



Maintenance

Water treatment systems:


Oil separators p.96 to 97

Grease or grease/starch separators p. 98

Storm water treatment units and treatment units for dry docks p. 99



Maintenance* of oil separators

Steel
Polyester
Polyethylene 
Stainless steel

***Security reminder prior to any maintenance operation on our products (all various ranges)**

The operator shall wear the **Individual Protection Gear** necessary for maintenance operations and have the required clearances for this kind of works.



Preparation

Install appropriate signs and secure the work area using signal cones for example .

Open the access hatches of the upstream and downstream manholes as well as those of the oil separator.

Let the separator ventilate for at least 15 minutes before starting clean-up operations.

Check the presence of noxious gases using a suitable detector.



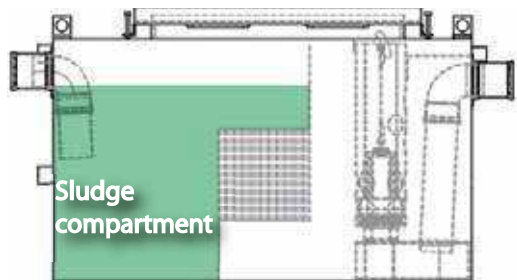
Sludge trap

Techneau recommends to empty this compartment at least twice a year.

It is the first settling compartment (1) of the separator (upstream the coalescing filter) and traps mainly silt and heavy metals. Its maximum storage capacity equals 2/3 of its useful volume.



Section of an oil separator



Remove the floaters using a rake-like device (30 mm gaps).


Stir up the settled sludge before pumping out.

View of the sludge chamber





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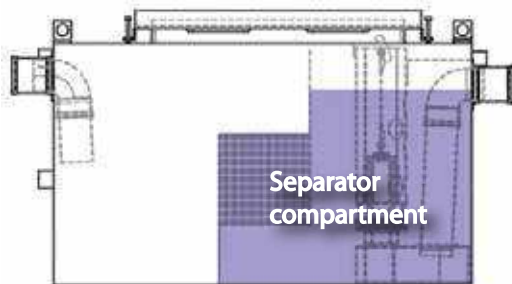
Oil separation compartment

This compartment is the second settling compartment of the separator. It is equipped with a **coalescing filter** and an **automatic closure device**.

It mainly traps light liquids – with a standard density of 0,85.

The frequency of emptying operations depends on the pollutant load entering the separator. If no accidental spillage takes place, empty the separator once a year.

Section of an oil separator



Use a spatula to stir swiftly and gradually the liquid surface in the separator until water is visible under the oil layer.

Note: this is a method used to estimate the thickness of the oil layer.

If this layer is > 8 cm, pumping out is necessary. Have the separator emptied by a drain cleaning lorry. Clean the walls of the separator compartment using a high pressure lance.



View of the separator chamber



Emptying of the separator chamber

Coalescing filter

The coalescing filter shall be cleaned, even replaced if it is completely clogged. This may be the case if the effluent is heavily loaded with suspended matter.

Take the coalescing filter out of its place. A coalescing filter can normally be handled by a single person.

Clean the coalescing filter using a high pressure washer.

Replace the coalescing filter if the coalescing cells are damaged or clogged.

Finally, place the coalescing filter in its slot making sure it is in line with the flow direction.

Automatic closure device


While filling up the tank keep the float in high position and then reposition it at the level of the outlet water surface, once it is stable.

Detail of a coalescing filter heavily loaded in sludge and requiring intervention.






Maintenance* of grease, grease and/or starch separators

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Reminder

 **Discharge temperature at the outlet should never exceed 30°C.**
Do not use a scraper for cleaning the separator as it may damage internal surfaces.

The separator is made up of compartments:

- 1 compartment => starch separator,
- 2 compartments => grease separator,
- 3 compartments => grease and starch separator,

Maintenance of the separator involves emptying and cleaning of compartments.

The optional grease alarm device allows the user to know when the separator has reached its maximum storage capacity, and thus undertake maintenance at the right time.

If the separator operates at its full capacity, it shall be emptied every other month by a specialist company*.

The frequency of emptying operations has a direct impact on the treatment efficiency of the separator and consequently on the clogging of the sewer network.

The warranty conditions shall be applicable only on the basis of documented evidence of regular emptying by a specialist company.



