MACHINERY WORLD

ALFA-LAVAL

Hermetic Separator Type SSG/SRG 214

Application

For continuous neutralizing, degumming, re-refining, washing, dewaxing, fractionation and winterization of vegetable and animal fats and oils.

Capacity

Neutralizing Degumming Re-refining	Washing	Fractionation Dewaxing Winterization
12,000 l/h	14,000 l/h	7,000 l/h

(The figures given above are maximum capacities, the actual capacity will vary depending upon the type of oil or fat to be treated.)

Working principle

The liquid flow is shown diagramatically in the adjoining illustration (Fig. 2).

The separator is hermetic, i.e. the separation takes place in a system without air access.

The separation takes place, by action of the centrifugal force, mainly in the interspace between the bowl discs. The light liquid phase (light brown) of the liquid mixture is separated off and discharges through the phase outlet (2).

The heavy liquid phase (dark brown) flows, together with heavy solids towards the bowl periphery, the solids settling in the solids space and the heavy liquid phase discharging through the phase outlet (3).

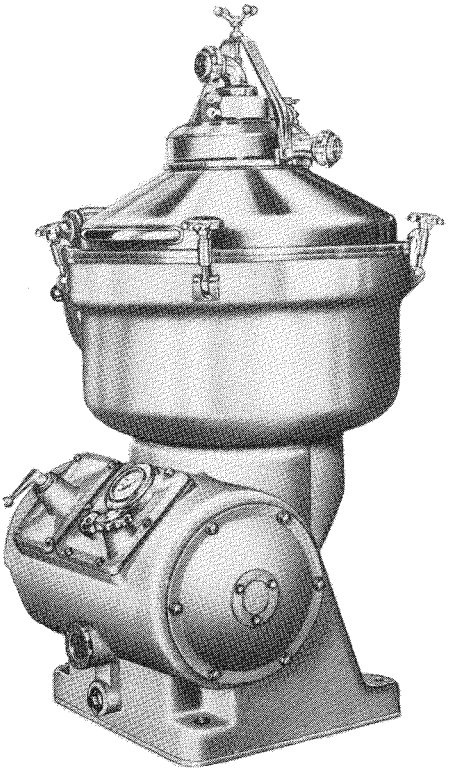


Fig. 1. SRG 214

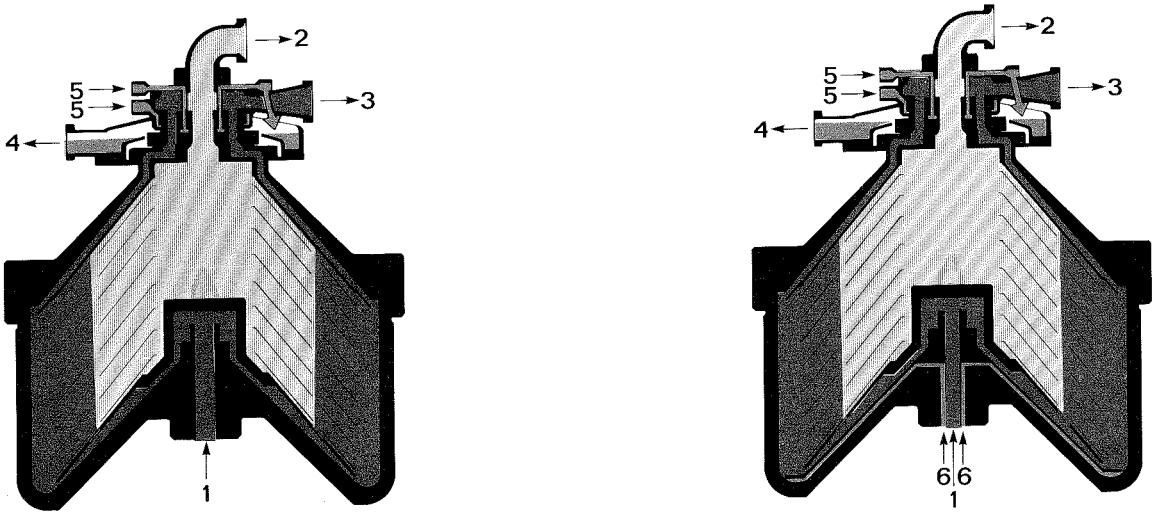


Fig. 2. Longitudinal sections through bowls of SSG- and SRG-design respectively

1. Feed
2. Outlet for light phase
3. Outlet for heavy phase
4. Outlet for flushing liquid from outlet seals
5. Flushing liquid for outlet seals
6. Bowl flushing liquid

