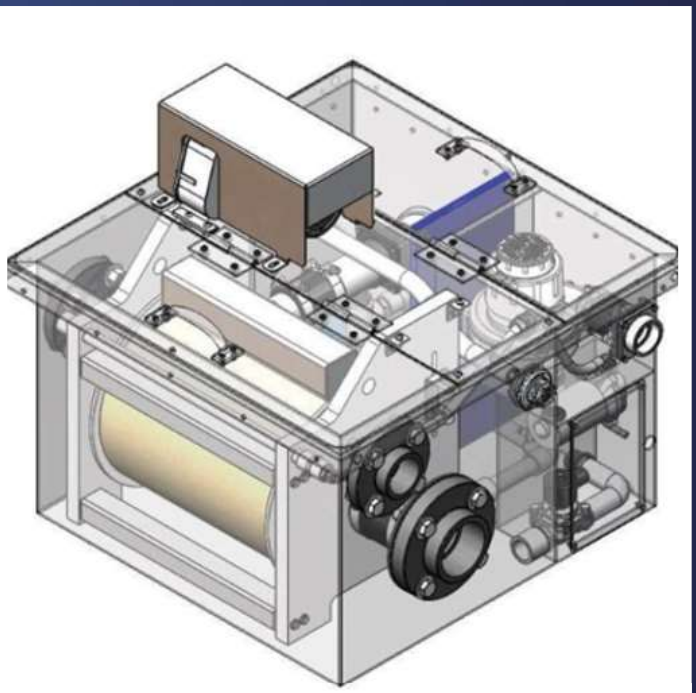
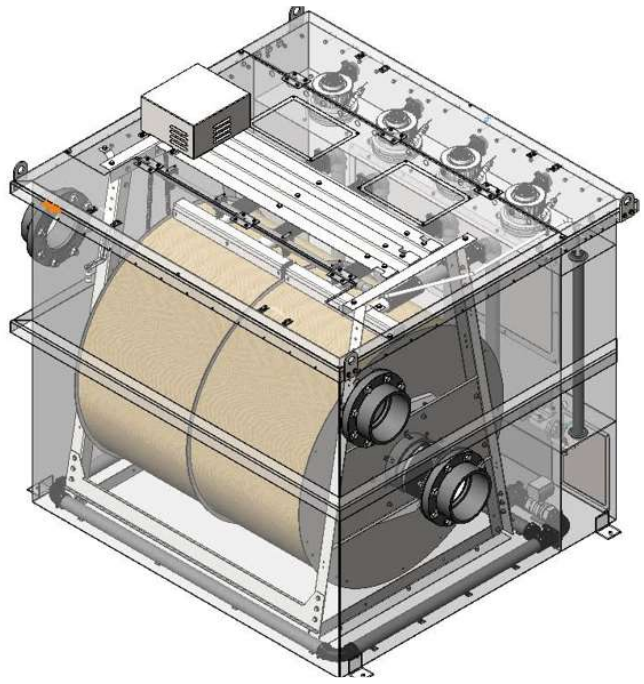
ACWA

INNOVATION IN PROCESS







ACWA AquaPyr

Pile Cloth Media Filter

Tertiary Solids Removal via Ultra Low Waste Filter

Tertiary Solids Removal

Tertiary Solids Removal

ACWA are the UK and Ireland sole distributor of AquaPyr delivering their Ultra Low Waste Filter for suspended solids removal to the Municpal and Industrial Markets.

