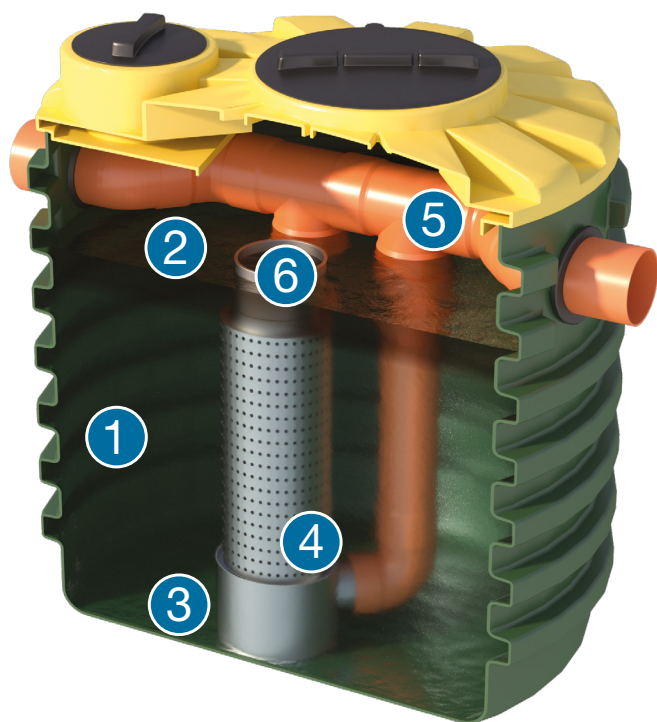


COALESCING OIL SEPARATOR^{new} WITH INTEGRATED BYPASS



1 SEPARATION ZONE

stilling zone in which floating substances such as oil, grease and any foam are separated from the effluent and accumulate on the surface, while the heavy substances (stones, grit, pieces of rubber and metal,...) settle on the bottom of the tank.

2 OIL ACCUMULATION AREA

oils separated from the effluent accumulate on the surface.

3 HEAVY SEDIMENT ACCUMULATION AREA

the heavy materials separated from the effluent accumulate on the bottom of the tank

4 COALESCING FILTER

micro-bubble polyurethane filter inserted into a stainless steel grid, which can be extracted thanks to the presence of a base and guides, also made of stainless steel. The coalescing filter is able to join the fine particles of oil present in the effluent to form larger drops big enough to migrate towards the surface, thus separating from the effluent.

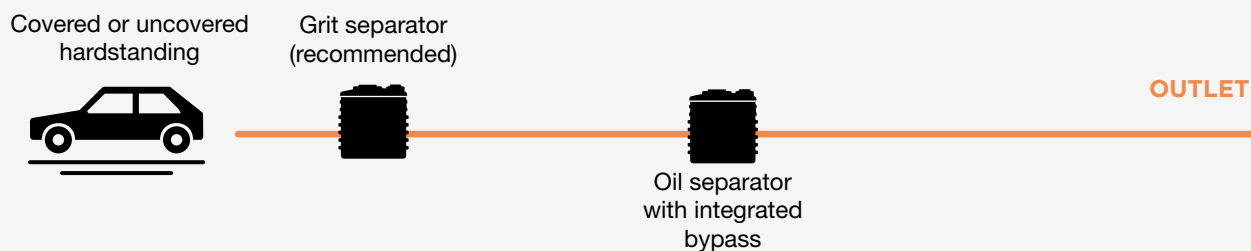
5 INTEGRATED BYPASS

activated automatically when the flow rate of the effluent at the inlet exceeds the design flow. The excess flow is sent directly to the outlet in order to prevent overloading the coalescing filter.

6 AUTOMATIC SHUT-OFF VALVE

float valve in plastic that allows the outlet pipe to be shut-off automatically when the maximum oil containment level has been reached.

INSTALLATION DIAGRAM



SPECIFICATIONS

TECHNICAL CHARACTERISTICS

Oil separators with coalescing filters guarantee improved performance in removing light substances. The system makes use of a polyurethane sponge support, enclosed in a stainless steel cage, on which the oil and hydrocarbon particles collect until their dimensions are such that enable them to settle away from the effluent by gravity. This treatment is recommended in the presence of particularly severe limitations on the concentrations of mineral oils and hydrocarbons at the discharge point. It is advisable to install a grit separator upstream of the oil separator in order to prevent solid particles from clogging the filter mesh.

