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SEAFLO SFDPA1-040-055-42W

SEAFLO 42W Series Brushless Automatic Demand Diaphragm Pump SFDPA1-040-055-42W User Manual

Model: SFDPA1-040-055-42W | 115V, 4.0 GPM, 55 PSI

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1. INTRODUCTION

This manual provides essential information for the safe and efficient installation, operation, and maintenance of your SEAFLO 42W Series Brushless Automatic Demand Diaphragm Pump, Model SFDPA1-040-055-42W. This pump is designed for various applications requiring reliable water transfer with automatic demand control.



Image 1.1: The SEAFLO 42W Series Brushless Automatic Demand Diaphragm Pump, showing its compact design and connection ports.

2. SAFETY INFORMATION

Please read and understand all safety instructions before installing or operating the pump. Failure to follow these instructions may result in injury or damage to the product.

- **Electrical Safety:** Ensure the pump is connected to a power source matching the specified voltage (115V AC). All electrical connections should be performed by a qualified professional and comply with local electrical codes.
- **Overload Protection:** The pump is equipped with overload, over/under voltage, thermal, and blocked rotor protection. Do not bypass these safety features.
- **Liquid Compatibility:** This pump is designed for water and non-flammable liquids. Do not pump flammable liquids.
- **Temperature Limits:** Do not exceed the maximum liquid temperature of 140°F (60°C).
- **Installation Environment:** Install the pump in a dry, well-ventilated area, protected from freezing temperatures and direct sunlight.
- **Run Dry Safe:** The pump is designed to run dry without damage, but prolonged dry running is not recommended.

3. PRODUCT OVERVIEW

3.1 Key Features

- **Brushless Motor Technology:** Provides long-lasting durability, minimal maintenance, and quiet operation. The aluminum alloy body aids in rapid heat dissipation.
- **Automatic Demand Operation:** Features a built-in pressure switch that automatically starts and stops the pump when water demand is detected.
- **Self-Priming:** Capable of a suction lift up to 6 feet (1.8 meters).
- **Run Dry Safe:** Can operate without liquid for short periods without sustaining damage.
- **Advanced Safety Protections:** Includes overload, over/under voltage, thermal, and blocked rotor protection.
- **Energy-Efficient:** Supports frequency conversion (PWM) for optimized energy usage and excellent electromagnetic compatibility (EMC).
- **Durable Materials:** Constructed with EPDM valves and a Santoprene diaphragm for chemical resistance and longevity.

3.2 Included Components

The following components are typically included with your SEAFLO 42W Series pump:

- SEAFLO 42W Series Brushless Automatic Demand Diaphragm Pump
- 4-Year Warranty Card
- Two (2) 51F001 1/2" Barb Straight Fittings
- One (1) 51S01 Inline Strainer
- User Instructions (this manual)



**1/2" NPT
Pipe Thread**

Included Accessories

1 X



51S01

**1/2" x 1/2"
Inline Strainer
Filter**

2 X



51F001

**1/2"-14 FNPT x
1/2" Barb Straight
Pump Fitting**

Image 3.1: Included accessories, featuring the 1/2" inline strainer and two 1/2" barb straight pump fittings.

4. SPECIFICATIONS

Parameter	Value
Model Number	SFDPA1-040-055-42W
Voltage	115V AC
Open Flow Rate	4.0 GPM (15.1 LPM)
Shut-Off Pressure	55 PSI (3.8 BAR)
Priming Capabilities	6 feet (1.8 meters) suction lift
Max Liquid Temperature	140°F (60°C)
Diaphragm Material	Santoprene
Valve Material	EPDM

Parameter	Value
Ports	1/2"-14 MNPT
Product Dimensions (L x W x H)	8.87" x 3.23" x 4.88" (225.2mm x 82.0mm x 124.0mm)
Item Weight	4.19 Pounds (1.9 kg)

