

Aqua Gratis

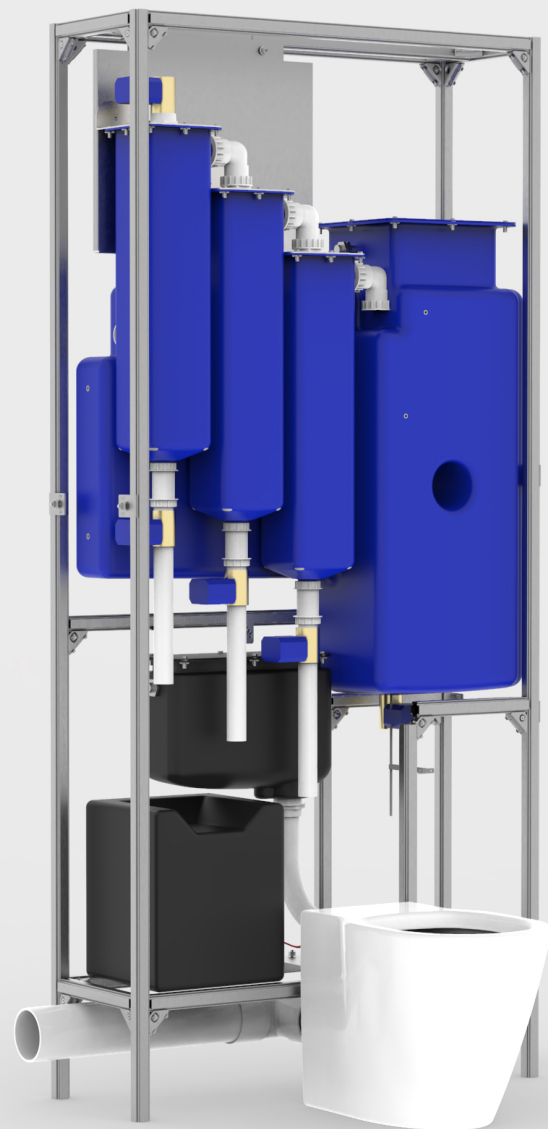
Short Retention Micro Domestic Greywater Reuse System

Because every drop counts.

Aqua Gratis with SMART meter is a low energy, cost effective water reuse system for domestic and commercial new builds. Easy to fit, use and maintain, Aqua Gratis with SMART meter reduces domestic water consumption by up to 45%.

Did you know that the average household uses a similar amount of water for showering and bathing as is used for flushing a toilet over the course of a day?

The Aqua Gratis makes a direct impact on reducing domestic water consumption. It makes domestic water work harder and go further by reusing domestic greywater collected from bathing and showering to flush toilets.



Key Facts:

A bath typically uses around 80 litres, while a short shower can use a third of that. But many power-showers may use more than a bath. (Source: Waterwise)

Every year, more than 740 billion litres of water are flushed down the loo. That's enough to fill 300,000 olympic sized swimming pools. (Source: Energy Savings Trust)

Showers are the biggest water users in the house (25%), just ahead of loos (22%) (Source: Waterwise)

Spending one minute less in the shower, per person, the UK would save 600 million litres of water every day. (Source: Waterwise)

The Problem

Population growth, migration and rising water consumption is putting increasing pressure on UK water availability. The UK population is forecast to rise from 67 million to 75 million by 2050. Most of this population growth is expected in areas already experiencing water stress, particularly London and the south east. By 2025 East England is projected to have a water shortage of up to 30 million litres of water a day. By 2045, the London area is expected to have a shortage of 325 mega-litres per day. This poses serious economic, societal and environmental threats.

To combat this issue, water companies are under severe pressure from the water regulator, Ofwat. UK Water companies are tasked to reduce water consumption and environmental impacts. The question is how to find a cost-effective way to reduce domestic water consumption from 140 litres to 110 litres per person per day.



So What's The Solution?

Cascade Water Products Ltd is developing Aqua Gratis.

Aqua Gratis with SMART meter is a simple and effective greywater reuse system that reduces domestic water consumption by up to 45%. Aqua Gratis captures the bath and shower water, processes it and uses the water to flush toilets. The SMART meter further reduces domestic water consumption by detecting leaks and changing water consuming behaviour.

