

Vertical Centrifugal Lube-Oil Pump Series ALLMARINE® MELO



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 m ³ /h
Delivery head	H up to 155 m
Discharge pressure	p _d up to 16 bar ①
Temperature of the pumped liquid	t up to 100 °C

① 2-stage version

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

<u>ALLMARINE MELO</u>	<u>200</u>	<u>- 1 / 01</u>	<u>S</u>	<u>1500</u>	<u>W201</u>
Series	Discharge branch Ø	Number of stages	Hydraulic number	Version ①	Immersion depth N in mm
					Material design

① Depends on the immersion depth (see tab. Main dimensions/immersion depth on page 6)

S = short without intermediate bearing

L = long with intermediate bearing

This 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 antifricition 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.

MELO	DIN 86041-1	DIN EN 1092-1
200, 250	DN500	-
300	DN600	-
400	-	DN1000

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

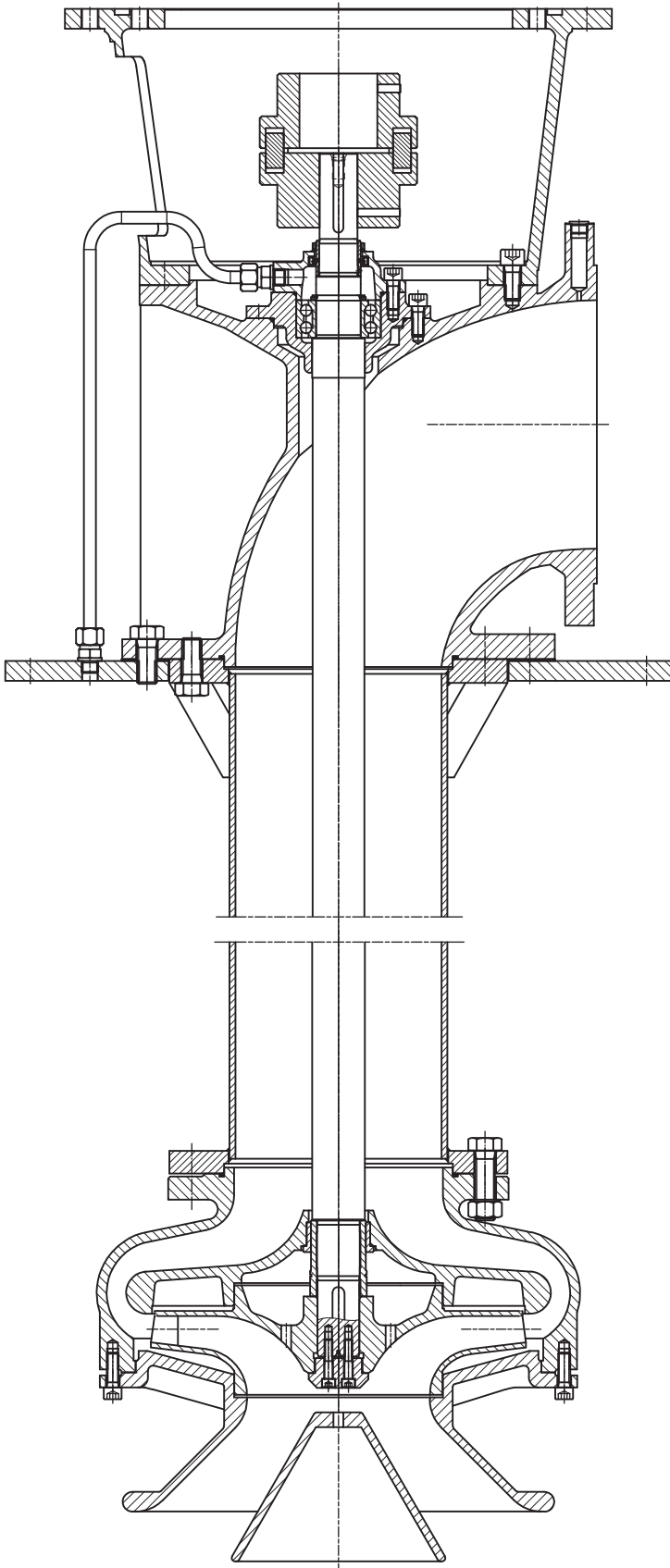
Denomination	Material design	
	W201	W202
Pump casing	EN-GJL-250	EN-GJL-250
Impeller	EN-GJL-200	bronze
Stand pipe	St 37/1.0254	St 37/1.0254
Sole plate	St 35/1.0308	St 35/1.0308
Shaft	steel	steel
Motor bracket	EN-GJL-200	EN-GJL-200

