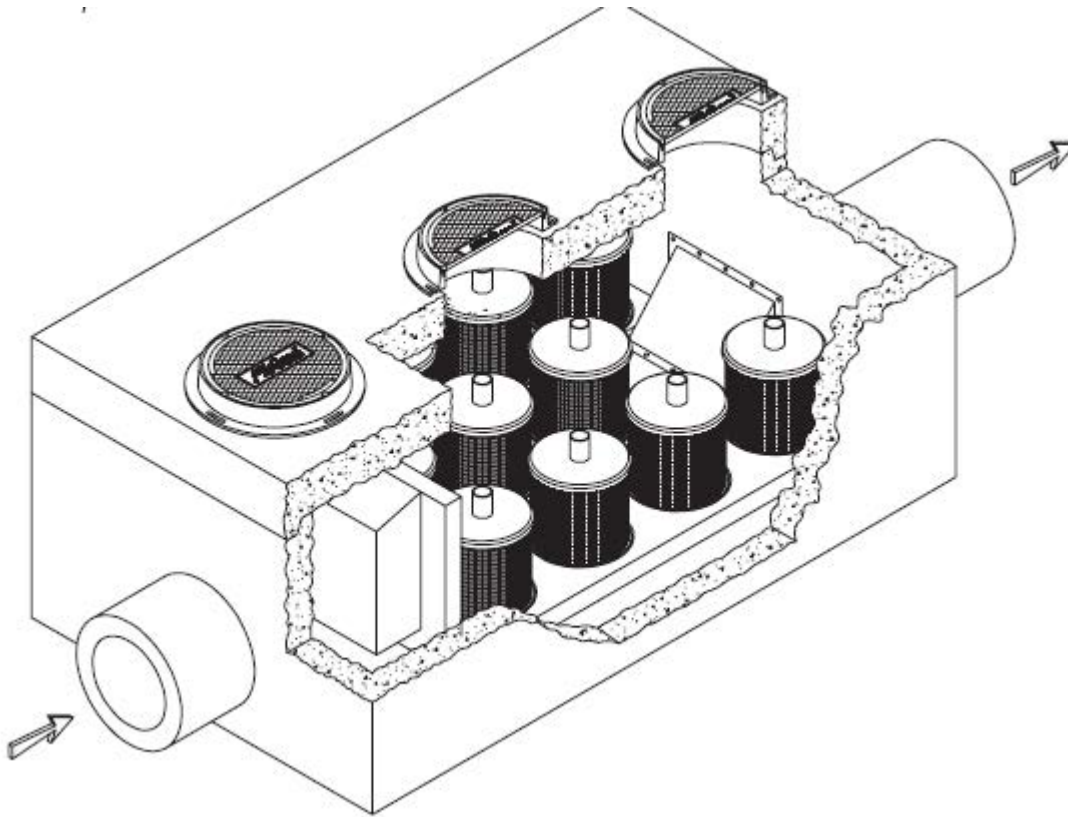




# FloGard® Perk Filter Systems

## Operations and Maintenance Manual



## FloGard® Perk Filter Systems- Radial Media Filtration

### Description / Basic Function

The Perk Filter is a stormwater filtration device used to reduce pollutant loading in runoff from urban developments. Impervious surfaces and other urban and suburban landscapes generate a variety of contaminants that can enter stormwater, polluting downstream receiving waters. The Perk Filter captures and retains sediment, oils, metals and other target constituents close to the source and reduces the total discharge load.

The Perk Filter cartridge is manufactured from durable polymeric components with a polymer-coated steel support screen and stainless steel hardware. Its base construction allows use with a wide variety of media chosen to address site-specific pollutants of concern.

Perk Filters may be installed as a retrofit to suitable existing curb inlet, drop inlet, or combination catch basins, as an integral part of a coated steel- or concrete-housed stormwater inlet system for commercial, residential, and industrial developments, or as centralized modular treatment system installed either on-line or off-line.

### Prefiltration

Systems constructed with a catch basin inlet are equipped with a FloGard®Plus Catch Basin Insert for pre-filtration. This insert captures gross pollutants such as trash, debris, hydrocarbons, and large sediment particles.

### Gravity Separation

Some Perk Filter systems have an inlet bay wherein the initial stormwater flows are received. This is separated from the main treatment chamber by a baffle wall with weir assembly. Medium size sediment particles are retained in the inlet bay. A drain down assembly to eliminate standing water from the inlet bay area between storm events is included in standard configurations.