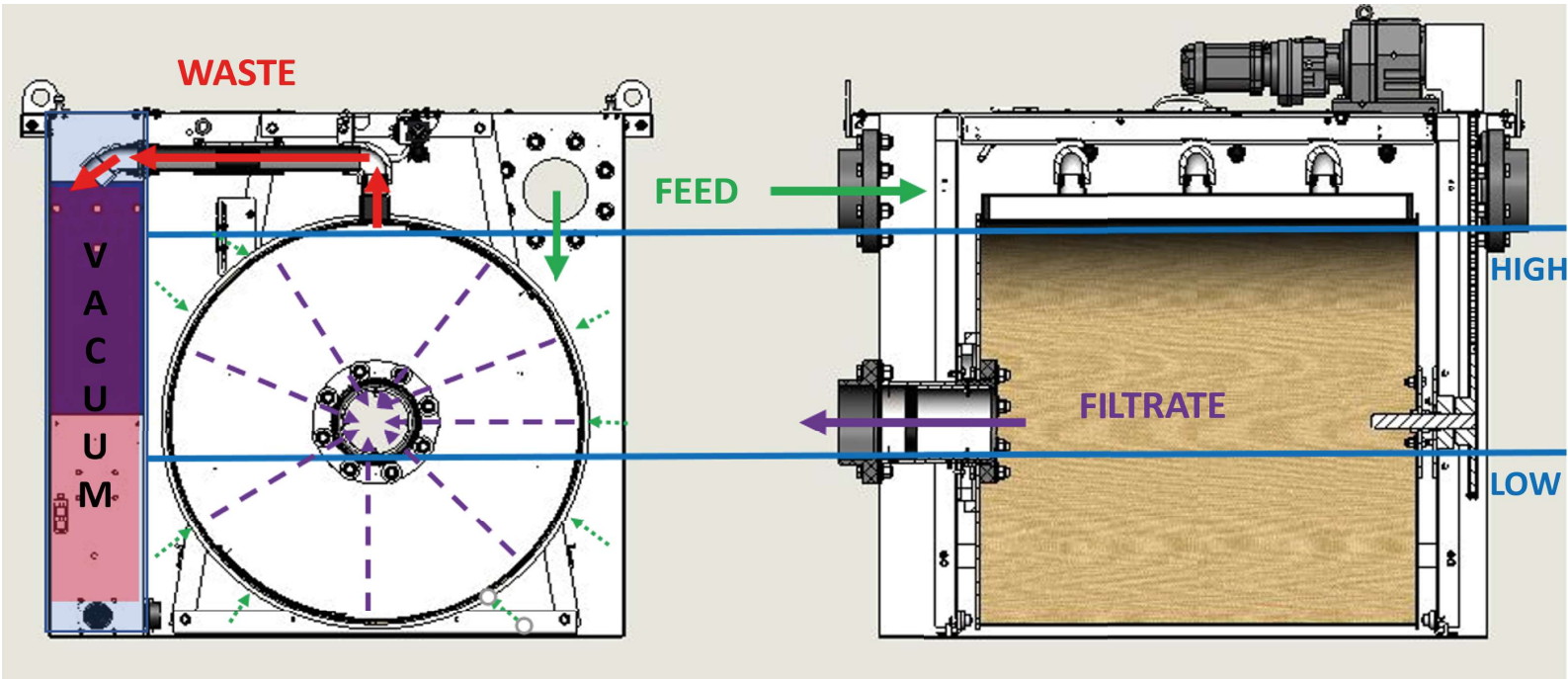
The filter, developed over 4 years, has over 30 installations demonstrating its robustness within the municipal wastewater market and industrial wastewater streams.

Pile Cloth Media Filters (PCMF) have established themselves as a robust, compact and efficient process for the removal of suspended solid particles from municipal, industrial and stormwater streams.

However traditional PCMF produce large volumes of backwash water, around 2% of treated flow, however where sites have increased solids loading and reduced flow this has the potential to be as much as 18%, with the resulting potential to 'flood' the works due to the volumes of backwash water that is returned to the head of the works.

This can result in the need for the construction of additional storage and attenuation tanks to cope with this increased flow because of this filter backwash. Increasing the overall capital cost of these solutions over and above the filter and installation costs.

The AquaPyr filter uses a vacuum head to clean the media cloth and by contrast develops <0.5% waste as a percentage of treated flow with solids recovery as high as 0.6% Dry Solids, potentially negating the need for this extra capital outlay of storage tanks and site volume treatment increases. Reducing overall project capital cost and Programme Time, making it a particularly suitable solution for small rural works where space constraints are often an issue.



