

COMMISSIONING & MAINTENANCE GUIDE

REWATEC™

Full Retention & Forecourt Separators



Commissioning & Maintenance Guide

Rewatec Full Retention & Forecourt Separators Above & Below Ground

Manual Version CNS ANO Rev 5

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To Safeguard Warranty Please
Ensure You Are Using The Latest
Installation Manual.

Introduction

The primary function of oil/water separators is to separate oil, petrol, diesel etc., from waste water and retain the separated liquids. These separated liquids must be removed regularly, using a licensed effluent disposal contractor (your contracted service provider), to ensure that the separator operates as efficiently as possible.

The natural oil/water separating process from gravity fed waste water depends on the storage, or 'dwell', time within the separator chamber. Guidelines have been established by the *Environment Agency** for minimum 'dwell' times, and hence, minimum working volumes for separators. These have been applied in tests carried out by Premier Tech Water and Environment Ltd which are based on the maximum flowrate into the separator (l/sec). As the working volume reduces by the accumulation of the separated oil, petrol, diesel etc., so the separating efficiency reduces.

Another major influencing factor on the efficiency of separator systems is sediment. Oil/water separators are usually designed as liquid/liquid separators unless the specification has determined a requirement to store a volume of sediment. This can be accommodated within a combined liquid/sediment separator where the storage volume is increased accordingly. However, if the design of the drainage system can allow the sediment to be separated and stored upstream of the oil/water separator, in catch-pits or sediment separators, the system would function more efficiently. Settled sediment must be removed regularly to ensure optimum efficiency (ref. *Environment Agency*).

REGULAR MAINTENANCE OF SEPARATOR EQUIPMENT WILL ENSURE IT OPERATES AS INTENDED WITH MINIMUM RISK OF POLLUTION TO THE ENVIRONMENT.

Maintenance Inspections

Separators are used in widely varying circumstances where some will require very frequent maintenance and others will have substantially longer intervals before any maintenance (emptying) is required. However, for every separator regular maintenance inspections should be carried out to determine whether or not there is a need to remove the accumulated oil, petrol, Diesel, etc., or sediment. The owner of the Rewatec separator is responsible for its operation and ensuring that the effluent quality does not breach any Discharge Consent Standards. It is advisable to set up a 'Service Agreement' with an effluent disposal contractor who can provide 'automatic' and regular maintenance and advise you if any problems with the system occur. The owner is reminded that the existence of a 'Service Agreement' does not necessarily transfer responsibility for general maintenance which must be conducted in accordance with this guide.

The *Environment Agency** has determined that separators shall be inspected at least every six months to establish whether or not emptying is necessary, and a log shall be maintained. Additional equipment for separators provided by Premier Tech such as an Alarm System which will give warning of the accumulation of oil, petrol, diesel, etc., but should not be used to replace regular inspections.

To keep your Rewatec Separator in top condition, we recommend regular servicing by Premier Tech's service partners

Environment Agency*

"Use and Design of Oil Separators in Surface Water Drainage Systems: PPG3"

Maintenance Procedures

1.0 Health and Safety

Section 6(a) of the United Kingdom Health and Safety at Work Act 1974 requires manufacturers to advise their customers on the safety and handling precautions to be observed when installing, operating, maintaining and servicing their products.

The maintenance procedures described here should be read and fully understood by the operator (competant person) before commencing work. Appropriate personal protective equipment should be used (gloves, goggles, waterproof clothing etc.,) particularly when handling filters which have been in contact with oil and oily sediment.

Before any work commences always identify the separator and its associated manhole covers or access covers and cone off or erect suitable barriers around the entire work area. Ensure that access and circulation areas are clearly designated and ensure that there is an adequate safety buffer between vehicles and any above ground tank and its associated pipework.

A MEWP or suitable scaffolding will be required to gain access the manway of above ground tanks; maintain adequate seperation between MEWP and the tank shell. Scaffolding should not be permitted to come in contact with the tank shell and must not be supported off of the tank shell.

DO NOT ENTER THE TANK

2.0 Commissioning the separator following installation

2.1 Sediment and other construction debris can accumulate in the separator during its installation and whilst associated works are in progress. If this has occurred, isolate the separator from the drainage system remove the sediment as follows.

