

TR10

10" SUBMERSIBLE MOTOR



TECHNICAL DATA

Flanging: 10".
Protection class: IP58 (IP68 on request).
Cooling flow speed: 0,5 m/s.
Power supply tolerance: + 6 % / -10 %.
Max. starts: 8/h.
Max operating depth: 300 m.
Max operating temperature: 60 bar.
Horizontal operation: 100 HP - 230 HP.

GENERAL DATA

Rewindable 10" submersible asynchronous two or four-pole electric motor available in standard version with casing in AISI 316 stainless steel and supports in cast iron. The thrust block and bushes are cooled and lubricated with a mixture of water and glycol. The rotor is mounted on a Mitchell self-centring thrust block designed to withstand significant axial loads. The motor is also available in a version entirely in AISI 316 stainless steel and a version in AISI 904. There is also a version suitable for use with variable frequency drive (30 Hz - 50/60 Hz). The motor is equipped with single-core cables of 8 m connected directly to the winding, and is available in DOL or STAR-DELTA configuration. The cables are ACS, WRAS and KTW certified. The electrical protection must be provided by the user.

On request: PT100 and PTC temperature probes, cables of a different length, different voltage supply, special shaft terminals and protection class IP68.

CONSTRUCTION FEATURES



The rewindable stator is protected by an AISI 316 stainless steel jacket (AISI 904 on request). In the standard version the rotor is wound with PVC coated wire (230 HP and 260 HP in PE2+PA). On request, we can supply a version with a PE2+PA winding that makes the motor compatible with special applications and with the use of a variable frequency drive.



Mitchell type thrust bearings with lapped pads in graphite and ceramic clearance ring.
 from 100 HP to 260 HP: 60000 N
 Counter-thrust load: 12500 N

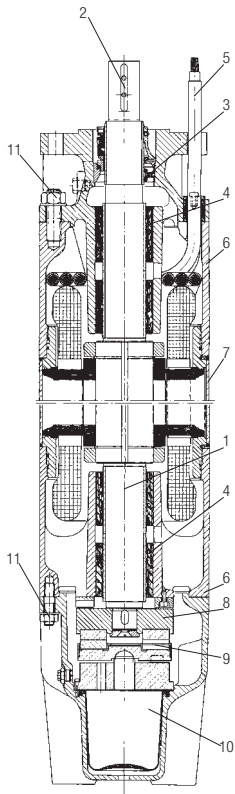


Rotor shaft in stainless steel, shaft extension with key connection. The rotor is in copper for all sizes.

In the standard version the motor is supplied with a ceramic/carbon mechanical seal. A silicon carbide (SiC/SiC) mechanical seal is available on request. The motor can also be fitted with an additional lip seal (IP68).

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MATERIALS

N.	PARTS	STD VERSION	VERSION 316 SS	VERSION 904 SS
1	SHAFT	STAINLESS STEEL	STAINLESS STEEL	STAINLESS STEEL
2	SHAFT TERMINAL	AISI 316 STAINLESS STEEL	AISI 316 STAINLESS STEEL	AISI 904 STAINLESS STEEL
3	MECHANICAL SEAL	CERAMIC/CARBON	SIC/SIC	SIC/SIC
4	BUSHES	GRAPHITE	GRAPHITE	GRAPHITE
5	CABLE	EPDM	EPDM	EPDM
6	STRUCTURAL PARTS	CAST IRON	AISI 316 STAINLESS STEEL	AISI 904 STAINLESS STEEL
7	JACKET	AISI 316 STAINLESS STEEL	AISI 316 STAINLESS STEEL	AISI 904 STAINLESS STEEL
8	CLEARANCE RING	CERAMIC	CERAMIC	CERAMIC
9	THRUST	GRAPHITE	GRAPHITE	GRAPHITE
10	DIAPHRAGM	EPDM	EPDM	EPDM
11	SCREWS	AISI 304 STAINLESS STEEL	AISI 316 STAINLESS STEEL	AISI 904 STAINLESS STEEL

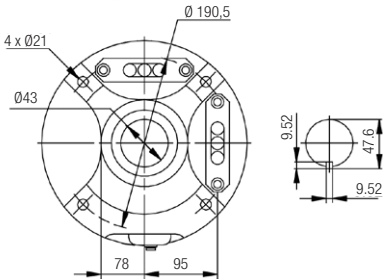
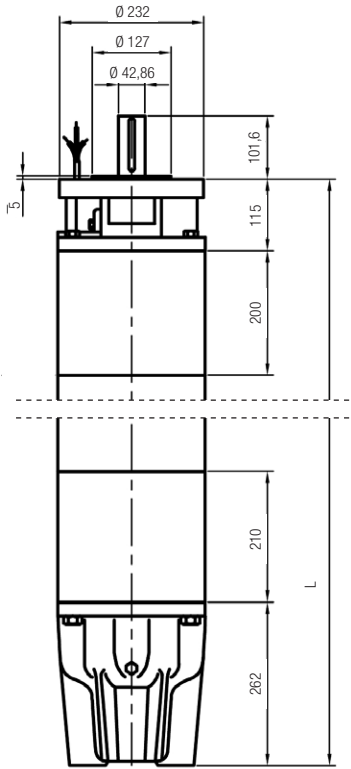
SUBMERSIBLE MOTORS

