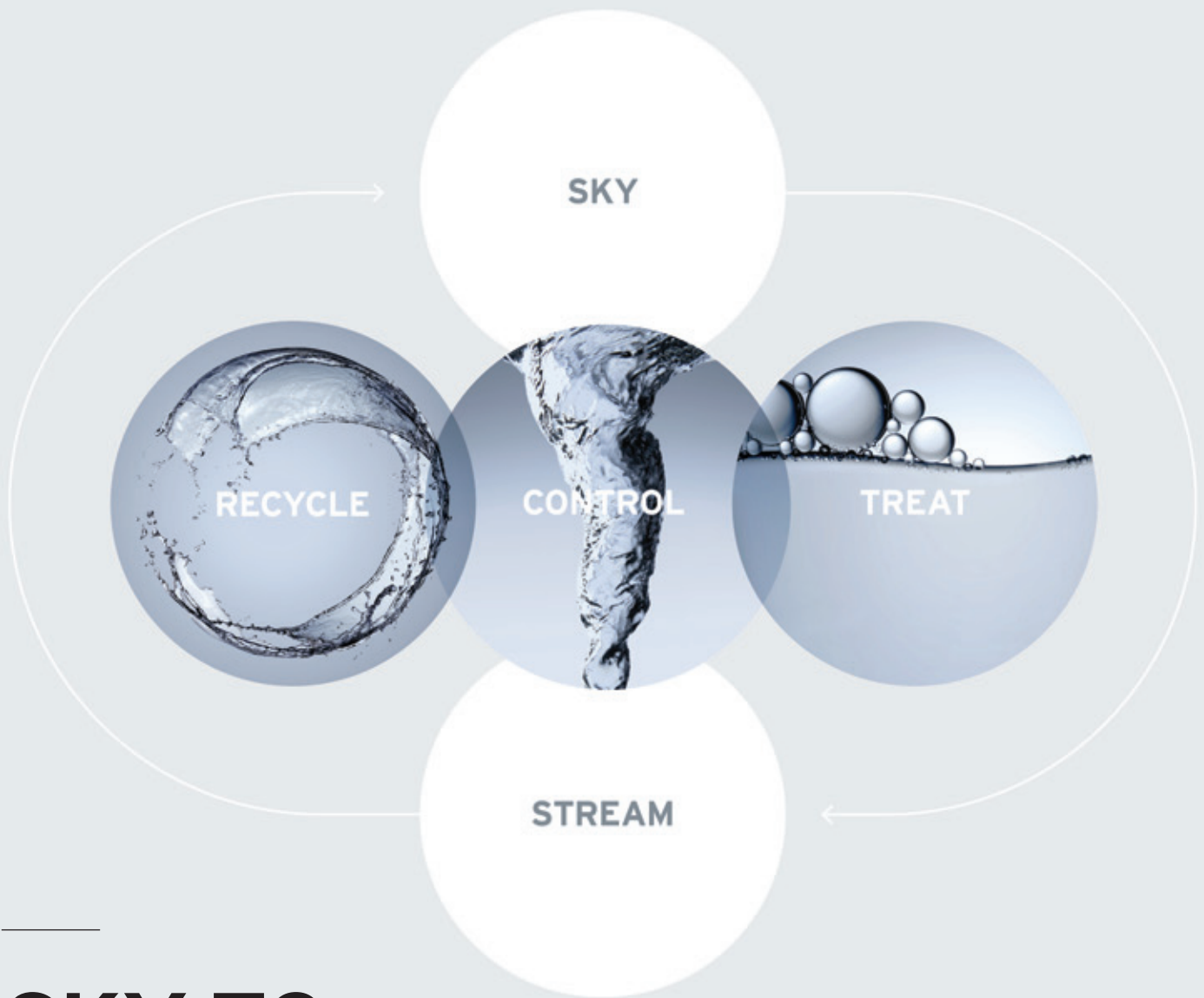


# SUSTAINABLE WATER MANAGEMENT SOLUTIONS



- › DOMESTIC & COMMERCIAL SOLUTIONS
- › FULL DESIGN SERVICE
- › FULL COMMISSIONING & SERVICE



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# SKY TO STREAM

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Water is a precious resource. The penalties for wasting it are increasing, as are the rewards for managing it responsibly.

We've been pioneers in this field for decades, creating and manufacturing innovative ways to recycle, gather and treat water.

We can design and build a water management system tailored to your exact needs. You'll get a solution that is flexible, reliable and effective - with the prospect of a rapid return on investment.

We can help you at each and every stage of the water management cycle - from sky to stream.

## RECYCLE

### Rainwater harvesting

Buildings need to be more sustainable. We'll provide imaginative, effective ways to reuse the water we've captured.

## CONTROL

### Handling excess water

Flow rates are hard to predict. From a storm to a burst main, we'll capture and store excess water, so you stay under your limits.

## TREAT

### Managing wastewater

Water quality counts. We'll clean the water captured by your system, so you can release or reuse it with confidence.

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# RETHINK YOUR APPROACH TO WATER MANAGEMENT

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The twin forces of climate change and urbanisation have brought about a dramatic rethink in our approach to water management. Rising global temperatures and changing weather patterns confirm the speed and effects of climate change. Rainfall is heavier, more frequent and lasts longer. By contrast, growing populations and mass migration to urban areas world-wide necessitate new commercial and residential infrastructure. The result is more rain on hard, man-made surfaces.

Revolutionary legislation tackling this is transforming the way we manage water. Sustainable urban Drainage Systems (SuDS) are central. Based on natural processes, they slow water drainage, control surface rainfall run-off and relieve pressure on sewerage systems, mitigating flood risk, protecting environments and water quality and encouraging biodiversity, to the benefit of the whole community.

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## THINK

### ENVIRONMENTAL PROTECTION

Our systems protect water quality and biodiversity while minimising your carbon footprint. For example, subject to site assessment, a new tank strapping technique avoids the need for concrete backfill.

### RISK REDUCTION

We design systems that minimise on-site Health & Safety risks, from ease of installation through to full vessel access for necessary routine service and maintenance, thereby enabling adoption by local water authorities.

### FINANCIAL BENEFITS

With smart ways of working, we'll save you money on equipment and installation, keeping time on designers' and consultants' desks to a minimum.

### PLANNING SUCCESS

Our switched-on team of experts help you navigate the choppy waters of planning legislation, SAB assessment criteria and UK regulations.

### REGULATORY COMPLIANCE

Professionally-qualified Kingspan engineers and designers ensure every product meets local and international regulatory standards while each system undergoes EN & DIBT as well as European process and structural testing. Rest assured all our products covered by CPR are now CE marked.

### FINANCED SOLUTIONS

Kingspan Environmental now offers a finance scheme that enables you to spread the cost over a number of years, rather than you having to commit to a large, initial outlay of cash up front.

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# SUSTAIN- ABLE

## WATER IS THE ANSWER

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A proactive and highly-engineered water management strategy will now be the lynchpin of every new building development. At the forefront of innovation in this field, Kingspan Environmental's sustainable water management systems offer absolute flexibility with products and intelligence that can be tailored to any construction regardless of size, purpose or challenge.

With expertly designed individual components for each part of the management system, our cutting-edge methodology offers a completely bespoke and totally compliant (EN, DIBT and independent structural testing) solution closely aligned to the latest UK guidelines and SAB Assessment criteria, focusing on three critical areas.

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# OUR APPROACH TO SUSTAINABLE WATER MANAGEMENT SOLUTIONS

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## RECYCLE

### RAINWATER HARVESTING

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Harvesting rainwater is one of the simplest of ways in which we can live sustainably. Only now is the value of water being recognised as it becomes an increasingly precious resource.

We have been designing and installing rainwater harvesting systems for over a decade. While we continue to follow the principles of rainwater harvesting, our systems have evolved through our knowledge, experience and the latest technology.

- 
- › Integrated Rainwater Harvesting Systems
  - › Irrigation Systems

## CONTROL

### SURFACE & FLOOD WATER MANAGEMENT

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When the peak inflow in a storm exceeds the allowed discharge into the watercourse, the excess has to be 'attenuated' on-site for the duration of the storm. Afterwards, it can be released at, or at less than, the permitted rate using a flow regulator. The remaining water is stored in an attenuation system.

- 
- › Attenuation Systems
  - › Separators
  - › Flow Control Chambers
  - › Surface Water Pump Stations

## TREAT

### WASTEWATER MANAGEMENT

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Protecting water quality is critical to any water management strategy and will become increasingly important on a global scale. Leading specialists for over 50 years, our dedicated technical team has successfully pioneered a complete solution featuring innovative products, from sewage treatment plants to oil/water separators and traps, to safeguard water quality in all building projects.

