

6" Encapsulated SUBMERSIBLE MOTORS





Quality in the Well



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Standard: **SAND FIGHTER**

Submersible Motors

Quality in the Well

These 6" encapsulated motors, manufactured in ISO 9001 certified facilities, are built for dependable operation in 6" diameter or larger water wells.

Water lubricated thrust and radial bearings enable a maintenance free operation.

A special diaphragm ensures pressure compensation inside the motor. The motor is filled with a special FES91 fluid, providing frost protection down to -15°C storage temperature.

The Sand fighter® SiC seal system is standard.



Product advantages:

- Hermetically sealed stator, anti track, self healing stator resin prevents motor burn out
- 37 and 45kW up to 50°C ambient temperature
- Removable "Water Bloc" lead connector
- Cable material according to drinking water regulations (VDE / ACS / KTW approved)
- „Sand fighter®“ Motor with SiC-Mechanical Seal and Sand Slinger
- High efficiency electrical design for low operation cost
- All motors prefilled and 100% tested
- Max. storage temperature -15°C - + 60°C
- Non contaminating FES91 -filled design
- 45kN Thrust Capacity (Standard in 37kW and 45kW motors)

Technical Specifications

- 4 ... 45 kW
- 6" NEMA flange
- Protection: IP 68
- Starts per hour: 20
- Installation: vertical/horizontal
- Standard Voltage: 380-415V/50Hz, 460V/60Hz
- Voltage tolerance 50 Hz from nominal: -10%/+6%
- Voltage tolerance 60 Hz from nominal: ±10%
- Motor protection: Select thermal overloads according to DIN 61947-4-1
- Insulation: Class F
- Rated ambient temperature: 4- 30kW up to 30°C; 37 & 45 kW up to 50°C
- Cooling flow: min. 0,16 m/s
- Motor lead in 4m length (VDE / ACS / KTW approved)

Options

- Other voltages
- YΔ - start (pos. of cables 90°)
- 45kN High Thrust Version (standard in 37kw and 45kW motors)
- Motors complete in 304SS and in 316SS
- PT 100 temperature sensor (sold separately)
- Special Lead lengths up to 50m
- Built-in PTC temperature sensor
- Built-in SubMonitor Transmitter (standard for 37&45kW)



6" Standard Model Numbers 50 Hz

P _N [kW]	U _N [V]	Model Number Digit 1 – 6		Model Number Digit 7 - 10									
		DOL	YΔ	Standard			with SubMonitor Transmitter			with PTC			45 000N Motor Version
				Cast Iron	304SS	316SS	Cast Iron	304SS	316SS	Cast Iron	304SS	316SS	
4	220, 230	236 680	236 670	9061	1061	3961	6061	1161	4061	2061	1261	3661	**63
	380 - 415	236 610	236 710										
	500	236 700	236 790										
5,5	220, 230	236 681	236 671	9061	1061	3961	6061	1161	4061	2061	1261	3661	**63
	380 - 415	236 611	236 711										
	500	236 701	236 791										
7,5	220, 230	236 682	236 672	9061	1061	3961	6061	1161	4061	2061	1261	3661	**63
	380 - 415	236 612	236 712										
	500	236 702	236 792										
9,3	220, 230	236 015	236 005	9061	1061	3961	6061	1161	4061	2061	1261	3661	**63
	380 - 415	236 001	236 011										
	500	236 008	236 018										
11	220, 230	236 683	236 673	9061	1061	3961	6061	1161	4061	2061	1261	3661	**63
	380 - 415	236 613	236 713										
	500	236 703	236 793										
15	220, 230	236 684	236 674	9061	1061	3961	6061	1161	4061	2061	1261	3661	**63
	380 - 415	236 614	236 714										
	500	236 704	236 794										
18,5	220, 230	236 685	236 675	9061	1061	3961	6061	1161	4061	2061	1261	3661	**63
	380 - 415	236 615	236 715										
	500	236 705	236 795										
22	220, 230	236 686	236 676	9061	1061	3961	6061	1161	4061	2061	1261	3661	**63
	380 - 415	236 616	236 716										
	500	236 706	236 796										
30	220, 230		236 677	9061	1061	3961	6061	1161	4061	2061	1261	3661	**63
	380 - 415	236 617	236 717										
	500	236 707	236 797										
37	380 - 415	276 618	276 718				6161		6361				Standard
45	380 - 415	276 619	276 719				6161		6361				Standard

