



DESIGN WITH PRECISION

Laminated core and copper windings for minimal losses and maximum efficiency.



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GENERAL DATA

BOREHOLE SUBMERSIBLE MOTORS > ELEGANT SERIES

Construction Tormac Elegant series submersible motors are ingeniously designed and developed employing latest engineering softwares, high-tech machinery & tools with the complement of cutting edge technology for hardwearing and maintenance free operations and to ensure relentless performance.

The electrical conditions such as voltage, frequency and the operating conditions are taken into account in designing the winding and cooling system. The profound experience of the company facilitate to meet out the demanding technological challenges across the world. Tried and trusted indigenously improved design, combined with the most optimized efficiency in electromagnetic design exceptionally ensures trouble free performance. The integrated and most modern quality assurance systems used at every stage of production and flawless workmanship lead to sustained and consistent operation.

Tormac Eelegant series motors are squirrel cage, Non toxic liquid filled and liquid cooled non rewindable type. The winding of these two pole motors are made of high quality enameled copper wire. The stator shell, housings shell & motor base are made of fabricated S.S 304 which prevents the motor from corrosion.

These motors are pre-filled with environmentally safe edible grade oil which acts as a lubricant. A uniquely designed angular contact ball bearing to with stand high thrust capacity and good quality shaft seals are used to enhance the strength & durability. All single phase motors are supplied with suitable control boxes. All Tormac motors are produced in accordance with ISO 9001 standards and mounting dimensions with NEMA standard.



Applications

- Public & Industrial Water Supply
- Sumps / Reservoirs
- Fire Fighting Equipments
- Pressure Boosting Systems
- Irrigation & Fountains
- Water Treatment Plants
- High Rise Buildings
- Agricultural Lands
- Stock Breeding, Laboratories
- Sprinkler Systems and Mining

Characteristics

- Highly reliable, tried & tested.
- High efficiency
- Stainless steel stator shell, motor base & housings shell to prevent corrosion.
- The high quality shaft seal and sand guard prevent ingress of liquid and sand.
- Uniquely designed thrust bearing to withstand high down thrust loads.
- Higher starting torque to run in tough conditions.
- The shaft is designed for optimal power transmission.
- End connections & shaft extension are designed according to NEMA standards.

GENERAL DATA

Construction Features > **ELEGANT SERIES** > **50Hz - 4"**

Components	Version - TA
Seal Housing	Cast Iron with SS304 Shell
Upper & Lower Support	Cast Iron
Shaft Seal	Carbon Vs Ceramic
Wounded Stator Shell	SS304
Spline Shaft	SS420
Rotor Shaft	SS420 / EN-8D
Pressure Equalizing Diaphragm	High Nitrile Rubber
Diaphragm Bottom Plate	SS304

