

Alfa Laval CH 700

Modularized disc stack separation system for industrial use

Introduction

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

Application

CH 700 system is designed and optimized for:

- Petrochemical
- Minerals
- Pulp and paper
- Green chemical applications
- Pharmaceuticals

Benefits

- High separation efficiency
- Small footprint – easy to install and start up
- Gentle treatment of the process liquid
- Low power consumption
- Complete system handling both process and utility requirements
- Flexible installation possibilities
- Robust and reliable design

Design

The system consists of a 18-size separator with a hermetic inlet, a process valve module with valves and components for routing of product and a service liquid modules for utilities in and out from the separator, as well as control and starter cabinet.

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 various materials to fit the process needs.

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

Available in following executions:

- Solid-liquid separation
- Liquid-liquid separation
- Liquid-liquid-solid separation

Available for installation in safe area, zone 2 and zone 1.



Scope of supply

- Disc stack separator with process and service liquid units
- Main process valves of type ball valve
- Instrumentation for pressure monitoring
- Manual flow regulating valve
- Manual pressure regulator valve
- Automatic backpressure valve
- Flow indication transmitter of volumetric type
- Main motor starter with VFD
- Control panel with PLC and HMI

Options

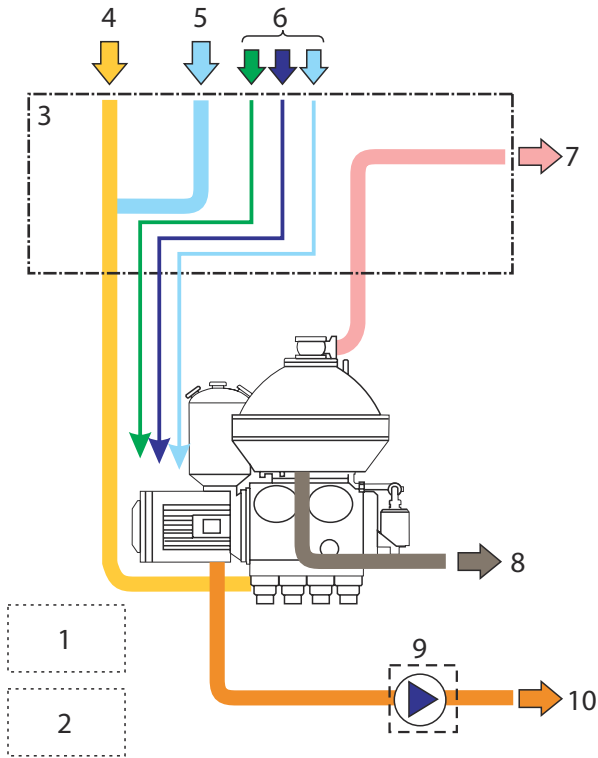
- Commissioning (on-site or re-mote assisted)
- Service agreement
- Solids receiving unit: Consists of a collection device and a pump, to pump away discharged solids (mandatory for zone 1 installation, option for safe area and Zone 2 installations)
- Factory Acceptance Test
- UL or CSA versions available on request

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 and service liquid module.

Discharge of solids from the separator bowl is triggered either by a timer or a manual control. 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 as well as an inert gas system for installation in zone 1.



1. Control cabinet
2. Main motor starter and VFD
3. Process and service liquid module
4. Product inlet
5. Standby/Safety water
6. Utilities
7. Outlet(s) of product(s)
8. Drain for separator
9. Solids receiving unit
10. Outlet of discharged solids

Technical data

Performance data	
Hydraulic capacity ¹	70 000 l/h (308.2 US gpm)
Maximum motor power	67 kW (89.8 HP)

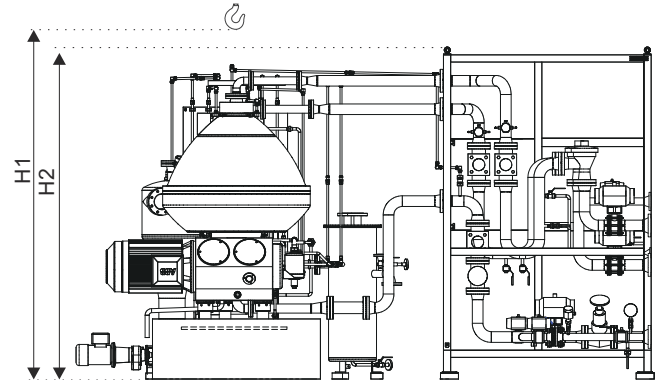
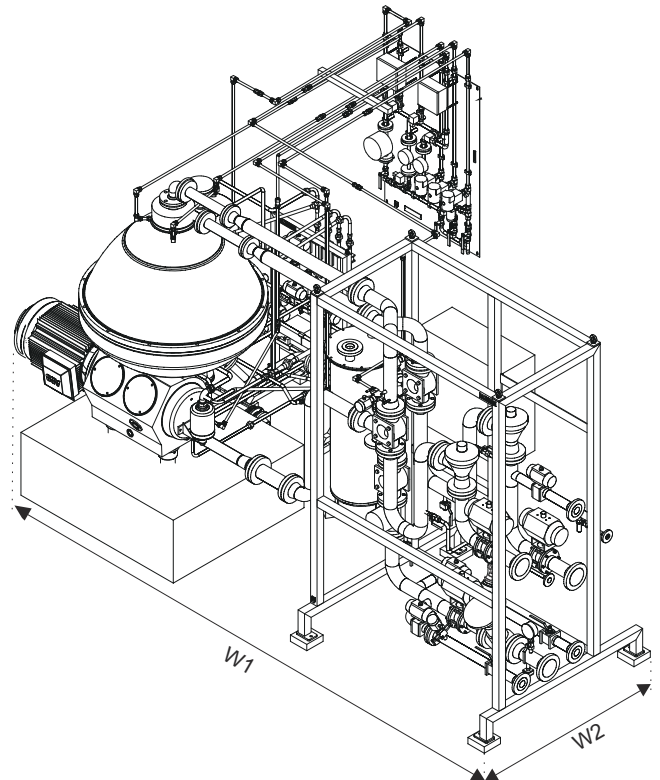
¹ Actual capacities depend on operating conditions

Connections	
Inlet	3" ASME B16.5 Flange
Outlet	3" ASME B16.5 Flange

Material data	
Piping	ASME B36.19M, Schedule 10s AISI 316L
Customer connection	ANSI B16.5 Flange
Gaskets in system	PTFE / Graphite product wetted parts
Pipe frame	AISI 304

Weights data (approximate)	
System weight incl. bowl and motor	3190 kg (7032 lbs)
Bowl weight	1200 kg (2645 lbs) 1200 kg (2645 lbs)

Dimensional drawing



Dimensions	
H1 (min. lifting height)	3615 mm (11 ft 10 inch)
H2	2805 mm (9 ft 2 1/5 inch)
W1	5620 mm (18 ft 5 1/2 inch)
W2	3310 mm (10 ft 10 1/2 inch)

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