

RAINWATER HARVESTING SYSTEMS

FOR DOMESTIC APPLICATIONS



The **Kingspan Klargester** portfolio of Rainwater Harvesting products offer economical solutions for water conservation in the home and garden. Detailed in this brochure are the most effective, practical and competitive solutions on the market.

Domestic Envireau - Integrated Rainwater Harvesting

The **Domestic Envireau Rainwater Harvesting system** has been designed as a low cost installation for self-build projects and residential developments. Envireau works by taking the rain from your roof gutters, filtering out leaves and debris and storing the water in an underground tank.

This is then pumped into the house to be used for non-potable applications such as toilet flushing and washing machines. If the tank runs empty, the system automatically switches to mains supply. **Simple.**

Benefits

Easy to install, simple to maintain, automatic in operation; the Domestic Envireau System has been developed to provide the homeowner with a 'fit-and-forget' system, ensuring an automatic supply of harvested rainwater.

Designed to be as user-friendly as possible, the system utilises much of the existing pipework within the building. The main requirement being the installation of a rainwater storage tank with internal pump, selected to meet the roof areas water catchment yield and household requirements.

The BS8515 : 2009 Rainwater Harvesting Systems - Code of Practice protects the public by ensuring consistency of quality, installation, testing and maintenance of rainwater harvesting systems for non-potable (non-drinkable) water applications in the UK. The Envireau product ensures total compliance with BS8515 : 2009.

System Options

The Envireau System has two primary options:

- 1 The **Gravity System** which uses an elevated header tank to store filtered water after the main tank.
- 2 The **Direct System** pumps water from the main storage tank and is used where a header tank is impractical.

Single House



Self-build. Uses: Toilet flushing, washing machines, garden irrigation and car washing.

Multiple Housing Sites



Housing developments and housing associations. Uses: Toilet flushing, washing machines, garden irrigation and car washing.

Benefits of Installing the Domestic Envireau

Save up to
50%

Kingspan Klargester Envireau can reduce water consumption in domestic applications by up to 50%.

Code for Sustainable Homes/ Part G Building Regulations

Achieves credits that are required for compliance with the Code for Sustainable Homes. Also reduced mains water use fulfils the new Part G 2009 Building Regulations.

Aids Planning Applications

Authorities increasingly expect applications to demonstrate Sustainable Drainage (SUDS).

The System that Pays for Itself

Money saved through reduced water bills means Envireau can pay back its purchase costs.

Continuous water supply in times when mains water is taken for granted

Alternatively if there is a lack of rainfall the mains water will supply the applications.

Technical advice & guidance support available

from experienced technical sales engineers.

Service contracts available for ongoing maintenance

from our own Kingspan Environmental Service Department.

Helps to Future Proof domestic installations

Envireau Gravity System

Envireau Gravity System

The **Gravity System** is ideal for domestic applications. It has a major advantage in that in the event of a power failure on site (or the rain stocks running dry) the system will automatically switch to mains water supply to ensure a continuity of service.

The gravity system requires a header tank to complete the package. Kingspan Klargester supply a header tank as an optional extra which contains two independent valves

operating both the mains and rainwater supply (we recommend a Kingspan Klargester header tank is used). The water from the header tank will flow by gravity to the serviced appliances. The system will always draw from the rainwater supply first.

Uses

- WC and urinal flushing
- Irrigation and landscape watering
- Garden watering
- Vehicle washing
- Domestic laundry



- | | |
|------------------------------|----------------------------|
| 1 Water main | 8 Header tank |
| 2 Storage tank | 9 Adjustable tank neck |
| 3 Envireau control panel | 10 External tap |
| 4 Level display unit | 11 Roof rainwater feed |
| 5 In-line filter 120 microns | 12 Filtered rainwater feed |
| 6 Internal rainwater filter | 13 WaveGuide Depth Sensor |
| 7 Submersible pump | |



Control Panel
(Refer to key 3 on both the Gravity and Direct Systems)

Fully CE Approved and new Envireau control panel functionality and additional

It greatly simplifies the installation and has been designed with future

Packaged Components

The Envireau can be configured as a **direct** or **gravity** system from the box

- | | |
|--|--|
| 1 Kingspan Klargester Polyethylene Underground Storage Tank suitable for the 60m ² to 200m ² roof areas. Suitable for pea shingle back fill in dry site conditions. (Note: for larger roof area suitable tanks are available). | 6 WaveGuide Depth Sensor - which measures the depth of water and relays the information back to the main control panel. This activates the mains water supply when required and disables the pump when water levels in the tank are running low (for Direct only). |
| 2 Internal Self Cleaning Rainwater Filter. | 7 Manhole cover (not visible on diagram). |
| 3 Stainless Steel Multi-stage Submersible Pump with fixed filter. | |
| 4 50m Cable Length are fixed on all units. | |
| 5 Envireau Control and Display Panel (controls the stopping and starting of the pump). | |

Other Fixture & Fittings

- Solenoid Valve (regulates the supply of mains water in the direct system).
- Tundish (provides the mandatory air gap in the direct system).



