SEAFLO SFDP2-045-040-41

SEAFLO 24V 4.5 GPM 40 PSI 41 Series Diaphragm Pump Instruction Manual

Model: SFDP2-045-040-41

Introduction

This manual provides essential information for the proper installation, operation, and maintenance of your SEAFLO 24V 4.5 GPM 40 PSI 41 Series Diaphragm Pump. Please read these instructions thoroughly before use to ensure safe and efficient operation and to prevent damage to the pump or property.
The SEAFLO 41 Series Diaphragm Pump is designed for various applications requiring reliable water transfer, including marine, RV, and general liquid transfer systems. It features a self-priming design, on-demand operation, and is safe for dry running.

Safety Information

Always observe the following safety precautions:

- Ensure the power supply matches the pump's voltage (24V DC).
- Disconnect power before performing any maintenance or installation.
- Do not pump flammable liquids. This pump is designed for water and non-flammable liquids only.
- Protect the pump from freezing temperatures.
- Ensure proper ventilation around the pump.
- Wear appropriate personal protective equipment during installation and maintenance.

Specifications

The following table details the technical specifications for the SEAFLO SFDP2-045-040-41 pump:

Feature	Specification
Model Number	SFDP2-045-040-41
Voltage	24V DC
Open Flow Rate	4.5 GPM (17.0 LPM)
Shut-Off Pressure	40 PSI (2.8 BAR)
Max Draw	6.07A
Priming Capabilities	6 FT (1.8M) Suction Lift
Max Recommended Temperature	140°F (60°C)
Diaphragm Material	Santoprene
Valve Material	EPDM
Ports	3/4" Quick Attach
Mounting Hole Pattern	4.84" Long x 3.44" Wide
Weight	5.36 pounds
Dimensions	12 x 5 x 4.5 inches (Package)

Image: Detailed specifications table for SEAFLO 41 Series pumps, showing both 12V and 24V models. This table confirms the 24V model's flow rate, pressure, and other technical data.

Image: Technical drawing illustrating the dimensions of the SEAFLO 41 Series DC pump, including length, width, height, and mounting hole pattern.

Product Components and Features

The SEAFLO 41 Series Diaphragm Pump includes the following key components and features:

- **Diaphragm Pump Unit:** The main pump body with motor and pump head.
- **Quick-Connect Fittings:** For easy and secure hose connections.
- **Rubber Mounting Feet:** Designed to reduce vibration and noise during operation.
- **Adjustable Pressure Switch:** Allows for on-demand operation and pressure regulation.
- **Sealed Gasket:** Prevents water ingress into the motor.
- **Copper Core Motor:** For durability and efficient conductivity.
- **Internal Bypass Technology:** Reduces cycling and maintains steady pressure.

Image: The SEAFLO 41 Series Diaphragm Pump shown with various quick-connect fittings and a filter, illustrating the complete package.

Image: Diagram highlighting key internal components and features of the SEAFLO 41 Series pump, including the sealed gasket, smart pressure switch, rubber base, copper core motor, and internal bypass technology.

Setup and Installation

Proper installation is crucial for the pump's performance and longevity. Follow these steps carefully:

1. **Mounting:**
    - Select a dry, well-ventilated location protected from direct sunlight and freezing temperatures.
    - Mount the pump on a solid surface using the rubber mounting feet to minimize vibration. The pump can be mounted horizontally or vertically.
    - Ensure there is adequate space around the pump for air circulation and future maintenance.
2. **Plumbing:**
    - Use appropriate hose sizes (3/4" Quick Attach) for both inlet and outlet to ensure optimal flow.
    - Install a strainer/filter on the inlet side to prevent debris from entering the pump.
    - Ensure all connections are tight to prevent air leaks on the suction side, which can affect priming.
    - Avoid kinks or sharp bends in hoses.
3. **Electrical Connection:**
    - Connect the pump to a 24V DC power source.
    - Ensure proper polarity: red wire to positive (+), black wire to negative (-).
    - Install an appropriate fuse (refer to pump specifications for amperage) in the positive (+) line close to the power source.
    - All electrical connections should be waterproof and corrosion-resistant, especially in marine environments.

Image: Top-down view of the SEAFLO 41 Series Diaphragm Pump, showing the electrical connection points and the robust housing.

Operating Instructions

Once installed, operating the SEAFLO 41 Series pump is straightforward:

1. **Priming the Pump:**
    - Ensure the water source is available and all valves are open.
    - Turn on the power to the pump. The pump is self-priming and will draw water through the inlet line.
    - Open a faucet or outlet to allow air to escape the system. The pump will run until a steady stream of water flows and all air is purged.
    - Close the faucet. The pump will build pressure and then shut off automatically due to the pressure switch.
2. **On-Demand Operation:**
    - The pump operates on demand. When a faucet or fixture is opened, the pressure drops, and the pump automatically turns on.
    - When the faucet is closed, the pressure builds up, and the pump automatically turns off.
3. **Dry Running:**
    - The pump is designed to be run dry safely for short periods. However, prolonged dry running is not recommended and can lead to premature wear.

Maintenance

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

- **Check Strainer/Filter:** Regularly inspect and clean the inlet strainer to prevent blockages and maintain flow.
- **Inspect Connections:** Periodically check all plumbing and electrical connections for leaks, corrosion, or loose fittings. Tighten as necessary.
- **Winterization:** In freezing climates, drain the pump and plumbing system completely or use non-toxic antifreeze to prevent damage from ice expansion.
- **General Cleaning:** Keep the exterior of the pump clean and free of debris.

Troubleshooting

This section addresses common issues you might encounter:

Problem	Possible Cause	Solution
Pump does not turn on.	No power, blown fuse, loose wiring, faulty switch.	Check power supply, replace fuse, inspect and tighten wiring, test pressure switch.
Pump runs but no water flows.	Air leak on suction side, clogged strainer, dry run too long, low water source.	Check all inlet connections for leaks, clean strainer, ensure water source is available, prime the pump.
Pump cycles on and off rapidly.	Air in system, small leak in plumbing, restricted flow, faulty pressure switch.	Purge air from system, check for leaks, ensure adequate flow, inspect pressure switch.
Low flow or pressure.	Clogged strainer, restricted inlet/outlet, low voltage, worn pump head.	Clean strainer, check for kinks/blockages, verify voltage, consider pump head inspection/replacement.
Excessive noise or vibration.	Loose mounting, air in system, debris in pump, worn motor bearings.	Secure mounting, purge air, check for debris, contact support if motor noise persists.

Warranty and Support

SEAFLO products are manufactured to high-quality standards. For warranty information and technical support, please refer to the official SEAFLO website or contact your authorized dealer.
Keep your purchase receipt as proof of purchase for any warranty claims.

Image: A promotional image for the SEAFLO 41 Series DC Diaphragm Pump, prominently displaying a "4 Years Warranty" badge, indicating the product's warranty period.