



SOLENO

Mastering Storm Water



STORMFILTER[®]
THE MOST PROVEN
stormwater filtration system

SOLVES THE MOST STRINGENT PROBLEMATICS

in stormwater treatment

The evolution and implementation of a more stricter regulatory framework is gradually transforming traditional practices towards integrated stormwater management. Sewer system owners and managers must use new treatment solutions while ensuring the sustainability of infrastructure, in accordance with new environmental requirements. In addition to the removal of total suspended solids (TSS), oils and floating debris, the significant removal of nutrients, soluble metals and hydrocarbons from stormwater is now required.

The performance of the StormFilter filtration system has been verified and approved by the Washington State Department of Ecology and approved by the MELCC.

Proven and approved treatment system



Stormwater filtration system approved by the MELCC.



Approved by the Washington State Department of Ecology (GULD* certification level) and the New Jersey Department of Environmental Protection (NJDEP).

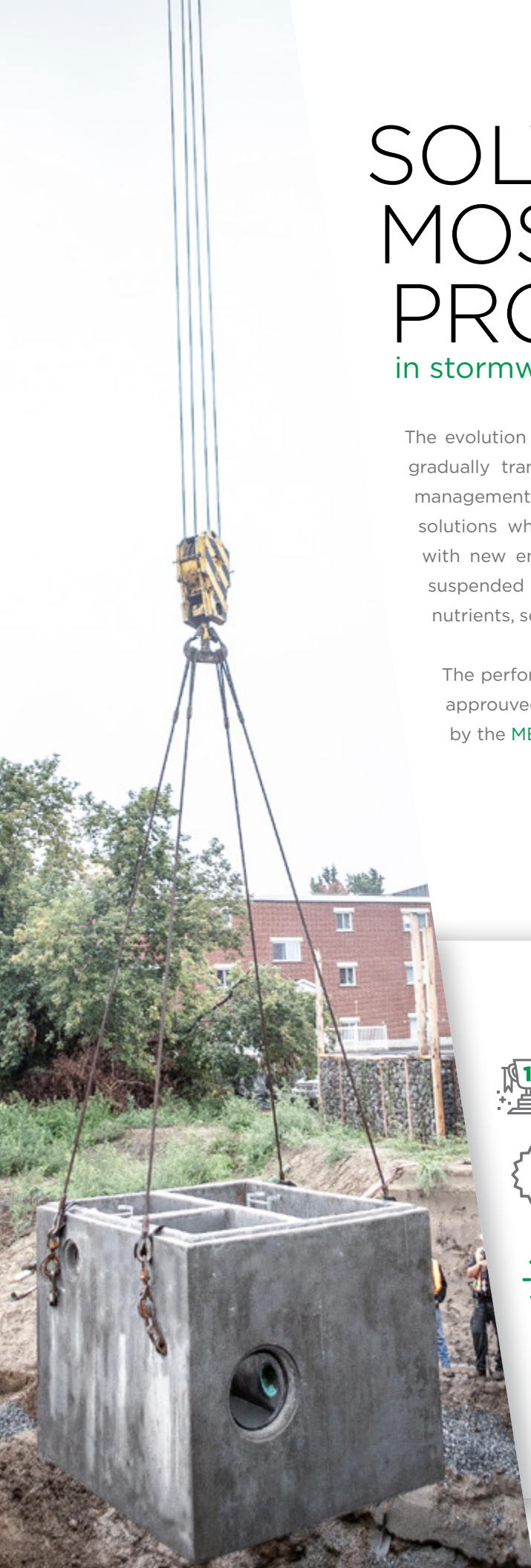


Tested in a variety of environments; in the laboratory and in the field, the StormFilter has proven itself for over 20 years.



Constantly tested and refined to ensure maximum reliability and performance in accordance with the latest applicable standards.

