

## Red Lion 602206

# Red Lion RJS-50-PREM Shallow Well Jet Pump User Manual

**Brand:** Red Lion

**Model:** RJS-50-PREM (Model 602206)

## 1. PRODUCT OVERVIEW

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The Red Lion RJS-50-PREM clean water pump is designed for reliable fresh water supply to rural homes, farms, and cabins. It is suitable for applications with suction lifts up to 25 feet. Constructed from rugged cast-iron, this pump ensures long-lasting service and high efficiency. It comes equipped with a factory pre-set 30/50 pressure switch and a pressure gauge. The motor is dual-voltage (115/230 Volt) and factory-set for 230 Volts, with easy conversion to 115 Volts as detailed in this manual. Proper voltage matching to your power source is crucial for optimal performance.

### Key Features:

- **Shallow Well Jet Pump:** Features a 1-1/4" FNPT suction intake and 1" FNPT outlet discharge. The 1/2 HP pump can draw up to 12 gallons per minute.
- **Built to Last:** Rugged cast iron casing and volute for long life and high-efficiency; glass-filled thermoplastic impeller and diffuser for durability.
- **Heavy Duty Motor:** Operates on either 115 or 230 volts; voltage must be selected to match incoming power source. Includes a capacitor for increased starting power; CSA listed in USA and Canada.
- **Includes:** A factory pre-set 30/50 pressure switch that produces a working maximum pressure of 50 PSI and pressure gauge.
- **Specifications:** 1/2 HP, 11.8 Amps at 115 Volts; 5.9 Amps at 230 Volts; 1-1/4-inch FNPT intake; 1-inch FNPT discharge; Max Pressure = 65 PSI; Max Head = 150 Ft.