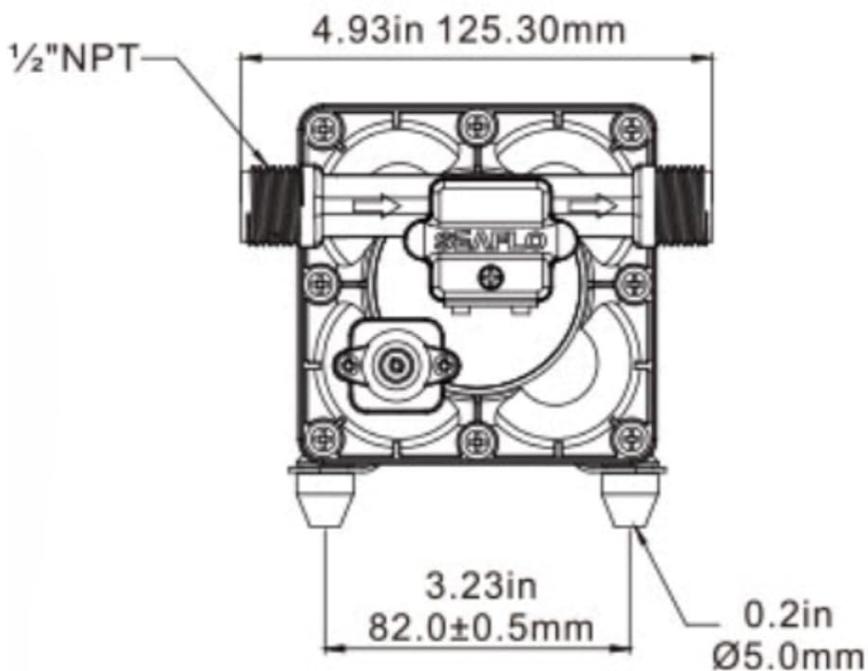
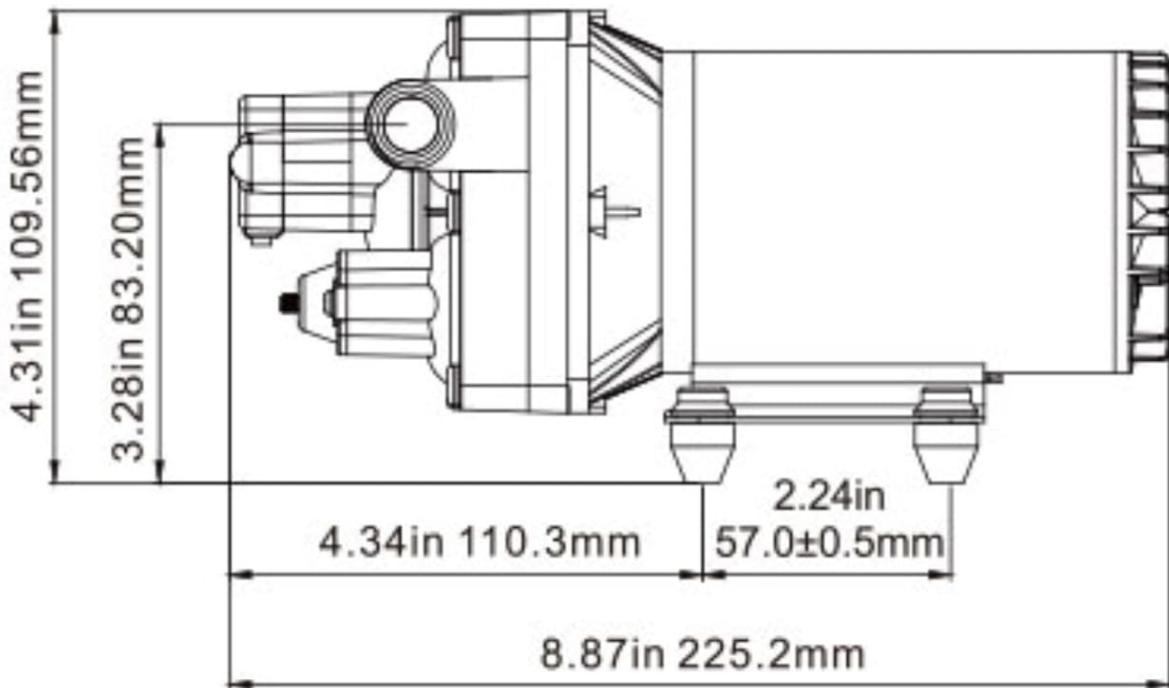


Image 4.1: Dimensional drawing of the pump, indicating length, width, and height in inches and millimeters, along with port sizes.

5. SETUP AND INSTALLATION

5.1 Mounting the Pump

- Mount the pump in a secure, dry location. The pump can be mounted horizontally or vertically.

- Ensure adequate ventilation around the pump for heat dissipation.
- Use appropriate fasteners to secure the pump to a stable surface. The pump features shock-proof mounting to minimize vibration and noise.

5.2 Plumbing Connections

- The pump has 1/2"-14 MNPT ports. Use the provided 1/2" barb straight fittings or other compatible fittings for your plumbing system.
- Install the included 51S01 inline strainer on the inlet side of the pump to prevent debris from entering and damaging the pump. Ensure the strainer is accessible for cleaning.
- Ensure all connections are tight to prevent leaks. Use thread sealant on NPT connections if necessary.
- The pump is self-priming up to 6 feet. For optimal performance, position the pump as close to the water source as possible.



Image 5.1: Illustration of the pump's durable and corrosion-resistant materials, including nylon/polypropylene housings, Santoprene diaphragm, EPDM valves, and stainless steel screws.

