



## BDB 104

### Solids-retaining centrifugal separator for biodiesel processing

#### Applications

The BDB 104 is specifically designed for use in the production of biodiesel and is particularly suitable for water removal from methylester in water washing stages.

#### Standard design

The solids-retaining separator comprises a frame with a horizontal drive shaft, worm gear and a vertical bowl spindle in its lower part. The worm gear is placed in an oil bath. The bowl is fixed on the top of the spindle inside the space formed by the upper part of the frame and the frame hood, which also carries the feed and discharge systems. The frame hood is hinged to enable easy access for cleaning the bowl, which is of the solid wall disc type. The machine is electrically safe and approved for ATEX category 3

#### Basic equipment

- Methylester inlet device.
- Methylester outlet device with sight glass.
- Water outlet spout.
- Liquid seal inlet.
- Set of gravity discs.
- Revolution indicator.
- Set of resilient mountings.

#### Options

The centrifuge can be ordered either with or without a built-in pump for both feed and discharge liquids.

#### Optional extras

Cover-interlock kit to eliminate the risk of starting the centrifuge unless it is properly assembled. Set of tools. Different service kits are available for maintenance of the centrifuge. Stand-alone pumps for both feed and discharge.



BDB 104

#### Technical documentation

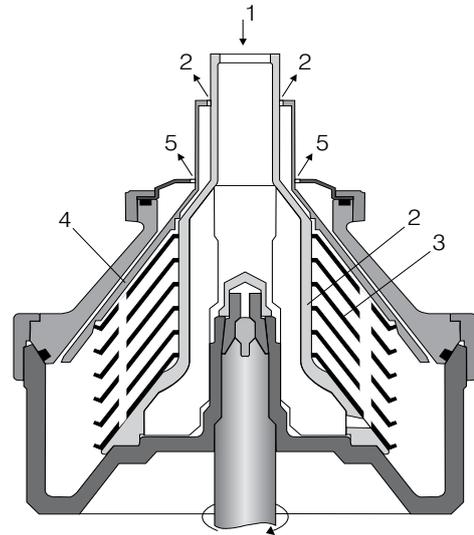
Complete information and documentation accompany each separator delivery. The Instruction Book provides detailed operating instructions and advice on obtaining optimal separation. The Maintenance and Repair Manual describes dismantling and reassembly of the separator. The Spare Parts Catalogue facilitates the ordering of spare parts.

### Operating principles

The feed is introduced to the rotating centrifuge bowl from the top (1) and is accelerated in a distributor (2) before entering the disc stack (3). It is between the discs that the separation takes place.

The water and the heavier solids are forced towards the bowl wall where the solids accumulate and the water proceeds over the top disc (4) to an open outlet (5).

The methylester moves towards the center and leaves the bowl through an open outlet (6).



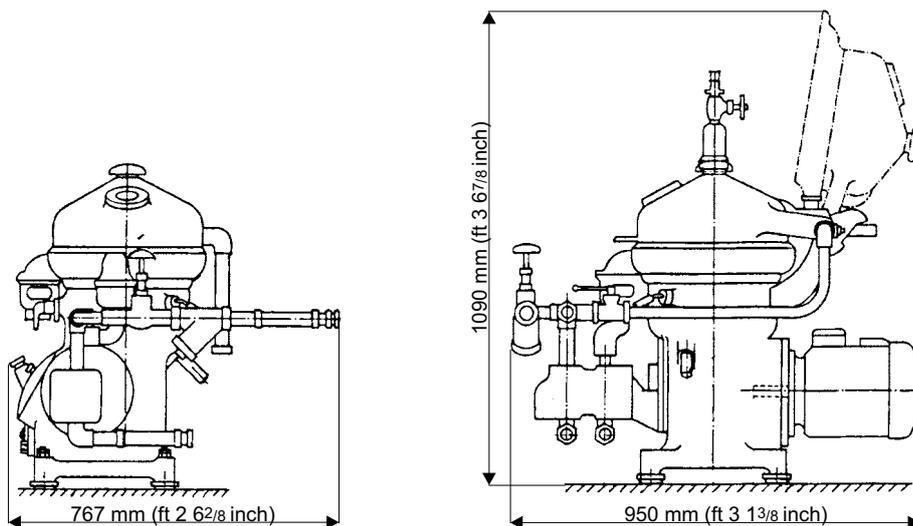
### Material data

Bowl body	EN 1.4462 / UNS S31803
Bowl hood	EN 1.4462 / UNS S31803
Lock ring	EN 10025 / AISI 1035
Distributor	EN 1.4401 / ASTM 316
Top disc	EN 1.4401 / ASTM 316
Discs	EN 1.4401 / ASTM 316
Gaskets and O-rings	Viton

### ATEX design codes

II 3 G T4 X	electrically safe for Zone 2
II 3 D T4 X	electrically safe for Zone 22

### Dimensions (approximate)



Typical bowl for a solids retaining centrifuge. The details illustrated do not necessarily correspond to the centrifuge described.

### Technical specification

Throughput capacity	1.0 m <sup>3</sup> /h (4.4 US gpm) <sup>1)</sup>
Motor power	2.2 kW (3 hp)
Feed temperature range	0–100 °C (32–212 °F)
Sound pressure	78 dB(A)

<sup>1)</sup> Actual throughput capacity depends on feed temperature, viscosity and required degree of clarification.

### Shipping data

Centrifuge with bowl and motor	
Net weight:	196 kg (432 lbs)
Gross weight:	252 kg (556 lbs)
Volume:	1.1 m <sup>3</sup> (39 ft <sup>3</sup> )

### How to contact Alfa Laval

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