



SLOPO[®]

**Compact and safe
Slop Oil treatment units**

Designed for treating
Slop Oil in remote areas
with mobile units

health, safety and environment



Protecting human health and ensuring highest operational safety

Safety and protection of personnel during operation are paramount to us, which means that every aspect of the SLOPO® system has been designed with safety and human health in mind.

Designed for hazardous atmospheres

Our SLOPO® system is constructed to operate safely in potentially hazardous areas and meets the highest international safety standards and directives, including ATEX in Europe, UL in USA or CSA/cUL in Canada. Other international standards can be met on request.

To avoid any risk of explosion inert nitrogen generators can be delivered in combination with the SLOPO® system if required.

Process and constructional safety

Existing safety features include continuous process monitoring and warning systems for automatic shutdown if parameters reach unacceptable levels. We constantly strive to improve and develop our system to achieve even greater safety standards.

Automatic system

Most accidents and hazardous situations are caused by human error. Therefore, the SLOPO® system is automated to highest standards and practically removes the risk of human failure or negligence.

Training

All personnel must undergo the training program designed by Oreco in operating the SLOPO® system and in safety procedures. This ensures that Oreco systems are operated to the same consistently high safety standards no matter where in the world they are located.



introduction

The SLOPO® system from Oreco offers efficient and innovative slop oil treatment to convert a wide range of slop oils into valuable products. Slop oil can cause dangerous environmental hazards and costly storage problems and poses a serious burden to oil companies, governments and communities alike. With SLOPO®, those issues are not only solved, they are transformed into profit.

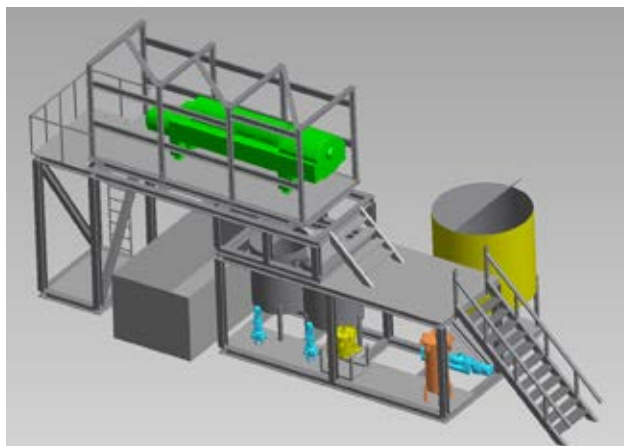
That's where SLOPO® comes in

The SLOPO® system is designed to treat slop oils with a wide range of characteristics, from slop oil with a high solid content to slop oil from the desalter rag layer. The core technology of the SLOPO® system is centrifugal separators, used to separate components with different specific gravity. This special technology enables efficient, cost-effective slop oil recovery and the creation of marketable products. The unit is manufactured in standard sized containers, and is customised for use on remote sites in harsh environments. SLOPO® is made in a standard configuration which then can be applied to any capacity necessary.

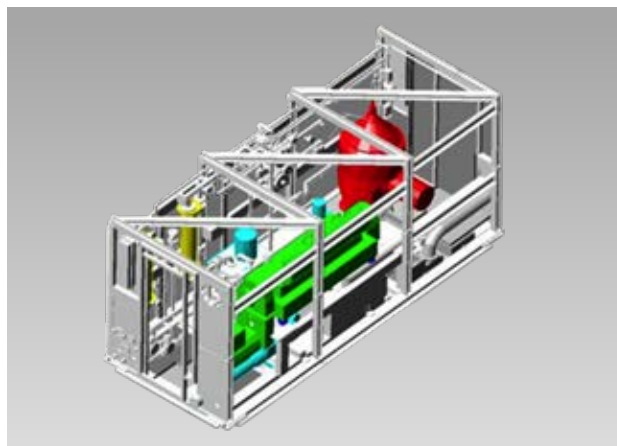
The centrifugal force

SLOPO® is built in very compact modules in order to facilitate easy transportation to the site. The SLOPO® system is essentially plug and play with an integrated control system, insulated containers and heat traced piping. SLOPO® is constructed for use in hazardous areas, fully HAZOP'ed.

