Pedrollo JSWM3CM

Pedrollo JSWM3CM Water Pump Instruction Manual

Model: JSWM3CM | Brand: Pedrollo

1. Introduction and Product Overview

This manual provides essential information for the safe and efficient installation, operation, and maintenance of your Pedrollo JSWM3CM single-phase 220V water pump. Please read this manual thoroughly before installation and use to ensure proper function and longevity of the product.

Figure 1: Pedrollo JSWM3CM Water Pump. This image shows the complete assembly of the Pedrollo JSWM3CM water pump, highlighting its compact design and robust construction.

The Pedrollo JSWM3CM is a self-priming surface pump designed for handling clean liquids with low sediment content. It is suitable for various applications including domestic water supply, agricultural irrigation, and light industrial use. Key features include a durable AISI 304 INOX impeller and a high-efficiency IE3 class electric motor.

2. Safety Information

Important Safety Instructions: Always follow basic safety precautions to reduce the risk of fire, electric shock, and personal injury.

- Ensure the power supply matches the pump's specifications (220V single-phase).
- Always disconnect power before performing any maintenance or installation.
- Do not operate the pump with damaged cords or plugs.

- Protect the pump from freezing temperatures.
- Ensure proper grounding to prevent electric shock.
- Do not pump flammable or corrosive liquids. This pump is designed for clean water only.
- Keep children and unauthorized persons away from the operating pump.

3. Product Components and Design

The JSWM3CM pump is engineered for reliability and performance. Understanding its main components is crucial for proper installation and maintenance.

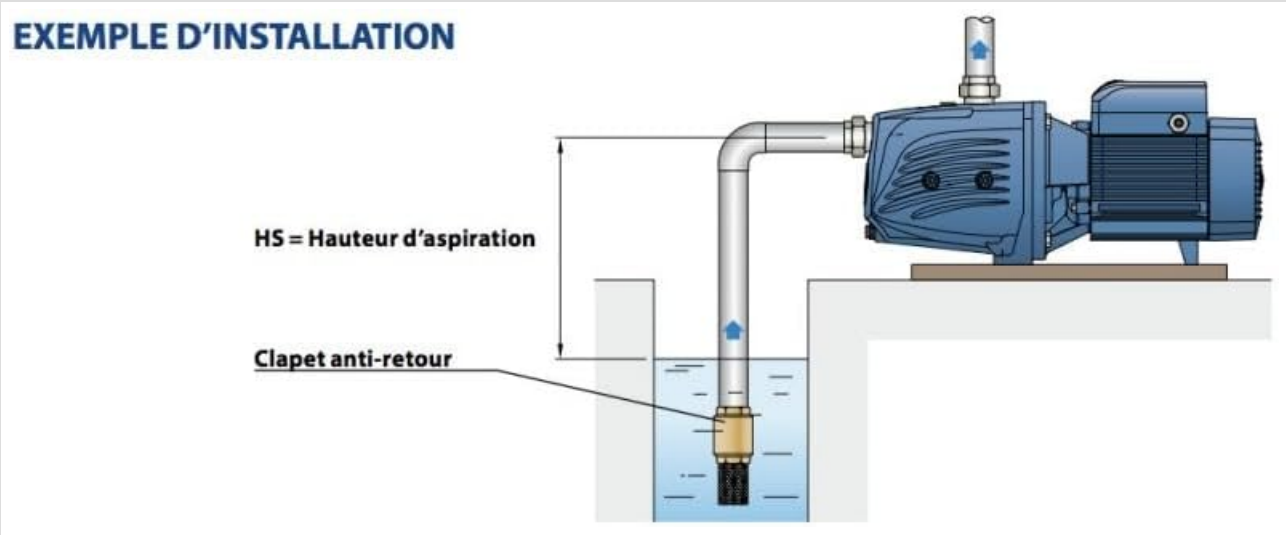


Figure 2: Internal Components of the Pedrollo JSWM3CM Pump. This diagram illustrates the key internal parts of the pump, including the pump body, impeller, motor, and shaft, providing insight into its robust construction.

Key Components:

- **Pump Body:** Constructed from cast iron, capable of withstanding service pressures up to 10 bars.
- **Impeller:** Made of AISI 304 INOX for durability and efficient water handling.
- **Ejector Diffuser:** Manufactured from NORYL.
- **Lantern:** Aluminum construction with an inox pump bottom.
- **Electric Motor:** 2900 rpm, IPX4 protection rating, Class F insulation, S1 continuous service. Features an IE3 class for high efficiency and low power consumption. Includes integrated thermal protection for safety.
- **Coupling Shaft:** Made of INOX EN 10088-3 - 1.4104.