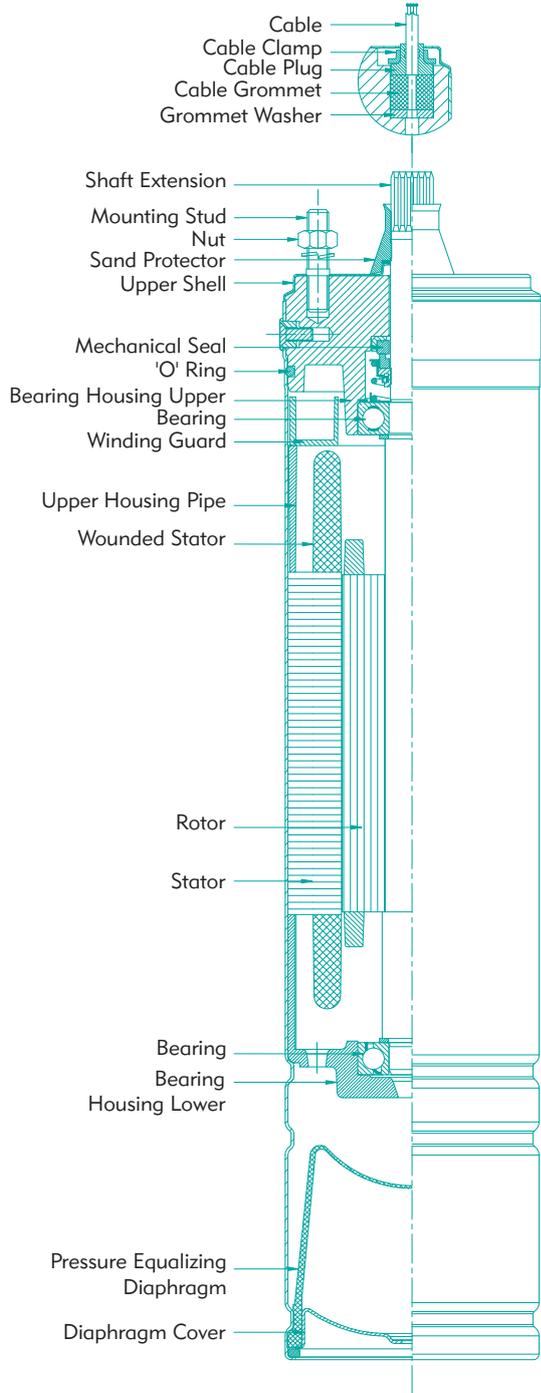
Technical Data

Specifications	Nominal Diameter
Rated Output & Voltage	0.37kW to 2.2 kW - 1Ph, 230V, 0.37kW to 7.5kW - 3 Ph, 380V
Rated Speed	2900 rpm
Voltage Tolerance	+6%
Protection	IP 68
Rotation Sequence	1Ph - CCW, 3Ph - Electrically reversible
Outer Diameter	98mm
Duty	S1 (Continuous)
Linear flow	0.15m/sec
Liquid Temperature	38°C
Switching frequency	20 Times / hour
Thrust Load	0.37kW to 0.75kW - 1500N 1.1kW to 4kW - 2500N 5.5kW to 7.5kW - 4500N
Mounting Dimensions	NEMA standard
Starting Method	1 Ph - CSR / CSCR, 3 Ph - DOL
Motor Lead Out Type	4 Core Flat cable
Max. Immersion Depth	150m
Class of Insulation	" F "

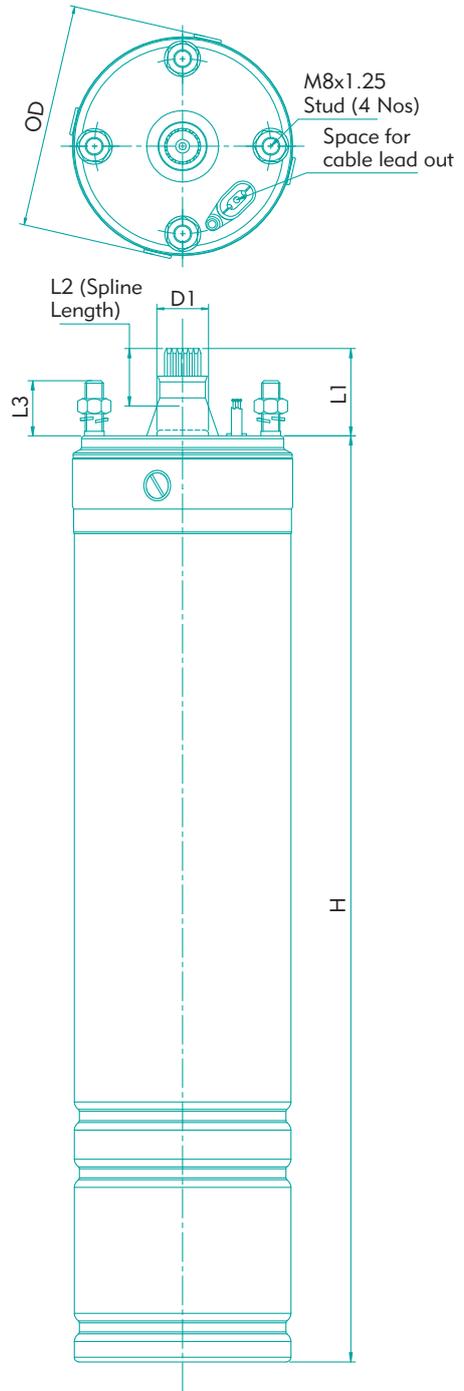


ELEGANT SERIES (4")

