

## 4" Three-phase oil-cooled ZDS Motors

ZDS OT three-phase submersible motors are designed to operate coupled to hydraulic parts with the same coupling dimensions. These motors are oil-cooled by FDA (Food and Drug Administration) approved dielectric fluid and are manufactured to ISO 9001 standards. ZDS OT motors are equipped with phase separator which ensures optimal operation and long working life for the motor, also if used with frequency inverter.

### APPLICATIONS

ZDS three-phase oil-cooled motors ensure reliable working in 4" or larger diameter wells. The axial and radial oil lubricated bearings allow for maintenance-free operation. The pressure compensation inside the motor is ensured by a special internal membrane.

### CHARACTERISTICS

- rewindable coated stator immersed in dielectric fluid to guarantee optimal cooling capacity of temperature during operation
- ready to use motors prefilled with dielectric fluid
- sand protection and mechanical seal designed to guarantee optimal operation even with high quantity of sand in the pumped liquid
- motor bottom cover for extra protection
- all motors are 100% tested in every production phase



### Technical specifications:

- **Three-phase motor range:** 0,37 - 5,5 kW
- **Voltage range:** 3 x 380-415V / 50 Hz
- **4" NEMA standard dimensions**
- **Voltage tolerance 50Hz from nominal:** +6% / -10%  $U_N$
- **Rotation:** reversible
- **Degree of protection:** IP68
- **Insulation:** Cl. F
- **Rated ambient temp.:** max. 40°C
- **Cooling flow:** min 8 cm/sec
- **Max Starts/h:** 150 equally distributed
- **Mounting:** vertical/horizontal
- **Maximum Immersion depth:** 150mt
- **Thrust:** 1.500N; 2.500N; 4.500N (according to ranges)
- **Allowed range of water PH:** 6,4-8,0
- **Protection requirements:** EN 60947-4-1
- **OT Cable size:** 4x1,5 mm<sup>2</sup> (Wras, ACS approved)
- **For OT motors without DRP an overload protection and a control unit to start and run the motor must be installed according to EN 60947-4-1 trip time < 10 sec. at 5 x  $I_N$**

### Options:

- DRP for ZDS three-phase motors
- The DRP must NOT be used with a frequency inverter.

**OT - 380-415 V THREE-PHASE**

50Hz n=2850 min <sup>-1</sup>	OT - THREE-PHASE OIL-COOLED												
	Code	Cable (m)	Power		Thrust [N]	n <sub>N</sub> [min <sup>-1</sup> ]	I <sub>N</sub> [A]	I <sub>START</sub> [A]	η <sub>eff</sub> [%]	Cos φ (P.f)	T <sub>START</sub> T <sub>N</sub>	L [mm]	W [kg]
			[kW]	[HP]									
OT.037.15.DRP	184198010S	2	0,37	0,50	1500	2865-2885	1,5-1,7	6,5-7,4	56/52	0,63-0,54	4,1	313	8,1
OT.037.15	184198010L	1,5											7,5
OT.055.15.DRP	184198015S	2	0,55	0,75	1500	2820-2855	1,6-1,8	7,6-8,3	64/63	0,75-0,67	3	324	8,6
OT.055.15	184198015L	1,5											8
OT.075.15.DRP	184198020S	2	0,75	1	1500	2820-2850	2,3-2,6	10,3-11,2	66/65	0,75-0,63	3,2	339	9,3
OT.075.15	184198020L	1,5											8,8
OT.110.25.DRP	184198025S	2	1,1	1,5	2500	2815-2840	3,1-3,6	14,0-15,2	69/67	0,77-0,66	3,7	364	11
OT.110.25	184198025L	1,5											9,9
OT.150.25.DRP	184198030S	3	1,5	2	2500	2815-2840	4,1-4,6	19,6-21,4	73/71	0,77-0,66	3,7	399	12,6
OT.150.25	184198030L	2,5											11,6
OT.150.45.DRP	184198035S	3	1,5	2	4500	2815-2840	4,1-4,6	19,6-21,4	73/71	0,77-0,66	3,7	422	13,1
OT.150.45	184198035L	2,5											12,2
OT.220.25.DRP	184198040S	3	2,2	3	2500	2832-2865	5,2-5,4	24,2-27,0	73/74	0,86-0,76	2,2	434	14,1
OT.220.25	184198040L	2,5											13,1
OT.220.45.DRP	184198045S	3	2,2	3	4500	2832-2865	5,2-5,4	24,2-27,0	73/74	0,86-0,76	2,2	457	14,8
OT.220.45	184198045L	2,5											13,8
OT.300.25.DRP	184198050S	3	3	4	2500	2820-2855	7,0-7,2	33,7-36,8	78/78	0,85-0,76	3,2	434	14,1
OT.300.25	184198050L	2,5											13,1
OT.300.45.DRP	184198055S	3	3	4	4500	2820-2855	7,0-7,2	33,7-36,8	78/78	0,85-0,76	3,2	457	14,8
OT.300.45	184198055L	2,5											13,8
OT.400.25.DRP	184198060S	3	4	5,5	2500	2825-2860	9,3-9,8	42,9-46,8	78/78	0,84-0,75	2,8	484	17,4
OT.400.25	184198060L	2,5											16,3
OT.400.45.DRP	184198060S	3	4	5,5	4500	2825-2860	9,3-9,8	42,9-46,8	78/78	0,84-0,75	2,8	484	17,4
OT.400.45	184198065L	2,5											16,9
OT.500.45	184198070L	2,5	5,5	7,5	4500	2820-2850	12,2-12,6	56,8-62,0	78	0,80-0,70	2,7	572	20,5

Please see page 28 or 29 for cable options

Pos.	COMPONENTS	MATERIALS
1	Shaft End	Stainless steel AISI 304/420
2	Top bracket	G20 Cast Iron - cataphoretic treatment
3	Stud	Stainless steel AISI 304
4	Nut	Stainless steel AISI 304
5	Rotating Sand Guard	NBR
6	Motor casing	Stainless steel AISI 304
7	Mechanical seal	Graphite / Ceramic
8	Bottom cover	Stainless steel AISI 304
9	O-Ring	NBR
10	Diaphragm	NBR
11	Cooling liquid	Food grade lubricant
12	Bearing	Stainless
13	Safety bottom cover	Technopolymer

