

DC HOUSE 42-Series

DC HOUSE 42-Series 5.0 GPM 55 PSI 12V DC Water Diaphragm Pressure Pump Instruction Manual

Model: 42-Series | Brand: DC HOUSE

1. INTRODUCTION

Thank you for choosing the DC HOUSE 42-Series Water Diaphragm Pressure Pump. This manual provides essential information for the safe and efficient installation, operation, and maintenance of your pump. Please read these instructions thoroughly before use and retain them for future reference.

This 12V DC self-priming pump is designed for various applications, including RVs, caravans, and marine vessels, providing a reliable water supply with a flow capacity of 5.0 GPM and a pressure setting of 55 PSI.

2. SAFETY INFORMATION

- **Electrical Safety:** Ensure the power supply matches the pump's voltage (12V DC). Disconnect power before performing any installation, maintenance, or troubleshooting. Use appropriate fuses and wiring for the specified amperage (7 Amps nominal, 16 Amps max).
- **Water Safety:** Do not pump flammable liquids. Ensure all connections are watertight to prevent leaks and potential electrical hazards.
- **Installation:** Mount the pump in a dry, well-ventilated area, protected from freezing temperatures. Avoid mounting in direct sunlight or excessive heat.
- **Operation:** Do not run the pump dry for extended periods. Ensure adequate water supply to prevent damage.
- **Maintenance:** Only use genuine DC HOUSE replacement parts. Refer to the maintenance section for proper procedures.

3. PRODUCT OVERVIEW

The DC HOUSE 42-Series pump is engineered for reliable performance and ease of use. Key features include:

- **Self-Priming:** Primes up to 9.8 vertical feet.
- **Adjustable Pressure Switch:** Built-in switch with a range of 40 PSI to 80 PSI, factory set to turn on/off at 55 PSI.
- **Quiet Operation:** Designed for reduced noise during use.
- **Temperature Control Protector:** Automatically stops the motor if it overheats due to overload, with an automatic restart feature.
- **Durable Construction:** Features a copper motor, SANTOPRENE diaphragm material, EPDM/VITON sealing material, and a Nylon/polyethylene shell.