No. PD 40667E

Design

The separator is designed for use in continuously working fatty oil refining and fractionation plants. The feed to the separator requires a certain pressure. The totally hermetic design and the fact that the bowl is completely filled with liquid protect the oil against oxidation.

Both the light and the heavy phases leave the machine at an over-pressure. Nor extra discharge pump is required.

In order to safeguard the quality of the oil, the bowl and all other wetted parts are made of stainless steel.

The adjustment of the interface between light and heavy phases is controlled simply by adjusting the air supply pressure to the automatic constant pressure valve at the outlet for the light liquid phase and this can be done at any time during the operation.

Tachometer and revolution counter for the speed control.

Lubrication from a central oil bath.

The seals at the inlet and outlet points are mechanical seals.

The liquid to be separated enters the separator bowl from below through the insert pipe of the bowl spindle (in separator type SRG) or through the centre bore of the bowl spindle (separator type SSG). The bowl is completely filled with liquid. This design prevents emulsification and frothing.

Material

The bowl and all other wetted parts are made of stainless steel. Frame and frame hood of epoxy-enamelled cast iron.

Frame hood of stainless steel.

Drive

Standard drive is direct via friction-clutch coupling to the horizontal drive shaft by a flange motor.

Alternative drive with rigid coupling is available (separator type SSG/SRG 214 H - 14 CH).

Basic equipment

Set of connection parts, comprising:
Connecting tube for oil inlet, including illuminated sight glass.
Connecting tube for oil outlet, including illuminated sight glass, automatic constant pressure valve, pressure gauge, and thermometer.
Connecting tubes for reagent (only for SRG-design), flushing water (only for SRG design) and seal cooling water. **Discharge tubes** for heavy phase and for waste water.
Spindle mixer (only for SRG-design)
Electric motor
Set of spare parts

Extra equipment

Set of tools
Starter
Bowl holder

Dimensions (mm)

