

SUN STAR TYPE "D" WATER-FILLED MOTOR

The Sun-Star Type "D" motor is a high-efficiency, water-filled, submersible motor, engineered from 316 stainless steel for superior durability. Completely sealed and equipped with an internal pressure-balancing system, this motor is built for reliable performance in even the harshest environments. Its flange dimensions are designed to fit standard configurations, making it compatible with most pump manufacturers. The Type "D" motor supports across-the-line and reduced-voltage starting and is approved for operation with Variable Frequency Drives (VFDs), offering flexibility and efficiency in a variety of applications.

MANUFACTURING & REPAIR OF WATER FILLED MOTORS SINCE 1977

ENGINEERING & DESIGN

Type "D" motors are engineered products that can be customized to meet the specific needs of most applications.

FACILITY CAPABILITES & CAPACITY

All welding, machining, component fabrication, winding, assembly, electrical work, and run testing are completed in-house, ensuring full control over quality and production.

EXPERIENCE

With over 40 years of motor design and manufacturing expertise, Sun-Star Electric brings together a team whose collective experience in submersible motors spans hundreds of years.



**ENHANCED
REDESIGNED
PERFORMANCE**

2 POLE			4 POLE			
FRAME	H.P.	VOLT	FRAME	H.P.	VOLT	
10"	75	2300	12"	150	2300	
	100			200		
	125					
12"	200	2300	14"	200	2300	
	250			250		460
	300			300		2300
	350			400		
14"	300	460 2300 4160	16"	300	460 2300 4160	
	350			350		
	400			400		
	450			450		
16"	400	2300 4160	20"	500	2300 4160 6600	
	450			600		
	500			700		
	600			800		
	700			900		

SPEEDS

3600RPM / 1800RPM (2P / 4P)

AMBIENT TEMP

25°C ambient standard w/Hi-Temp options available

MATERIALS OF CONSTRUCTION

316 series SS, Super Duplex, and NiAlBr available

Different configurations on request



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INTRODUCING THE REDESIGNED TYPE "D" MOTOR

Engineered for enhanced performance, the new Type "D" motor handles increased loads with greater efficiency while running cooler and cleaner.

MOTOR LEADS

The Type "D" motor leads are internally connected to the windings, with individual cables extending through compression fittings in the mounting bracket, ensuring the unit remains completely sealed. The lead cables are specifically sized for submerged operation and extend 20 feet beyond the motor. Longer continuous lengths are available upon request.

ADVANCED STATOR DESIGN

Our stainless-steel stator shell delivers unmatched protection against corrosion, allowing for larger diameter laminations and superior cooling. With a shorter, stiffer design, it reduces axial deflection under load. Innovative castellations in the stator enable efficient heat exchange along the stator wall.

PRECISION GUIDE BEARINGS

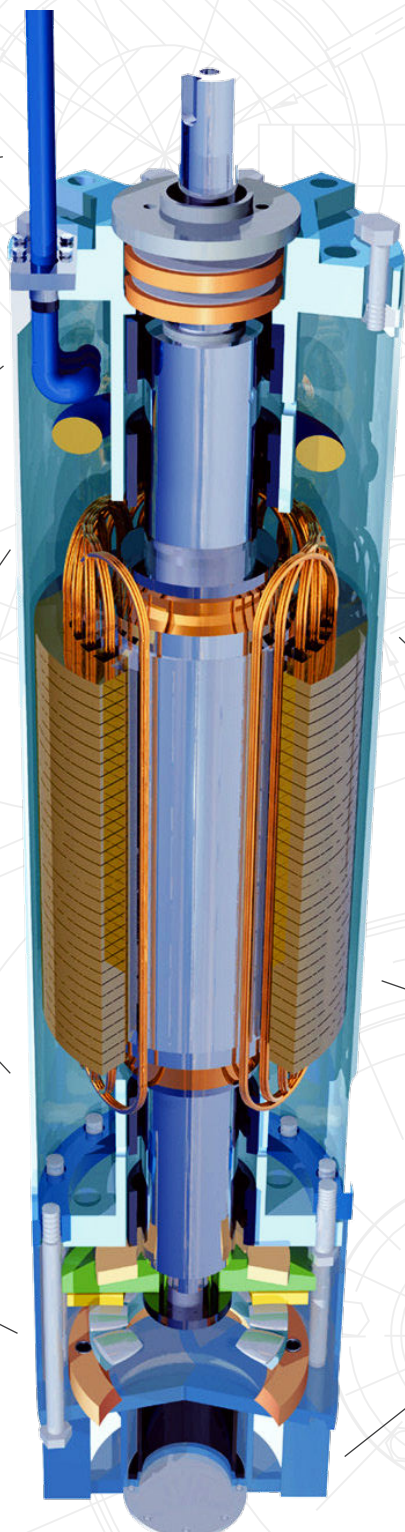
Replaceable carbon composite guide bearings at each end of the rotor ensure close bearing clearances, maintaining critical rotor alignment for optimal performance.

DURABLE GUIDE BEARING JOURNALS

The replaceable chromed sleeves of our guide bearing journals offer exceptional wear resistance and are designed for easy replacement, ensuring longevity and minimal downtime.

KINGSBURY THRUST BEARING TECHNOLOGY

Our motor features the Kingsbury thrust bearing, not just a Kingsbury-type. With a proven pivotal shoe design, polished stainless-steel shoes, and a 440 stainless-steel driver, this bearing system offers superior misalignment handling and self-equalization. Upgraded with a bronze up-thrust, the thrust bearing now includes optional pressure and temperature sensors for real-time monitoring.



RELIABLE SHAFT SEALS

The Type "D" motor uses a robust mechanical seal for shaft sealing, ensuring maximum reliability even in conditions with suspended solids.

OPTIMIZED INTERNAL FLUID SYSTEM

Internally, the motor is filled with a mix of fresh potable water and FDA-approved food-grade propylene glycol. This solution prevents freezing during transport and storage. We've added a particulate filter to capture foreign media before it reaches the thrust bearing, and improved sealing methods to maintain fluid stability inside the motor.

WINDING

Water tight class Y winding materials are used in all standard Type "D" motors. Our special winding wire has an epoxy enamel layer over the conductor, surrounded by waterproof polypropylene (460 volt) or polyethylene (2300-4160 volt) insulation layer. An outer nylon sheath applied over the insulation provides additional mechanical protection.

ENHANCED ROTOR DESIGN

The rotor shaft, a two-piece assembly of high-strength magnetic steel and 316 stainless steel, is dynamically balanced for minimal vibration. Its shorter, stiffer design minimizes axial deflection under load, while an added axial flow impeller boosts circulation.

INNOVATIVE INTERNAL PRESSURE BALANCING

Our redesigned internal pressure balancing system, featuring a robust expansion diaphragm, ensures internal and external motor pressures are balanced. This diaphragm is engineered to withstand the harshest conditions in deep wells, significantly reducing the risk of fluid exchange.

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The Type "D" motor is designed for a wide variety of specific applications. It is suitable to operate in vertical, horizontal and near horizontal positions.