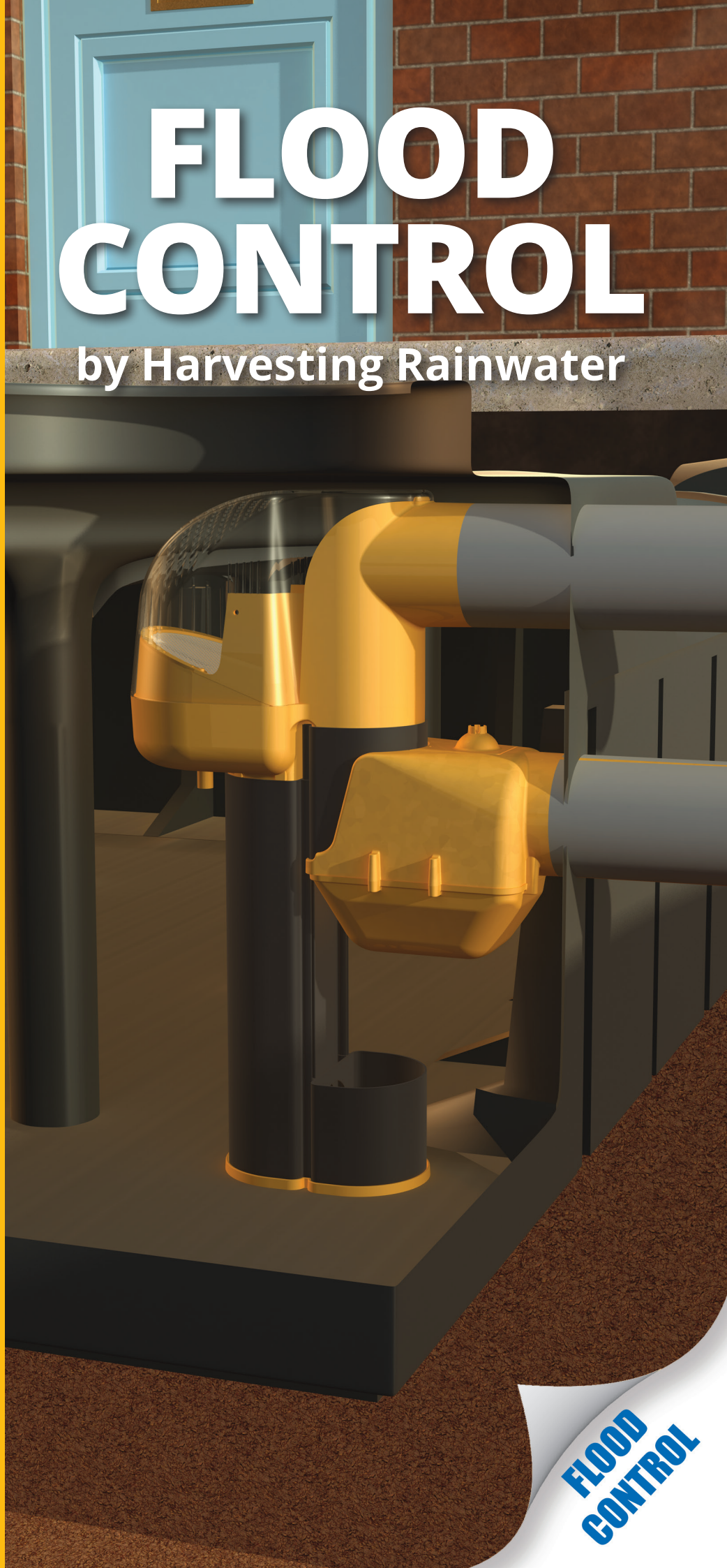
Rain Activ

FLOOD CONTROL

by Harvesting Rainwater



Rainwater Harvesting for toilets, washing machines and outside use

With controlled attenuation of water collected off the roof

Alleviates localised flooding

Fits best practice guidelines for Sustainable Drainage Systems (SuDS)

Designed and manufactured in the UK

Micro Drainage®

Made in Britain

FLOOD CONTROL

COMBINING THE BENEFITS OF RAIN

Climate change, population and urban growth have all contributed to stresses in the UK water infrastructure. The result has led to both shortages of supply and severe flooding.

Since 2008 Rainwater Harvesting Ltd has developed systems to reuse rainwater within the domestic environment. There is no requirement to flush toilets with drinking quality water and it doesn't make sense to continue to do so.

Rain Activ combines the benefits of rainwater harvesting for non-potable applications with a SuDS (Sustainable Drainage System) to prevent flooding.