Envireau Direct System

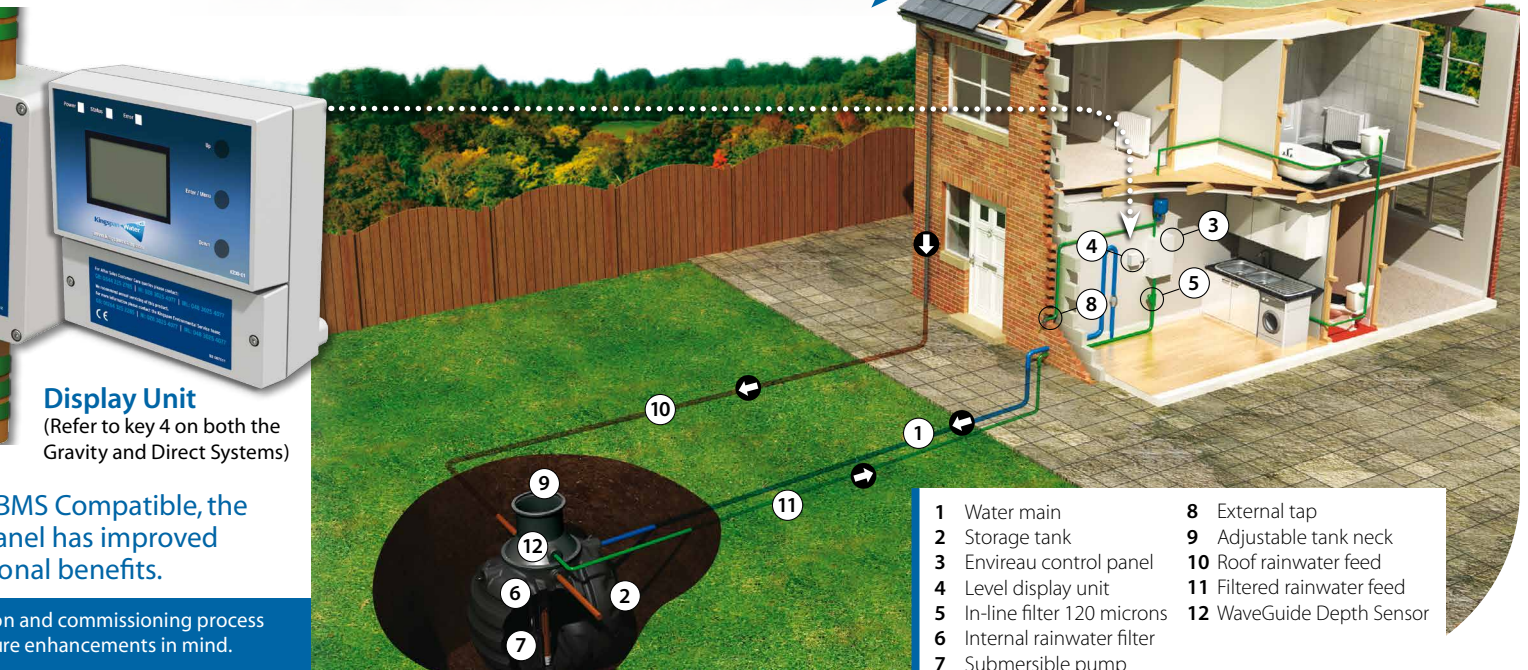
Envireau Direct System

The **Direct System** is also suitable for domestic applications. This system is used where it is impractical to have a header tank for example in homes that have converted attic spaces and no room for a header tank. Therefore filtered rainwater is pumped direct from the holding tank to the various appliances.

Uses

- WC and urinal flushing
- Irrigation and landscape watering
- Garden watering
- Vehicle washing
- Domestic laundry

If the storage tank has a low level of rainwater, there is a small automatic charge of mains water into the tank to ensure the system never runs dry. The main advantage of this system is that rainwater is delivered to the appliances at mains pressure or higher.



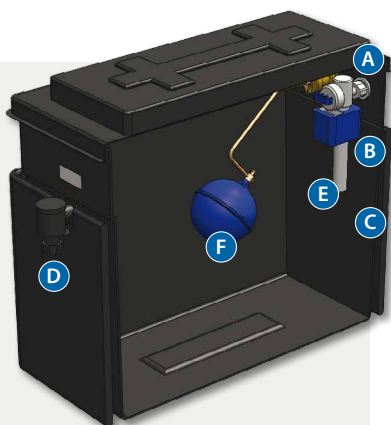
Display Unit
(Refer to key 4 on both the Gravity and Direct Systems)

BMS Compatible, the panel has improved operational benefits.

Installation and commissioning process are enhancements in mind.