Example of a grease separator which requires emptying

Maintenance procedure for a separator without emptying column:

Open the separator cover,

If solidified, break the grease layer into lumps (in the case of a grease compartment) to facilitate pumping out,

Pump out the contents of the separator compartments,

Rinse the inner walls with a high pressure cold water jet,

If the starch compartment is equipped with a spray nozzle, make sure it is not blocked,

It is **COMPULSORY** to fill up the separator and put the cover in its place (avoid the risk of distortion of the separator). The optional grease alarm device is meant also to detect an insufficient water level in the tank.



Detail of the spray nozzle for starch inlet

Maintenance procedure for a separator with emptying column:

Emptying will be undertaken by means of a duct to which the drain cleaning lorry can be directly connected using a symmetric coupling (referred to as "Storz Coupling").

To empty:

Open the separator cover,

If solidified, break the grease layer into lumps (in the case of a grease compartment) to facilitate pumping out.

Pump out the contents of the separator compartments,

Rinse the inner walls with a high pressure cold water jet,

If the starch compartment is equipped with a spray nozzle, make sure it is not blocked,

It is **COMPULSORY** to fill up the separator and put the cover in its place (avoid the risk of distortion of the separator). The optional grease alarm device is meant also to detect an insufficient water level in the tank.



Drain cleaning lorry necessary for the maintenance of your unit with emptying column

* Please refer to the EN 1825-2 standard for further information.





Maintenance* of storm water treatment units or treatment systems for dry docks

Steel

Polyester

Polyethylene 

Stainless steel

Reminder safety instructions

 **Always carry out maintenance work two at a time. Never work alone when cleaning the unit.**

Make sure the work place is safe: road works signage, traffic rerouting (if necessary), open manhole protection.

Remove the covers and wait for at least 15 minutes before getting inside the storm water treatment unit.

No equipment that may generate sparks inside the unit should be used. Avoid also any incandescent body (cigarettes, lighters, etc. ...)

The person carrying out the maintenance work inside the unit shall wear a body harness to avoid any accidental fall.

The clothes soiled during the maintenance works should be put away in areas assigned for this purpose.

Any cuts or wounds (even minor ones) should be carefully cleaned and disinfected. Contact the on-site medical department for medical care.

Note: the safety instructions above are not exhaustive. The person in charge of maintenance should refer to the current safety rules. .

Maintenance operations

1- Verification visits:

These visits are strongly recommended every quarter in case of exceptional torrential rain or accidental spillage.

Collect the floaters in the sand trap as often as necessary.

Clean the screen.

Check the presence of light liquids in the 1st and/or last compartments and the AlvéEau filter for soiling.

Check the condition of the decanting cells via the openings situated at the top part of the AlvéEau filter. If the sludge film sedimented on these cells exceeds 5 mm, empty the unit and clean the cells with high pressure water jet applied from the top of the decantation cells.

Check the quantity of sand: when the level of the decanted matter reaches 1/3 of the unit's height, empty the contents of the sand trap by using a discharge pipe.

Storm water treatment unit equipped with a sludge alarm device:

Clean the sludge sensor with a cloth, put it back in its place, then check if the sludge level in the sump is lower than the trigger point. If the alarm is triggered (the sludge level has exceeded the 200 mm limit under the filter) empty the contents of the unit using the emptying column (optional with the type NV and NVB treatment units) available in the manhole of the sand trap compartment. If the maximum storage level is reached, empty the contents and fill up the compartment with clean water.

Note: The partition separating the first 2 compartments is fitted with a removable hatch allowing access under the filter in extreme cases of total saturation of the unit.

2- complete emptying:

Complete emptying of the unit is highly recommended once a year if no sludge alarm is provided, and at least once every other year if a sludge alarm is in place.

Collect the light liquids that may be present on the surface using a pump.

Clean the screen.

Pump out the contents of the sand trap using a suction pipe inserted directly at the bottom of the unit.

Empty the contents of the decantation filter compartment using the emptying column (optional with the type NV and NVB treatment units) available in the manhole of the sand trap compartment.

Clean the internal surfaces and the decantation filter using a high pressure water before completing the emptying.

Check the condition of the coating and carry out repairs if necessary.

Storm water treatment unit equipped with a sludge alarm device:

Clean the sludge sensor with a cloth, put it back in its place, then check if it works normally (see corresponding datasheet). Fill up the unit with clean water.

Note: The partition separating the first 2 compartments is fitted with a removable hatch allowing access under the filter in extreme cases of total saturation of the unit.

Effluents discharged from the unit will be disposed of at an approved processing center with a BSDI (Industrial Waste Monitoring Sheet) or any other document validated by the local authorities.