5.3 Electrical Connections

- Connect the pump to a 115V AC power supply.
- Ensure the power source is protected by an appropriate circuit breaker or fuse.
- Consult a qualified electrician if you are unsure about electrical wiring.

6. OPERATING INSTRUCTIONS

- **Initial Start-up:** After installation, ensure all plumbing connections are secure and the inline strainer is clean. Open a faucet or valve in the discharge line to allow air to escape.
- **Power On:** Apply power to the pump. The pump will begin to prime itself. Once water flows steadily from the open faucet, close the faucet.
- **Automatic Operation:** The built-in pressure switch will detect the pressure drop when a tap is opened, automatically starting the pump. When the tap is closed and system pressure builds, the pump will automatically shut off.
- **Monitoring:** Observe the pump during its first few cycles to ensure proper operation and check for any leaks.

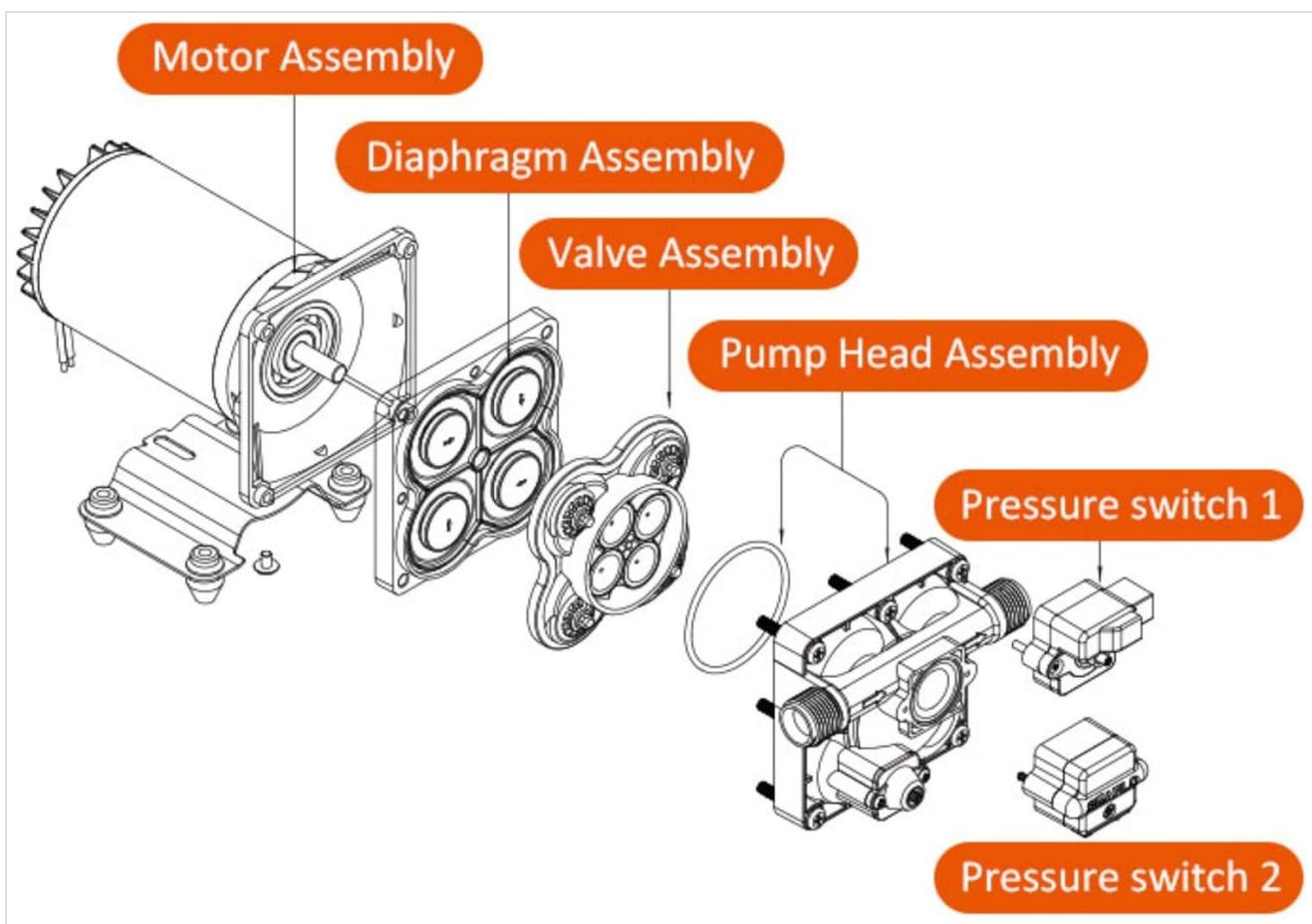


Image 6.1: Exploded view showing the main assemblies of the pump: Motor, Diaphragm, Valve, Pump Head, and Pressure Switches.