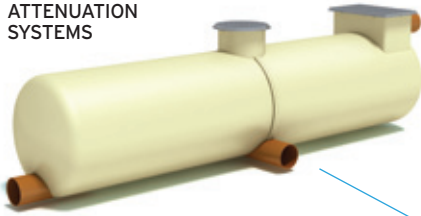
- 
- › Sewage Treatment Systems
  - › Grease & Silt Traps
  - › Wastewater Pump Stations
  - › Separators



## CONTROL

### SURFACE & FLOOD WATER MANAGEMENT

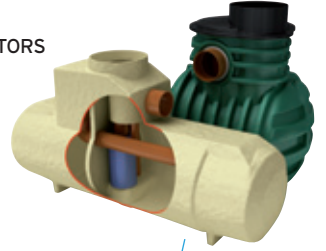
ATTENUATION  
SYSTEMS



FLOW CONTROL  
CHAMBER

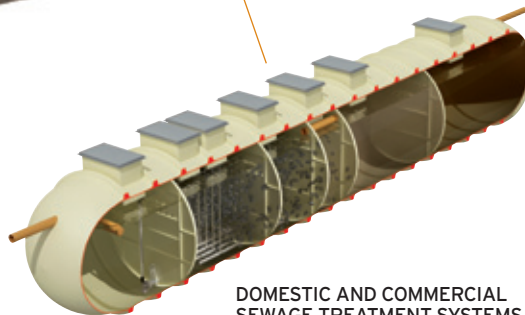


SEPARATORS

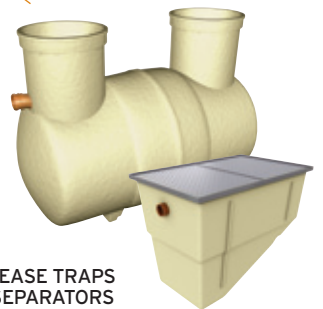


## TREAT

### WASTEWATER MANAGEMENT



DOMESTIC AND COMMERCIAL  
SEWAGE TREATMENT SYSTEMS

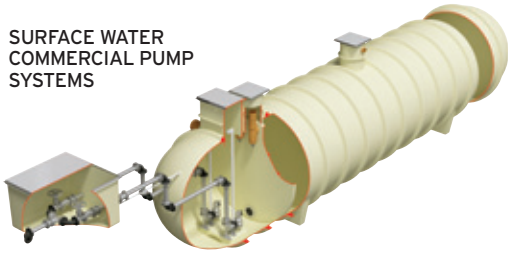


GREASE TRAPS  
& SEPARATORS

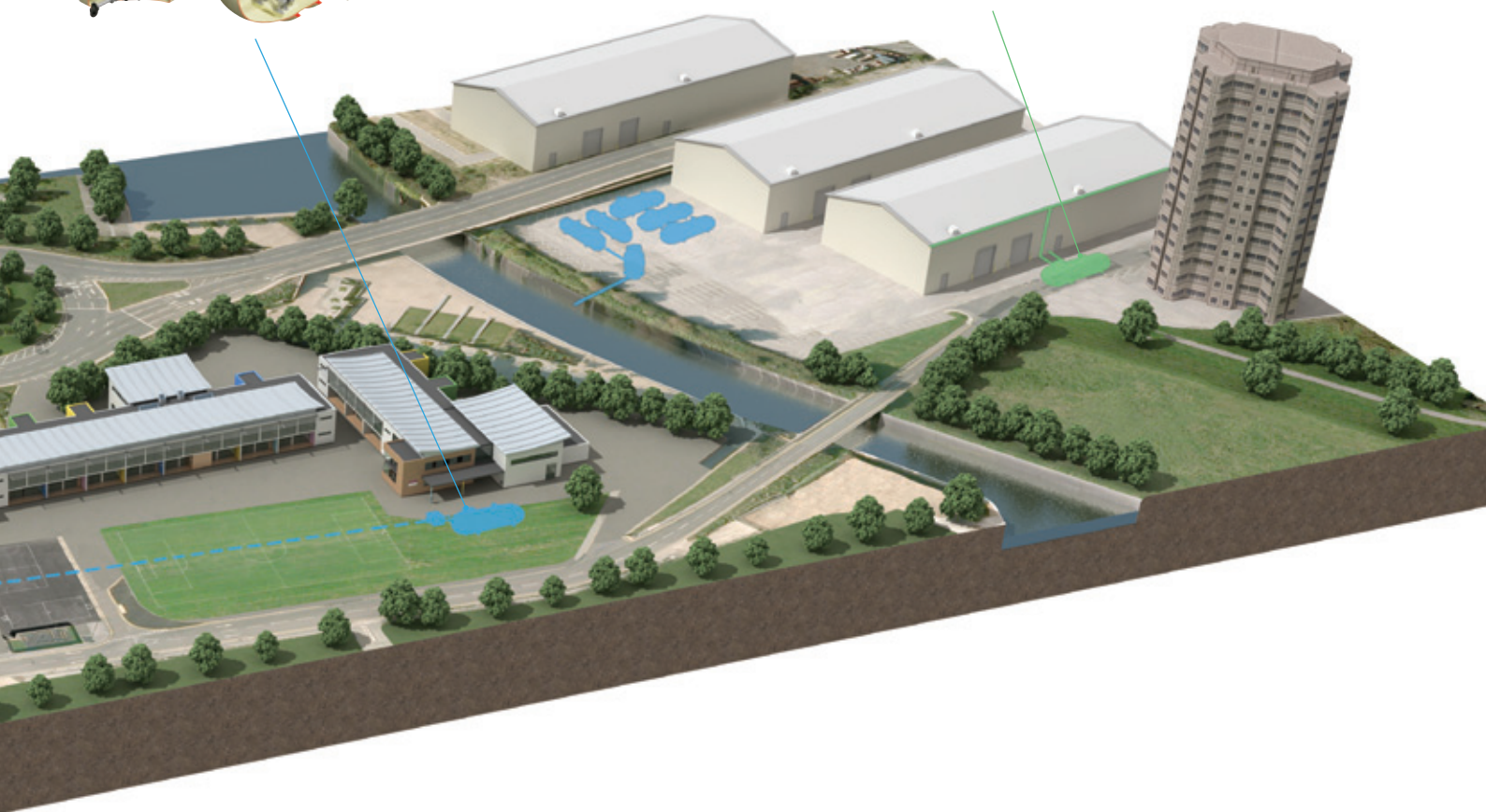
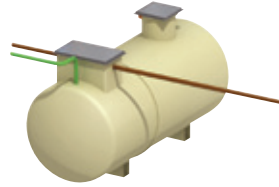
## RECYCLE

### RAINWATER HARVESTING

SURFACE WATER  
COMMERCIAL PUMP  
SYSTEMS



RAINWATER  
HARVESTING  
SYSTEMS



#### PRODUCT APPLICATIONS

- › Housing developments
- › Single domestic dwellings
- › Large commercial developments
- › Industrial developments
- › Road schemes
- › Caravan and camping sites
- › Schools
- › Hotels and restaurants
- › Nursing and care homes
- › Stadiums and arenas
- › Car parks and forecourts
- › Utilities and infrastructure



SURFACE / WASTEWATER  
COMPACT & DOMESTIC  
PUMP SYSTEMS

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# ENGINEERING, DESIGN & SUPPORT

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## A TOTAL DESIGN SOLUTION

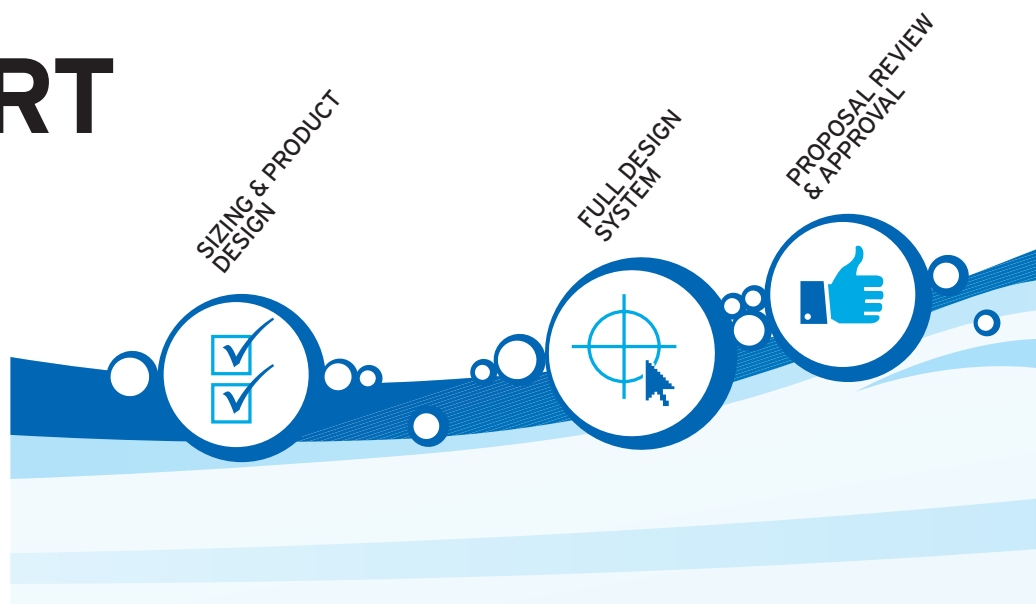
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This isn't just about one product.

