

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), higher temperatures on request)
- 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

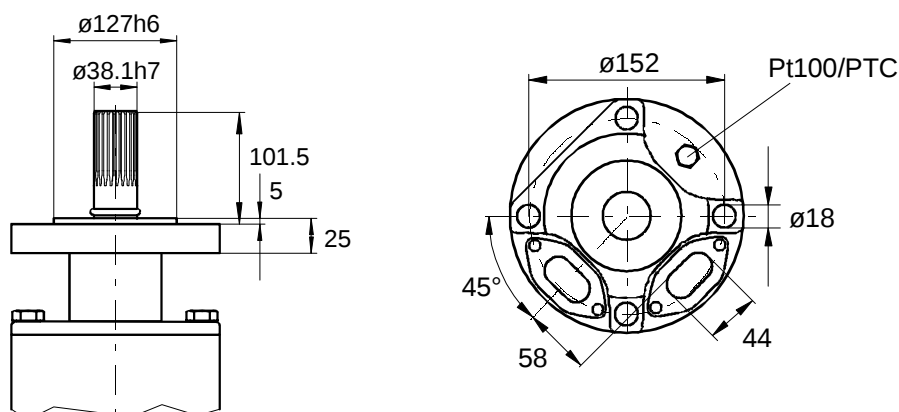
components	design			
	G-version (GGG 40)	C-version (AISI 304)	X-version (AISI 316)	Y-version (AISI 904L)
shaft	stainless steel / 1.4301		stainless steel / 1.4462	
motor flange	grey cast iron GGG40 / 0.7040	stainless steel / 1.4301	stainless steel / 1.4571	stainless steel / 1.4539
motor jacket	stainless steel / 1.4306		stainless steel / 1.4571	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

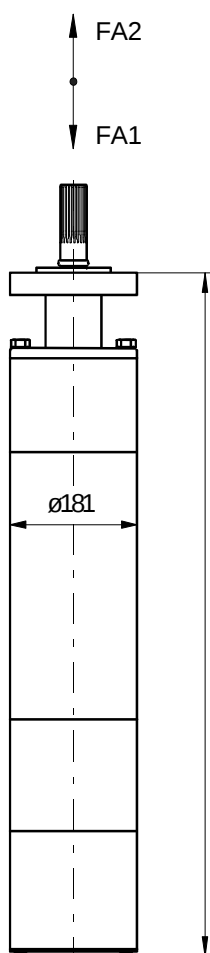
components	design			
	G-version (GGG40)	C-version (AISI 304)	X-version (AISI 316)	Y-version (AISI 904L)
shaft	stainless steel / AISI 304		duplex steel	
motor flange	grey cast iron A563-72	stainless steel / AISI 304	stainless steel / AISI 316Ti	stainless steel / AISI 904L
motor jacket	stainless steel / AISI 304L		stainless steel / AISI 316Ti	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



Main dimensions [mm]

po-mo8.5 • 50 Hz • 3 ~

Power P		Length l		Weight m	
kW	HP	mm	inch	kg	lbs
7.5	10	847	33.3	82	181
11	15	892	35.1	89	196
15	20	942	37.1	97	214
18.5	25	982	38.7	103	227
22	30	1022	40.2	109	240
30	40	1117	44.0	124	273
37	50	1202	47.3	138	304
45	60	1282	50.5	151	333
55	75	1362	53.6	163	359
63	85	1442	56.8	176	388
75	100	1542	60.7	192	423
90	125	1602	63.1	202	445
110	150	1652	65.0	210	463
132	175	1752	69.0	225	496

po-mo8.5 • 60 Hz • 3 ~ • SF 1.15

Power P		Length l		Weight m	
kW	HP	mm	inch	kg	lbs
8.5	11.5	847	33.3	82	181
13	17.5	892	35.1	89	196
17	23	942	37.1	97	214
22	30	982	38.7	103	227
26	35	1022	40.2	109	240
37	50	1117	44.0	124	273
45	60	1202	47.3	138	304
55	75	1282	50.5	151	333
63	85	1362	53.6	163	359
75	100	1442	56.8	176	388
90	125	1542	60.7	192	423
100	135	1602	63.1	202	445
110	150	1652	65.0	210	463

FA1 Downthrust capacity:

45 kN / 10000 lbs

FA2 Downthrust capacity:

1 kN / 220 lbs

Delivery voltages: 220 ... 1000 V (220 / 230 V up to 63 kW)

Subject to alterations