4. Technical Specifications

Specification	Value
Manufacturer	Pedrollo
Model Reference	JSWM3CM
Power	1.10 kW
Flow Rate	0 to 7.2 m^3/h
Head (HMT)	20 to 54 meters

Specification	Value
Power Supply	Single-phase 220V
Motor Speed	2900 rpm
Protection Rating	IPX4
Insulation Class	F
Continuous Service Type	S1
Pump Body Material	Cast Iron
Impeller Material	AISI 304 INOX
Weight	31 Kilograms

5. Installation (Setup)

Proper installation is critical for the pump's performance and longevity. Follow these guidelines carefully.

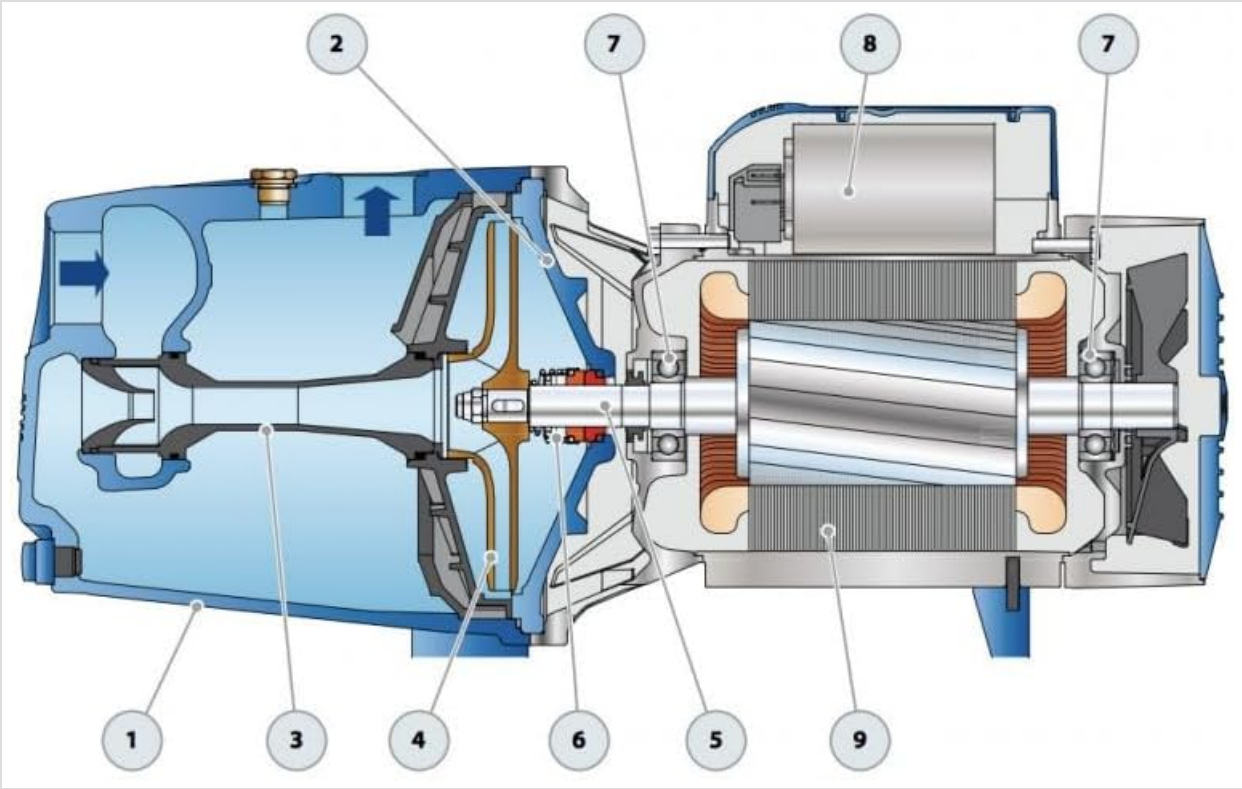


Figure 3: Example Installation Diagram. This illustration demonstrates a typical setup for the Pedrollo pump, showing the suction height (HS) and the placement of a non-return valve for optimal performance.

- **Location:** Install the pump in a dry, well-ventilated area, protected from direct sunlight, rain, and freezing temperatures. Ensure sufficient space for maintenance.
- **Mounting:** Securely mount the pump on a stable, level surface using appropriate bolts to minimize vibration.
- **Suction Line:**
  - The pump is self-priming and recommended for drawing water from depths of less than 9 meters.
  - Use a rigid, airtight suction pipe with a diameter equal to or larger than the pump's suction port.
  - Install a foot valve with a strainer at the end of the suction pipe to prevent debris entry and maintain prime.
  - Ensure the suction line slopes upwards towards the pump to avoid air pockets.

