

# 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 diagrammatically 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.

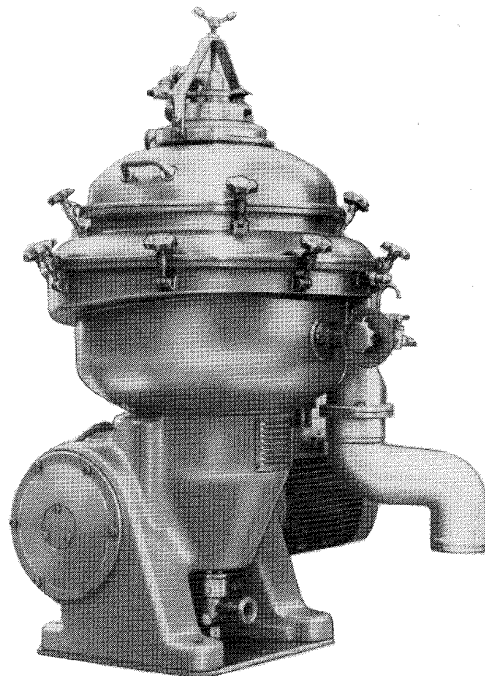


Fig. 1. SRPX 213 complete with motor.

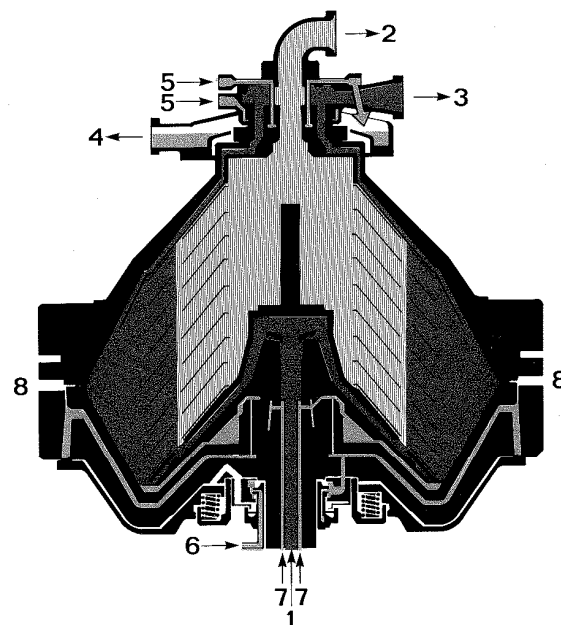


Fig. 2. Longitudinal section through bowl shown in closed position indicates operating liquid keeping the sliding bottom closed against the bowl hood.

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

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 m <sup>3</sup> (115 ft <sup>3</sup> )

## Dimensions (mm)

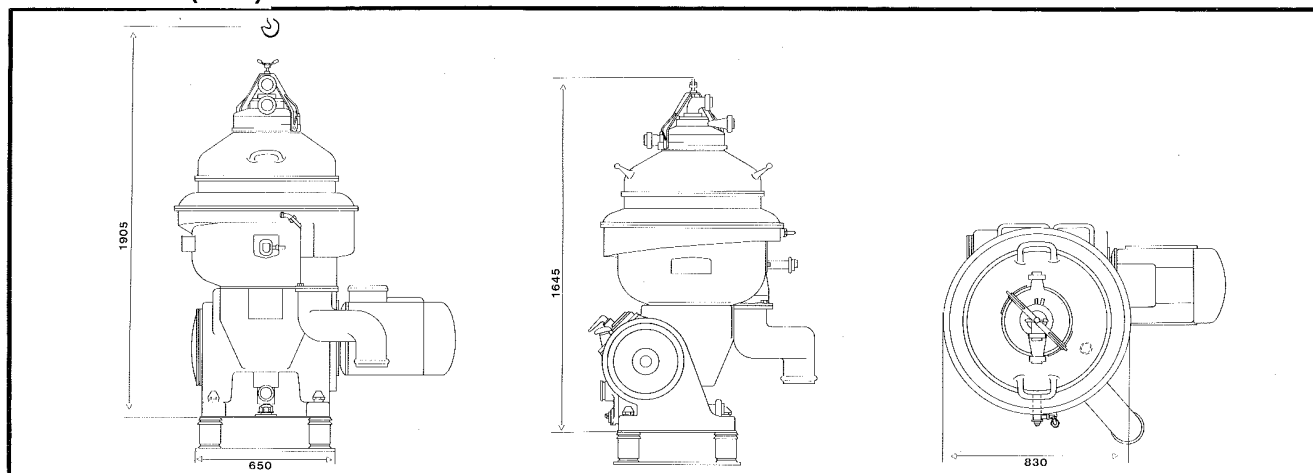


Fig. 3. Dimensional drawing of SRPX 213

## Material

Frame: Cast iron

Frame hood, spiral-solids cover-discharge 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 60 c/s  
1420-1500 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.).