The oil separator is equipped with an internal bypass manifold that is activated automatically when the flow rate of the effluent at the inlet exceeds the design flow. The excess flow is sent directly to the outlet in order to prevent overloading the coalescing filter. The actual flow treated is equal to 10% of the maximum inlet flow.

USE

Treatment of surface drainage water from covered and open-air hardstandings, car parks, car showrooms, garages

REFERENCE STANDARDS

UNI-EN 858-1

SEWAGE TREATMENT EFFICIENCY

The coalescing oil separator with integrated bypass (installed as shown in the diagram at page 134) ensures that the concentrations of the final effluent are:

≤5 mg/l
Total Hydrocarbons

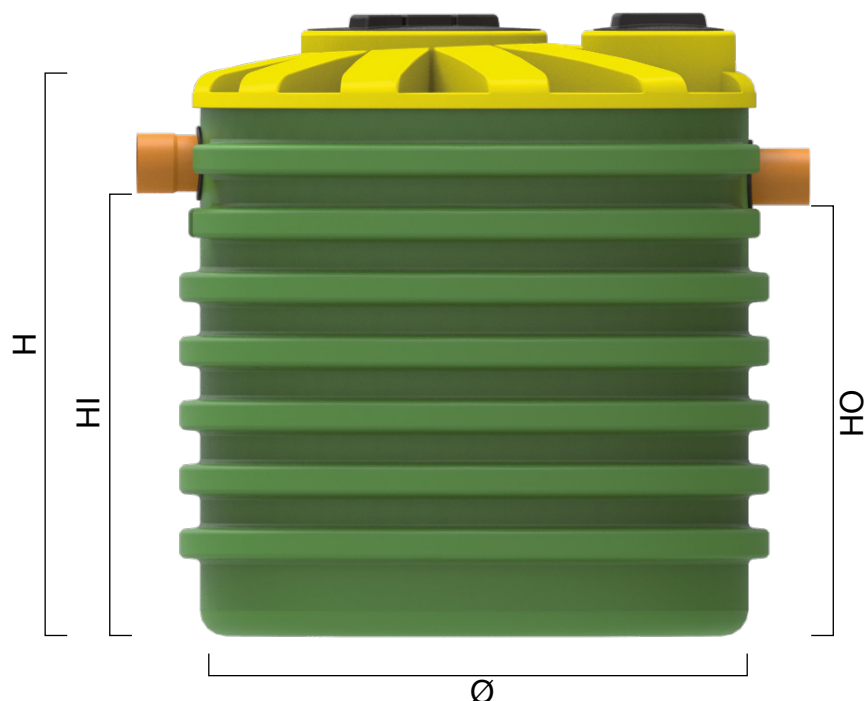
≤80 mg/l
SS

These parameters are respected if the inlet wastewater have the following characteristics (typical concentrations of surface drainage water):

≤50 mg/l
Total Hydrocarbons

≤400 mg/l
SS

COALESCING OIL SEPARATOR WITH INTEGRATED BYPASS



MODEL

CORRUGATED



Item	Mod.	Ø mm	H mm	IH mm	OH mm	Ø I/O mm	Useful Vol. l	NS x5	Max. capacity l/s	NS x10	Max. capacity l/s	Uncovered hardstanding m ²
NDOFC1000BPD160		1150	1220	830	820	160	900	3-15	15	-	-	2700
NDOFC1000BPD200		1150	1220	810	800	200	900	4-20	20	4-40	40	3600
NDOFC1500BPD200		1150	1720	1210	1200	200	1400	5-25	25	-	-	4500
NDOFC1500BPD250		1150	1720	1260	1250	250	1400	6-30	30	6-60	60	5400
NDOFC2100BPD250		1350	1975	1400	1390	250	2000	7-35	35	7-70	70	6300
NDOFC2600BPD250		1710	1450	860	850	250	2400	8-40	40	-	-	7200
NDOFC3200BPD315		1710	1725	1070	1060	315	3000	-	-	8-80	80	7200
NDOFC3800BPD315		1710	1955	1270	1260	315	3600	10-50	50	10-100	100	9000
NDOFC4600BPD315		1710	2225	1560	1550	315	4200	12-60	60	12-120	120	10800
NDOFC4600BPD400		1710	2225	1470	1460	400	4200	15-75	75	15-150	150	13500
NDOFC5400BPD400		1950	2250	1450	1440	400	5200	20-100	100	20-200	200	18000
NDOFC6400BPD400		1950	2530	1710	1700	400	5600	25-125	125	25-250	250	22500
NDOFC7000BPD400		2250	2367	1610	1600	400	6800	32-160	160	-	-	28800