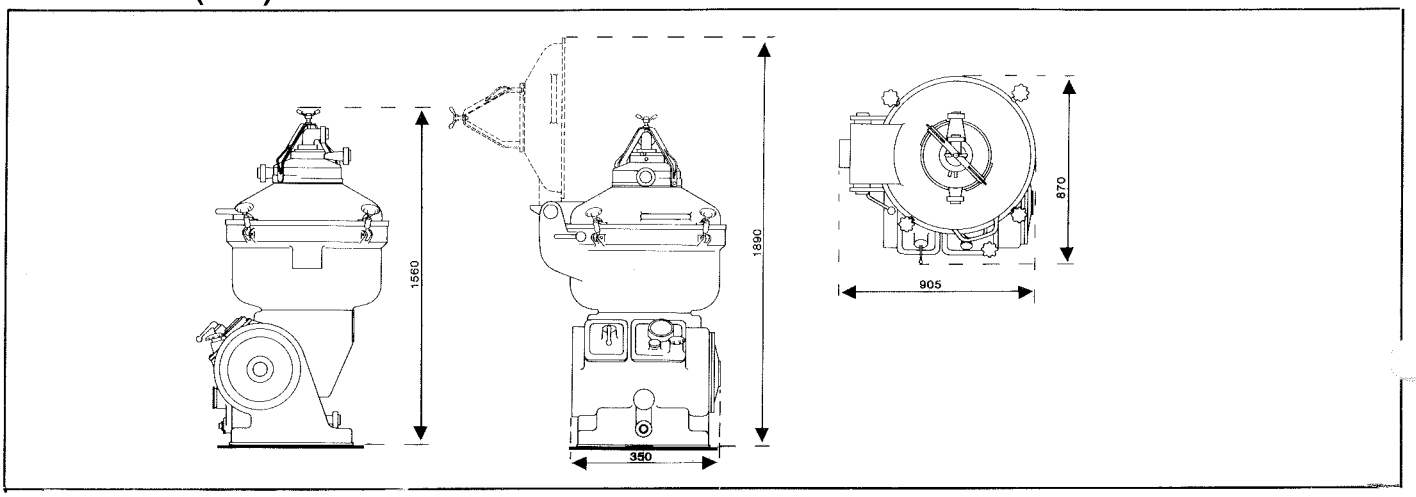


Fig. 3. Dimensional drawing of SSG/SRG 214

Technical data

Electrical motor:	15 kW
Volume of sediment-holding space of the bowl:	15.6 litres
Speed:	
Drive motor	rpm
50 c/c	60 c/s
1420-1500	1700-1800
Connections:	51 mm (2")

Shipping data (approx.)

SSG/SRG 214 complete with motor and basic equipment:

Net weight	1.375kg (3.000 lb)
Gross weight	1.560 kg (3.500 lb)
Volume	2.74 m^3 (97 ft^3)

Ordering

When ordering, please state operating voltage and frequency of current, approx. operating capacity and, if possible, data of liquid to be treated (contents of solids in feed, density, etc.).