Optional Extra - Header Tank

- A Mains Input
- B Rainwater Input
- C Water Regulations Compliant Mandatory Air Gap
- D Overflow Point
- E Rainwater Level Control
- F Mains Level Control



When ordering your system to make the gravity system complete you will require a header tank. KingspanWater offers a header tank with weir, ballcock and float valve which allows the switch over to mains, the weir provides the mandatory air gap. **Order code: HT 050**

Choosing and ordering your Envireau System made simple



Code	Recommended Roof Size	Tank Dimensions			
		Diameter	Height*	Length	Inlet & Outlet Invert
Gravity System					
ENVG060KSW	60m ²	1350mm	2220mm	1700mm	500 - 800mm
ENVG100KSW	100m ²	1700mm	2443mm	2000mm	500 - 900mm
ENVG150KSW	150m ²	1800mm	2543mm	2400mm	500 - 900mm
ENVG200KSW	200m ²	2070mm	2793mm	2400mm	500 - 900mm
Direct System					
ENVD060KSW	60m ²	1350mm	2220mm	1700mm	500 - 800mm
ENVD100KSW	100m ²	1700mm	2443mm	2000mm	500 - 900mm
ENVD150KSW	150m ²	1800mm	2543mm	2400mm	500 - 900mm
ENVD200KSW	200m ²	2070mm	2793mm	2400mm	500 - 900mm

* Includes tank neck - adjustable to suit required invert.

Delivery on site will consist of one suitable tank and one box of components including a manhole cover.

RainTrap Below Ground Rainwater Storage and Delivery System

RainTrap Below Ground - Rainwater Storage and Delivery System

An economical Rainwater Harvesting system designed to make garden watering simple. The RainTrap system comprises of a filter, an underground storage tank and a pump. Rainwater runs down the roof and into the guttering and downpipes in the normal way before passing through the filter, which removes any leaves or debris. Rainwater is stored in the underground tank from which it is pumped at a constant pressure to a garden sprinkler or hose as required.

The RainTrap has many advantages over traditional garden waterbutts. In addition to being able to store far larger quantities of water, it removes the need to carry water around and does not flood when full, since the excess water exits via a soakaway or surface water drain.

The Benefits

- Easy to install
- Inexpensive
- Simple on / off operation
- Suitable for existing and new homes
- Automatic rainwater diversion when tank reaches full capacity
- Available in a variety of sizes from 2,800-4,600 litres
- Internal self-cleaning leaf filter
- Designed and manufactured in the UK

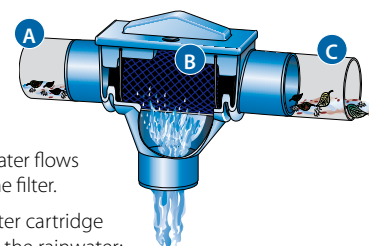
Uses

- Garden watering
- Horticultural sprinkling
- Small vehicle washing

Applications

- Domestic
- Horticulture
- Garden centres

Rain Trap			
	RT2800	RT3800	RT4600
Capacity	2,800 Ltr	3,800 Ltr	4,600 Ltr
Diameter	1,905mm	2,070mm	2,080mm
Height (Base to outlet)	1,565mm	1,795mm	2,035mm



- A** Rainwater flows into the filter.
- B** The filter cartridge cleans the rainwater; filtered water falls into the storage tank.
- C** Leaves and debris are flushed out of the filter periodically by excess rainwater.



- 1** Pump power switch
- 2** Pumped water to required application, e.g. garden hose, power washer, sprinkler system
- 3** Rainwater inlet (110mm)
- 4** Submersible pump
- 5** Waste water / overflow outlet (110mm)
- 6** Leaf filter
- 7** Safety manhole lid

Kingspan Klargester Solutions



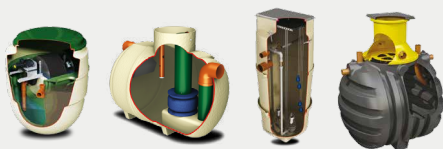
- Domestic Envireau Fully Integrated Rainwater Harvesting Systems
- RainTrap Below Ground Storage and Delivery System
- Potable and Non-potable Water Storage Tanks
- Above Ground Rainwater Harvesting Systems for Existing Building
- Filters, Monitoring and Accessories



Kingspan Environmental portfolio includes:



- Sewage Treatment Plants
- Package Pump Stations
- Oil / Water Separators
- Septic and Storage Tanks
- Rainwater Harvesting Systems



- Bunded Oil and Fuel Storage
- Biofuel Storage and Dispensing
- AdBlue Storage and Dispensing
- Chemical and Water Treatment
- Spill Containment Solutions
- Recycling Banks
- Grit and Solid Fuel Containers
- Potable Water Tanks



- Domestic Tank Level Monitoring
- Industrial Tank Level Monitoring
- Tank Management Systems
- Tank Alarm Systems
- Overfill Prevention Devices
- Refrigeration Control Panels



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www.youtube.com/kingspanenvironment



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