

BioClean[®] Full Capture Grate Inlet Filter Maintenance Manual



**BIO CLEAN® FULL CAPTURE GRATE INLET FILTER
OPERATION & MAINTENANCE MANUAL**

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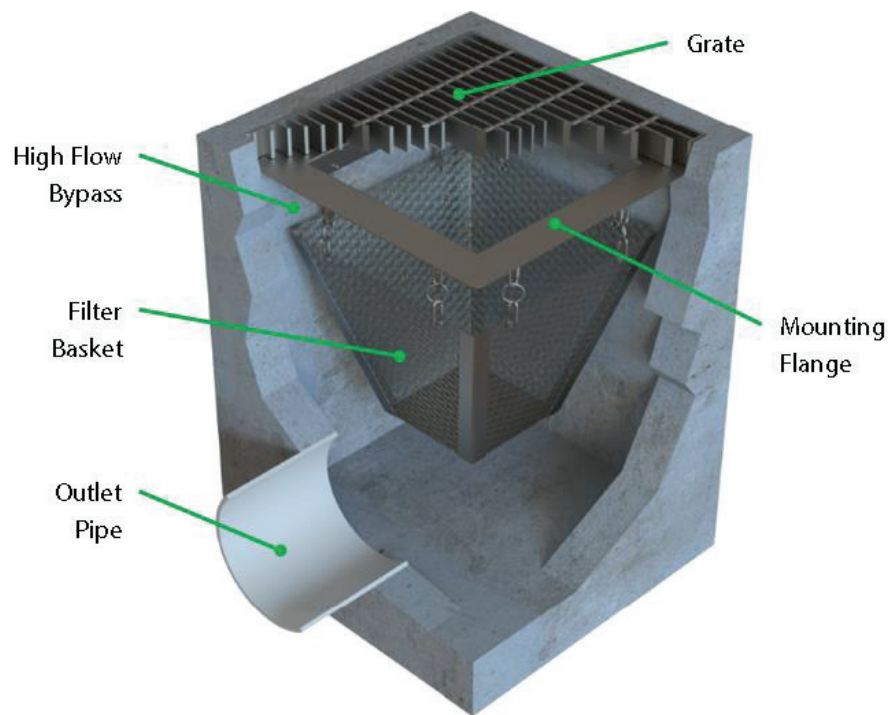
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OVERVIEW

Contech's Bio Clean® Full Capture Grate Inlet Filter is a stormwater catch basin filter designed to remove trash, debris, sediments, particulates, and hydrocarbons (with hydrocarbon boom add-on). Constructed of 100% stainless steel, the filters are available at various sizes and depths, allowing them to fit in any grated catch basin inlet. The heavy-duty construction allows for cleaning with any vacuum truck. The filter can also easily be cleaned by hand.

As with all stormwater BMPs, inspection and maintenance on the Grate Inlet Filter is necessary. Stormwater regulations require BMPs be inspected and maintained to ensure they are operating as designed to allow for effective pollutant removal and provide protection to receiving water bodies. It is recommended that inspections be performed multiple times during the first year to assess site-specific loading conditions. This is recommended because pollutant loading can vary greatly from site to site. Variables such as nearby soil erosion or construction sites, winter sanding of roads, amount of daily traffic, and land use can increase pollutant loading on the system. The first year of inspections can be used to set inspection and maintenance intervals for subsequent years. Without appropriate maintenance, a BMP can exceed its storage capacity which can negatively affect its continued performance in removing and retaining captured pollutants.



Filter Diagram



WARNING

Confined space entry may be required. Contractor to obtain all equipment and training to meet applicable local and OSHA regulations regarding confined space entry. It is the Contractor's or entry personnel's responsibility to always proceed safely.

SAFETY NOTICE AND PERSONAL SAFETY EQUIPMENT

Job site safety is a topic and a practice addressed comprehensively by others. The inclusions here are merely reminders to whole areas of Safety Practice that are the responsibility of the Owner(s), Manager(s), and Service Provider(s). OSHA and Canadian OSH, Federal, State/Provincial, and Local Jurisdiction Safety Standards apply on any given site or project. The knowledge and applicability of those responsibilities is the Service Provider's responsibility and outside the scope of Contech Engineered Solutions.