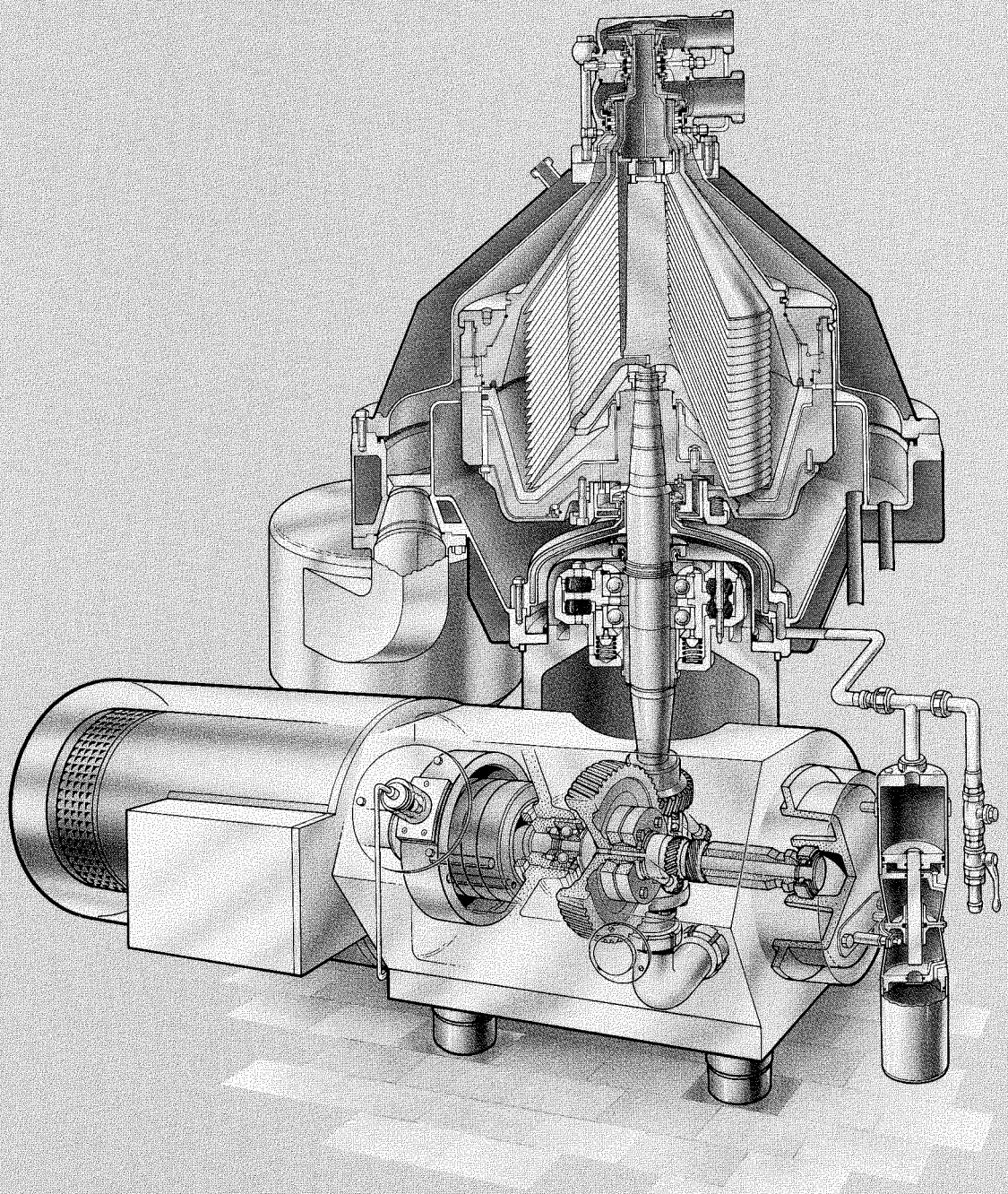
ALFA-LAVAL
FOOD TECHNOLOGY

No. PD 40667E
8211

The manufacturer reserves the right to change specifications without notice.

SANDSTRÖM & SÖNER, TUMBA

The SRPX 714 separation system. The state of the art.



- High capacity - up to 500 tons per day at feed pressures of less than 4 bar (56 psi) thanks to modern hermetic design combined with double outlet pumps
- Fully automated start-up, surveillance and shutdown
- Quiet operation - less than 80 dB(A)
- Precise and stable control of sludge discharges
- Optional bowl flush system
- Low power consumption

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ALFA-LAVAL

Hermetic Solids-Ejecting Separator Model SRPX 414

Application

For continuous neutralizing, degumming, re-refining, washing, dewaxing, fractionation and winterization of vegetable and animal fats and oils.

Capacity

Neutralizing Degumming Re-refining	Washing	Fractionation Dewaxing Winterization
10,000 l/h	10,000 l/h	6,000 l/h

(The figures given above are nominal capacities, the actual capacity will vary depending upon the type of oil or fat to be treated.)

Working principle

The liquid flow through the machine is shown diagramatically in the adjoining illustration (Fig. 2).

The separation process takes place hermetically, i.e., in a closed system without air access.

The separation takes place, by action of the centrifugal force, mainly in the interspace between the bowl discs. The light liquid phase (light brown) of the liquid mixture is separated off and discharges through the phase outlet (3).

The heavy liquid phase (medium brown) flows, together with heavy solids towards the bowl periphery, the solids settling in the solids space and the heavy liquid phase discharging through the phase outlet (4).

Discharges of the separated solids are made possible by having a sliding bowl bottom free to slide up and down inside the bowl. During separation, this bottom is pressed upwards hydraulically, ensuring a tight seal against the bowl hood.

At suitable intervals, the hydraulic system under the sliding bowl bottom is emptied very rapidly, causing an instantaneous downward movement of the bottom with an ensuing opening of the annular slit through which the solids are then ejected. This can be done even if the separator is in full operation and without interruption of the feed.

Emptying and subsequent filling of the hydraulic system is actuated by pulses of operating liquid which are fed to the bowl's operating mechanism from an external supply. These pulses and the subsequent solids discharges (known as "shootings") is controlled by the discharge programme equipment actuated by a timer or manually.

