

Applications

The **oddesse** submersible motors of the series **po-mo** are designed to drive submersible pumps. They are also applicable for other submersible machines and offshore operation.

Design

The **oddesse** submersible motor is a three-phase asynchronous motor with a short circuit rotor. It is designed as a wet-running motor with a watertight insulated winding. All motors are rewindable. The motor connection for 6- and 8-inch motors are according to NEMA-standard, 10- and 12-inch motors are according to international standards. The bearings are lubricated by the motor filling. It is a mixture of glycol and water. If necessary, it can be changed with pure drinking water.

Axial down thrusts will be absorbed by the axial thrust bearing with individual tilting pads.

Motors are sealed by a high quality double mechanical seal that is designed to work under severe conditions. It can simultaneously withstand water with high sand, a high suspended solid content and a chlorid concentration of maximum 3mg/l.

A reliable balance system grant the pressure compensation between motor and its environment.

The motors are completed with pressure-water tight cable. They are inside grounded.

Construction complies with VDE-regulations and the motors are conform to the EC declaration of conformity as defined by machinery directive 2006/42/EEC.

Motors are usable in horizontal and diagonal position depending of the nominal power. **oddesse** motors are working electrical clock- and anticlockwise.

A high efficiency guarantees lowest operating costs. For all the motors **oddesse** hold a detailed supply of control and monitoring equipment available.

Stainless steel bolts and nuts to couple the motor to the pump will accompany the motor as accessory. If necessary a stainless steel coupling can be delivered as well, after knowing the pump shaft dimension.

Operating data

- Nominal power: up to 400 kW
- Voltage: up to 1000 V
- Kind of currency: 3 ~
- Frequency : 50 Hz and 60 Hz
- Degree of protection: IP 68
- Ambient temperature: up to 30 °C (50 °C with PE2/PA (insulation class of PE2/PA-wire: 90°C), up to 80°C with other high-temp wire with insulation class of 110°C
- Switching frequency: max. 20 / h (po-mo12 max. 10 / h)

Special design (on request)

- higher temperatures
- other quality of pumped medium, for example sea water use
- chemically polluted liquids
- other materials
- suction jacket
- temperature monitoring with PTC / PT100 sensor installed inside the motor
- microprocessor controlled motor monitoring

Variable Frequency Drive (VFD)

Every **oddesse** motor is usable for VFD operations. Following items should be considered:

- the VFD must be conform to the nominal currency of the submersible motor,
- the maximal working range from 30 Hz up to 60 Hz, corresponding speed from 1.740 up to 3.500 1/min,
- the use of a sine-wave filter for protection against high voltage peaks
- the minimum rate of flow must be 10 % of the nominal rate of flow of the pump.

Soft starter operation

Soft starters are very qualified to start a submersible motor. It grants:

- reducing of starting current
- avoidance of water hammer while starting causing switch off of the pump.

Subject to alterations

Material of construction

Submersible motor po-mo6, po-mo8, po-mo10, po-mo12

According to DIN

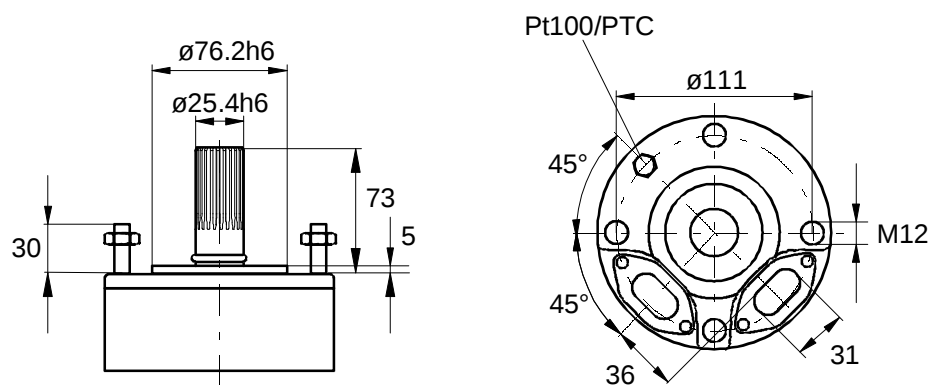
components	design			
	G-version (GGG 40)	C-version (AISI 304)	X-version (AISI 316)	Y-version (AISI 904L)
shaft	stainless steel / 1.4301		stainless steel / 1.4462	
motor flange	grey cast iron GGG40 / 0.7040	stainless steel / 1.4301	stainless steel / 1.4571	stainless steel / 1.4539
motor jacket	stainless steel / 1.4306		stainless steel / 1.4541	stainless steel / 1.4539
radial bearing	stainless steel / carbon			
thrust bearing	stainless steel / carbon			
screws, nuts and bolts	stainless steel A2 1.4301 / 1.4303		stainless steel A4 1.4401	stainless steel 1.4539
double mechanical seal	carbon / ceramic		SiC / SiC	
	optional: SiC / SiC available for all motors			