The AquaPyr Ultra Low Waste Filter (ULWF)

The AquaPyr ULWF is a low power, gravity driven, cloth media filter.

The cloth media is partially submerged in a tank with a continuous feed to it. The influent water, filters through the submerged portion of the filter drum and cloth filter media on which the solids are captured.

Unlike traditional cloth filters the AquaPyr filters from the outside to in. The centre of the drum collects the filtrate, which exits the drum through a pipe coupling that is connected to the side of the tank.

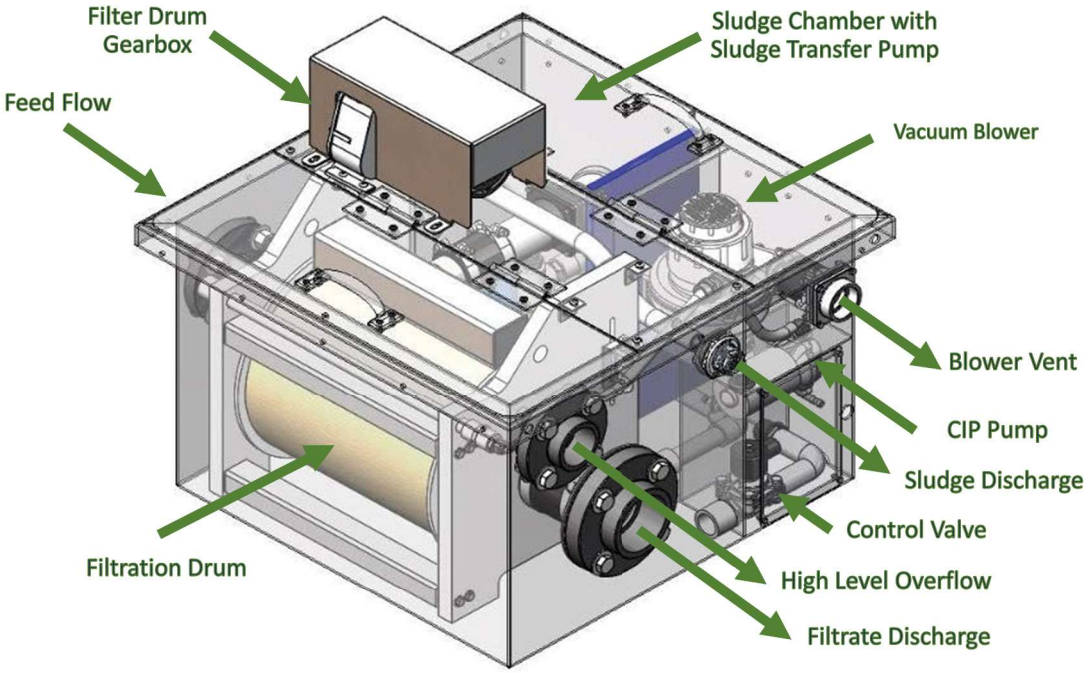
As more solids are collected on the filter media, the water level in the filter tank rises and reaches a level that activates the AquaPyr ULWF's self-cleaning mechanism before the filter drum becomes fully submersed.

The AquaPyr ULWF is cleaned, while it continues to filter water, by rotating the filter drum under a low pressure vacuum cleaning head.

Unlike filters that backwash with filter water, this results in an extremely low volume of wastewater and solids, less than 0.5% of the treated flow which is collected in the bottom of the low-pressure chamber.

