

DownSpout StormFilter[™]

Single-Stage Units

Important: These guidelines should be used as a part of your site stormwater management plan.

Overview

The single-stage DownSpout StormFilter[™] (DSF) consists of a multi-chamber plastic unit that can contain up to two StormFilter cartridges. By configuring the StormFilter cartridges with various filter media, the DSF is designed to remove pollutants such as soluble zinc and other metals from rooftop runoff.

The DSF is installed above ground, occupying a small footprint (2.5' x 5'), and is easily integrated into most existing downspout configurations. The system can be equipped with built-in ports for viewing and sample collection to simplify monitoring. For higher levels of treatment, a second stage can be added.

One single-stage, two-cartridge DSF unit can treat runoff from roof areas up to 14,000 square feet. The DSF is also designed with an internal high flow bypass to minimize re-suspension of trapped pollutants in cases where extreme flows exceed the water quality design flow.

Design Operation

The DSF is installed as the primary receiver of roof runoff. Runoff is directly discharged to the DSF cartridge chamber by the existing downspout system. Once in the cartridge chamber, polluted water ponds and percolates horizontally through the media in the filter cartridges. Treated water collects in each cartridge's center tube from where it is directed by an under-drain manifold to the outlet pipe on the downstream side of the overflow weir and discharged.

When flows into the DSF exceed the water quality design value, excess water spills over the overflow weir, bypassing the cartridge chamber, and discharges to the outlet pipe.

Applications

The DSF is an affordable, easily-maintained solution for treating rooftop runoff from industrial facilities, warehouses, and commercial buildings. Its modular and changeable cartridges allow it to be upgraded to meet changing removal requirements without requiring purchase of additional equipment.

Maintenance Guidelines

The filter cartridges contained in the DSF are easily removed and replaced during maintenance activities according to the following guidelines:

1. Establish a safe working area as per typical catch basin service activity.
2. Remove lid.
3. Turn cartridge(s) counter-clockwise to disconnect from pipe manifold.
4. Remove 4" center cap from cartridge and replace with lifting cap.
5. Remove cartridge(s) from cartridge chamber by hand or with vactor truck boom.
6. Remove accumulated sediment via vactor truck (min. clearance 13" x 24").
7. Rinse interior of chamber and vactor remaining water and sediment.
8. Install fresh cartridge(s) threading clockwise to pipe manifold.
9. Replace lid.
10. Return original cartridges to CONTECH Stormwater Solutions for cleaning and media disposal.

Media may be removed from the filter cartridges using the vactor truck before the cartridges are removed from the catch basin structure. Empty cartridges can be easily removed from the catch basin structure by hand. Empty cartridges should be reassembled and returned to CONTECH Stormwater Solutions, as appropriate.

Note: Customer is responsible for disposing of media in accordance with applicable regulations.

Materials required include a lifting cap, vactor truck, and fresh filter cartridges. Contact CONTECH Stormwater Solutions for specifications and availability of the lifting cap. The owner may refresh spent cartridges. Refreshed cartridges are also available from CONTECH Stormwater Solutions on an exchange basis. Contact the maintenance department of CONTECH Stormwater Solutions at (800) 548-4667 for more information.

Maintenance is estimated at 24 minutes of site time. For units with more than one cartridge, add approximately 5 minutes for each additional cartridge. Add travel time as required.