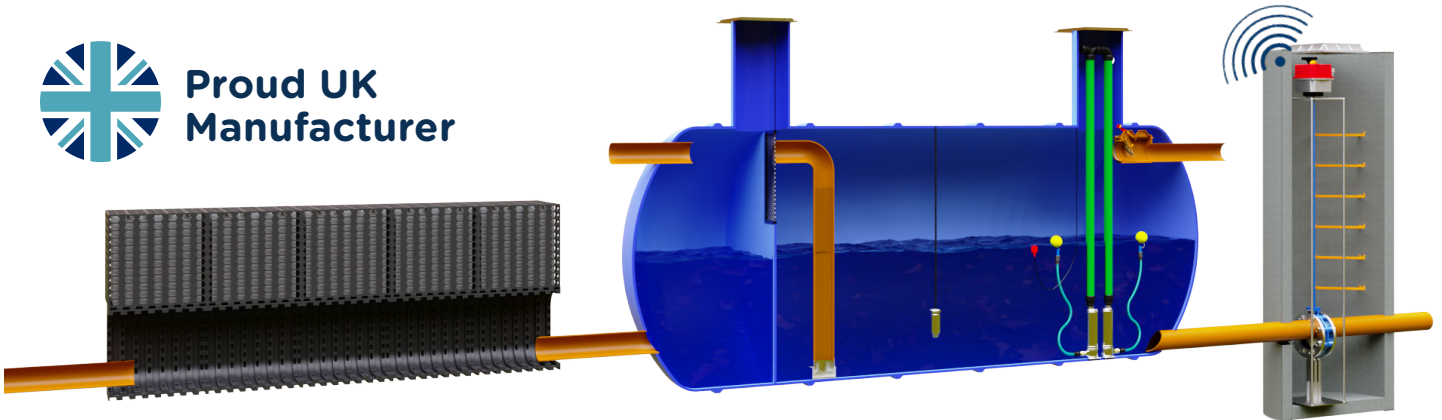




**Proud UK
Manufacturer**



Example system overview image: Each Active Attenuation System is bespoke to suit individual site requirements

Product Description

The Stormsaver Active Attenuation system combines Attenuation and Rainwater Harvesting in one system which can be either an above or below ground arrangement. The Stormsaver Active Attenuation system counts towards 100% of attenuation volumes on site at the same time as Harvesting Rainwater. This is made possible by connecting your Rainwater Harvesting tank and attenuation system via pipework allowing stored rainwater to be drained down before a storm event. Your Rainwater Harvesting System becomes part of your attenuation capacity, meaning you can reduce the number of attenuation crates/tanks used.

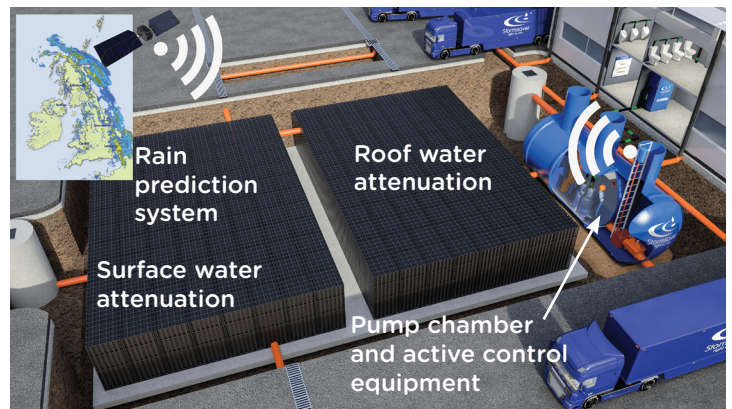
Half of the attenuation tank collects surface water run-off and acts just as a regular attenuation tank, while the other half collects roof run-off and stores it within the Rainwater Harvesting System. The Active Attenuation technology is directly linked to a highly accurate, short to medium term Met Office Rain Prediction System. When rainfall is predicted, Stormsaver's telemetry recognises the anticipated rainfall event. The system measures the water levels with the integrated level sensor in the storage tank (see separate data sheet), then controls water levels within the attenuation and Rainwater Harvesting tanks, by controlling a low level valve or attenuation pump/s. This is linked to the Rainfall Prediction algorithm housed in the Stormsaver Active Attenuation control panel. The water is then lowered to a safe level so when the rainfall event arrives the necessary attenuation capacity is available within the tank, while also allowing Rainwater Harvesting capacity to service the buildings water demand.

