# Alfa Laval Brew 601H

## 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 601H 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 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. Control cabinet and starter cabinet are mounted on the valve module.

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

Disc stack separator with process liquid module including:

- Main process valves of butterfly type
- Flow regulating and counter pressure valves
- Flow meter of magnetic type
- Turbidity monitor for discharge triggering
- 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

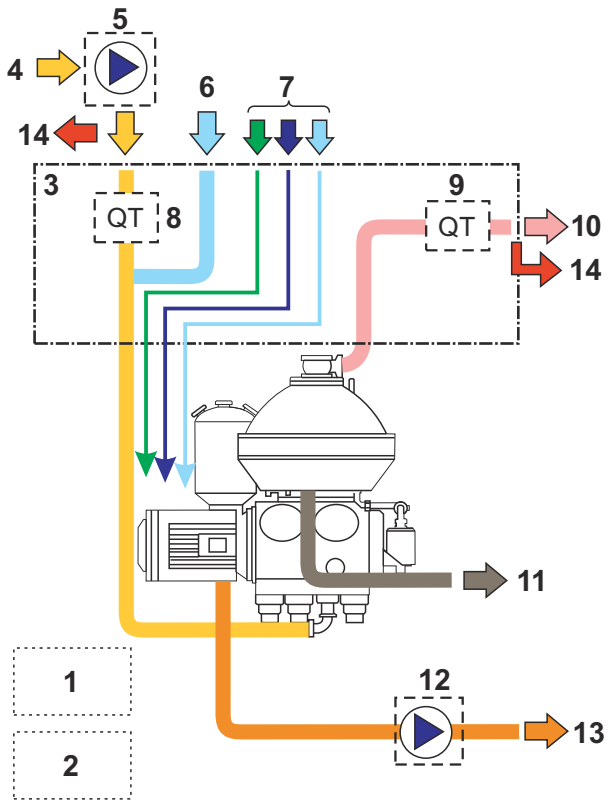
- Feed pump
- Capacity control: Automatic regulation of the flow based on measurements of the feed solid content by inlet turbidity
- Solids control: Recirculation of the clarified product from the outlet of the separator to the inlet, in order to reduce outlet turbidity due to turbulent conditions in the bowl in discharge
- Solids receiving unit: Consists of a collection device and a pump, to pump away discharged solids
- Allen Bradley PLC and HMI
- Blending by-pass: The blending by-pass creates a short-cut between product feed and product outlet. The purpose is to mix unseparated product with separated product in order to achieve specific haze or yeast cell count in the product outlet.

## 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
14. Drains for process liquid unit

## Technical data

| Performance data | | |
|---|---|---|
| Capacity[1] | DN80: | 550 hl/h (242 US gpm) |
| | DN100: | 850 hl/h (374 US gpm) |
| Max. motor power | | 55 kW (73,7 HP) |

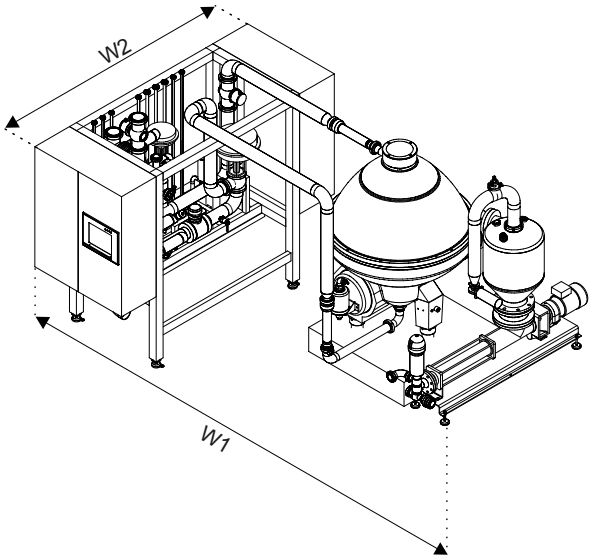
[1] Actual capacities depend on operating conditions

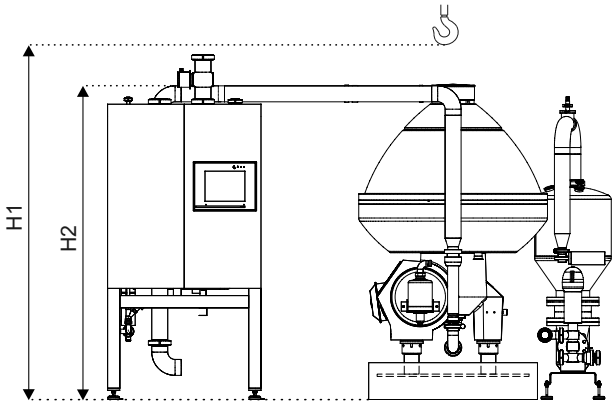
| Connections | | |
|---|---|---|
| Inlet | DN80: | DIN 11851 Union |
| | DN100: | DIN 11851 Union |
| Outlet | DN80: | DIN 11851 Union |
| | DN100: | DIN 11851 Union |

| 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 | 3990 kg (8796 lbs) |
| Bowl weight | 1150 kg (2535 lbs) |

## Dimensional drawing




| Dimensions | |
|---|---|
| H1 | Min. 3030 mm (9 ft 11 5/16 inch) |
| H2 | 2045 mm (6 ft 8 1/2 inch) |
| W1 | 3280 mm (10 ft 9 1/8 inch) |
| W2 | 3260 mm (10 ft 8 3/8 inch) |

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200000260-1-EN-GB

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