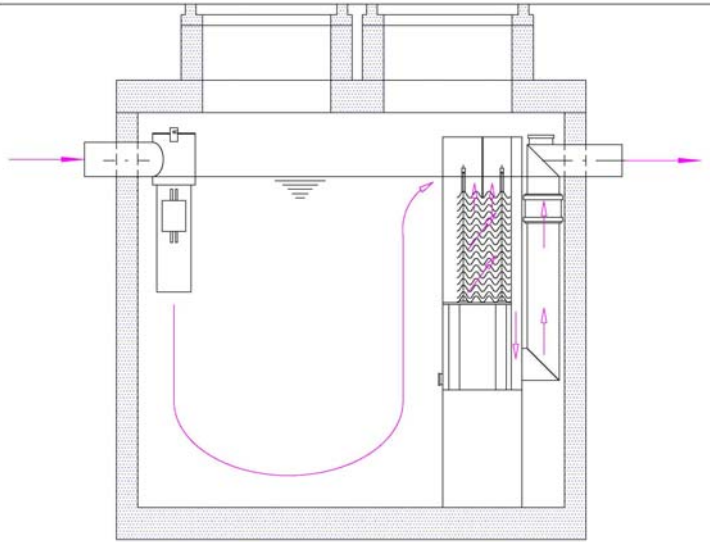


OIL SEPARATOR

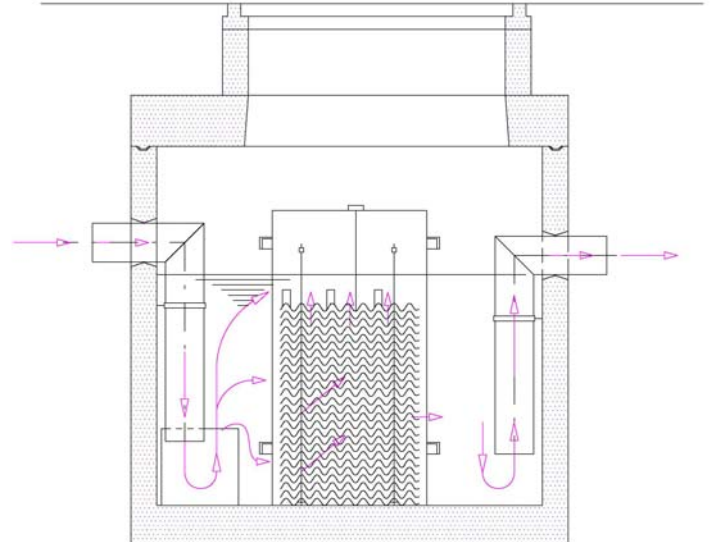
GENERAL INFORMATION:

EREVOL

OIL-WATER SEPARATOR



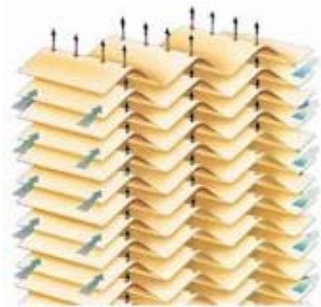
according EN 858



according ON B5101

OIL-WATER SEPARATOR

More than 5000
units in operation!