### Media Filtration

Once the stormwater enters the treatment chamber, it will pass through the filtration cartridges containing the project-specified filter media as the water level rises in the chamber. Very fine pollutant particulates will be retained in the filter cartridges as the water flows through the media to an interior perforated pipe, dropping the treated stormwater into an outlet chamber below a false floor.

### Peak Flow Bypass

Perk Filter systems are designed with a peak flow bypass to ensure the system will not back up and cause upstream flooding during extraordinary storm events. The bypass weir is an integral part of the baffle wall assembly in the inlet bay and allows peak flow stormwater directly to the outlet chamber.



### **Maintenance Overview for FloGard® Perk Filter Systems**

State and Local regulations require that stormwater management systems be maintained and serviced on a recurring basis. The purpose of maintaining a clean and obstruction free Perk Filter system is to ensure the system performs the intended function of the primary design. Trash and debris, floatables, gross pollutants and sediment can build up in any stormwater system. This can cause the system to function improperly by impeding flow in and out of the system and reducing the operating efficiency of the media filters. Downstream and upstream, areas could run the risk of flooding and deleterious environmental impact.

### **Recommended Frequency of Service**

It is recommended that FloGard® Perk Filter systems be serviced on a regularly occurring basis. Ultimately the frequency depends on the amount of runoff, pollutant loading, and interference from trash, debris and gross pollutants as well as proper maintenance of upstream pretreatment devices. However, it is recommended that each installation be inspected in accordance with the following guidelines:

**Level 1 Inspection Service** – Six (6) months after unit is placed into service, or six (6) months after a Level 2 or Level 3 inspection.

**Level 2 Inspection Service**- Six (6) months after a Level 2 inspection or twelve (12) months after a Level 3 service.

**Level 3 Service** – As determined by findings from Level 2 inspection service reports indicating a media filter change or system repairs are required to maintain the operating efficiency of the system.

### **Service Procedures**

#### **Inlet Bay**

1. The inlet manhole cover(s) and or grate(s) shall be removed and placed to one side.
2. For systems with a FloGard Plus Catch Basin Insert, the insert will be cleaned in accordance with the general specifications for maintenance of those devices. After cleaning the filter shall be removed and set aside.
3. Any debris will be removed from the inlet bay(s) and disposed of in accordance with local regulations.
4. Check and clean the area behind and under the inlet weir/bypass assembly. Remove assembly as necessary to conduct inspection.
5. Check drain down assembly and clean if necessary.
6. Re-install catch basin insert filter.
7. Re-install grate or manhole access cover.

#### **Cartridge Bay**

1. Remove and place to one side the manhole access covers above the cartridge bay.
2. A Level 1 inspection service shall consist of a visual inspection from the surface level. Observe and note the condition of the cartridge bay and the cartridges, measure sediment level, if any, and note on maintenance record. Physical entry is not required unless the depth prevents the entire cartridge bay area from being observed.

3. A Level 2 inspection service shall consist of a physical, confined-space entry into the cartridge bay. The filter cartridges and filter media shall be inspected for condition and filter media life, the sediment level, if any, measured, and any trash or debris removed and disposed of in accordance with local regulations. All information and recommendations shall be noted on the maintenance record.
4. A Level 3 service shall consist of a physical, confined-space entry into the cartridge bay. The filter cartridges shall be removed and replaced with re-charged exchange filter cartridges. As an option, the filter media may be removed on-site, the cartridges cleaned, and replacement media be installed into the cartridges. All spent filter media shall be disposed of in accordance with local regulations.
5. Upon completion of inspection/service, re-install the manhole access cover(s).
6. The manhole cover(s) and/or grate(s) shall be replaced.

### **Inspection / Maintenance Requirements**

Listed below are some recommendations for equipment and training for personnel to inspect and maintain a FloGard® Perk Filter system.

- Personnel – OSHA Confined Space Entry Training is a prerequisite for entrance into a system. In the state of California personnel should be CalOSHA certified.
  
- Equipment –
  - Record Taking (pen, paper, voice recorder)
  - Proper Clothing (appropriate footwear, gloves, hardhat, safety glasses, etc.)
  - Flashlight
  - Tape Measure
  - Measuring Stick
  - Pry Bar
  - Traffic Control (Flagging, barricades, signage, cones, etc.)
  - First aid materials
  - Debris and Contaminant collectors
  - Debris and Contaminant containers
  - Vacuum Truck

### **Disposal of Gross Pollutants, Hydrocarbons, Sediment, and Filter Media**

The collected gross pollutants, hydrocarbons, sediment, and filter media shall be disposed of in accordance with local, state and/or federal agency requirements.