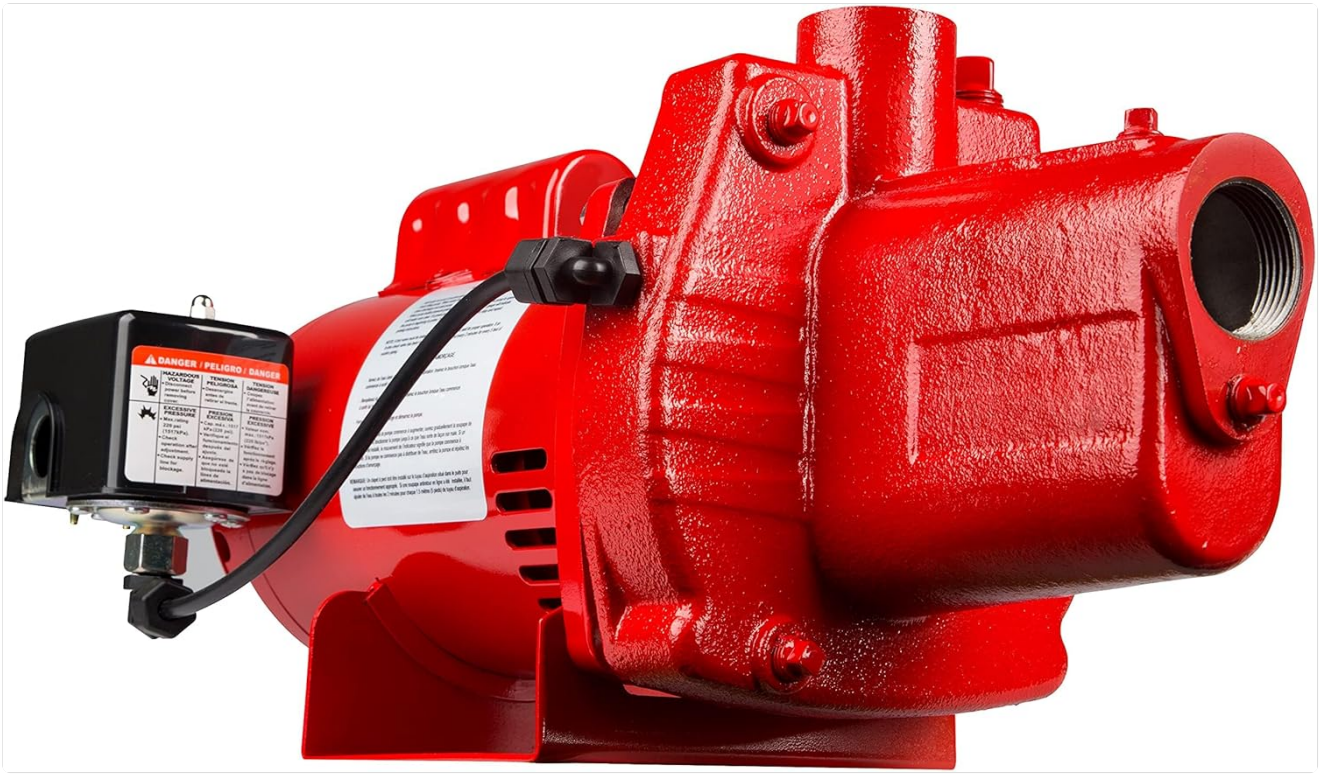


Figure 1.1: Red Lion RJS-50-PREM 1/2 HP Shallow Well Jet Pump.