- **Discharge Line:** Connect the discharge pipe to the pump's outlet. Install a gate valve on the discharge side to regulate flow and facilitate maintenance.
- **Electrical Connection:**
  - Connect the pump to a single-phase 220V power supply.
  - Ensure the electrical circuit is protected by a suitable circuit breaker and residual current device (RCD).
  - The motor has built-in thermal protection, but additional external protection is recommended for critical applications.
  - All electrical connections must be performed by a qualified electrician in accordance with local regulations.
- **Priming:** Before first use, fill the pump casing completely with clean water through the priming port until it overflows. Replace the priming plug securely.

6. Operation

Once installed and primed, the pump is ready for operation.

- **Starting the Pump:**
  - Ensure the pump is fully primed.
  - Open the discharge valve partially or fully.
  - Switch on the power supply to the pump. The pump should start immediately and begin pumping water.
- **Monitoring:** Observe the pump during operation for any unusual noises, vibrations, or leaks.
- **Stopping the Pump:**
  - Close the discharge valve.
  - Switch off the power supply to the pump.
- **Continuous Operation:** The pump is designed for continuous S1 service, meaning it can operate continuously under a constant load.

7. Performance Characteristics

The performance of the Pedrollo JSWM3CM pump is characterized by its flow rate (Q) and total head (HMT). Refer to the performance curve diagram for detailed information.