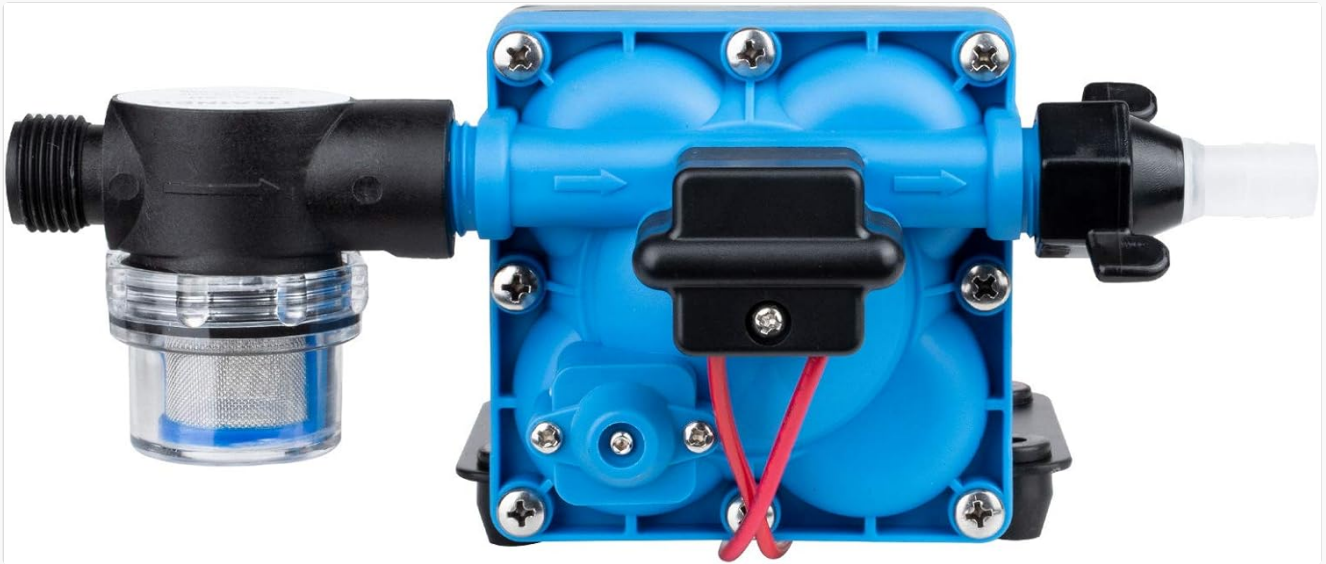


Image: DC HOUSE 42-Series Water Diaphragm Pressure Pump with included filter and fittings.

