



## BREW 250

Compact skid mounted fully hermetic separation module for craft brewing



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The Alfa Laval BREW 250 is a compact separation module, which features Alfa Laval's unique fully hermetic design. The airtight design is achieved through a combination of a hollow spindle inlet, a hermetically sealed outlet and a separator bowl that is completely filled with liquid. The unique hollow spindle design ensures the gentlest possible acceleration of the feed, which contributes to increased separation efficiency and to avoid micronization. In addition, oxygen pick-up is virtually reduced to zero and power consumption is reduced by at least 25% for the same duty compared to conventional separators. The compact, space-saving modular design of BREW 250 ensures a small footprint, which requires minimal floor space. To facilitate installation and start-up and to simplify operation, the separation module is delivered as a complete fully equipped separation system with a pre-erected valve module.

### Applications

Designed for use by craft brewers, the BREW 250 separation module is particularly suitable for clarifying:

- Beer after fermentation
- Beer after maturation
- Beer polishing

## Standard design

The BREW 250 separation module consists of a stainless steel skid mounted on four caster wheels with a disc-stack separator and all the auxiliary equipment required for safe, efficient operation. This includes:

- Feed valve closing out of production mode
- Sight glasses at both in- and outlet
- Sample valves at both in- and outlet
- Flow meter, transmitter
- Pressure indicator at outlet
- Constant pressure valve at the outlet for back pressure regulation
- Water cooled frame
- Flushing connections above and under the bowl as well as in the solids collecting chute
- Bowl speed and vibration monitoring
- Variable frequency drive motor
- Automatic drain valve at the inlet
- Cover interlock kit to make it impossible to start the separator unless it is properly assembled
- Service kits containing all necessary spare parts for major and intermediate service.

All metallic parts that come in contact with the process liquid are made of high-grade stainless steel. Liquid-wetted rubber gaskets are made of food-grade nitrile rubber.

## Benefits

*Airtight operation* - Fully hermetic design provides an extremely gentle acceleration of shear-sensitive agglomerates and prevents oxygen pick-up and loss of volatile aromas and CO<sub>2</sub>. Built-in pump on the outlet eliminates the need for an external pump.

*Maintain product quality* - Gentle acceleration and deceleration reduce shear on yeast, maintaining high yeast vitality and contributing to economic production and top quality.

*Continuous operation* - An uninterruptible power supply unit in the control panel keeps the control system working in the event of external power failure. Power down and shutoff occur in a controlled manner to avoid damage or product loss.

*Maximum separation efficiency* - The fully hermetic design and special geometry of the separator provide maximum separation efficiency and low power consumption.

*Minimal product loss* - Automatic discharge mechanism based on turbidity with adjustable discharge volume ejects solids with high dry matter content, thus ensuring highly reliable operation, clean separator bowl and minimal product losses.

*Low noise levels* - Hermetic design and jacketed casing around the separator bowl provide excellent sound dampening and reduced noise levels.

## Process controller

The Alfa Laval EPC 60 control system regulates operation by monitoring and controlling all vital process and machine-related functions, such as process feed, discharge performance and alarm handling. This user-friendly system comes with features such as alarm logging, discharge logging and remote control. The system includes power supply cabinet, control of a feed pump and a solids pump is optional.

## Optional equipment

- Solids receiving unit equipped with a screw pump
- Feed pump
- Modulating automatic valve for feed capacity control and feed second turbidity meter.

## Operating principle

The process liquid is continuously fed into the unit (Fig. 1) through the inlet (1) and then into the centrifuge bowl through the hollow spindle. The solids are collected at the periphery of the rotating bowl; the control unit initiates discharge either at preset intervals or by turbidity triggering. Separated solids are discharged through the discharge ports (2) and leave the unit through a cyclone or by means of an integrated solids pump. The clarified liquid is transported from the bowl using a built-in pump, through the outlet (3) and then leaves the unit, after passing a sight glass, pressure indicator, flow meter and a regulating valve.

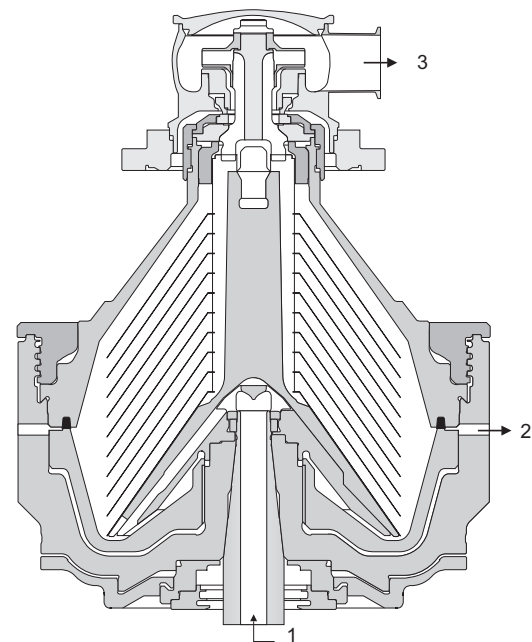


Fig. 1 Typical bowl drawing for a solids ejecting hermetic centrifuge. Drawing details do not necessarily correspond to the centrifuge described.

