



Alfa Laval CR 250

Multi purpose centrifuge module for food and beverage industries



Alfa Laval CR 250 separation unit.

CR 250 is a complete "plug & play" separation system, based on the PX 810 centrifuge, which is mounted on a flexible and cost efficient module. It is designed for the food and beverage industries but can also be used for general purpose duties.

The PX 810 separator, which is the core component of the CR 250 system, is a 3-phase, bottom fed separator with Alfa Laval's unique fully hermetic design, which provide very gentle product treatment and zero oxidation as well as minimized energy consumption. The bowl is of steep angle design with all product wetted parts in stainless steel and o-rings and gaskets are food grade. It has variable discharge volume and is suitable for concentration duties with a wide range of solids content.

Standard design

The CR 250 system includes:

- Valves and components for product and utility handling.
- Inductive flow meter with volumetric totalizer.
- Sight glass in product outlet.
- CPM valve for back pressure control.
- Pressure sensor with alarm for operating water supply.
- Flushing under bowl and in sediment outlet.
- Electrical cabinet, including PLC type EPC 60.
- Possibility to communicate with external system by Modbus TCP.
- Cool frame top part

Options

- Stand alone feed pump.
- Solids receiving unit, incl pump.

Technical specification

Hydraulic capacity (max)	25 m ³ /h
Solids space clarifier	5 lit
Discharge volume	3-10 lit
Power consumption max	16 kW
Motor power	18.5 kW
Weight complete module incl. separator	2200 kg
Weight separator, total	1370 kg
Weight bowl	310 kg
Weight motor	170 kg

Connection details CR 250

Connection no	Description	Type / Size / Std.
201.1	Product inlet	Union DN 50 / DIN 11851
220.1	Light phase outlet	Union DN 25 / DIN 11851
221.1	Heavy phase outlet	Union DN 50 / DIN 11851
222	Solids outlet cyclon	Clamp DN 100 / ISO2852
222.2	Solids pump outlet	Flange DN 65 / PN 16
301	Flushing water inlet	Hose Nipple / DN 15
340	Std-by liquid inlet	Hose Nipple / DN 25
375.1	Operating water inlet	Hose Nipple / DN 15
409.1	Oil/frame cooling water inlet	Hose Nipple / DN 15
460	General drain	Hose Nipple / DN 50
470	Separator drain	Hose Nipple / DN 25
615.1	Seal cooling water inlet	Hose Nipple / DN 15

Operating principles

The feed is introduced to the rotating centrifuge bowl from the bottom via the hollow bowl spindle (1). It is between the discs (3) that the separation takes place. The light liquid phase moves towards the centre of the bowl, and the heavy liquid phase towards the periphery.

The two liquid phases leave through centrifugal outlet pumps (4) at the top of the bowl. The heavier solids phase is collected at the periphery of the bowl where it is discharged intermittently via the centrifuge cyclone.

The solids are discharged by a hydraulic system below the separation space in the bowl, which at certain intervals forces the sliding bowl bottom (5) to drop down thus opening the solids ports (6) at the periphery of the bowl.