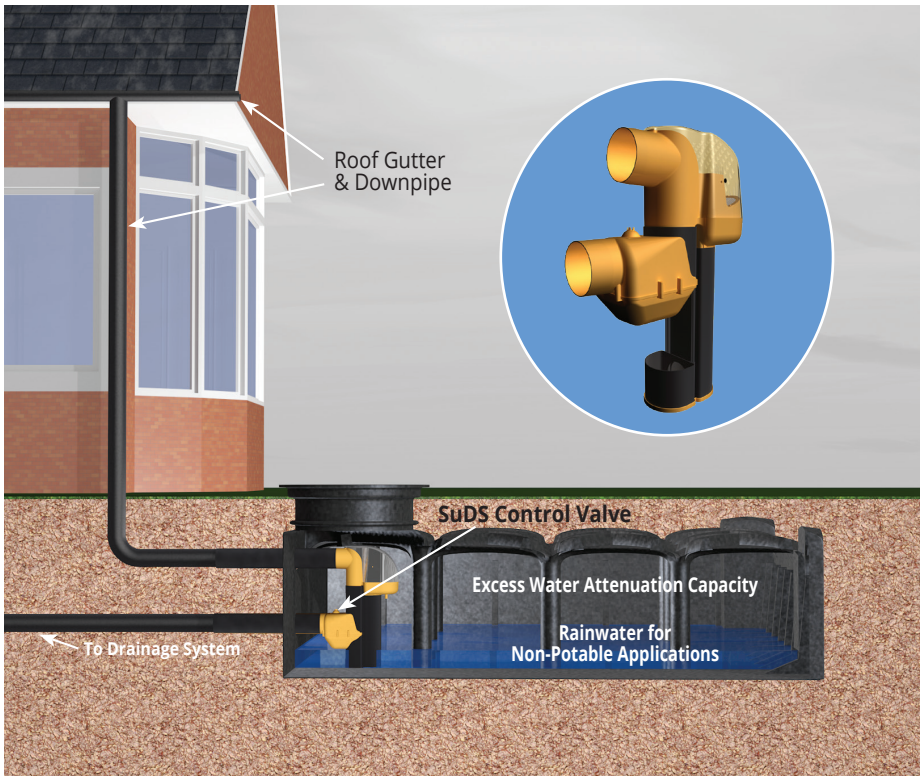
The idea is to collect roof water at source, store, use within the home and release any excess at a greatly reduced rate.

HOW DOES RAIN ACTIV DO THIS?

Rainwater is collected off the roof, filtered and stored in an underground tank. The overall capacity is calculated for two different purposes.

The lower part is for rainwater to be used within the home for toilets, washing machines and outside use. This can give a significant saving on mains water.

During times when there is excess rain the tank has an upper capacity to hold and then allow excess water to be released at a slower rate. This is called attenuation and will prevent overwhelming the drainage system or soak-away.



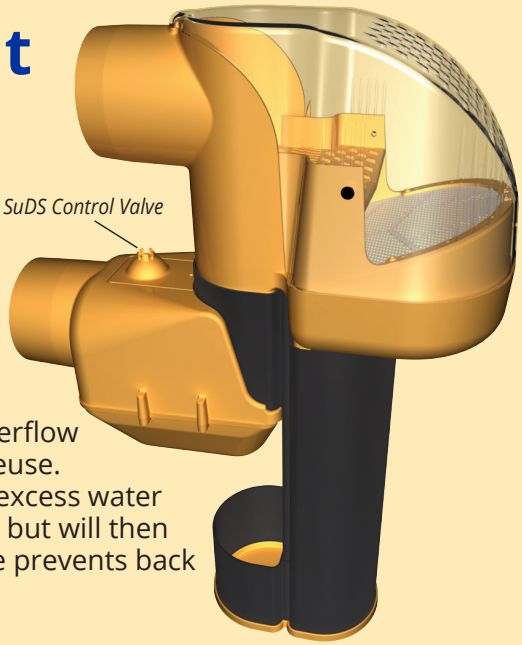
The discharge rate is stipulated by planning authorities and the extra volume required for storm water is then calculated by our team using Micro Drainage.

Rain Activ is designed to meet calculated ultra-low discharge rates that have never been possible before.

IWATER HARVESTING WITH CONTROLLED ATTENUATION

RainVantage Filtration Unit

Made in Britain



- **Unique C-Shape design yields 95% volume of water during intense rainfall.**
- **Designed for shallow dig underground rainwater harvesting tanks and other above ground applications.**
- **Low maintenance and self-cleaning filter.**

Rainwater enters the upper filtration chamber via standard roof guttering and downpipes. Leaves and debris are filtered out by a 1000 micron mesh. This is diverted straight to the overflow with the rainwater flowing down into the tank for rainwater reuse. Should the water continue once the rainwater capacity is full excess water will rise above the discharge valve where it will continue to fill but will then only be released at a calculated lower rate. A non-return valve prevents back flow from the drainage network.