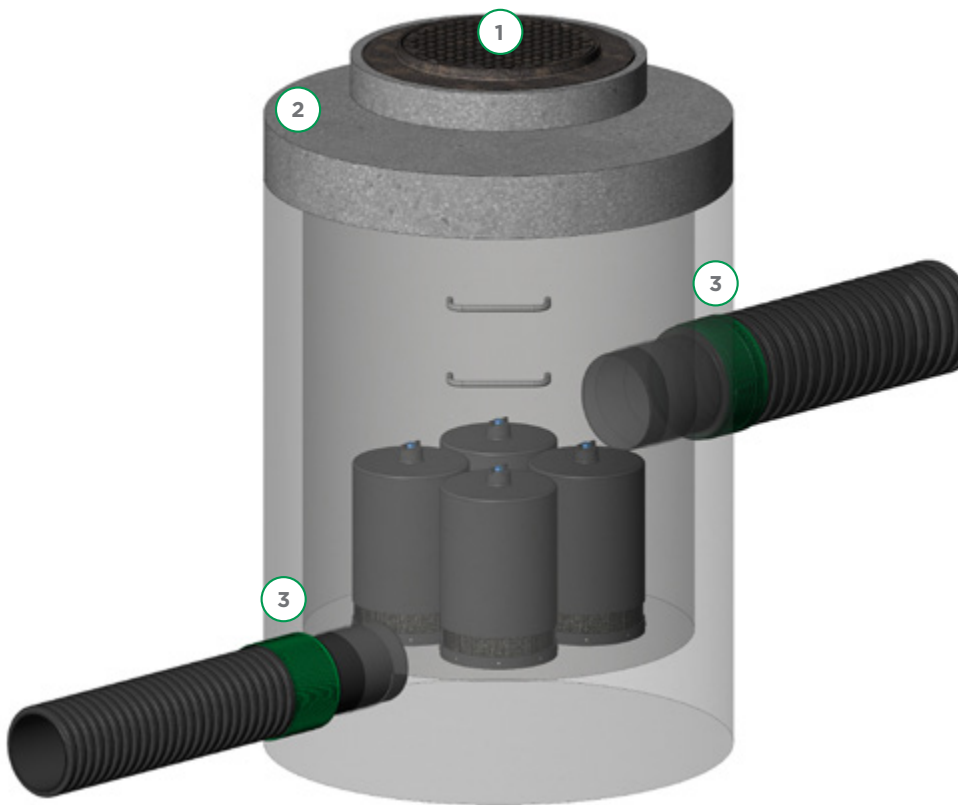
*General Use Level Designation



STORMFILTER®

The most proven stormwater filtration system, ensuring maximum reliability and performance

The StormFilter is a stormwater filtration system containing rechargeable, media-filled cartridges that retain particles and sediments, and adsorb pollutants such as phosphorus, oils and grease, soluble metals, nutrients and organics*.



Model shown: MH60 StormFilter

- ① Easy access for maintenance.
- ② Includes standard ductile iron frame and cover (optional adjustable type).
- ③ O-ring gasket into the walls of the system¹ make it easy to connect all types of pipes: HDPE, PVC and concrete.

Note 1: Only for the vault model.

* Organics are adsorbed by the ZPG filtering media only.

Features and benefits

- + **Rechargeable cartridges** that allow the use of different filtering medias.
- + Effectively removes 80%** of TSS and adsorbs dissolved pollutants.
- + Equipped with an optional **internal bypass system**, it controls peak flows; the StormFilter's treatment capacity is maintained during high intensity events.
- + **Flexible designs** accommodate multiple inlet and outlet pipe locations and angles.
- + Fits inlet and outlet pipes up to 900 mm (36 in) for high flow rate applications.
- + Designed for specific treatment flow rates, StormFilter offers treatment solutions adapted to each project.
- + Pre-assembled at the factory, installation and assembly on site are simple and quick.

Special features

- ✓ Installation similar to a traditional concrete vault or manhole.
- ✓ Designed to resist CL-625, H-25 and HS-25 loads.
- ✓ Offered exclusively by Soleno in Quebec and the Atlantic Provinces.

** See current local regulations.

UNIQUE FILTER CARTRIDGES

Rechargeables and self-cleaning

StormFilter rechargeable filtering cartridges are available in three activation heights to meet the specific hydraulic needs of the project, such as water level and treatment flow rate.

- By providing a treatment capacity 50% higher than the **medium cartridge**, the **large cartridge** is ideal for reducing the number of cartridges required, and therefore the footprint of the structure, while meeting the same treatment performance.

