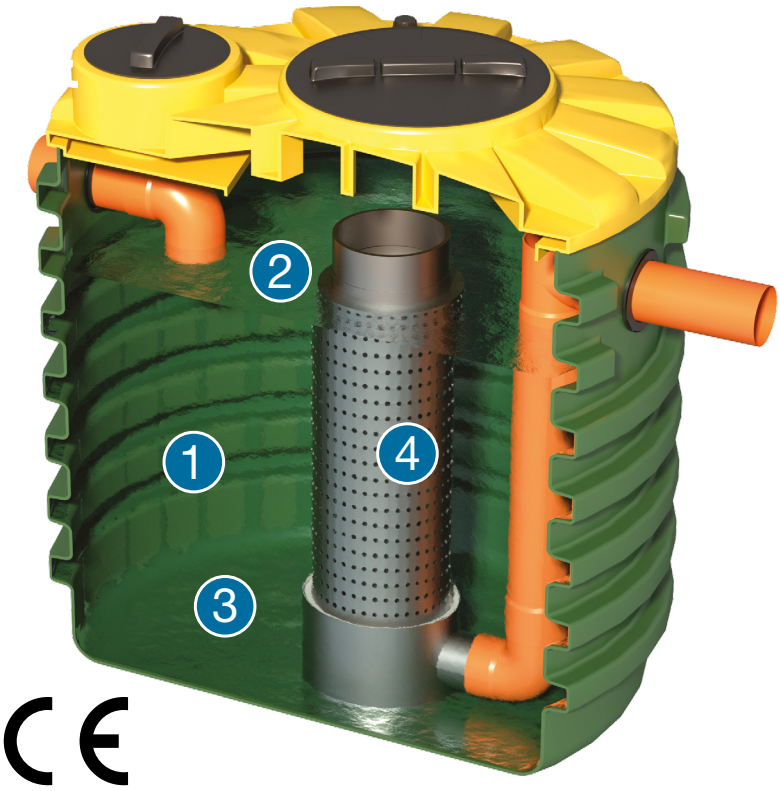
# OIL SEPARATORS
## COALESCING FILTER TYPE




CE

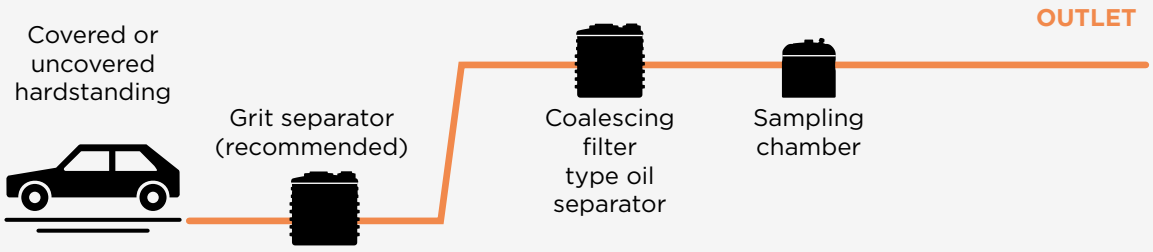
**1 SEPARATION AREA**
stilling area in which floating substances such as oil, grease and any foam are separated from the effluent and accumulate on the surface, while the heavy substances (stones, grit, pieces of rubber and metal,…) settle on the bottom of the tank.

**2 OIL ACCUMULATION AREA**
the 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**
fine 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 into larger drops that are large enough to migrate towards the surface, separating from the effluent.

