

# Product Description

**ALFA-LAVAL**  
**MARINE & POWER**

## MAB 102B Separators

### Application

Purification of mineral oils (fuel, lubricating, turbine) used in marine and power installations.

### Concept

The MAB 102B separation system comprises:

- a MAB 102B separator
- a built-on double pump
- ancillary components.

The separation system can be supplied with a water seal alarm comprising STAWA-40 starter/monitoring unit, pressure switch, gauge, solenoid valve and regulating valve.

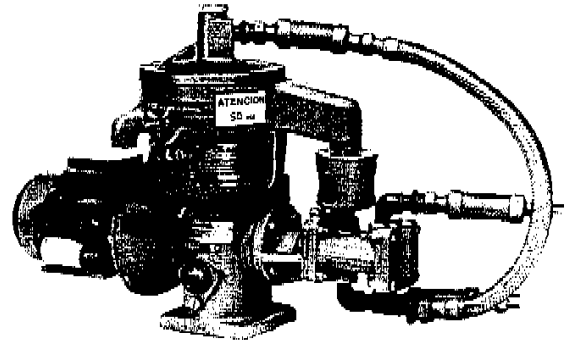


Fig. 1 MAB 102B Separation system

### Throughput capacity

Oil	l/h
Distillate (1.5—5.5 cSt/40°C)	550
Marine diesel oil, MDO (13 cSt/40°C)	450
Lube oil (LO) trunk detergent	150
Lube oil (LO) steam turbine (32—46 cSt/40°C)	
Separation temperature 55°C	300
Separation temperature 70°C	500

### Working principle

Separation takes place in a solid-wall bowl (Fig. 2) arranged for purification. The contaminated oil is fed into the centre of the bowl where it is separated by centrifugal force into its various phases, the heaviest phase (the solid particles) being deposited at the periphery of the bowl.

A purifier is used for separating oils containing solids and an appreciable amount of water, the oil and water being discharged continuously through two separate outlets.

The accumulated sludge is removed from the bowl periodically by hand.

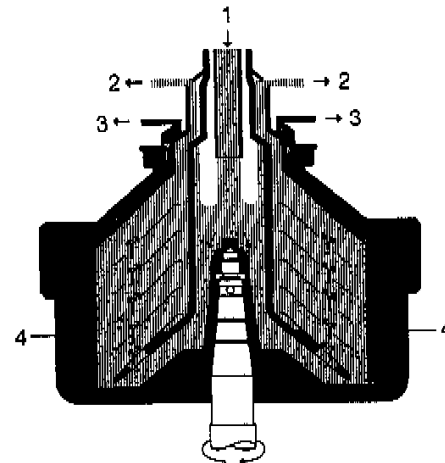


Fig. 2 MAB 102B purifier

1. Feed consisting of oil, water, and solids particles
2. Clean oil
3. Water
4. Solid particles

## Technical data in brief

Pump capacity:	560 l/h
Suction head of supply pump:	4 m water column.
Delivery head of discharge pump:	15 m water column.
Input voltage supply:	220 V, 380 V, 415/440 V AC (50/60 Hz)
Power consumption:	0.3 kW — 50 Hz 0.36 kW — 60 Hz

## Dimensions

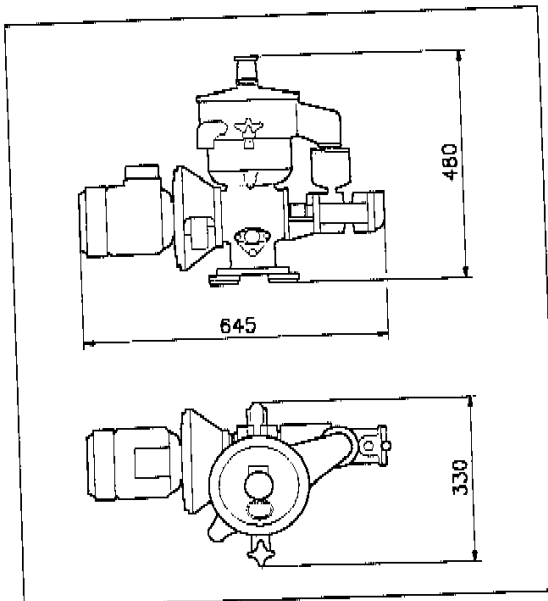


Fig. 3 Dimension drawing

## Technical documentation

Complete information and documentation is included in the Instruction Book (IB) accompanying the MAB 102B Separation system.

## After Sales support

Spare parts are available from Alfa-Laval Marine Service Centers worldwide.

