

GF Piping Systems

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Stormwise

Sustainable Stormwater Solutions



Stormwater treatment at source reduces the burden on the environment

Climate change and accelerating urbanization are expected to significantly increase surface runoff, also known as stormwater, in urban areas. Stormwater includes rainwater, meltwater, and foundation drainage water discharged from the ground, rooftops, or other impervious surfaces.

Urban flooding, the environmental impacts of stormwater, and increased water volumes are straining outdated systems, making upgrades essential to protect properties and infrastructure.

We provide a wide range of innovative products for stormwater management and treatment. Our offerings include filter chambers, chambers with flow levees, and custom-designed level regulation chambers. These solutions are dimensioned to meet specific flow, purification efficiency, and settling capacity requirements.

GF Piping Systems develops and implements tailored, environmentally friendly solutions for sites where high stormwater accumulation poses risks and challenges.



Weholite stormwater tanks prevent flooding caused by heavy rainfall

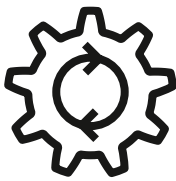
There are many ways to prevent flooding caused by heavy rainfall. One effective solution is the use of stormwater retention tanks, which temporarily store stormwater until it is discharged by gravity after the rain subsides or pumped into the stormwater network or designated discharge site. This keeps water levels under control and prevents flooding. Additionally, it helps mitigate erosion caused by high water flows.

Weholite tanks are also utilized for rainwater and stormwater harvesting in areas experiencing water scarcity. These tanks support local communities by providing additional water resources and offer a sustainable solution for conserving water while reducing flooding risks.

Robust system, easy to maintain

Weholite stormwater tanks are made from Weholite pipes of the desired length, welded together either at the factory or on-site. Installation is efficient, requiring only trench excavation, tank installation, and backfilling at the site.

The stormwater tanks are completely leak-tight, making them suitable for installation in groundwater areas or below the groundwater level. The system is drained either by gravity drainage or through pumping.



Tailor-made solutions for stormwater management



+ Applications

Retention tanks are used in the following situations:

- The soil is too compact to absorb stormwater.
- Additional storage capacity is required alongside the existing stormwater pipe network.
- The area is classified as a groundwater zone, or the groundwater level is too high to allow stormwater absorption into the ground.
- Water needs to be reused for non-potable purposes, such as irrigation or industrial processes.

Typical applications include new buildings and renovation projects in commercial, office, service, or industrial sectors.

+ Specifications

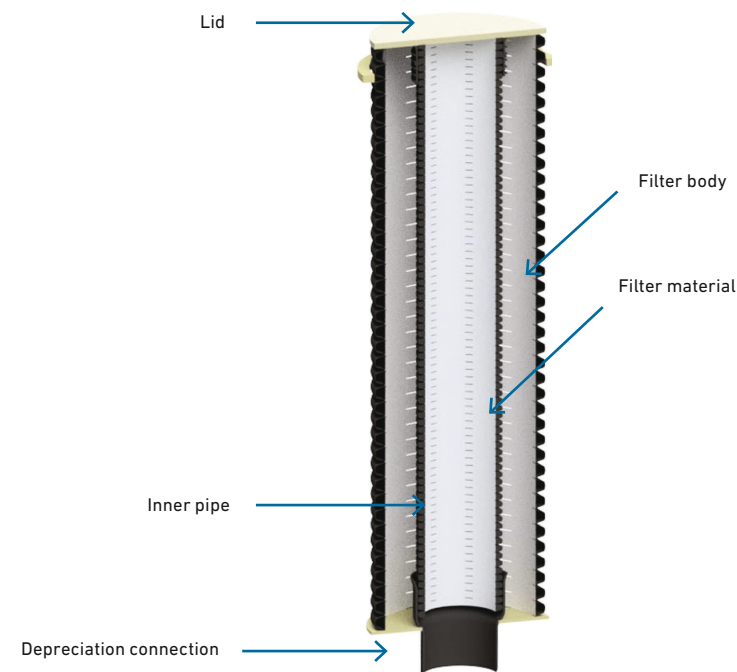
- Honeycomb Weholite pipe frame, made of polyethylene.
- Size and location of inlet and outlet connections customized based on customer requirements.
- The tank will be equipped with one or more manholes, with their position and size determined as needed.