COALESCENT PLATES



PLATE PACKS

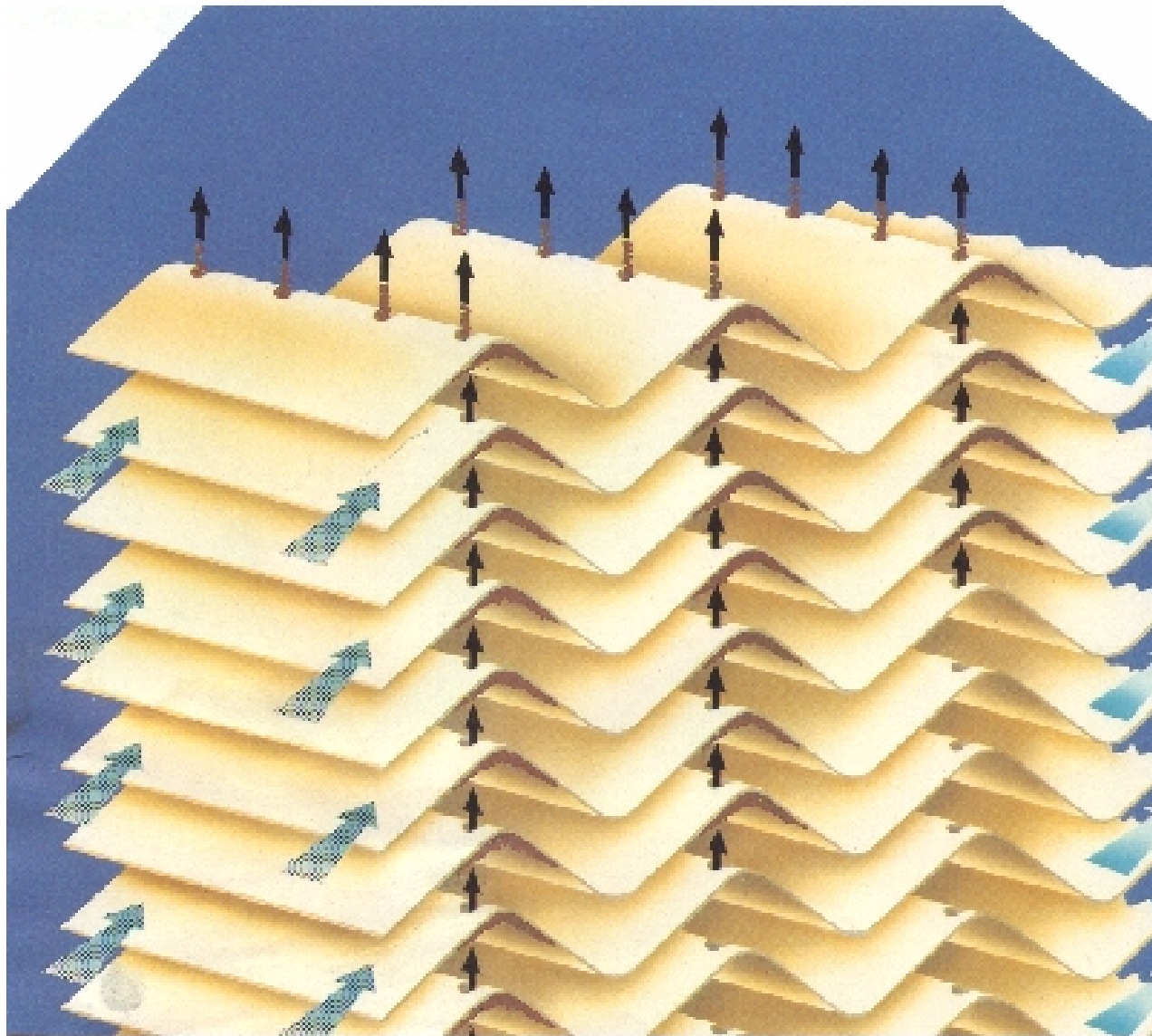
HYDROCARBONS AND RESIDUAL OIL-WATER SEPARATOR

OIL CONTENT IN EFFLUENT WATER AFTER SEPARATOR LESS THAN 5 ppm

CAPACITIES : from 3 litres/second to 600 litres/second







ERELYIT