It's about giving you everything you need to make sure your building environment or business is efficient, successful and compliant with the very latest water regulations, not just now but over the long-term.

We create total sustainable water management solutions. Our sustainable water management systems, including recycling, control, treatment and monitoring devices, are individually tailored to the specifications of each brief and objective, whether yours is a domestic, commercial or industrial project.

World-class design consultancy is complemented by engineering expertise and advice as well as service throughout, from initial site visit and assessment to detailed design drawings and concepts right through to delivery, installation with ongoing support if you need it once your system's up and running



## 50 YEARS EXPERIENCE

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Our experienced design consultants and design engineers are well-versed in the demands and requirements of water technologies and their application to different domestic or commercial challenges and varying ground conditions.

## LATEST DESIGN TECHNOLOGY

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Our designs and working drawings are of an extremely high quality and produced using AutoCAD Solidworks software by experienced design engineers. These include 3D drainage layouts, product sizing and specification that can be integrated into your own unique site plan.





## STEP-BY-STEP

Ours is a rigorous step-by-step process to ensure the very best experience and results. It covers everything from system sizing, product selection and system design to calculations, manufacturing, installation and indemnity, including real-life drawings. No stone left unturned.

## 100% COMPLIANT

Our in-house engineering service department advises and supports designers, engineers and installation contractors. Its advice spans water management specification, design, product application and integration with building regulations, code compliance and site-work installation practices to meet the most demanding effluent qualities, flow rates and discharge consents.

- » National Standards
- » European Standards
- » ISO 9001 and ISO 14001 compliant
- » SAB assessment requirements
- » CE marked

## COMMISSIONING, SERVICE & MAINTENANCE

Design and engineering integrity is backed by exemplary service. Our professional designers tailor systems to any specification while our technical experts study building plans to create a 'best-fit' solution, which maximises effectiveness and compliance. Our systems are installed quickly, run easily and are covered by market-leading warranties while on-the-road support, sales teams and accredited installers give local help and advice when you need it.

We offer full commissioning and service plans to ensure smooth running over the lifetime of your system.

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# RAINWATER HARVESTING RECYCLE

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Harvesting rainwater is one of the simplest of ways in which we can live sustainably with nature. Only now is the value of water being recognised as it becomes an increasingly precious resource.

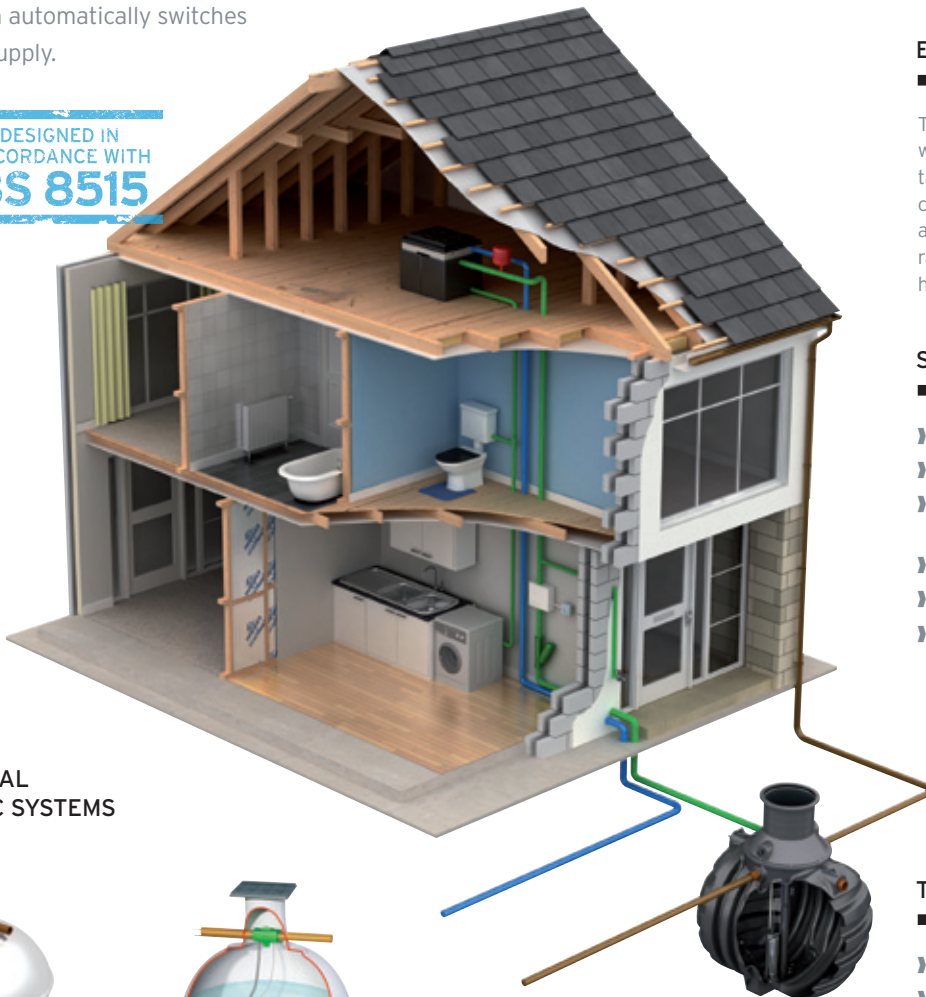
Kingspan Water have been designing and manufacturing rainwater harvesting systems for over a decade. While we continue to follow the principles of rainwater harvesting, our systems have evolved through our knowledge, experience and the latest technology.

## DOMESTIC RAINWATER HARVESTING SYSTEMS

53% of the water in a domestic home does not need to be potable quality, that's why the Domestic Envireau Rainwater Harvesting system has been designed as a low cost installation for self-build projects and residential developments.

It 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. If the tank runs empty, the system automatically switches to mains supply.

DESIGNED IN  
ACCORDANCE WITH  
**BS 8515**

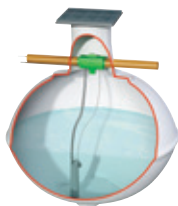


### ADDITIONAL DOMESTIC SYSTEMS



#### AQUABANK

- Simple rainwater harvesting system
- Suitable for multi-residential applications



#### RAINTRAP

- Below ground rainwater storage and delivery system
- Garden irrigation and vehicle washing

### ENVIREAU GRAVITY SYSTEM

The Envireau Gravity System is ideal for domestic applications which use an elevated header tank to store filtered water after the main tank. 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.

### ENVIREAU DIRECT SYSTEM

The Envireau Direct 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 the filtered rainwater is pumped direct from the holding tank to the various appliances.

### SYSTEM COMPONENTS

- Polyethylene underground storage tank.
- Internal self-cleaning filter.
- Stainless steel multi-stage submersible pump.
- Envireau control and display panel.
- Wave guide depth sensor.
- Manhole cover.

