iMeshbean PU

iMeshbean 4-inch Deep Well Submersible Pump (Model PU) Instruction Manual

Introduction

This manual provides essential information for the safe and efficient installation, operation, and maintenance of your iMeshbean 4-inch Deep Well Submersible Pump, Model PU. Please read these instructions thoroughly before installation and use to ensure proper function and longevity of the product.

Figure 1: iMeshbean 4-inch Deep Well Submersible Pump, Model PU.

Safety Information

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

- Always disconnect power before installing, servicing, or performing any maintenance on the pump.
- Ensure all electrical connections are made by a qualified electrician and comply with local codes and regulations.
- Do not operate the pump in dry conditions. Ensure the pump is fully submerged in water before starting.
- Never handle the pump or its power cord with wet hands.
- Protect the power cord from sharp objects, heat, and oil. Do not use the power cord to lift the pump.
- Install an additional check valve in the discharge line to prevent water backflow and protect the pump.
- Ensure the well casing is at least 4 inches in diameter for proper fit and cooling.

Product Overview

The iMeshbean Deep Well Submersible Pump is designed for efficient water extraction from deep wells. It features robust construction and a permanent magnet motor for reliable performance.

Key Features:

- **Durable Construction:** Shell and motor shaft made from stainless steel for corrosion resistance.
- **Efficient Pumping:** Patented impeller design provides strong flow and high lift capability.
- **Integrated Control:** Built-in control box with thermal protection, short-circuit protection, and overload protection.
- **Extended Power Cord:** Equipped with a 33-foot power cord for convenient connection.
- **Thermoplastic Impellers:** Heavy-duty thermoplastic impellers and diffusers for long life.

Components:

Figure 2: Internal components of the submersible pump, showing the outlet, impeller, stainless steel body, strainer, copper coil motor, and oil sac.

Figure 3: Detailed view of pump construction, highlighting the thickened 304 stainless steel, discharge head, sand filter, and inner middle part for durability and performance.