+ Benefits

- Retention tanks enable monitoring of water volume, sludge removal, and regular inspection.
- Ideal for water retention, especially in urban environments where every square meter is valuable; underground space can be utilized effectively.
- High-capacity solutions available, with tank diameters of up to 3.4 meters and lengths customized to meet customer needs.
- The lifespan of soil-installed Weholite pipes exceeds 100 years.
- The pipes are resistant to rot, rust, and corrosion caused by chemical or electrical reactions in the soil.
- Unlike pools or wetlands, tanks can be installed underground for safety, but they can also be integrated with wetlands. In such cases, small flows containing sludge and heavy metals are directed through the Weholite tank, while only infrequent peak flows exceeding the tank's capacity are discharged into the wetland.
- Accumulated sludge can be removed from the tank via service hatches.

An Efficient Choice for High Treatment Requirements

The filter chamber features a highly efficient module filter that effectively removes solids, metals, bacteria, phosphorus, oil, and particles from stormwater. Stormwater is treated through a combination of clarification and filtration. Heavier impurities settle at the bottom of the chamber, while the filter removes fine materials from the outgoing water.



+ Applications

- The filter chamber is used in areas with high purification requirements, such as parking lots, high-traffic road sections, and industrial zones.

+ Benefits

- The filter chamber features a modular filter capable of removing metals, bacteria, phosphorus, oil, and particles.
- It is designed for use in areas with high purification requirements, such as parking lots, busy road sections, factory areas, and similar locations.
- Low maintenance is required, with emptying and cleaning needed once a year and filter replacement every 3–5 years.
- Fulfills DWA-A 102-2, category III

+ Dimensioning

- Filter chambers are dimensioned for each site based on the size and flow rate of the outlet pipe. The robust design makes them suitable for heavily trafficked areas.



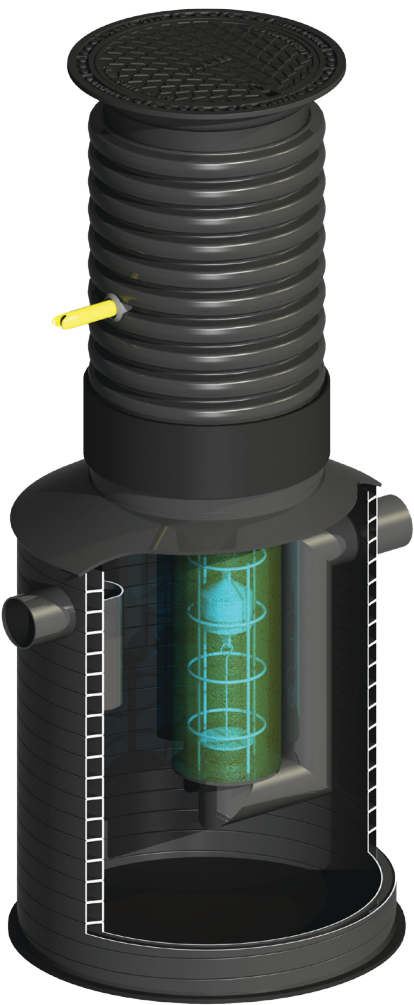
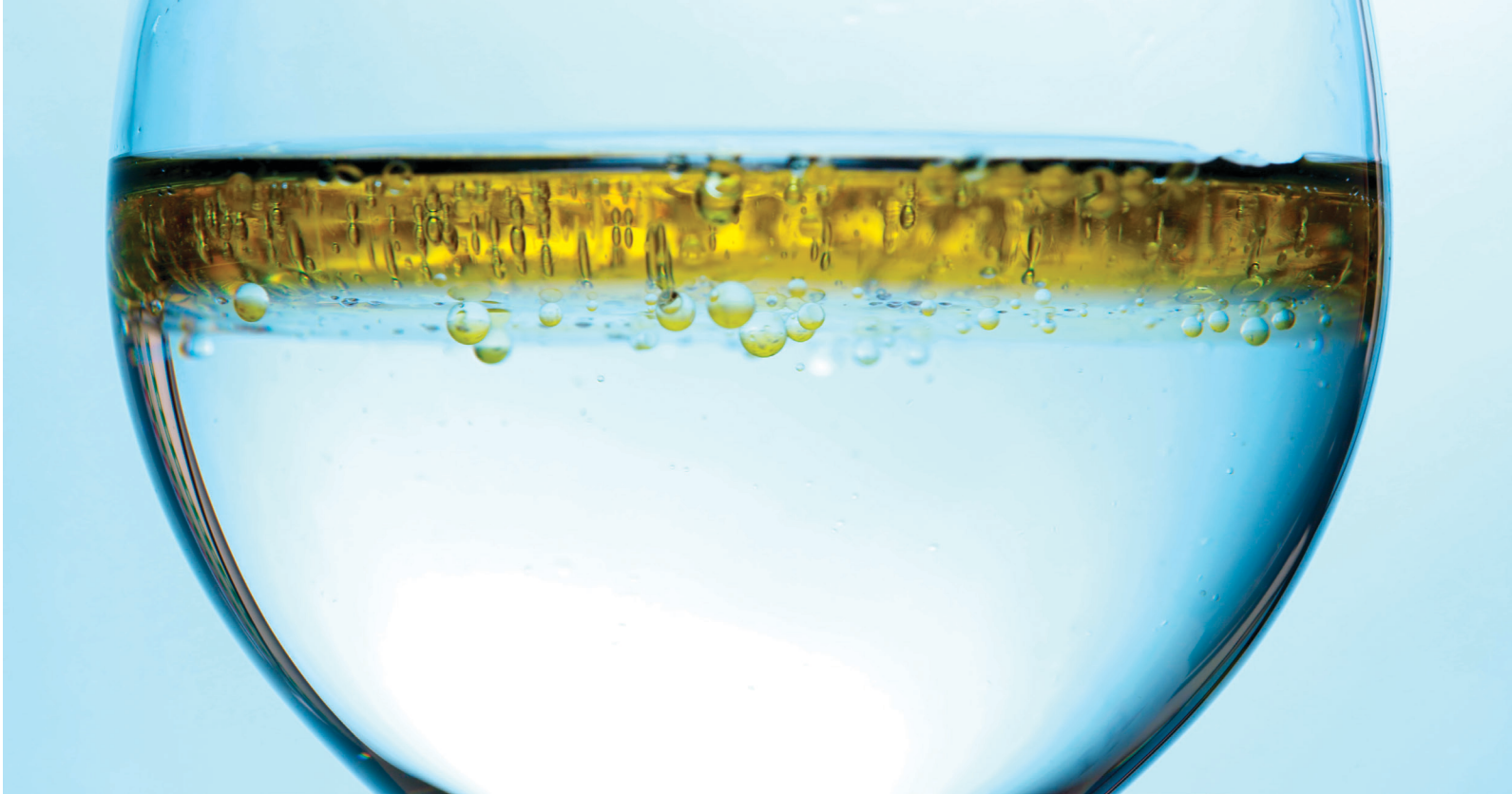
Separates both sinking particles as well as floating debris and oil.