- With a minimum hydraulic drop of 550 mm (21.7 in), the **small cartridge** is suitable for sites with shallow hydraulic profiles.

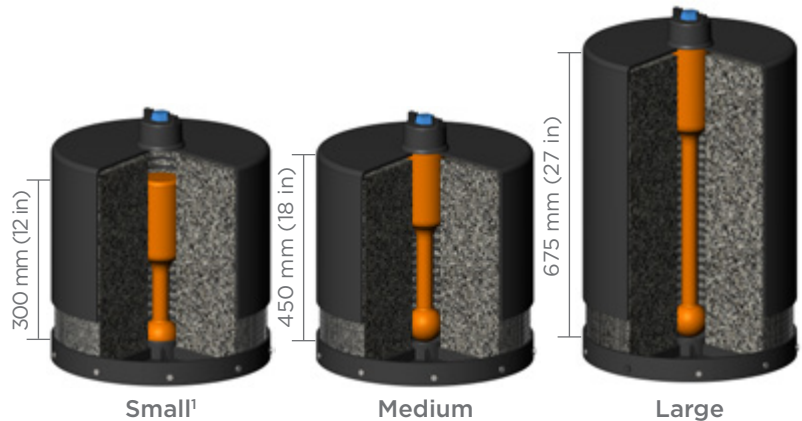
- The configuration of the cartridge **prevents clogging of the filtering media surface**, and extend the life of the cartridge by removing occlusions at the end of each treatment cycle readying it for the next event.

- Once the siphon is activated, stormwater is uniformly drawn through the **large surface of the filtering media** for effective treatment.

- **Rechargeable filtering media cartridges** that make maintenance easier and reduce operating costs.

- The cartridges are pre-installed at the factory.

- **Lightweight**, handling the cartridges to be maintained does not require any integrated lifting equipment, making system maintenance easier and faster.



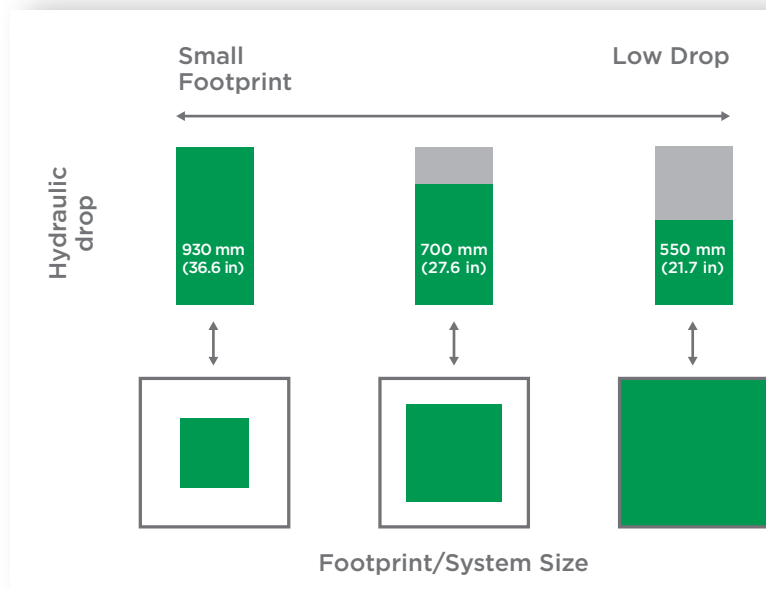
Filtering media

Different types of **filtering media** are available, targeting TSS, phosphorus, soluble metals and nutrients.

- **PhosphoSorb™** is a lightweight media built from a perlite* base that removes total phosphorus (TP) by adsorbing dissolved-P and filtering particulate-P simultaneously.

- Available on request, **ZPG™**, a proprietary blend of zeolite, perlite* and granular activated carbon (GAC), enhances perlite* performance and targets organic compounds, soluble metals and other pollutants.

¹ The small cartridge's height looks like the medium cartridge's height. However, its design allows it to have an effective height different from its actual height, ie 300 mm (12 in). * Perlite is an inert, lightweight, highly porous media which does an excellent job filtering stormwater for TSS removal and any associated fine particulates.