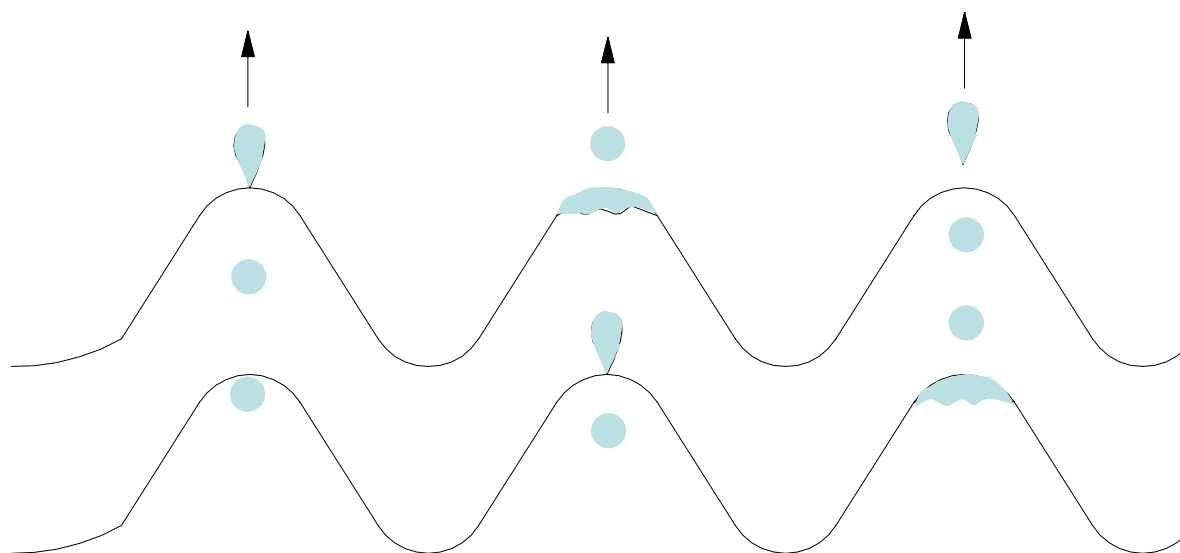
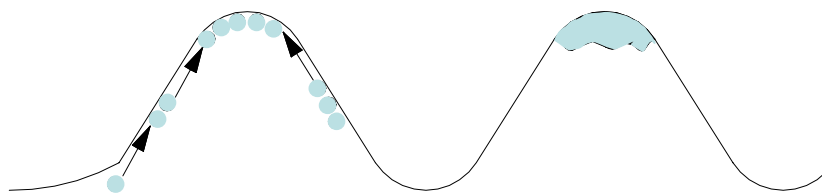
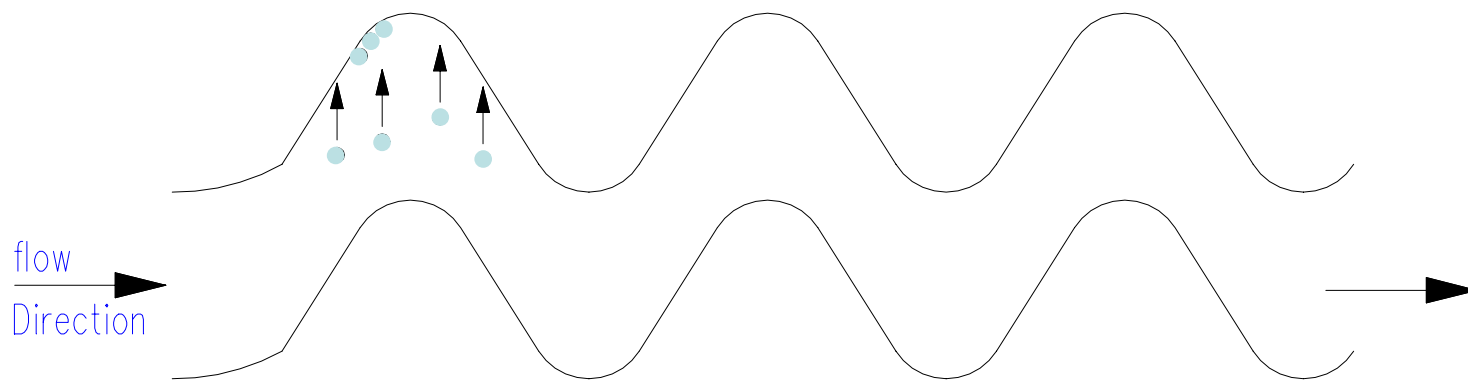
Process description of **FREYLIT** **coalescent plate packs**

The oily water flows through the **PLATE PACK** of the separator.

