

# *mody*

## ELECTRIC SUBMERSIBLE SEWAGE PUMP

### NEW “MSP” SERIES SUBMERSIBLE PUMPS:

DRY PIT  
WET PIT  
PORTABLE

### MOTORS:

2-POLE 10 - 46HP  
4-POLE 7.5 - 40HP  
6-POLE 4.6 - 20HP

208V-230V-460V-575V/3PH/60HZ

FLOWS to 2,400 US GPM

HEADS to 330 FT TDH

VORTEX OR CHANNEL  
IMPELLERS



### FEATURES

- HIGH EFFICIENCY MOTORS WITH CLASS H INSULATION SYSTEM
  - EXTENDED SERVICE LIFE CYCLE
  - EXCELLENT FOR VFD APPLICATIONS
- SELF - CONTAINED “ECO-FRIENDLY” COOLING SYSTEM
  - NO EXTERNAL COOLING WATER SYSTEM REQUIRED
  - ELIMINATES FOULING FROM PUMPAGE COOLED DESIGNS
  - EXCELLENT FOR CONTINUOUS RUN, DRY PIT APPLICATIONS
- “FAST - CHANGE” CARTRIDGE MECHANICAL SEALS WITH SILICON CARBIDE SEAL FACES
  - EXTENDED SERVICE LIFE CYCLE
  - EASY MAINTENANCE IN FIELD
  - NO SPECIAL TOOL REQUIREMENTS
- ADJUSTABLE WEAR RING SYSTEM
  - EXTENDED SERVICE LIFE CYCLE
  - EASY MAINTENANCE OF RUNNING CLEARANCES IN THE FIELD
  - NO SPECIAL TOOL REQUIREMENTS
- VORTEX OR ENCLOSED IMPELLER
  - IN SAME VOLUTE
  - ON SAME MOTOR SHAFT
  - EASY EXCHANGE IN THE FIELD
  - NO SPECIAL TOOL REQUIREMENTS
- “FAST - LOCK”, QUICK-RELEASE, LATCH-BOLTS
  - EASY MAINTENANCE IN THE FIELD
  - ELIMINATES NEED FOR VOLUTE HAND HOLE
- OIL TAP DRAIN
- INTERCHANGEABLE PARTS WITH PUMPEX BRAND MODELS
- UNIT INTERCHAGEABILITY WITH MOST FLYGT BRAND INSTALLATIONS
- ADAPTERS FOR OTHER BRAND INSTALLATIONS

*mody*  
Pumps

Mody Pumps Inc.  
2166 Zeus Court, Bakersfield, CA 93308. USA  
Tel.: (661) 392-7600 • Fax: (661) 392-7601  
<http://www.modypump.com>  
E-mail: [sales@modypump.com](mailto:sales@modypump.com)

# modity

## ELECTRIC SUBMERSIBLE SEWAGE PUMP

### MSP SERIES

#### SPECIFICATIONS

**Solid Handling:** up to 4"/100mm  
**Impeller Types:** Vortex or channel  
**Max. Temp. of Pumped Fluid:** 104°F/40°C  
**Max. Starts/Stop Per Hour:** 15  
**Max. Submergence:** 66'/20m



**MOTOR:** NEMA B design, die cast aluminum squirrel cage rotor, induction motor rated for continuous duty with 1.15 service factor. “NEMA Energy Efficient Class”. Moisture resistant Class “H” (180°C temperature rating) insulated stator windings, watertight air-filled IP68 enclosure. UL listed components, rated for VFD operation in conformance with NEMA MG1-2003, Part 31. Designed by Siemens with 2, 4 and 6-pole speed options. Klixon temperature sensors embedded in stator windings for thermal overload protection. Moisture detection probes in main motor cavity and top-end power cable terminal chamber. Optional maintenance free closed loop cooling system available for dry pit or partial submerged continuous duty. Cooling system is separate from pumped liquid. No external cooling source required.

**POWER SUPPLY:** 208/230/460/575 volts +/-10%, 3-phase, 60-hz AC Supply.

**BALL BEARINGS:** The rotor shaft is carried by two ball bearings. The lower bearing is a double angular contact ball bearing, C3 with H7 fit, capable of carrying high thrust and radial loads. The upper bearing is a deep groove single row ball bearing, C3 with H7 fit. The bearings are filled with high temperature grease containing special anti-corrosive additive. The bearings are maintenance free for life.

**POWER CABLE:** 33'/10m in length, sized according to IEC, NEC or CSA standards, water/oil resistant EPR insulated, copper conductor flexible cable and additional control cable for moisture sensor and thermals, capable of continuous submerged operation underwater at temperatures to 90°C and to a depth of 66 feet. Additional cable lengths optional.

**CABLE ENTRY / JUNCTION CHAMBER SEAL:** The cable entry design does not require specific torque requirements to insure a watertight seal. The cable entry consists of a cylindrical elastomer grommet, flanked by stainless steel washers. A cable cap incorporating a strain relief mounts to the cable entry boss compressing the grommet ID to the cable while the grommet OD seals against the bore of the cable entry.

The junction chamber is isolated and sealed from the motor by means of sealing glands and O-rings. Electrical connections between the power cables and motor leads are made via a post type terminal board.

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## ELECTRIC SUBMERSIBLE SEWAGE PUMP

**SHAFT SEALS:** Fast change cartridge, double mechanical shaft seal system with silicon carbide vs. silicon carbide upper and lower stationary and rotating faces in reservoir filled with USDA food grade oil. Oil tap drain feature for easy maintenance.

**SEAL FAILURE EARLY WARNING SYSTEM:** A moisture detection probe is provided in the seal oil chamber for detecting the presence of moisture. A relay device (by others) mounted in the pump control panel or in a separate enclosure sends a low voltage, low amperage signal to the probe. If moisture is present (determined by decreased resistance signals), the relay device energizes a warning light or shut-down circuit in the control panel, protecting the motor from damage.

**FAST LOCK LATCH BOLTS:** The pump includes fast lock / quick release mechanisms with 304 stainless steel latch bolts to allow easy removal of the motor unit from the pump volute without disturbing system piping and the need for special tools. With this feature, a volute hand-hole cover for cleanout access is not required.

**IMPELLER:** Enclosed or vortex, specifically designed for non-clog operation, dynamically balanced and trimmed to meet specified hydraulic operating conditions. The impeller slip fits onto the motor shaft with a drive key and is fastened to the shaft by a stainless steel lock screw which is mechanically prevented from loosening by a ratcheting washer assembly that is positively engaged. Channel and vortex impellers are interchangeable with one another in the field without modification to the pump.

**ADJUSTABLE WEAR RING SYSTEM:** A replaceable wear ring is securely fitted the pump casing by no less than 3 stainless steel set screws. The wear ring is capable of axial adjustment to reduce hydraulic losses between itself and the enclosed type impeller when wear affects pump efficiency. This adjustment does not require special tools.

### MATERIALS OF CONSTRUCTION

Description	Material
Stator Casing	Cast iron ASTM A-48, Class 35
Pump Volute/Casing	Cast iron ASTM A-48, Class 35
Casing Wear Ring	Cast iron ASTM A-48, Class 35
Lifting Handle	AISI 316 stainless steel
Impeller	Ductile iron ASTM A-395, Grade 60-40-18
Shaft	AISI 431 stainless steel
Shaft Sleeve	AISI 431 stainless steel
Hardware	AISI 304 stainless steel
Mechanical Seal	Fast change cartridge double with silicon carbide vs. silicon carbide faces
O-Rings	Nitrile rubber

**SURFACE TREATMENT:** Primer with Epoxy and subsequently coated with black air dry enamel.