

ALFA-LAVAL Solids-retaining centrifugal separators MAB 200 series

Application

Purification or clarification of mineral oils used in marine installations, power stations and engineering industries (fuel, turbine, lubricating, running-in, hydraulic, cutting and quench oils, etc.).

Throughput capacities

Blue bars indicate range from minimum economical throughput on detergent type lubricating oil to maximum recommended throughput on marine diesel oil (13 cSt/ 40°C). For detailed information on throughput capacities, see separate data sheets on individual models.

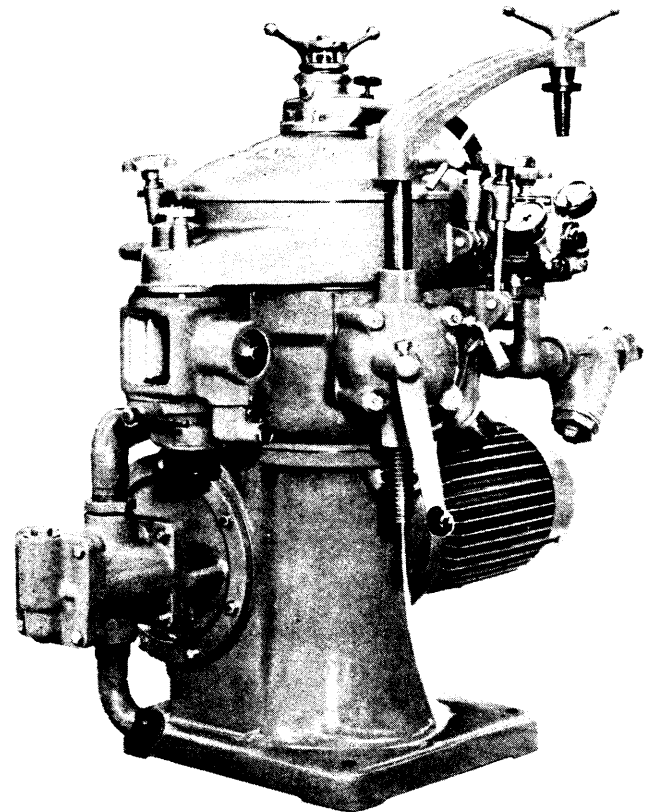
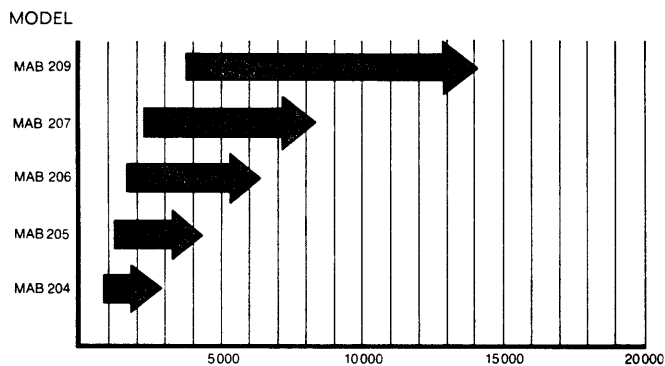


Fig. 1. Separator model MAB 206S incl. motor and inlet pump with fittings.

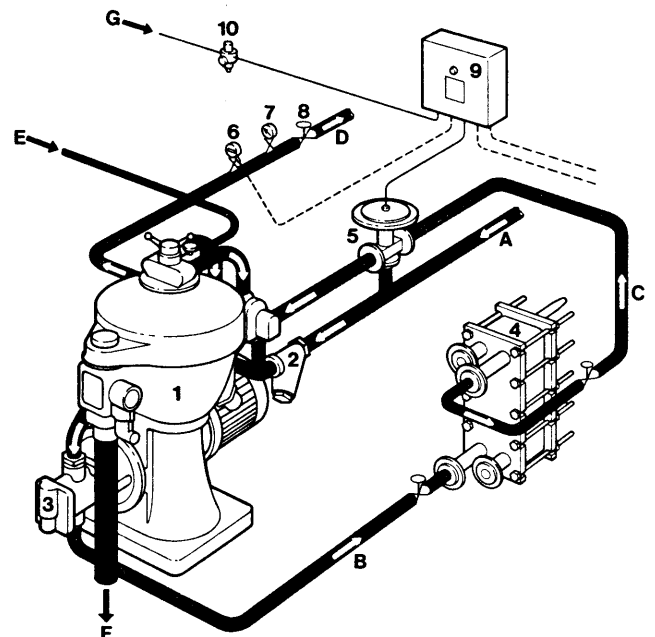
Fig. 2. Schematic installation layout of compact MAB separator with plate-type oil heater.

Installation

The oil is pumped, heated, and separated as shown in the figure. A liquid seal in the separator bowl prevents the oil from escaping through the water outlet. If this seal is broken, an alarm device is activated.

With unmanned engine rooms, the signals are transmitted to a suitable place. When the seal is broken, the three-way valve closes the oil feed and the oil is recirculated until the fault is corrected.