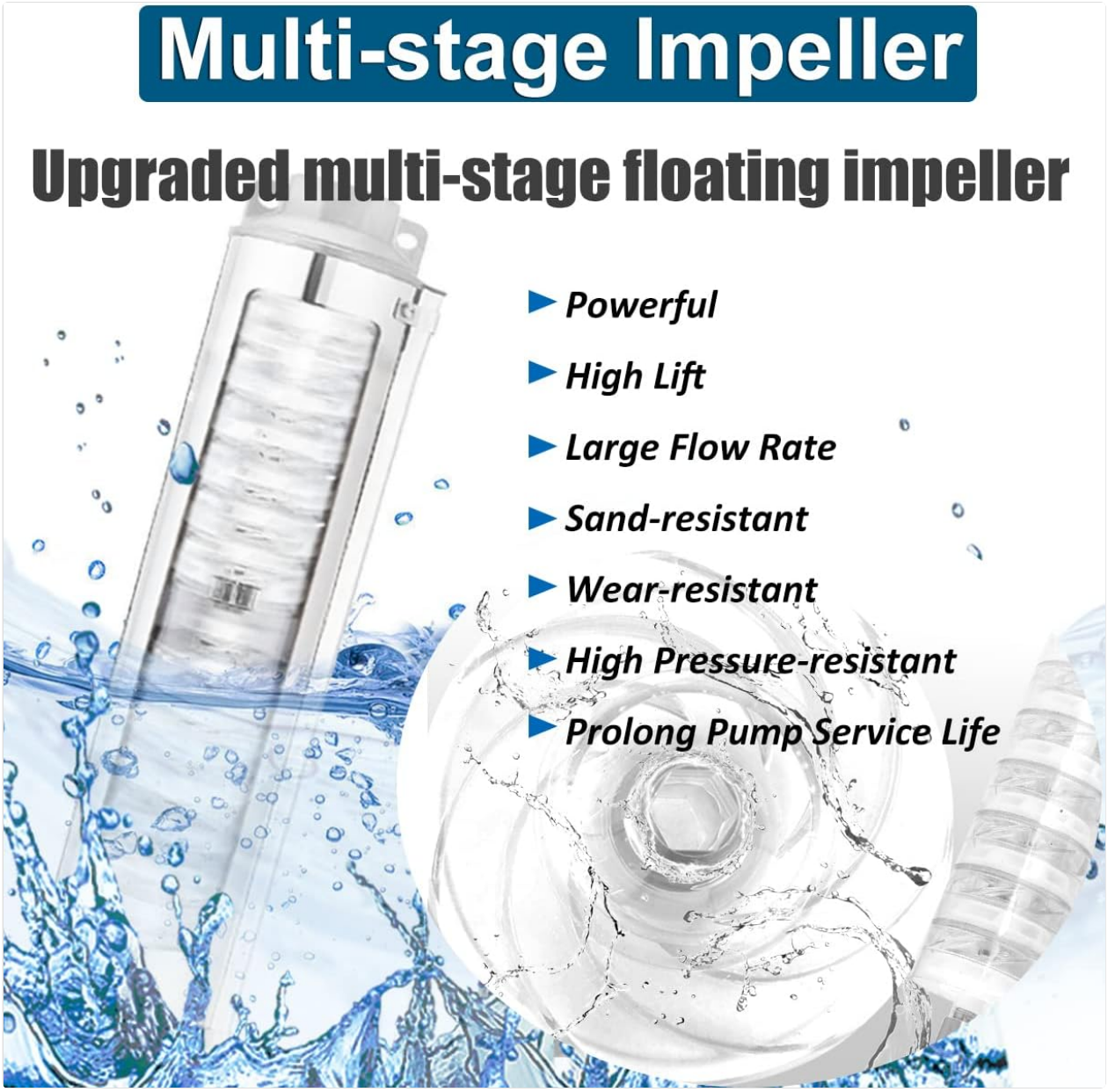

Figure 4: Illustration of the upgraded multi-stage floating impeller, designed for powerful, high-lift, large flow rate, sand-resistant, wear-resistant, and high-pressure resistant operation.

