

Oily Water Separators CKS TYPE in Concrete Basin.

Process

The oily water enters the separator via a specially designed slotted cross pipe that distributes the flow over the width of the separator basin. Due to the sudden decrease of flow velocity a certain amount of solids that may be contained in the liquid will settle in the inlet compartment. Depending on the solids concentration, a sludge suction device may be included in the design for intermittent removal of accumulated solids.

The oily water continues on its way over the bottom baffle and enters the plate pack from below.

In the laminar flow in each channel (i.e. the distance between two subsequent plates) the minute oil droplets rise by virtue of the fact that their density is lower than that of the carrier medium, and attach themselves to the underside of the upper plate.

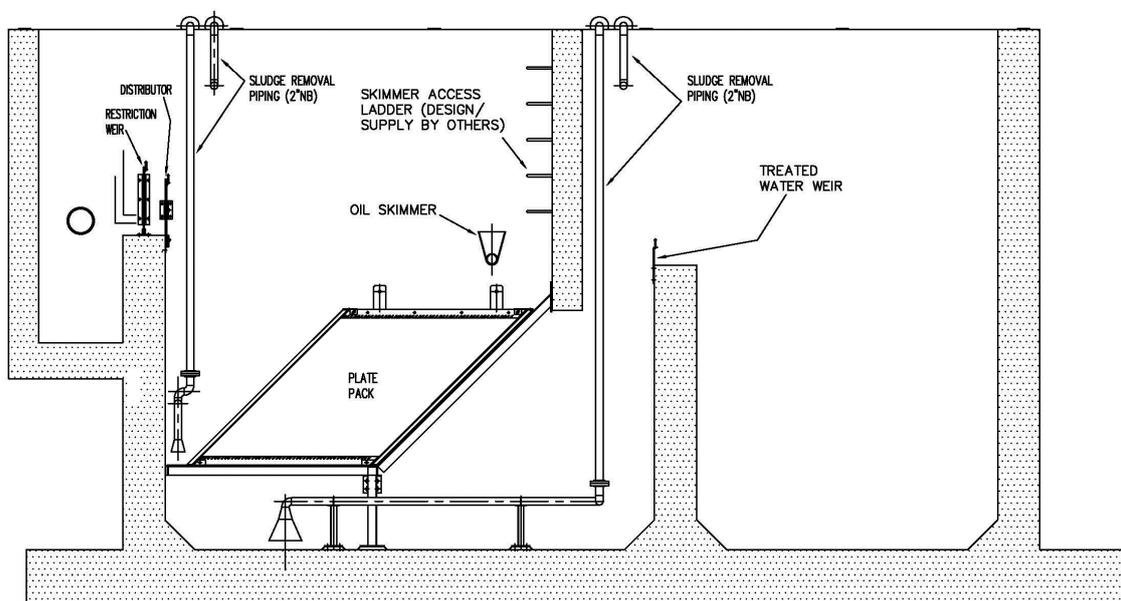
The oil film that is thus constantly being formed at the underside of each plate creeps slowly upwards.

The oil film is assisted in its upward movement by the current laminar flow.

At the top of each plate the oil film is concentrated (coalesced) by the special fingers and leaves the plate at the 'fingertips' as a thick stream or rising chain of large globules.

The treated water flows through the openings between the fingers towards the outlet; thus there is no interference between the separated oil and the clean water.

The separated oil collects as a layer on top of the liquid surface and can be removed intermittently via the slotted pipe skimmer.



Construction

All Skim-KS Separator internals are of robust construction designed for many years of maintenance free operation. Depending on the properties of the liquid to be treated the material of the inclined plate packs can be:

- Glass fibre reinforced polyester (GRP)
- Coated carbon steel
- Various qualities of stainless steel
- Teflon coated steel

Depending on the concentration of suspended solids, or oil, the plate spacing can be varied to suit the specific process conditions. Thus we are able to offer to our clients the technically optimised solution for each individual application.

The unique concept of the Skim-KS separators design permits, (unlike other gravity separators on the market) an extremely simple concrete construction: The basin is of simple rectangular design and does not require any complicated concrete baffles, overflows and channels. With such a simple construction, it is possible to adjust the internals to suit any discrepancies in the dimensions of the concrete structure.

Furthermore, the GRP plate packs are contained in strong, fully closed permanent steel boxes with lifting lugs. This enables the plate packs to be removed easily on site for cleaning purposes.



Corrugated Type Plates

Options

The Skim-KS separators in concrete basins can be provided with the following option items:

- Automatic oil skimmer
- Any required alarms and level gauges
- Sludge suction system
- Covers (if required gastight)
- Hand railing
- Service platforms
- Pumps
- Trashrack
- Etc



Plates Installed in concrete basin