- | | |
|-----------------------------------|------------------------------|
| A. Oil feed to pump | 1. MAB separator |
| B. Oil to heater | 2. Oil strainer |
| C. Oil to separator | 3. Feed pump |
| D. Oil from separator outlet | 4. Plate heat exchanger |
| E. Liquid-seal supply | 5. Three-way valve |
| F. Water outlet | 6. Pressostat |
| G. Air supply for three-way valve | 7. Pressure gauge |
| | 8. Regulating valve |
| | 9. Liquid-seal alarm cabinet |
| | 10. Air reducing valve |



Working principle

Separation takes place in a solid-wall bowl that can be arranged for either clarification or purification. In both cases, the contaminated oil is fed into the bowl through the centre and it is separated by centrifugal force into its various phases, the heaviest phase (sludge and water) being deposited at the periphery of the bowl.

The accumulation of sludge is removed from the bowl periodically by hand. To facilitate the cleaning, the bowl is fitted with a sludge basket.

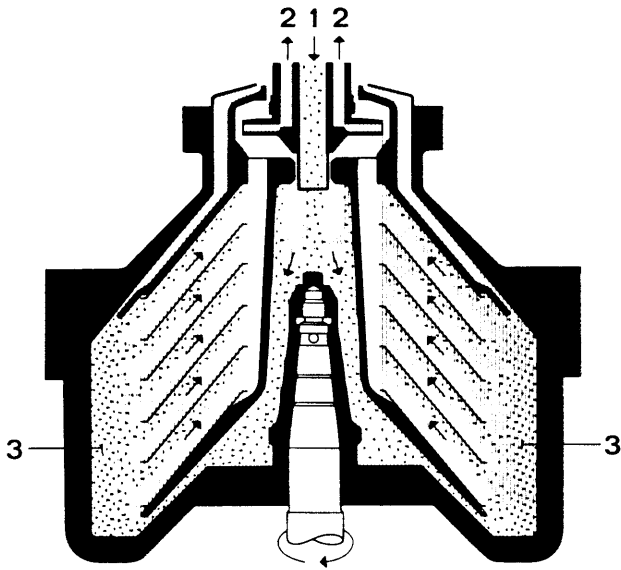


Fig. 3. MAB 200 bowl arranged as a clarifier for separating oils containing sludge and a very small quantity of water.

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

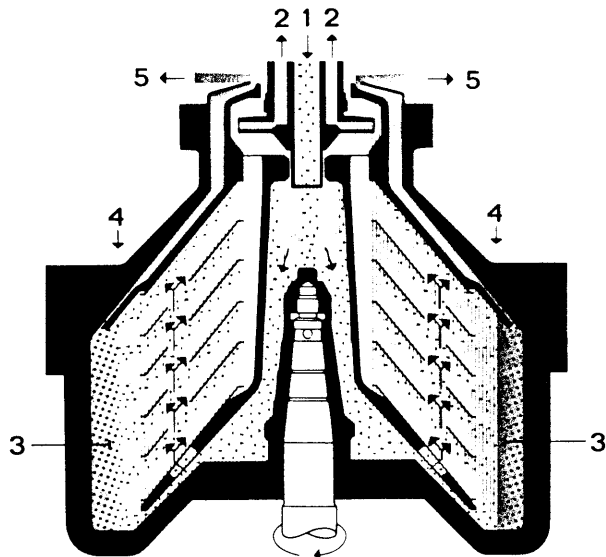


Fig. 4. MAB 200 bowl arranged as a purifier for separating oils containing sludge and an appreciable quantity of water.

- 1. Oil inlet
- 2. Clean oil outlet
- 3. Sludge
- 4. Oil/water interface
- 5. Water outlet

Standard 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. The bowl is equipped with a removable sludge basket for easy cleaning.

Basic equipment

- Dirty oil inlet device with reducing valve, flow indicator, pressure gauge, and thermometer
- Clean oil outlet device with check valve
- Water outlet device with illuminated sight glass
- Liquid seal water inlet with hose nipple, throttling valve, and sight glass
- Removable sludge basket for the bowl
- Set of gravity discs
- Clarifier parts comprising gravity disc and level ring
- Revolution indicator
- Set of resilient mountings for the machine
- Set of Standard Spare Parts

Extra equipment

- Electric motor
- Starter
- Set of tools
- Set of recommended additional spare parts for long-time service
- Inlet pump with fittings
- Connections
- Preheater
- Alarm device for broken liquid seal
- Standard drive by horizontal flange-mounted motor.

Modules

The separator with heater and control equipment can be delivered in a plug-in unit, suitable for both land and marine installations. The connections can be positioned to fit most installation requirements.

Technical documentation

Complete information and documentation accompany each separator delivery. The Installation Data Manual provides information to ensure correct installation, and the Operator's Manual provides separator operators with detailed instructions and advice for obtaining optimal separation.

The Maintenance and Repair Manual describes separator dismantling and reassembly. The Spare Parts Catalogue facilitates the ordering of spare parts.

Service

Alfa-Laval is a worldwide operating corporation with its head office in Sweden, and affiliated companies and representatives in 130 countries. Spares and service for all Alfa-Laval process equipment are provided through the organization of the Alfa-Laval Group and its representatives.