# INSTALLATION DIAGRAM



# SPECIFICATIONS

## TECHNICAL CHARACTERISTICS

the oil separators with coalescing filters allow improved performance to be obtained 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

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

## PRODUCT CERTIFICATION

The Rototec oil separators with coalescing filter (excluding the modular range) are CE marked and have been designed, tested and certified under UNI EN 858-1 "Separator systems for light liquids (e.g. oil and petrol). Part 1: Principles of design, performance and product testing, marking and quality control".
The oil separators with coalescing filter have been verified and tested at Rototec and by a third party certifying body, and have been found to comply with the necessary requirements.

| | |
|---|---|
| • Watertightness | √ |
| • Structural stability | √ |
| • Nominal capacity | √ |
| • Functional requirements | √ |
| • Raw material requirements | √ |
| • Structural behaviour | √ |
| • Reaction to fire | (Class E) |

**CERTIFIED UNI EN 858-1**

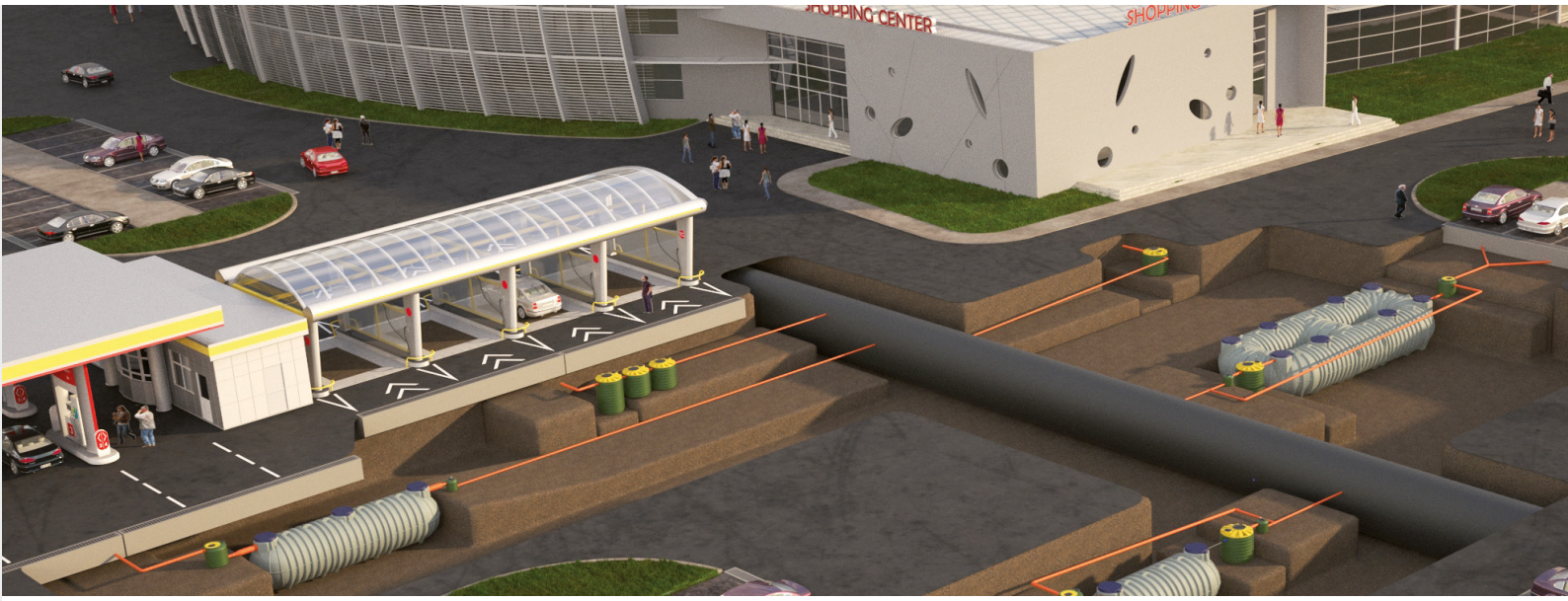

BUREAU VERITAS
Certification

Certificato di Conformità

ROTOTEC S.p.A.