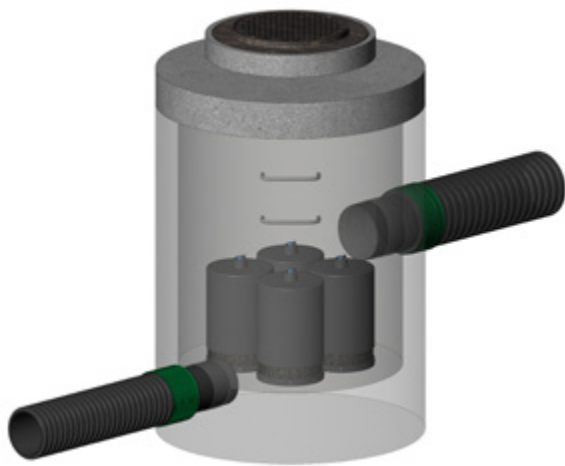


A VERSATILE DEVICE

Flexible configurations

StormFilter offers a complete range of configurations that can be adapted to different flow rates, available ground space and project-specific hydraulic data.

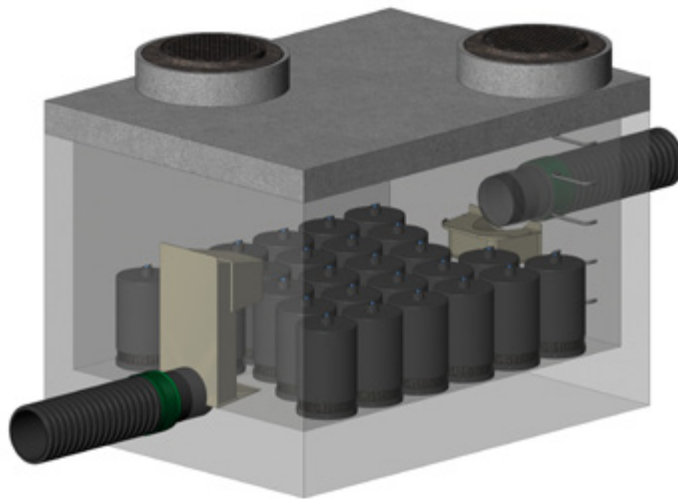
MANHOLES



Model shown: MH60 StormFilter

- 4 models
- 1200 mm to 2400 mm (48 in to 96 in) in diameter
- Treatment flow rate up to 16.6 l/s

STANDARD VAULTS



Model shown: V0811 StormFilter

- 9 models
- 2400 mm x 1800 mm (96 in x 72 in) to 2400 mm x 7200 mm (96 in x 288 in)
- Optional internal bypass
- Treatment flow rate up to 72.4 l/s

