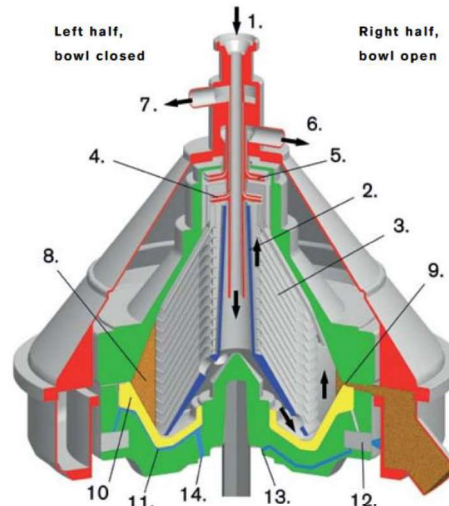


D. Process Description



The product flows into the bowl through feed pipe (1) and into the distributor (2) it undergoes acceleration until it reaches the bowl rotating speed. The distributor (2) conveys the product to the disks stack (3) where the separation between light and heavy phase takes place. Light clarified phase flows to the center of the bowl and heavy phase flows to the bowl outer diameter. They rise in the disks stack and reach the two upper chambers of the bowl. Here two fixed centripetal pumps (4) and (5) convey them under pressure to the outlet pipe lines (6) and (7).

The separated solids are collected in the peripheral part of the bowl (8) and they are periodically and automatically discharged through the discharge holes (9) to maintain the required separation efficiency. The sliding piston (10) is kept in the closed position by the pressure produced by the water in the chamber (11). Injecting the water (13) into the opening valve (12) the chamber (11) is emptied, the piston goes down and the solids are immediately ejected. By interrupting the water (13) and injecting the closing water (14) into the chamber (11), the sliding piston goes back to the closed position.

The periodical solids discharge is carried out automatically by means of a cycle timing unit which controls the opening and closing water solenoid valves.

By setting the timers it is possible to adjust the discharge quantity and the time between each discharge. Two automatic, independent operation cycles may be selected "separation/partial discharge" and "washing/partial discharge". The discharge of solids collected in the bowl does not involve the stopping of the separating process; actually it takes place at the rated revolving speed and without interrupting the product feeding. The ejected sediments are collected into an outer annular chamber where they are drained away by gravity through a pipe.

The cycle timing unit controls as well the automatic closing of the bowl during the starting-up phase of the separator and allows the presetting for partial discharges manually controlled.

Bowl feeding is carried out through a closed pipe line with outlets of the product under pressure, by means of two centripetal pumps and without seal gaskets between fixed parts and rotating parts. On inlet-outlet pipe lines are inserted valves and instrumentation necessary to control and regulate the separator (micrometric adjusting valves, butterfly valves, sanitary pressure gauge, sample cocks, etc.).

E. Technical Specifications

Centrifuge type self-cleaning skimming separator mod. SE85X-Q3P3
Product warm milk, whey

Technical Specifications		
Milk skimming capacity	l/h	45.000
Whey skimming capacity	l/h	52.000
Milk standardization and cleaning capacity	l/h	52.000
Solids chamber capacity	l	17,0
Bowl speed	rpm	4.800
Max residual fat in skim at skimming capacity and optimum conditions	Röse Gotlieb	0,040%±0,055%

Process Conditions		
Optimal milk skimming range temperature	°C	45 ÷ 55
Optimal whey skimming range temperature	°C	30 ÷ 40
Operating inlet pressure	bar	0,5 ÷ 1,5
Maximum useful skim pressure	bar	3,0
Maximum useful cream pressure	bar	2,5

F. Installation Data

Operating Water		
Total hardness (1°dH=1.79°FH=1.25°eH=17.9ppm CaCO3)	dH	≤ 12° at sep. temp. < 55°C ≤ 6° at sep. temp. > 55°C
pH value		6,5 ÷ 7,5
Salinity (Cl ⁻ ions):	mg/l	≤ 100
Operating water consumption (each partial discharge)	l	10,0
Operating water consumption	l/h	100,0
Minimum feeding pressure for operating liquid	bar	2,0

Air		
Minimum compressed air pressure	bar	6,0
Compressed air consumption	Nm3/h	0,01
Dew Point	°C	-40
Oil		none

Electrical System Features		
Motor power	kW	55,0
Voltage	V	3x220 ÷ 575
Frequency	Hz	50 ÷ 60
Motor type		asynchronous / 3 ph / 2 poles
Motor starter and drive		by frequency converter (0÷50Hz)
Electrical system		3 ph + earth
Electric motor protection level		IP 55
Electric panel protection level		IP 55
Operation		PLC + OP touch-screen 9'

Construction Features	
Centrifuge type	vertical disc type centrifuge
Transmission	by flat belt
Lubrication	self-lubricant
Anti-vibrations support	rubber shock absorbers

Hydraulic connections:	
Product inlet	DN65 DIN11851
Skim outlet	DN65 DIN11851
Cream outlet	DN40 DIN11851

Solids outlet	Ø 125
Operating water inlet	G 3/4"
Operating water outlet	DN50

Materials	Werkstoff n°	ASTM
Bowl (bowl body, moving ram and bowl hood)	1.4501	F55
Bowl (locking ring)	1.4501	F55
Bowl internal parts and parts in contact with product	1.4301	F304
Bowl cover and cyclone	1.4301	F304
Gaskets	NBR-EPDM	
Machine frame	Casted iron stainless steel coated	

Installation And Maintenance		
Footprint [L x W]	mm	2000x1360
Footprint with skid [L x W]	mm	2120x2570
Weight of bowl	kg	1.050
Weight of separator without bowl	kg	2.250
Weight of unit on skid	kg	3.900
Weight of motor	kg	315/385
Minimum height of hoist for bowl removal	mm	2.800
Maintenance area	m2	12

Weights And Shipping Data		
Weight of separator packing case	kg	2.650
Separator packing case dimensions [L x W x H]	mm	2200x1660x2250
Weight of bowl packing case	kg	1.360
Bowl packing case dimensions [L x W x H]	mm	1150x1000x1180
Weight of electrical panel packing case	kg	390
Electrical panel packing case dimensions [L x W x H]	mm	2200x1100x1000

Weights And Shipping Data (machine complete with skid)		
Weight of separator packing case	kg	3.800
Separator packing case dimensions [L x W x H]	mm	2900x2260x2470
Weight of bowl packing case	kg	1.360
Bowl packing case dimensions [L x W x H]	mm	1150x1000x1180