IMPIANTI DI SEPARAZIONE PER LIQUIDI LEGGERI DI CLASSE I

UNI EN 858-1 : 2005



# AUTOMATIC SHUT-OFF VALVE

## ON REQUEST

### TECHNICAL CHARACTERISTICS

float valve in plastic calibrated for light liquids of density > 0.85 g/cm3

### USE

when installed inside coalescence type oil separators it allows the outlet pipe to be closed automatically when the maximum oil containment level is reached.

| Item |
|---|
| **KITOTTG** |

# OIL ALARM KIT

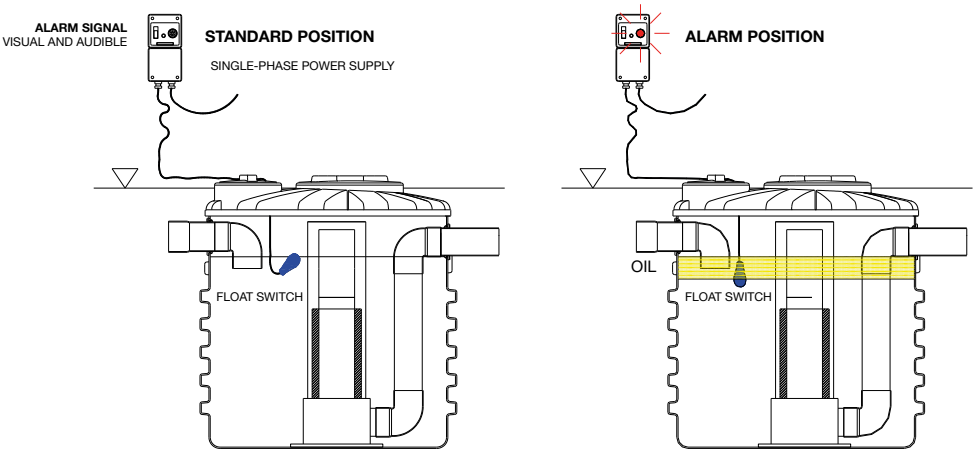
## ON REQUEST

### MATERIAL

Type-approved ATEX electric float switch in blow moulded polyethylene providing a perfect seal, visual and audible alarm signal, complete with wall-mounted unit.

### FUNCTION

Installed inside an oil separator, the electric float switch has a unique characteristic that enables it to float on the water and not on the hydrocarbons. This allows a signal to be generated when a certain level of oil is reached inside the tank, indicating that cleaning operations need to be carried out.

