Slop Oil Recovery

Treatment solutions from GEA Westfalia Separator for refineries, waste lagoons, tank terminals and gathering facilities – economical and safe operation

engineering for a better world
Generate Profit from Slop Oil

In the exploration, production and refining of crude oils and gas, all kinds of waste oils are produced – so-called slop oils. They come from drainages, residues and cleaning processes, especially cleaning oil tank bottoms. Most of these slop oils contain a high percentage of oil which can be recovered to be processed in the refinery.

If this slop oil is treated, not only can disposal costs be reduced but profit can also be generated with the oil phase recovered from the slop. As both the oil and water contents can vary from 10 to 90 percent, and the solid content can vary from 1 to 10 percent, either disk stack centrifuges and/or decanters can be used for the treatment of slop oil.

Decanters are normally used for infeed with a solid content of more than approximately 1/2 percent (by vol). A disk stack self-cleaning centrifuge can be used downstream from the decanter to polish either oil or water phase. A flow schematic of this arrangement is shown in figure 1.

Optionally, the water phase can be treated further downstream to avoid disposal costs for oily water. Oily water treatment systems from GEA Westfalia Separator can reduce the free oil content in water to up to 15 ppm.
2-phase decanter centrifuge

Figure 1. 2-phase decanter + 3-phase disk centrifuge + oily water treatment

1. Untreated slop oil (pumpable) from lagoon
2. Untreated slop oil storage tank
3. Filter (for pump protection)
4. Transfer dosing pump
5. Steam pre-heater
6. 2-phase decanter
7. Sludge phase
8. Flocculent preparation, storage and dosing system
9. Demulsifier storage and dosing system
10. Pre-clarified liquid phase
11. Liquid phase buffer tank
12. 3-phase purifier (self-cleaning centrifuge)
13. Sludge channel
14. Sludge transfer pump
15. Oily water buffer tank
16. Concentrated sludge tank
17. Emulsion breaker system
18. Treated slop oil tank
19. Export terminal to refinery
20. Water in oil monitor
21. Treated water outlet with an oil content ≤ 15 ppm
Payback in No Time

As an alternative, 3-phase decanters can be used. A flow schematic of this arrangement is shown in figure 2.

**Scope of supply**
3-phase decanters for the treatment of slop oil.

- No disk stack centrifuges for polishing the oil phase as it is mixed with a high amount of crude oil to be processed in the refinery
- Water phase polished in the already existing water treatment plant
- Disposal costs only for solid content

Payback within a short time – the solution is innovative: the slop oil treatment system from GEA Westfalia Separator.
3-phase decanter centrifuge

Figure 2. 3-phase decanter + oily water treatment system

1. Feed
2. Feedstock tank
3. Pre-treatment
4. Filter (for pump protection)
5. Transfer pump
6. Steam pre-heater
7. 3-phase decanter
8. Clarified oil phase
9. Solids
10. Clarified water phase
11. 3-phase decanter phase
12. Flocculent preparation storage and dosing system
13. Separated water
14. Storage facility for concentrated sludge
15. Demulsifier storage and dosing system
16. Storage tank
17. Air
18. BS&W meter
19. Clean oil tank
20. Skimmed oil
21. Water < 1% oil
## Get Top Results in Combination

Only oil and water treatment systems from GEA Westfalia Separator boost your profit

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These top results can be achieved only with oil and water treatment systems from GEA Westfalia Separator.
Wherever separating technology tasks have to be carried out, our serv&care program assures comprehensive services right from the very beginning. In close cooperation with the customer, solutions are identified to meet their needs.

The partners benefit not only from traditional services such as inspection, maintenance, original spare parts and repair work provided by the original manufacturer; they also benefit from pro-active solutions which avoid risk, e.g., online and offline monitoring with our serv&care program.

Accompanying modernization or upgrading to state-of-the-art technology also offers the option of boosting services as required.

Training provided on site or in the modern training center of GEA Westfalia Separator ensures that the customer’s employees receive training in the proper handling of high-tech installations. This provides additional safety.

**Authorized workshops worldwide**
And if problems occasionally occur, or if a spare part is required at short notice, the specialists are able to attend to the customer quickly. This is ensured by a global network with more than 50 sales and service companies as well as 60 sales partners. Our authorized workshops are able to service every location in the world at short notice.

Our serv&care program accordingly makes for maximum process efficiency and installation availability as well as budget security. And these benefits are provided throughout the entire life cycle of the entire installation.

**Service from the original manufacturer**
- Service engineers move quickly to the site
- Extensive service network
- Risk avoided by service provided by the original manufacturer
- Pro-active solutions which avoid risk
- Upgrading to boost performance
- Staff training

**Services performed by specialists**
When normal equipment use results in wear and tear, we stand behind the quality of our repair services. GEA Westfalia Separator has trained mechanics on staff that have the proprietary knowledge to make the necessary repairs. In true emergencies, a response team can be quickly deployed to your facility. Spare bowl and scroll assemblies are readily available for your use, so process/production lines are not idle while repairs are underway. And when equipment needs to be repaired off-site we offer two full service locations. Our facility in Patterson, California was specifically developed to service customers based in western North America. Here, decanter and separators of all sizes can be repaired. There is also a large parts inventory and a specially designed training facility.
We live our values.
Excellence • Passion • Integrity • Responsibility • GEA-versity

GEA Group is a global engineering company with multi-billion euro sales and operations in more than 50 countries. Founded in 1881, the company is one of the largest providers of innovative equipment and process technology. GEA Group is listed in the STOXX® Europe 600 Index.

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