Cross Sectional Drawing



Mounting Dimensions



Dimensions are in Inches

	L1	L2	L3	D1	OD	PCD
4"	1.49	0.5	0.96	0.87	3.83	3

ELECTRICAL DATA

ELEGANT SERIES > 50Hz

4", Single phase, 230V, Non-Toxic Liquid filled Submersible Motors

Motor Type	kW	HP	Current (A)	Locked Rotor Amps	Full Load		Thrust Capacity (N)	CSR Capacitor (μfd)
					Eff%	Phase Angle		
N4-03 TA-SE	0.37	0.5	3.6	10.4	53	0.92	1500	15
N4-05 TA-SE	0.55	0.75	4.8	13.6	58	0.92	1500	20
N4-07 TA-SE	0.75	1	6.3	17.6	60	0.96	1500	30
N4-11 TA-SE	1.1	1.5	8.6	21.1	64	0.98	2500	40
N4-15 TA-SE	1.5	2	11.5	35.0	72	0.98	2500	50
N4-22 TA-SE	2.2	3	15	52.0	70	0.95	2500	60

4", Three phase, 380V, Non-Toxic Liquid filled Submersible Motors

Motor Type	kW	HP	Current (A)	Locked Rotor Amps	Full Load		Thrust Capacity (N)
					Eff%	Phase Angle	
N4-03 TA-TK	0.37	0.5	1.1	5.2	63	0.80	1500
N4-05 TA-TK	0.5	0.75	1.9	9.3	63	0.80	1500
N4-07 TA-TK	0.75	1	2.4	11.1	64	0.81	1500
N4-11 TA-TK	1.1	1.5	3.15	13.0	68	0.82	2500
N4-15 TA-TK	1.5	2	4.2	19.5	72	0.82	2500
N4-22 TA-TK	2.2	3	6	28	72	0.83	2500
N4-30 TA-TK	3.0	4	7.8	40.2	75	0.83	2500
N4-37 TA-TK	3.7	5	9.6	48	75	0.83	2500
N4-40 TA-TK	4.0	5.5	10	51	77	0.83	2500
N4-55 TA-TK	5.5	7.5	13.6	71.1	78	0.85	4500
N4-75 TA-TK	7.5	10	17.6	87.8	79	0.85	4500

DIMENSIONS & WEIGHTS

ELEGANT SERIES > 50Hz

4", Single phase, 230V, Non-Toxic Liquid filled Submersible Motors

Motor Type	kW	HP	Diameter (OD) in Inches	Height in Inches	Net Weight in lbs	Standard Motor Leads	
						mm ²	Length (m)
N4-03 TA-SE	0.37	0.5	3.83	15	16	4 x 1.5	1.5
N4-05 TA-SE	0.55	0.75	3.83	15	18	4 x 1.5	1.5
N4-07 TA-SE	0.75	1	3.83	17	21	4 x 1.5	1.5
N4-11 TA-SE	1.1	1.5	3.83	17	23	4 x 1.5	1.5
N4-15 TA-SE	1.5	2	3.83	18	25	4 x 1.5	1.5
N4-22 TA-SE	2.2	3	3.83	20	26	4 x 1.5	1.5