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**ALFA-LAVAL  
MARINE & POWER****Equipment specification****MPCO 348-012-01****Page 01****Model MAB-102B****EDITION 91.01**

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<b>APPLICATION</b>	Cleaning of lubricating oils, factory oils, and low viscosity fuel oils by purification.
<b>CAPACITY</b>	Rated capacity 650 l/h. For diesel oil (viscosity 13 cSt/40°C) max. 450 l/h. For other oils, see table in Technical Data Sheet MPCO 348-015-01.
<b>STANDARD DESIGN</b>	Solids retaining separator comprising a frame containing in its lower part a horizontal drive shaft with friction clutch, 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.
<b>TECHNICAL DATA</b>	Materials and operational characteristics, see Technical Data Sheet MPCO 348-015-01.



## Equipment specification

MPCO 348-012-01

Page 02

EDITION 91.01

### Model MAB-102B

#### BASIC EQUIPMENT

- MAB-102B-14-.. separator
- Built-on feed & discharge pump
- Set of tools, see MPCO 348-014-01
- Standard spare parts

#### AC-input voltage supply

- Electric motor, motor size, see MPCO 431-013-03

#### DC-input voltage supply

- Electric motor, 220 V 50 Hz, 1 phase
- Inverter 24 V DC / 220 V AC
- Ancillary kit, see MPCO 348-016-01

Ancillary kit (1763641-40)

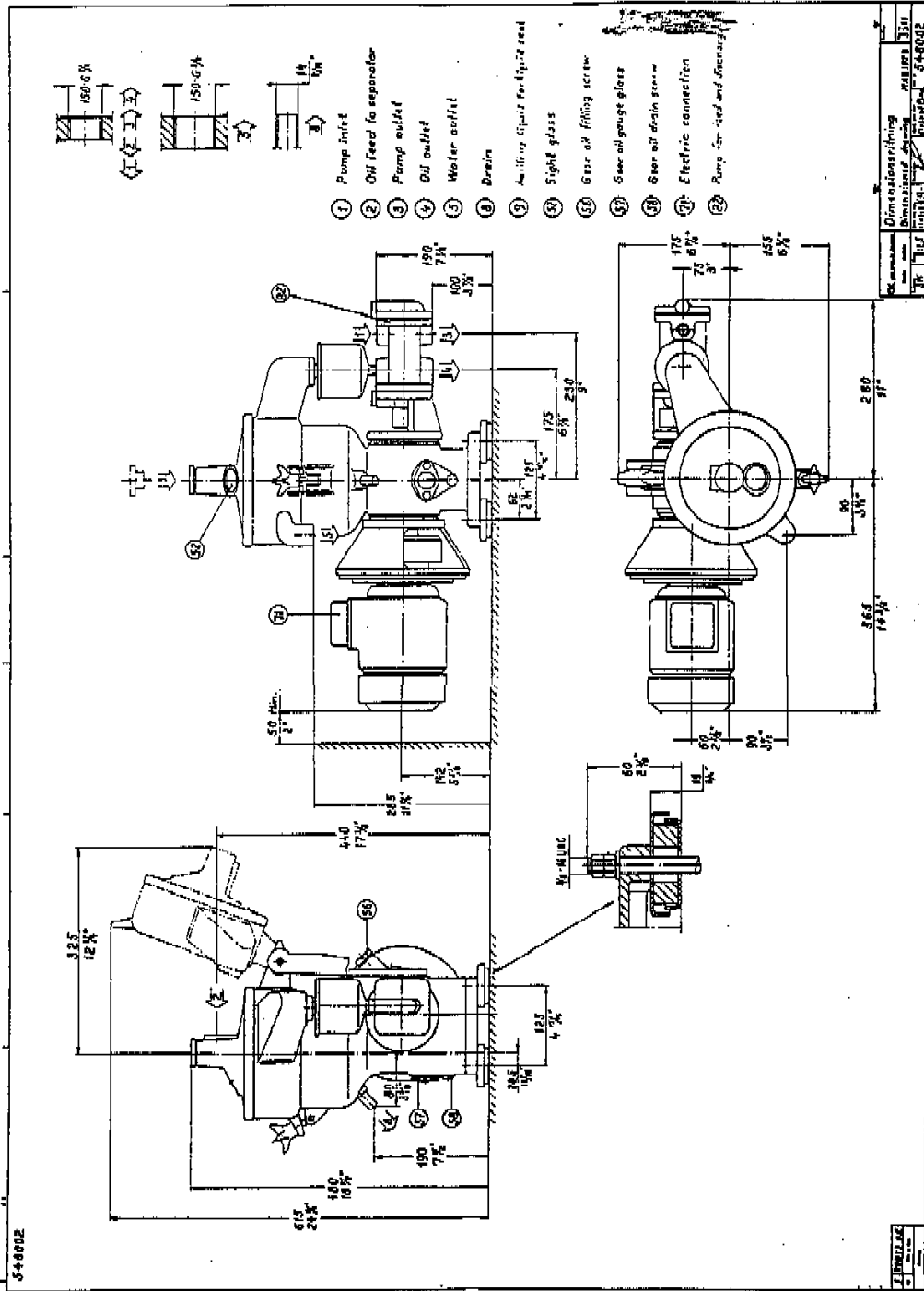
Name	Item	Qty	Article No	Conn.
Rectangular ring	2	1	223433-16	conn. ø21 / ø29
Hexagon nipple	3	2	1763780-01	G 1/2 - G 3/4
Flexible connection	4	3	537533-80	G 3/4
Flexible connection	5	1	1762012-80	G 3/4 - G 1
Nipple	6	1	1760926-01	G 1
Banjo fitting	7	2	1763779-01	G 1/2
Sleeve	8	2	1760924-02	
Nut	9	2	2521501-03	G 3/4
Nipple	10	1	1763783-81	G 1
Tube bend, 90°C	11	1	1763782-01	G 1/2
Hexagon nipple	12	2	1763780-02	G 3/4
Gasket	13	3	1763462-04	G 3/4 (For thread)
Washer	15	1	1763462-03	G 1/2
Gasket	16	6	546229-08	3/4"
Nipple	17	2	1763783-80	G 3/4
Strainer	18	1	1763784-01	3/4"
Gasket	19	1	546229-35	1"
Hose nipple	20	1	1763437-02	G 3/4 (i.d. 19 mm)

