

Submersible motors

4OS-OS6 Series



- REWINDABLE STATOR
- ENVIRONMENTAL FRIENDLY COOLING FLUID (F.D.A. APPROVED)
- HIGH STARTING TORQUE
- REMOVABLE LEAD CONNECTOR



Submersible motors in cooling filling fluid suitable for use with foodstuffs.

The choice of component materials ensures optimum operating performances, superior quality, reliability and ease of installation.

SPECIFICATIONS

- Shaft extension and couplings in compliance with **NEMA** standards.
- **Rewindable stator.**
- Winding insulation: class B (4OS) class F (OS6).
- Protection grade: IP58.
 - **Filling fluid** in compliance with standards concerning oils in contact with foodstuffs and with the purity requirements specified by the annex to G.U. no. 104 of 20/04/1973; it also complies with F.D.A. (FOOD AND DRUG ADMINISTRATION) standards.
- **Large compensation bellows** provide for the expansion of the internal liquid.
- Shaft supported by angular bearings.
- **Mechanical seal with sand protection.**
- Maximum immersion depth: 350 m (4OS) 150 m (OS6).
- Maximum number of starts per hour, at regular intervals: 4OS: 30 for direct start; OS6: 15 for direct start; 20 for impedance start.
- Maximum allowable voltage fluctuations over the rated voltage: -10% / +6% 50 Hz ±10% 60 Hz.
- **Models:**
 - Single-phase 4OS: from 0,25 to 2,2 kW 220-230 V, 230-240 V, 50 Hz from 0,37 to 2,2 kW 220-230 V, 60 Hz from 0,37 to 1,1 kW 110-115 V, 0,5 Hz
 - Three-phase 4OS: from 0,37 to 5,5 kW 220-240 V, 50 Hz from 0,37 to 7,5 kW 380-415 V, 50 Hz from 0,37 to 7,5 kW 380 V, 60 Hz from 0,37 to 5,5 kW 220-230 V, 60 Hz
 - Three-phase OS6: from 3 to 30 kW 380-415 V, 50 Hz from 3,7 to 15 kW 220-230 V, 60 Hz

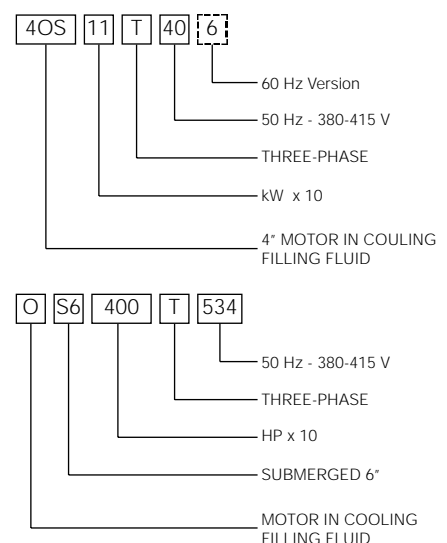
Different voltages on request.

- OS6 motor version with dual cable outlet for star-delta starting is available on request, with 220-240 V for powers up to 15 kW (20 HP) and with 380-415 V, 50 Hz for all powers; up to 18.5 kW (25 HP) for the 60 Hz version.
- Horizontal operation:
 - Up to 2,2 kW for 4OS
 - Up to 15 kW for OS6

MATERIALS

COMPONENT	MATERIAL
Outer sleeve	CrNi stainless steel (AISI 304)
Shaft extension	Stainless steel (AISI 303 for 4OS) (AISI 304 for OS6)
Upper support	Pressed brass alloy (4OS version) Cast iron + CrNi stainless steel (OS6 version)
Mechanical seal	Carbon/Ceramic with sand labyrinth
Elastomers	Nitrile rubber
Lower protection	Stainless steel AISI 304 (4OS version) Cast iron + CrNi stainless steel (OS6 version)
Compensation bellows	Oilproof rubber
Cooling fluid	ESSO MARCOL