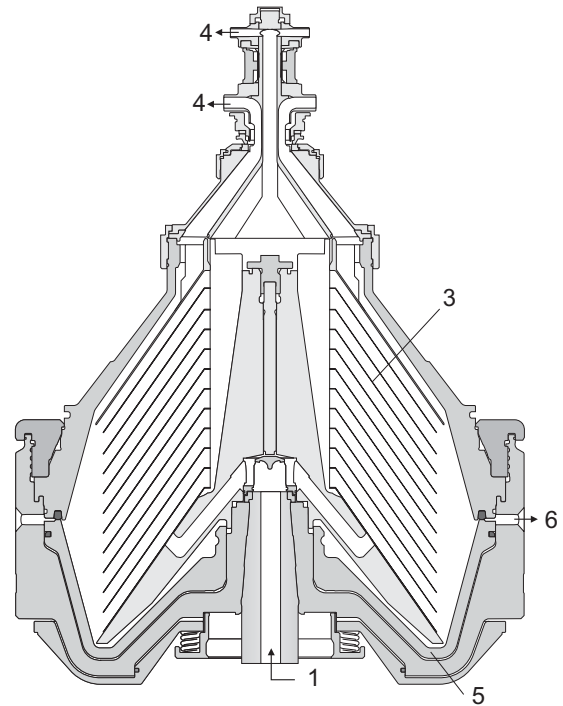
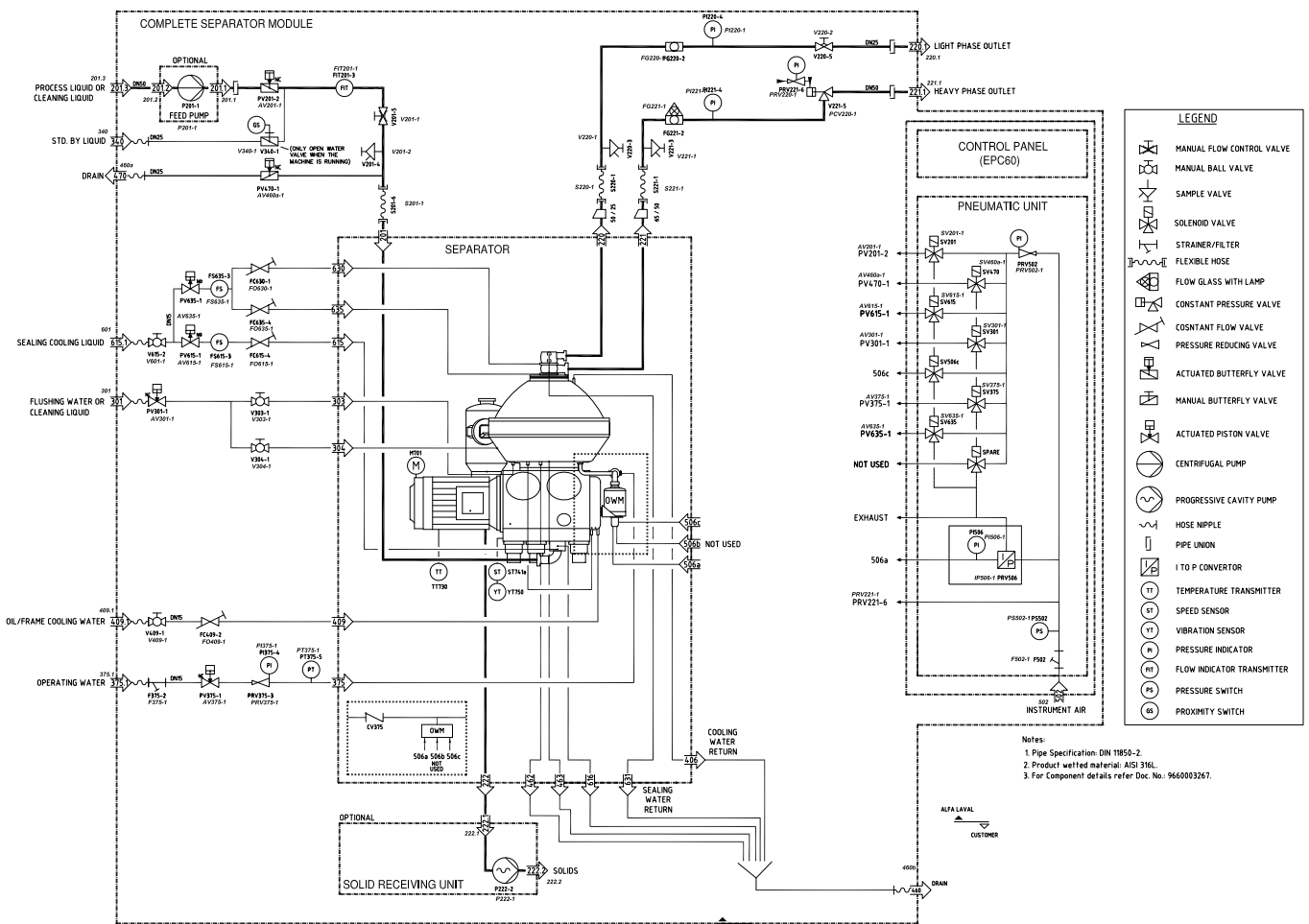
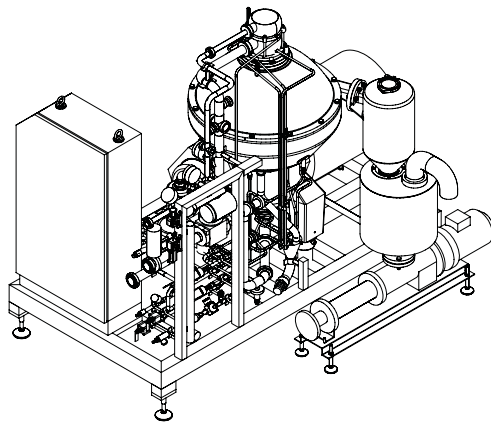
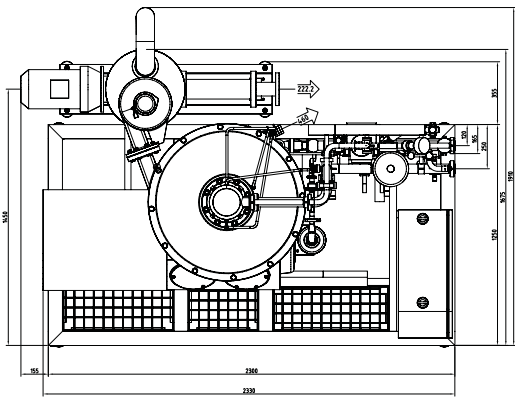
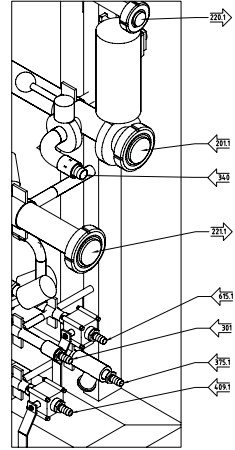
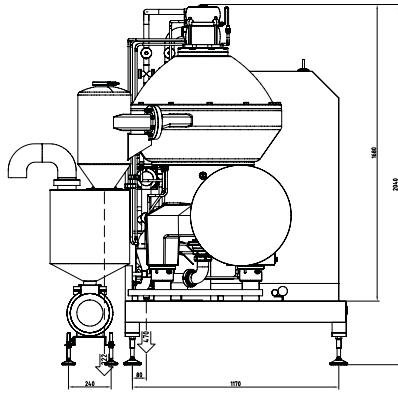
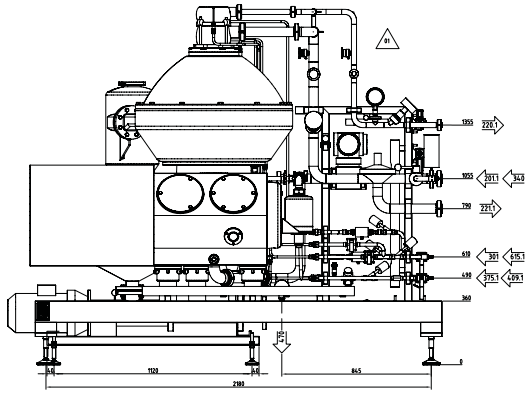