SPECIFICATIONS

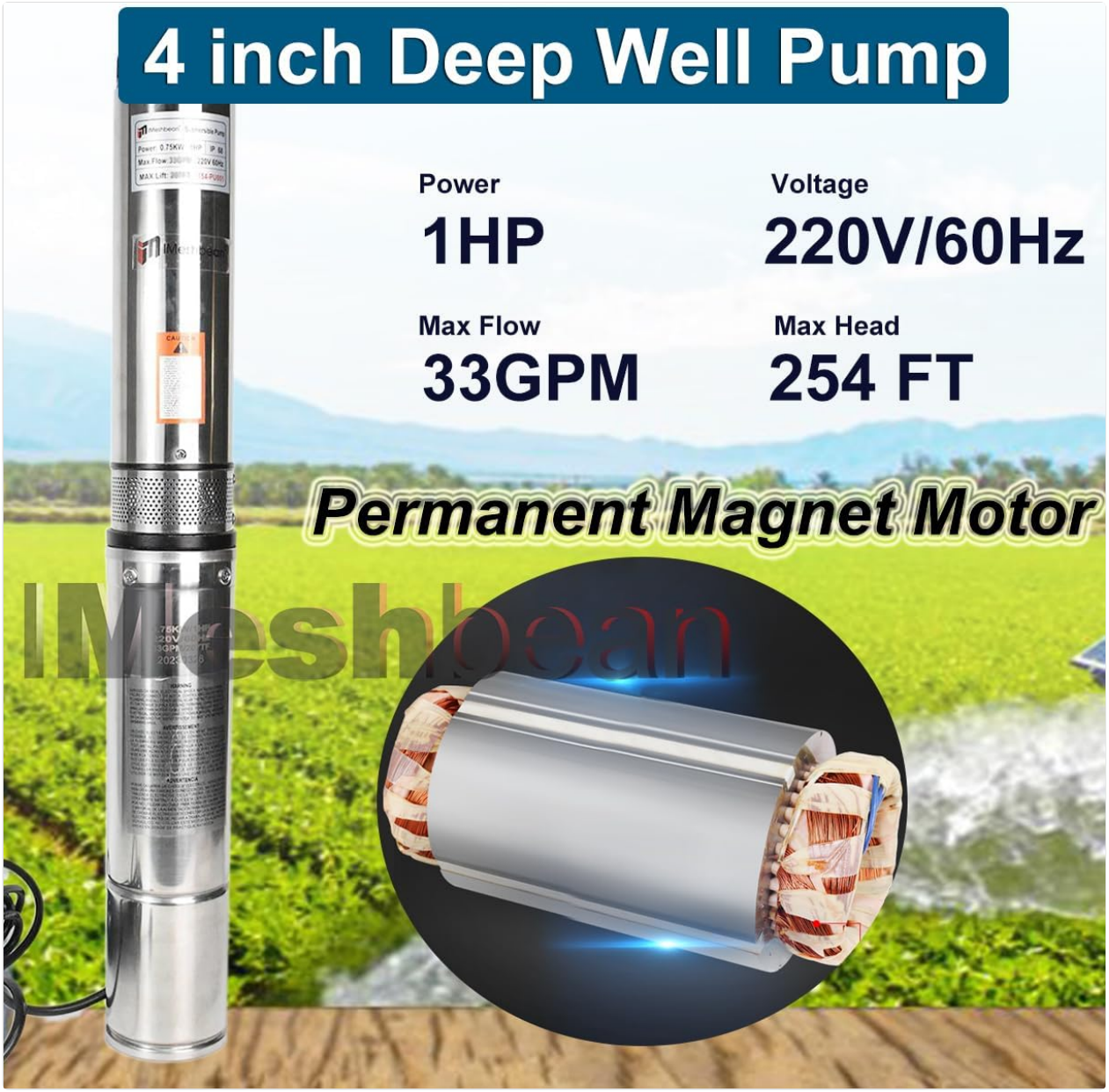

Figure 5: Key technical specifications of the iMeshbean Deep Well Submersible Pump.

Specification	Value
Model	PU
Power	1 HP
Voltage	230V AC
Amperage	5.1 Amps
Frequency	60 Hz
Maximum Flow Rate	33 Gallons Per Minute (GPM)
Maximum Lifting Height (Head)	254 Feet
Discharge Outlet	1-1/4 inch NPT
Impellers	8
Well Casing Requirement	4 inches or larger

Specification	Value
Power Cord Length	33 feet
Material	Stainless Steel, Cast Iron, Thermoplastic
Product Dimensions	4"L x 4"W x 30"H
Item Weight	32.3 Pounds

Setup and Installation

Proper installation is crucial for the pump's performance and longevity. Consult a qualified professional if you are unsure about any steps.

Figure 6: Discharge components including NPT outlet, adapter, and check valve.

1. **Prepare the Well:** Ensure the well casing is clean and free of debris. The well must be at least 4 inches in diameter to accommodate the pump.
2. **Attach Discharge Pipe:** Connect a suitable discharge pipe to the pump's 1-1/4 inch NPT outlet. Use

thread sealant for a watertight connection.

