Pedrollo MC 40/50-F

PEDROLLO ELECTRIC PUMP MC 40/50-F 4HP 400V 50Hz MY15 User Manual

Model: MC 40/50-F | Brand: Pedrollo

1. Introduction

This manual provides essential information for the safe and efficient operation, installation, and maintenance of your Pedrollo MC series electric pump. Please read this manual thoroughly before installation or operation to ensure proper use and to prevent damage or injury.

The Pedrollo MC series electric pumps are robust units constructed from cast iron, featuring a BICANALE impeller. This design enables the pump to effectively handle liquids containing suspended solid bodies and short fibers, making them ideal for conveying waste, sewage, mixed mud water, and groundwater in domestic, civil, and industrial applications.

Figure 1: Pedrollo MC 40/50-F Electric Pump. This image displays the robust cast iron construction of the pump, highlighting its compact design and the outlet flange for connection to the piping system. The top features two lifting rings for easy handling.

2. Safety Information

Always adhere to the following safety precautions to prevent personal injury or damage to the pump:

- Ensure the pump is disconnected from the power supply before any installation, maintenance, or repair work.
- Installation and electrical connections must be performed by qualified personnel in accordance with local regulations and standards.
- Do not operate the pump dry. Ensure the pump is fully submerged in the liquid it is designed to handle before starting.
- Protect the power cable from sharp edges, heat, and oil. Do not use the cable to lift or move the pump.
- Wear appropriate personal protective equipment (PPE) such as gloves and eye protection during installation and maintenance.
- The pump is designed for specific liquid types (sewage, waste water). Do not use it for flammable, corrosive, or explosive liquids.
- Ensure proper grounding of the electrical system.

3. Setup and Installation

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

3.1 Unpacking and Inspection

Carefully remove the pump from its packaging. Inspect for any visible damage that may have occurred during transit. Report any damage to the supplier immediately.

3.2 Location and Placement

- The pump must be installed in a well-ventilated area, protected from freezing temperatures.
- Ensure the pump is placed on a stable, level surface or suspended securely if using a lifting chain.
- Allow sufficient space around the pump for ventilation and future maintenance access.

3.3 Piping Connections

- Connect the discharge pipe to the pump's outlet flange. Ensure all connections are watertight and sealed properly to prevent leaks.
- Use pipes of adequate diameter to minimize friction losses and ensure efficient flow.
- Install a non-return valve (check valve) on the discharge line to prevent backflow when the pump stops.
- Consider installing a gate valve or ball valve on the discharge line for isolation during maintenance.

3.4 Electrical Connection

- Verify that the power supply voltage (400V, 50Hz) matches the pump's requirements.
- Connect the pump to a dedicated electrical circuit protected by a residual current device (RCD) and appropriate circuit breakers.
- Ensure proper grounding. The pump is equipped with a grounding wire that must be connected to the system's ground.
- Consult the wiring diagram provided with the pump for specific connection details.

4. Operating Instructions

4.1 Pre-Operation Check

- Confirm all piping connections are secure and leak-free.
- Ensure the pump is fully submerged in the liquid to be pumped.
- Verify that the power supply is connected correctly and safely.

4.2 Starting the Pump

Once all checks are complete, switch on the power supply to the pump. The pump should start operating smoothly. Monitor the initial operation for any unusual noises or vibrations.

4.3 Stopping the Pump

To stop the pump, simply switch off the power supply. If the pump is controlled by a float switch, it will automatically stop when the liquid level drops below a certain point.

4.4 Continuous Operation

The Pedrollo MC series pumps are designed for continuous duty within their specified operating limits. Avoid operating the pump outside these limits to prevent overheating or premature wear.

5. Maintenance

Regular maintenance ensures optimal performance and extends the pump's lifespan. Always disconnect power before performing any maintenance.

5.1 Routine Checks (Monthly)

- Inspect the power cable for any signs of damage or wear.
- Check for any unusual noises or vibrations during operation, which may indicate a problem.
- Ensure the pump chamber is free from excessive debris buildup that could impede impeller rotation.

5.2 Impeller and Casing Cleaning (Annually or as needed)

- Disconnect power and remove the pump from its installation.
- Carefully open the pump casing (refer to service diagrams if available) and inspect the BICANALE impeller for any blockages or wear.
- Clean any accumulated debris from the impeller and pump casing.
- Reassemble the pump, ensuring all seals are correctly seated and fasteners are tightened.

5.3 Storage

If the pump is to be stored for an extended period, especially in cold climates, drain all liquid from the pump to prevent freezing damage. Store in a dry, protected environment.

6. Troubleshooting

This section provides solutions to common issues. For problems not listed here, contact qualified service personnel.

Problem	Possible Cause	Solution
Pump does not start	No power supply Thermal overload tripped Impeller jammed	Check power connection and circuit breaker Allow motor to cool, check for cause of overload Disconnect power, clear obstruction from impeller
Pump runs but no water flow or low flow	Air in pump/piping Discharge pipe blocked Impeller worn or blocked Pump not fully submerged	Bleed air from system Clear blockage Disconnect power, inspect and clean impeller Ensure pump is adequately submerged
Pump makes excessive noise	Cavitation (air in liquid) Bearing wear Foreign object in pump	Ensure adequate liquid supply, check for leaks in suction Contact qualified service personnel Disconnect power, inspect and remove object
Pump trips circuit breaker	Electrical fault Motor overload Impeller jammed	Consult an electrician Check for blockages, ensure pump is not running dry Disconnect power, clear obstruction

7. Specifications

Technical data for the Pedrollo MC 40/50-F Electric Pump:

Model: MC 40/50-F

Brand: Pedrollo

Power: 4HP

Voltage: 400V

Frequency: 50Hz

Liquid Type: Sewage, waste water, mixed mud water, groundwater

Impeller Type: BICANALE

Material: Cast Iron

Item Weight: 52.7 kg

Manufacturer: PEDROLLO

ASIN: B07HMSHMJT

First Available: 28 Sept. 2018

8. Warranty and Support

For warranty information, please refer to the documentation provided with your purchase or contact your authorized Pedrollo dealer. For technical support or spare parts, please contact Pedrollo customer service or your local distributor. Ensure you

have your pump's model number (MC 40/50-F) and serial number (if applicable) ready when contacting support. You can find more information and contact details on the official Pedrollo website.