



We have incorporated the very best industry designs and standards into our type "M" oil-filled motor. The Sun Star type "M" motor is a statically balanced, oil-filled submersible motor with a double mechanical seal. Standard sizes are in 1800 RPM from 40 to 500 HP at 460 to 2300 volts. The standard material construction is stainless steel and NSF 61 rated, epoxy coated cast iron. Special material construction is available in 316 stainless steel, Super Duplex stainless steel, and nickel-aluminum-bronze. Designs also exist for other horsepower, speeds, and voltages.

1 MOUNT BRACKET

The mounting bracket is a two chamber, single piece casting. It is precision machined for alignment and fit. The upper compartment separates the stator interior from the seal chamber. The mounting configuration requires no adaptation or modification when replacing other type "M" (single and double mechanical seal) and type "H" (mercury seal) oil-filled submersible motors.

2 SEALING SYSTEM

The motor employs a double mechanical seal configuration for sealing at the shaft. These mechanical seals are hydraulically balanced with stainless steel/hastelloy bellows and tungstencarbide faces. Our special configuration prevents water from pooling at inner seal faces and insures that the seals are lubricated by internal oil for a prolonged operating life.

3 TERMINATIONS

The configuration of the electrical terminations on the Sun Star type "M" oil-filled motor match other type "M" and type "H" oil-filled submersible motors. With this configuration existing lead assemblies can be used on the Sun Star motor and Sun Star lead assemblies can be used on existing type "M" and type "H" motors.

4 STATIC BALANCING SYSTEM

The static balancing system utilizes two vent, or balancing tubes. The primary balancing tube connects to the bottom of the motor at the oil reservoir and vents to the top of the motor. The secondary vent tube is connected to the oil reservoir on the bottom end of the motor and to the seal chamber in the mount bracket. These vent lines equalize internal and external pressures without requiring the use of elastomer diaphragms.

5 WINDING

Our winding wire and other winding components are all oil resistant, class F or higher materials, and inverter duty rated. These materials and our winding methods will provide reliable and efficient service. All windings are tested to meet applicable NEMA and IEEE standards.

**6 PLUG-IN LEAD ASSEMBLY**

The lead assembly is a detachable plug vulcanized to three separate lead cables. The cables and plug are oil and water resistant, forming a positive compression seal between the motor terminals and power supply conductors. The lead plug clamp is fabricated from 304 stainless steel to guarantee corrosion resistance. The Sun Star plug-in lead assembly can be directly substituted and used on other manufacturer's type "M" and type "H" motors.

7 STATOR

The standard stator casing material is corrosion resistant 304 stainless steel. This provides for a casing with superior heat dissipation. It also allows for a lamination design for increased horsepower. These features combine for reduced operating temperatures.

8 INTERNAL FLUID

The Sun Star type "M" motor uses only FDA approved, food grade, white mineral oil. The mineral oil acts as a dielectric insulation and prevents corrosion to internal components. The oil also provides excellent bearing lubrication. Oil is constantly circulated throughout the motor and is continuously cleaned by the internal filter. The oil reservoir acts as a heat exchanger while providing a lifetime supply of oil.

9 THRUST BEARING

The heavy duty thrust bearing is an oil lubricated, self-aligning, tilting pad design. This self-aligning feature provides maximum support from all pivot shoes. It is composed of a lapped stainless steel rotating disc with advanced polymer-blend faced pivotal shoes. The advanced polymer-blend material is superior under elevated heat conditions and provides self-lubrication at the moment of startup.