The Benefits:

- Lower water consumption means lower water demand. This relieves pressure on the water network, reducing damage to the environment and positively impacting climate change.
- Save money and achieve Net Zero by making significant reductions in energy requirements for water production and sewage treatment.
- Realise hidden carbon savings. 17% of greenhouse gas emissions are produced through processing water and sewage.
- Achieve sustainable water consumption and energy savings with a resilient, future proof solution. The Duchy of Cornwall, Thames Water and Severn Trent Water recognise domestic greywater reuse has a significant role in future proofing water supplies.
- Reduce overall water company development costs. Reducing domestic water consumption by more than 30% impacts the infrastructure required for water supply and sewage removal for new housing developments.
- Aqua Gratis reduces domestic water consumption by 30 – 45% making water bills lower.
- Helps to achieve United Nations Sustainable Development Goals 6, 7 and 9.

Install Aqua Gratis with SMART meter in your new build house.



**Reduce
domestic water
consumption by
up to 45%**

- The system fits neatly behind the toilet
- Collects wastewater from the shower or bath
- Filters and processes the wastewater
- Stores 100 liters of Greywater
- Re-uses the water to flush up to 4 toilets in the house
- Quiet, effective, low cost and easy to maintain
- Low energy maintenance
- Saves 30 - 45% on domestic water consumption
- Built for the circular economy, carbon negative
- Meets the British Standard

Integrated SMART Metering Technology

- Real time sensors and valves
- Wireless communication
- Advanced data processing
- Remote performance monitoring
- Call out if an issue is detected
- Enhances demand management for water companies
- Reporting on a granular level on in-home water use behaviours, identifying opportunities for improving water efficiencies.

How It Works

The Aqua Gratis concept is simple but clever

Tank 1 - The used bath and shower water goes through a filter to remove hair.

1

Tank 2 - The greywater is filtered and undergoes settlement to remove larger particles and debris.

2

Tank 3 - The greywater is filtered and undergoes settlement to remove smaller particles and debris.

3

Tank 4 - 100 liters of greywater is stored to be used for toilet flushing throughout the day.

4

The bespoke toilet cistern, designed for efficient flushing, is gravity fed directly from the storage tank.

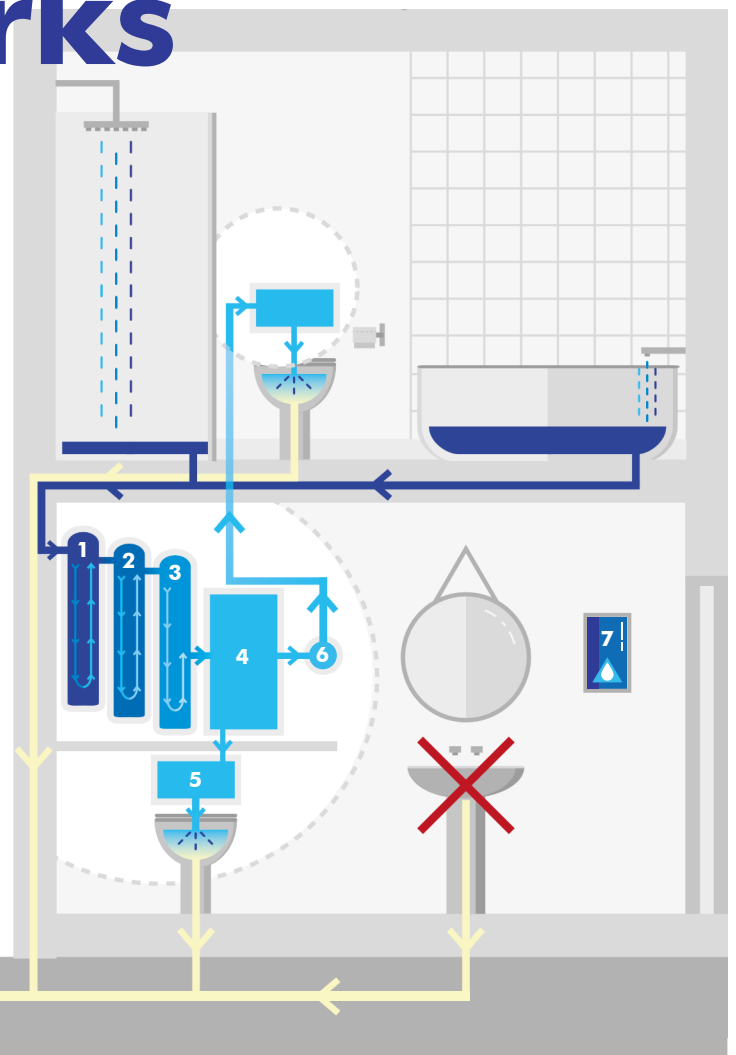
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The greywater is pumped to the upstairs toilets using a pump selected for quietness and efficiency.