7. MAINTENANCE

The SEAFLO 42W Series pump is designed for minimal maintenance due to its brushless motor technology. However, regular checks are recommended to ensure optimal performance and longevity.

- **Strainer Cleaning:** Periodically inspect and clean the inline strainer (51S01) to remove any accumulated debris. A clogged strainer can reduce pump performance and potentially lead to damage.
- **Connection Checks:** Regularly inspect all plumbing and electrical connections for tightness and signs of wear or corrosion.

- **Winterization (if applicable):** If the pump is used in an environment where freezing temperatures may occur, ensure the pump and all associated plumbing are drained or protected from freezing.
- **General Inspection:** Check the pump for any unusual noises, vibrations, or leaks during operation. Address any issues promptly.

8. TROUBLESHOOTING

This section provides solutions to common issues you might encounter with your pump. For problems not listed here, please contact SEAFLO customer support.

Problem	Possible Cause	Solution
Pump does not turn on.	No power, loose electrical connection, tripped circuit breaker/blown fuse, faulty pressure switch.	Check power supply, ensure connections are secure, reset breaker/replace fuse, test pressure switch.
Pump runs but no water flows.	Air in the system, clogged inlet strainer, inlet hose kinked or collapsed, water source empty, pump not primed.	Bleed air from the system by opening a faucet, clean strainer, check inlet hose, verify water supply, ensure pump is primed.
Low flow or pressure.	Clogged strainer, partially closed valve, undersized plumbing, air leak on suction side, worn pump head components.	Clean strainer, open all valves, check plumbing size, inspect suction line for leaks, contact support if pump head is suspected.
Pump cycles on and off rapidly (short cycling).	Small leak in the system, faulty pressure switch, insufficient accumulator tank (if used).	Check for leaks in plumbing, test/replace pressure switch, consider adding or checking accumulator tank.
Excessive noise or vibration.	Loose mounting, air in the system, debris in pump, cavitation.	Tighten mounting screws, bleed air, clean strainer, ensure adequate water supply to prevent cavitation.

9. WARRANTY AND SUPPORT

9.1 Warranty Information

The SEAFLO 42W Series Brushless Automatic Demand Diaphragm Pump is backed by a **4-Year Limited Warranty**. This warranty covers defects in materials and workmanship under normal use and service. Please refer to the included 4-Year Warranty Card for full terms and conditions.

9.2 Customer Support

For technical assistance, warranty claims, or to purchase replacement parts, please contact SEAFLO customer support. You can typically find contact information on the SEAFLO website or on your warranty card. When contacting support, please have your pump's model number (SFDPA1-040-055-42W) and purchase date readily available.

Related Documents - SFDPA1-040-055-42W

	<p>SEAFLO 3.0/5.5 GPM Pump with Integrated Accumulator Tank Installation Manual</p> <p>Installation manual for SEAFLO 3.0/5.5 GPM pumps with integrated accumulator tanks. Covers features, specifications, operation, safety, dimensions, and repair kits for models SFWSK1/SFWSK2.</p>
	<p>SEAFLO 33 Series Diaphragm Pump Manual</p> <p>This manual provides detailed information on the installation, operation, troubleshooting, and repair of the SEAFLO 33 Series Diaphragm Pump, a high-quality, high-performance pump suitable for various applications including RVs, yachts, and water systems.</p>
	<p>SEAFLO 31 & 35 Series Diaphragm Pump Manual</p> <p>A comprehensive manual for SEAFLO 31 and 35 Series Diaphragm Pumps, covering troubleshooting, features, applications, installation, electrical information, and repair kits. This guide provides detailed instructions for optimal performance and maintenance.</p>
	<p>SEAFLO 23 Series Diaphragm Pump Manual - Features, Installation, Troubleshooting</p> <p>Detailed user manual for the SEAFLO 23 Series diaphragm pump. Includes features, applications, installation instructions, electrical specifications, repair kit information, and comprehensive troubleshooting guide for models 23A, 23B, 23C, 23D, and 23E.</p>
	<p>SEAFLO Diaphragm Pump Manual - 52 & 54 Series</p> <p>Comprehensive manual for SEAFLO 52 and 54 Series diaphragm pumps, covering features, applications, installation, electrical information, repair kits, and troubleshooting. Includes detailed instructions and safety precautions.</p>
	<p>SEAFLO 22 Series Diaphragm Pump Manual</p> <p>Comprehensive manual for the SEAFLO 22 Series Diaphragm Pump, covering setup, troubleshooting, and applications for optimal fluid handling.</p>