Choosing the right system

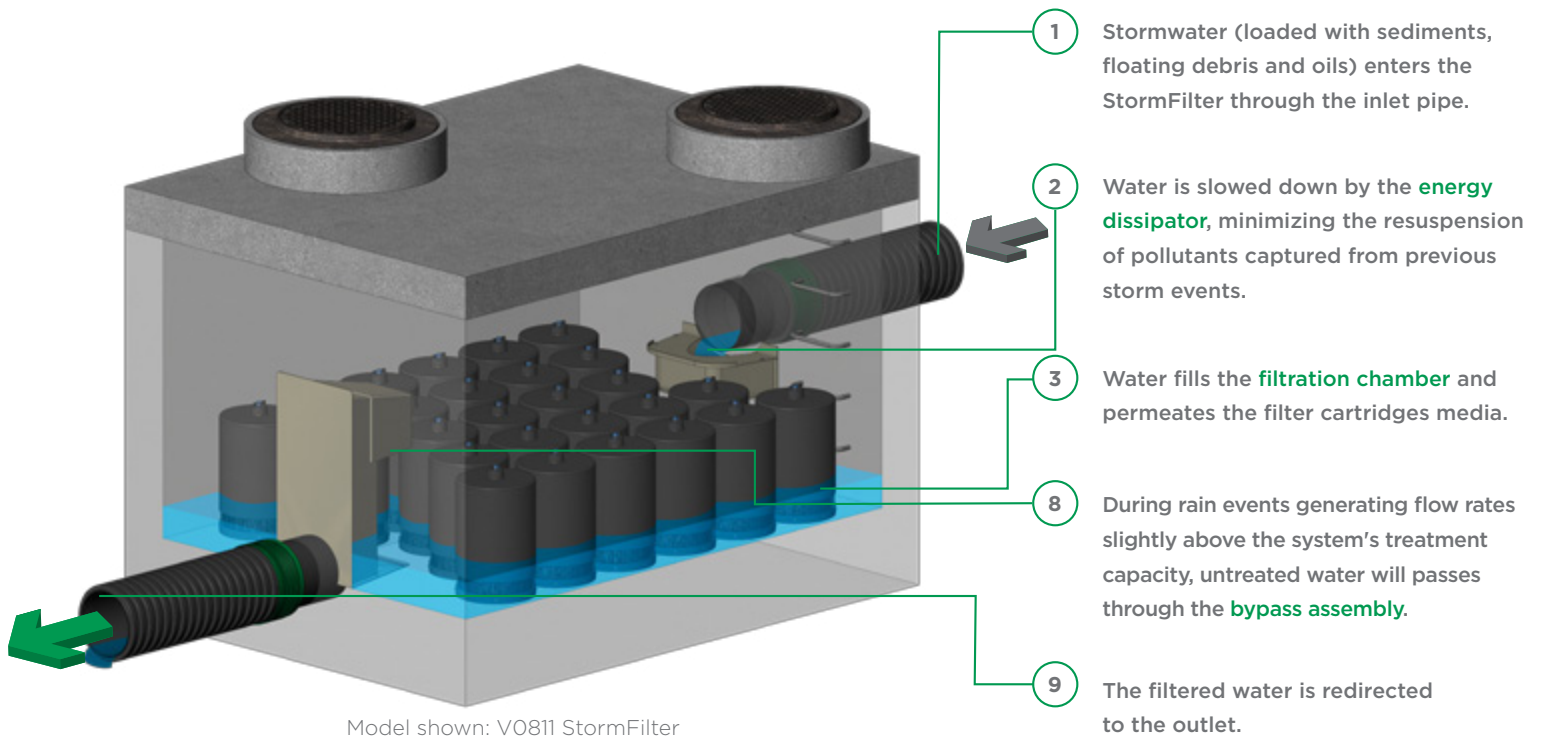
To ensure the performance and long life of the filtration treatment system, several factors influence the selection of a system, such as the available water head, the treatment flow rate and the peak flow particular to the project. For more information, please refer to the technical data sheet or contact your Soleno representative.

All-in-one configuration

- Combines all the structures required in a traditional treatment system, by combining the functions of an inlet, a bypass structure and a junction unit into **a single structure**.
- This grouping saves money by reducing the number of structures to be installed, the footprint and excavation requirements.
- In certain circumstances, different control devices such as control valve or flow regulator, can be integrated into the system.

OPERATION

Standard vault

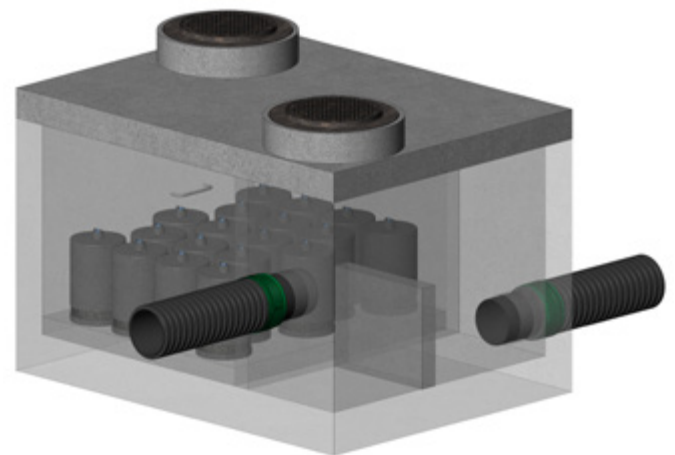


Model shown: V0811 StormFilter

A vault with an integrated bypass structure: an advantageous configuration!

During rain events generating flow rates below the system's treatment capacity, the operation of the **vault with an integrated bypass structure** remains the same as the **standard vault**.

