SEAFLO SFDP1-040-055-42W

SEAFLO 42W Series Brushless Automatic Demand Diaphragm Water Pressure Pump

Model: SFDP1-040-055-42W

User Instruction Manual

1. Introduction

This manual provides essential information for the safe and efficient operation, installation, and maintenance of your SEAFLO 42W Series 12V DC, 4.0 GPM, 55 PSI Brushless Automatic Demand Diaphragm Water Pressure Pump. Please read this manual thoroughly before installation and use to ensure optimal performance and longevity of your pump.



Figure 1: SEAFLO 42W Series Brushless Automatic Demand Diaphragm Water Pressure Pump with inline strainer and barb fittings.

2. Safety Information

Always adhere to the following safety guidelines to prevent injury or damage to the pump.

- **Electrical Safety:** This pump is designed for 12V DC operation. Ensure proper wiring and connections to avoid electrical shock. Disconnect power before performing any maintenance or installation.
- **Water Use Only:** This pump has been evaluated for use with water only. Do not pump flammable liquids or other chemicals.
- **Non-Submersible:** The pump is not submersible. Do not immerse the pump in water.
- **Duty Cycle:** For indoor use, the pump is evaluated for 5 minutes on, 10 minutes off duty cycle. Adhering to this cycle helps prevent overheating and extends pump life.
- **Thermal Protection:** The pump includes thermal protection. If the pump overheats, it will automatically shut off. Allow it to cool before resuming operation.
- **Certifications:** This pump is certified to rigorous standards including NSF/ANSI/CAN 61 & 372 (potable water safety), NSF 24 (RV plumbing), UL 778 (motor-operated pumps), CSA C22.2 No.108 (liquid pumps), and IAPMO TS-14 (RV-specific standard), ensuring water safety and quality in sensitive applications.



Figure 2: Back view of the pump showing warning labels and electrical connections.



Figure 3: Certifications for the SEAFLO pump, including NSF, UL, and CSA.

3. Product Features

The SEAFLO 42W Series pump incorporates advanced features for reliable and efficient water transfer:

- **Advanced Brushless Motor Technology:** Eliminates carbon brushes, reducing friction, noise, and maintenance. Offers superior longevity (over 10,000 hours) and energy efficiency.
- **Ultra-Quiet Operation:** Advanced brushless motor technology ensures exceptionally quiet operation with minimal vibration, suitable for noise-sensitive environments.
- **Self-Priming & Run-Dry Capability:** Effortlessly self-primes up to 6 feet (1.8 meters) and can operate safely without damage even when temporarily dry.
- **Automatic Pressure Switch Operation:** Built-in pressure switch efficiently starts and stops the pump based on system demand, providing seamless, on-demand water flow.
- **Superior Thermal Management:** Constructed from robust aluminum alloy for rapid heat dissipation, ensuring

optimal operating temperatures and increased reliability.

- **Multiple Safety & Protection Features:** Includes overload safeguards, thermal protection, under/over-voltage monitoring, and blocked rotor protection.
- **Durable & Corrosion-Resistant Materials:** Housings made of Nylon/Polypropylene, Diaphragm of Santoprene, Valves/Seals of EPDM/Viton, and Stainless-Steel screws.
- **Compact & Easy-To-Install Design:** Lightweight build (approx. 4.6 lbs / 2.1 kg) with versatile mounting options, ideal for limited spaces.



Figure 4: Illustrating the ultra-quiet operation of the SEAFLO pump.



Figure 5: Benefits of the advanced brushless motor technology.



Figure 6: Overview of durable and corrosion-resistant materials used in the pump's construction.

4. Package Contents

Upon opening the package, please verify that all the following components are included:

- (1) SEAFLO 42W Series Brushless Automatic Demand Diaphragm Water Pressure Pump
- (1) Inline 50 Mesh Strainer (Model: 51S01)
- (2) 1/2" Barb Straight Fittings (Model: 51F001)
- (1) User Instruction Manual (this document)
- (1) 4-Year Warranty Card

