Autmix®

Alfa Laval H3

Disc stack separation system for the dairy industry

Introduction

For more than 130 years, Alfa Laval has been supplying disc stack separators for the dairy industry. Today Alfa Laval offers the most complete and diverse portfolio of separators, each fully optimized for its specific duty.

Alfa Laval´s range of disc stack separators has been setting the standards for gentle and efficient separation, meeting the strictest hygiene and performance requirements of modern dairies.

Application

Self-cleaning disc stack separators in the H series are specially designed to separate globular milk fat from skimmed milk. The separator provides high efficiency processing in skimming and standardization applications at high temperatures between 55 - 75°C in dairies.

Benefits

- High yield
- Robust and reliable design
- Easy to operate
- Easy to maintain
- Plug-and-play installation
- Corrosion resistant
- Designed with focus on CIP

Design

The Alfa Laval Compacta series separators are specially designed to meet the requirements of small-scale dairies in order to secure high efficiency skimming performance. The self-cleaning separators provide safe, gentle, and consistent treatment to safeguard the quality of the product.

The separator is self-discharging, which means that impurities are automatically removed to enable a continuous process. This improves process efficiency while reducing the manual labour requirements.

All components are skid mounted to facilitate "Plug and Play" installation, which results in a small footprint. The control system includes a PLC and a user-friendly HMI to monitor and control the separation process parameters. The system can be configured for remote operation.

All parts in contact with the product are in compliance with European food contact material regulation - (EC) No.

1935/2004. The metallic product contact parts are made of high-grade stainless-steel ensuring corrosion resistance and the non-metallic product contact parts, including gaskets and seals, are made of materials according to FDA requirement.

Scope of supply

- Disc stack separator
- Cyclone
- Process & service liquid unit:
    - Valves, instruments and other components
    - Manual flow and back pressure regulation valves
    - Sample valves
- Electrical & control system
    - Control cabinet with PLC and HMI
    - Motor starter cabinet with VFD
- Commissioning spares

- Documentation
- Set of special tools

Options

- Flowmeter

Working principle

The milk is continuously fed from the top into the rotating separator bowl through the inlet pipe. Separation takes place between the bowl discs due to the centrifugal force. The cream moves towards the centre of the bowl and the skimmed milk towards the periphery. The separated liquids are continuously pumped out by the paring disc through the outlet at the top of the separator.

Separated sludge is collected in the sediment space and is discharged intermittently via the cyclone. While the sludge is accumulating in the sediment space, the sliding bowl bottom is kept closed against the bowl hood by means of operating water. The sliding bowl bottom lowers, while the machine is operating at full speed, to discharge separated sludge through the discharge ports. The sequential pulses of operating water are used to control the movement of the sliding bowl bottom part that opens and closes the discharge ports.
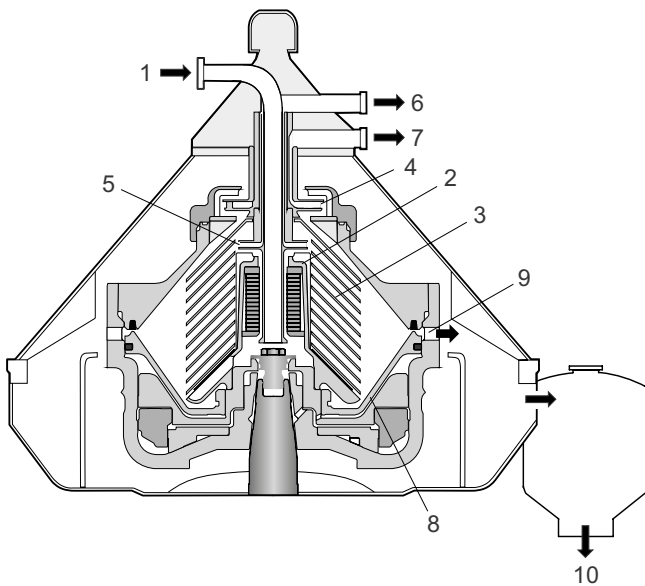
Typical bowl drawing for a solids-ejecting separator. The details illustrated do not necessarily correspond to the separator described.