When the flow rate **exceeds the treatment capacity of the system**, the excess flow is diverted to the outlet chamber over the weir wall. By segregating the treatment bay from the high velocity peak flows, the cartridges continue to operate normally which maintains performance and retains settles pollutants.



Model shown: PD0811 StormFilter

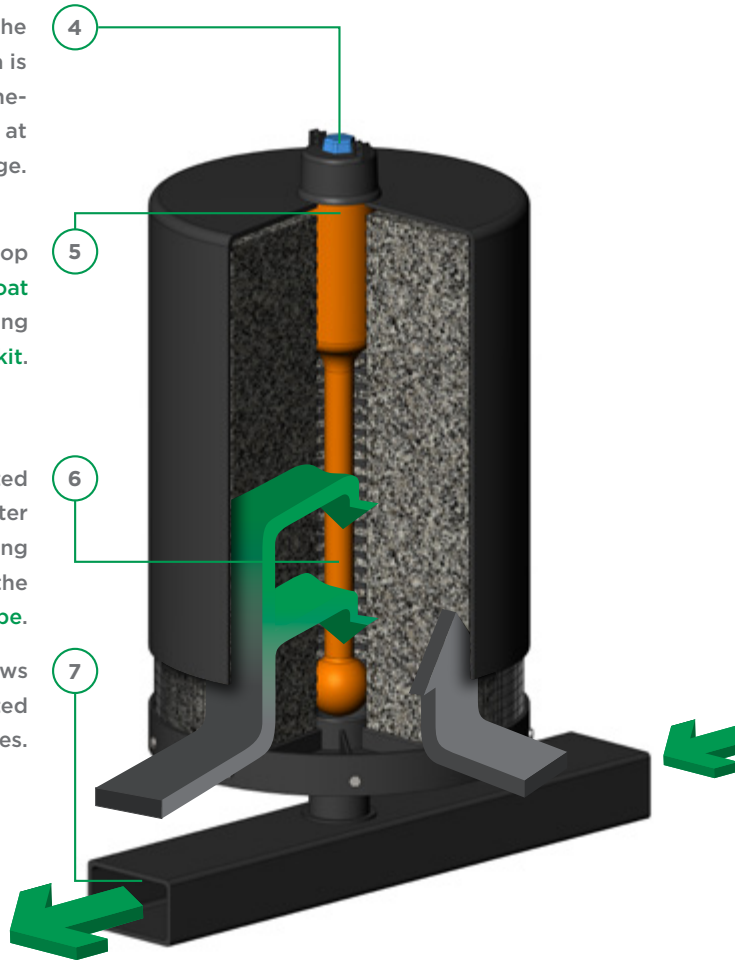


Air contained in the porous cartridge media is discharged through the one-way **check valve**, located at the top of the cartridge.

When water reaches the top of the cartridge, the **float valve** is activated, allowing water to flow to the **flow kit**.

