

Alfa Laval MAB 103

Solids-retaining Centrifugal Separator

Introduction

Clean oil is crucial for the safe, reliable and economical running of virtually all kinds of equipment that uses oils for either fuel, lubrication or in hydraulic systems. Clean oil reduces wear and corrosion on all equipment installed downstream, thus helping avoid breakdowns and cutting back on downtime throughout a plant or installation.

Contaminants in lubricating and hydraulic oils have serious effects on system performance, operating costs and durability. For example, the presence of solid particles abrades metal surfaces, increases friction and clogs filters.

Similarly, if water is present in the oil, this causes corrosion, reacts with additives, forms oil/water emulsions and causes significant deterioration in the performance of the oil.

Application

Purification or clarification of mineral oils used in marine installations and power stations including the following:

- Distillate fuels
- Lubricating oils
- Biofuels

They are also optimized to clean fuels that meet ISO 8217 specifications and comprise FAME or HVO in any blend ratio, so long as:

- FAME at the time of blending meets EN 14214 or ASTM D6751 requirements
- HVO at the time of blending meets EN 15940 requirements

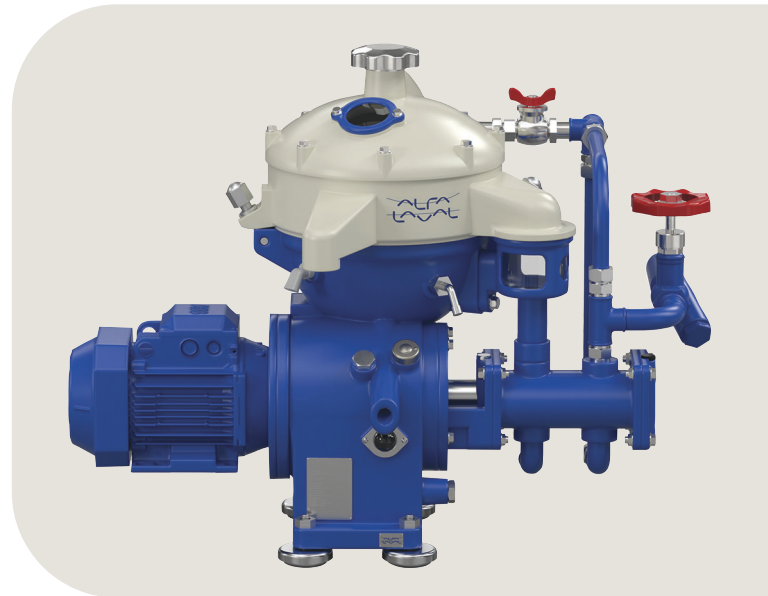
For treatment of other fuel types please consult your local Alfa Laval office.

Benefits

- Simple installation, operation and maintenance
- Flexibility: the bowl may be used either as purifier or clarifier
- Extremely reliable, ensuing long service life eliminates or reduces corrosion by removing any water present in the oil

Design

Solids-retaining separator comprising a frame containing in its lower part a horizontal drive shaft with friction clutch and



brake, worm gear and a vertical bowl spindle. 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 facilitate easy access for cleaning the bowl which is of the solid-wall disc type.

Scope of supply

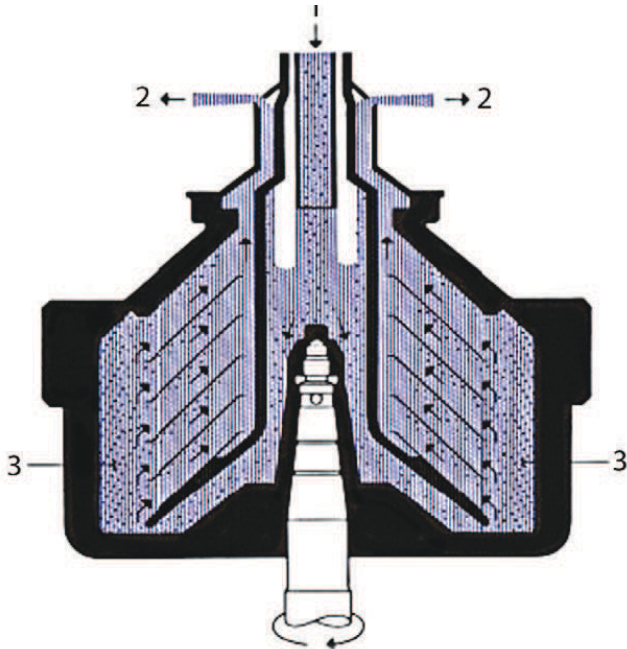
- Dirty oil inlet device
- Clean oil outlet device with sight glass
- Water outlet spout
- Liquid seal water inlet
- Set of gravity discs
- Clarifier parts comprising discharge collar, top disc without neck, and bottom disc without holes
- Revolution indicator
- Set of resilient mountings
- Set of standard spare parts
- Built-in gear type pump (combined feed/discharge pump)