2.2 Slowly lift out the combined coalescing filter and automatic closure device asembly. This should be lifted at a rate of 20mm per second (1.2m per minute), until clear of the water, ensuring that most of the residual water is drained from the coalescing filter. This will reduce the combined overall weight of the assembly.

NOTE: This assembly could weigh up to 55kgs and should be handled by two persons unless a mechanical hoist (recommended) is being used.

2.3 Remove this assembly to a place of safe keeping.

2.4 Fill the separator with clean water up to the outlet invert level.

2.5 Whilst ensuring that the closure is captive inside the housing tube, and the retaining cap is in place at the top of the tube, slowly lower the filter/closure assembly into the separator until it is firmly located inside the coned seating at the bottom of the tank.

NOTE: Do not lower the filter/closure assembly into the separator *before* it has been filled with water. If you do, the closure will be held in the **closed position** and the separator will not function.

3.0 Maintenance

3.1 If, following maintenance inspections, the separator is found to be storing the maximum volume of oil, petrol, diesel etc., or the maximum volume of sediment, inform your licensed effluent disposal contractor who will arrange emptying. Before making arrangements, check that you are registered with the Environment Agency, as required under Hazardous Waste Regulations, where hazardous waste producers must be registeder before any waste can be removed.

The following are guidelines only for determining the maximum storage volumes of oil and sediment.

- a) For CNS separators multiply the maximum flowrate for which the separator has been designed (l/sec) by 10. This will be the maximum storage volume of hydrocarbons in litres e.g. a CNS15 separator is designed for a 15 l/sec flowrate, therefore, can store 150 litres.

For forecourt separators the maximum storage volume of hydrocarbons is 7,600 litres.

- b) Where no specific sediment volumes have been determined for the separator, or where no sediment has been expected to accumulate in the system, the maximum stored depth of sediment should not exceed 20% of the depth of the separator barrel e.g. a 1.8m diameter separator should not store more than 360mm depth of sediment.

3.2 Apply the Health and Safety requirements detailed in Section1 before commencing any work.

3.3 Isolate the separator from the drainage system either by closing pre-installed valves in the upstream and downstream manholes or by securely fitting proprietary pipeline stoppers.

3.4 Slowly lift out the combined coalescing filter and automatic closure device assembly. This should be lifted at a rate of 20mm per second (1.2m per minute), until clear of the water, ensuring that most of the residual water is drained from the coalescing filter. This will also reduce the combined overall weight of the assembly.

NOTE: This assembly could weigh up to 55kgs and should be handled by two persons unless a mechanical hoist (recommended) is being used.

3.5 Remove this assembly to a place of safe keeping.

3.6 Using a licensed effluent disposal contractor (your contracted service provider) carry out the following:

Remove the oil, petrol, diesel etc., from the surface of the liquid, leaving as much of the cleaner water as possible in the separator. Remove the sediment from the bottom of the separator taking great care in and around the filter outlet housing on the base to ensure that it does not become damaged, again leaving as much of the cleaner water as possible in the separator.

3.7 Move the filter/closure assembly to a convenient position *upstream* of the separator so that any polluted water washed from the filter will be directed back to the separator.

Remove the filter from the housing tube and wash the filter using a low pressure hose. If the filter has become 'blinded' with sediment or it is too dirty to clean or has become damaged, replace it by contacting Premier Tech Water & Environment. Re-fit the filter to the housing tube.

3.8 Fill the separator with clean water up to the outlet invert level.

3.9 Whilst ensuring that the closure is captive inside the housing tube, and the retaining cap is in place at the top of the tube, slowly lower the filter/closure assembly into the separator until it is firmly located inside the coned seating at the bottom of the tank.

NOTE: Do not lower the filter/closure assembly into the separator *before* it has been filled with clean water. If you do, the closure will be held in the **closed position** and the separator will not function.

3.10 Check that the Alarm probe has not been damaged and that the alarm system is working.

3.11 Replace the manhole covers or access covers ensuring the covers are locked down where necessary and remove the cones and/or barriers from the worksite.

REMEMBER - if the alarm system activates due to the accumulation of oil, petrol, diesel etc., do not delay in contacting your licensed effluent disposal contractor.

End.