Fig 1. Typical bowl drawing for a solids ejecting hermetic centrifuge. Drawing details do not necessarily correspond to the centrifuge described.





CONN NO	DESCRIPTION	TYPE	SIZE	STD
201.1	PRODUCT INLET	UNION-ORNS-DN150	DN150	150
202.1	LIGHT PHASE OUTLET	UNION-ORNS-DN150	DN150	150
202.2	HEAVY PHASE OUTLET	UNION-ORNS-DN150	DN150	150
222	SOLID OUTLET	HYDROV. CLAMP ISO 2612	DN100	100
222.1	SOLID PUMP OUTLET	TANGS-ORNS-FR18	DN100	100
301	FLUSHING WATER INLET	HOSE NIPPLE	DN15	15
340	SEAL BY LIQUID INLET	HOSE NIPPLE	DN15	15
370.1	OPERATING WATER INLET	HOSE NIPPLE	DN15	15
405.1	OUTER FRAME COOLING WATER INLET	HOSE NIPPLE	DN15	15
470	DRAIN	HOSE NIPPLE	DN15	15
485.1	SEAL COOLING LIQUID INLET	HOSE NIPPLE	DN15	15
490	DRAIN	HOSE NIPPLE	DN15	15

CR 250 - Layout
Fig 3.

Alfa Laval reserves the right to change specifications without prior notification.

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