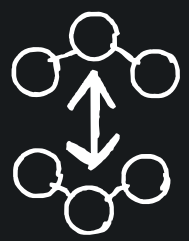
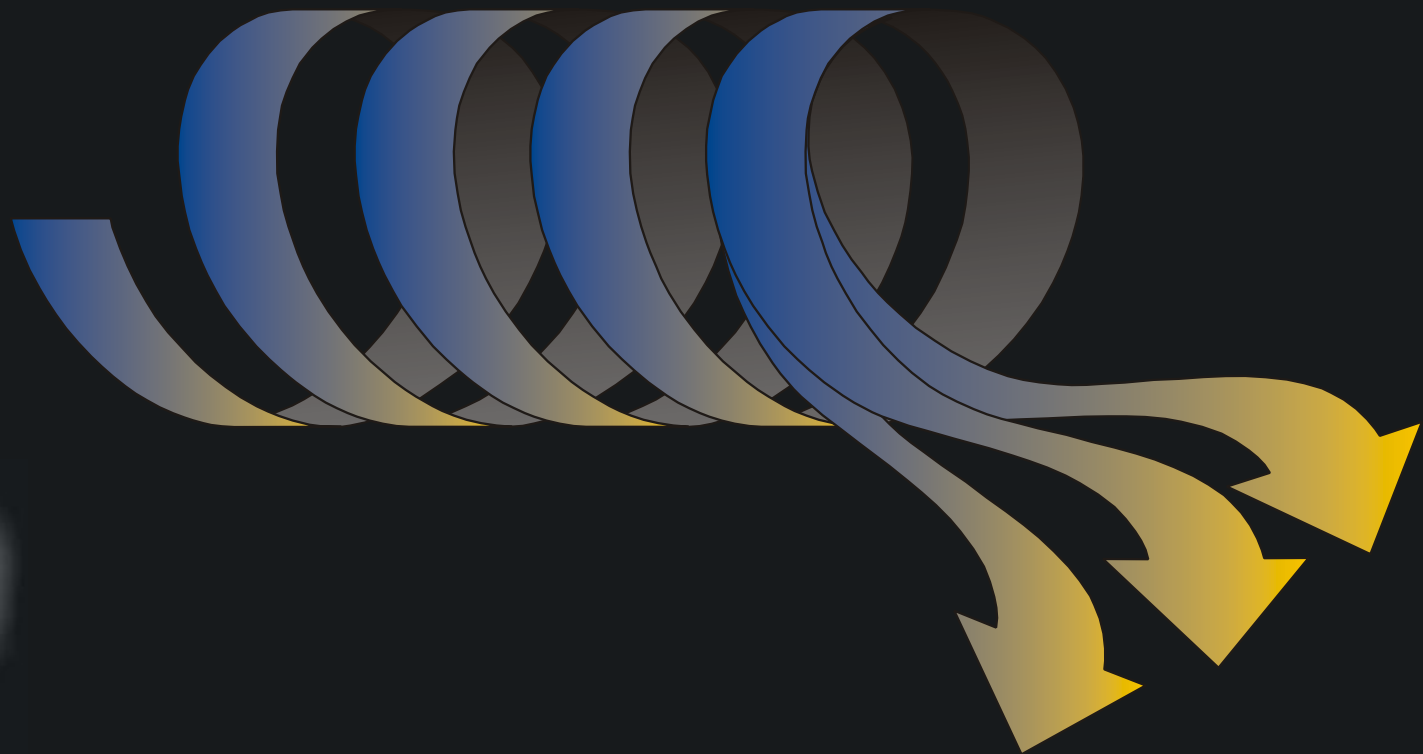
HILLER®

3-phase centrifuges for high-efficiency oil recovery and oil production



Electrical forces acting between the molecules of a liquid are the cause for drop formation and surface tension;
they are named after Johannes van der Waal (1837-1923).



Applied Physics of Life.

Centrifuge technology for oil recovery and oil production

„Water is the principle of all things."
(Thales, Greek philosopher, approx. 620-540 b.c.)

Principle of operation

Typical applications

- Biodiesel production
- Low-temperature fat rendering
- Dry rendering
- Poultry fat and meal
- Fishmeal stickwater
- Vegetable oils
- Olive oil and palm oil
- Reclamation of fat and oil from wastewater
- Waste lubricating oil
- Slop oil
- Tarsands (froth treatment)
- API-sludges

Your application is not included?
Please, talk to us. We have the solution.

The **Hiller - DecaOil® 3-phase** centrifuge is a solid-bowl centrifuge especially designed for highly efficient, simultaneous sedimentation of solids, and separation of two liquid phases.
The feed enters the rotating bowl through a stationary feed tube and is thrown radially outwards against the bowl wall.
The centrifugal force generated by the rotation of the bowl rapidly settles the solids particles at the bowl wall, where they are moved towards the solids discharge ports by a screw conveyor.
As the clarified liquid flows along the bowl towards the liquids discharge zone, the centrifugal force causes the immiscible light and heavy phases (typically oil and water) to separate; the oil moving towards the rotating axis and the water moving towards the bowl wall.

