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Speroni SPM 50-14

Speroni SPM 50-14 Submersible Electric Pump User Manual

Model: SPM 50-14

1. Introduction

This manual provides essential information for the safe and efficient installation, operation, and maintenance of your Speroni SPM 50-14 submersible electric pump. Please read these instructions carefully before using the pump to ensure proper function and to prevent injury or damage.

The Speroni SPM 50-14 is a multi-stage submersible electric pump designed for deep wells of 4 inches (DN 100 mm) diameter. It is suitable for various applications including civil and industrial water supply, irrigation systems, water features, and fire-fighting systems, providing clean water.



Figure 1: Speroni SPM 50-14 Submersible Electric Pump. This image shows the compact design of the pump, suitable for deep well installation.

2. Safety Instructions

WARNING: Failure to follow these safety instructions may result in electric shock, fire, serious injury, or death.

- Always disconnect the pump from the power supply before performing any installation, maintenance, or repair work.
- Ensure the electrical installation complies with local regulations and standards. The pump requires a single-phase 230 Volt power supply.
- The pump must be properly grounded to prevent electric shock.
- Do not operate the pump with damaged cables or connections. Inspect all electrical components regularly.
- Never run the pump dry. Operating without liquid will cause severe damage to the pump.
- Ensure the liquid temperature does not exceed 35°C (95°F).
- The maximum sand content in the pumped liquid must not exceed 60 g/m³. Higher concentrations can cause premature wear.
- Do not use the pump for flammable, corrosive, or explosive liquids.
- Keep children and unauthorized personnel away from the pump's operating area.

3. Setup and Installation

Proper installation is crucial for the pump's performance and longevity.

1. **Well Preparation:** Ensure the well diameter is at least 4 inches (DN 100 mm) to accommodate the pump. The well should be clean and free of excessive debris.
2. **Mounting:** Securely attach a suitable lifting rope or cable to the pump's designated attachment points*Do not lift the pump by its power cable.*
3. **Submersion:** Carefully lower the pump into the well, ensuring it is fully submerged in water but not resting on the bottom where sediment may accumulate. Maintain adequate clearance from the bottom.
4. **Piping Connection:** Connect the discharge pipe to the pump's outlet. Use appropriate fittings and ensure all connections are watertight. A non-return valve is recommended to prevent backflow.
5. **Electrical Connection:** Connect the pump to a single-phase 230 Volt power supply. Ensure the circuit is protected by a residual current device (RCD) and an appropriately rated circuit breaker. All electrical connections must be made by a qualified electrician.
6. **Testing:** Before full operation, briefly test the pump to ensure water flow and proper function. Check for any leaks.

4. Operating Instructions

Once installed, operating the Speroni SPM 50-14 is straightforward.

- **Power On:** Ensure the pump is fully submerged and all connections are secure. Switch on the power supply to the pump.
- **Monitoring:** Observe the pump's operation. It should start smoothly and deliver water. Listen for unusual noises or vibrations, which may indicate a problem.
- **Continuous Service:** The pump is designed for continuous service, but avoid exceeding the maximum of 20 starts per hour to prolong motor life.
- **Power Off:** To stop the pump, simply switch off the power supply.

5. Maintenance

Regular maintenance ensures optimal performance and extends the pump's lifespan.

- **Regular Inspection:** Periodically inspect the power cable for any signs of damage or wear.
- **Cleanliness:** If the pump is removed from the well, clean any accumulated sediment or debris from the pump body and intake screen.
- **Winterization:** In regions with freezing temperatures, remove the pump from the well and store it in a frost-free environment if it will not be used for extended periods. Drain all water from the pump and piping.
- **Professional Service:** For internal components or motor issues, contact a qualified service technician. The motor is oil-filled and sealed, requiring specialized tools for service.

6. Troubleshooting

Before contacting technical support, review these common issues and solutions.

Problem	Possible Cause	Solution
Pump does not start	No power supply Blown fuse/tripped breaker Motor overload protection activated Damaged cable	Check power connection Reset breaker/replace fuse Allow motor to cool, then restart Inspect and replace cable if damaged (professional service)
Pump runs but no water flow	Pump not fully submerged Air lock in piping Clogged intake/impeller Damaged impeller/stages	Ensure pump is submerged Bleed air from the system Remove pump and clean intake/impeller Contact professional service
Reduced water flow/pressure	Partial clogging Low water level in well Worn impellers/stages	Clean pump and piping Monitor well level Contact professional service
Pump cycles on and off frequently	Low water level in well Faulty pressure switch (if applicable) Non-return valve issue	Monitor well level Check/replace pressure switch Inspect non-return valve

7. Technical Specifications

Key technical data for the Speroni SPM 50-14 pump:

- **Model:** SPM 50-14
- **Power Supply:** Single-Phase 230 Volt
- **Motor Type:** 2-pole induction motor (n=2850 min-1), oil-submerged
- **Insulation Class:** F
- **Protection Rating:** IP 68
- **Service:** Continuous
- **Max Liquid Temperature:** 35°C (95°F)
- **Max Sand Content:** 60 g/m³
- **Max Starts per Hour:** 20

- **Minimum Well Diameter:** 4 inches (DN 100 mm)
- **Materials (Motor Casing/Shaft):** Stainless Steel
- **Materials (Pump Casing/Shaft):** Stainless Steel
- **Materials (Impellers/Stages):** Polycarbonate
- **Materials (Upper Support):** Brass
- **Materials (Bottom):** Technopolymer

8. Warranty and Support

Speroni products are manufactured to high-quality standards. For warranty information, please refer to the documentation provided with your purchase or contact your authorized Speroni dealer.
For technical assistance, spare parts, or service, please contact Speroni customer support or an authorized service center. Provide your pump's model number (SPM 50-14) and serial number (if applicable) when seeking support.

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