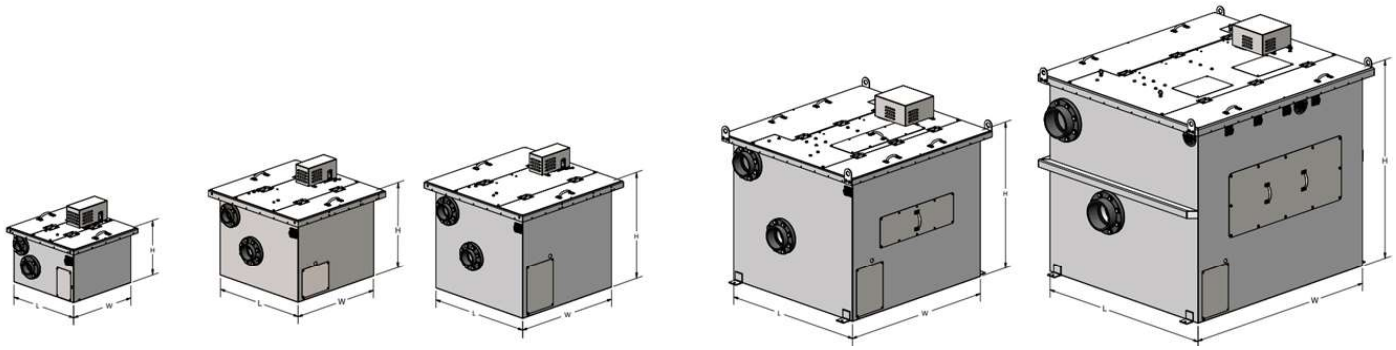
The residual sludge is then pumped away to the existing sludge tanks or returned to head of works.

With the solids removed from the filter cloth, the water level in the filter tank recedes to original levels and the cycle repeats itself.



Filter Range

The AquaPyr filters are available in a range of sizes with units available to treat from 5m³/h to 80m³/h allowing for the treatment at works of up to 2000PE.



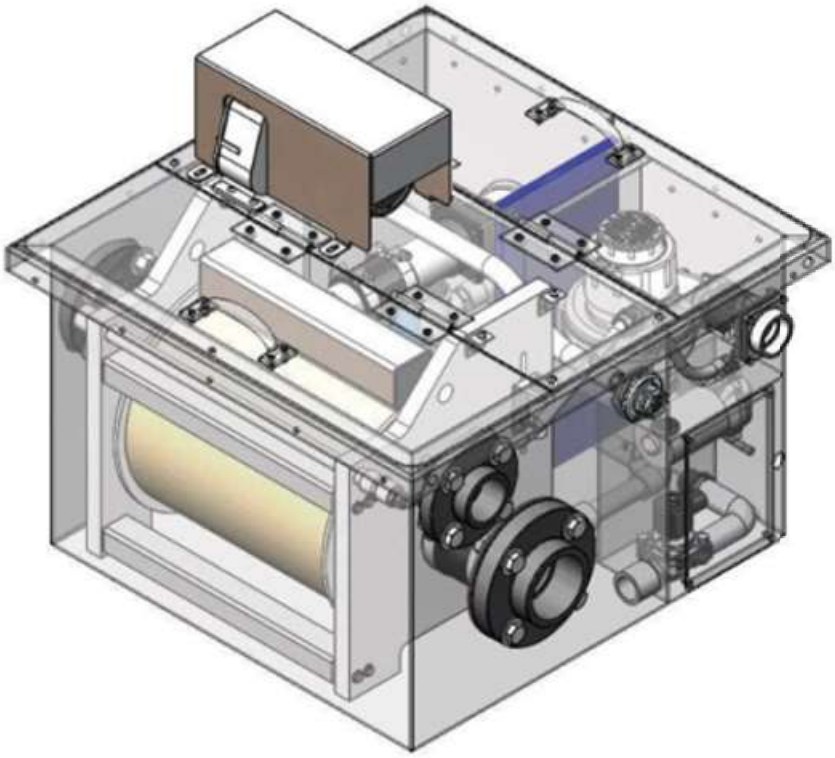
Model	25	65	100	250	440
Dimensions LxWxH (mm)	737x712x615	991x966x873	1118x1093x1051	1550x72x615	1956x1772x1838
Operating Weight (kg)	300	550	1000	2200	5800
Electrical Single Phase	240V/110V 50Hz-20(15)A	240V/110V 50Hz-20(15)A	240V/110V 50Hz-30A	240V/110V 50Hz - 30A	240V/110V 50Hz - 50A
Typical Waste Volumes per Clean (ltr)	0.8	1.7	3.0	6.8	13.0

In finding the best solutions we look at innovative ideas and turn them into reality producing some of the most sustainable technological solutions on the market.