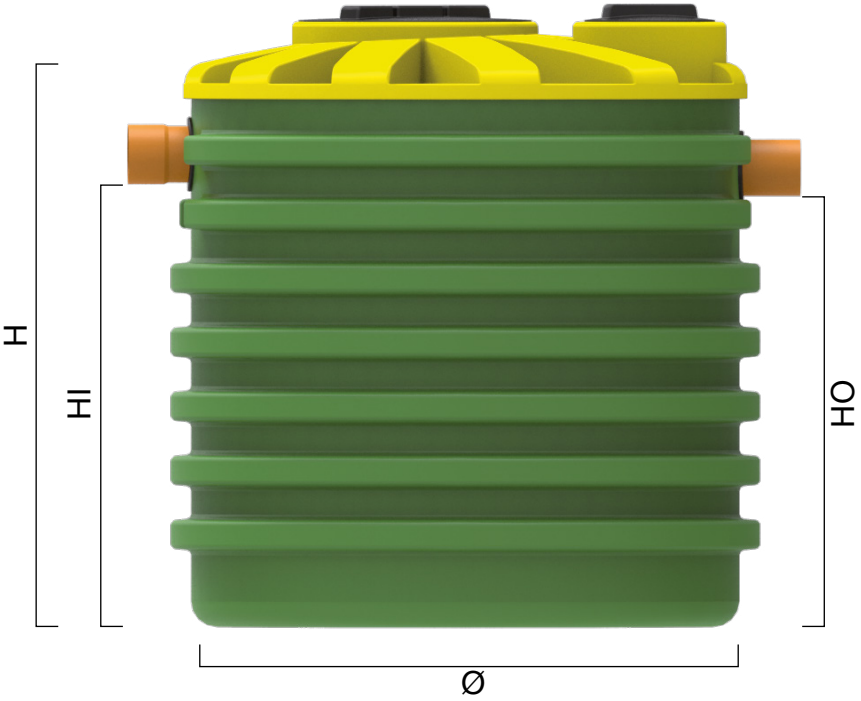



| Item |
|---|
| **KTAOIL** |

# OIL SEPARATORS
## COALESCING FILTER TYPE

## MODEL

CORRUGATED




| Item | Mod. | Ø mm | H mm | IH mm | OH mm | Ø I/O mm | Useful Vol. l | Oil Vol. l | NS l/s | Covered hardstanding m² | Covered hardstanding Car spaces | Uncovered hardstanding m² | Uncovered hardstanding Car spaces |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **NDOFC1000 1,5 l/s** | | 1150 | 1220 | 880 | 860 | 125 | 850 | 27 | 1,5 | 675 | 54 | 270 | 22 |
| **NDOFC1500 2 l/s** | | 1150 | 1720 | 1360 | 1340 | 125 | 1268 | 35 | 2 | 900 | 72 | 360 | 30 |
| **NDOFC1000 3 l/s** | | 1150 | 1220 | 880 | 860 | 125 | 850 | 53 | 3 | 1350 | 108 | 540 | 43 |
| **NDOFC1500 4 l/s** | | 1150 | 1720 | 1360 | 1340 | 125 | 1268 | 70 | 4 | 1800 | 144 | 720 | 58 |
| **NDOFC2100 6 l/s** | | 1350 | 1975 | 1540 | 1520 | 125 | 1950 | 130 | 6 | 2700 | 200 | 1000 | 80 |
| **NDOFC2600 7,5 l/s** | | 1710 | 1450 | 970 | 950 | 160 | 2061 | 152 | 7,5 | 3375 | 270 | 1350 | 110 |
| **NDOFC3200 10 l/s** | | 1710 | 1725 | 1220 | 1200 | 160 | 2525 | 176 | 10 | 4500 | 360 | 1800 | 147 |
| **NDOFC3800 15 l/s** | | 1710 | 1955 | 1430 | 1410 | 200 | 3175 | 225 | 15 | 6750 | 540 | 2700 | 220 |
| **NDOFC4600 20 l/s** | | 1710 | 2225 | 1650 | 1630 | 200 | 3835 | 300 | 20 | 9000 | 720 | 3600 | 294 |
| **NDOFC5400 25 l/s** | | 1950 | 2250 | 1600 | 1580 | 250 | 4347 | 375 | 25 | 11250 | 900 | 4500 | 367 |
| **NDOFC6400 30 l/s** | | 1950 | 2530 | 1890 | 1870 | 250 | 5100 | 450 | 30 | 13500 | 1080 | 5400 | 440 |
| **NDOFC7000 35 l/s** | | 2250 | 2367 | 1720 | 1700 | 315 | 6934 | 525 | 35 | 15750 | 1260 | 6300 | 515 |
| **NDOFC7000 40 l/s** | | 2250 | 2367 | 1720 | 1700 | 315 | 6934 | 600 | 40 | 18000 | 1440 | 7200 | 588 |
| **NDOFC9000 50 l/s** | | 2250 | 2625 | 1950 | 1930 | 315 | 7823 | 750 | 50 | 22500 | 1800 | 9000 | 734 |

**Ø** = diameter; **H** = height; **HI** = inlet pipe height; **HO** = outlet pipe height; **ØI/O** = inlet/outlet pipe diameter.

# TECHNICAL SECTION – OIL SEPARATORS WITH COALESCING FILTER

## 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. These oil separators are defined as **class I** under UNI-EN 858-1.
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 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.