The core technology encompassed in the SLOPO® system is centrifugal separators, which have been applied in the oil/gas business for decades. The centrifugal force is used to separate components with different specific gravity.



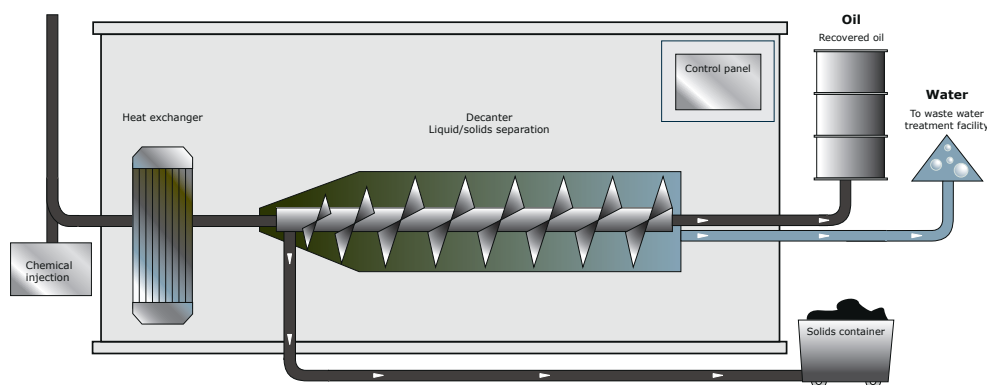
SLOPO® system Type 1



SLOPO® system Type 2

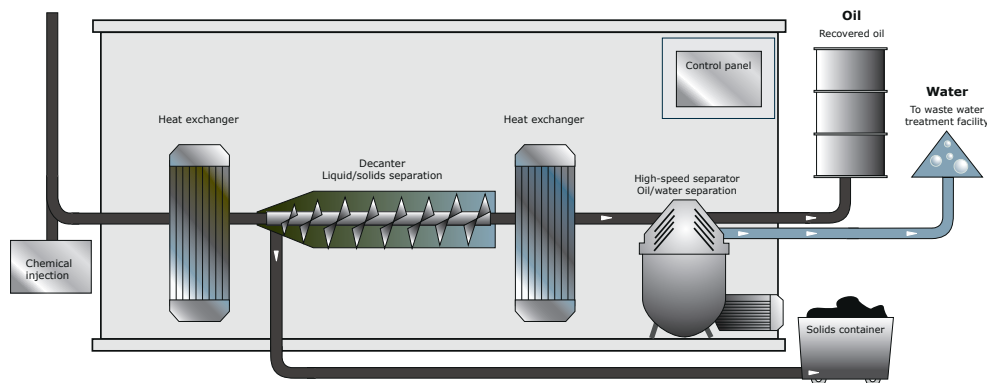
slop oil systems

The SLOPO® system is made in two configurations, depending on the demand of the final quality of the effluent streams:



SLOPO® Type 1

This setup features a 3-phase decanter. This is combined with a very robust control system and an online interface adjustment which optimises the function of the system.



SLOPO® Type 2

This is a combination of two centrifuge technologies, a two-phase decanter and a high speed separator. This combination will be able to handle big variations in the slop oil with unchanged high quality of the effluents.

technical specifications

	SLOPO® TYPE 1	SLOPO® TYPE 2
Technology	3-phase decanter	2-phase decanter and a high speed separator
Feed flow	10 m³/h	10 m³/h
Effluent water*	<1% oil	< 50 ppm oil
Effluent oil*	<1% BS&W	< 1% BS&W
Effluent solids*	~50% TSS, < 1% oil	~50% TSS, < 1% oil
Physical properties	Decanter fits in a 20' container, whole installation can be in one 20' and one 40' container. Remote control in safe area Simple control	Compact, fits in a 20' container Controls are integrated in the system Many control possibilities

* The values stated here are typical results, but will be dependent on the parameters of the slop oil treated.