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The control panel manages the flow of water through the system, cleaning the filters and keeping the water "fresh".

7



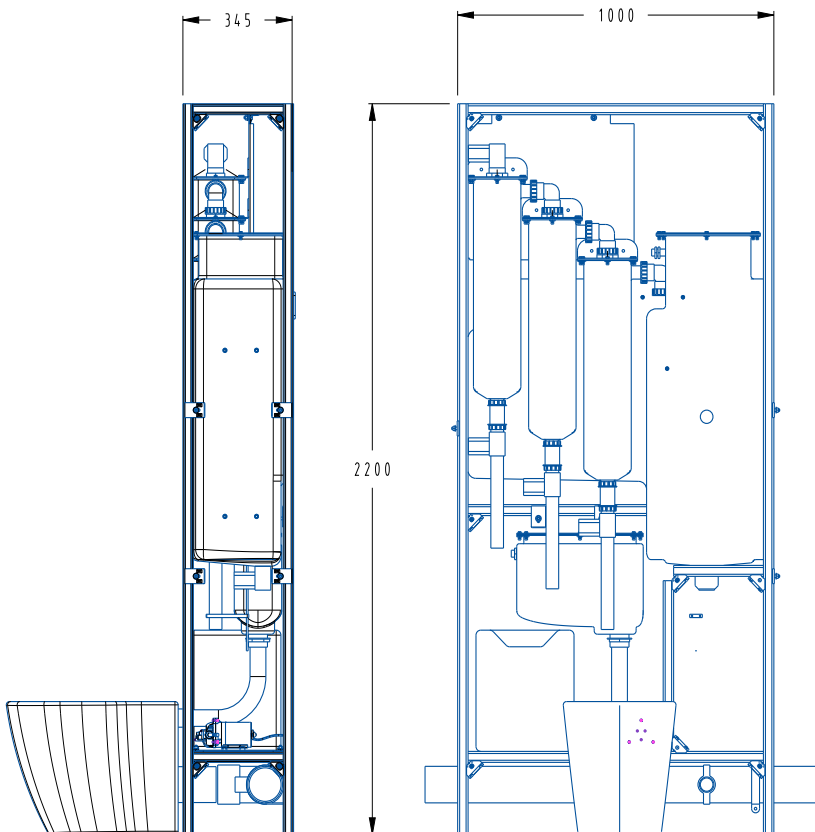
Why Aqua Gratis?

Greywater reuse is not a new concept, so what are the key differences between us and our competitors?

- ✓ Low cost, easy to fit, use and maintain
- ✓ Low energy consumption
- ✓ Designed for mass production, mindful of the circular economy and high-volume manufacture
- ✓ Target retail price is under £1000
- ✓ Quiet system
- ✓ A carbon negative system
- ✓ Patented self-cleaning filters
- ✓ Designed to British Standard
- ✓ Designed for social and low-cost housing
- ✓ Suitable for student accommodation and similar accommodation
- ✓ Designed only to flush toilets making use of the synergy with bathing and toilet flushing

Additional Features:

- The use of innovative biocide, colouring and choice of tank materials will ensure no smells.
- Bypass Valve if the bath/shower water is not suitable for re-use.
- The system is designed so any noise generated by water flow will be minimised.
- Self cleaning feature uses gravity and reduces maintenance to one visit a year.



Dimensions

Full CAD Drawings available, please contact CASCADE for more details.

All drawings are in Millimetres.

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Cascade Water Products Ltd

Cascade Water Products is a purpose driven enterprise with the mission to help the world be more water efficient through the development and commercialisation of domestic micro greywater reuse technology. United Nations Sustainable Water (SDG 6) and Affordable Clean Energy (SDG 7) are challenges facing the water companies and the world's population, installing Aqua Gratis helps achieve these targets.

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