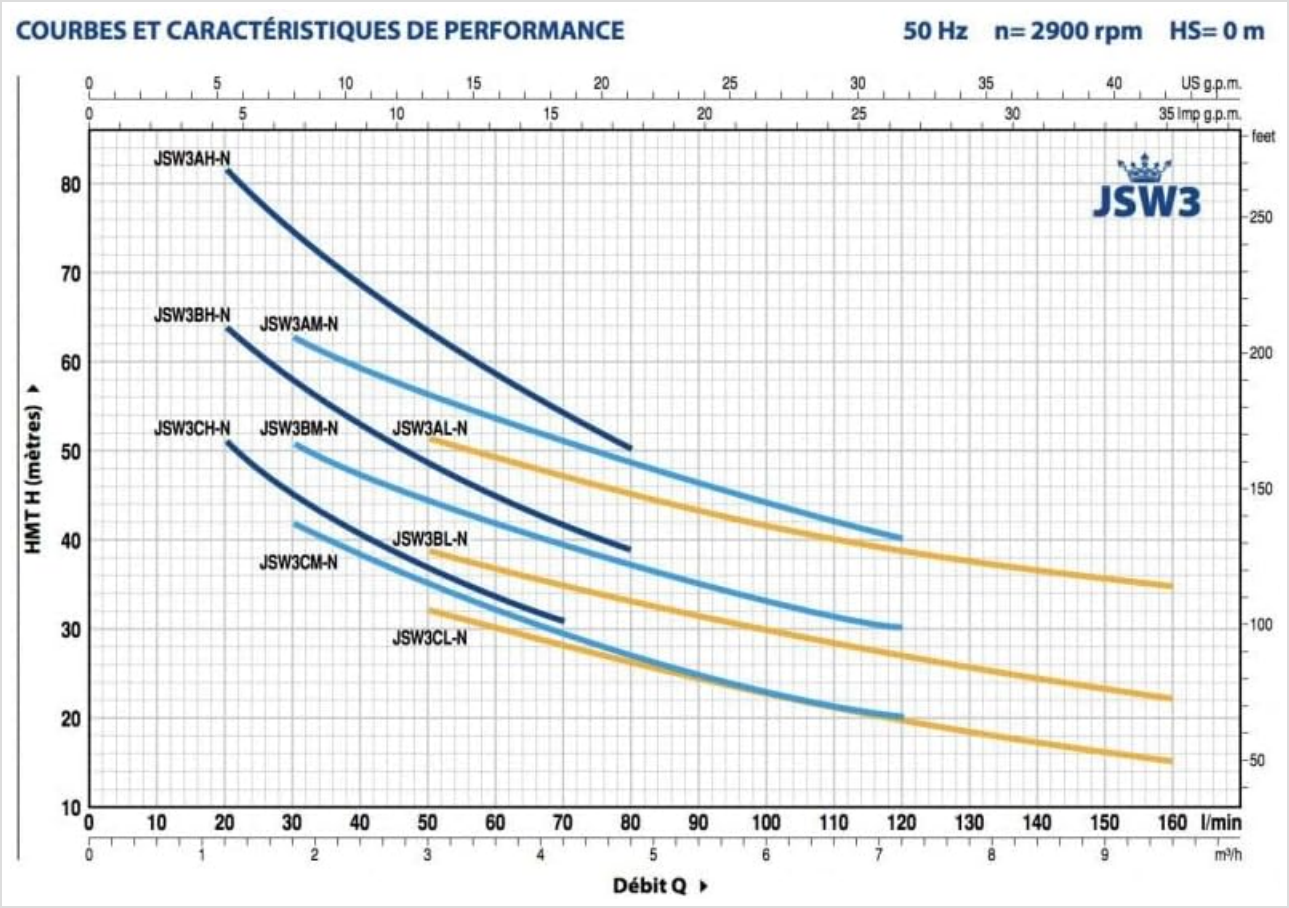


Figure 4: Performance Curves for JSW3 Series Pumps. This graph illustrates the relationship between flow rate (Q) and total head (HMT) for various models within the JSW3 series, including the JSWM3CM, at 50 Hz and 2900 rpm.

The graph shows how the pump's head (pressure) decreases as the flow rate increases. Locate the curve corresponding to the JSWM3CM model to understand its specific operating range. The pump delivers a flow rate between 0 and 7.2 m³/h and a head between 20 and 54 meters, depending on the operating point.

8. Maintenance

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

- **Regular Checks:**
  - Inspect the pump and piping for leaks.
  - Check electrical connections for signs of wear or corrosion.
  - Listen for unusual noises during operation.
- **Cleaning:** Periodically clean the pump's exterior to prevent dust and debris buildup, which can affect cooling.
- **Foot Valve/Strainer:** Regularly inspect and clean the foot valve strainer to prevent blockages and ensure proper water intake.
- **Winterization:** If the pump is exposed to freezing temperatures, drain all water from the pump casing and piping to prevent damage from ice expansion.
- **Mechanical Seal:** The mechanical seal is a wear part. If persistent leaks occur from the shaft area, the seal may need replacement by a qualified technician.

9. Troubleshooting

This section provides solutions to common issues you might encounter. For problems not listed here, contact qualified

service personnel.

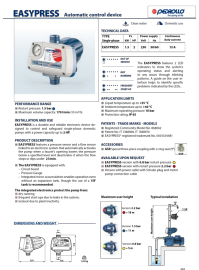
Problem	Possible Cause	Solution
Pump does not start	No power supply; Thermal overload tripped; Motor fault.	Check power connection and circuit breaker; Allow motor to cool and reset; Consult a technician.
Pump runs but no water is delivered	Pump not primed; Air leak in suction line; Suction lift too high; Foot valve clogged.	Re-prime the pump; Check suction line for leaks and tighten connections; Reduce suction depth; Clean foot valve strainer.
Low flow or pressure	Partial blockage in suction/discharge; Air in system; Worn impeller; Incorrect pipe sizing.	Check for blockages; Bleed air from system; Inspect impeller for damage; Verify pipe diameters.
Excessive noise or vibration	Cavitation (air in water); Unsecured mounting; Bearing wear; Debris in pump.	Ensure proper priming and no air leaks; Securely mount pump; Consult technician for bearing/debris.

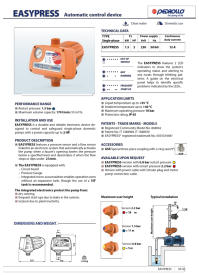
10. Warranty and Support

Information regarding specific warranty terms and conditions for the Pedrollo JSWM3CM pump is typically provided at the point of purchase or within separate warranty documentation. Please refer to your purchase receipt or contact your supplier for details.

For technical support, spare parts, or professional servicing, please contact an authorized Pedrollo service center or your product retailer. Always provide the model number (JSWM3CM) and serial number (if applicable) when seeking support.

Related Documents

	Pedrollo EASYPRESS Automatic Control Device for Domestic Water Pumps Comprehensive guide to the Pedrollo EASYPRESS, an automatic electronic control device for single-phase domestic water pumps. Details include technical specifications, performance range, application limits, product features, protection mechanisms, installation guidelines, and available versions.

	[Pedrollo EASYPRESS Automatic Control Device for Pumps] Detailed information on the Pedrollo EASYPRESS, an automatic electronic control device for single-phase domestic pumps, including technical specifications, performance range, application limits, and installation guidance.
	[Pedrollo EASYPRESS Automatic Pump Controller - Technical Specifications] Comprehensive technical overview of the Pedrollo EASYPRESS automatic pump control device, detailing its features, operating parameters, protection capabilities, and installation guidelines.
	[Pedrollo PRESFLO MULTI Automatic Control Device - Technical Specifications] Detailed technical specifications, installation guide, and features of the Pedrollo PRESFLO MULTI automatic electronic pressure control device for domestic water supply and pressure boosting.