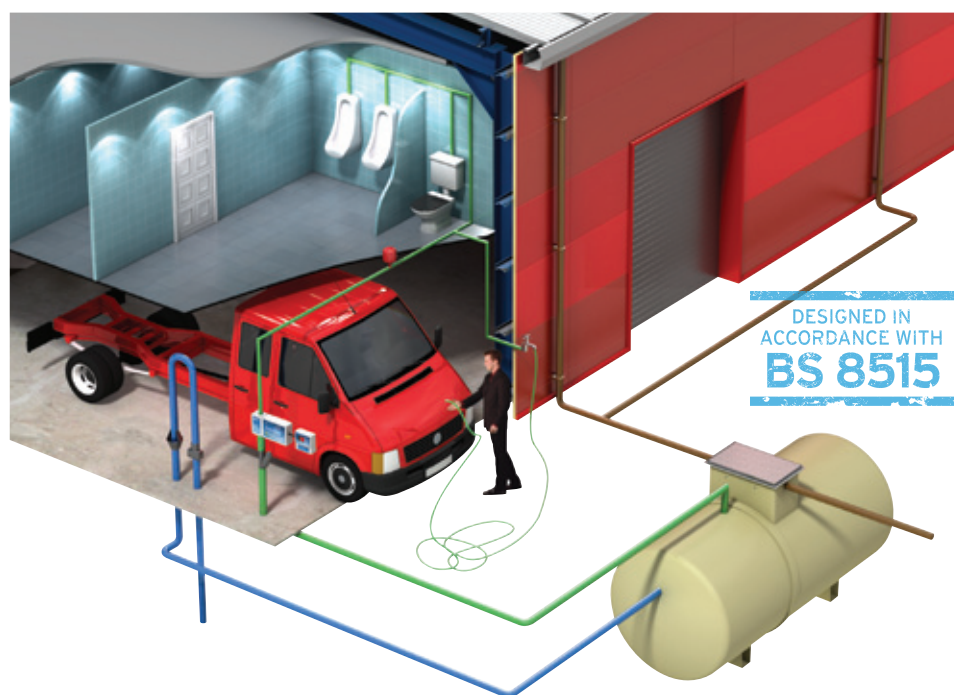
### TYPICAL USES

- Toilet and urinal flushing.
- Washing machines.
- Garden irrigation and landscape watering.
- Vehicle washing.





## COMMERCIAL RAINWATER HARVESTING SYSTEMS



85% of the water used in a commercial building can be harvested, that's why we have developed the commercial Envireau system - delivering a dependable supply of harvested rainwater to any business. The system permits a totally flexible scope for component selection in order for Envireau to be tailored to each building and water application.

### COMMERCIAL ENVIREAU SPECIFICATION (SINGLE & TWIN PUMP SYSTEMS)

SINGLE PUMP	TWIN PUMP	ROOF SIZE (m <sup>2</sup> )	CAPACITY (ltrs)	VESSEL DIAMETER (m)
ENV0200SKSW	ENV0200TKSW	200	6000	1.4
ENV0275SKSW	ENV0275TKSW	275	8000	1.8
ENV0350SKSW	ENV0350TKSW	350	10000	1.8
ENV0485SKSW	ENV0485TKSW	485	14000	1.4
ENV0625SKSW	ENV0625TKSW	625	18000	2.6
ENV0765SKSW	ENV0765TKSW	765	22000	2.6
ENV0900SKSW	ENV0900TKSW	900	26000	2.6
ENV1040SKSW	ENV1040TKSW	1040	30000	2.6
ENV1320SKSW	ENV1320TKSW	1320	38000	2.6
ENV1460SKSW	ENV1460TKSW	1460	42000	2.6
ENV1735SKSW	ENV1735TKSW	1735	50000	2.6
ENV2050SKSW	ENV2050TKSW	2050	59000	2.6
ENV2325SKSW	ENV2325TKSW	2325	67,000	2.6
ENV2745SKSW	ENV2745TKSW	2745	79000	2.6

### KEY FACTORS TO SIZING YOUR SYSTEM

- › Roof water yield
- › Projected water consumption
- › Rainfall
- › Drainage type, gravity/syphonic

### FILTERS, PUMPS & CONTROL PANEL

Filters and pumps are selected to match the system specification and performance. Our control panel automatically self-configures the system, whereas the display details vital information on water temperature, pump pressure and faults.

### VISION PACK

Real-time information is on hand, including amount of rainwater captured, mains and harvested water consumed, tank levels, and water temperature. Compatible with building management systems.



### FEATURES

- › Capacities from 6,000 to 79,000 litres within a single tank
- › Multiple tanks can be joined to cater for larger volumes
- › Can be installed under trafficked areas (with concrete support)



## URBAN COMMERCIAL CASE STUDY

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### RAINWATER HARVESTING FOR A UNIVERSITY'S STATE-OF-THE-ART NEW BUILDING

The University of Huddersfield wanted the latest in sustainable construction for its new £14 million Creative Arts building. The team turned to Kingspan Water, the UK's leading supplier of rainwater harvesting equipment.

We recommended Envireau. Our Envireau system collects rainwater from the roof before filtering it and passing it into a 45,000-litre underground holding tank. It's then pumped to a high level header/break tank inside the building for toilet-flushing. Mains water is also delivered to this tank, a back-up supply if rainwater runs out or electricity is interrupted.

The new building also incorporates solar panels and wind turbines in its bid to achieve a 'Very good' BREEAM\* rating, one of the highest awards for sustainable buildings.

\* Building Research Establishment Environmental Assessment Method.

## BREEAM

very good rating.

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"Consumption of water has been reduced year-on-year against a trend of increases in the Higher Education sector. This is just the start of sustainable projects for us - and not just new buildings but also in refurbishment of our buildings and in future projects."

Alan Johnson, Deputy Director  
of Estates and Facilities,  
University of Huddersfield.



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# **SURFACE & FLOOD WATER MANAGEMENT CONTROL**

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When the peak inflow in a storm exceeds the allowed discharge into the watercourse, the excess has to be 'attenuated' on-site for the duration of the storm. Afterwards, it can be released at, or at less than, the permitted rate using a flow regulator. The remaining water is stored in an attenuation system.

Our aim is to future-proof your attenuation system in line with the pending National Standard legislation and existing SFA7 (Sewers for Adoption 7). As stated, the favoured attenuation method is the use of correctly designed online storage tanks that prevent a build up of silt and other debris, and allow access for regular maintenance.

Our solution offers all of these benefits and much more.

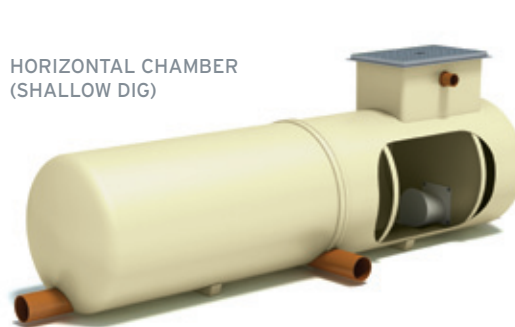


## FLOW CONTROL CHAMBER

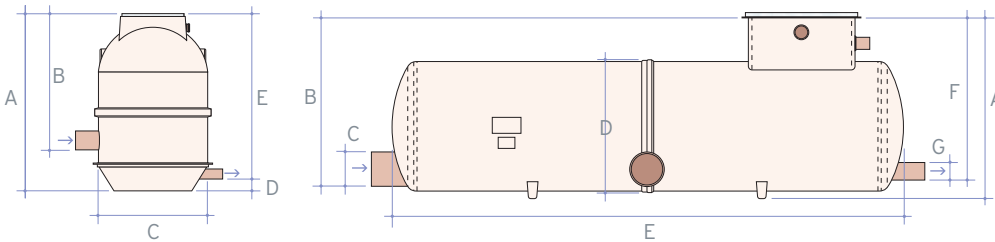
Our modular Flow Control Chambers are tried and tested for controlling flow out of a stormwater attenuation facility. Available as vertical or horizontal (shallow dig) options.



VERTICAL CHAMBER



HORIZONTAL CHAMBER (SHALLOW DIG)



### VERTICAL CHAMBER SPECIFICATION

TANK REF	VOLUME (l)	HEIGHT A (mm)	INLET INVERT B (mm)	INLET Ø (mm)	CASE Ø C (mm)	OUTLET / BASE D (mm)	OUTLET INVERT E (mm)	OUTLET Ø (mm)
1.2m Ø FCAA	2,300	2,000	500-1500	110-425	1,225	200-500	1,500-1,800	110-200
FCAB	3,400	3,000	500-2,000	110-425	1,225	200-500	2,500-2,800	110-200
FCAC	3,950	3,500	500-2,500	110-425	1,225	200-500	3,000-3,300	110-200
1.8m Ø FCBA	3,900	2,000	500-1,500	110-575	1,225	200-500	1,500-1,800	110-200
FCBB	6,400	3,000	500-2,500	110-575	1,225	200-500	2,500-2,800	110-200
FCBE	8,900	4,000	500-3,000	110-575	1,225	200-500	3,500-3,800	110-200
2.6m Ø FCCD	13,100	3,300	500-2,500	110-425	1,225	200-500	2,800-3,000	110-200
FCCE	16,800	4,000	500-3,000	110-425	1,225	200-500	3,500-3,800	110-200

### HORIZONTAL CHAMBER SPECIFICATION

TANK REF	VOLUME (l)	HEIGHT A (mm)	INLET INVERT B (mm)	INLET Ø C (mm)	CASE Ø D (mm)	LENGTH E (mm)	OUTLET INVERT F (mm)	OUTLET Ø G (mm)
1.2m Ø SFA05	5,000	1,650-2,650	1,575-2,575	315	1,220	4,775	1,500-2,500	160
1.4m Ø SFB09	9,000	1,600-2,600	1,660-2,660	315	1,420	6,300	1,600-2,600	160

## ADVANTAGES OVER CONCRETE SYSTEMS

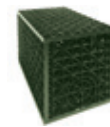
- Fully pre-fabricated system - reduces on-site assembly.
- Variable inlet connection sizes to suit on-site pipework size and material.
- Multiple inlet orientation options to suit multiple incoming drain lines.
- Supplied with mechanical flow control device or with orifice plates with easy access for service and maintenance.
- Chamber large enough for ladder access in emergency situations.
- High level warning alarm optional for early warning alert (HLA).
- Variable attenuated outflow rates to suit your requirements.