The system has a built-in fail safe so that the total attenuation capacity is available for all events that the system is designed for. Utilising mandatory flood protection infrastructure in this way the Stormsaver system provides all new commercial buildings with a source of valuable recycled rainwater without the need for additional, expensive infrastructure. The system reduces installation costs and reliance on mainswater supplies at the same time as maintaining necessary attenuation capacity.

Applications

The Stormsaver Active Attenuation System can serve one of our standard Rainwater Harvesting Systems for a wide range of applications including:

- Toilet and urinal flushing
- Vehicle washing
- Cleaning and wash down
- Laundry
- Plant watering and irrigation
- Industrial process use



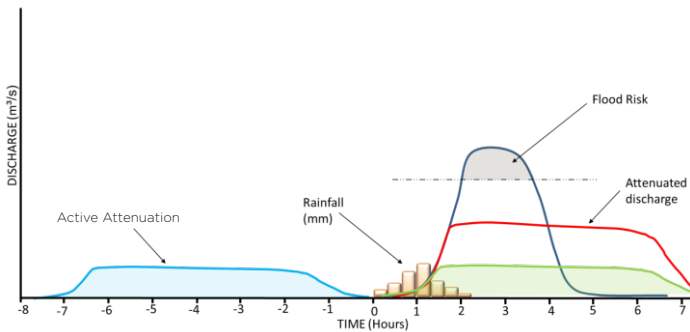
Technical Details

Power AC or DC	12V - 24V or 85V - 240V
*Type A Valve diameter	12.5mm - 100mm
*Type B Valve diameter	100mm - 600mm
Internal Thermostatic Heater	Prevents moisture forming within the actuator housing
Flow rates	Sized according to individual site requirement

*Please refer to separate chamber and valve data sheet for more information

Benefits

- Reduce Construction costs
- Reduce paybacks for Rainwater Harvesting
- Additional BREEAM points (up to 5 points)
- Reduce foot print for sites with Rainwater Harvesting and Attenuation
- Reduces discharge rates in storm events
- Reduces demand on public water supply
- Saves money on water bills
- Assisting with storm water and flood control.



By utilising weather forecasting technology the Stormsaver Active Attenuation system can drain down attenuation tanks prior to rainfall events. This changes the discharge hydrograph pattern by ensuring partial discharge prior to the beginning of the event. This allows the system to make intelligent decisions and capture runoff during the majority of events therefore reducing the peak and overall runoff from the site.

Conformity

- Weatherproof (IP67) and anti-corrosive
- A WRAS approved control valve that demonstrates full compliance with requirements of The Water Supply (Water Fittings) Regulations 1999
- CE marking demonstrates the product complies with product supply law, and ensures conformity with relevant Product Safety and Low Voltage directives.
- The system has undergone 3 years independent testing in Queens University, Belfast.

Fail Safe System

Battery backup:

Both the valve and site controller have a built in rechargeable battery pack to allow the system to continue working in the event of power failure. The system can operate as normal for over 2 weeks without an external power supply. Once the power is reconnected the system will automatically recharge the batteries.

Blockage detection:

The system sends automated warning messages in the event that there is a partially or fully blocked.

Automated Emails and SMS warnings:

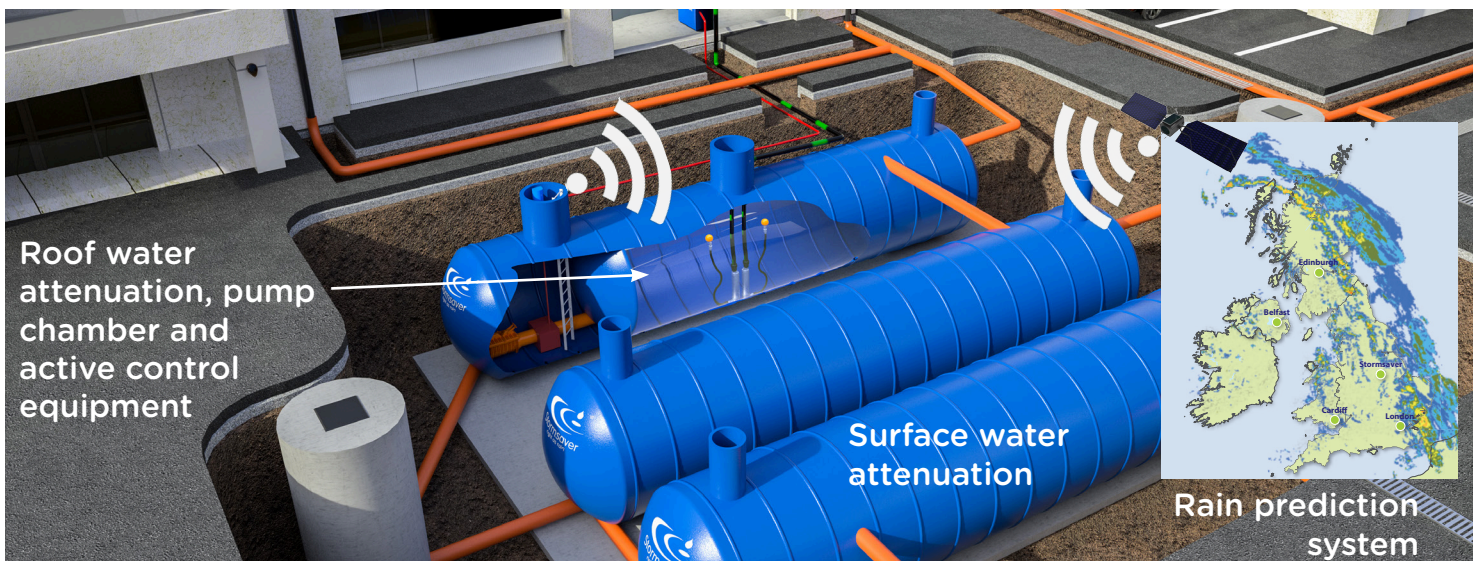
Emails and SMS messages are automatically sent to all registered phone number/email addresses in the event of any failure/blockage. The email addresses/phone number which require the email/SMS can be programmed at the installation stage.