Combination of structural components

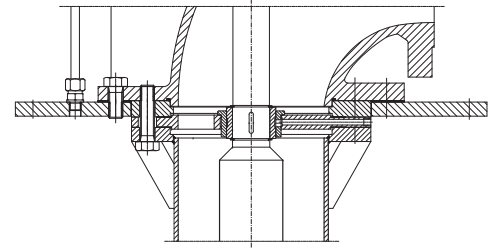
The table below shows the combination possibilities of component for all MELO sizes. The module system enables a cost-reduced spare part stocking. Within a vertical column, parts with identical numbers are interchangeable.

Pump	Elbow drain	Impeller hub cap	Bearing bush		Bearing sleeve		Bearing bush Intermediate bearing	Bearing sleeve Intermediate bearing	Bearing cover	Bearing housing	Shaft seal		Shaft sleeve						
			1. stage	2. stage	1. stage	2. stage					V-Ring	RSSR							
200-1-S	1	1	1	-	1	-	-	-	1	1	1	1	1						
200-2-S				1	2	1	-	-											
200-1-L				-	1	-	1	1											
200-2-L				1	2	1	1	1											
250-1-S	2			-	1	-	-	-						-	2	2	2	2	2
250-2-S				1	3	1	-	-											
250-1-L				-	1	-	1	1											
250-2-L				1	3	1	1	1											
300-1-S	3	1	2	-	4	-	-	-	2	2	2	2	2						
300-2-S				-	-	-	-	-											
300-1-L				2	2	2	2	2											
300-2-L				2	2	2	2	2											
400-1-S	4			-	-	-	-	-	-	-	3	3	3	3	-				

MELO 200-1, 250-1, 300-1
one-stage Version "S" without intermediate bearing

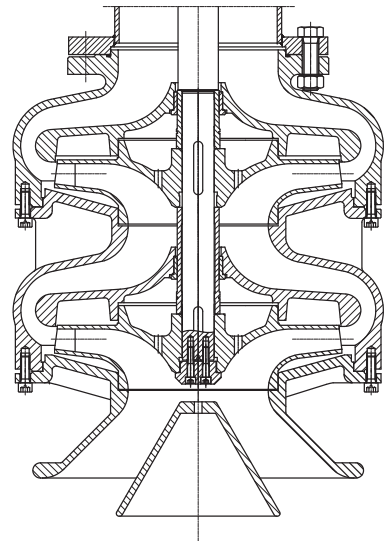


Version "L" with intermediate bearing

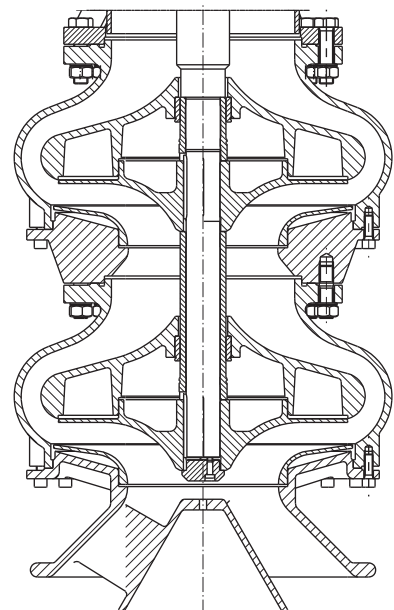


Version "S" or "L" depends on the required immersion depth (see dimension G in table on page 6).