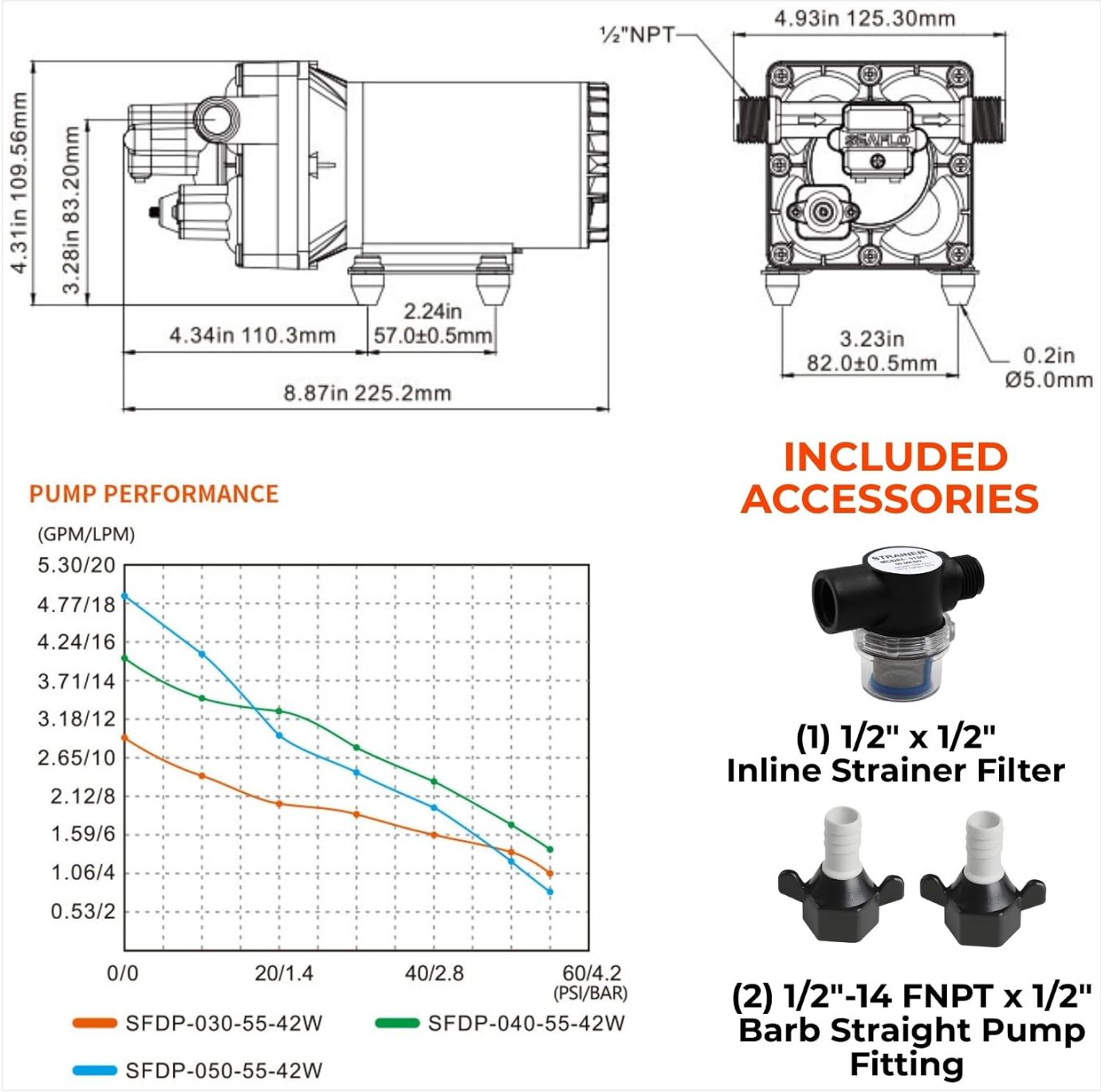


Figure 7: Included accessories: 1/2" x 1/2" Inline Strainer Filter and 1/2"-14 FNPT x 1/2" Barb Straight Pump Fittings.

5. 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 for mounting the pump. The pump features anti-vibration rubber mounts for quiet operation. Secure the pump using appropriate fasteners through the mounting feet. Ensure the pump is mounted in a position that allows for easy access for maintenance and proper hose routing.
2. **Plumbing Connections:**
    - The pump has 1/2" MNPT ports. Use the provided 1/2" barb straight fittings for hose connections.
    - Install the inline 50 mesh strainer on the inlet side of the pump (before the pump) to protect it from debris. Ensure the strainer is easily accessible for cleaning.
    - Use flexible, reinforced hose for both inlet and outlet connections to minimize vibration and noise. Ensure all connections are tight and leak-free.

- The pump is self-priming up to 6 feet (1.8 meters) vertically. For best results, keep the inlet hose as short and straight as possible.