Protect Water Bodies with an Oil Separator

Oil separators are a high-quality and cost-efficient solution for removing oil from stormwater before it reaches valuable water bodies.

They can be used in residential, commercial, industrial, and municipal construction projects, as well as near roadways. GF oil separators meet Class 1 requirements of the EN-858 standard.

With adjustable riser pipes, they are flexible and can be installed at any required height. A separate alarm system with three different sensors ensures full operational control and alerts when maintenance is needed. Maintenance is performed from ground level, making it both easy and cost-efficient.



+ Applications

Suitable for residential, commercial, industrial, and municipal construction projects, as well as areas near roadways.

For stormwater treatment in:

- Parking lots
- Roads
- Factory yards

For wastewater treatment from

- Industrial processes
- Vehicle wash
- Cleansing of oil-covered parts
- Petrol stations forecourts

No need for additional load-bearing plates in traffic areas, such as:

- Parking lots
- Roads

+ Specifications

- Material: PE-HD polyethylene
- Features
 - Integrated sludge trap
 - Automatic closing valve to seal when oil storage is full
 - Coalescing filter for oil separation
 - Optional separate alarm system available

+ Benefits

- Meets Class 1 requirements of EN-858 standard
- Flexible installation with an adjustable riser pipe
- Separate alarm system for full operational control
- Cost-efficient and easy maintenance performed from ground level (no entry required)