QUALITY MATERIALS

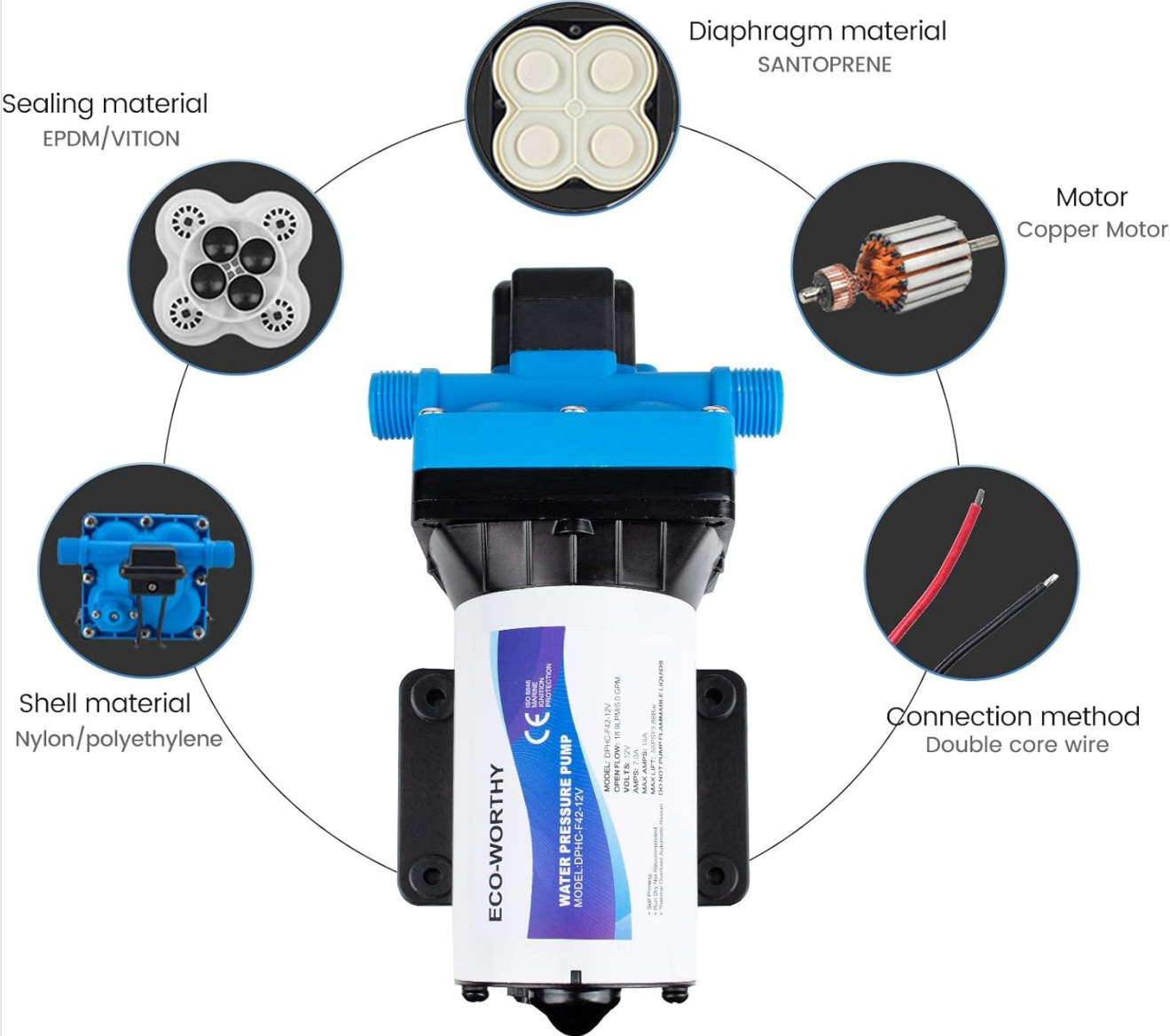


Image: Diagram illustrating the quality materials used in the pump, including SANTOPRENE diaphragm, EPDM/VITON sealing, copper motor, and Nylon/polyethylene shell.

PROUDUCT ADVANTAGES

External thread, we provide installation fittings for easy connection to the inlet and outlet

Built-in temperature control protector automatically stops motor should it overheat due to overload, with automatic restart feature.

The motor runs quietly, and the sound is no louder than that of the air conditioner



Adjustable pressure switch range from 40PSI to 80PSI

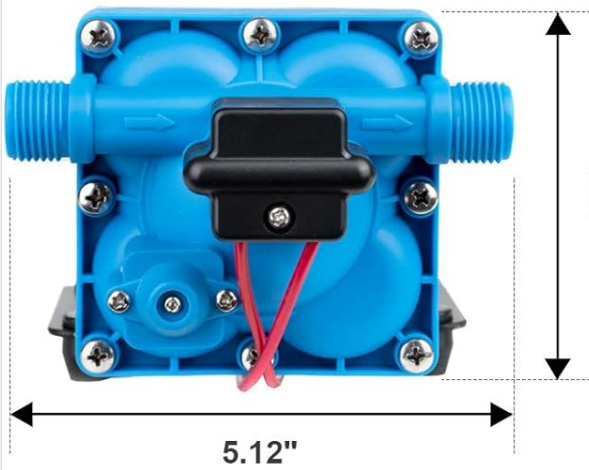
Anti-vibration rubber feet for reduce working noise

Image: Diagram showcasing product advantages such as external thread fittings, built-in temperature control, quiet motor, adjustable pressure switch, and anti-vibration rubber feet.

4. SPECIFICATIONS

Feature	Specification
Model	42-Series
Voltage	12V DC
Flow Capacity	5.0 GPM (Gallons Per Minute)
Amperage	7 Amps (16 Amps Max)
Pressure Setting	55 PSI (Adjustable 40-80 PSI)
Self-Priming Height	Up to 9.8 vertical feet
Material	Plastic (Nylon/polyethylene shell)
Item Weight	5.61 Pounds

PRODUCT SIZE



outer diameter: 1/2"



Image: Detailed product dimensions for the DC HOUSE 42-Series water pump.

Flow capacity up to

3.0GPM



T42-12 (Short)

Flow capacity up to

5.0GPM



F42-12 (Longthen)

Image: Visual comparison of pump sizes for different flow capacities (3.0 GPM vs 5.0 GPM).

5. SETUP AND INSTALLATION

Proper installation is crucial for optimal pump performance and longevity. Follow these general guidelines:

1. **Mounting:** Securely mount the pump in a dry, accessible location. Use the anti-vibration rubber feet to reduce noise and vibration. Ensure the pump is protected from freezing temperatures.
2. **Inlet Connection:** Connect the water source to the pump's inlet. The pump is self-priming, but for best results, position it as close to the water source as possible. Ensure the inlet line is free of air leaks. A pre-filter is recommended on the inlet side to prevent debris from entering the pump.
3. **Outlet Connection:** Connect the pump's outlet to your water distribution system. Use appropriate fittings and ensure all connections are tight to prevent leaks.
4. **Electrical Wiring:** Connect the pump to a 12V DC power source. Ensure correct polarity (red wire to positive, black wire to negative). Install an inline fuse appropriate for the pump's maximum amperage (16 Amps).
5. **Testing:** Once installed, open all faucets in the system to purge air. Turn on the power to the pump. The pump should run until the system is pressurized and then shut off. Check for any leaks.