# RJS SERIES

SHALLOW WELL JET PUMPS

# FEATURES

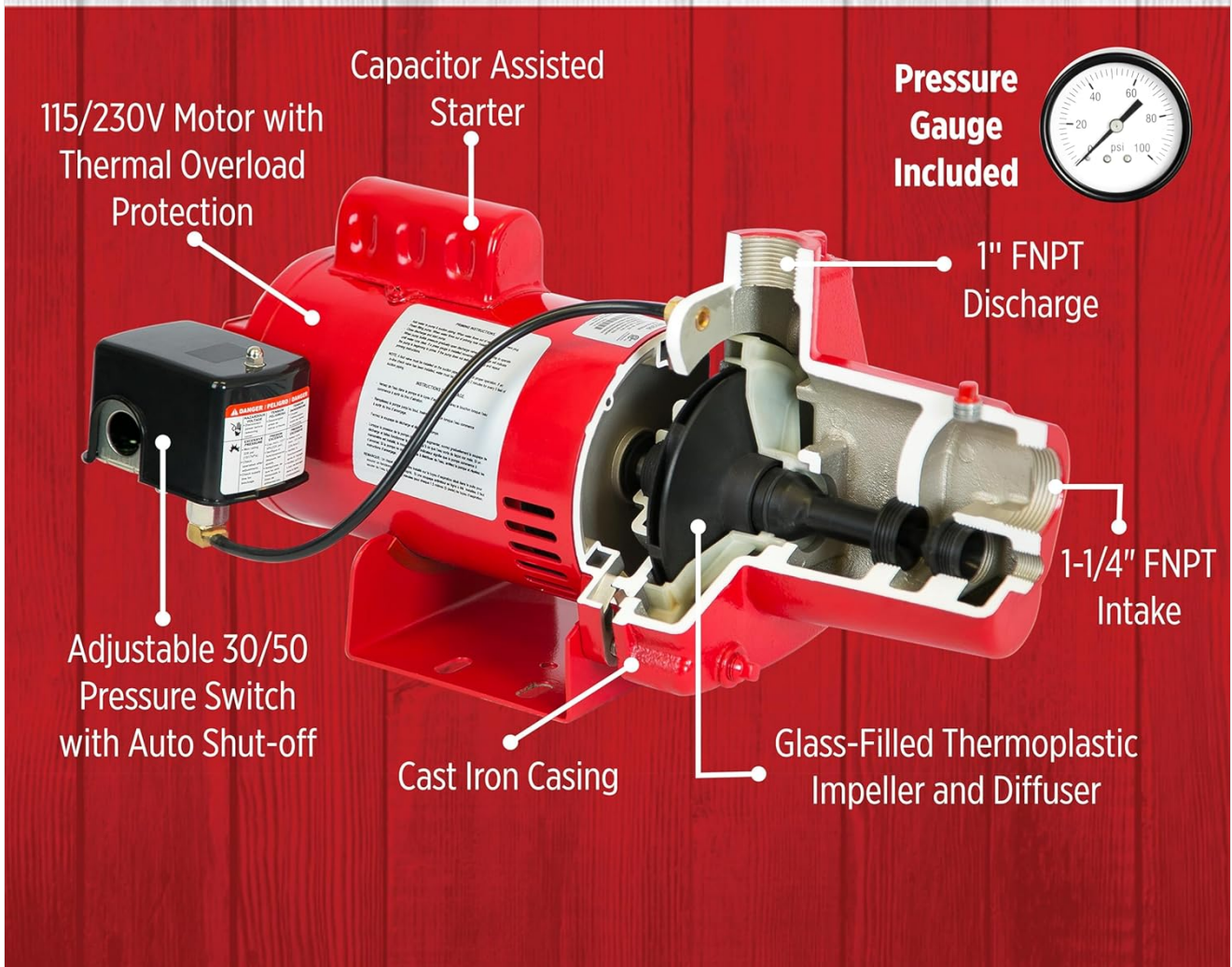


Figure 1.2: Internal components and features of the RJS-50-PREM pump, including the cast iron casing, glass-filled thermoplastic impeller, and pressure switch.



# RJS SERIES SHALLOW WELL JET PUMPS

At 30 PSI, The GPM at the suction lift height should equal the total number of fixtures including faucets, toilets, and water-consuming appliances.