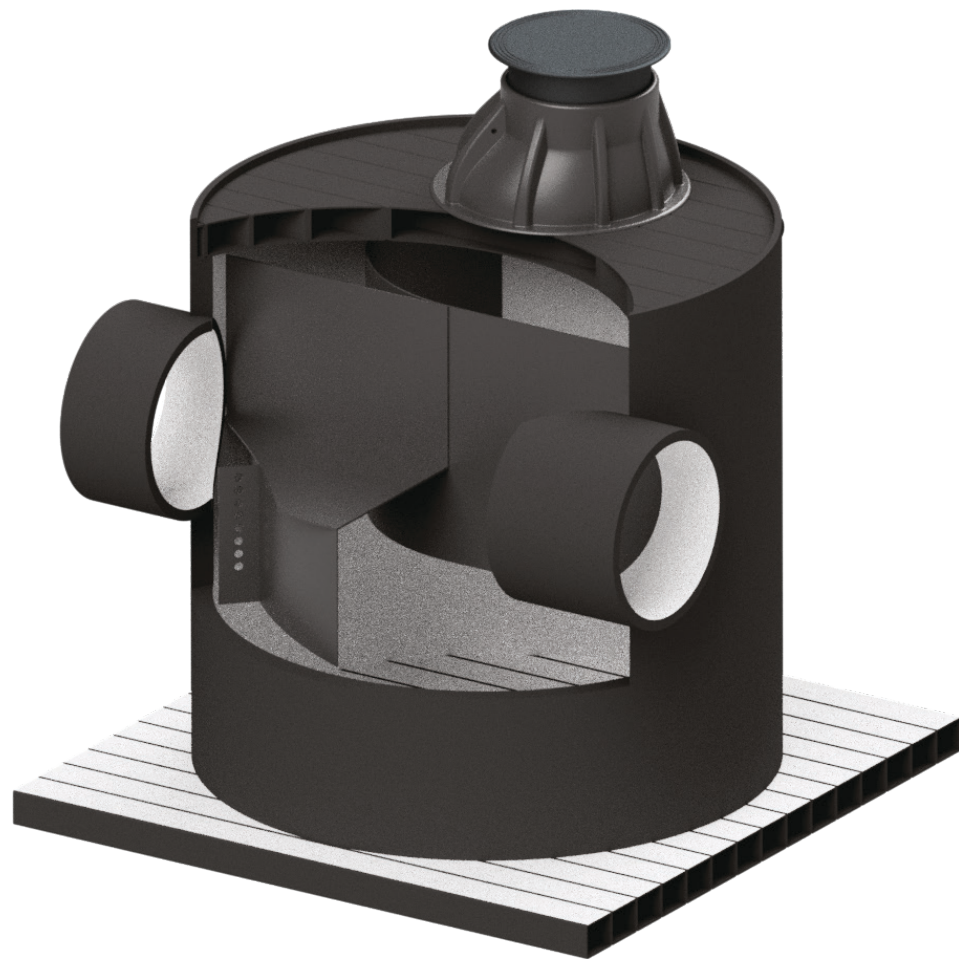
Vortex

Compact, Tailor-Made Chamber

Vortex is a septic tank designed for stormwater treatment in large surface areas.

It efficiently collects floating and settling solids, even during high flows, making it an excellent choice for reducing the maintenance required for organic treatment methods.

The chamber has a large water capacity, and its vortex feature directs impurities against the inner wall, allowing them to settle into the sludge nest. A separate plate prevents floating contaminants from entering the outlet pipe. The settled solids are typically removed from the chamber once a year.



+ Applications

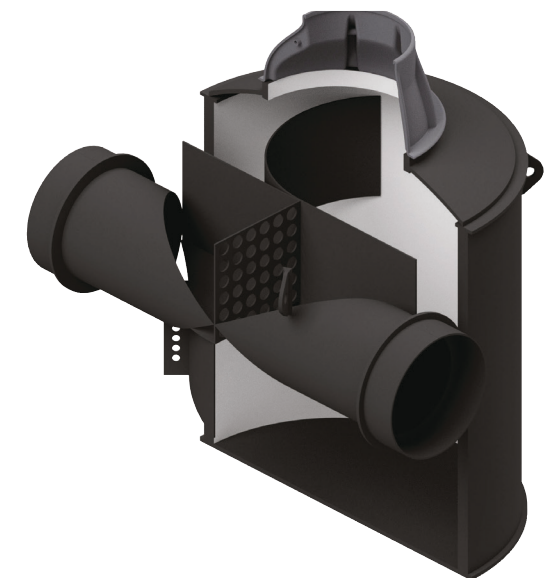
- Vortex is a compact entity that can also be placed in small spaces, such as under traffic, parking or green areas.

+ Benefits

- Efficiently collects solids and floating impurities
- Prevents pollutants from entering water bodies
- Reduces maintenance requirements for natural stormwater treatment systems
- Features a simple design and easy maintenance

+ Dimensioning

- Vortex chambers are dimensioned according to the size of the outlet pipe and flow rate. They are suitable for stormwater treatment in large surface areas, handling high flow rates with outlet pipes of up to 1200 mm.