Safety Boots



Gloves



Hard Hat



Eye Protection



Maintenance and Protection
of Traffic Plan

INSPECTION SUMMARY & EQUIPMENT LIST

The core to any successful stormwater BMP maintenance program is routine inspections. The inspection steps required on the Grate Inlet Filter are quick and easy. As mentioned above, the first year should be seen as the maintenance interval establishment phase. During the first year, more frequent inspections should occur in order to gather loading data and maintenance requirements for that specific site. This information can be used to establish a base for long-term inspection and maintenance interval requirements.

The following is a list of equipment required to allow for simple and effective inspection of the Grate Inlet Filter:



Contech Inspection and Maintenance Report



Flashlight



Access Cover Hook

INSPECTION AND MAINTENANCE NOTES

1. Following maintenance and/or inspection, it is recommended that the maintenance operator prepare a maintenance/inspection record. The record should include any maintenance activities performed, amount and description of debris collected, and condition of the system and its various filter mechanisms.
2. The owner should keep maintenance/inspection record(s) for a minimum of five years from the date of maintenance. These records should be made available to the governing municipality for inspection upon request at any time.
3. Transport all debris, trash, organics, and sediments to approved facility for disposal in accordance with local and state requirements.
4. Entry into the catch basin may require confined space training based on state and local regulations. It is generally not required for routine inspections or maintenance of the Grate Inlet Filter.

INSPECTION PROCESS

1. Prepare the inspection form by writing in the necessary information including project name, location, date & time, unit number and other information (see inspection form).
2. Observe the filter with the grate removed.
3. Look for any out of the ordinary obstructions on the grate or in the filter and its bypass. Write down any observations on the inspection form.
4. Through observation and/or digital photographs, estimate the amount of trash, foliage, and sediment accumulated inside the filter basket. Record this information on the inspection form.
5. Through visual observation, inspect the condition of the filter basket. Look for excessive build-up of sediment or any damage to the system. Record this information on the inspection form.
6. Observe the condition and color of the optional hydrocarbon boom (if present). Record this information on the inspection form.
7. Finalize the inspection report for analysis by the maintenance manager to determine if maintenance is required.

MAINTENANCE INDICATORS

Based upon the observations made during inspection, maintenance of the system may be required based on the following indicators:

- Missing or damaged internal components.
- Obstructions in the filter basket and/or its bypass.
- Excessive accumulation of trash, foliage, and sediment in the filter basket. Maintenance is required when the basket is greater than half-full.
- The following chart shows the 50% and 100% storage capacity of each filter size:

Basket Model	Basket Depth (inches)	Top Width (inches)	Top Length (inches)	50% Storage Capacity (CF)	100% Storage Capacity (CF)
BIO -GRATE-FULL-12-12-12	6	10	10	0.15	0.30
BIO -GRATE- FULL -18-18-12	6	15	15	0.33	0.66
BIO -GRATE- FULL -24-24-12	6	20	20	0.59	1.18
BIO -GRATE- FULL -24-40-12	6	20	30	0.88	1.76
BIO -GRATE- FULL -24-24-24	18	20	20	1.22	2.44
BIO -GRATE- FULL -24-40-24	18	20	30	1.82	3.64
BIO -GRATE- FULL -36-36-24	18	30	30	2.73	5.46

MAINTENANCE SUMMARY

It is recommended that maintenance occurs at least two days after the most recent rain event to allow debris and sediments to dry out. Maintaining the system while flows are still entering it will increase the time and complexity required for maintenance.

Cleaning of the Grate Inlet Filter can be performed from the finished surface without entry into catch basin utilizing a vacuum truck. All necessary pre-maintenance steps must be carried out before maintenance occurs. Once traffic control has been set up per local and state regulations and the grate has been safely removed, the maintenance process can begin. It should be noted that some maintenance activities or unique and custom system configurations may require confined space entry. All confined space requirements must be strictly followed before entry into the system. In addition, the following is recommended:

- Prepare the maintenance form by writing in the necessary information including project name, location, date & time, unit number and other info (see maintenance form).
- Set up all appropriate safety and maintenance equipment.
- Ensure traffic control is set up and properly positioned.
- Prepared pre-checks (OSHA, safety, confined space entry) are performed.

MAINTENANCE EQUIPMENT

The following is a list of equipment to allow for simple and effective maintenance of the Grate Inlet Filter. It is recommended that a vacuum truck be utilized to minimize the time required to maintain the Grate Inlet Filter, though it can easily be cleaned by hand.