# ALFA-LAVAL MARINE & POWER

Dimensioned drawing

MPCO 348-013-01  
DWG NO 548002  
EDITION 91.01

Model MAB-102B



Illustrations, indications of material, dimensions and weight etc. herein, do not constitute any commitment on our part. We reserve the right to change such specifications when necessary.

**Standard spare parts****MPCO 348-014-01****Page 02****Model MAB-102B****EDITION 91.01**SPEC. NO. 4205-1

<u>PART NO</u>	<u>DESCRIPTION</u>
221981-10	Screw
524732-80	Mounting tool
548647-80	Spanner
548965-80	Spanner
549207-80	Driving-off tool

NOTE!

This list is intended for guidance only. The actual scope of delivery will be specified on the PACKING LIST accompanying the delivery. The exact scope of delivery may vary depending on the actual specification of the unit delivered.

# ALFA-LAVAL MARINE & POWER

Technical data sheet

MPCO 348-015-01

Page 01

Model MAB-102B

EDITION 91.01

SPEC. NO. 881134-01-02

## SPEED

### THROUGHPUT CAPACITIES

l/h

The prescribed speed of the worm-wheel shaft, which must not be exceeded, is stamped on the name plate of the machine.

Rated capacity

650

Recommended max. throughput <sup>1)</sup>

Fuel oils - diesel engine

Distillate

- viscosity 1.5-5.5 cSt/40°C

600

Marine diesel oil

- viscosity 13 cSt/40°C

450

Lubricating oil, by-pass treatment, optimum

Detergent

- Trunk piston diesel

150

Steam turbine

500

Table of rpm at	50 Hz	60 Hz
- Drive motor	1420-1500	1700-1800
- Bowl spindle	max. 9400	max. 9400
- Revolution counter	69 - 75	85 - 90

## RUNNING-UP/STOPPING TIME

Approx. 1.65 min. / Minimum 2 min.

## MATERIALS

Frame

- cast iron ("Centriblue" finish<sup>3)</sup>)

Covers

- silumin cast-aluminium alloy  
(grey finish<sup>3)</sup>)

Bowl body and hood

- stainless steel

Distributor

- bronze

Disc stack and gravity discs

- stainless steel

Top disc

- bronze

Lock rings

- tinned steel and bronze

<sup>3)</sup> An epoxy enamel

<sup>1)</sup> Maximum density of oil 991 kg/m<sup>3</sup> at 15°C. Density preferably measured at 50°C and according to ASTM method D 1298-80, corrected to 15°C according to ASTM tables D 1250-80.

SLUDGE AND WATER SPACE

0.22 litres

ELECTRIC MOTOR (at 50 Hz)

Size 0.37 kW

POWER CONSUMPTION

- idling

0.20 kW

- MDO

0.20 kW

LUBE OIL IN GEAR

0.40 litres

## OPERATING WATER

Water for sealing:

pH-value: > 6

Salinity: max. chloride content of 60 ppm Cl  
(Equivalent to 100 ppm NaCl)