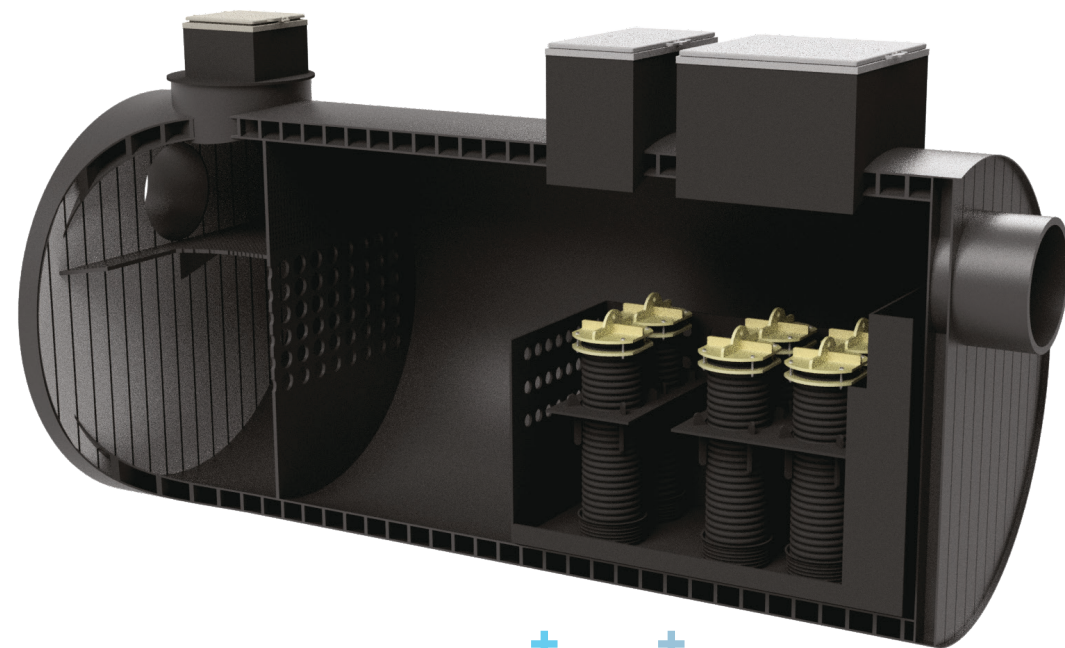


Vault

Efficient Stormwater Treatment

The Vault is an efficient solution for treating stormwater before discharging it into water bodies. It is particularly effective in urban environments where high-quality stormwater treatment is required.

The Vault provides efficient stormwater treatment through a combination of settling and filtering. The process involves three stages: rough separation using a grate, solids settling, and filtration of smaller impurities.



+ Applications

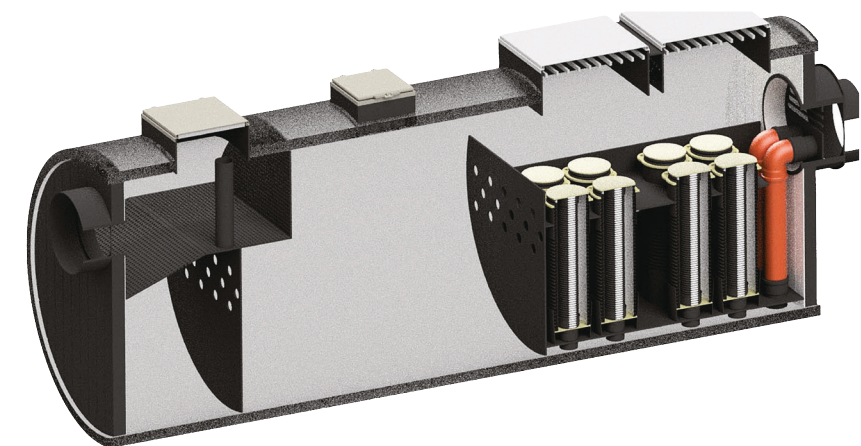
- The Vault can also be installed under traffic areas, parking lots, or green spaces

+ Benefits

- Efficiently collects solids and floating impurities
- Prevents pollutants from entering water bodies
- Reduces maintenance requirements for natural stormwater treatment systems
- Designed with simple construction for easy maintenance
- Fulfils DWA-A 102-2, category III

+ Dimensioning

- The Vault is designed and dimensioned on a project-by-project basis. Its scalable design allows for the efficient treatment of larger volumes of water.
- A single Vault is suitable for stormwater treatment in surface areas of up to 20 hectares, with inlet and outlet pipe connections reaching Ø 1200 mm.



Local support around the world

Visit our webpage to get in touch with your local specialist:
www.gfps.com/our-locations



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