## INSTALLATION BENEFITS

- Single-piece, pre-fabricated tank means one crane lift / drop.
- Less on-site labour compared with concrete chambers.
- Reduced Health & Safety risks due to simple one drop installation.
- Reduced installation time.

## APPLICATIONS

Our flow control chambers can be used with **ALL** attenuation solutions, for example:



CRATES



TANKS



PONDS



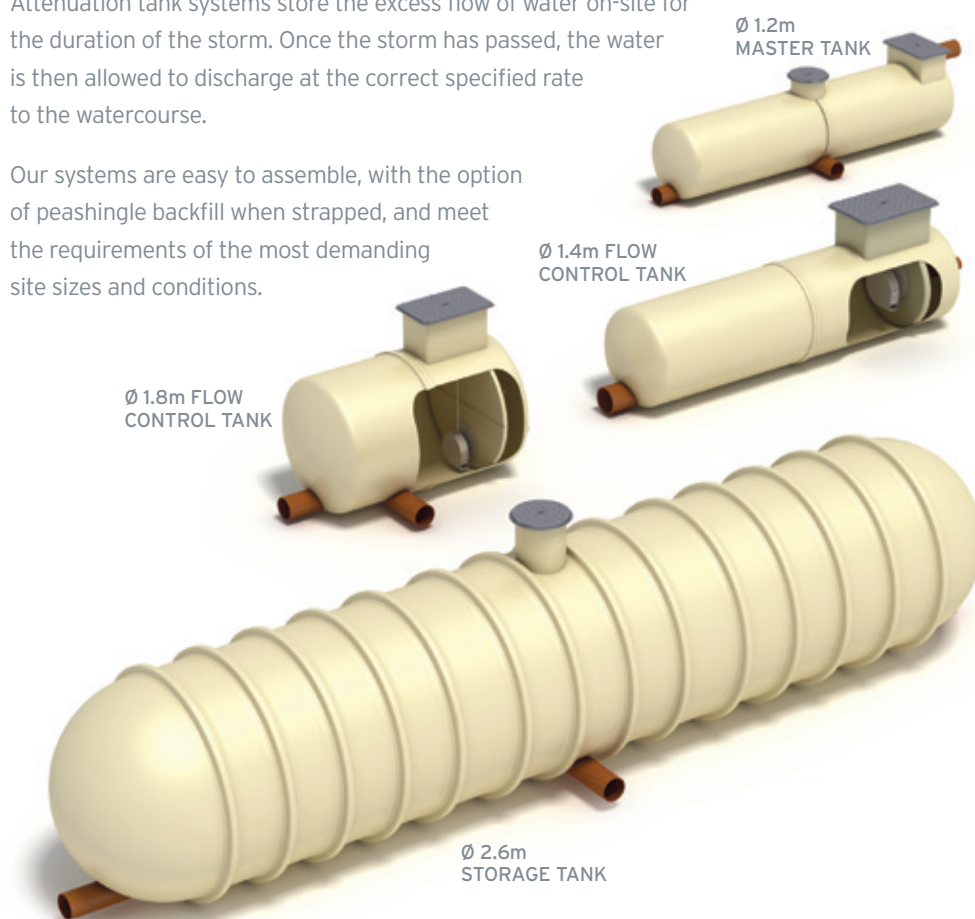
OVERSIZED PIPES



## ATTENUATION TANK SYSTEMS

Attenuation tank systems store the excess flow of water on-site for the duration of the storm. Once the storm has passed, the water is then allowed to discharge at the correct specified rate to the watercourse.

Our systems are easy to assemble, with the option of peashingle backfill when strapped, and meet the requirements of the most demanding site sizes and conditions.



### SPECIFICATION

TANK REFERENCE	HEIGHT (mm)	LENGTH (mm)	INLET Ø (mm)	INLET INVERT (mm)	OUTLET Ø (mm)	OUTLET INVERT (mm)
1.2m Ø SMA Master	1,600-2,600	4,800	160-550	500-1,500	200	1,585-2,585
SSA Storage	1,600-2,600	4,800	160-550	500-1,500	200	1,585-2,585
SFA Flow Control	1,600-2,600	4,800	160-550	500-1,500	200	1,585-2,585
1.4m Ø SMB Master	1,670-2,700	6,280	160-550	500-1,500	200	1,675-2,675
SSB Storage	1,670-2,700	6,280	160-550	500-1,500	200	1,675-2,675
SFB Flow Control	1,670-2,700	6,280	160-550	500-1,500	200	1,675-2,675
1.8m Ø SMC Master	2,460-3,460	3,225-5,100	160-675	500-2,000	200	2,200-3,700
SSC Storage	2,460-3,460	3,225-5,100	160-675	500-2,000	200	2,200-3,700
SFC Flow Control	2,460-3,460	3,225-5,100	160-675	500-2,000	200	2,200-3,700
2.6m Ø SMD Master	3,300-5,300	4,500-16,500	160-825	500-2,000	200	3,175-4,675
SSD Storage	3,300-5,300	4,500-16,500	160-825	500-2,000	200	3,175-4,675
SFD Flow Control	3,300-5,300	4,500-16,500	160-825	500-2,000	200	3,175-4,675

### ADVANTAGES

- Fully pre-fabricated systems reduce on-site assembly.
- Variable inlet connection sizes to suit on-site pipework size and material.
- The master tank has multiple inlet orientation options to suit multiple incoming drainlines.
- Flow calming device on inlet to avoid disturbance of accumulated silt.
- Supplied with mechanical flow control device or with orifice plates with easy access for service and maintenance.
- Chamber large enough for ladder access in emergency situations.
- High level warning alarm optional for early warning alert (HLA).
- Variable attenuated outflow rates to suit your requirements.

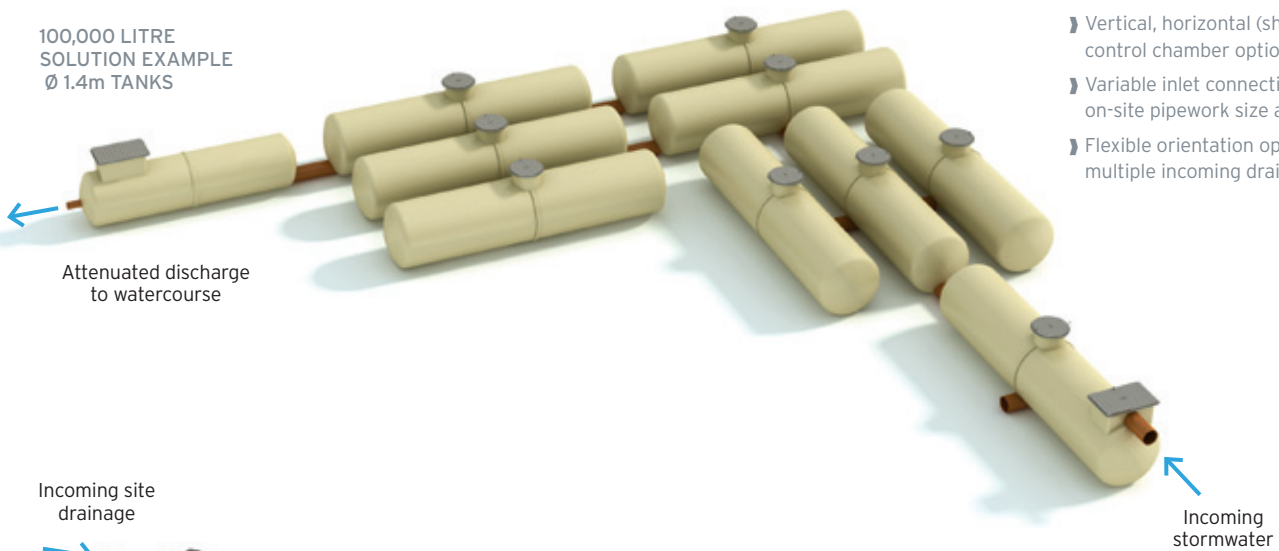
### INSTALLATION BENEFITS

- Chamber design can suit any drainage layout with regards to connection sizes and orientation.
- Single-piece, pre-fabricated tank means one crane lift / drop.
- Less on-site labour compared with concrete chambers.
- Reduced Health & Safety risks due to simple one drop installation.
- Reduced installation time.
- Simple chamber access for silt removal and routine maintenance.

