

MODEL SHOWN: CDS-5 with two inlets

CDS®

INSPECTION AND MAINTENANCE GUIDE

INSPECTION AND MAINTENANCE OF A CDS® HYDRODYNAMIC SEPARATOR

STEPS

1. Inspection frequency
2. Inspection
3. Maintenance

APPENDIX

1. Inspection form

CDS® treatment systems are designed to effectively capture suspended solids (SS), oils and floating debris contained in the runoff water before its discharge to an outlet. To operate at full efficiency, the system must be maintained regularly.

GENERAL NOTES

- The performance of storm water treatment systems and the effective protection of the receiving environments depend on a consistent maintenance plan. Inspection and maintenance of Soleno CDS® system are simple and easy. Specialized companies, such as Soleno Service¹, can inspect and maintain this type of equipment.
- It is important to establish a regular inspection and maintenance program for each system to ensure its proper operation.

¹Contact Soleno Service for more information on the services offered at the service@solenoservice.com or visit our website at solenoservice.com

STEP 1

INSPECTION FREQUENCY

We recommend this maintenance sequence to determine the actual inspection frequency:

- For the first year of operation, an inspection should be carried out every three (3) months.
- For the following year, depending on the results of the first year, an inspection every six (6) months is recommended.
- For the following years, proceed according to the results of the previous two (2) years with at least a maintenance once a year.
- A maintenance must be carried out after an hydrocarbon spill.

It may be necessary to adjust the maintenance schedule based on the actual operating conditions of the system.

STEP 2

INSPECTION

Soleno recommends following the inspection and maintenance program described in this document and using the inspection form annexed to this document.

The main objective of the CDS^{MD} inspection is to assess the general condition of the device, to ensure the proper performance of its operation and to determine whether the maintenance level of the captured sediments has been reached. The inspection must be performed by an inspector familiar with the operation and configuration of a CDS^{MD} hydrodynamic separator. All products offered by Soleno can be inspected from the surface. It is therefore not necessary to enter the systems to determine if cleaning is required.

Note: except for StormFilter, it is essential to obtain the specific drawing of the device from the owner before starting the inspection and maintenance.

STEP 2

INSPECTION (CONT'D)

The inspection consists of:

1. Perform a visual inspection of the device

- Check the general condition of the device
- Check that there are no obstructions in the treatment system

2. Check for floating debris, measure oil and sediment accumulation

- Visually check for the presence of floating debris, and if necessary, remove it using an appropriate device (e.g. net).
- Use an appropriate tool to determine the presence of oil on the surface (e.g. scoop or rod).
- Soleno recommends cleaning the system when the sediment level reaches 75% of the maximum reserve capacity (see Table 1) or when a significant level of hydrocarbon and waste has accumulated.
- Using a graduated, rigid measuring tool of sufficient length, determine the amount of sediment in the device.
 - See Figure 1 & Table 1
 - Measure the height H1.
 - Subtract H2 (see shop drawings) from H1 to obtain H3.
 - If the H3 value is equal to or lower than that of Table 1, maintenance is required.

Note:

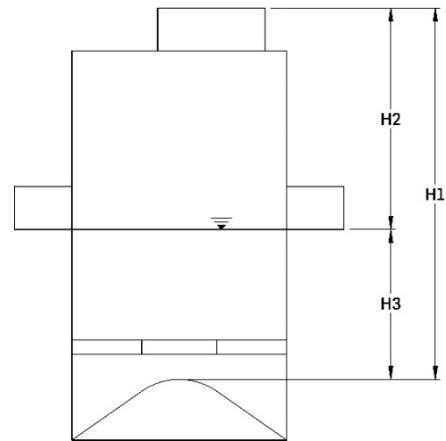
- In order not to underestimate the volume of accumulated sediment, the measuring tool must be carefully deposited on top of the accumulation. Finer sediments, often present on top of the accumulation, normally provide less resistance to the measuring tool, compared to coarser sediments.
- The performance of the device will not be affected until 100% of the reserve capacity is reached. However, it is recommended to clean the system before to facilitate sediment removal.