3. **Electrical Connections:**
   - Connect the pump to a 12V DC power source. Observe correct polarity: Red wire to positive (+), Black wire to negative (-).
   - Ensure the power source can supply the maximum amperage required by the pump (13A for this model).
   - Install an appropriate fuse or circuit breaker in the positive (+) line, close to the power source, to protect the circuit.
   - All electrical connections should be secure and protected from moisture.



Figure 8: Key components for installation, including 1/2" NPT pipe thread and anti-vibration rubber mount.

6. Operation

The SEAFLO 42W Series pump is designed for automatic operation:

- **Initial Start-up:** After installation, ensure all connections are secure and the inlet line is submerged in water. Turn on the power to the pump. The pump will self-prime and begin to build pressure.
- **Automatic Pressure Switch:** The built-in pressure switch will automatically start the pump when water demand is detected (e.g., opening a faucet) and stop the pump when the demand ceases and system pressure is reached. This provides an on-demand water flow experience.
- **Run-Dry Protection:** The pump can run dry for short periods without damage, which is beneficial in situations where the water source might temporarily run out. However, continuous dry running is not recommended.
- **Adjustable Pressure Switch:** The pressure switch is adjustable, allowing you to fine-tune the cut-off pressure within a specified range (typically 17-60 PSI). Refer to the pump head for adjustment screw location if needed.



Figure 9: Features of the adjustable on-demand pressure switch and common applications for the pump.

7. Maintenance

Regular maintenance ensures the longevity and optimal performance of your pump:

- **Strainer Cleaning:** Periodically inspect and clean the inline 50 mesh strainer. Debris accumulation can reduce flow and put strain on the pump. To clean, turn off power, remove the strainer bowl, rinse the mesh filter, and reassemble.
- **System Inspection:** Regularly check all plumbing connections for leaks and electrical connections for corrosion or looseness. Tighten as necessary.
- **Winterization (if applicable):** If the pump is installed in an environment where temperatures drop below freezing, ensure the pump and plumbing are drained or winterized with non-toxic RV antifreeze to prevent damage from freezing water.
- **General Cleaning:** Keep the exterior of the pump clean and free of dirt and debris to ensure proper heat dissipation.

8. Troubleshooting

Before contacting support, review these common issues and solutions:

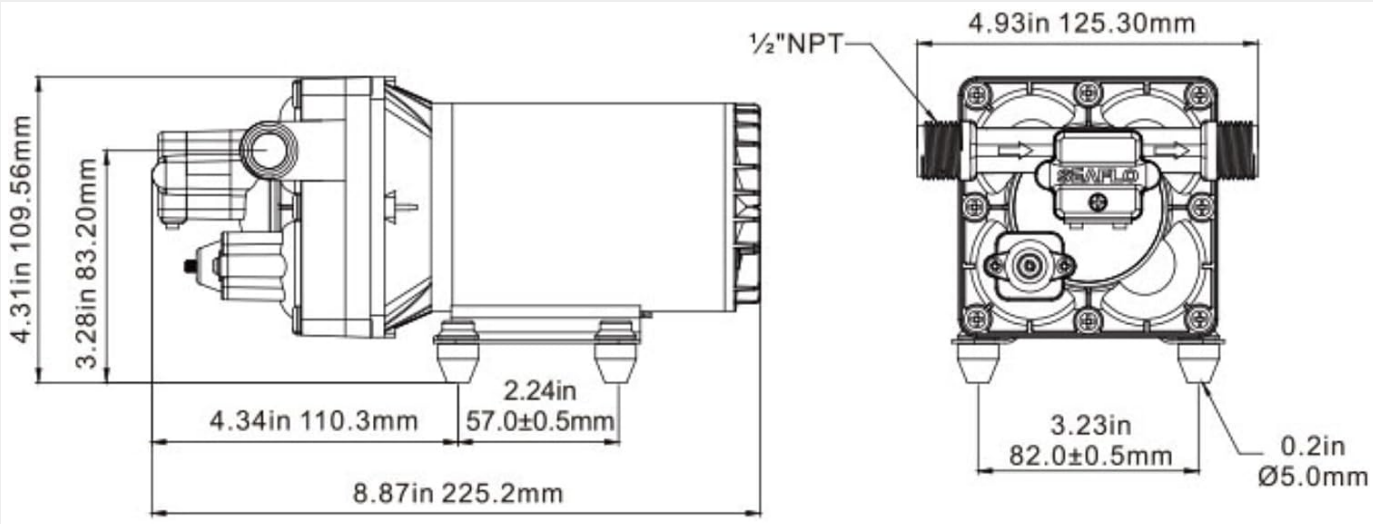
Problem	Possible Cause	Solution
Pump does not run	No power; Loose wiring; Blown fuse/tripped breaker; Thermal overload activated; Faulty pressure switch.	Check power supply; Secure all electrical connections; Replace fuse/reset breaker; Allow pump to cool; Test/replace pressure switch.
Low flow or no pressure	Clogged strainer; Air leak in inlet line; Kinked hose; Low voltage; Debris in pump head.	Clean strainer; Check inlet connections for leaks; Straighten hose; Verify 12V DC supply; Inspect pump head for obstructions.
Pump cycles on and off rapidly	Leak in system; Pressure switch setting too low; Accumulator tank (if present) needs air charge.	Check all plumbing for leaks; Adjust pressure switch to higher setting; Recharge accumulator tank.
Excessive noise/vibration	Loose mounting; Rigid plumbing connections; Air in system.	Tighten mounting screws; Use flexible hoses; Bleed air from system.