## ATTENUATION TANK SYSTEMS

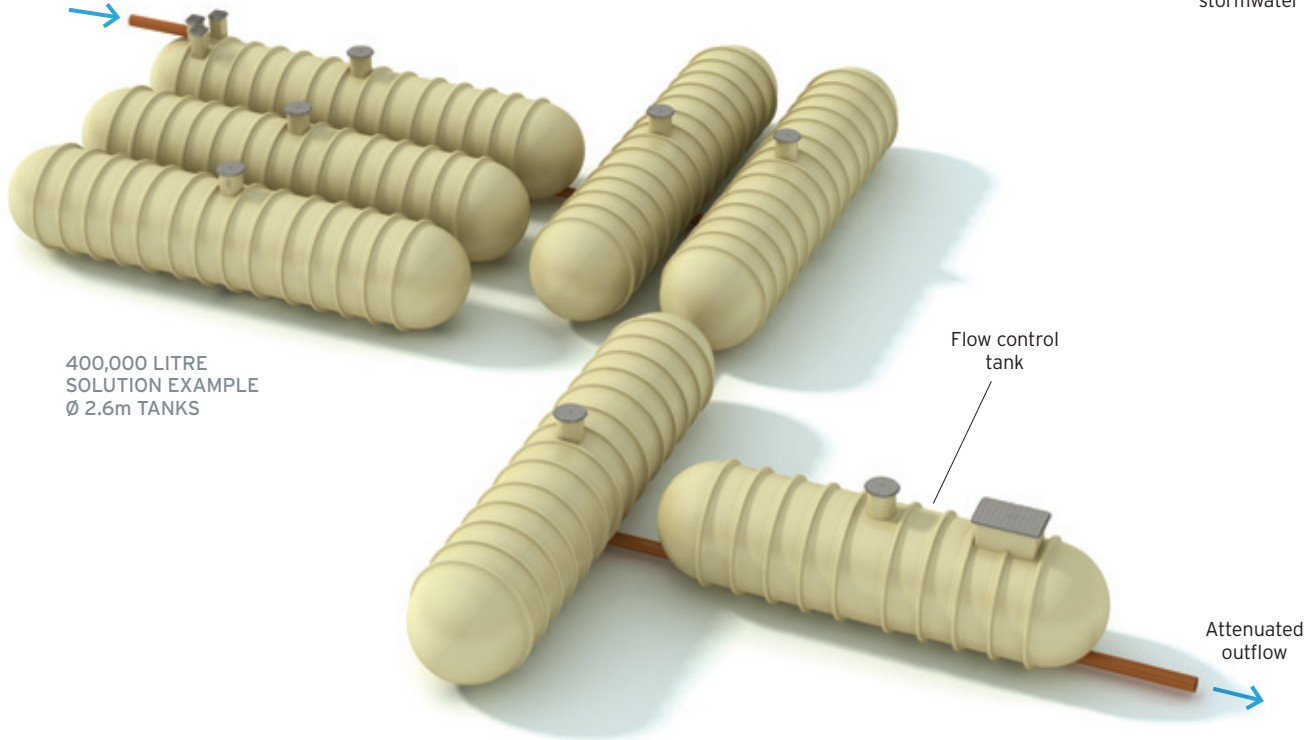
We offer solutions for all site sizes, conditions or orientations: deep dig; shallow dig; small or large surface areas; standard shapes or odd shapes; we will have a system to meet most specification requirements.

100,000 LITRE  
SOLUTION EXAMPLE  
Ø 1.4m TANKS



Incoming site  
drainage

400,000 LITRE  
SOLUTION EXAMPLE  
Ø 2.6m TANKS



## FLEXIBILITY

- » Chamber design is suitable for any drainage layout with regard to connection sizes and orientation.
- » Choice of 4 models - 1.2, 1.4, 1.8 and 2.6 metre diameter.
- » Vertical, horizontal (shallow dig) flow control chamber options available.
- » Variable inlet connection sizes to suit on-site pipework size and materials.
- » Flexible orientation options to suit multiple incoming drain lines.



## SEPARATORS

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Surface water drains normally discharge to a watercourse or indirectly into underground waters (groundwater) via a soakaway. Contamination of surface water by oil, chemicals or suspended solids can cause these discharges to have a serious impact on the receiving water.

**PPG3 and EN 858-2 stipulate separators are serviced every 6 months and are supplied complete with an oil alarm system.**

### FULL RETENTION SEPARATORS

Full retention separators treat the full flow that can be delivered by the drainage system, which is normally equivalent to the flow generated by a rainfall intensity of 65mm/hr.

On large sites, some short term flooding may be an acceptable means of limiting the flow rate and hence the size of full retention systems.

» Fuel distribution depots, vehicle workshops and scrap yards

### BYPASS SEPARATORS

Bypass separators fully treat all flows generated by rainfall rates of up to 6.5mm/hr. This covers over 99% of all rainfall events. Flows above this rate are allowed to bypass the separator. These separators are used when it is considered an acceptable risk not to provide full treatment for high flows, for example where the risk of a large spillage and heavy rainfall occurring at the same time is small.

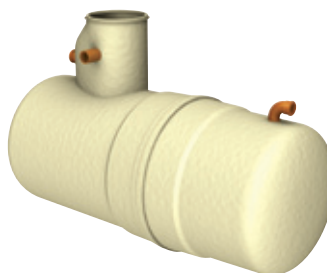
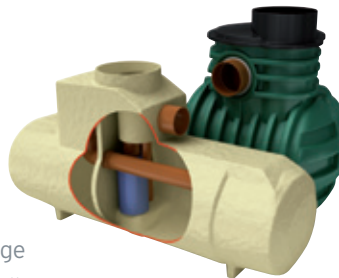
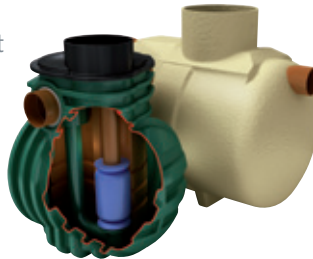
» Surface car parks, roadways and lightly contaminated commercial areas.

### FORECOURT SEPARATORS

Forecourt separators are full retention separators specified to retain on site the maximum spillage likely to occur on a petrol filling station. They are required for both safety and environmental reasons and will treat spillages occurring during vehicle refuelling and road tanker delivery.

The size of the separator is increased in order to retain the possible loss of the contents of one compartment of a road tanker, which may be up to 7,600 litres.

» Petrol filling station forecourts and similar applications.



## TYPES & STANDARDS

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A British (and European) standard (EN 858-1 and 858-2) for the design and use of prefabricated oil separators has been adopted. New prefabricated separators should comply with the standard and be CE marked.

## CLASSES

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The standard refers to two 'classes' of separator, based on performance under standard test conditions.

### CLASS I

Designed to achieve a concentration of less than 5mg/l of oil under standard test conditions, should be used when the separator is required to remove very small oil droplets.

### CLASS II

Designed to achieve a concentration of less than 100mg/l oil under standard test conditions and are suitable for dealing with discharges where a lower quality requirement applies

## BENEFITS

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- » Class I and Class II designs
- » Oil alarm packages available - mandatory under PPG3 and EN 858.
- » Lightweight and easy to install
- » Fitted with inlet and outlet connections
- » Maintenance from ground level
- » Inclusive of silt storage volume
- » Full service packages available to meet PPG3 and EN 858-2 requirements

## URBAN COMMERCIAL CASE STUDY

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### BYPASS OIL SEPARATORS FOR MANCHESTER CITY'S FOOTBALL ACADEMY

When Manchester City Football Academy commissioned an impressive new car park, it chose Klargester's industry-leading oil separators for its all-important surface water drainage system.

Oil separators are an integral part of car park design, protecting groundwater from oil pollution from small vehicle/plant leaks or accidental spills. Building contractor, Murraywood Construction Ltd, specified our bypass separators - NSBD055, NSBD072 and NSBE030 - on the basis of their excellent performance.

Each one is tested to rigorous EN 858-1 standards achieving a concentration of 5mg/litre of oil. And, because they are manufactured in the UK, we could turn the order around quickly, reducing contractor time on-site and so cutting costs. Our separators are also easy to install and maintain and clients enjoy excellent service throughout, from advice on product size to post-installation support

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# EN 858-1

performance test standard.

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# 5mg/l

concentration of oil.

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# Class I

performance designs.