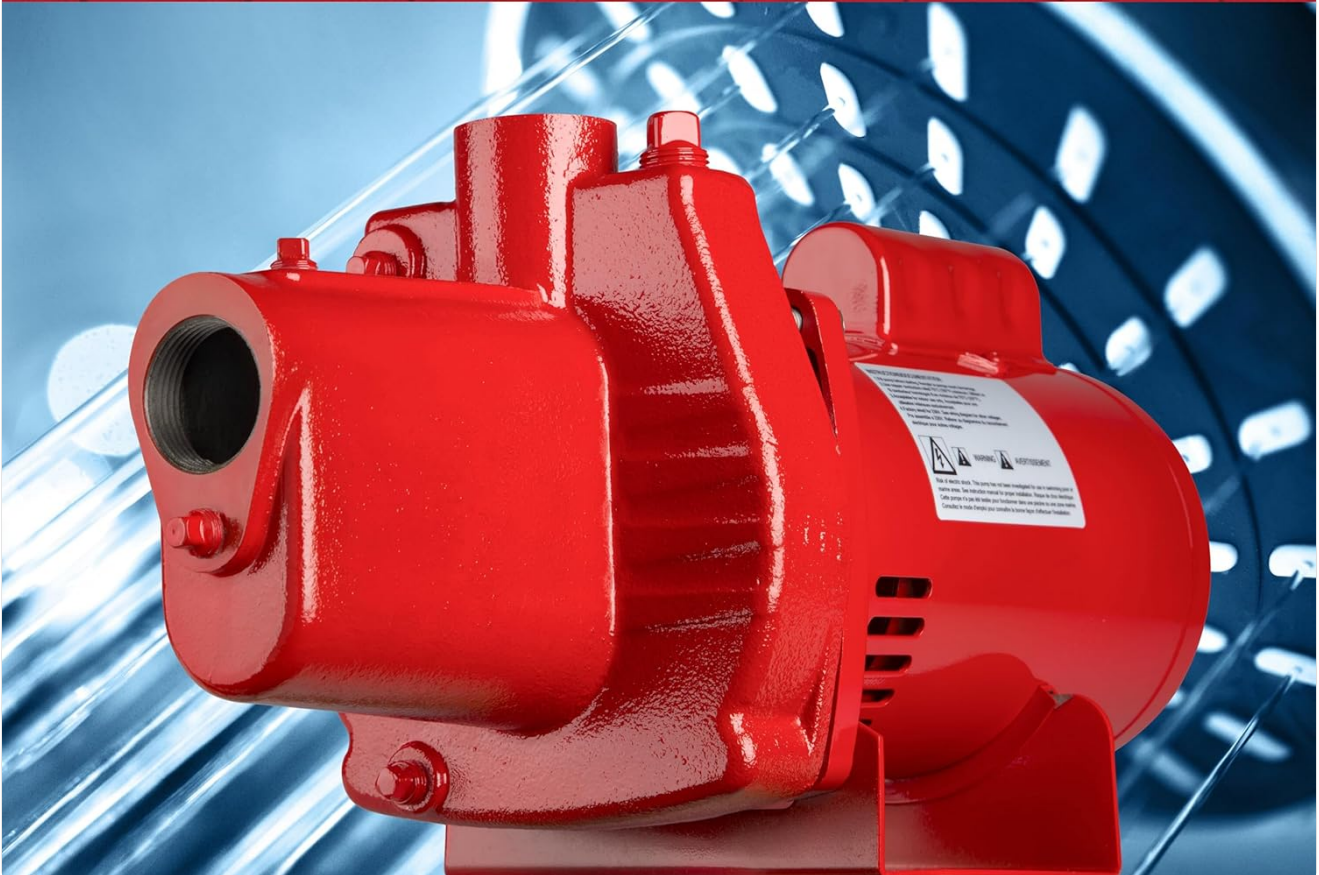


Figure 1.3: Performance chart for Red Lion Premium Cast Iron Shallow Well Jet Pumps, showing total dynamic head versus capacity for different models.

## 2. SETUP AND INSTALLATION

Proper installation is crucial for the safe and efficient operation of your Red Lion jet pump. Always ensure the pump is disconnected from the power source before beginning any installation or maintenance procedures. Refer to local electrical and plumbing codes for compliance.

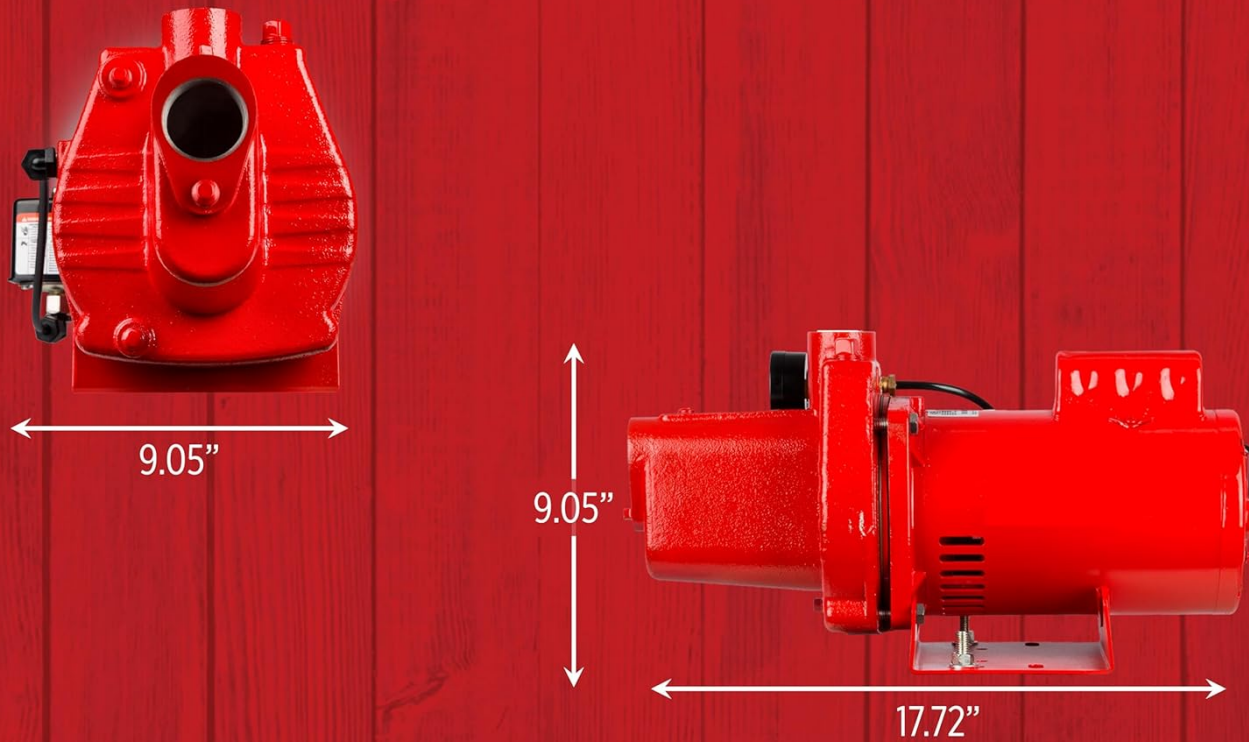
### 2.1. Installation Location

Install the pump in a dry, ventilated location that is protected from direct sunlight and freezing temperatures. Bolt the unit down to an even, solid surface to prevent movement. Install the pump as close as possible to the water source to minimize suction lift.