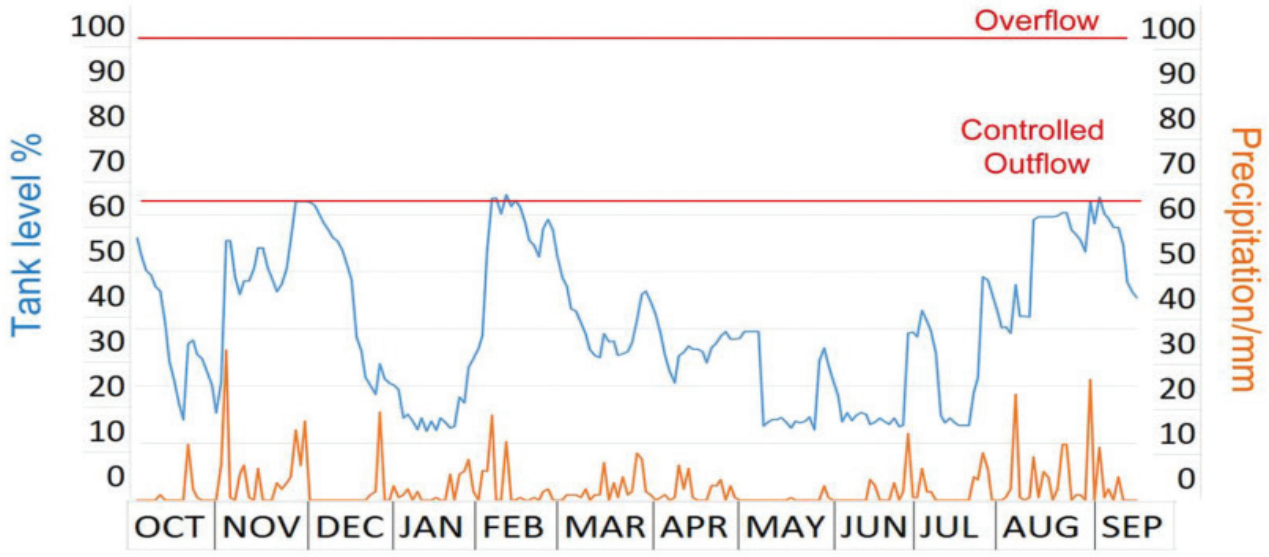
Rain Activ Case Study-South West UK

The required rainwater harvesting capacity for a four person family was calculated to BS 8515 standards and 3000L of storage was provided. This would give 21 days of drought protection and enough volume for around 600 free toilet flushes. A system was installed to provide mains back-up during prolonged dry periods.

The storm attenuation volume required was calculated as 2000L which took into account a 1:100 year storm event with a 40% climate change. Therefore a 5000L tank was installed.

The results were exceptional and proved the concept. The study demonstrated that there was ample water for the toilets and during heavy rainfall there was only 4 times when it discharged into the drainage network.

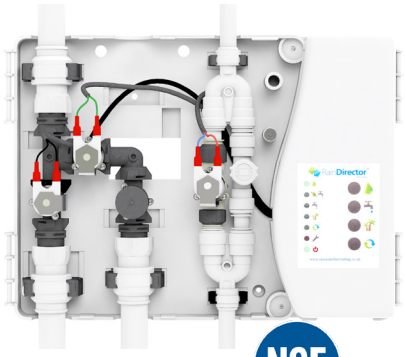
Rain Activ test site tank level including local rainfall data South West UK



RAINWATER HARVESTING & ACTIVE ATTENUATION COMBINED

The underground water tank size is calculated for storm volume but also a capacity to meet the water needs for the home, for toilets, washing machines and outside use. However, should the rainwater become low, Rainwater Harvesting Ltd provides mains back up solutions.

Both systems are NSF REG 4 S3 approved and are accepted by all water providers as compliant.



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RAIN DIRECTOR GRAVITY FED SYSTEM

RainDirector®

Rainwater from the underground tank is pumped up into a SMART header tank in the loft space where gravity is used to distribute to water appliances. This minimises pump wear and electrical usage. If the rainwater becomes low, mains water refills into the header tank so only the smallest amount will be required. The RainDirector has other user friendly features which has been recognised with multiple awards.

All products are designed, made and tested in our UK workshops

- **Running Costs Are Less Than 1p per Person Per Day.**
- **Low energy use, using 6 - 8 times less electricity than other rainwater harvesting systems.**
- **Provides water in every situation: Low rainwater, power cut or pump failure.**
- **Smart user functionality.**

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BACK UP IN A BOX-DIRECT FEED SYSTEM

RainBackup® in a Box

A pressure sensitive pump within the harvesting tank registers a drop in pressure by the appliance and water is directly supplied. Should the rainwater run low a measured quantity of mains water is introduced into the underground tank.

All punps go through a rigorous test in our UK workshops

Rain Vantage

- RainVantage-Filtration Unit.
- Harvest, hold and controlled release.
- 95% yield of roof rainwater.
- Self cleaning, low maintenance filter.
- Calculated release of excess water into the drainage network.

Rain Activ systems can be installed for garden use only or retrofitted where the sewer network is at risk of being overwhelmed. It is suitable for combining with any mains back up system which complies to BS 8515.

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