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# WASTEWATER MANAGEMENT TREAT

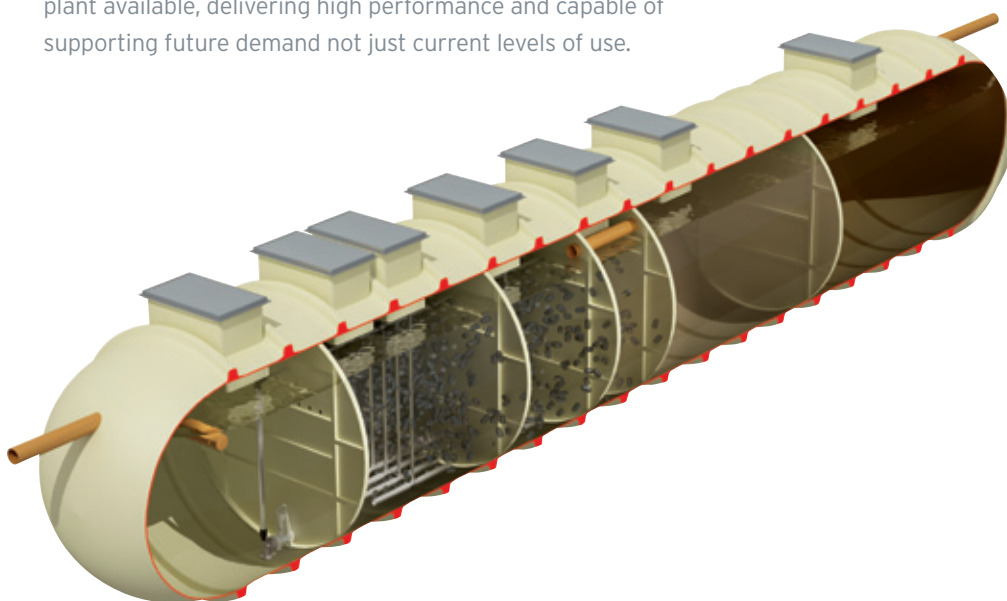
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Protecting water quality is critical to any water management strategy and will become increasingly important on a global scale. Leading specialists for over 50 years, our dedicated technical team has successfully pioneered a complete solution featuring innovative products, from sewage treatment plants to grease/silt separators and traps, to safeguard water quality in all building projects.

## WASTEWATER TREATMENT SYSTEMS

We offer wastewater treatment solutions for almost any project scope, scale or environmental performance criteria.

The Envirosafe range is the most advanced wastewater treatment plant available, delivering high performance and capable of supporting future demand not just current levels of use.

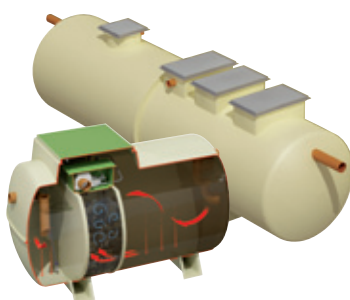


**WASTEWATER TREATMENT RANGE - EN 12566 TESTED, APPROVED AND CE MARKED WHERE REQUIRED**



### BIODISC® RANGE

- » Features RBC (rotating biological contactor) technology
- » Low running costs
- » Domestic and commercial applications



### BIOSAFE

- » Features biozone technology
- » Low running costs
- » Domestic and commercial applications



### BIOTEC™ RANGE

- » Features aerobic biological technology
- » Low running costs
- » Domestic applications



### HOLDING TANKS AND SEPTIC TANKS

- » GRP, rotomould and shallow dig options of septic tanks
- » 2,800-9,000 litre septic tanks
- » 9,000-79,000 litre holding tanks

## ENVIROSAFE

Envirosafe sewage treatment plants employ a plug flow combination of aerobic and processes in a fluidised bed arrangement. This operates via an advanced system of air diffusers and Kingspan own design media to deliver optimum levels of purification.

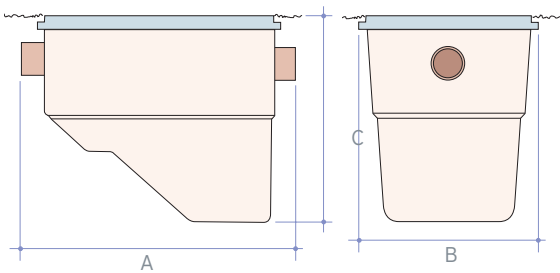
### FEATURES

- » High and medium rate performance options across a range of influent and effluent qualities
- » Adaptable to specific consent requirements including 'Total Nitrogen'
- » Low head loss
- » Minimal footprint area
- » Single piece tank options
- » Minimal visual impact (below ground)
- » Low running costs
- » May be installed in trafficked areas (subject to loading)
- » Compliant with EN 12566
- » Designed for applications selected in compliance with British Water or Irish EPA Code of Practice Flows and Loads
- » Low maintenance
- » Alarm protected



## GREASE & SILT TRAPS

Grease Traps are an effective and hygienic method of separating fat and grease from wastewater flow. Grease traps are designed for small restaurants, public houses and canteens.



MODEL No.	GREASE CAPACITY (gal)	LENGTH A (mm)	WIDTH B (mm)	HEIGHT C (mm)	WEIGHT EMPTY/FULL (kg)
2	23	3,960	4,317	2,620	50/475
4	45	4,889	5,073	2,620	120/1,410

## DESIGN AND FEATURES

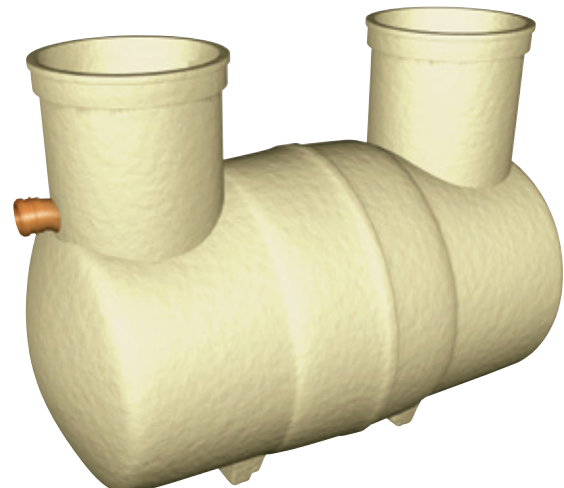
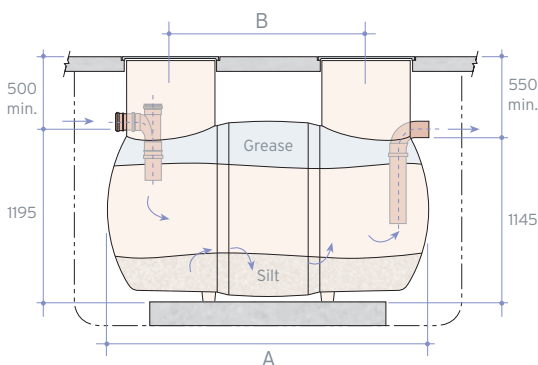
Traps and separators allow fats and grease to naturally separate out from water, allowing their removal prior to the wastewater reaching the drainage system. The trap or separator should be installed close to the source of contamination before any foul waste can enter the drainage flow and to suit the expected liquid temperature.

### GREASE TRAP BENEFITS

- ▶ Greatly reduce incidents of blocked drains from catering establishments.
- ▶ Improve the performance of septic tanks and field drains.
- ▶ Prevent contamination of small sewage treatment plants.

## GREASE SEPARATORS

For applications such as larger restaurants, hotels, etc., a Grease Separator should be considered to give additional volume.



MODEL No.	WORKING CAPACITY (gal)	A (mm)	B (mm)	FALL ACROSS UNIT (mm)	WEIGHT EMPTY/FULL (kg)
G2B020	2,000	2,210	1,340	50	100/2,200
G2B030	3,000	3,060	2,190	50	130/3,180
G2B030	4,000	3,910	3,040	50	160/4,160

## PUMPSTOR DOMESTIC & DOMESTIC+

Our domestic pumping stations are ideal for homes or properties with up to 13 people. Quick and simple to install, they require minimal maintenance. They come with single or twin pumps, and are suitable for sewage, surface water and effluent. Appropriate for 24 Hour storage requirements. Pot pump range also available.