# RJS SERIES

SHALLOW WELL JET PUMPS

# DIMENSIONS



HEIGHT	LENGTH	WIDTH
9.05"	17.72"	9.05"

Figure 2.1: Dimensions of the RJS Series Shallow Well Jet Pumps, showing height, length, and width.

## 2.2. Electrical Connections and Voltage Change

The RJS-50-PREM pump motor is factory-set for 230 Volts. If your power source is 115 Volts, you must change the voltage setting on the pump motor. Ensure the pump's voltage setting matches your power source voltage to prevent damage and ensure proper operation.

# RJS SERIES

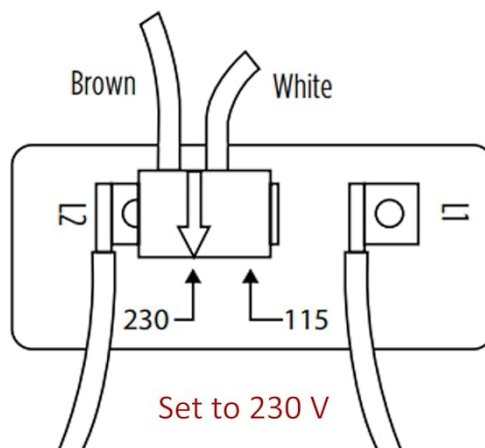
## SHALLOW WELL JET PUMPS

# DUAL VOLTAGE MOTOR

Ensure the pump's voltage setting matches your power source voltage.

## SET TO 230 V

The motor is factory preset to 230-volt. The white arrow on the voltage indicator should point to 230.



## SET TO 115 V

Do not remove any wires. Lift the black voltage change device up off of the prongs. Replace the voltage change device on the prongs so that the white arrow points directly to 115.

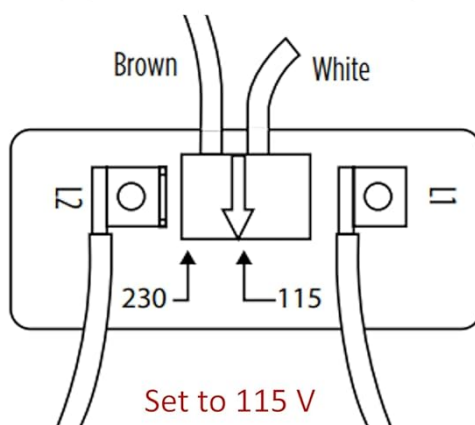


Figure 2.2: Diagram illustrating how to set the dual voltage motor to either 230V or 115V by adjusting the voltage change device.

For detailed instructions on changing the voltage, please refer to the video below:

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Video 2.1: "Changing the voltage on a Red Lion RJS Series pump." This video provides a step-by-step guide on how to safely switch the pump's voltage from 230V to 115V, or vice versa, to match your electrical supply.

### 2.3. Plumbing Connections

The pump's suction inlet is 1-1/4" FNPT and the discharge is 1" FNPT. It is recommended to use pipe sizes that match these fittings for optimal performance. Ensure all plumbing connections are air-tight to prevent leaks and maintain pump efficiency.

For comprehensive installation guidance, including plumbing and initial setup, watch the video below:

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Video 2.2: "RJS-PREM Series Shallow Well Jet Pump Installation." This video covers the complete installation process for the RJS-PREM series pump, including plumbing connections and initial setup steps.

If you are installing or adjusting a pressure tank with your jet pump, the following video provides helpful instructions:

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Video 2.3: "How to Install or Adjust a Pressure Tank with a Jet Pump." This video details the steps for correctly installing or adjusting a pressure tank in conjunction with your jet pump system.