1. Feed inlet
2. Distributor
3. Disc stack
4. Heavy phase paring disc
5. Light phase paring disc
6. Light liquid phase outlet
7. Heavy liquid phase outlet
8. Sliding bowl bottom
9. Solids ports
10. Solids outlet from cyclone
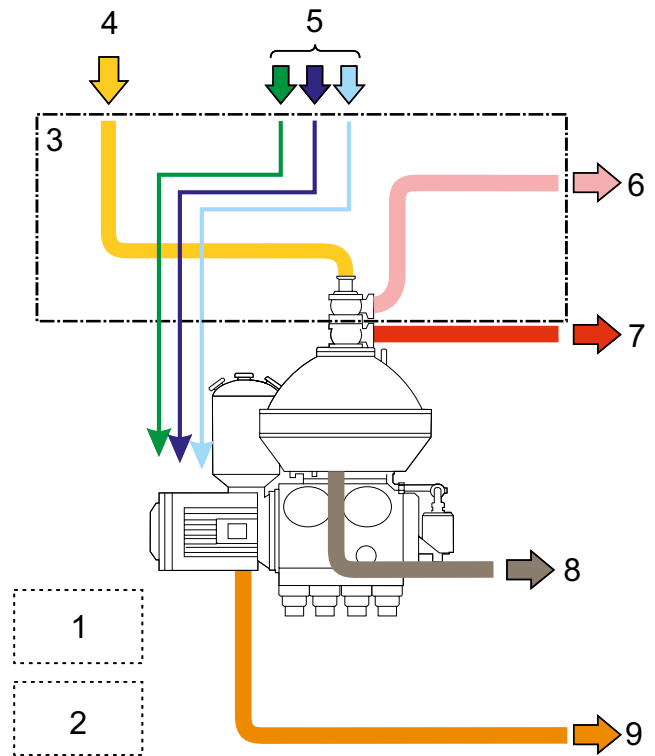
1. Control cabinet
2. Main motor starter cabinet and VFD
3. Process & service liquid unit
4. Product inlet
5. Utilities
6. Light liquid phase outlet
7. Heavy liquid phase outlet
8. Separator drain
9. Discharged solids outlet

Technical data

Performance data

Capacity[1]	Flow rate skimming: 3500 l/h (924 US gallon/h) Flow rate max: 6500 l/h (1717 US gallon/h)
Installed motor power	11 kW (14.75 HP)

[1] Actual capacity and power consumption depend on application, performance and operating conditions.

Main connections

|	
Feed inlet	Clamp Ferrule – DN32 – DIN 32676
Product outlet (heavy phase)	Clamp Ferrule – DN32 – DIN 32676
Product outlet (light phase)	Clamp Ferrule – DN15 – DIN 32676
Solids outlet	Clamp DN100

Material data

Bowl body	Duplex Stainless Steel, EN 1.4462, ASTM/UNS S31803
Gaskets (product wetted)	EPDM, NBR, and TFM FDA approved
Piping	Stainless steel, 316L
Frame and cabinets	Stainless steel, AISI 304

Weights

System incl. separator bowl and motor	735 kg (1620 lb)
Bowl	137 kg (302 lb)

