ALFA-LAVAL

Self-Cleaning Bactofuge MRPX 314 SGV

Application

Clarification of milk to remove bacteria.
Designed for continuous operation and CIP.

Working Principle

The bactofuge has the following four distinguishing features: 1. Open milk inlet, 2. Paring disc, 3. Continuous ejection of bactofugate, and 4. Cleaning-in-place with automatic sludge discharge.

1. Milk Feed. Milk is fed into the bactofuge bowl from the top through a stationary pipe A. Inside the distributor B the milk finds its own level depending on feed capacity and outlet pressure. The milk is accelerated through the cap nut C, and by the time it enters the disc stack at its periphery it has achieved almost bowl speed. This feed arrangement and gentle treatment of the milk prevents air being picked up.

2. Paring Disc. The milk outlet flow is achieved by means of a paring disc D.

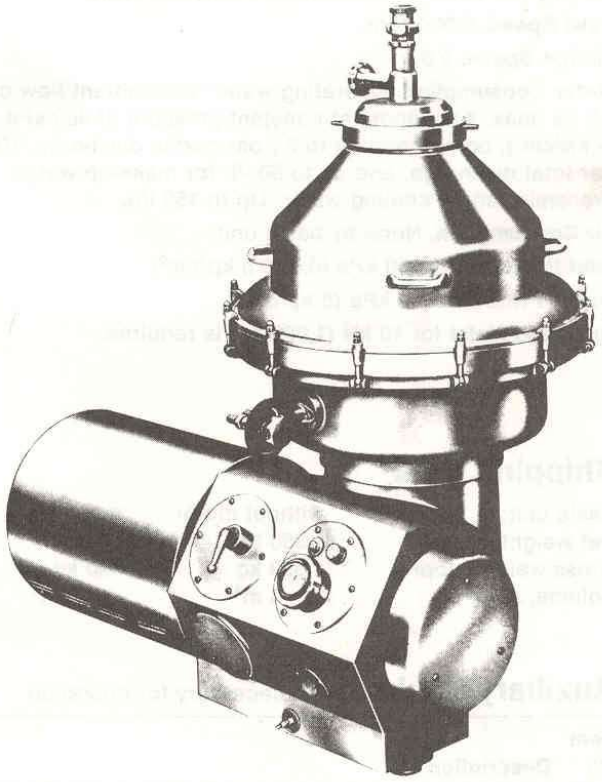
3. Continuous Discharge Of Bactofugate. Through four nozzles E around the circumference of the bowl the bactofugate is continuously ejected. The bactofugate which includes up to 90 % of all the micro-organisms in the milk also contains milk proteins, lactose, and ash. The bactofugate amounts to max 3 % of the feed, and is recoverable.

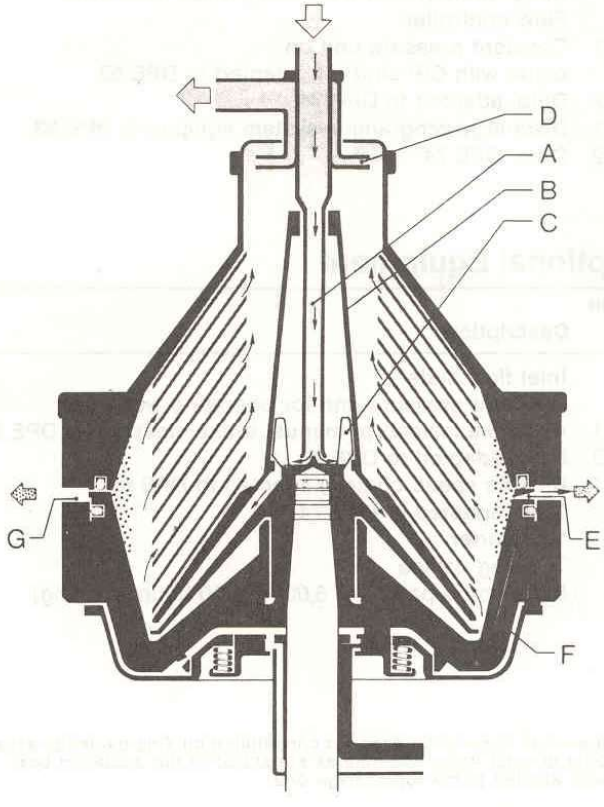
4. Cleaning-In-Place. The machine is designed for cleaning-in-place and should be incorporated in the plant automatic CIP system. At preset intervals during cleaning the bowl is automatically opened to discharge sludge and other impurities that have collected in the bowl. This is achieved by the sliding bowl bottom F dropping briefly to allow the sludge to be ejected. The opening and closing of the bowl is done with water and controlled by a programme system unit. The bowl opening time may be varied to discharge either the contents of the sludge space only or the contents of the entire bowl. All parts of the bactofuge in contact with milk as well as the outside of the bowl, the inside of the frame hood, and the sludge outlet are cleaned perfectly without the need for any manual labour.

