

**Frautech  
supplies separators  
for industrial  
and environment  
sector**

**ANDRITZ**  
**Environment & Process**

**RAP OIL REFINERY**

**GLYCERINE SEPARATION  
FROM BIODIESEL**

**SEPARATION OF SALT AND  
SOLIDS FROM BIODIESEL**

**BIODIESEL FILTRATION**

**ANIMAL FAT**

**WASTE WATER**



Directive 94/9



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ANIMAL FAT

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## Animal fat

### Separation CO - AF model

2 liquids and 1 solid phase, solids high content

### Clarification CO - PAF model

1 liquid and 1 solid phase, solids high content

Model	Motor kW	Bowl Speed RPM	Hydraulic Capacity l/h
CO 31 AF - PAF	7,5	6.850	9.000
CO 41 AF - PAF	11	6.850	11.000
CO 51 AF - PAF	15	6.850	14.000
CO 71 AF - PAF	18,5	6.850	22.000
CO 151 AF - PAF	22/30	5.000	40.000
CO 201 AF - PAF	30/37	5.000	45.000



## Waste water

### Water degreaser CAO - EMO model

2 liquids and 1 solid phase

Model	Motor kW	Bowl Speed RPM	Hydraulic Capacity l/h
CAO 15 EMO	5,5	7.500	6.000
CAO 30 EMO	7,5/9,2	6.850	9.000
CAO 40 EMO	11	6.850	11.000
CAO 50 EMO	11/15	6.850	14.000
CAO 70 EMO	15/18,5	6.850	22.000
CAO 150 EMO	22/30	5.000	40.000

## Biodiesel application - Oil recovery

### Rap oil refinery CAO - MO model

2 liquids and 1 solid phase

### Oil cleaning from water and solids CAO - MO model

Model	Motor kW	Bowl Speed RPM	Hydraulic Capacity h/l
CAO 30 MO	7,5/9,2	6.850	9.000
CAO 50 MO	11/15	6.850	14.000
CAO 70 MO	15/18,5	6.850	22.000
CAO 150 MO	22/30	5.000	40.000
CAO 200 MO	30,37	5.000	45.000





## Biodiesel application

Glycerine separation from biodiesel CNO - MO model  
 Separation of salt and solids from biodiesel CNO - MO model  
 Oil cleaning from water CNO - MO model

2 liquids and 1 solid phase

Model	Motor kW	Bowl Speed RPM	Hydraulic Capacity I/h
CNO 25 MO	4	7.800	6.000
CNO 30 MO	5,5	7.800	10.000
CNO 40 MO	7,5	7.500	15.000
CNO 50 MO	11	6.400	20.000
CNO 100 MO	18,5/22	4.700	50.000



## Waste water

Solids lower content CNO - EMO model  
 Water degreaser CNO - EMO model

2 liquids and 1 solid phase

Model	Motor kW	Bowl Speed RPM	Hydraulic Capacity I/h
CNO 25 EMO	4	7.800	6.000
CNO 30 EMO	5,5	7.800	10.000
CNO 40 EMO	7,5	7.500	15.000
CNO 50 EMO	11	6.400	20.000
CNO 100 EMO	18,5/22	4.700	50.000

## Biodiesel application - Waste water - Oil recovery

Biodiesel filtration CNO - PMO model  
 Water cleaning CNO - PMO model  
 Oil cleaning CNO - PMO model

1 liquids and 1 solid phase, solids lower content

Model	Motor kW	Bowl Speed RPM	Hydraulic Capacity I/h
CNO 25 PMO	4	7.800	7.000
CNO 30 PMO	5,5	7.800	11.500
CNO 50 PMO	11	6.400	22.000
CNO 100 PMO	18,5/22	4.700	60.000



RAP OIL REFINERY

GLYCERINE SEPARATION FROM BIODIESEL

SEPARATION OF SALT AND SOLIDS FROM BIODIESEL

BIODIESEL FILTRATION

ANIMAL FAT

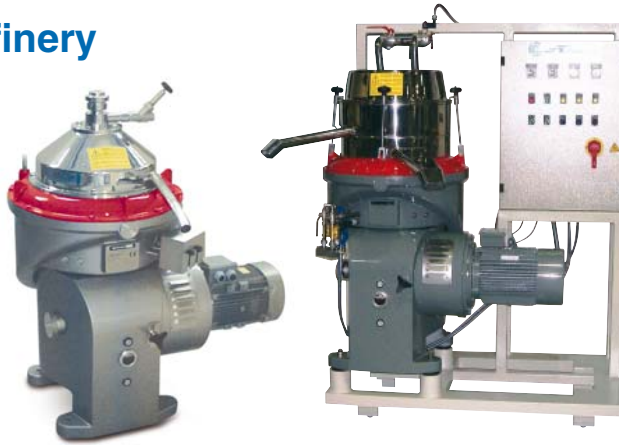
WASTE WATER



## Vegetable oil refinery

### CAO - X / EX model

2 liquids and 1 solid phase



Model		Motor kW	Bowl Speed RPM	Hydraulic Capacity l/h
CAO 30	X	7,5	6.850	3.500
CAO 50	X	15	6.500	7.500
CAO 30	EX	9,2	7.000	4.000

Considering that the centrifugal separation is based on the difference in specific weight, we can assert that two liquids; two liquids and one solid; one liquid and one solid, are separable on condition that this difference exists.

Besides, the separation effect is influenced by other factors, specifically related to the product or to the production cycle, like:

- Product temperature
- Viscosity
- Flow-rate

Some examples of applications:

#### Biodiesel production

- Rap oil refinery
- Refinery of biodiesel from glycerine
- Washing of biodiesel with water
- Final filtration of biodiesel

#### Diesel purifier

- Final filtration of diesel (diesel with solids) before storage
- Final filtration of diesel (diesel with water and solids) before storage

#### Waste water

- Cleaning water from oil water with percentage of oil from 5 to 10
- Cleaning water from vegetable and animal fat
- Cleaning water from bitumen hydrocarbon

In this specific sector, besides what already listed, there are many other applications; what's important is that waters do not contain abrasive solids like silica or metallic parts.



## FRAUTECH MANUFACTURES

Self-cleaning centrifugal separators "Freedom" model

Self-cleaning centrifugal separators gear drive

Solid bowl centrifugal separators

## SPECIAL FEATURES

Frau separators are designed and manufactured according to ATEX specifics

Inlet outlet automatic valves for the correct processing

PLC control for separators command

**Frau separators are designed and manufactured for particular processing on customer's specifics**

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Printed in Italy (04 10)