Horizontal, oleophilous, **NON-ROTTABLE** corrugated plates of polypropylene are used to separate the residual oil. The corrugated plates are stacked on top of each other at a distance of 6 mm (1/4") or 12 mm (1/2"), by means of cast-on spacers. Accordingly, an oil droplet only needs to move upwards by a maximum of 6 mm (1/4") or 12 mm (1/2"), before it contacts the next corrugated plate, which traps the droplet.

As soon as an oil droplet touches a corrugated plate it is separated. The droplet adheres to the underside of the corrugated plate and, on account of its specific gravity, it moves along the plate to the apex of the corrugation ridge.

Bore holes in the apices of the corrugation ridges (diameter 12 mm (1/2")), allow the oil collected in the apices of the ridges to move upward and reach the oil collection layer. Due to the fact that corrugated plates, which are tapered at the corrugation ridges, are stacked on top of each other, the oil-containing water moves along the corrugated plates at varying speed. This results in additional particle collisions (possibility to coalesce) of bigger and smaller oil droplets. The droplets become bigger, on account of these particle collisions, which accelerate their upward movement, so that they are consequently trapped by the corrugated plates. The plates have a length of 590 mm (2') or 260 mm (10").



ADVANTAGES of FREYLIT Coalescent Plate Separators:

Freylit oil separators are also known as “Enhanced Gravity Separators” because they speed up the natural process of oil/water separation. In an oil/water mixture, oil having a lower specific gravity than water, will eventually float to the surface. Freylit oil separators use corrugated parallel coalescent plates to enhance this natural process, without the addition of chemicals.

Designed and manufactured in Austria under the strictest quality controls and performance regulation tests.

Low operation cost, needs no power supply. Minimum of maintenance work needed. No spare parts, no changing of filters or coalescent medium.

Exceptionally long working life. 10 years guarantee on coalescent plates.

No mechanical moving parts, therefore eliminating wear and tear associated with other systems

Special material of coalescent plates and divider spacers on bottom of plates ensures that they will keep their shape and distance between plates in extreme working conditions and temperature ranges. This is crucial for the efficient working of the separation process over long periods of time.

Special surface treatment of coalescent plates for enhanced coalescent effect.

Full engineering, design and technical support for installation, commissioning and operation worldwide.

FREYLIT Modular System:

FREYLIT Oil Separators are designed in a modular plate pack system which allows the building of separators to the exact specifications and flow rates required by our clients. All sizes available for flow rates from 3 l/sec to 100 l/sec for petrol stations, car park, automobile garages, to large industrial oil separators for power stations, oil terminals, fuel depots, steel mills, oil fields, environmental reclamation operations, etc. with flow rates of more than 2000 l/sec.

FREYLIT supplies oil separators with tanks made of concrete, polypropylene, steel or stainless steel. Concrete tanks are necessary at sites where the separator will be installed underground and a high surface load is expected, for example under a driveway. On the other hand, the lighter weight of FREYLIT separators with polypropylene tanks makes them easier and cheaper to transport and handle for installation.



Description and function of the FREYLIT plate pack technology :

The **Theory of Enhanced Gravity Oil-Water Separation** explains the behaviour of oil droplets in an oil/water mixture. The mathematical relationship that describes the separation process is **Stokes' Law** :

$$V_R = \frac{g(P_w - P_o)D_o^2}{18\eta}$$

Where,

V_R = rise velocity of the oil droplet in cm/sec

g = gravitational constant (980 cm/sec²)

h = viscosity of water in poise

P_w = density (gm/cm³) or specific gravity of the water

P_o = density (gm/cm³) or specific gravity of the oil

D_o = diameter of the oil droplet in cm

FREYLIT Oil Separators are designed to enhance this natural process by, a- Making oil droplets larger "coalescence" and therefore making them rise faster, and, b- Reducing the time needed for separation by reducing the distance an oil droplet must rise by using horizontal parallel coalescent plates.