

Buyers Guide to Urban Rainwater Harvesting

Before deciding to install urban rainwater harvesting we recommend you take some time to plan your installation. How much water can be realistically collected given the rainfall, the collecting area and storage space, and how and where will it be used. The right system matching collection and use will provide years of trouble free harvesting. Urban systems are an ideal retrofit solution and prior planning will minimise disruption to the existing fabric of a property.

How it Works

An urban rainwater harvesting system comprises of a purpose designed filter, storage tank, pump and mains valve that is connected to services that use rainwater for toilet flushing, laundry and garden watering. Rain falling on the roof of a building is channelled via the existing gutters and down pipe to a filter which removes leaf litter and other debris before diverting the water into a storage tank. When an appliance demands water a pump is automatically switched on and draws water from the tank. In the event that the tank runs dry a mains water valve is automatically activated to partly refill the tank.



Slim Line Urban Systems

Above ground rainwater harvesting systems specially designed for the urban 'built up' environment are a new innovation in the UK and are widely used in other countries. These state-of-the-art modular systems are an attractive, practical and contemporary solution to managing water resources and blend seamlessly with modern and traditional building designs. Urban systems such as the Super Slim Wall Tank are ideally suited to small and medium sized schemes, typically between 200 and 1200 litres and larger capacity systems are provided by the Slim-line Tower Tank. It is not uncommon for such systems to be installed with a single use in mind, toilet flushing or garden use, for example.

Rainwater harvesting is often a compromise between available space, utility and cost and a slim-line storage tank provides a versatile solution that avoids the extensive civil works and disruption to property necessary for the installation of below ground tanks.

Water Quality

People have used collected rainwater from above ground storage systems for 1000's of years. The guiding principles to trouble free harvesting are to ensure every attention is taken to protect the quality of the water diverted to the tank, use rather than store the water and regularly undertake simple routine maintenance. Ensure the gutter line is in good repair to avoid the collection of debris and the pooling of rainwater between storms. Use a high quality filter to remove leaf litter and debris that descends from the roof and install a purpose designed opaque tank out of intense sun light or shaded by light screening. Installation against a north westerly facing wall is ideal. Maintain a good air flow in and around the tank and don't oversize the storage as this stops the tank periodically overflowing to the main drain or soak away which removes fine particles of floating organic matter.

Sizing Your System

The simple rule is, the larger the roof area connected to the tank, the more water can be collected. To calculate the available rainfall (litres) multiply the local rainfall amount (mm) each year by the roof area (m²) connected to the tank. The average rainfall for England is 850mm. The expected usage each year can be calculated by multiplying the usage per person per day (150 litres) by the number of persons using the building by 50% and 365 days. For small urban systems, scale the storage capacity by calculating 2% of the lower of available rainfall or usage. The comparable figure for larger systems is 5%. One of the benefits of an urban modular rainwater system is that additional tanks can be easily added at a later date to optimise performance based on actual experience.

A guide to installation

The tanks should ideally be installed close to the point of water use to minimise plumbing alterations. Halsted Rain above ground collection systems are designed for installation by a general trade's person or a competent DIY enthusiast using plug-n-play components. Any changes to the electrical supply must be undertaken by a qualified electrician and the installation must comply with water regulations. Urban systems are designed to stand on compacted ground or hard standing and installing a system above ground level is not recommended without taking specialist advice from a structural engineer. Each component is supplied with an easy to follow installation guide. Experience has shown that in a temperate climate such as the UK it is unlikely that a properly installed purpose designed urban rainwater harvesting system will freeze. Exposed pipe work must be insulated and other winterisation measures are offered if felt to essential.

System Maintenance

Invest in well designed equipment made from quality materials and incorporating easy access inspection covers to minimise the time and cost of maintenance and maximise the life of the system. Some filters such as the Frogmouth are designed to be self cleaning in most circumstances and it is advised that finer secondary filters if required are cleaned every month. Follow the manufactures recommended maintenance schedule and clean and keep the gutter line clean and in good repair. These simple preventive measures will lead to years of trouble free harvesting.

About Halsted Rain

Halsted Rain is a supplier of urban rainwater harvesting solutions. We offer a range of products including tanks, filters, pumps and accessories specifically designed for above ground rainwater collection and utilisation systems that can be installed in a confined space. Our products are ideally suited for installation on domestic and light commercial property particularly as a retrofit solution. Halsted Rain prides itself on its ability to offer customers;

- Proven and easy to install products
- A comprehensive range of integrated products and accessories
- Reliable service
- Affordable prices