Key Features

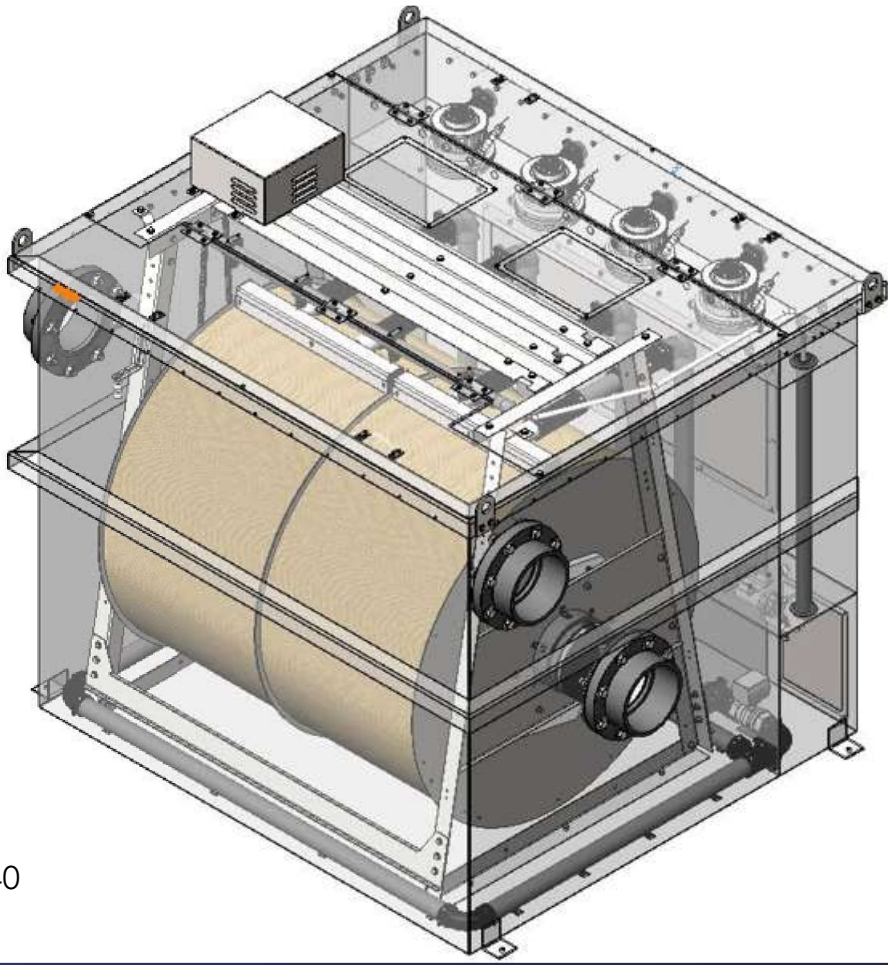
- Designed for low flows 0 - 80m³/h
- Low wate volumes <0.5% of treated flow
- High dry solids recovery >0.5% DS
- Tertiary P Removal in conjunction with precipitation and flocculation
- Low power consumption <1kWh/d for Model 25
- Low Head loss
- Modular Design Package multiple units can be used in parallel
- Small Footprint minimal civils
- Can be supplied with renewables energy pack

