**Utilization**

ALLMARINE MELO pumps are particularly well suited for moving lubricating, non-corrosive liquids without abrasive components, commonly in lubricating-oil loops from a tank container.

**Main fields of application**

ALLMARINE MELO pumps are specially designed as Main-Engine Lube-Oil pumps for circulating lube oil:
- into large diesel engines used as main engines in shipbuilding as well as
- in prime movers in diesel driven stationary power stations and
- in general industrial applications where lube-oil circuits are supplied by tank-type containers.

**Performance data**

- **Capacity** $Q$ up to 1600 m³/h
- **Delivery head** $H$ up to 155 m
- **Discharge pressure** $p_d$ up to 16 bar
- **Temperature of the pumped liquid** $t$ up to 100 °C

The limits quoted are maximums. Figures may be lower depending on specified technical execution. The mentioned performance data are to be considered as a product and performance abstract only. The particular operating limits can be taken from the quotation or order acknowledgement.

**Abbreviation**

- **Series** ALLMARINE MELO
- **Discharge branch Ø**
- **Number of stages**
- **Hydraulic number**
- **Version** 2-stage version
- **Immersion depth N in mm**
- **Material design**

The abbreviation is entered on the nameplate.

**Design and series construction**

Installed in the oil reservoir vertically as an immersed centrifugal pump.

One-stage versions are available for all sizes. Sizes 200, 250 and 300 are also available in a two-stage version. Different submerged-part lengths are available in 100-mm increments.
Shaft sealing
The pump requires no shaft seal where the shaft enters the pump casing. Outside of the tank, a radial shaft seal ring (RSSR) seals the shaft where it is exposed to the atmosphere near the bearing chamber. A V-ring seals the pump against outside moisture and dust, providing protection.

Bearing and lubrication
The pump’s drive-side bearing consists of a combination of axial and radial groove ball bearings. The liquid lubrication required there by the thrust bearing is provided through a throttle gap with return via a return pipe into the tank.

Impeller-side bearing is a liquid-lubricated plain bearing, same like the intermediate bearing on Version L. Size 400 utilizes an antifriction bearing. All bearings are permanently lubricated by the medium.

Shaft coupling
A flexible claw coupling arranged above the covering plate connects the motor shaft to the pump shaft. Centering of the motor and pump in the motor bracket ensure precise alignment of the shaft ends. No need for fine adjustment of the coupling!

Immersion depth
Immersion depths (measured from the lower edge of the sole plate to the lower edge of the suction casing) are available in 100-mm increments between the minimal and maximal values applicable for each size (see main dimensions, page 6).

Branch positions and flanges
Suction casing: immersed, axial downward with anti vortex ribs to avoid adding air to the liquid.
Delivery branch: Elbow drain, horizontal connection above the covering plate according to DIN EN 1092-2 PN16.

Drive
As standard surface-cooled three phase squirrel cage induction motors, IM V1 type of construction; enclosure IP55 according to IEC standards.
Depending on absorbed power (determined with ALLWEILER selection software) all pump sizes can use IEC-type motors of sizes 225 to 315.

Sole plate
Connection dimensions according to DIN EN 1092-1 PN10. A flange for welding onto a tank is optional and available according to DIN 86041-1 PN10, DIN EN 1092-1 PN10.

Coating
Above sole plate with primer and coated according to ALLWEILER standard. Below sole plate without primer coating.
Preserved according to ALLWEILER standard.
Customised special coatings at extra charge on enquiry.

Material code

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<tr>
<th>Denomination</th>
<th>Material design</th>
<th>W201</th>
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<td>Motor bracket</td>
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Combination of structural components
The table below shows the combination possibilities of component for all MELO sizes. The module system enables a cost-reduced spare part stocking. Within a vertical column, parts with identical numbers are interchangeable.

<table>
<thead>
<tr>
<th>Pump</th>
<th>Elbow drain</th>
<th>Impeller hub cap</th>
<th>Bearing bush 1. stage</th>
<th>Bearing bush 2. stage</th>
<th>Bearing sleeve 1. stage</th>
<th>Bearing sleeve 2. stage</th>
<th>Bearing bush Intermediate bearing</th>
<th>Bearing bush Intermediate cover</th>
<th>Bearing bush Intermediate housing</th>
<th>Bearing sleeve V-Ring</th>
<th>Bearing sleeve RSSR</th>
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</table>
MELO 200-1, 250-1, 300-1
one-stage Version “S” without intermediate bearing

Version “L” with intermediate bearing

Version “S” or “L” depends on the required immersion depth (see dimension G in table on page 6).

MELO 200-2, 250-2
two-stage Version

MELO 300-2
two-stage Version
Pump dimensions and max. immersion depth (in mm)

<table>
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<tr>
<th>MELO</th>
<th>A (DIN EN 1092-2)</th>
<th>B (DIN EN 1092-2)</th>
<th>B₁</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
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<td>1200</td>
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</tbody>
</table>

① Different submerged-part lengths are available in 100-mm increments.
3D models and installation dimensions are available in ALLWEILER drawing archive ALL2CAD.
Performance graphs

50 Hz
n=1.450 1/min

60 Hz
n=1.750 1/min

Exact performance data to be taken from the selection programme ALLSELECT.
Series ALLMARINE® MELO

- **No oil in the water**
  Shaft seal ring ensures that the shaft is sealed from the atmosphere in the bearing area. A special external V-ring protects the tank from spray and bilge water, especially when the pump is not running.

- **Rapid assembly**
  The torsion-proof and flexurally rigid bracket makes fine alignment of the coupling unnecessary. Bracket suitable for standard IEC motors.

- **Easy installation**
  Flange complies with DIN design. Counter flange optional available to be welded on oil tank.

- **Insensitive to external forces**
  Reinforcements under the attachment flange ensure reliable functionality even when impacts and pressures travel through the hull.

- **Wear-resistant and economical**
  Liquid-lubricated plain bearing and exchangeable, hardened shaft sleeve result in a long service life.

- **Optimised incoming flow**
  Flow-optimized suction casing with integrated anti-vortex ribs prevents air from entering liquid and optimizes flow inlet.

- **Rapid maintenance**
  Upper bearing arranged as easily accessible liquid-lubricated antifriction bearing.

- **High performance**
  For high requirements two-stage version available.

- **Flexibility**
  Graduated immersion depths with steps of 100-mm increments enable economical tank configuration.

- **Very long service life**
  Balancing holes in the impeller reduce axial thrust.

- **Easy installation**
  No additional fixation at tank bottom.