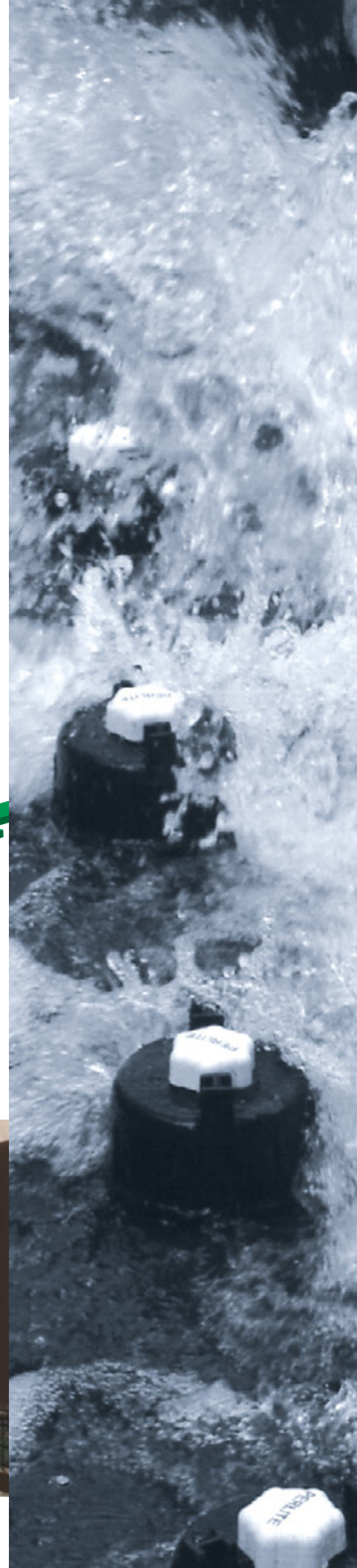
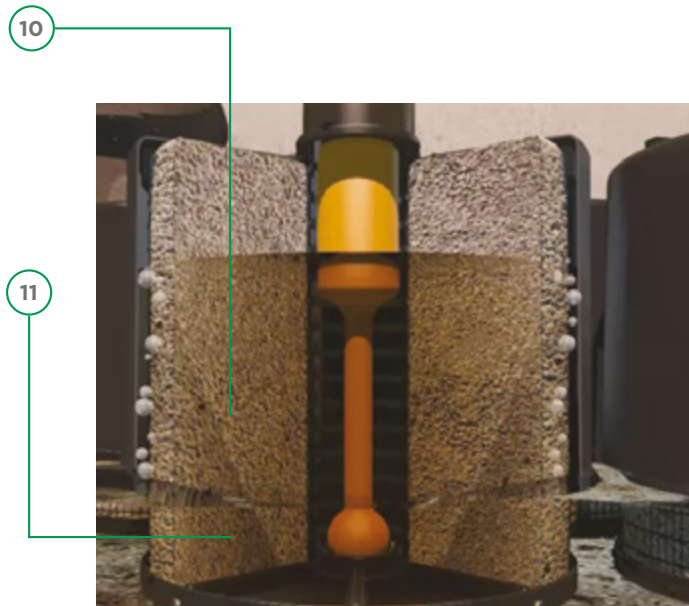
The siphon thus created drawn the loaded water uniformly into the filtering media and then into the **central tube**.

The filtered water flows through the **flow kit** located under the cartridges.



When the water level in the **filtration chamber** reaches the bottom of the **cartridge hood**, air takes its place, breaking the siphon created in the **central tube**.

The turbulence, created in the previous step, agitates the filtering media, which favours sediment deposition at the bottom of the system. This patented self-cleaning mechanism helps to restore the permeability of the filtering media between rain events.



EASY MAINTENANCE

through our replacement program

The StormFilter treatment system retains particles and sediments, and adsorbs dissolved pollutants. The inspection, maintenance and replacement of cartridges are facilitated by the access(es). The performance of the unit has been designed for maintenance intervals ranging from 1 to 3 years. Soleno recommends that the system be maintained periodically to ensure its proper operation. Pumping sediment and debris from the bottom of the filtration chamber is recommended at the same time as replacing the cartridges. The cartridge replacement program provides refurbished cartridges, delivered to your site, ready for installation. Soleno Service takes care of the cartridges recycling.

Soleno Service is specialized in the inspection and maintenance of treatment units. We offer the inspection, maintenance and certification of stormwater treatment units, in accordance with the requirements of local authorities.

Contact Soleno Service for more information on the services offered at solenoservice.com/en or refer to our maintenance guide at: soleno.com/en/produits/stormfilter/.

OUR EXPERTISE

is always available

At Soleno, our solutions excellence is based on our technical support and expertise developed over the years with designers, water system managers and contractors responsible for the installation and maintenance of civil infrastructure.

Our engineers are available to help you identify and implement the best management practices to protect receiving environments that might be impacted by water runoff in urban or rural areas.



SOLENO OBTAINED

its **ECORESPONSIBLE** Certification - level **2. Performance** in sustainable development from the Council for sustainable industries (CSI) **ECORESPONSIBLE™** Program.

(Soleno plant located at 1160, route 133, Saint-Jean-sur-Richelieu only)



SOLENO IS ISO 9001 CERTIFIED

(Saint-Jean-sur-Richelieu plant only)

SOLENO IS A MEMBER OF THESE AGENCIES:



**OUR HDPE PRODUCTS AND SOLUTIONS ARE
DESIGNED AND MANUFACTURED ACCORDING TO
THE MOST RIGOROUS STANDARDS.**

SOLENO.COM