Model 25









Model 440

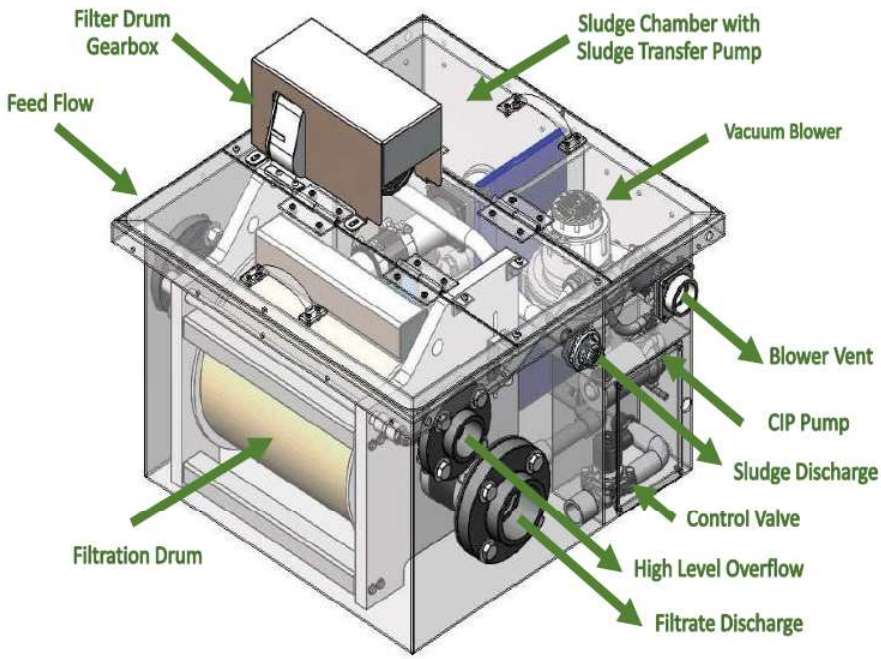
Design

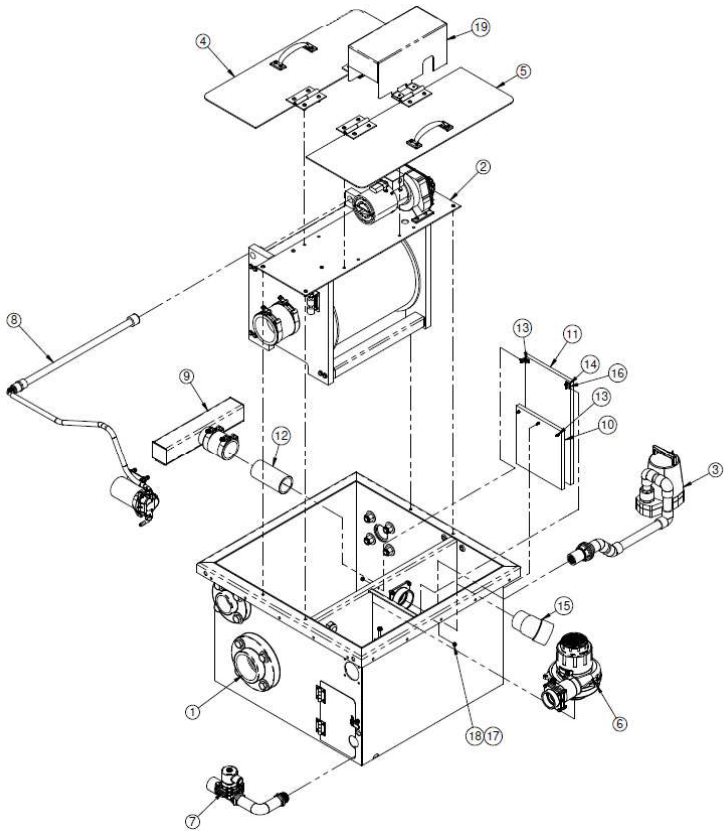
Sub Assembly Design

- Most items serviceable in <20 minutes
- No special tools
- No special skills

High Quality Materials

- All stainless steel
- Industrial components
- WIMES compliant panel

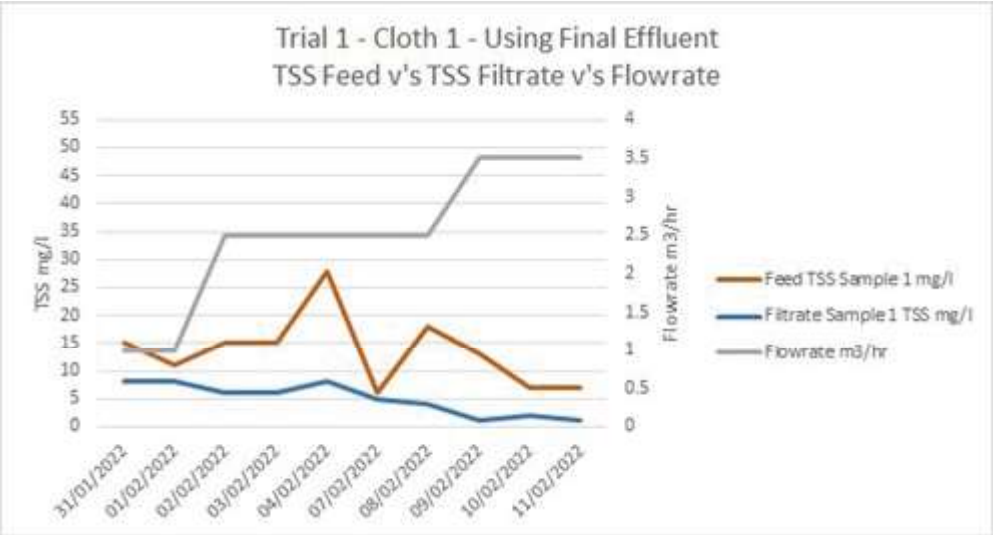


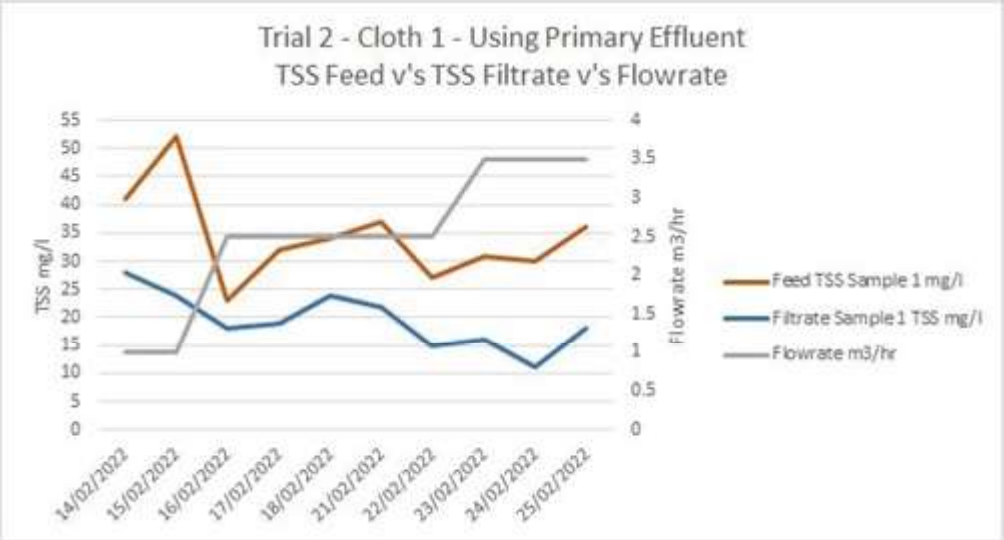


Bo'ness Test Results

Following on from successful tests at Cranfield University, further trials have been completed at the Scottish Water Horizons facility at Bo'ness.

These trials were carried out looking at the TSS efficiency of the filter on both primary and final effluent further proved the efficiency and robustness of the technology within wastewater treatment.





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