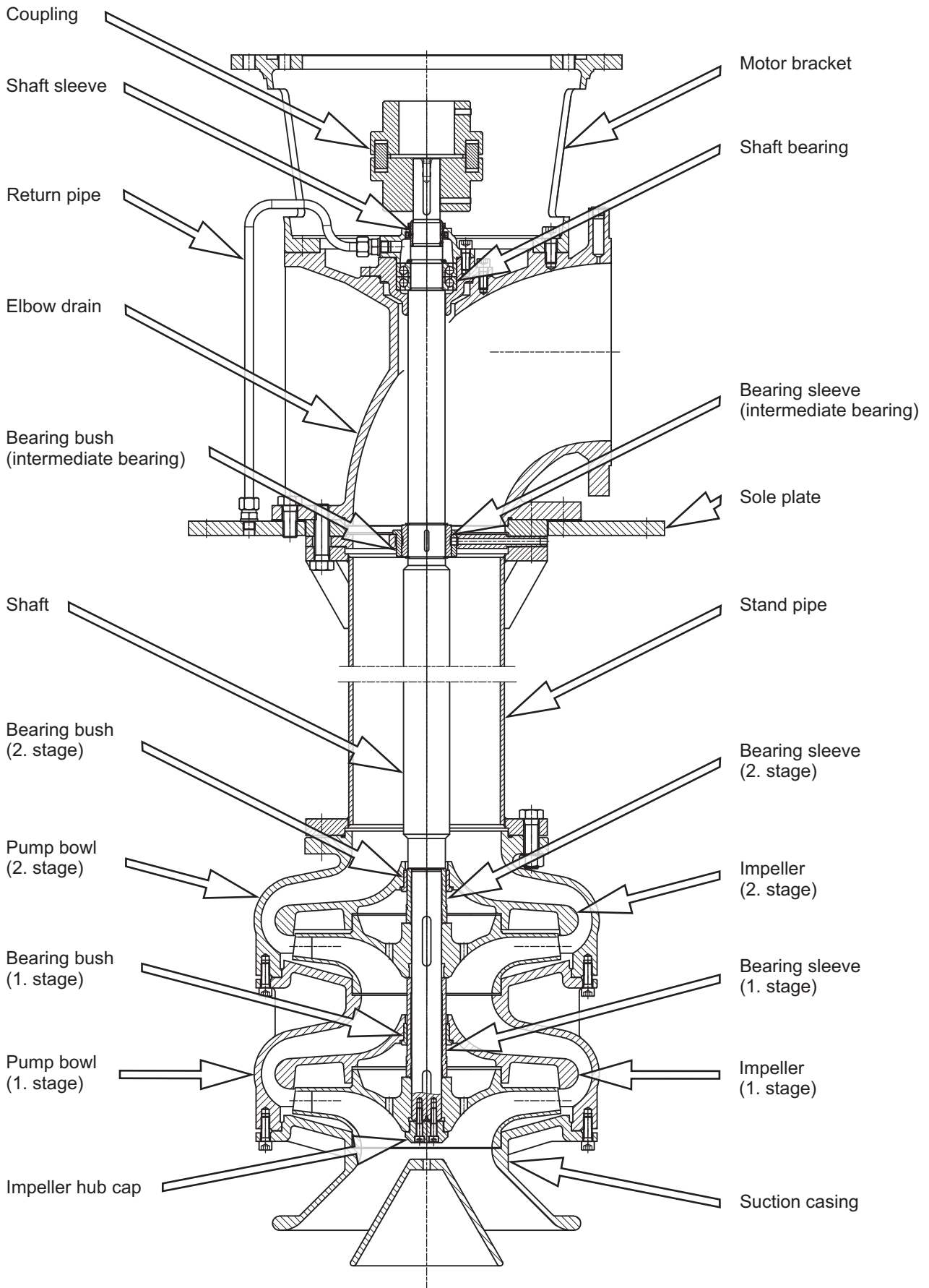
MELO 200-2, 250-2
two-stage Version



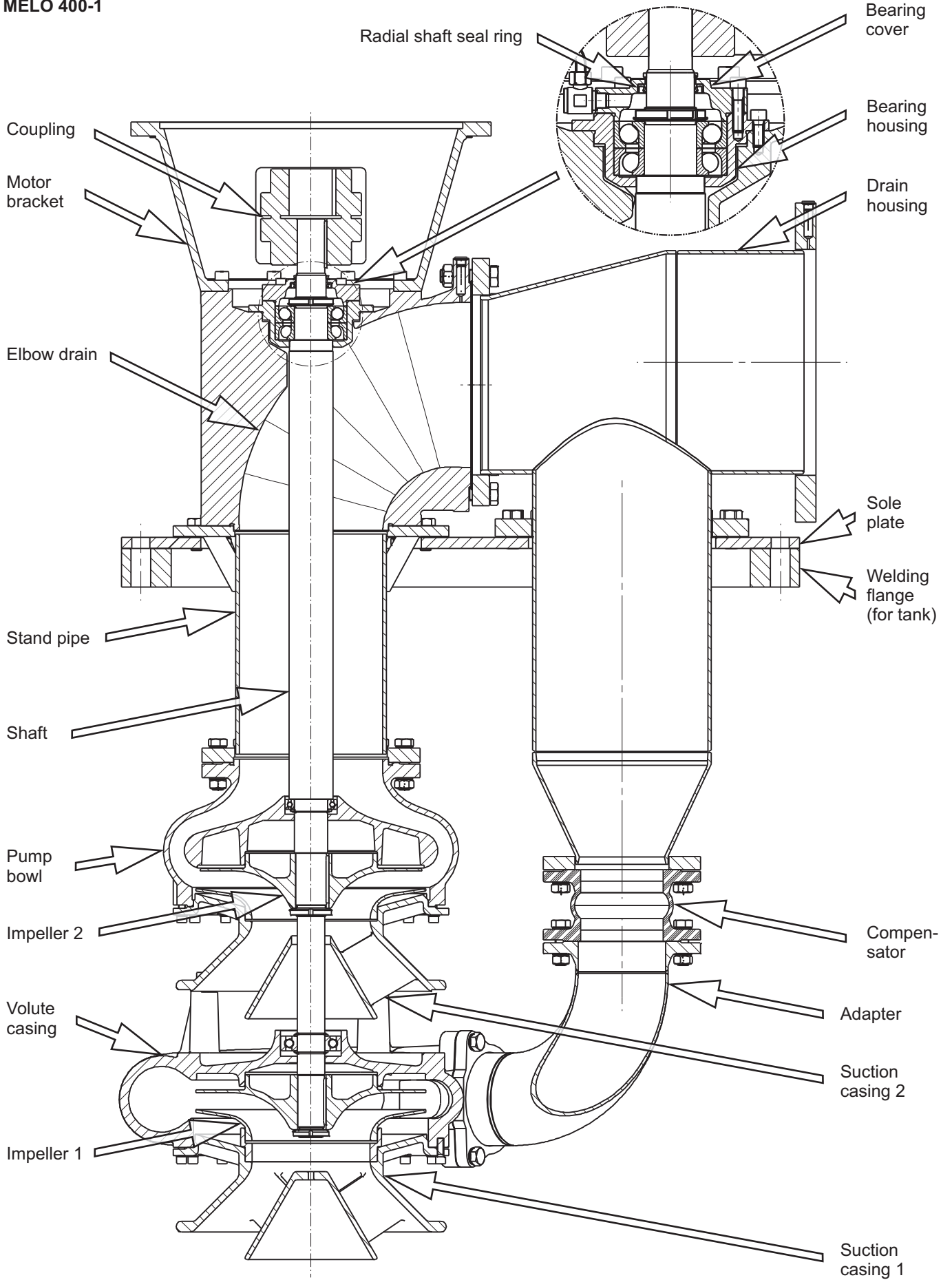
MELO 300-2
two-stage Version



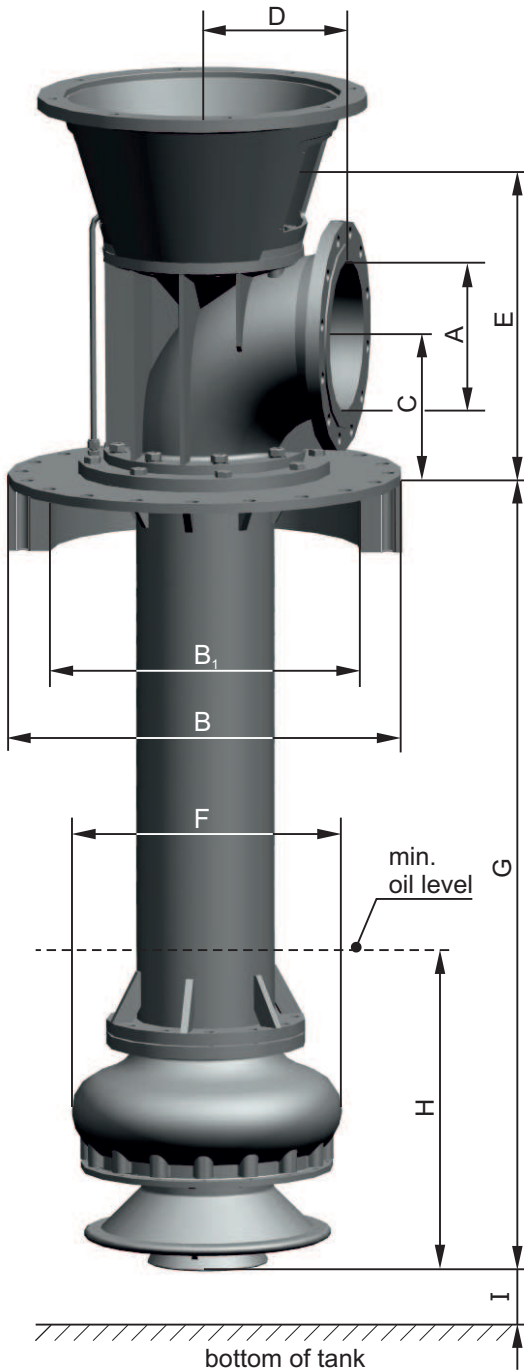
MELO 250-2