DOMESTIC

### DOMESTIC SPECIFICATION

CHAMBER SIZE (mm)	CAPACITY (ltrs)	TANK MATERIAL	CONTROL PANEL	ALARM	PUMP TYPE
900 x 2,080	1,250	GRP	Included	Optional	Single / Twin
900 x 2,580	1,600	GRP	Included	Optional	Single / Twin

### DOMESTIC+ SPECIFICATION

CHAMBER SIZE (mm)	CAPACITY (ltrs)	TANK MATERIAL	CONTROL PANEL	ALARM	PUMP TYPE
1,000 x 2,000	1,450	Polyethylene	Included	Standard	Single / Twin
1,000 x 2,500	2,200	Polyethylene	Included	Standard	Single / Twin



DOMESTIC+

## DESIGN AND FEATURES

Our domestic pumping stations are made with super-tough, low-maintenance GRP and high quality polyethylene. All systems are engineered with the highest quality parts and fittings and come with options of monitoring systems all designed in accordance with BS EN 12050.

### FEATURES

- Quick connection outlet couplings
- 110mm or 160mm inlet connections
- Lockable covers
- Easy access for maintenance
- Service and maintenance plans available to prolong the life of the pump systems

### PUMPSTOR DOMESTIC

- Inlet depths of 1.3m and 1.8m
- Optional inlet pipe orientation

### PUMPSTOR DOMESTIC+

- Inlet depths of 1.0m and 1.5m
- Optional inlet pipe orientation
- Visual and audible alarms as standard

### KEY FACTORS TO CONSIDER WHEN SIZING YOUR SYSTEM

- Application: domestic, residential or commercial?
- Material application: sewage, effluent or surface water?
- Inlet depth? (below ground level)
- Pumping distance and lift?
- Electrical supply?

## PUMPSTOR VERTICAL COMMERCIAL PUMP SYSTEMS

Our Pumpstor commercial pumping systems are ideal for developments and premises where drainage by gravity isn't an option. The range includes solutions for sewage treatment plants, surface water and septic tanks.

Tanks and pumps come in a range of sizes and dimensions. And to comply with Building Regulations, these pumps have a 24-hour storage capacity for foul waste.

Also speak to our expert team about your attenuated surface water application. We have a vast range of bespoke prefabricated systems available.

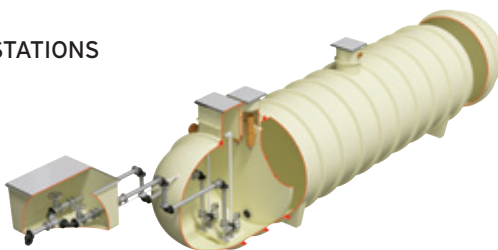


### SPECIFICATION

VERTICAL CHAMBER (mm)	CAPACITY (ltrs)	TANK MATERIAL	CONTROL PANEL	ALARM	PUMP TYPE
1,250 dia.	4,200	GRP	Included	Standard	Single / Twin
1,800 dia.	9,500	GRP	Included	Standard	Single / Twin
2,600 dia.	21,000	GRP	Included	Standard	Single / Twin

## HORIZONTAL COMMERCIAL PUMP STATIONS ALSO AVAILABLE

Designed as a single piece chamber with two separate sections, one for normal operation and one for emergency operation.



### SPECIFICATION

HORIZONTAL CHAMBER (mm)	CAPACITY (ltrs)	TANK MATERIAL	CONTROL PANEL	ALARM	PUMP TYPE
2,600 dia.	79,000	GRP	Included	Standard	Single / Twin

## DESIGN AND FEATURES

All our pump systems are pre-fabricated with a variety of single and twin pump options, pre-set automatic level control, high-level alarms, non-return valves, discharge pipes and all connections.

### FEATURES

- High-level alarm
- Internal lifting chains and guiderails (as specified)
- Wide range of pump options including macerators/solids handling/vortex
- Range of emergency overflow tanks
- Inlet connection sizes to suit site
- Various invert depths and positions
- GRP chambers with internal pipework in plastic, galvanised or cast iron
- Optional kiosks with warning beacons and optional telemetry systems
- Service and maintenance plans available to prolong the life of the pump systems
- Telemetry and BMS available

### KEY FACTORS TO CONSIDER WHEN SIZING YOUR SYSTEM

- Application: domestic, residential or commercial?
- Material application: sewage, effluent or surface water?
- Inlet depth? (below ground level)
- Pumping distance and lift?
- Electrical supply?

## RURAL COMMERCIAL CASE STUDY

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### SEWAGE TREATMENT TO MEET HIGH ENVIRONMENTAL STANDARDS AT A SCOTTISH HOLIDAY PARK

Surrounded by beautiful lochs and mountains, Nethercraig Caravan Park was popular with touring caravans. Its new owners wanted to upgrade the site and add luxury lodges, while minimising environmental impact.

A review of existing drainage, in consultation with the Scottish Environment Protection Agency (SEPA), confirmed that it didn't meet current standards. The septic tank was passing poorly-filtered effluent directly into the River Isla. Owner, Gordon McCormick called in Klargester for advice.

To meet the necessarily high effluent quality of 95% set by SEPA, Chris recommended a top-of-the-range sewage treatment solution, the Klargester Envirosafe 80MEQ. We designed an environmentally-sensitive bespoke treatment plant able to cater for future trading patterns, expansion and seasonal loading. The system not only reduces its carbon footprint and costs but is installed underground, reducing visual impact.

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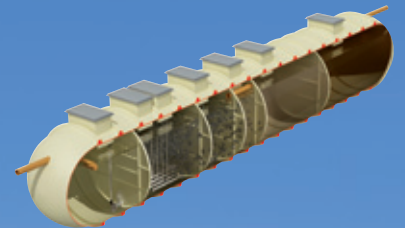
# 95%

pollution removal for high effluent quality.

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"The system has been up and running very successfully for a while. I'm very pleased. I've since contacted Klargester to create a solution for another caravan park with 300 static caravans."

Gordon McCormick, Owner,  
Nethercraig Caravan Park.





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# SERVICE CONTINUES

**A SERVICE PLAN WILL ENSURE THE SMOOTH RUNNING OF YOUR WATER MANAGEMENT SOLUTION YEAR AFTER YEAR, ALSO KEEPING YOUR BUSINESS COMPLIANT WITH SERVICE AND MAINTENANCE REQUIREMENTS**

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Our service doesn't stop once the installation checklist is signed off. Whilst our products are designed and produced with longevity, easy and low maintenance in mind, we're on hand once a system is up and running to offer commissioning and regular servicing. Preventative maintenance is essential to ensuring that your chosen solution operates effectively with the minimum amount of hassle.

We can tailor a bespoke Service Plan to meet your requirements so that you can:

- » **Stay legal:** manufacturers instructions and regulations may state a requirement for regular servicing, for example PPG3 and EN 858-2 for separators;
- » **Relax:** we look after it so you don't have to;
- » **Save money:** experience fewer breakdowns with planned maintenance;
- » **Be priority:** for repair or upgrade;
- » **Reduce:** operational and financial risk; and
- » **Optimise efficiency:** ensuring your systems work efficiently throughout their lifetime.



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## 98%

of call-outs resolved on the first visit.

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## 24/7

call-out, national coverage for commercial customers.

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Contact the Kingspan Environmental Services team for further information:

UK 0844 846 0500

IRL 048 3025 4077

[helpingyou@kingspan.com](mailto:helpingyou@kingspan.com)



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# TOTALLY INTEGRATED ENVIRONMENTAL SOLUTIONS

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Kingspan Environmental has been at the forefront of innovation for more than fifty years. Thought leaders in sustainability for the built environment, our 'gold standard' products feature in the world's most sustainable buildings and are tried and tested in more than 60 countries. And because we design and manufacture our own world-class components, delivery is quick and reliable.

Design integrity is backed by exemplary service. Our professional designers tailor systems to any site specification while our technical experts study building plans to create a 'best-fit' solution, which maximises effectiveness and meets the latest environmental standards and building codes. Our bespoke systems are installed quickly, run easily and are covered by market-leading warranties while on-the-road support, sales teams and accredited installers give local help and advice when you need it.

In our unique one-stop shop for sustainable building, products fall into three easy-to-browse categories.



## **SUSTAINABLE WATER MANAGEMENT SOLUTIONS**

Our pioneering brands, Klargester, for wastewater, and Kingspan Water, for rainwater harvesting and stormwater attenuation, offer a portfolio of proven and ground breaking sustainable water management technologies.

## **RENEWABLE ENERGY SOLUTIONS**

Inspired thinking is at the heart of our renewable energy offer. High-performing wind turbines, solar thermal tubes and panels, hot water systems and heat pumps capture, store and transform natural energy from the sun and wind into reliable and highly effective heating and cooling for water and buildings.

## **ENVIRONMENTAL MANAGEMENT SOLUTIONS**

Our high-performance environmental containers are at the forefront of plastics technology while our award-winning telemetry solutions offer affordable level measurement gauges and integrated energy management systems. As well as remarkable products, we offer world-class consultancy and environmental services, whether it is a Kingspan system or not.



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