

Oil / Grit Separator

An oil/grit separator is a structure that is installed underground and typically catches runoff from parking lots. Separators normally have three chambers that water passes through. In the first chamber, the grit is deposited on the bottom while the clean water moves to the second chamber. Here oil and grease float on top of the water while the clean water moves into the third chamber through a hole in the bottom of the chamber wall. The third chamber allows for additional settlement of fine particles before discharging the water either to the storm sewer system or to a retention or detention basin.

Examples of some of the available oil/grit separators include:

- Grit chambers, also called “water quality inlets”
- Deep Sump Catch Basins
- Hydrodynamic separator systems from*:
 - CDS Technologies
 - Stormceptor
 - Vortechs
 - Downstream Defender

*These are only examples of proprietary systems and do not constitute an endorsement.

AT-A-GLANCE SUMMARY	
<u>Benefit</u>	
High	●
Medium	◐
Low/None	○
Flow attenuation	○
Runoff volume reduction	○
<u>Pollutant Removals</u>	
Sediment	◐
Floatables	●
Heavy metals	○
Oil and grease	●
Fecal coliform	○
BOD	○
Total Phosphorous	○
Nitrogen	○
Costs	●
Maintenance	●

Oil /Grit Separator

Advantages

- Ideal for small urban lots, where large or above-ground BMPs are not feasible
- Can be effective as a pretreatment device for runoff before entering other BMPs
- Very accessible for maintenance activities
- Life-span of most separators is high with proper maintenance
- Easy installation

Limitations

- Limited pollutant removal
- Area draining to separator should contain no more than 1 acre of impervious area
- Requires frequent maintenance
- Cannot remove dissolved or emulsified substances
- High installation and maintenance costs

Maintenance

- Oil/grit separators should be cleaned out every one to six months
- Catch basin cleaning equipment can be used to clean oil/grit separators.
- Proprietary oil/grit separators have their own unique maintenance requirements.

Costs

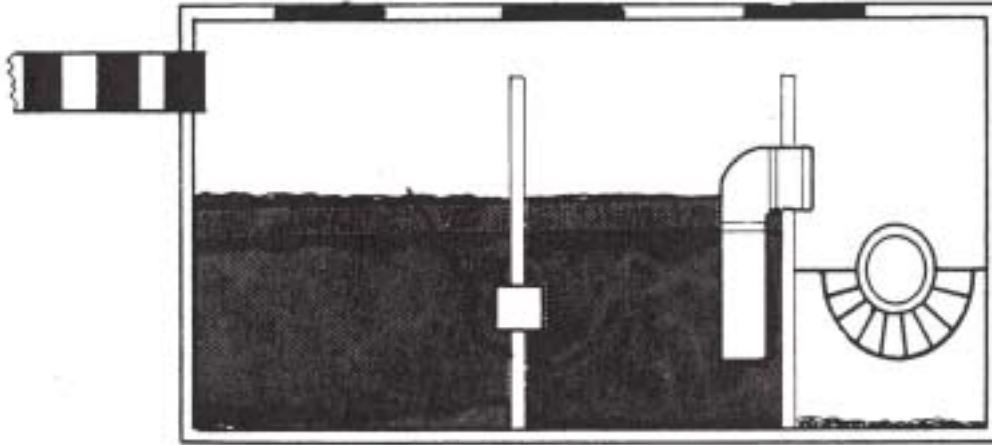
The cost of an oil/grit separator varies tremendously, depending on the size of the impervious area that drains to it. Please contact proprietors to obtain rates.

Contact Information:

CDS Technologies

<http://www.cdstech.com.au/us/index.htm>

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General Design of an Oil/Grit Separator
Source: Minnesota Small Sites Urban BMP Manual

Stormceptor
www.stormceptor.com

Vortechnics
www.vortechnics.com

Downstream Defender (Hynds Environmental)
http://hyn7657s1.verdi.2day.com/Hynds_env/dstreamdef.html

Design Specifications

- The combined volume of the pools in the chambers should equal at least 400 cubic feet per acre of contributing impervious area
- Pools should be at least 4 feet deep for proper settling
- A trash rack or screen should cover the discharge outlets
- Manholes should be included for each chamber to provide for easy maintenance