting. The filter element can now be removed using the lifting handle supplied. The element must be cleaned thoroughly, paying particular attention to the upper part of the cylinder, close to the rim. Cleaning can be done using a scrubbing brush, pressure washer or air line (or a combination of these). Cleaning in a dishwasher has also proven very successful. DO NOT USE abrasive cleaners or wire brush. Schedule regular cleaning every 2-3 months as required.



REMOVING THE ELEMENT FOR CLEANING



Insert the handle onto the upper rim of filter element



Twist clockwise to locate under the pins



Lift the element clear of the filter body

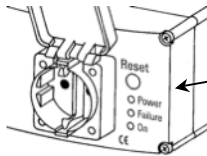
Pump controller

Check that the pump controller does turn the pump off at the end of each demand cycle, i.e the pressure will drop slightly and the 'On' lamp will go out to indicate that the pump has switched off. If the system is serving WCs check that the pump does not cycle off and on again at the end of each fill, this could be caused by a dripping ballcock in one of the cisterns.



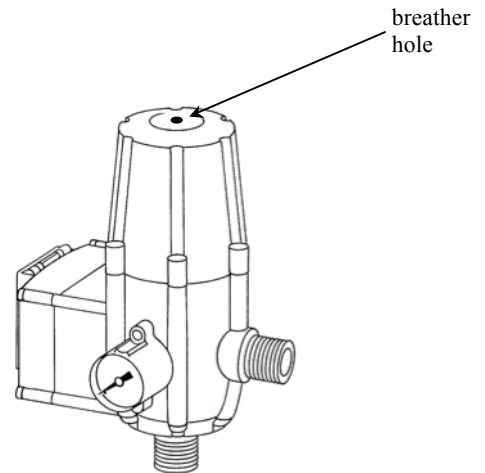
- Turn off at main switch (or unplug unit) and close valve on outlet of the Zeta pump controller, then after approx 5 seconds turn on again, result should be: - (a) Amber 'Power' light comes on, (b) Pump runs (with green 'On' light showing) for approximately. 5 seconds, (c) pressure gauge should settle at approximately 3.5 bar.
- Note the maximum pressure on the gauge.
- Flush a WC. And slowly open valve above controller so that the pressure falls.
- Note the approximate pump switch on pressure, and observe that the pump switches off as it should.
- Check that the pressure gauge remains steady after the demand for water has ceased and the pump has switched off

When there is no demand for water (i.e. all outlets are closed) the pressure gauge should remain steady.



Power lamp indicates there is power to the controller
On lamp indicates the pump is running
Failure lamp indicates the controller has cut power to the pump

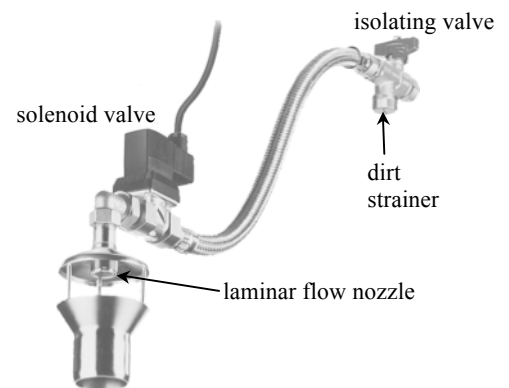
Check also that there is no sign of water emitting from the small breather hole in the very top of the controller. If water is present this could indicate that the units' diaphragm is deteriorating and needs replacing



Every year

Mains water top-up assembly

- Check that there is no drip from the tundish nozzle, and that lowering the float switch in the tank causes the solenoid to valve open. (this can be achieved by lifting the pump by its lifting rope until the float switch is clear of the water)
- Check and clean the laminar flow nozzle to remove limescale and any other debris.
- Check and clean the dirt strainer filter within the isolating valve assembly. (turn off isolation valve first!).
- Check general condition of pipes, connections to the tank, cables and insulation



Pump

- Remove the pump by hauling it up to ground level using the lifting rope. Take care not to damage the float switch or suction filter that are attached to the pump. Check and clean the suction filter and check it's connection to the pump. Check that the float switch is free to move and is not restricted by any cables etc. Replace the pump carefully ensuring that it is upright and is sitting on the platform at the base of the tank, so not able to fall over.
- Check condition of the vertical flexible hose when the pump is running, check that there is no abrasion of the hose. Check the connection where this hose joins the horizontal MDPE pipe and tighten if necessary.
- Check also the condition of cables and any waterproof connectors used in the tank and that any surplus cable is coiled so that it does not interfere with float switch or floating filter.
- Ensure the lid of the tank is securely fixed and sealed when checks are complete.



System pipework etc.