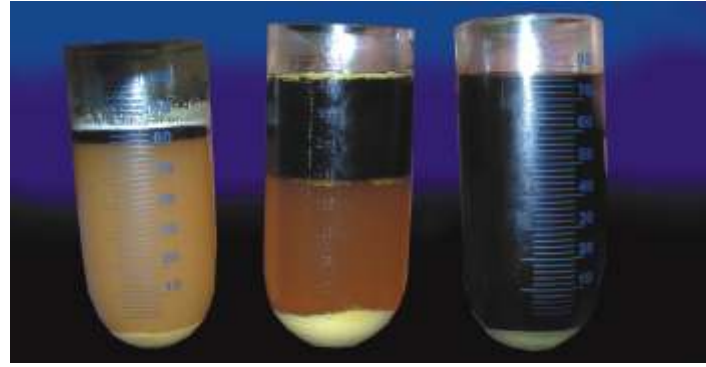
A weir or underflow baffle in the liquids discharge zone separates the two phases, allowing oil and water to flow into separate discharge chutes outside the rotor.
The levels of the oil and water discharges are adjusted according to the relative densities of the phases and their respective quantities, in order to achieve optimal separation of the two liquids.
Liquid phase discharge can be by weir plates, nozzles or centripetal pump.
The liquid levels in the rotor and the conveyor's differential speed are the controls for optimal solids removal, highest cake dryness, and highest purities of the liquid phases.

Hiller high-performance decanter centrifuges guarantee optimal process results with the highest level of reliability.

Features:

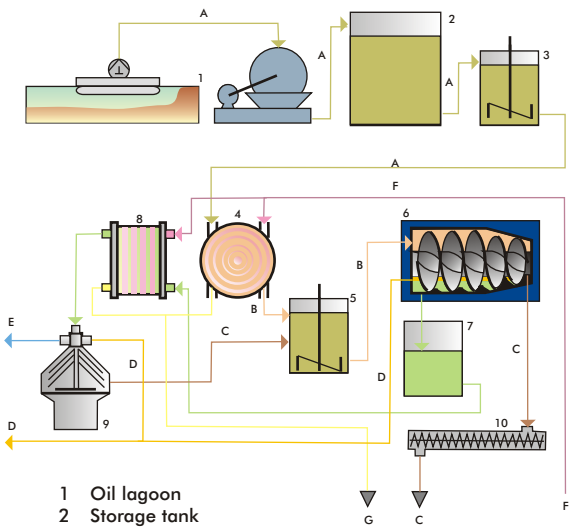
- Automated operation with our proprietary control systems
- All modern scroll drive systems
- 24 hour service
- All parts in contact with the product in stainless steel, high tensile strength carbon steel, or special alloys
- In-house development and manufacturing of hydraulic components for scroll drive systems

You set the task - we provide the solution.



The space-saving concept of the solid bowl centrifuge, together with optimal process results, make **Hiller - DecaOil® 3-phase centrifuges** the first choice for oil recovery and oil production applications.

Hiller - DecaOil®
High-tech process for recovery of slop/spill oil



1	Oil lagoon	A	Slop oil
2	Storage tank	B	Pre-heated slop oil
3	Preconditioning tank	C	Solids
4	Spiral heat exchanger	D	Clean oil
5	Preconditioning (mixing) tank flocculants	E	Wastewater
6	**HILLER** 3-phase centrifuge	F	Steam
7	Storage tank	G	Condensate
8	Plate heat exchanger		
9	Disk separator		
10	Screw conveyor		

The **DecaOil®** series are manufactured in our modern factory in Vilsbiburg (Bavaria) and are subject to strict quality controls. The care which is taken for manufacture is reflected in the satisfaction of our clients.

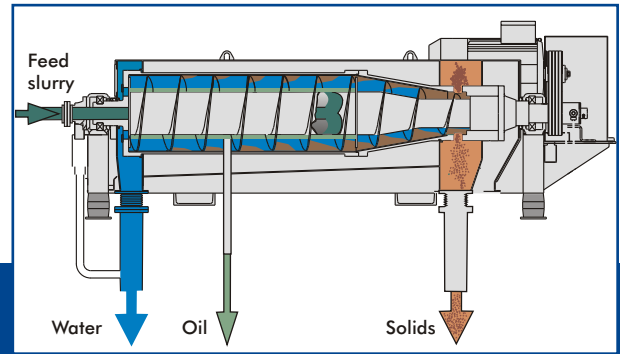
Mechanical features

- Corrosion resistant materials, individually selected for the process: high-tensile carbon steel, stainless steel or special alloys
- Designs for operation at high temperatures
- Various wear protection systems available
- Gas-tight designs for hazardous environments
- Liquid discharge by open gravity systems or with externally adjustable centripetal pump

Hiller has a number of trial units which enable us to demonstrate the capabilities of the **Hiller** centrifuge in full scale. These mobile units can be easily integrated into your process and enable you to assess the achievable dewatering performance on site with your own product.

Economy and quality

- Very little operator attendance required
- Highest purity of liquid phases maximises value of the product
- Highest cake dryness minimises disposal costs
- Various wear protection systems for long lifetimes
- Simple and service-friendly design
- Low specific power consumption per unit product processed



DecaOil® 3-phase decanter centrifuge series

Type	DO31-363	DO37-363	DO45-363	DO54-363	DO66-363
drive motor (kW)	from 11 kW up to 75/90 kW				

Hiller can provide competent solutions for these industries and special applications:

- Foods and beverages / DecaFood®
- Oliv oil / OV®
- Oils and fats / DecaOil®
- Classification / DecaClass®
- Chemical, pharmaceutical and process industries / DecaChem® / DecaPharm®
- Recovery and sorting of plastics / DecaSort®
- Municipal and industrial wastewater treatment plants / DecaPress® / DecaThick® / DecaDrain®
- Tunnel construction / DecaPress®

HILLER GmbH · Schwalbenholzstraße 2 · D-84137 Vilsbiburg, Germany · Telephone +49 (0)87 41/48-0 · Fax +49 (0) 87 41/48-139
Internet: www.hillerzentri.de · e-mail: hiller@hillerzentri.de