Image: Included accessories for installation, such as the pump filter, hose clamps, and various fittings.



Image: Close-up view of the pump filter, designed to protect the pump from debris.

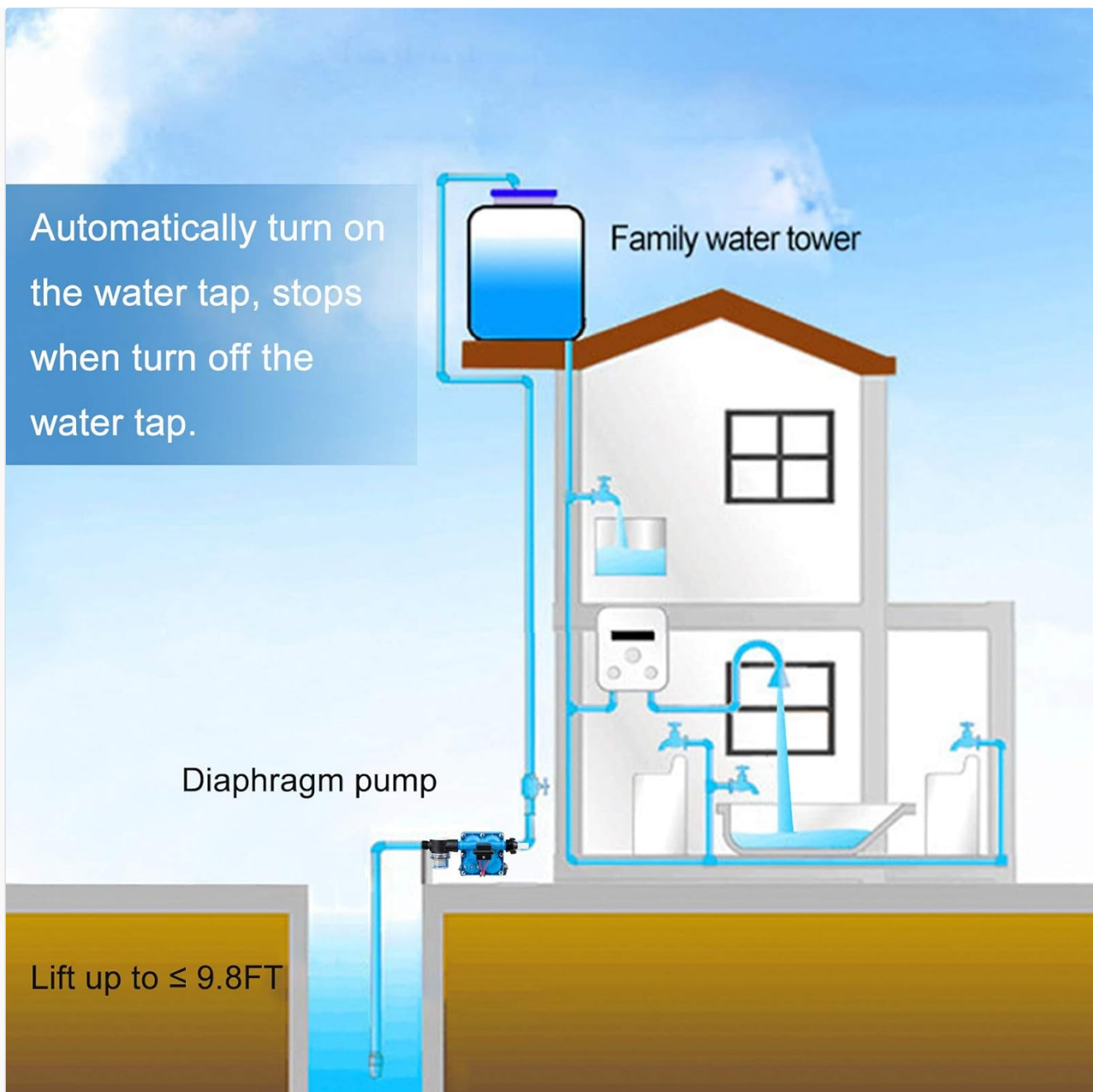


Image: Application diagram showing the pump integrated into a water system, demonstrating its self-priming capability up to 9.8 feet.

