



DISORB

OIL SEPARATOR

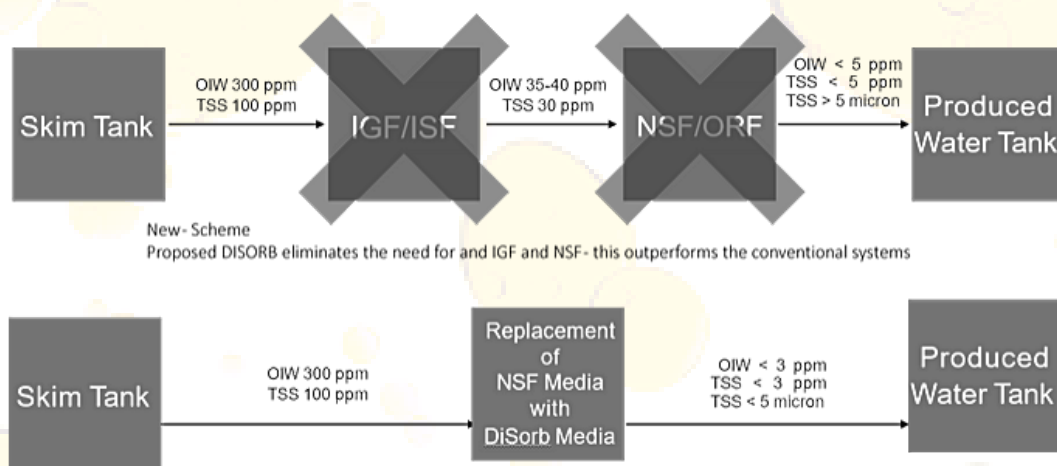
Oily Wastewater Treatment Solutions

Process Intensification

DISORB Separators use highly Oleophobic media which effectively helps oil coalesce in the interstitial spaces and traps the TSS along with it. The systems works without getting choked. Heavier the oil, higher the Oil and TSS removal. DiSorb media has the UNIQUE capacity to handle

- 1-300 ppm of Oil and TSS : > 99% removal of both Oil and TSS.
- 300-700 ppm of Oil and TSS : 99% removal of both Oil and TSS.
- 700-3000 ppm of Oil and TSS : Intermittent loads can be easily handled with a relatively shorter filtration cycle.

During upset situations when Oil levels can significantly go up, it has no negative effect on the media, except for a very quick backwash step initiated. The principle of operation is almost like a Dual Media Filter. We can easily do retrofit with minimum structural changes and convert your existing Nutshell Filter into a DISORB Oil Removal Separator.



Easy replacement of existing Nutshell Filter (“NSF”) media with our DiSorb media with minimal modifications.

In a typical Produced water site the IGF/ISF step are by passed, saving significant energy, time and operation costs. Additionally :

- No gas line required.
- No chemical dosing required ; saves operation costs.
- No ancillary equipment required like tanks, sludge thickeners ; Saves energy and maintenance costs.
- No scrubbing required. Due to the inherent oleophobic nature of the media, Oil and TSS is easily displaced during a regular backwash.

Example: In an NSF with a feed of 35-40ppm of OIL and TSS of 30 ppm needs to be backwashed once in 24 hours for 30 mins,

Under same conditions a DiSorb Separator will backwash once in 6-10 days for 20 minutes due to its extremely high oil retention capacity of **130-160 lit/m³ of media and oleophobic nature.**

This results in savings of water, much higher Oil and TSS removal of less than 1 ppm of TSS and Oil ; higher online availability.



DISORB operates at high temperature as high as 85 Deg C. Short term excursions of 100 Deg C , are also acceptable

This is an innovative and revolutionary technology in the Oil & Gas , Edible Oil, Ports - Oil spills verticals.

- Highest Recovery of Oil in Water for recycle and reuse.
- Highest Removal of Oil and TSS levels in water.
- Increased profits, while meeting regulatory requirements.
- Protecting the environment by turning oily waste water into resource.

Process Features

- The DiSorb media will efficiently recover water and oil from oily waste waters by removing the TSS.
- Dramatically reduce OpEx and CapEx by replacing current Oil and TSS removal technologies by a just ONE change - switch your existing media to DiSorb !
- Capitalize on the savings by potentially eliminating at least 2 unit operations by simply replacing the existing oil removal filter media with DiSorb and significantly increase operating efficiencies and savings.
- Achieve the finest filtration by minimizing lifecycle costs without compromising on the outlet quality.
- Target Areas for DiSorb applications:
 - Upstream Water Filtration – Frac water, Produced Water
 - Downstream Water Filtration – Waste, Process Water Tailings Ponds
 - Midstream – Oil transportation and storage tank cleaning, Oil Recycling
 - Soil Remediation – Oil removal



ADVANTAGES

- No scrubbing of media required, the oleophobic nature of the media will easily release all the trapped oil and TSS.
- Very low attrition rates of less than 1% per year, resulting in the long life of the media. Being a relatively new technology, it has been operating continuously treating produced water with consistent results for over 2 years at a customer site.
- Unlike Nutshell media, the DiSorb media is neutral to coagulants and can be very effectively used upstream when unusually high TSS is expected on a continuous basis.
- Unlike Nutshell media, no 24 hour preparation, no pre-soak, just a standard backwash to remove fines before startup saving time and costs.
- Unlike other media, DiSorb media is neutral to high concentrations of sulphur, up to 16% of dissolved sulphur has been tested successfully.
- DiSorb is neutral to surfactants, tested to a maximum of 10ppm of surfactants. In fact a small amount of surfactants will also be removed during the filtration cycle.
- DiSorb is neutral to all kinds of hydrocarbons, polymers, bitumen, asphaltenes, paraffins, wax.



FIELDS OF APPLICATION

- Pretreatment step using DiSorb to prolong life of membrane based systems.
- Desalination - Protection from algae and potential oil spills in the sea.
- Biotreatment system protection - MBR systems to be protected from damage caused by oil content. Pretreatment step for UltraFiltration to protect it from Oil and TSS.
- Metal Industry
- Wastewater treatment, Surface water treatment and reuse. Closed water circulation Systems
- Automobile, Shipping, Airplane production sites.
- Mobile Wastewater Systems for onsite applications where oily water needs to be treated for reuse or discharge.
- AquaCulture industry
- Fish fats and waste very effectively removed with no clumping of media in RAS (Recirculating Aquaculture Systems)
- Bilge Water treatment



For more details :

DIVA ENVITEC PVT LTD

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