According to AISI

components	design			
	G-version (GGG40)	C-version (AISI 304)	X-version (AISI 316)	Y-version (AISI 904L)
shaft	stainless steel / AISI 304		duplex steel	
motor flange	grey cast iron A563-72	stainless steel / AISI 304	stainless steel / AISI 316Ti	stainless steel / AISI 904L
motor jacket for	stainless steel / AISI 304L		stainless steel / AISI 321	stainless steel / AISI 904L
radial bearing	stainless steel / carbon			
thrust bearing	stainless steel / carbon			
screws, nuts and bolts	stainless steel A2 AISI 304 / 305		stainless steel A4 AISI 316	stainless steel A4 AISI 904L
double mechanical seal	carbon / ceramic		SiC / SiC	
	optional: SiC / SiC available for all motors			

oddesse reserve the right to employ construction materials following German (DIN) standard

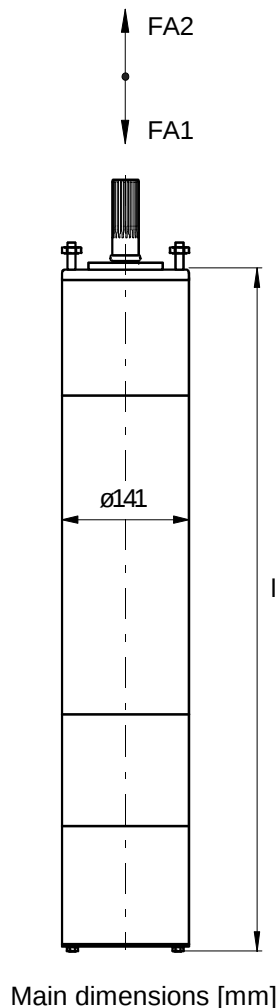
Subject to alterations



Pump connection acc. to **NEMA**-standards

po-mo6.4 • 50 Hz • 3 ~

Power P		Length l		Weight m	
kW	HP	mm	inch	kg	lbs
4	5.5	654	25.7	40	88
5.5	7.5	697	27.4	44	97
7.5	10	729	28.7	48	106
9.2	12.5	769	30.3	52	115
11	15	854	33.6	60	132
13	17.5	889	35	64	141
15	20	939	37	69	152
18.5	25	1004	39.5	76	168
22	30	1079	42.5	83	183
26	35	1149	45.2	89	196
30	40	1259	49.6	97	214
34	45	1309	51.5	101	223
37	50	1389	54.7	106	234
45	60	1609	63.3	122	269



Main dimensions [mm]

po-mo6.4 • 60 Hz • 3 ~ • SF 1.15

Power P		Length l		Weight m	
kW	HP	mm	inch	kg	lbs
4	5.5	654	25.7	40	88
5.5	7.5	697	27.4	44	97
7.5	10	729	28.7	48	106
9.2	12.5	769	30.3	52	115
11	15	854	33.6	60	132
13	17.5	889	35	64	141
15	20	939	37	69	152
18.5	25	1004	39.5	76	168
22	30	1079	42.5	83	183
26	35	1149	45.2	89	196
30	40	1259	49.6	97	214
34	45	1309	51.5	101	223
37	50	1389	54.7	106	234
45	60	1609	63.3	122	269

FA1 Downthrust capacity (up to 15 kW):

15 kN / 3300 lbs

FA1 Downthrust capacity (above 15 kW):

28 kN / 6295 lbs

FA2 Upthrust capacity:

0.5 kN / 110 lbs

Subject to alterations