All the supply pipes and any outlets from the rainwater header tank should be marked "Rainwater - Non potable". Taps etc. should be marked with 'Do Not Drink' signs.

Rainharvesting systems Ltd can supply marker tape and signs for this purpose.

Any WC valves that contain filters should be checked (and cleaned if required) annually.

It is a recommended precaution to shut any outside tap isolating valve and empty the tap during winter periods when frost is likely.

Every 10 years

Storage tank

As the filter unit is so effective, the tank only ever holds relatively clean water. However there will be a gradual accumulation of fine sediments. Under normal conditions the tank should not require any maintenance other than internal cleaning at 10-year intervals. This is done by first emptying the tank (ideally this should be done after a long dry spell when there is little water in the tank anyway). You will need to obtain a sump pump (available from hire centres)

- Commence by turning off the electrical supply to the mains water top-up unit.
- If a garden tap is supplied by the rainwater system, the pump can be used to empty the tank as much as possible.
- Lower a sump pump into the tank taking care not to interfere with the rainwater pump, suction filter etc. Get the pump to sit on the bottom of the tank alongside the pump platform.
- Switch on the power to the sump pump and empty the tank of water.
- When water level is almost at the bottom of the tank, use a hose fed from mains supply (or better still a pressure washer) to wash down the inside of the tank in order to dislodge any sediment.
- Pay particular attention to the bottom of the tank, and also wash the rainwater pump and other fittings if required. Repeat this process until the water in the tank appears to be clear.
- Remove the sump pump and check that the rainwater pump is correctly in place and that the suction filter and float switch are free to move.
- Turn power supply on again to the top-up unit. The tank should now begin to fill with mains water and should continue to do so until the float switch rises (about 30cm depth)
- The system is now ready for use again.

Summary:

Filter unit:

- Clean element every 2-3 months
- Ensure mesh is not blocked
- Ensure element seats correctly on seal when replacing

Tank:

- Water should be clear
- Pump must be upright
- Suction filter not blocked and free to move if floating type

Pump controller:

- Power lamp should be permanently on
- 'On' lamp should illuminate only when there is demand for rain water.
- Gauge should read between 2 and 4 bar

Mains water Top-up unit

- Solenoid valve should open when plugged directly into mains supply.
- Solenoid valve should not remain open indefinitely under normal use
- Check and clean out dirt strainer annually

Troubleshooting

Nature of fault	Cause	Remedy
No water available from the system	a. Tank is empty and mains water supply is isolated. Pump controller dry-run protection has activated b. Pump controller is faulty c. Pump is blocked d. Power supply is interrupted e. Plumbing failure between pump and controller (major leak)	a. Open isolating valve and re-start the pump by pressing the RESET button. b. Press the RESET button - if no response, call customer service. c. As above d. Check electrical connections, including any fuses or circuit breakers. e. Check pipes and joints between pump and controller and rectify.
Pump controller constantly switching pump on and off.	Leak in the system, or an outlet is not fully closed. (e.g. WC valve is not closing properly)	Check all consumer valves in rainwater supply pipework for leaks. NB If closing the isolating valve solves the problem, this indicates that the fault lies after the controller (e.g. WC leaking); if no change when valve is closed, this indicates pressure loss between pump and controller.
Pump runs continuously	a. Water loss (leak) of more than 0.7l/s. b. PCB* of pump controller defective c. Debris is preventing the non return valve	a. Check consumer valves and rainwater pipework for leaks. b. Replace PCB* c. Check and clear the non-return valve in the controller
Pump does not deliver sufficient pressure	a. Floating suction filter is blocked b. Air is entering the pump via the suction filter c. Pump is defective d. Leak in the pipe between pump and controller	a. Clean the outside of filter surface with a fine brush. b. Check the position of suction filter; adjust if necessary. c. Call customer service. d. Check and repair leaks.
Power supply has tripped	a. Water or moisture on electrical contacts. b. Pump controller not working c. Pump or cable is defective.	a. Check electric plugs and cables on pump controller, solenoid valve and pump. b. Check power supply and PCB*. c. Check that pump is functioning properly; call customer service if necessary.
Mains top-up water running constantly	a. Float switch on pump is faulty or trapped (cannot move). b. Solenoid valve is stuck open.	Close isolating valve on mains supply and: a. Check float switch and remove blockage if necessary. b. Check valve for operation and blockage. Replace if necessary
Mains top-up is not functioning	a. Isolating valve is closed b. Solenoid valve is stuck closed c. Float switch is faulty or has jammed.	a. Open valve. b. Check solenoid for operation and blockage. Replace if necessary c. Check float switch and replace if necessary

* PCB = printed circuit board

CUSTOMER SERVICE: 0845 223 5430

9.00 - 17.00 Monday - Friday