DIMENSIONS -THREE-PHASE MOTORS - 2 poles

TYPE	P2		LENGTH mm	WEIGHT kg	AXIAL THRUST N
	hp	kW			
50 Hz	100	75	1400	280	60000
	125	92	1500	330	60000
	150	110	1690	385	60000
	180	132	1870	435	60000
	200	147	2070	500	60000
	230	170	2220	540	60000
	260	190	2400	580	60000

DIMENSIONS -THREE-PHASE MOTORS - 4 poles

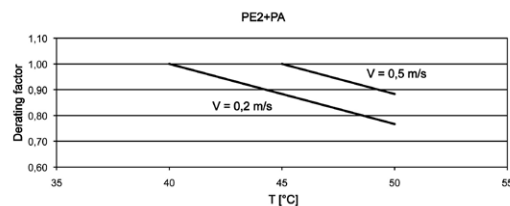
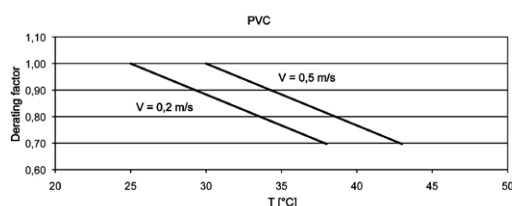
TYPE	P2		LENGTH mm	WEIGHT kg	AXIAL THRUST N
	hp	kW			
50 Hz	40	30	1270	250	60000
	50	37	1400	280	60000
	60	45	1500	330	60000
	75	55	1690	385	60000
	100	75	1870	435	60000
	125	92	2070	500	60000



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DOWNGRADING



For TR10 170 kW PE2+PA the maximum liquid temperature is 5 °C lower than that indicated in the graphs. For TR10 190 kW PE2+PA it is 10 °C lower.

ELECTRICAL DATA - THREE-PHASE MOTORS - 2 POLES - DOL

MODEL	P2		POWER INPUT 50 Hz	In A	Is/In	P1 W	N min ⁻¹	Cos φ	η %	CABLE	
	hp	kW								Ø mm ²	LC m
TR10 - 75 kW - 400 V - T	100	75	400	148	5,4	86207	2910	0,84	87	3x50+1x25	8
TR10 - 92 kW - 400 V - T	125	92	400	185	5,6	105747	2910	0,82	87	3x50+1x25	8
TR10 - 110 kW - 400 V - T	150	110	400	217	5,7	125000	2910	0,84	88	3x50+1x25	8
TR10 - 132 kW - 400 V - T	180	132	400	257	5,7	150000	2910	0,84	88	3x50+1x25	8
TR10 - 147 kW - 400 V - T	200	147	400	300	6,2	168966	2920	0,81	87	3x50+1x25	8
TR10 - 170 kW - 400 V - T	230	170	400	348	6,0	195402	2920	0,81	87	3x50+1x25	8
TR10 - 190 kW - 400 V - T	260	190	400	405	5,9	218391	2930	0,79	87	3x50+1x25	8

ELECTRICAL DATA - THREE-PHASE MOTORS - 4 POLES - DOL

MODEL	P2		POWER INPUT 50 Hz	In A	Is/In	P1 W	N min ⁻¹	Cos φ	η %	CABLE	
	hp	kW								Ø mm ²	LC m
TR10 - 30 kW - 380 V - T	40	30	380	64	5,3	35294	1450	0,83	85	3x50+1x25	8
TR10 - 37 kW - 380 V - T	50	37	380	75	5,5	43023	1450	0,87	86	3x50+1x25	8
TR10 - 45 kW - 380 V - T	60	45	380	92	4,6	51724	1450	0,84	87	3x50+1x25	8
TR10 - 55 kW - 380 V - T	75	55	380	113	5,3	62500	1450	0,85	88	3x50+1x25	8
TR10 - 75 kW - 380 V - T	100	75	380	153	5,4	86207	1450	0,84	87	3x50+1x25	8
TR10 - 90 kW - 380 V - T	125	90	380	190	5,3	103448	1450	0,85	87	3x50+1x25	8

P2: Nominal power
V: Nominal voltage
In: Nominal current
Is/In: Starting current/Nominal current
P1: Absorbed power

N: Rotations per minute - R.p.m
Cos φ: Power factor
η: Yield
Ø: Cable cross section
LC: Cable length