3. **Install Check Valve:** An external check valve is highly recommended to prevent water backflow and protect the pump from water hammer. Install it above the pump in the discharge line. The pump has a built-in check valve, but an additional one provides extra protection.
4. **Secure Safety Rope/Cable:** Attach a non-corrosive safety rope or cable to the pump's lifting eye. This rope, not the power cord, should be used to lower and retrieve the pump.
5. **Electrical Connections:**
    - The pump comes with a 33-foot power cord. Ensure the power supply matches the pump's voltage (230V, 60Hz).
    - For deeper installations or longer runs, verify that the wire gauge is adequate to prevent excessive voltage drop. Undersized wiring can lead to motor overheating and premature failure. Consult electrical charts or a qualified electrician.
    - Connect the pump to a dedicated circuit with appropriate overcurrent protection. The built-in control box provides thermal, short-circuit, and overload protection.
6. **Lower the Pump:** Carefully lower the pump into the well using the safety rope/cable. Ensure the pump is fully submerged and suspended at the desired depth, clear of the well bottom to avoid drawing sand or sediment. Do not use the power cord to lower the pump.
7. **Connect to Power:** Once the pump is securely in place and all connections are verified, connect the power cord to the appropriate power source.

Figure 7: The included 33ft power cord is designed to meet typical installation needs, reducing the risk associated with extension cords.

Operating Instructions

Before initial startup, ensure the pump is fully submerged in water. Operating the pump dry will cause severe damage.

1. **Initial Start-up:** Turn on the power supply to the pump. The pump should start immediately. Monitor the water flow and pressure.
2. **Continuous Operation:** The pump is designed for continuous duty within its specified limits. Ensure the water level in the well remains above the pump's intake.
3. **Shut-down:** To stop the pump, turn off the power supply.
4. **Monitoring:** Periodically check the pump's performance, including flow rate and any unusual noises or vibrations.

Figure 8: The pump is suitable for various applications including irrigation, household water supply, and livestock.

Maintenance

Regular maintenance helps ensure the longevity and efficient operation of your pump.

- **Power Disconnection:** Always disconnect power before performing any maintenance.
- **Inspect Power Cord:** Periodically inspect the power cord for any signs of damage, fraying, or wear. Replace if necessary.
- **Check Water Quality:** If the well water contains excessive sand or sediment, consider installing a pre-filter to protect the pump's impellers and internal components.
- **Clean Intake Screen:** If the pump's flow rate decreases, the intake screen may be clogged. Retrieve the pump and clean the screen.
- **Winterization:** In freezing climates, ensure the pump and associated piping are protected from freezing. If the pump is not in use during winter, it may need to be removed and stored in a frost-free location, or the system drained.

Troubleshooting

This section addresses common issues you might encounter with your submersible pump.

Problem	Possible Cause	Solution
Pump does not start	No power; Blown fuse/tripped breaker; Motor overload; Faulty wiring.	Check power supply; Reset breaker/replace fuse; Allow motor to cool and reset thermal protection; Inspect wiring connections.
Pump runs but no water or low flow	Low water level in well; Clogged intake screen; Air lock; Damaged impeller; Leaking discharge pipe.	Check well water level; Clean intake screen; Prime the pump (if applicable, though submersible pumps are self-priming once submerged); Inspect/replace impeller; Check and repair pipe leaks.
Pump cycles on and off frequently	Leaking check valve; Pressure tank issue (if applicable); Low water level.	Inspect and replace check valve; Check pressure tank settings/bladder; Verify adequate water level in well.
Pump trips breaker/fuse repeatedly	Motor overload (e.g., foreign objects, sand); Undersized wiring causing voltage drop; Incorrect fuse/breaker size; Motor winding short.	Retrieve pump and inspect for obstructions; Verify wire gauge is appropriate for depth and distance; Ensure breaker/fuse rating matches pump requirements; Consult a professional for motor inspection.
Pump makes unusual noise	Cavitation (drawing air); Bearing wear; Debris in pump.	Ensure pump is fully submerged; Inspect bearings; Retrieve and clean pump.
Voltage and Amp problems	Voltage drop due to long or undersized power cord; Motor drawing excessive current.	Calculate voltage drop for your specific installation depth and wire length. If necessary, replace the power cord with a heavier gauge wire. Consult a qualified electrician.

Warranty and Support

For warranty information or technical support, please contact iMeshbean customer service. Keep your purchase receipt as proof of purchase.
Manufacturer: Newgate
UPC: 651536221386
Part Number: PU01