**Utilities consumption**

Power consumption, idling	9.5 kW (12,7 HP)
Power consumption, at max capacity	12.5 kW (16,8 HP)
Water consumption per discharge	1 litre (0.26 US gallon) <sup>1)</sup>

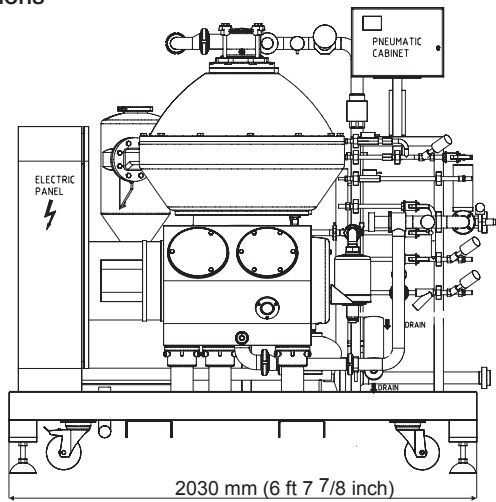
<sup>1)</sup> May vary depending on frequency of flushing that takes place at discharge

**Technical specifications**

Hydraulic capacity	250 h/l (110 US gpm)
Beer capacity	up to 180 hl/h (79 US gpm) for 20 MCells/ml feed (0,5 % v/v solids)
Beer capacity	up to 100 hl/h (44 US gpm) for 40 MCells/ml feed (1 % v/v solids)
Feed temperature range	0–100 °C (32–212 °F)
Bowl speed	6,250 rpm
Outlet pressure available	0–900 kPa ( 0–130 psi)
Sound pressure	76 dB(A) <sup>1)</sup>
Installed power separator	15/18.5 kW (20/25 HP)
Feed pump motor (optional)	3.5 kW (4.5 HP)
Solids pump motor (optional)	1.1 kW (1.5 HP)

<sup>1)</sup> In compliance with EN ISO 4871

**Dimensions**



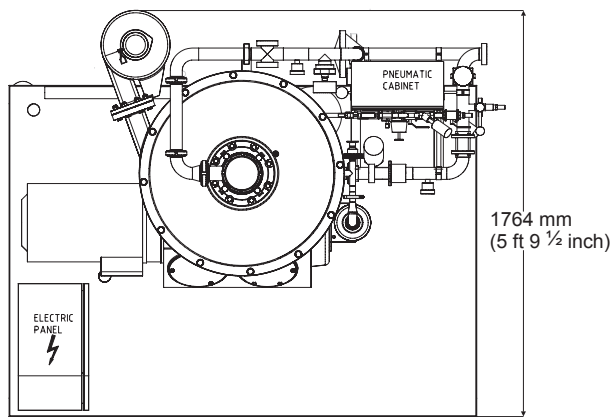
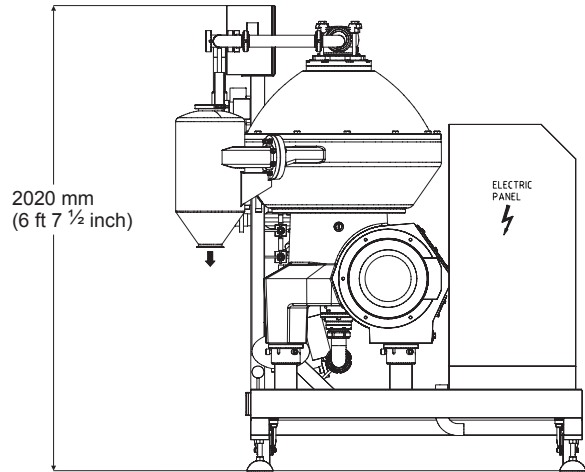
**Electrical data**

Power supply	3 x 380–500V x 50/60 Hz
Internal control voltages	24 V AC, 24 V DC
Connection power supply	through M50 cable gland
Recommended cable area phase	16 mm <sup>2</sup>
Internal fuse	63 Amp
External fuse	max. 75 Amp
Prospective short circuit current	max. 10 kAmp
Feed pump power supply <sup>2)</sup>	(max. 10 Amp / 5 kW)
Solids pump power supply <sup>2)</sup>	(max. 6,3 Amp / 3,5 kW)

<sup>2)</sup> Protection is included in the panel

**Material data**

Bowl body	EN 1.4462 / 2377 / ASTM S32205
Bowl hood and lock ring	EN 1.4462 / 2377 / ASTM S32205
Solids cover and frame hood	EN 1.4401 / 2349 / ASTM 316
In and outlet components	EN 1.4401 / 2349 / ASTM 316
Frame bottom part	Cast iron with stainless steel cladding EN 1.4301 / 2332 / ASTM 304
Piping	EN 1.4307 / 2333 / ASTM 304 L
Gaskets and O-rings	Food grade Nitrile