6. OPERATING INSTRUCTIONS

The DC HOUSE 42-Series pump operates automatically based on demand:

1. **Initial Start-up:** After installation, ensure all faucets are open to allow air to escape. Turn on the pump's power. The pump will run, drawing water and pushing air out of the system. Once water flows steadily from the faucets, close them. The pump will build pressure and then shut off automatically.
2. **Automatic Operation:** The pump will automatically turn on when a faucet is opened and the system pressure drops below the cut-in pressure (approximately 40-50 PSI). It will then run to maintain water flow. When all faucets are closed and the system reaches the cut-off pressure (55 PSI), the pump will automatically shut off.
3. **Pressure Switch Adjustment:** The pump's pressure switch is factory-set to 55 PSI. If adjustment is needed, locate the adjustment screw on the pressure switch (often under a cap). A small Allen key is typically required. Turning the screw clockwise increases the cut-off pressure, and counter-clockwise decreases it. Make small adjustments and test the system.



Image: Close-up view of the pressure switch, which can be adjusted to modify the pump's cut-in and cut-off pressure.

7. MAINTENANCE

Regular maintenance ensures the longevity and efficient operation of your pump:

- **Filter Cleaning:** Regularly inspect and clean the inlet filter to prevent debris from entering the pump. Disconnect power, remove the filter housing, clean the mesh screen, and reassemble.
- **Check for Leaks:** Periodically inspect all plumbing connections for leaks. Tighten any loose connections.
- **Winterization:** If the pump is in an environment where freezing temperatures are expected, it must be drained completely to prevent damage. Disconnect the inlet and outlet lines, allow all water to drain, and store the pump in a warm, dry place if possible.
- **General Inspection:** Check electrical connections for corrosion or damage. Ensure the pump is securely mounted.

8. TROUBLESHOOTING

Refer to the table below for common issues and their solutions:

Problem	Possible Cause	Solution
Pump runs but no water flows	No water in tank; Air leak in inlet line; Clogged inlet filter; Pump not primed.	Check water supply; Inspect and tighten inlet connections; Clean filter; Ensure pump is below water level or assist priming.
Pump cycles on and off rapidly (short cycling)	Air in system; Small leak in plumbing; Pressure switch needs adjustment; Accumulator tank (if present) is waterlogged.	Purge air from system; Check for and repair leaks; Adjust pressure switch (increase cut-off pressure slightly); Service accumulator tank.
Pump does not turn off	Continuous water demand; Large leak in system; Pressure switch malfunction; Air leak on suction side.	Close all faucets and check for leaks; Inspect and repair leaks; Adjust or replace pressure switch; Check inlet connections for air leaks.
Low flow or pressure	Clogged inlet filter; Low voltage; Restricted plumbing; Worn pump head.	Clean inlet filter; Check power supply; Inspect plumbing for kinks or blockages; Contact support if pump head is suspected.
Pump does not run	No power; Blown fuse; Loose wiring; Motor overheat protection activated.	Check power supply; Replace fuse; Secure wiring connections; Allow pump to cool down.

9. WARRANTY AND SUPPORT

The DC HOUSE 42-Series Water Diaphragm Pressure Pump comes with a **4-year warranty**. If you encounter any issues or have questions regarding your pump, please contact DC HOUSE customer service. Provide your model number and purchase details for efficient assistance.

For support, please refer to the contact information provided with your purchase or visit the official DC HOUSE website.

