



HYDROCARBON SEPARATOR FUNTIONING

CHARACTERISTCS

An oil hydrocarbon separator is a device intended to retain the suspended hydrocarbons contained in wastewater and runoffs. They must be preceded imperatively by a sludge trap.

The installation of a sludge trap is specially recommended in the following cases:

- a) In garages, workshops, car washes, service stations, petroleum products distributors, industries with hydraulic machinery, etc., and any other area likely to accidental spills, even small leaks amounts of hydrocarbons and oils.

There are two categories of hydrocarbon separators:

1. Standard model for rejections to the network sewerage. For not very demanding treatment.
2. Coalescing filter model for rejections in surface waters.

The capacity of the hydrocarbon separator is depending on the maximum flow of water to be treated, both in wastewater and in runoffs. Our technical department can advise you on the sizing of the separator.

There are three types of oil separators in PE available, with or without coalescing filter:

1. **Hydrocarbon separator without sludge trap** (KA and KAC). These separators must be installed preceded by a sludge trap, whose capacity is calculated in base on the load of sludge o.
2. **Hydrocarbon separator with sludge trap included** (KAS and KACS) reserving a certain volume inside for the function of separation of sludge.
3. **Hydrocarbon separator with sludge trap attached of 1,5 to 6 l/s (KAAS y KACAS)**. The sludge trap is set previously in the factory, a monobloc set easier to install.
4. **Hydrocarbon separator with sludge trap and storms dump (bypass) (KACOS)**.

All our separators have one or more risers and ventilation.

The hydrocarbon separator is designed according to **DIN 1999**, responding to the following specifications:

	Without coalescence filter	With coalescence filter
DIN 1999	Part 1-3	Part 4-6
Liquid surface	0,25 m ² per l/s of the flow	0,25 m ² per l/s the flow
Retention time	3 min.	3 min.
Hydrocarbon storage capacity	40 litres minimum per l/s of the flow of the separator	40 litres minimum per l/s of the flow of the separator
Residual value	< 100 mg/litre	< 5 mg/litre

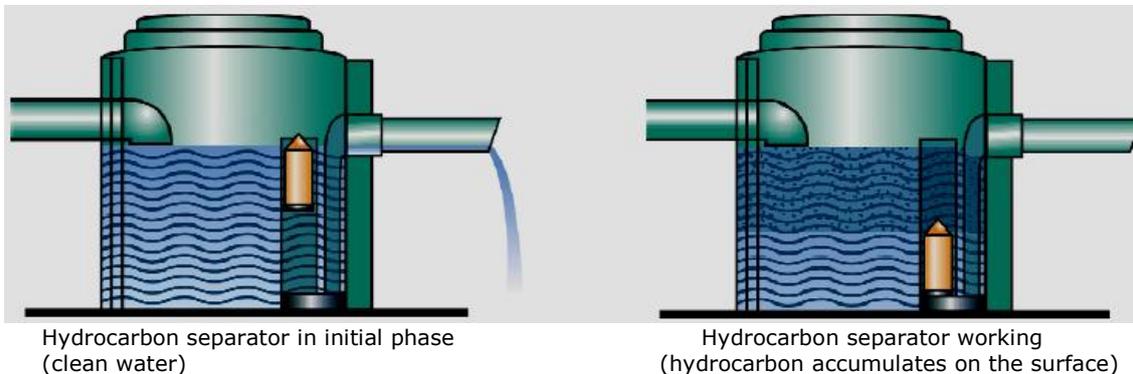
FUNCTIONING OF THE HYDROCARBON SEPARATOR

The wastewater polluted with hydrocarbons, lubricants and oils, mixed with sludge, enter the separator through an elbow, limiting the turbulences. Hydrocarbons, whose density is below water, are retained and accumulate on the surface. In the separator, the effluent passes through siphon compartment, compressing at the top and consisting of a column in which inside slides a shutter- float at a density of 0.85. This shutter should cover the bottom part of the siphon when it reaches the hydrocarbon capacity of retention in the separator. This shutter causes the overflow of the separator. Hydrocarbons must be extracted and the water level recovered. After each emptying or maintenance it is necessary to check if the float moves correctly, and if necessary, move it.

FUNCTIONING OF THE COALESCENCE FILTER

The coalescence filter consists of a floating mass whose surface area is 200 m² / m. These floating supports are manufactured in plastic and occupy a large part of the volume of the separator, including the sludge trap. The coalescence filter increases the exchange surface and helps the fusion of hydrocarbons. Calling fusion, the action by which fine droplets of hydrocarbon created by the turbulence of the effluent agglutinate forming bigger droplets, and in this way increasing the upward velocity. This phenomenon allows a better and faster separation of hydrocarbons during the time in the device. The effluent in this way obtained is adjusted to the highest standards in Europe. The floating type coalescence filter has a very low retention, resulting cleaning easier than usual coalescence cells.

The floating bed should never leave the device, simply wipe with a water jet under pressure at the time of discharge. The separator should immediately refill with water after emptying.



STORM

This function is available in some of our separators, allows absorbing the maximum flow of runoff water from larger catchment areas, such as airport runways, roads, construction, parking and more, only treating a minimum of 20% of the nominal flow. Indeed, important to treat fully the first rains, who are the pollutants, because after a few minutes of heavy rain the surfaces are clean up. Statistically, if the maximum flow corresponds to the production of a ten-year storm, the nominal production (20%) is limited depending on monthly rainfall or bimonthly rainfall.

Available 2 level alarms

- KANA: level alarm with floater, emits a signal when it reaches the maximum level.
- KANA2: electronic level alarm. This system reports before reaching the maximum level, emitting a signal.