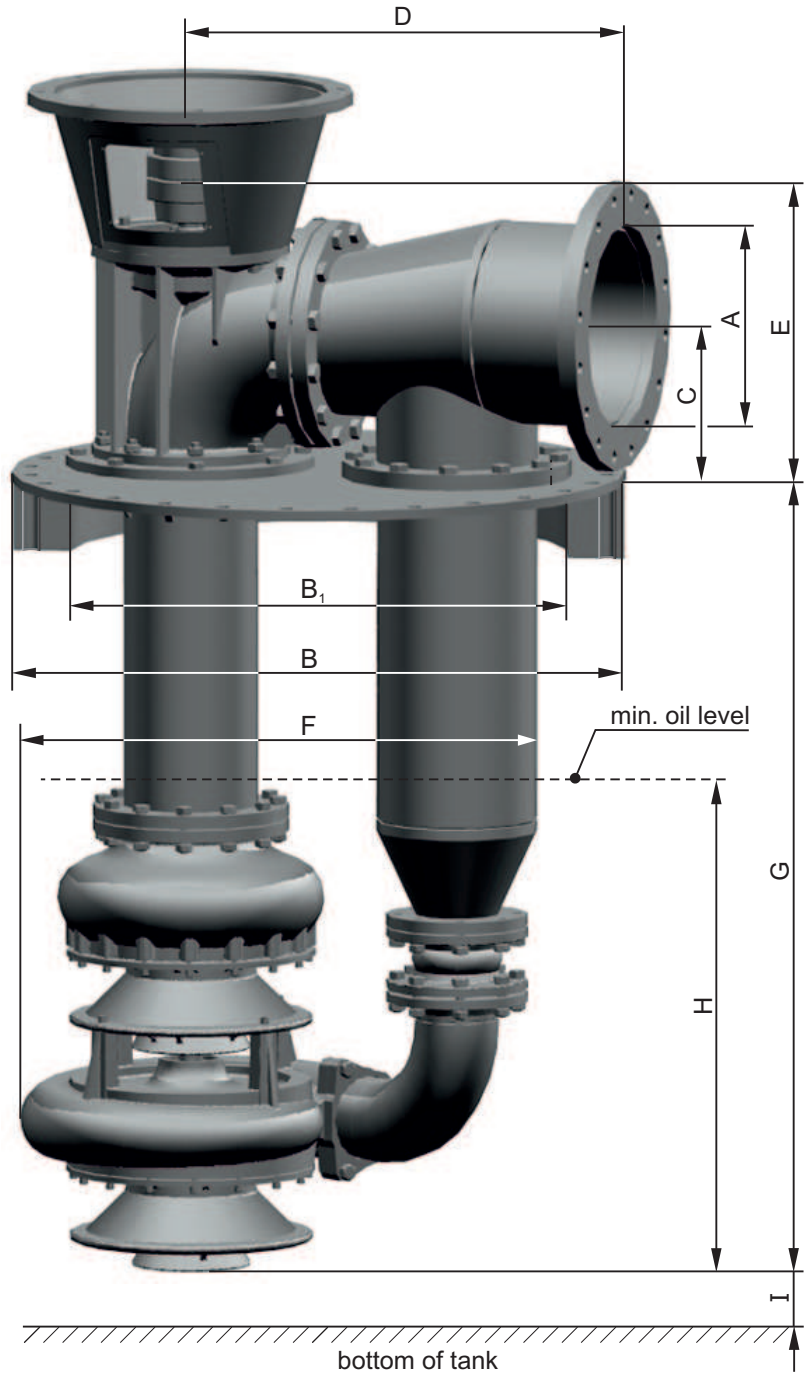
MELO 400-1



MELO 200, 250, 300



MELO 400



Pump dimensions and max. immersion depth (in mm)

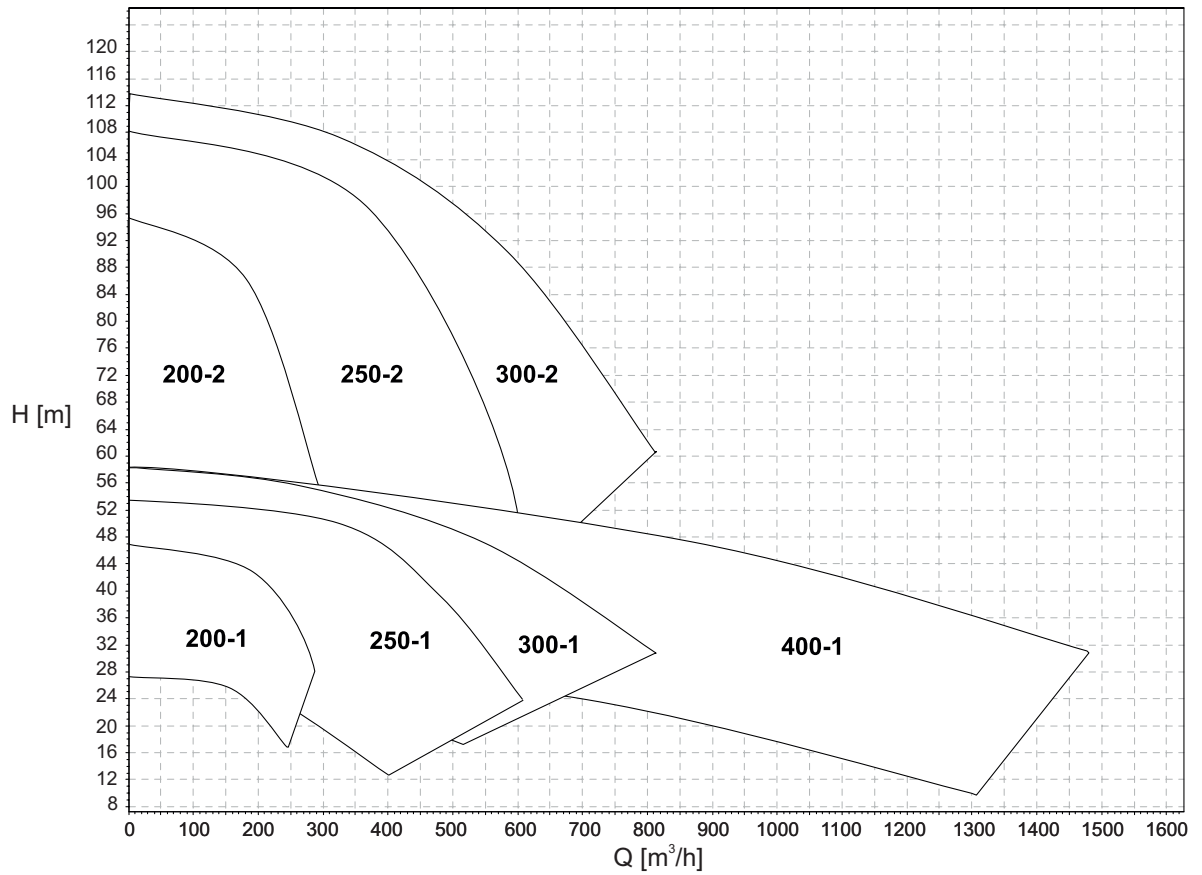
MELO	A (DIN EN 1092-2)	B (DIN EN 1092-2)	B ₁	C	D	E	F	G ①			H min.	I min.
								min.	max. S	max. L		
200-1	DN200	Ø 670	513,5	233	260	486	474	700	1700	2500	450	40
200-2								1000	1900	2900		
250-1	DN250	Ø 670	513,5	258	260	531	486	700	1600	2400	400	
250-2								1000	1800	2800		
300-1	DN300	Ø 780	616,5	297	290	600	536	700	1700	2400	500	
300-2								1100	2500	3100		
400-1	DN400	Ø 1230	1070	338	916		1054	1200	2700	-	900	

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.