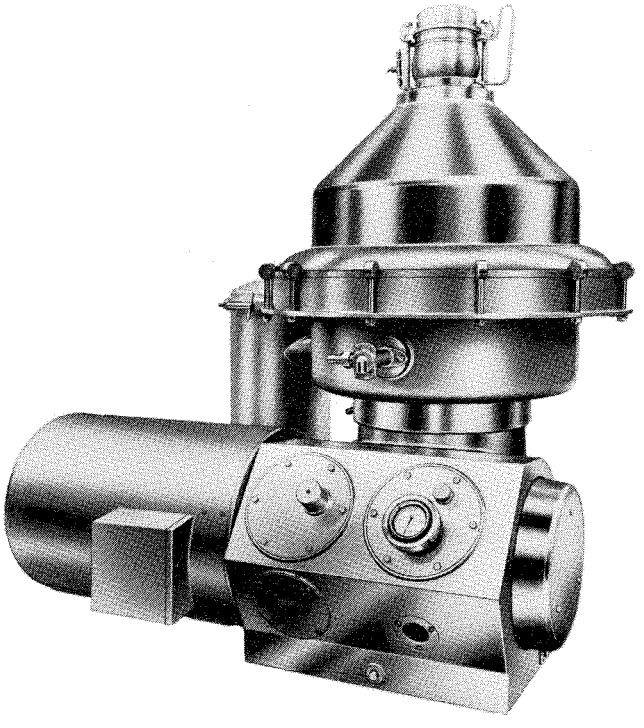


Fig. 1. SRPX 414 complete with motor

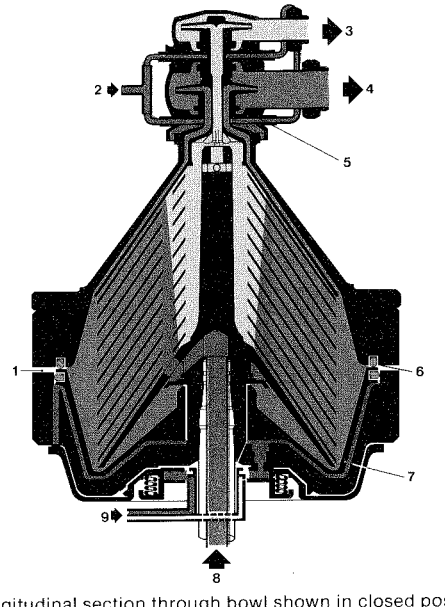


Fig. 2. Longitudinal section through bowl shown in closed position indicates operating liquid keeping the sliding bottom closed against the bowl hood.

1. Sludge ejection ports
2. Flushing liquid for outlet seals
3. Outlet for light phase
4. Outlet for heavy phase
5. Outlet for flushing liquid from outlet seals
6. Seal ring
7. Sliding bowl bottom
8. Feed
9. Operating liquid

Design

The separator is designed for use in continuously working fatty oil refining plants. The feed to the separator requires a certain pressure. The totally hermetic design and the fact that the bowl is completely filled with liquid protect the oil against oxidation. Both the light and the heavy phases leave the machine at an over-pressure.

In order to safeguard the quality of the oil, the bowl and all other wetted parts are made of stainless steel.

The adjustment of the interface between light and heavy phases is controlled simply by adjusting the air supply pressure to the automatic constant pressure valve at the outlet for the light liquid phase and this can be done at any time during the operation.

Tachometer and revolution counter for the speed control.

Lubrication from a central oil bath.

The seals at the inlet and outlet points are mechanical seals.

The liquid to be separated enters the separator at the bottom and passes through the hollow spindle to the bowl, which is completely filled with liquid. This design prevents emulsification and frothing.

The bowl is arranged as a purifier and for variable discharge of sediment.

Material

The bowl and all other wetted parts are made of stainless steel.

Frame hood, bowl casing, motor casing and sludge cyclone are made of stainless steel.

Frame of cast iron lined with stainless steel.

Basic equipment

Discharge programme equipment
Transformer
Operating liquid module

Set of connection parts, comprising:

Connecting line for oil inlet, including illuminated sight glass and pressure gauge. **Connecting line for oil outlet,** including illuminated sight glass, automatic constant pressure valve, pressure gauge, and thermometer. **Connecting line for seal-cooling water. Discharge pipe for heavy phase.**

Electric motor
Set of spare parts.

