

# Roof water collection



Using water that's collected from roofs has many advantages:

- self-sufficiency of good quality soft water without additives
- reduction of flash flood potential by delaying run off in urban areas
- reduction of embodied energy compared to purchased water



This simple system has been in use for many years at Beacon Energy in Leicestershire. Existing guttering collects rain that falls on the roof. A Wisey/Coanda screen self-cleaning filter is located in the downspout to remove all coarse visible dirt. Clean water is then collected in an underground tank (this should be as large as possible, minimum 6000 litres for two persons).

Water is pumped out of the tank to filters by a floating pontoon and through a 25 micron cross / indented stainless steel metal ring filter. There are pressure sensors on the outlet and inlet, to reverse the flow for a few seconds when pressure differential calls for a back-flush. This back-flush can also be activated by a timer switch on every pump operation command.

The water is then further filtered through two parallel 15 micron cross filters and then to two (unparallel) 5 micron paper filters (charges once a year) before being delivered to the semi finished storage tank. The water in this tank is suitable for all needs in the house / office except drinking.

To purify water for drinking it is circulated through an ultra violet filter which runs during operational (daylight) hours, and fed to a simple reverse osmosis unit, which operates on mains (60 psi) pressure. Clean pure sterile water is held in a pressured tank for delivery to the bathroom cold sink tap and a refrigerator icemaker water dispenser.

In the future, water will be increasingly scarce due to population growth and climate change. This is a practical way of being self-sufficient, saving on CO2 emission and reducing water changes.

For further details go to our website or ring us on 01509 610 033.