Basic Unit

Material. The upper part of the machine and all parts in contact with milk are of acid-resistant stainless steel. The motor casing and sludge cyclone are also of stainless steel, and the lower part of the frame is encased in stainless steel.

Standard Equipment. Included are motor, foundation plate, revolution counter, manual brake, and cyclone to absorb the kinetic energy of the ejected bactofugate and sludge. A spare parts kit is also provided.





Longitudinal section through bowl shown in closed position

A Inlet pipe
B Distributor
C Cap nut
D Milk outlet paring disc
E Bactofugate ejection nozzles
F Sliding bowl bottom
G Sludge ejection ports

MRPX 314 SGV-34 C

Technical Data

Capacity. 8,000 l/h.

Connections. Inlet 51 mm. Outlet 51 mm. SMS unions.

Motor. 22 kW flange motor for 380/660 V, 50 or 60 Hz, 3-phase AC. (Other voltages on request). Motor drives bowl directly via worm gear (controlled torque motor).

Bowl Speed. 5,000 rpm.

Sludge Space. 9.6 l.

Water Consumption. Operating water: Intermittent flow of up to 2.5 l/s (max. 4 seconds) at constant pressure of 400 kPa (4 kp/cm²), corresponding to 2 l per partial discharge, 10 l per total discharge, and up to 50 l/h for make-up water. Transmission oil cooling water: Up to 150 l/h.

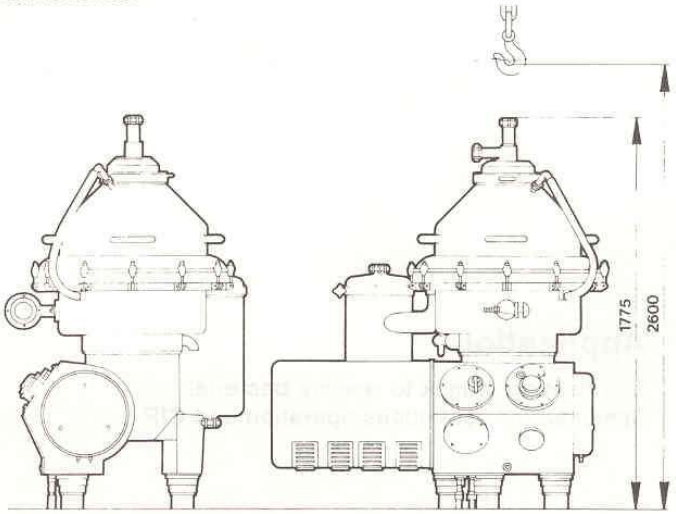
Air Consumption. None by basic unit.

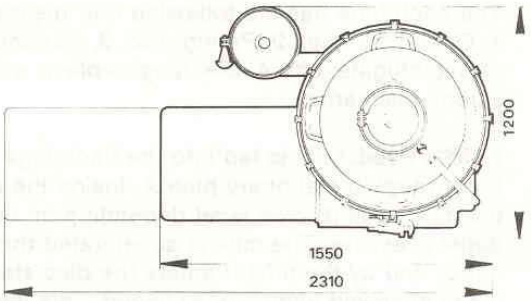
Inlet Pressure. 40–50 kPa (0.4–0.5 kp/cm²).

Outlet Pressure. 500 kPa (5 kp/cm²).

Overhead Hoist for 10 kN (1,000 kp) is required.

Dimensions





Shipping Data

Basic unit;	without motor	motor only
Net weight, appr	1,350 kg	360 kg
Gross weight, appr	1,650 kg	440 kg
Volume, appr	4 m³	0.6 m³

Auxiliary Equipment necessary for operation

Item No	Description	Cannot be combined with item No	Requires item No	See PD No
1	Set of tools (one set for every three machines)			
4	Flow controller			60687
16.1	Constant pressure unit on outlet with CIP shut-off, adapted to DPE 53	18.2 19.2 20.2	18.1	60692
16.2	Ditto, adapted to DPE 74	18.1 19.1 20.1	18.2	60692
18.1	Discharge programme system equipment DPE 53	19.2 20.2		60694
18.2	Ditto, DPE 74	19.1 20.1		60702

Optional Equipment

Item No	Description	Cannot be combined with item No	Requires item No	See PD No
2	Inlet flow meter			60685
17	Constant pressure unit for operating water		18	60693
19.1	Air brake instead of manual brake, adapted to DPE 53	18.2 20.2	18.1	60695
19.2	Ditto, adapted to DPE 74	18.1 20.1	18.2	60695
20.1	Remote speed control, adapted to DPE 53	18.2 20.2	18.1	60696
20.2	Ditto, adapted to DPE 74	18.1 19.1	18.2	60696
23	Y/D starter			60696
24	Tripping device			60718
28	Extra spare parts (for 6,000–9,000 hours running)			60719

This product description does not constitute a binding quotation except in respect of such items and data as are stated in the quotation box (if any) applied to the top of page one.

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