## SHIPPING DATA

Separator, complete with set of tools, pumps, and fittings, but without motor

Weights: net 52 kg, gross 72 kg

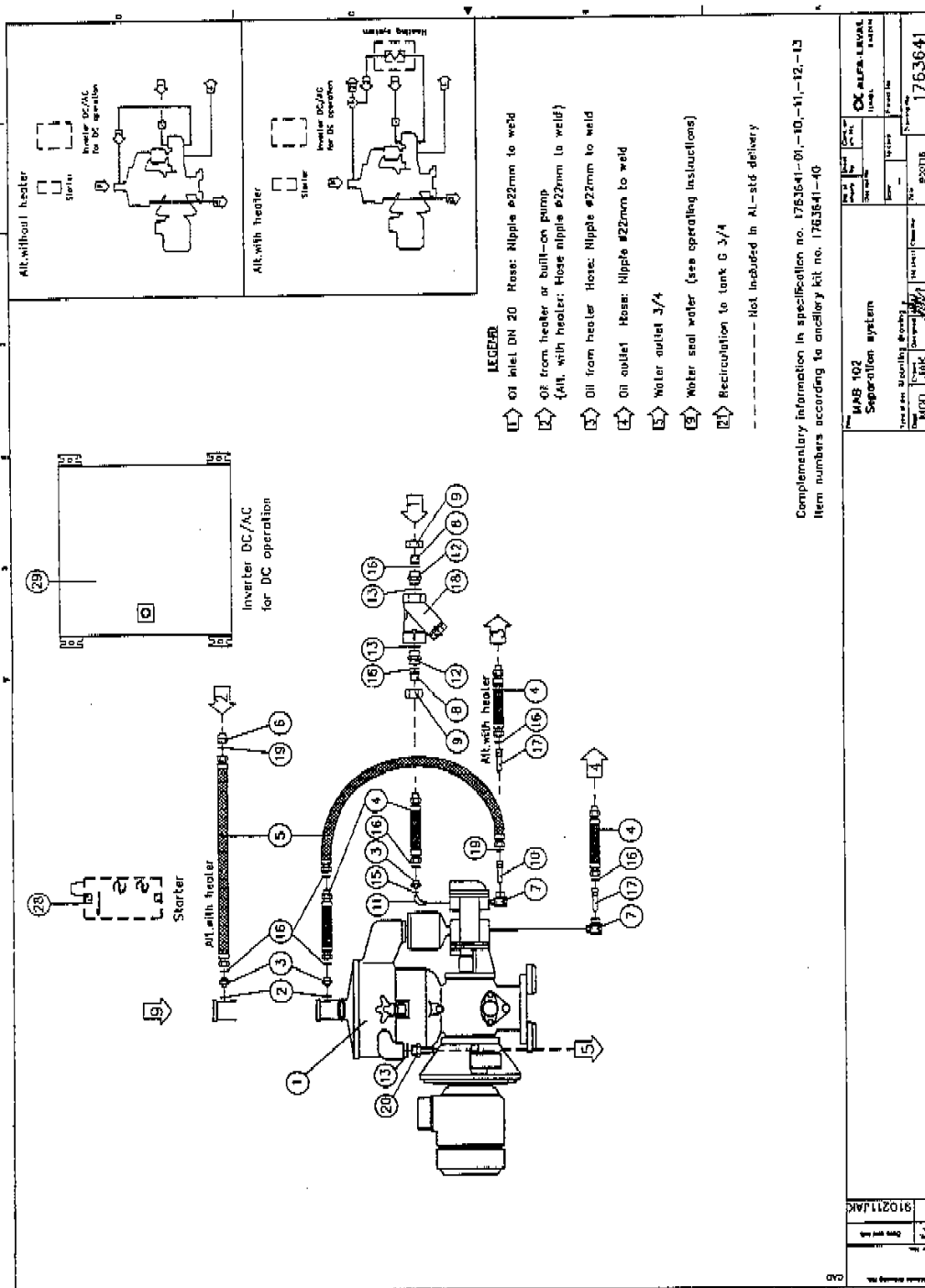
Volume: 0.11 m<sup>3</sup>

# ALFA-LAVAL MARINE & POWER

Installation/mounting drawing

MPCO 348-016-01  
DWG NO 1763641  
EDITION 91.01

Model MAB-102B



**LEGEND**

- 1 Oil inlet DN 20 Hose: Nipple ø22mm to weld
  - 2 Oil from heater or built-on pump (Alt. with heater: Hose nipple ø22mm to weld)
  - 3 Oil from heater Hose: Nipple ø22mm to weld
  - 4 Oil outlet Hose: Nipple ø22mm to weld
  - 5 Water outlet 3/4"
  - 6 Water seal water (see operating instructions)
  - 7 Recirculation to tank G 3/4"
- Not included in AL-std delivery

Complementary information in specification no. 1763641-01-10-11-12-13  
Item numbers according to ancillary kit no. 1763641-40

<p>MAB 102 Separation system</p>		<p>ALFA LAVAL</p>
<p>1763641</p>	<p>1763641</p>	<p>1763641</p>

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