technology

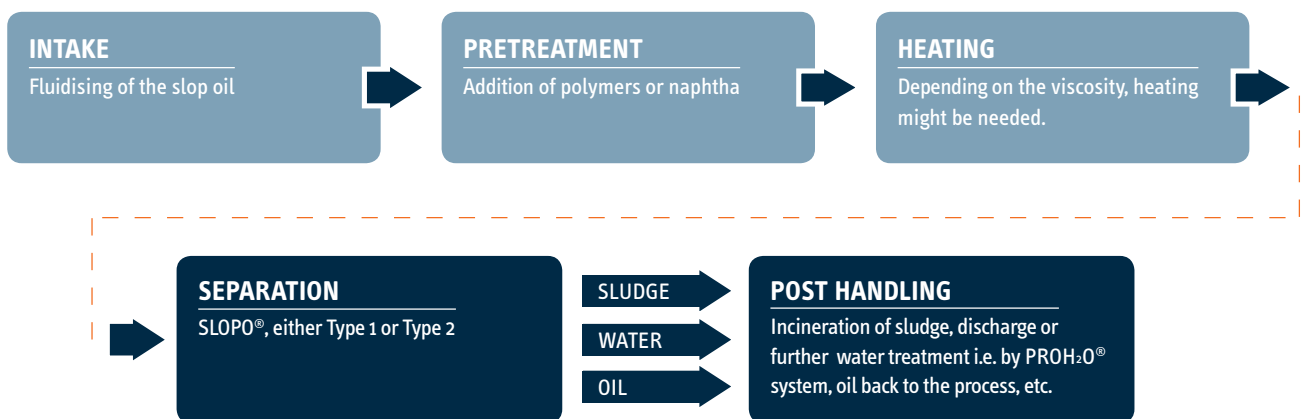
The fact that slop oil is a mixture of a wide variety of components makes it necessary to evaluate each specific case separately. Therefore, Oreco also offers solutions with a number of add-ons which make it possible to tailor-make the SLOPO® system for each situation.

Referring to the flow diagram, the separation is performed by the Oreco SLOPO® system, which by default is semi-standardised with equipment described in the table. However, if larger capacity or

other types of centrifuges are required by the client, Oreco is fully capable of constructing a system which encompasses these. The core competences of Oreco are to be able to construct a safe and reliable system around any type of separation equipment.

Depending on the feed characteristics, treatment of the feed might be needed in order to facilitate easier or more efficient separation. The table below describes the most common solutions.

oil flow diagram



pretreatment possibilities

OIL PARAMETER	Explanation	System add-on
For slop oil with small particles of TSS	Chemical injection of polymers will flocculate the particles, thus making them more susceptible for the centrifugal forces and separate easier.	Oreco can deliver a dosing system which can handle both flocculants and demulsifiers.
For emulsified oil	Demulsifiers can be added in order to concentrate the water into larger droplets, thus increasing the gravity difference and thereby assisting the separation.	Oreco can deliver a dosing system which can handle both flocculants and demulsifiers.
For oils with SG larger than 0.95	When the different components in the slop oil have similar specific gravity, the centrifuges will not be able to separate the components.	If necessary, naphta can be added to the feed stream to dilute the oil, and thereby make it lighter. As water and solids keep their SG, the centrifuges will work.

Please contact Oreco for further information.

About Oreco

Oreco develops, manufactures and markets automated tank cleaning and engineered oil-water-solid separation systems as well as related products and consultancy services.

Oreco's knowledge is based on several decades of experience within tank cleaning and engineered solutions for separating oil-water-solids. Our systems operate at refineries, tank farms and in the oil fields around the world. Oreco systems have cleaned more than a hundred large crude oil tanks around the world and separated oil-water-solids to the highest satisfaction of our customers.

All Oreco products are fully compliant with the latest industry regulations and all Oreco systems are constructed to operate safely in potentially hazardous and harsh environments.

Quality and safety will always remain our primary concern. Our business is ISO-certified (ISO 9001) to ensure the continuous improvement of all procedures, guaranteeing that we maintain the same high standards at all times – all over the world.

Choosing a solution from Oreco is your guarantee of efficient, cutting edge technology that adheres to HSE requirements.



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