Extra equipment

Set of tools
Starter

Dimensions (mm)

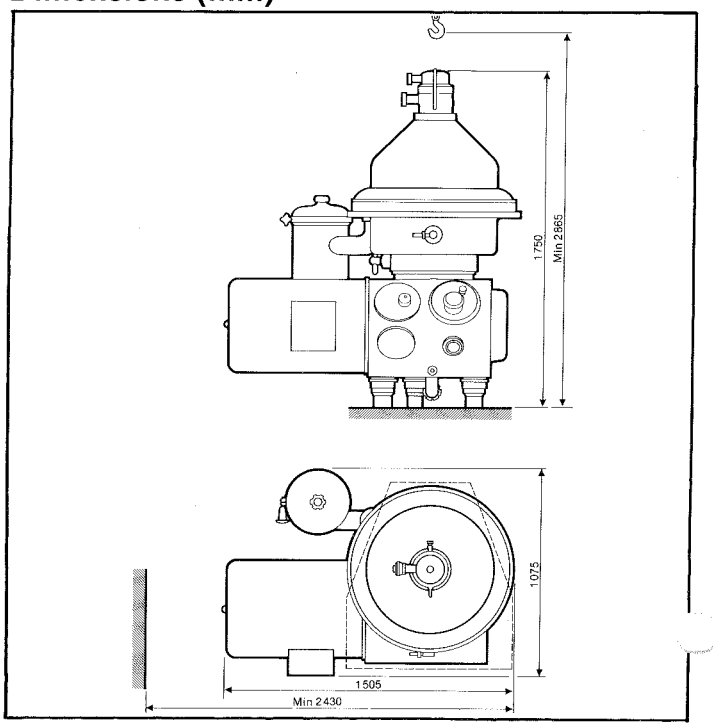


Fig. 3. Dimensional drawing of SRPX 414

Technical data

Electrical motor:	18.5 (CT-type)	
Volume of sediment-holding space of the bowl:	9.6 litres	
Speed:		
Drive motor, rpm	50 c/s	60 c/s
	1420-1500	1700-1800
Connections:	Inlet: 63.5 mm (2.5")	
	Outlet: 38 mm (1½")	

Shipping data (approx.)

Basic unit without motor.		Motor only:	
Net weight	1.350 kg	Net weight	360 kg
Gross weight	1.650 kg	Gross weight	440 kg
Volume	4 m^3	Volume	0.6 m^3

Ordering

When ordering, please state operating voltage and frequency of current, approx. operating capacity and, if possible, data of liquid to be treated (contents of solids in feed, density, etc.).

ALFA-LAVAL
FOOD TECHNOLOGY

No. PD 40671 E
8303

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SANDSTRÖM & SÖNER, TUMBA

ALFA-LAVAL

Hermetic Solids-Ejecting Separator Model SRPX 213

Application

For continuous neutralizing, degumming, re-refining, washing, dewaxing, fractionation and winterization of vegetable and animal fats and oils.

Capacity

Neutralizing Degumming Re-refining	Washing
6000 l/h	9000 l/h

(The figures given above are maximum capacities, the actual capacity will vary depending upon the type of oil or fat to be treated.)

Working principle

The liquid flow through the machine is shown diagramatically in the adjoining illustration (Fig. 2).

The separation process takes place hermetically, i.e., in a closed system without air access.

The separation takes place, by action of the centrifugal force, mainly in the interspace between the bowl discs. The light liquid phase (light brown) of the liquid mixture is separated off and discharges through the phase outlet (2).

The heavy liquid phase (dark brown) flows, together with heavy solids towards the bowl periphery, the solids settling in the solids space and the heavy liquid phase discharging through the phase outlet (3).

Discharges of the separated solids are made possible by having a sliding bowl bottom free to slide up and down inside the bowl. During separation, this bottom is pressed upwards hydraulically, ensuring a tight seal against the bowl hood.

At suitable intervals, the hydraulic system under the sliding bowl bottom is emptied very rapidly, causing an instantaneous downward movement of the bottom with an ensuing opening of the annular slit through which the solids are then ejected. This can be done even if the separator is in full operation and without interruption of the feed.

Emptying and subsequent filling of the hydraulic system is actuated by pulses of operating liquid which are fed to the bowl's operating mechanism from an external supply. These pulses and the subsequent solids discharges (known as "shootings") is controlled by the discharge programme equipment actuated by a timer or manually.

Design

The separator is designed for use in continuously working fatty oil refining plants. The feed to the separator requires a certain pressure. The totally hermetic design and the fact that the bowl is completely filled with liquid protect the oil against oxidation.