IDENTIFICATION MARKINGS



4OS OPERATING CHARACTERISTICS, 50 Hz

MOTOR TYPE SINGLE-PHASE	RATED OUTPUT		VOLTAGE V	CAPACITOR 450 V µF	OPERATING FEATURES AT RATED OUTPUT				DIRECT STARTING		MAX. WATER TEMPERATURE °C	CABLE TYPE	
	kW	HP			SPEED rpm	EFF. %	cos φ	RATED CURRENT A	$\frac{Ca}{Cn}$	$\frac{Ia}{In}$		Nc x sez (mm ²)	L (m)
SINGLE-PHASE 220-230 V	4OS 02 M22	0,25	0,33	220 230	12,5	2835 2850	50 47	0,92 0,9	2,5 2,6	0,85 0,93	3,4 3,5	4x1,5	1,8
	4OS 03 M22	0,37	0,5	220 230	16	2825 2840	53 53	0,94 0,92	3,5 3,6	0,76 0,83	3,1 3,2		
	4OS 05 M22	0,55	0,75	220 230	20	2815 2830	60 58	0,96 0,95	4,5 4,4	0,69 0,75	3,4 3,6		
	4OS 07 M22	0,75	1	220 230	30	2825 2840	60 59	0,98 0,97	5,7 5,6	0,85 0,93	3,4 3,6		
	4OS 11 M22	1,1	1,5	220 230	40	2820 2835	63 62	0,98 0,97	8,2 8,1	0,77 0,84	3,5 3,7		
	4OS 15 M22	1,5	2	220 230	50	2810 2825	66 65	0,98 0,97	10,5 10,3	0,67 0,73	3,2 3,4		
	4OS 22 M22	2,2	3	220 230	70	2805 2825	66 67	0,99 0,98	15,9 15,5	0,59 0,64	3,1 3,4		
SINGLE-PHASE 230-240 V	4OS 02 M24	0,25	0,33	230 240	12,5	2835 2850	50 47	0,92 0,9	2,4 2,5	0,85 0,93	3,5 3,5	4x1,5	1,8
	4OS 03 M24	0,37	0,5	230 240	16	2825 2840	53 53	0,94 0,92	3,4 3,5	0,76 0,83	3,1 3,1		
	4OS 05 M24	0,55	0,75	230 240	20	2815 2830	60 58	0,96 0,95	4,4 4,3	0,69 0,75	3,3 3,5		
	4OS 07 M24	0,75	1	230 240	30	2825 2840	60 59	0,98 0,97	5,5 5,4	0,85 0,93	3,4 3,6		
	4OS 11 M24	1,1	1,5	230 240	40	2820 2835	63 62	0,98 0,97	7,9 7,8	0,77 0,84	3,5 3,7		
	4OS 15 M24	1,5	2	230 240	50	2810 2825	66 65	0,98 0,97	10,1 9,9	0,67 0,73	3,4 3,4		
	4OS 22 M24	2,2	3	230 240	70	2805 2825	66 67	0,99 0,98	15,2 14,8	0,59 0,64	3,1 3,4		

MOTOR TYPE SINGLE-PHASE	RATED OUTPUT		VOLTAGE V	OPERATING FEATURES AT RATED OUTPUT				DIRECT STARTING		MAX. WATER TEMPERATURE °C	CABLE TYPE		
	kW	HP		SPEED rpm	EFF. %	cos φ	RATED CURRENT A	$\frac{Ca}{Cn}$	$\frac{Ia}{In}$		Nc x sez (mm ²)	L (m)	
THREE-PHASE 220-240 V	4OS 03 T23	0,37	0,5	230	2850	65	0,7	1,9	2	4,3	30	4x1,5	1,8
	4OS 05 T23	0,55	0,75	230	2840	66	0,75	2,8	1,79	3,9	30		
	4OS 07 T23	0,75	1	230	2855	65	0,75	3,7	1,92	4,3	30		
	4OS 11 T23	1,1	1,5	230	2825	72	0,76	5,2	2,71	4,9	30		
	4OS 15 T23	1,5	2	230	2840	71	0,76	7	2,59	4,9	30		
	4OS 22 T23	2,2	3	230	2825	72	0,76	10,3	2,75	4,4	30		
	4OS 30 T23	3	4	230	2835	75	0,75	13,5	3,17	4,9	30		
	4OS 40 T23	4	5,5	230	2840	77	0,78	17,3	3,16	5,3	30		
4OS 55 T23	5,5	7,5	230	2835	77	0,8	23,7	3,19	5,3	30	2,5		
THREE-PHASE 380-415 V	4OS 03 T40	0,37	0,5	400	2850	65	0,7	1,1	2,03	4,3	30	4x1,5	1,8
	4OS 05 T40	0,55	0,75	400	2840	66	0,75	1,6	1,82	3,9	30		
	4OS 07 T40	0,75	1	400	2855	65	0,75	2,1	1,95	4,4	30		
	4OS 11 T40	1,1	1,5	400	2825	72	0,76	3	2,75	4,9	30		
	4OS 15 T40	1,5	2	400	2840	71	0,76	4	2,63	4,9	30		
	4OS 22 T40	2,2	3	400	2825	72	0,76	5,9	2,79	4,5	30		
	4OS 30 T40	3	4	400	2835	75	0,75	7,8	3,21	5	30		
	4OS 40 T40	4	5,5	400	2240	77	0,78	10	3,2	5,4	30		
4OS 55 T40	5,5	7,5	400	2835	77	0,8	13,7	3,24	5,4	30	2,5		
4OS 75 T40	7,5	10	400	2825	76	0,73	19,8	3,2	4,8	30			

Cs/Cn = Starting torque/Rated torque

I_s/I_n = Starting current/Rated current

The maximum temperature regards motors operating in a 6" well or other installation which will ensure a minimum water circulation speed around the motor sleeve of at least 8 cm/sec.

Supply voltage variations of -10% / +6%.