Ø = diameter; H = height; IH = inlet pipe height; OH = outlet pipe height; ØI/O = inlet/outlet pipe diameter; NS = treated flow rate (l/s)-maximum inlet flow; MAX C = maximum capacity (l/s)..

TECHNICAL SECTION – COALESCING OIL SEPRATOR WITH BYPASS INTEGRATED

TECHNICAL CHARACTERISTICS

Oils and greases are present in most industrial effluents. Their removal is necessary prior to discharge due to the negative aesthetic effects that they produce when discharged to a body of surface water and due to the damage caused to flora and fauna. Furthermore, their removal is also necessary as a pre-treatment prior to any other treatment phase, in that they create problems for the development of the biological treatment processes.

In the case of service stations, car washes, workshops and hardstandings, **oils and greases are essentially of a mineral type**. These are non-biodegradable even in the long term, so that the consequences of allowing these substances into the sewerage system or worse still into watercourses or the soil are even more negative, not only because of the risk of blockage, but because they cannot be degraded at all by the environment. To remove this type of pollutants, coalescing filter type oil separators are used when the final outlet is to a watercourse or soak-away system.

Coalescing filter type oil separators allow **improved performance in removing light substances**. The system makes use of a polyurethane sponge support on which the oil and hydrocarbon particles collect until their dimensions are such that enable them to settle away from the effluent by gravity. This treatment is recommended in the presence of particularly severe limitations on the discharged concentrations of mineral oils and hydrocarbons. It is advisable to install a grit separator upstream of the oil separator in order to prevent solid particles from clogging the filter meshes.

USE AND MAINTENANCE

An excessive accumulation of floating material causes a reduction in the volume available for separation. This risk worsens in the presence of considerable quantities of sedimentable substances that settle at the bottom of the plant. To prevent the escape of solids and mineral oils that could compromise the quality of the discharged effluent, it is advisable to carry out frequent inspections and removal of the accumulated pollutants. These operations should be more frequent if the plant receives effluent from vehicle workshops, oil storage areas or service stations.

As far as maintenance of the coalescing filter oil separators is concerned, in addition to the normal emptying by specialist technicians, it is also advisable to remove the sponge support and wash it thoroughly upstream of the plant.

MANAGEMENT

WHAT TO DO	WHEN	HOW
Inspect the coalescing filter type oil separator	Every 1 / 2 months	Unscrew the covers on the inspection holes and check the level of sediment and the floating material
Clean the coalescing filter	Every 1 / 2 months	Extract the steel cage containing the filter and wash it with a jet of water at the head of the plant
Remove the floating material, the bottom sediment and clean the inlet and outlet pipes	Every 6 / 12 months	Contact a licensed waste disposal company

N.B. the frequency of cleaning operations depends on the amount of oil, grease and the frequency of rainfall.

PROHIBITIONS

• **do not use toxic and/or poisonous substances** (bleach, solvents, insecticides, disinfectant substances, aggressive detergents).

WARNINGS

- make sure that drains have a siphon;
- check that the pipes slope sufficiently (approximately 1% - 2%);
- connect the biogas vent pipe (**see installation method**);
- after pump-out, fill the tank again with **clean water**;
- in the event of a maintenance operation of any kind, always comply with the **safety regulations** regarding operations within closed waste water treatment areas, and with the general technical procedures applicable.