Alfa Laval Brew 301

Disc stack separation system for brewery applications

Introduction

The use of separators in different brewery applications goes back to the beginning of the 1900's. Based on the long-term cooperation with the brewery industry, Alfa Laval separators are specially designed for the requirements and demands of this industry.

Application

The Brew 301 is designed and optimized for green-beer, beer pre-clarificarion and polishing, with the target to clarify beer with the best performance and yield.

Benefits

- High separation efficiency
- No oxygen pick-up
- Gentle treatment of the product
- Low power consumption
- Complete skid mounted system handling both process and utility requirements.
- Robust and reliable design

Design

The system consists of a separator, a valve module with valves and components for routing of product and utilities in and out from the separator, as well as control and starter cabinet. All components are mounted on a common skid to enable plug-and-play installation.

All metallic parts in contact with the process liquid are made of stainless steel. Gaskets and seals in contact with the product are made of FDA approved material and are approved according to food regulations (EC1935/2004).

The separation system is designed for completely automated Cleaning in Place (CIP).

Scope of supply

Skid-mounted disc stack separator with valve module and control system, including:

- Main process valves of butterfly type
- Automatic flow regulating valve
- Counter pressure valve
- Flow meter of magnetic type
- Main motor starter with VFD from ABB
- Control panel with Siemens PLC and HMI
- Sight glasses for in- and outlet
- Samples valves for in- and outlet

Options

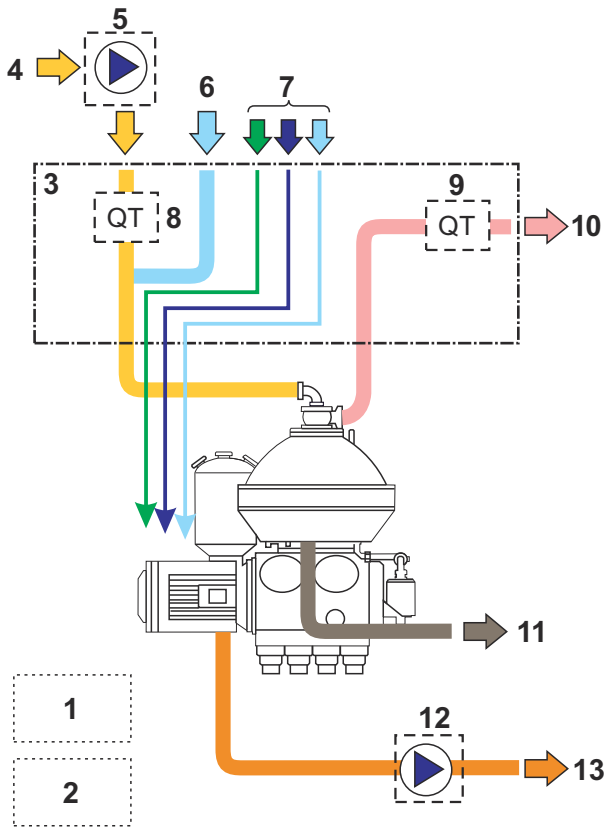
- Feed pump
- Capacity control: Automatic regulation of the flow based on measurements of the feed solid content by inlet turbidity
- Solids receiving unit: Consists of a collection device and a pump, to remove discharged solids
- Turbidity monitor for discharge triggering

Working principle

The product enters and leaves the separator via the valve module. The flow rate and the counter pressure in the outlet of the separator are controlled by the process liquid module.

Discharge of solids from the separator bowl is triggered by a turbidity meter, placed in the outlet of the system. The discharged solids are pumped away by the optional solids receiving unit.

The valve module also controls the utility liquids for the separator's discharge system and for flushing and CIP.



General flow chart of a separator system. The details may differ slightly between different systems.

1. Control cabinet
2. Main motor starter and VFD
3. Process liquid module
4. Product inlet
5. Feed pump (optional)
6. Standby/Safety water
7. Utilities
8. Turbidity meter for capacity control (optional)
9. Turbidity meter for discharge triggering
10. Outlet for clarified product
11. Drain for separator
12. Solids receiving unit
13. Outlet of discharged solids

Technical data

Performance data	
Capacity[1]	250 hl/h (29,3 US gpm)
Max. motor power	35 kW (46,9 HP)

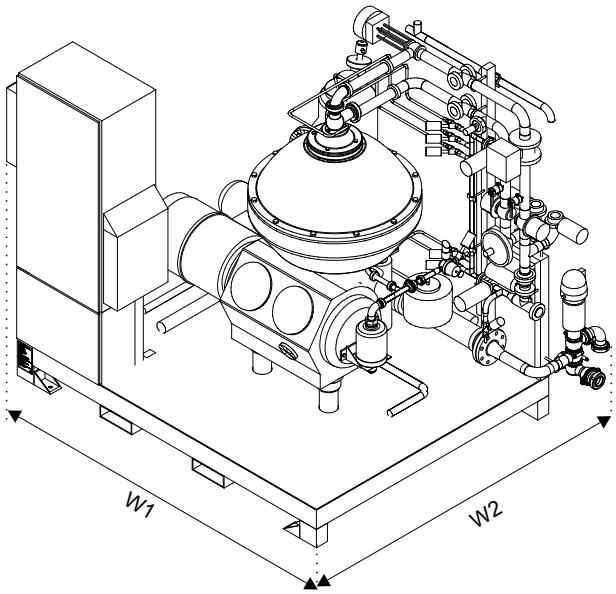
[1] Actual capacities depend on operating conditions

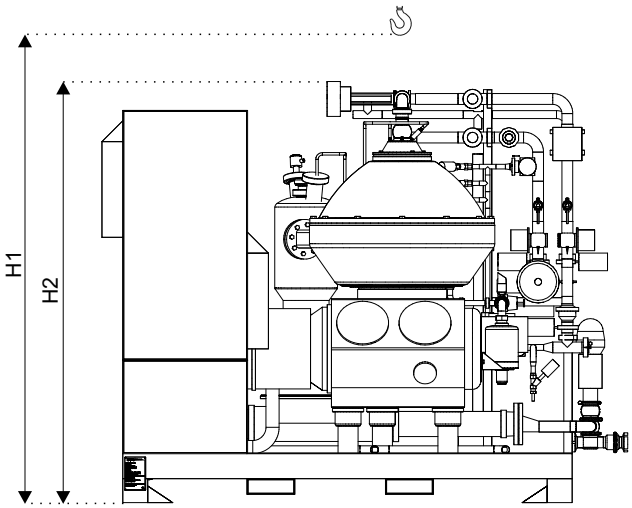
Connections		
Inlet	DN50:	DIN 11851 Union
Outlet	DN50:	DIN 11851 Union

Material data	
Piping	DIN11850-2 (EN10357-A) AISI 304
Customer connection	DIN11851 Union
Gaskets in system	EPDM product wetted parts
Pipe frame	AISI 304
Cabinets	AISI 304

Weights (approximate)	
System weight incl. separator, bowl and motor	2380 kg (5247 lbs)
Bowl weight	300 kg (662 lbs)

Dimensional drawing





Dimensions	
H1	Min. 2478 mm (8 ft 1 9/16 inch)
H2	2024 mm (6 ft7 11/16 inch)
W1	2530 mm (8 ft 3 5/8 inch)
W2	1964 mm (6 ft 5 5/16 inch)

200000304-1-EN-GB

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