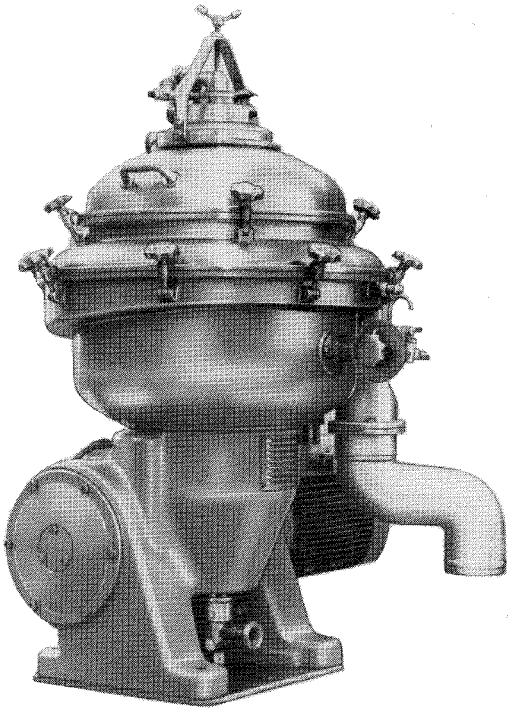


Fig. 1. SRPX 213 complete with motor.

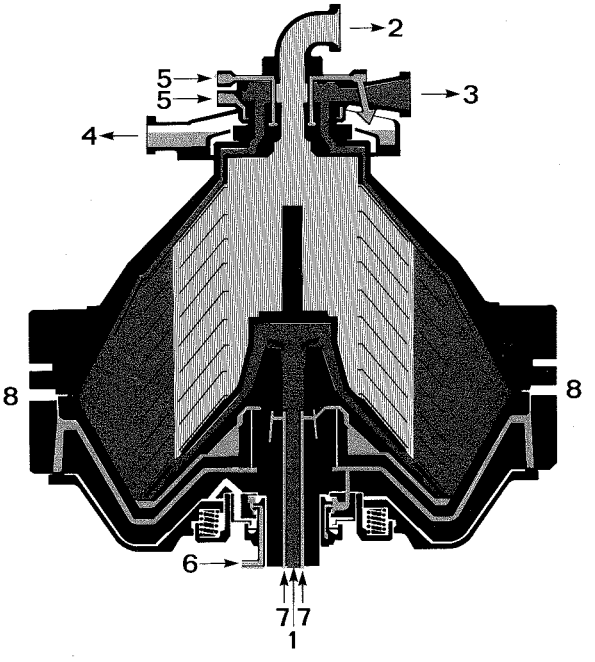


Fig. 2. Longitudinal section through bowl shown in closed position indicates operating liquid keeping the sliding bottom closed against the bowl hood.

1. Feed
2. Outlet for light phase
3. Outlet for heavy phase
4. Outlet for flushing liquid from outlet seals
5. Flushing liquid for outlet seals
6. Operating liquid
7. Bowl flushing liquid
8. Sludge ejection ports

No. PD 40666E

Both the light and the heavy phases leave the machine at an over-pressure. No extra discharge pump is required.

In order to safeguard the quality of the oil, the bowl and all other wetted parts are made of stainless steel.

The adjustment of the interface between light and heavy phases is controlled simply by adjusting the air supply pressure to the automatic constant pressure valve at the outlet for the light liquid phase and this can be done at any time during the operation.

Tachometer and revolution counter for the speed control.

Lubrication from a central oil bath.

The seals at the inlet and outlet points are mechanical seals.

The liquid to be separated enters the separator at the bottom and passes through the hollow spindle to the bowl, which is completely filled with liquid. This design prevents emulsification and frothing. The bowl shaft has a separate channel through which flushing water is brought to the sediment space of the bowl.

The bowl is arranged as a purifier and for variable discharge of sediment.