The image shows a 'CONTECH Inspection and Maintenance Report' form for 'Catch Basins Only'. It includes fields for 'Job Number', 'Date', 'Inspector', and 'City'. Below these fields is a table with columns for 'No.', 'Description', 'Status', 'Remarks', and 'Inspected By'. The table has 10 rows for data entry.

Contech Inspection and Maintenance Report



Flashlight

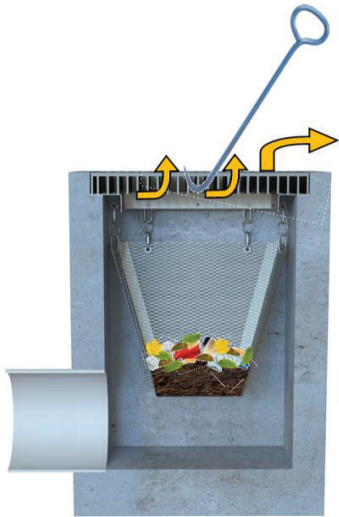


Access Cover Hook



Vacuum Assisted Truck with Pressure Washer (Recommended)

MAINTENANCE INSTRUCTIONS



1. INSPECT CATCH BASIN

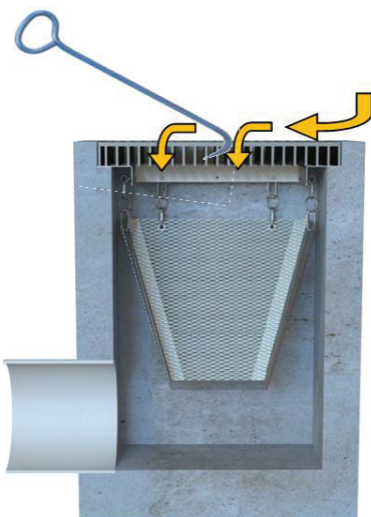
Inspect the Grate Inlet Filter as detailed under Inspection Process above.



2. VACUUM AND WASH FILTER BASKET

Using an extension on a vacuum truck, position the hose over the opened catch basin. Insert the vacuum hose down into the filter basket and suck out trash, foliage, and sediment. Pressure wash the sides and bottom of the filter basket to remove any stuck debris.

If present, inspect the hydrocarbon boom as detailed on the next page.



3. FINISH MAINTENANCE

When maintenance is complete, replace the grate and remove all traffic control.

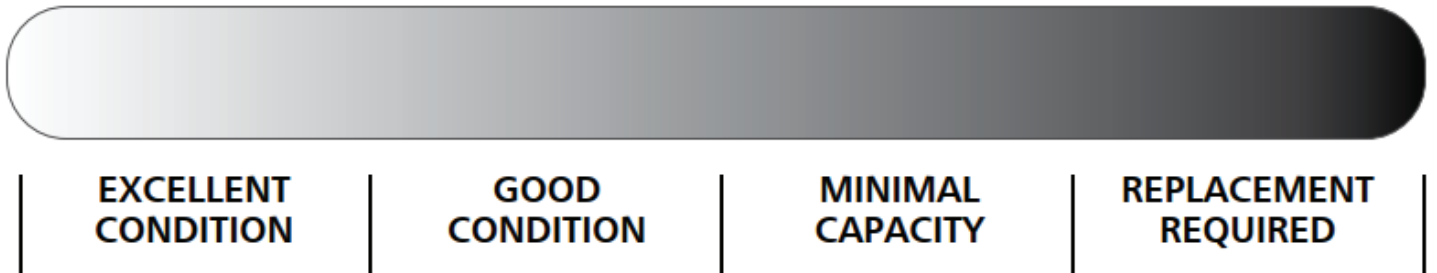
All removed debris and pollutants shall be disposed of following local and state requirements. Disposal requirements for recovered pollutants may vary depending on local guidelines. In most areas the sediment, once dewatered, can be disposed of in a sanitary landfill. It is not anticipated that the sediment would be classified as hazardous waste.

In the case of damaged components, replacement parts can be ordered from the manufacturer.

HYDROCARBON BOOM MAINTENANCE

Remove the optional hydrocarbon boom that is attached to the inside of the filter basket (if present). The hydrocarbon boom is fastened to vertical rails on two opposite sides of the basket. Assess the color and condition of the boom using the diagram below. If replacement is required, install and fasten on a new hydrocarbon boom. Booms can be ordered directly from the manufacturer.

The following is a replacement indication color chart for the hydrocarbon booms:





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