Submersible Electric Pumps from MWI

Submersible electric pumps have an impeller directly connected to a waterproof electric motor. These pumps have multiple configurations — vertical, horizontal, or any angle in between, canned or enclosed. They are quiet, low profile, and provide for easy maintenance. Submersible electric pumps are typically used in applications for storm water drainage, flood control, irrigation and final effluent pumping. They are available in sizes ranging from 8” to 60” in diameter.

**Advantages**

**Efficient Drive System**
The direct-coupled, waterproof motor and impeller eliminate long shafts and complex drive systems. This greatly simplifies the entire drive train, increasing reliability, and allowing ready access for maintenance.

**Stainless Steel**
MWI’s submersible pumps come standard with stainless steel motor housings, impellers, and impeller wear rings. Corrosion resistant, high-strength A242/A588 steel is available as a lower cost option, when stainless steel is not required or specified.

**Superior Motor Winding Insulation**
MWI uses premium insulation on its submersible pump motor stator windings. Several methods, to include Vacuum Pressure Impregnation (VPI) when appropriate, are used to provide superior heat transfer, moisture resistance, and mechanical strength.

**Moisture and Heat Protection**
Double mechanical seals are provided between the motor and the pumped liquid. A pressure compensation device is installed in the mechanical seal oil chamber to limit the oil pressure caused by thermal expansion. Electric motors are air filled and include a moisture detection probe. Thermal sensors are embedded in the motor stator windings for overheating protection.

**Pump Lift-Out Option**
The submersible pump can be housed in a discharge can which will allow the pump to be easily lifted out for routine maintenance.

**Unlimited Angle of Installation**
MWI’s submersible pump can be placed at any angle for simple pump station design to reduce civil works costs.

**Low Profile Applications**
Since MWI’s submersible pump can be placed at any angle, it can be utilized where low profile or aesthetically pleasing applications are required.

**Non-Proprietary Bearings and Seals**
MWI’s submersible pumps use standard commercially available seals which are less costly than other manufacturers’ proprietary spare parts.

**Custom Design**
MWI custom designs every submersible electric pump. This optimizes the pump to your application saving you money in installation and operation costs.
Internal Components

1. Wire Connection Chamber, Junction Box
2. Upper Support Bearing
3. Stator Winding with Thermal Protection
4. Dynamically Balanced Rotor
5. Motor Housing
6. Pump Shaft
7. Pump Bowl Assembly with Flow Straightening Vanes
8. Accumulator
9. Thrust Bearings
10. Moisture Detection Probe
11. Dual Mechanical Seals
12. Seal Protector
13. Optional Replaceable Liner
14. Propeller with Taper Lock Attachment
15. Intake Bell with Guide Vanes
16. Control Cable
17. Heavy Insulated Power Cable
18. Double Cable Seal
19. Intermediate Support Bearing
20. Mechanical Seal
21. Speed Reducer Assembly
22. Pump Bowl Shaft
23. Motor Shaft

Due to continual improvement of our products, we reserve the right to change designs and specifications.
Configurations

MWI offers electric submersible pump units in high head mixed flow and low head axial flow propeller design. The compact unit configurations are achieved by building the thrust bearing housing and electric submersible motor into the bowl of the pump.

Consult factory for intermediate and larger size units not shown. A variety of discharge configurations are also available.

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SELF-SUPPORTING VERTICAL CAN
- Horizontal discharge pipe
- Lift out pump with intake bell

SUSPENDED VERTICAL CAN WITH INTAKE BELL
- Vertical discharge
- Lift out pump

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SUSPENDED VERTICAL CAN WITH INTAKE BELL
- Vertical discharge
- Lift out pump

45° PUMP WITH 45° INTAKE BELL
- Horizontal discharge pipe
- Simple support structure

HORIZONTAL PUMP WITH 90° INTAKE BELL
(for use when low profile is desirable)

Performance curves for each bowl size are available upon request.
Mobile Design

MWI offers a mobile submersible electric pump complete with generator and light tower. Sizes range from 8” to 16”. These versatile units can be used to provide mobile generating power, portable lighting or the high volume flows that come only from an axial or mixed flow pump for serious water moving.

MWI’s international headquarters and extensive manufacturing capabilities are located in Deerfield Beach, Florida, very close to the original business. The manufacturing facilities are spread over 4 city blocks and total nearly 300,000 ft², to include a 10,000 ft² test lab. The company has a facility in Egypt and representatives throughout the United States, Latin America, Middle East, Africa and Asia.