Basic equipment

Set of discharge programme equipment, comprising:

Discharge programme equipment
Operating liquid tank
Operating liquid unit
Operating liquid pump with 2.2 kW motor
Starter for operating liquid pump

Set of connection parts, comprising:

Connecting line for oil inlet, including illuminated sight glass.
Connecting line for oil outlet, including illuminated sight glass, automatic constant pressure valve, pressure gauge, and thermometer.
Connecting line for bowl-flushing water and seal-cooling water.
Discharge pipes for heavy phase and waste water.

Electric motor
Set of spare parts.

Extra equipment

Set of tools
Starter

Shipping data (approx.)

SRPX complete with motor and other basic equipment:

Net weight	1.450 kg (3.200 lb)
Gross weight	1.700 kg (3.800 lb)
Volume	3.19 m³ (115 ft³)

Dimensions (mm)

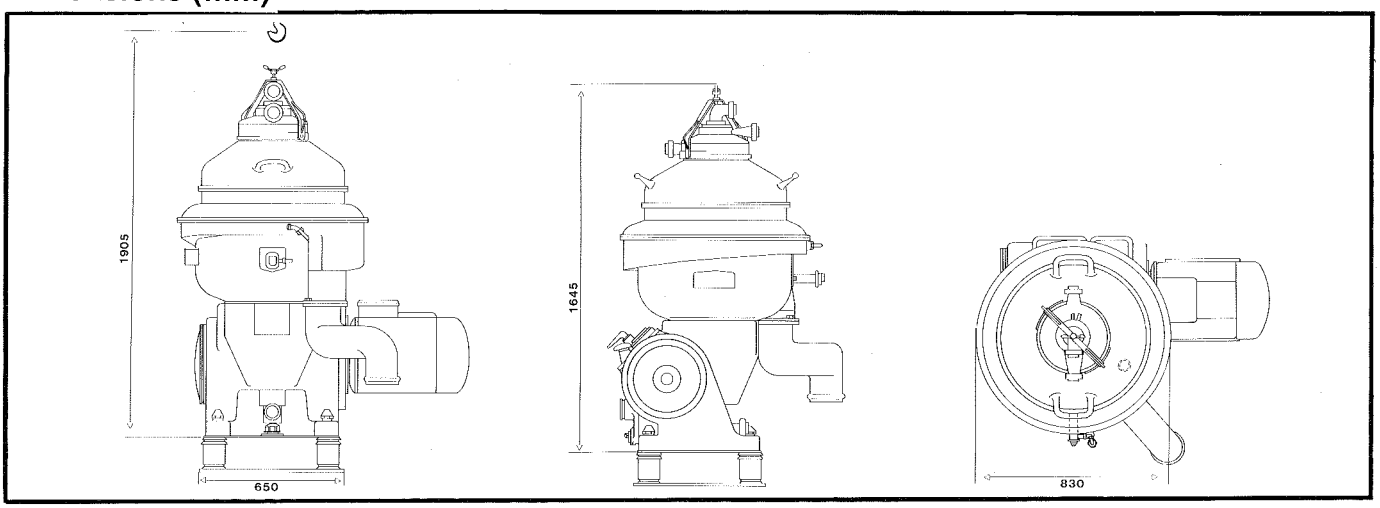


Fig. 3. Dimensional drawing of SRPX 213

Material

Frame:	Cast iron
Frame hood, spiral-solids cover-disharge bend:	Stainless steel
Bowl body and hood:	Stainless steel
Hollow bowl spindle:	Stainless steel
Other bowl parts:	Stainless steel
Large lock ring:	Tinned steel

The sliding bowl bottom is provided with a replaceable lining as a protection against erosion.

Drive

Standard drive is direct via a friction clutch coupling to the horizontal drive shaft by a flange motor.

Alternative drive with rigid coupling is available (type SRPX 213 HGV-14 CH).

Technical data

Electrical motor:	15 kW	
Volume of sediment-holding space of the bowl:	15 litres	
Speed:		
Drive motor, rpm	50 c/s 1420-1500	60 c/s 1700-1800
Connections:	Inlet: 51 mm (2") Outlet: 38 mm (1½")	

Ordering

When ordering, please state operating voltage and frequency of current, approx. operating capacity and, if possible, data of liquid to be treated (contents of solids in feed, density, etc.).

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