### 3. OPERATING INSTRUCTIONS

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Before starting the pump for the first time or after any maintenance that involves draining the system, it must be properly primed by filling it with water. Ensure all valves are in the correct position before activating the pump.

Once primed and all connections are secure, turn on the power supply to the pump. The pump should start and build pressure. The factory pre-set pressure switch will automatically turn the pump off when the desired pressure is reached and turn it back on when pressure drops due to water demand.

### 4. MAINTENANCE

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Regular maintenance ensures the longevity and optimal performance of your Red Lion jet pump. Always disconnect the electrical power to the pump before performing any maintenance.

#### 4.1. Unclogging the Pump

If your pump experiences reduced flow or becomes clogged, follow the steps in the video below to safely unclog it:

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Video 4.1: "How to Unclog a Red Lion RJS Series Shallow Well Jet Pump." This video demonstrates the process of clearing obstructions from your jet pump to restore proper water flow.

#### 4.2. Overhaul Kit Installation

For more extensive maintenance or repair, an overhaul kit may be required. The following video provides detailed instructions on how to install an overhaul kit:

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Video 4.2: "How to install the Overhaul Kit on a Red Lion Jet Pump." This video guides you through the steps of disassembling and reassembling the pump to install a new overhaul kit.

### 5. TROUBLESHOOTING

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This section provides solutions to common issues you might encounter with your Red Lion jet pump. Always ensure the pump is disconnected from the power source before attempting any troubleshooting steps.

#### 5.1. Rapid Cycling

If your pump frequently starts and stops (rapid cycling), it indicates an issue within the system. This can shorten the pump's lifespan. Common causes include air leaks in the tank or plumbing, incorrect pressure tank pre-charge, or a

faulty pressure switch.

For detailed troubleshooting steps for rapid cycling, refer to the video below:

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Video 5.1: "Troubleshooting Rapid Cycling on a Jet Pump." This video explains the probable causes of rapid cycling and provides actionable steps to resolve them, including checking for leaks and adjusting tank pressure.

If troubleshooting does not resolve the issue, contact a qualified plumber or Red Lion customer support.

## 6. SPECIFICATIONS

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Attribute	Value
Brand	Red Lion
Model Number	602206
Style	1/2-Hp, 12-Gpm, Premium
Color	Red
Material	Cast Iron
Product Dimensions	17.72"L x 9.05"W x 9.05"H
Power Source	Corded Electric
Maximum Flow Rate	12 Gallons Per Minute
Maximum Lifting Height	150 Feet
Voltage	115/230 Volts (Dual Voltage)
Horsepower	0.5 HP
Amperage Capacity	11.8 Amps (115V); 5.9 Amps (230V)
Maximum Pressure	50 Pound per Square Inch (PSI)
Item Weight	30.8 pounds
Included Components	Pressure gauge, pump, 30/50 pressure switch, installation manual

## 7. WARRANTY INFORMATION

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This Red Lion product is covered by a 3-year manufacturer's warranty. For specific terms and conditions, please refer to the warranty document provided with your product or contact Red Lion customer support.

For items purchased within 30 days, please refer to Amazon's 30-day return policy. If Amazon.com is the seller and

your product is covered by the terms outlined in our manual, our staff can also assist with troubleshooting or installation assistance.

## 8. CUSTOMER SUPPORT

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For further assistance with product selection, installation, maintenance, or troubleshooting, our team is here to help. You can find more information and contact details on the official Red Lion store:

[Visit the Red Lion Store on Amazon](#)

### Frequently Asked Questions (FAQs):

**Q: Do you support your products?**

A: Yes, please see below.

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**Q: 30 Day Return Policy**

A: For items purchased within 30 days, please refer to Amazon's 30-day return policy.

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**Q: After 30 Days**

A: Please check your invoice or order. If the seller indicates a company other than Amazon.com, please contact the seller directly for more information. If Amazon.com is the seller, your product is covered by the terms outlined in our manual. Please refer to your owner's manual for more information. Our staff are also able to assist with troubleshooting or installation assistance.

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