STEP 2

INSPECTION (CONT'D)

FIGURE 1 AND TABLE 1 : SEDIMENT HEIGHT AND SEDIMENT ACCUMULATION CAPACITY

CDS Model	H3 (m)	Sediment accumulation capacity(m ³)	
		75% of maximum capacity	100% of maximum capacity
CDS-3	0,87	0,30	0,40
CDS-4	1,10	0,54	0,71
CDS-5	1,28	0,84	1,11
CDS-6	1,53	1,20	1,60
CDS-7	1,77	2,47	3,29
CDS-8	1,91	3,21	4,28
CDS-10	2,44	4,85	6,47
CDS-12	3,00	9,31	12,42



H1: distance between the top of the cast iron frame and the top of sediments.

H2: distance between the top of the cast iron frame and the invert of the pipes (Rim - inlet/outlet invert)

H3 = H1-H2

STEP 3

MAINTENANCE

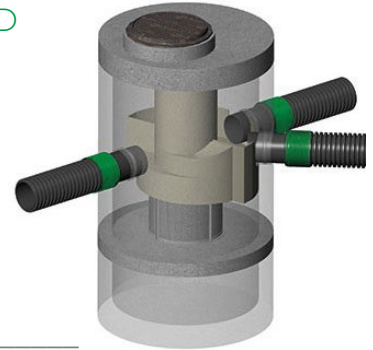
When **75%** of the maximum sediment accumulation capacity is reached or when an appreciable level of hydrocarbons and waste has accumulated, follow the following steps to carry out maintenance.

- Perform maintenance in dry weather and when no flow enters the device.
- If the CDS has a grated top inlet, remove the deflector pan for maintenance.
- Using a vacuum system, lower the water level until it reaches the upper level of the concrete separation slab (above the sediment reserve).
- For CDS-3 and CDS-4 remove the Hydraulic shear plate.
- Using a pressurized water jet and a vacuum system, carry out the interior cleaning of the separation grid and the part of the concrete slab that is inside the separation grid.
- Using a pressurized water jet and a vacuum system, clean the part of the concrete slab that is outside the separation grid. For larger appliances (CDS-6 and above) a second riser gives access.
- Using a pressurized water jet and a vacuum system, remove the sediment contained in the sump.
- Use a camera to ensure that the cleaning done is adequate. A suitable lighting system will be required. Repeat certain steps as needed.
- For CDS-3 and CDS-4 reposition the hydraulic ring.
- If the CDS has a grated top inlet, reinstall the deflector pan after maintenance.
- If there is a risk of heaving due to a high water table, add water to the device.
- Dispose of oils, water and sediments according to local regulations.



SOLENO
Mastering Storm Water

INSPECTION FORM - CDS^{MD}



Site Name: _____

Date (DD-MM-YY): ____ / ____ / ____

City: _____

Device model: CDS - _____

No. Series: _____

GPS coordinates of the unit: _____

(Latitude, longitude in degrees, minutes, seconds)

Change of ownership since the last visit: Yes No

Owner's Name: _____

Owner's address: _____

Owner's Phone: (_____) - _____ - _____

INSPECTION

FLOATING DEBRIS AND OIL

Removal of floating debris using a net: Yes No

Presence of oil on the surface: Yes No

Note: If more than 12 mm of floating oil, have the unit cleaned immediately.

Quantity(m³): _____

Blade (mm): _____

SEDIMENT

Sediment accumulation: Yes No

H1: Distance between the top of the cast iron frame and the top of the sediment (m) _____

H2: Distance between the top of the cast iron frame and the top of the water (m) _____

H3: Distance between the top of the water and the sediment (H3=H1-H2)(m) _____

Maintenance required: Yes No

SYSTEM INTEGRITY

Inspection of internal components: Yes No

Presence of breakage: Yes No

If yes, explain: _____

Pictures taken: Yes No

SPECIAL NOTES:

Inspector's signature: _____

Company: _____

Date (DD-MM-YY): ____ / ____ / ____