**Shipping data** (approximate)

Centrifuge incl. bowl & motor	1,380 kg (3,040 lbs)
Bowl weight	310 kg (685 lbs)
Complete module incl. bowl & motor	2,200 kg (4,850 lbs)
Gross weight	2,500 kg (5,515 lbs)
Volume	10 m <sup>3</sup> (355 ft <sup>3</sup> )

**Connections**

Product inlet, outlet	DN 50 acc. to DIN 11851
Water hose nipples	For hose 16 mm (5/8 ") inner diameter
Solids cyclone Pipe	NW 100 acc to ISO 2037

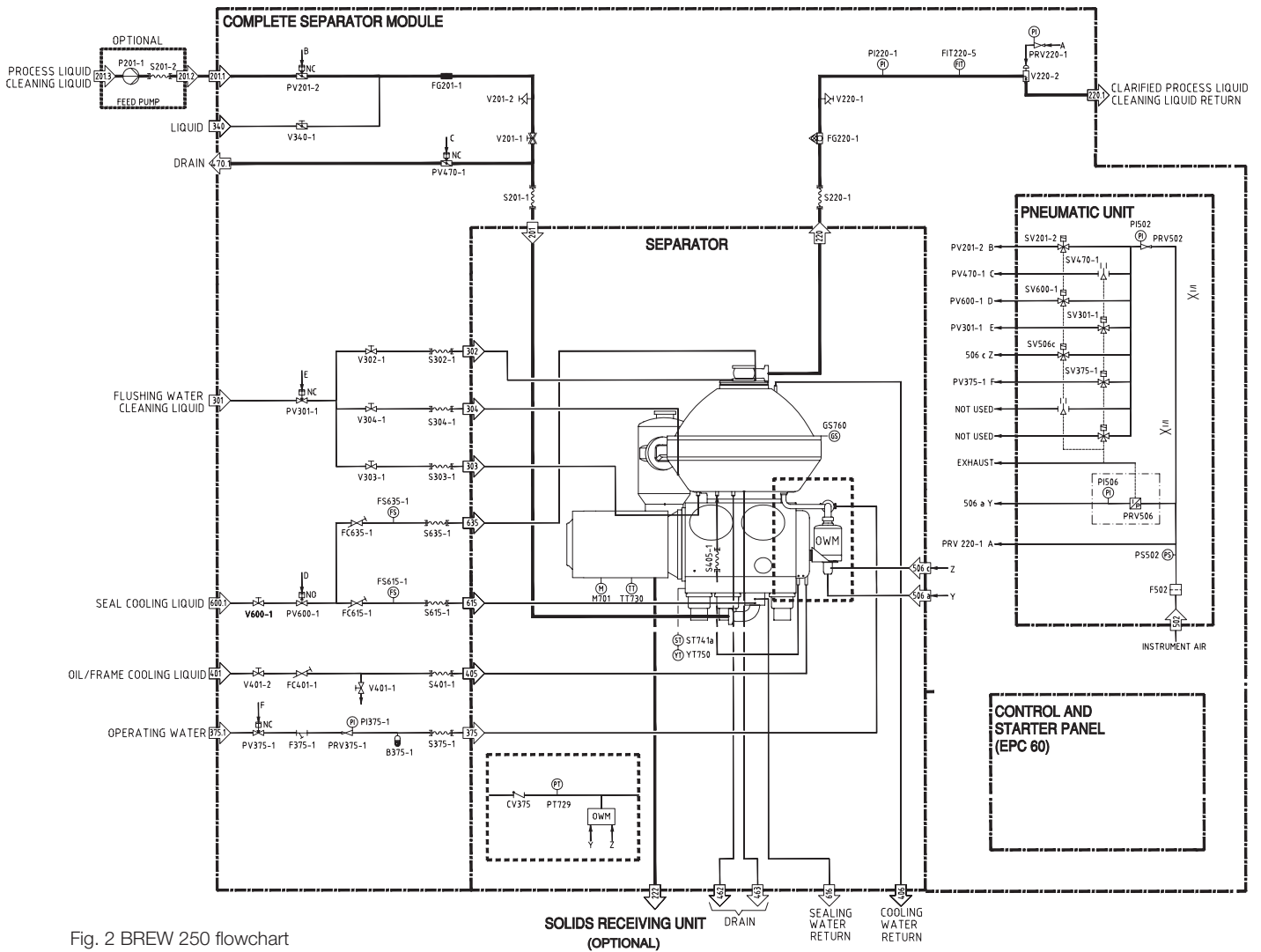


Fig. 2 BREW 250 flowchart

**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](http://www.alfalaval.com).