4", Three phase, 380V, Non-Toxic Liquid filled Submersible Motors

Motor Type	kW	HP	Diameter (OD) in Inches	Head in Inches	Net Weight in lbs	Standard Motor Leads	
						mm ²	Length (m)
N4-0.3 TA-TK	0.37	0.5	3.83	15	16	4 x 1.5	1.5
N4-0.5 TA-TK	0.55	0.75	3.83	15	18	4 x 1.5	1.5
N4-0.7 TA-TK	0.75	1	3.83	17	21	4 x 1.5	1.5
N4-11 TA-TK	1.1	1.5	3.83	17	23	4 x 1.5	1.5
N4-15 TA-TK	1.5	2	3.83	18	25	4 x 1.5	1.5
N4-22 TA-TK	2.2	3	3.83	19	27	4 x 1.5 / 2.5	2
N4-30 TA-TK	3	4	3.83	22	43	4 x 2.5	2
N4-37 TA-TK	3.7	5	3.83	24	43	4 x 2.5	2.5
N4-40 TA-TK	4	5.5	3.83	28	52	4 x 2.5	2.5
N4-55 TA-TK	5.5	7.5	3.83	33	66	4 x 2.5	3
N4-75 TA-TK	7.5	10	3.83	37	74	4 x 2.5	3

CABLE SELECTION CHART

For Three Phase 6 wire (S.D.) Motor Maximum Length of Copper Cable

Motor Rating			Cable Size in Square Millimeters																						
VOLTS	kW	HP	1.5	2.5	4	6	10	16	25	35	50	70	95	120	150	185	240	300	400	500	630				
380 - 415 VOLT 50Hz	5.5	7.5	91	143	234	351	572	896	1377	1884															
	7.5	10	65	104	169	260	403	650	974	1338															
	9.3	12.5		91	143	221	364	572	870	1182	1624														
	11	15		78	130	182	299	481	714	974	1377	1832													
	13	17.5			104	143	260	403	611	844	1156	1533													
	15	20			91	130	221	351	533	740	1026	1364	1741												
	18.5	25				104	182	273	429	585	799	1065	1364	1624											
	22	30					156	234	364	494	688	922	1169	1403	1650										
	26	35					130	195	299	403	572	792	1000	1221	1429	1650									
	30	40					117	169	273	364	520	675	870	1013	1208	1390	1624								
	37	50						143	221	299	416	546	701	831	974	1117	1312	1494							
	45	60							182	247	338	468	598	727	870	1013	1208	1377							
	55	75								208	286	377	494	611	714	831	987	1137							
	63	85									188	260	299	442	546	637	740	870	1000						
	75	100										208	286	377	455	533	611	727	831	974					
	93	125											234	299	364	429	494	585	662	779					
	110	150												260	312	377	429	520	598	701	786				
	130	175													221	266	325	377	442	520	598	688	760		
	150	200														234	279	325	390	455	539	604	669		
	166	225															234	286	338	390	455	520	578		
185	250																260	312	364	429	481	539			
220	300																	247	286	331	372	410			
260	350																		247	286	325	357			
300	400																			214	247	273	312		

Maximum Length in Meters



T H E P O W E R B E H I N D T H E F O R C E

Naargo Industries Private Limited, one of the leading manufacturers of latest state of art, large range of pumps and motors, is managed by veterans who are in the pump industry for almost half a century. The products are employed in various applications like irrigation, domestic, civil construction, de-watering etc; The Company has a strong distribution network in India for sales & service and a strong global presence.

Quality is the key factor in Naargo's products. The expansive infrastructure and environment accredited with ISO 9001 quality certification, latest engineering softwares, high-tech machinery, futuristic pumping technology and high caliber workforce facilitate the production of flawless and efficient products on par with international standards under the brand name of "Tormac". The well equipped R & D wing stays alive to the changing global trends and comes out with viable solutions for innovative product development and upgradation.

The Products currently available include Stainless Steel Submersible Pumps (SS 304, SS 316 & SS 904L), Submersible Motors (CI, SS 304, SS 316 & SS 904L - HT on optional), Starters & Control Panels, Centrifugal Monoblock Pumps, End Suction Pumps, Close Coupled Pumps, Horizontal Split Case Pumps, Horizontal & Vertical Multistage Pumps, Inline Booster Systems, Sewage, Drainage & Dewatering Pumps, Induction Motors, Submersible Cables, Riser Pipes and Column Pipes.

The power, performance and endurance of the products backed by the uncompromising teamwork and value systems will certainly propel the company's growth towards new horizons in the pump industry.

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