System Handshake:

The "controller" and "control centre" carry out system handshakes every 5 minutes, ensuring that changes in predicted weather patterns can be updated to the levels of stored water in the system.

Default Storm Attenuation System:

Within all failure scenarios the system defaults back to a Storm Attenuation system (Actuated valve open). The system is designed to first and foremost provide the required storm attenuation in all scenarios.



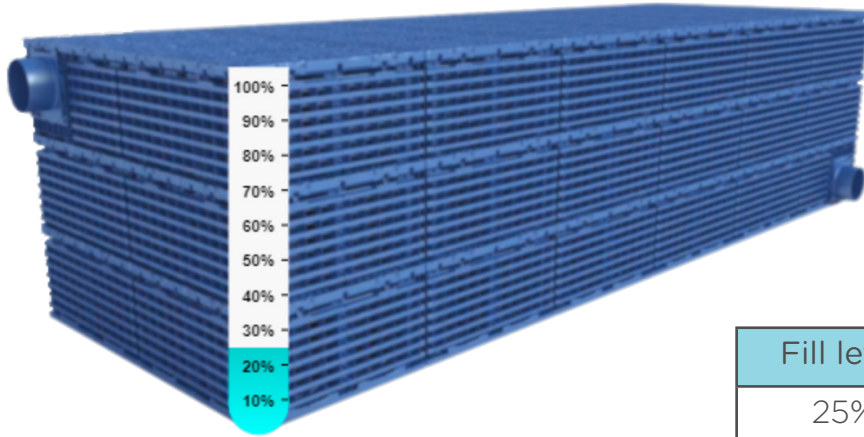
Active Attenuation System Overview



- | | |
|---|--|
| <p>1 Stormsaver Active Attenuation control centre connection</p> | <p>2 Stormsaver Active Attenuation antenna</p> |
| <p>3 Stormsaver Active Attenuation crates</p> | <p>4 Stormsaver Active Attenuation crate cleaning manhole</p> |
| <p>5 Stormsaver active attenuation tank & level sensor</p> | <p>6 Stormsaver active attenuation control panel</p> |
| <p>7 Stormsaver Active Attenuation valve</p> | <p>8 Stormsaver Active Attenuation valve manhole</p> |