Options

- Electric motor
- Starter
- Set of tools

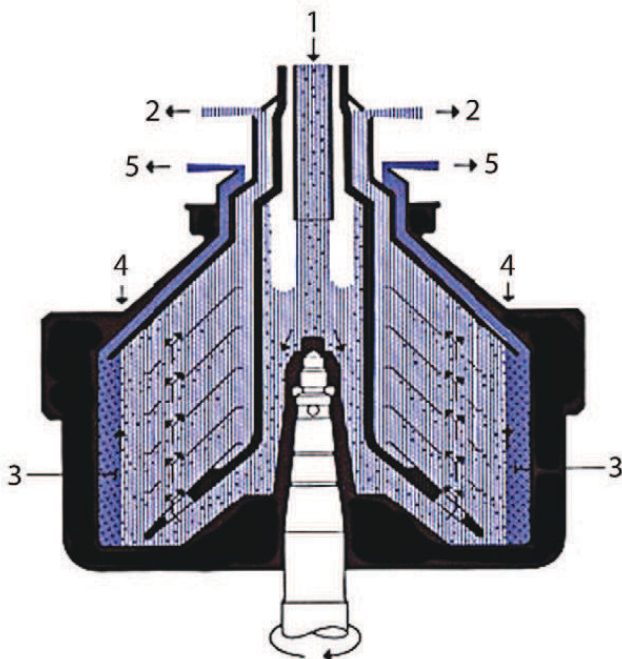
- Set of recommended additional spares for long-time service
- Flexible connections
- Preheater
- Alarm device for broken liquid seal
- Documentation
- Service

Working principle



MAB bowl arranged as a **clarifier** for separating oils containing sludge and a very small quantity of water

1. Oil inlet
2. Clean oil outlet
3. Sludge



MAB bowl arranged as a **purifier** for separating oils containing sludge and an appreciable quantity of water

1. Oil inlet
2. Clean oil outlet

3. Sludge
4. Oil/water interface
5. Water outlet

Separation takes place in a solids-retaining bowl that can be arranged for either clarification or purification. In both cases, the contaminated oil is fed into the separator through the centre, and it is separated by centrifugal force into its various phases, the heaviest phase (sludge and water) being forced outwards to the periphery of the bowl. The accumulation of sludge is periodically removed from the bowl by hand.

Technical data

Shipping data	
Net weight	88 kg (194 lbs)
Gross weight	100 kg (220 lbs)
Volume	0.3 m ³

Technical specifications	
Max throughput capacity	1.4 m ³ / h ¹
Sludge and water space	0.7 l
Feed temperature range	0 – 100 °C
Installed motor power	0.75 kW
Sound pressure	64 dB(A) ²

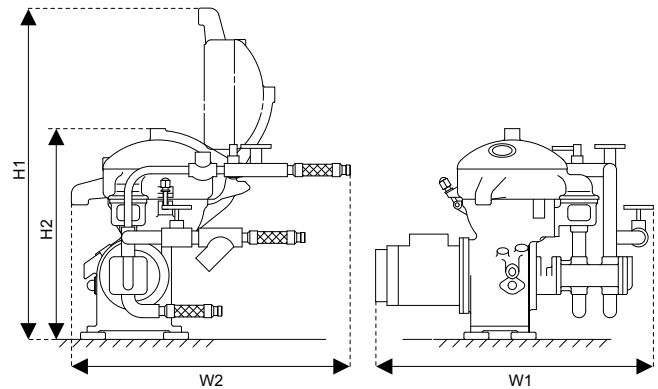
¹ Actual capacity depends on composition of feed and separation demands.

² According to ISO 5'3744 or 3746

Utilities consumption	
Electric power	0.4 – 0.6 kW ¹

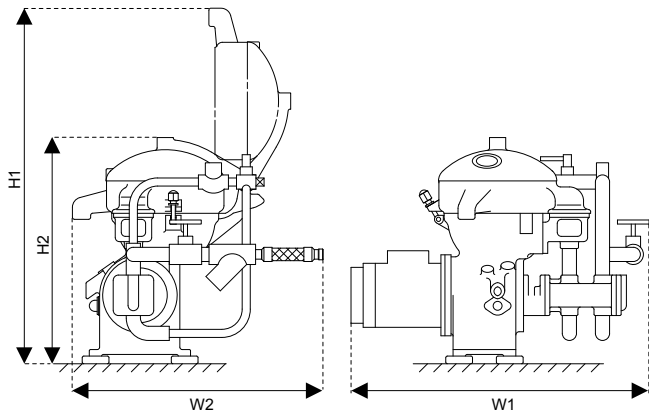
¹ Actual consumption depends on throughput capacity, feed characteristics

Dimensional drawing



MAB 103 with heater

Dimensions	
H1	895 mm (2 ft 11.23 inches)
H2	565 mm (1 ft 10.24 inches)
W1	856 mm (2 ft 9.7 inches)
W2	740 mm (2 ft 5.13 inches)



MAB 103 without heater

Dimensions

H1	895 mm (2 ft 11.23 inches)
H2	565 mm (1 ft 10.24 inches)
W1	856 mm (2 ft 9.7 inches)
W2	619 mm (2 ft 0.37 inches)

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