4OS-0S6

OS6 OPERATING CHARACTERISTICS, 50 Hz

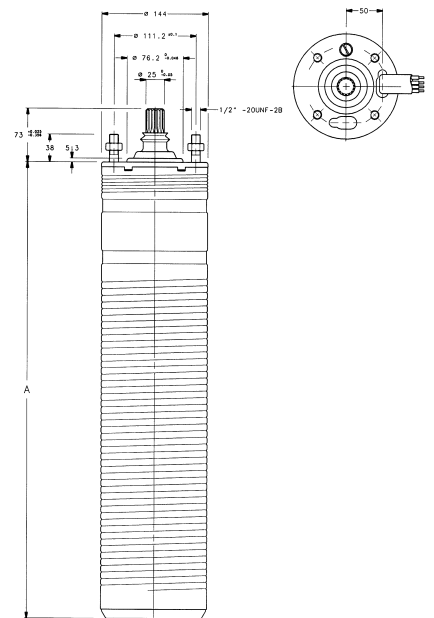
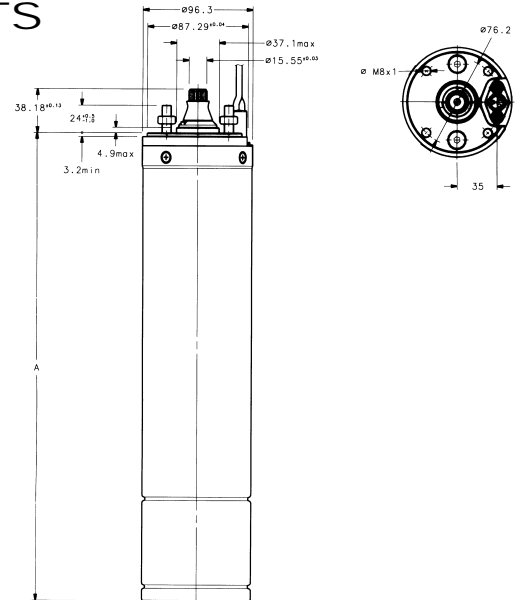
	MOTOR TYPE THREE-PHASE	RATED OUTPUT		OPERATING FEATURES AT RATED OUTPUT				DIRECT STARTING		MAX. WATER TEMPERATURE °C	CABLE TYPE	
		kW	HP	SPEED rpm	EFF. %	cos φ	RATED CURRENT A	Ca Cn	Ia In		Nc x sez (mm ²)	L (m)
TRIFASE 380-415 V	OS6 400 T534	3	4	2800	75,0	0,82	7,6	5,2	6,6	30	4x4	3
	OS6 500 T534	3,7	5	2800	74,0	0,82	8,8	3,5	6			
	OS6 750 T534	5,5	7,5	2830	78,0	0,83	12,5	4	6,6			
	OS6 1000 T534	7,5	10	2820	79,0	0,83	17	4,3	6,5			
	OS6 1500 T534	11	15	2830	81,0	0,83	24,5	4,8	7	25	4x6	3
	OS6 2000 T534	15	20	2880	84,0	0,83	31	4,1	7			
	OS6 2500 T534	18,5	25	2850	83,0	0,83	39	3,5	6,3			
	OS6 3000 T534	22	30	2870	84,0	0,82	46	3,4	6,6			
OS6 4000 T534	30	40	2850	83,0	0,85	62	2,4	5,8	20	4x8	4	

Cs/Cn = Starting torque/Rated torque
 The maximum temperature regards motors operating in a 6" well or other installation which will ensure a minimum water circulation speed around the motor sleeve of at least 0,2 m/sec.
 Supply voltage variations of ±5%.

MOTOR DIMENSIONS AND WEIGHTS

4OS SERIES 50 Hz

MOTOR TYPE	POWER kW	DIMENSIONS IN mm A	WEIGHT kg
4OS02M22-24	0,25	336	8,3
4OS03T23-40	0,37	356	8
4OS03M22-24			9,1
4OS05T23-40	0,55	384	8,8
4OS05M22-24			10,5
4OS07T23-40	0,75	406	10
4OS07M22-24			11,5
4OS11T23-40	1,1	435	11,2
4OS11M22-24			12,5
4OS15T23-40	1,5	463	12,3
4OS15M22-24			13,8
4OS22T23-40	2,2	568	13,7
4OS22M22-24			18,6
4OS30T23-40	3	530	19,8
4OS 40T23-40	4	606	22,6
4OS55T23-40	5,5	721	26,9
4OS75T23-40	7,5	797	30,7



OS6 SERIES - 50 Hz

MOTOR TYPE	POWER		DIMENSIONS IN mm A	WEIGHT kg
	kW	HP		
OS6 400	3	4	624	38
OS6 500	3,7	5	624	38
OS6 750	5,5	7,5	704	46
OS6 1000	7,5	10	754	56
OS6 1500	11	15	861	65
OS6 2000	15	20	951	77
OS6 2500	18,5	25	1041	89
OS6 3000	22	30	1131	100
OS6 4000	30	40	1241	113