Customer Portal

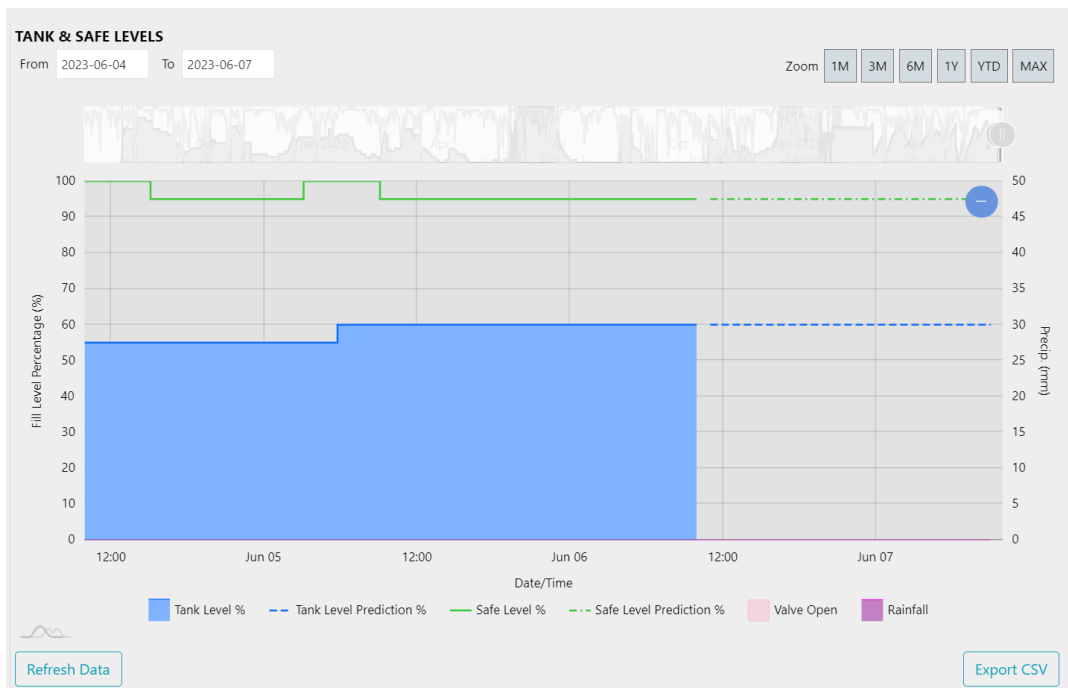
Within the customer portal, live system information is available. This includes a live readout of the attenuation tank level. A graphic is available showing the tank/crates fill level, safe level and maximum level.



Fill level	Safe level	Max. level
25%	95%	95% Override

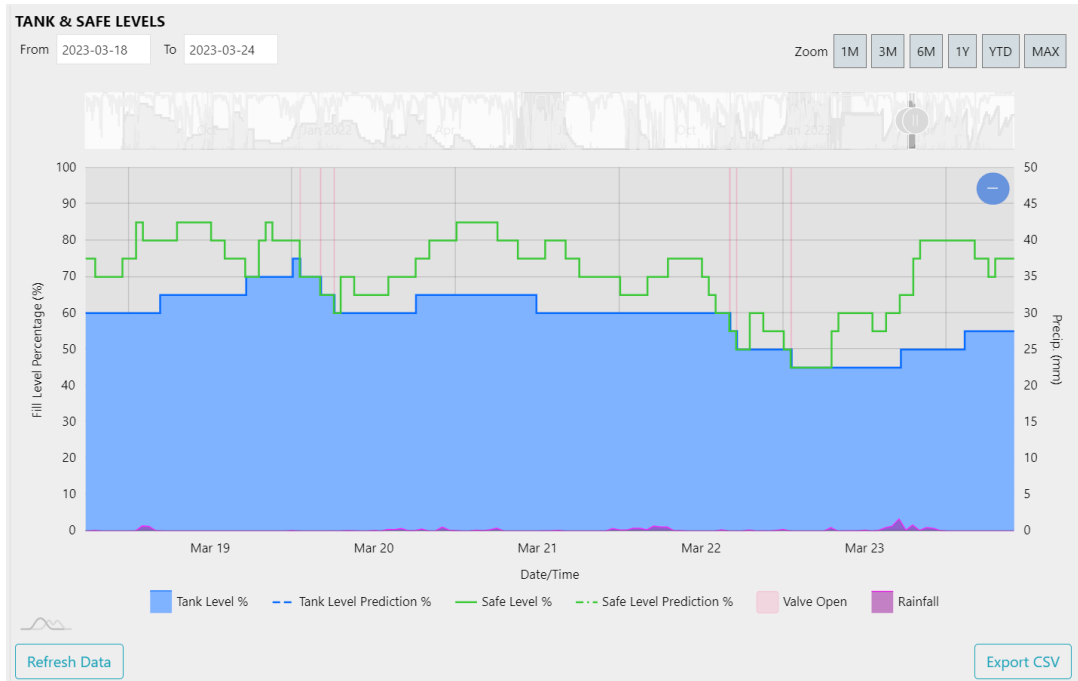
24-Hour Prediction

Predicted safe levels and tank levels are available within a personalised set period.



Safe Level Response

When the tank level surpasses the stated safe level threshold, the valve automatically opens to discharge water, thereby creating additional capacity and preventing overflow of drainage pipework. If the control panel loses connection to the MET office the valve will open automatically as a fail safe to prevent the capacity from overflowing if a rainfall event occurred.



Forecasted Rainfall Response

When a large rainfall is predicted, the valve preemptively opens to drain the tank, generating extra capacity.