9. Specifications

Detailed technical specifications for the SEAFLO 42W Series 12V DC, 4.0 GPM, 55 PSI pump:

Attribute	Value
Model Number	SFDP1-040-055-42W
Voltage	12V DC
Flow Rate (Open Flow)	4.0 GPM (15.1 LPM)
Shut-Off Pressure	55 PSI (3.8 BAR)
Max Amperage	13 A
Priming Lift	Up to 6 feet (1.8 meters) vertically

Attribute	Value
Max Liquid Temperature	140°F (60°C)
Material (Valves)	EPDM
Material (Diaphragm)	Santoprene
Material (Pump Body)	Aluminum Alloy
Ports	1/2" - 14 MNPT
Product Dimensions (L x W x H)	8.87"L x 4.93"W x 4.31"H (22.5cm x 12.5cm x 11.0cm)
Item Weight	4.63 Pounds (2.1 kg)
Certifications	NSF, UL, CSA, IAPMO



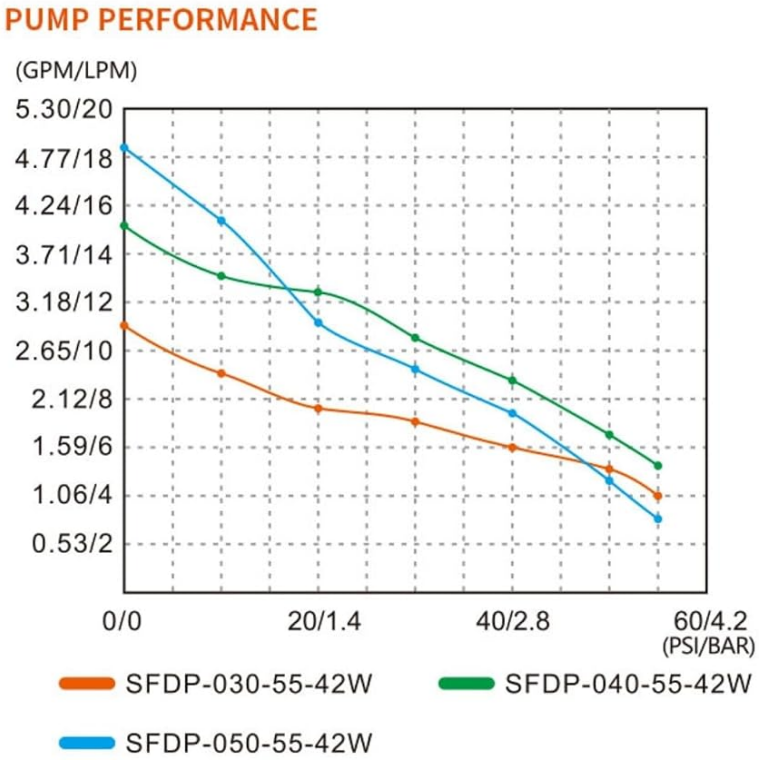




Figure 10: Detailed dimensions and pump performance curve.

10. Warranty and Support

Your SEAFLO 42W Series pump is backed by a comprehensive**4-Year Limited Warranty**. This warranty covers defects in materials and workmanship under normal use and service from the date of purchase.
For warranty claims, technical support, or any questions not covered in this manual, please contact SEAFLO customer service. Refer to the warranty card included in your package for specific terms and contact information.
You can also visit the official SEAFLO website for additional resources and support:SEAFLO Store on Amazon

Ask a question about this manual

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

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Example: How do I reset this device or fix this error?

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