Dimensional drawing
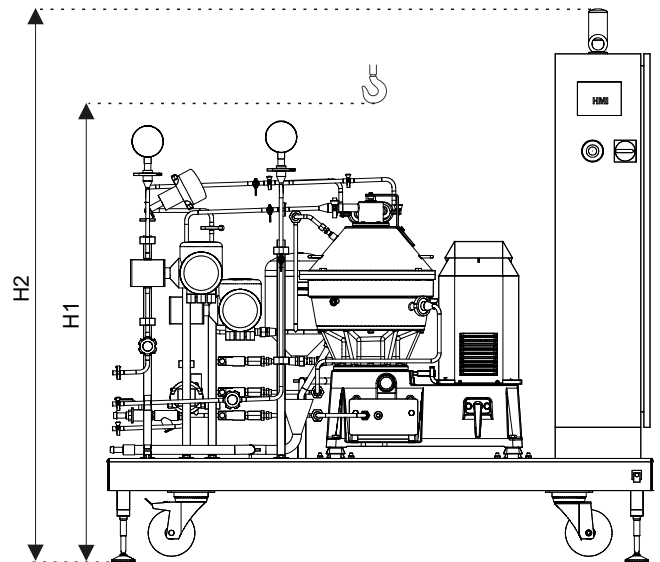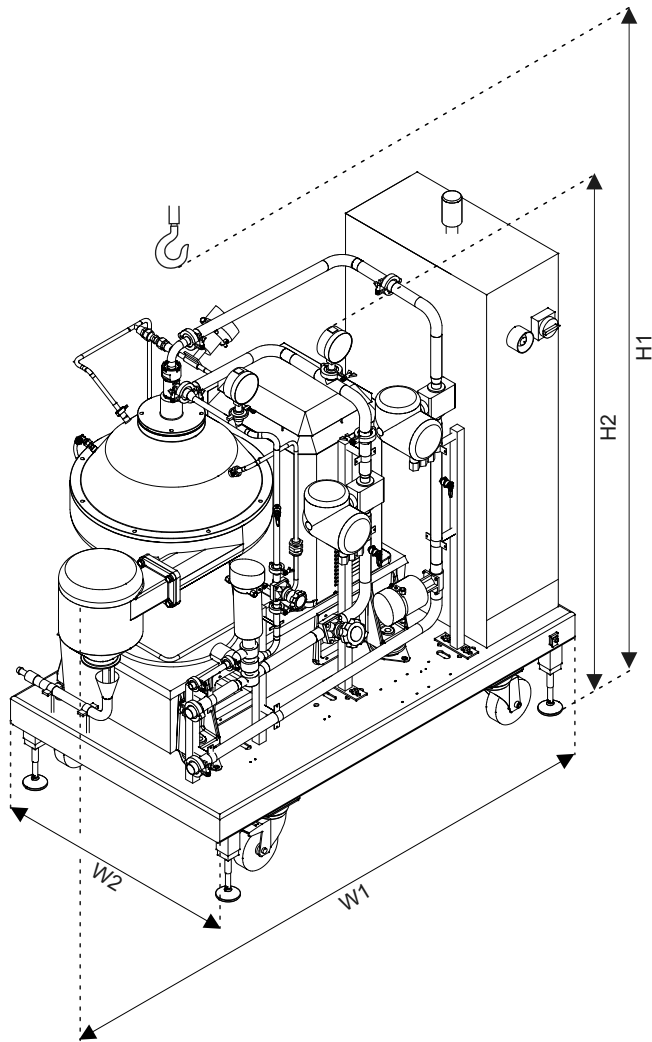
Dimensions

H1 (minimum lifting height)[1]	1715 mm (5.62 ft inches)
H2	1715 mm (5.62 ft inches)
W1	1800 mm (5.90 ft inches)
W2	890 mm (2.91 ft inches)

[1] Lifting height for the separator only

200011024-1-EN-GB

© Alfa Laval AB

How to contact Alfa Laval
Up-to-date Alfa Laval contact details for all countries are always available
on our website at www.alfalaval.com

Autmix®

España

+34 91 437 2618
sales.sp@autmix.com

Av. de la Industria, 4, Natea Business Park. 28108 Albobendas, Madrid, España.

México

+52 442 224 5621
sales.mx@autmix.com

Carretera San Luis Potosí 1186, Int. 7A Navetec Business Park Santa Rosa Jáuregui. 76223. Querétaro, México.

Estados Unidos

+1 956 658 9054
sales.us@autmix.com

600 E John Carpenter Fwy 75062. TX, United States.

autmix.com