6" Performance Data 50 Hz

P _N [kW]	Thrust F [N]	U _N [V]	n _N [min ⁻¹]	I _N [A]	I _A [A]	η (Eff.) [%] at % load			cos φ (Pf.) at % load			T _N [Nm]	T _A [Nm]
						50	75	100	50	75	100		
4,0	15.500	220	2840	16,4	73	76,0	78,5	77,0	0,70	0,80	0,85	12,5	17,9
		230	2860	16,1	75	74,0	77,5	78,0	0,62	0,74	0,82	12,3	20,2
		380	2840	9,5	42	76,0	78,5	77,0	0,70	0,80	0,85	12,5	17,9
		400	2860	9,3	43	74,0	77,5	78,0	0,62	0,74	0,82	12,3	20,2
		415	2880	9,3	46	74,5	78,0	78,5	0,57	0,70	0,78	12,3	20,8
		500	2840	7,2	32	76,0	78,5	77,0	0,70	0,80	0,85	12,5	17,9
5,5	15.500	220	2850	22,1	104	77,0	79,0	78,0	0,70	0,80	0,85	18,7	30,3
		230	2870	21,7	106	74,0	78,0	79,0	0,63	0,75	0,82	18,6	35,0
		380	2850	12,8	60	77,0	79,0	78,0	0,70	0,80	0,85	18,7	30,3
		400	2870	12,5	64	74,0	78,0	79,0	0,63	0,75	0,82	18,6	35,0
		415	2880	12,8	66	74,0	77,5	78,0	0,58	0,70	0,78	18,6	35,9
		500	2850	9,7	46	77,0	79,0	78,0	0,70	0,80	0,85	18,7	30,3
7,5	15.500	220	2850	28,2	143	77,5	79,5	79,0	0,74	0,83	0,87	25,0	43,0
		230	2860	27,7	144	75,0	78,5	79,0	0,70	0,81	0,86	25,0	47,7
		380	2850	16,3	83	77,5	79,5	79,0	0,74	0,83	0,87	25,0	43,0
		400	2860	16,0	83	75,0	78,5	79,0	0,70	0,81	0,86	25,0	47,7
		415	2880	16,2	91	75,0	78,5	79,0	0,61	0,74	0,81	24,7	51,3
		500	2850	12,4	63	77,5	79,5	79,0	0,74	0,83	0,87	25,0	43,0
9,3	15.500	220	2870	36,4	183	79,0	81,0	81,0	0,71	0,81	0,86	31,1	61,6
		230	2870	36,0	189	78,0	81,0	81,0	0,58	0,72	0,80	31,1	68,6
		380	2870	21,0	106	79,0	81,0	81,0	0,71	0,81	0,86	31,1	61,6
		400	2870	20,7	112	78,0	81,0	81,0	0,58	0,72	0,80	31,1	68,2
		415	2890	21,0	116	74,0	79,0	80,0	0,55	0,70	0,78	30,8	74,1
		500	2870	16,0	80	79,0	81,0	81,0	0,71	0,81	0,86	31,1	61,6
11,0	15.500	220	2860	41,5	218	80,0	82,0	81,0	0,73	0,82	0,87	37,4	72,8
		230	2860	40,4	224	78,5	81,0	81,0	0,68	0,79	0,85	37,3	78,3
		380	2860	24,0	126	80,0	82,0	81,0	0,73	0,82	0,87	37,4	72,8
		400	2860	23,3	129	78,5	81,0	81,0	0,68	0,79	0,85	37,3	78,3
		415	2870	24,1	136	74,5	78,5	79,5	0,61	0,74	0,81	37,2	84,8
		500	2860	18,2	96	80,0	82,0	81,0	0,73	0,82	0,87	37,4	72,8
15,0	15.500	220	2850	55,0	283	81,0	83,0	82,0	0,76	0,84	0,86	50,0	104,0
		230	2860	54,2	289	79,0	81,5	81,0	0,70	0,80	0,85	49,9	107,3
		380	2850	32,0	164	81,0	83,0	82,0	0,76	0,84	0,86	50,0	104,0
		400	2860	31,3	169	79,0	81,5	81,0	0,70	0,80	0,85	49,9	107,3
		415	2870	31,0	179	77,0	81,0	81,0	0,65	0,77	0,83	49,6	116,6
		500	2850	24,3	124	81,0	83,0	82,0	0,76	0,84	0,86	50,0	104,0
18,5	15.500	220	2850	69,2	380	82,0	83,0	82,0	0,76	0,84	0,87	62,4	139,7
		230	2860	66,7	392	80,0	82,5	82,0	0,68	0,79	0,85	62,4	159,6
		380	2850	40,0	220	82,0	83,0	82,0	0,76	0,84	0,87	62,4	139,7
		400	2850	38,5	231	80,0	82,5	82,0	0,68	0,79	0,85	62,4	154,6
		415	2850	38,5	240	78,5	81,5	82,0	0,64	0,76	0,83	62,1	166,8
		500	2850	30,5	168	82,0	83,0	82,0	0,76	0,84	0,87	62,4	139,7
22	15.500	220	2840	81,2	441	82,0	83,0	82,0	0,78	0,86	0,88	75,3	160,0
		230	2860	78,5	455	81,0	83,0	83,0	0,71	0,81	0,86	74,7	177,6
		380	2840	47,0	255	82,0	83,0	82,0	0,78	0,86	0,88	75,3	160,0
		400	2860	45,3	268	81,0	83,0	83,0	0,71	0,81	0,86	74,7	177,6
		415	2870	45,0	278	79,5	82,5	82,5	0,66	0,78	0,84	74,5	189,9
		500	2840	35,8	194	82,0	83,0	82,0	0,78	0,86	0,88	75,3	160,0
30	27.500	220	2860	111	645	83,0	83,5	82,5	0,74	0,82	0,85	99,6	237,4
		230	2860	107	670	80,5	83,0	83,0	0,67	0,79	0,84	99,4	263,1
		380	2860	64,1	373	83,0	83,5	82,5	0,74	0,82	0,85	99,6	237,4
		400	2860	63,5	393	80,5	83,0	83,0	0,67	0,79	0,84	99,4	263,1
		415	2880	64,5	407	79,0	82,0	82,5	0,62	0,74	0,81	99,0	283,5
		500	2860	49,0	283	83,0	83,5	82,5	0,74	0,82	0,85	99,6	237,4
37	45.000	380	2850	80,1	387	77	80,0	81,0	0,75	0,82	0,87	124,8	269,8
		400	2870	77,9	411	76	80,0	81,0	0,68	0,78	0,85	124,5	269,8
		415	2880	77,9	423	75	79,0	81,0	0,64	0,75	0,82	123,8	269,8
45	45.000	380	2850	95,5	480	79	81,0	82,0	0,76	0,83	0,87	150,5	287,4
		400	2870	93,9	509	78	80,0	82,0	0,72	0,79	0,84	149,1	325,4
		415	2880	93,2	531	77	80,0	82,0	0,68	0,77	0,82	149,1	355,2