► **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.

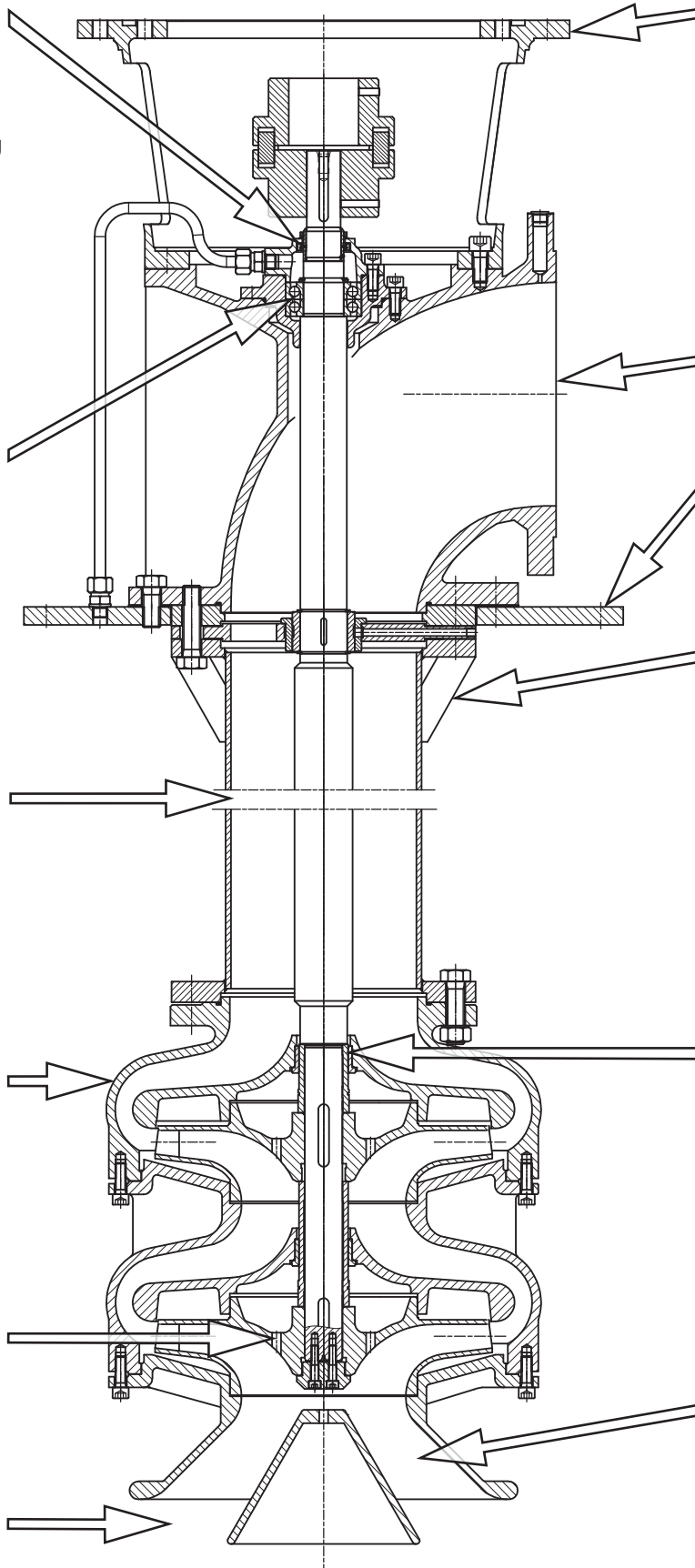
► **Rapid maintenance**
Upper bearing arranged as easily accessible liquid-lubricated antifriction bearing.

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

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

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

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



► **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.