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> Acquaer 1.6 HP Shallow Well Pump with Pressure Tank (Model SJS150-SA) Instruction Manual

## Acquaer SJS150-SA

# Acquaer 1.6 HP Shallow Well Pump with Pressure Tank

MODEL: SJS150-SA

## Introduction

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Thank you for choosing the Acquaer 1.6 HP Shallow Well Pump with Pressure Tank, Model SJS150-SA. 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.



**Figure 1:** Acquaer 1.6 HP Shallow Well Pump with Pressure Tank. This image displays the complete pump unit, including the motor, pump housing, and integrated pressure tank, ready for installation.

## Important Safety Instructions

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**Failure to follow these instructions may result in electric shock, fire, serious injury, or death.**

- **Electrical Safety:** Ensure the pump is connected to a properly grounded 115V AC outlet. Do not operate with damaged cords or plugs. Avoid using extension cords unless absolutely necessary and ensure they are rated for outdoor use and the pump's power requirements.
- **Water and Moisture:** Do not immerse the pump in water. Keep electrical connections dry. Operate the pump in a well-ventilated area, protected from rain and direct sunlight.
- **Priming:** This pump is not self-priming. It requires manual priming with water before initial use and after any period of dry operation to prevent motor damage. Ensure the foot valve is properly installed.
- **Overheat Protection:** The pump features built-in thermal overload protection. If the motor overheats or runs dry, it will automatically shut off. Allow the pump to cool down and address the cause of overheating before restarting.

- **Children and Pets:** Keep children and pets away from the pump during operation.
- **Maintenance:** Disconnect power before performing any maintenance or service.

## Product Overview

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The Acquaer SJS150-SA is a robust shallow well pump designed for various water transfer and irrigation applications. It features a powerful 1.6 HP motor, a stainless steel casing, and an integrated pressure tank for consistent performance.

### Key Features:

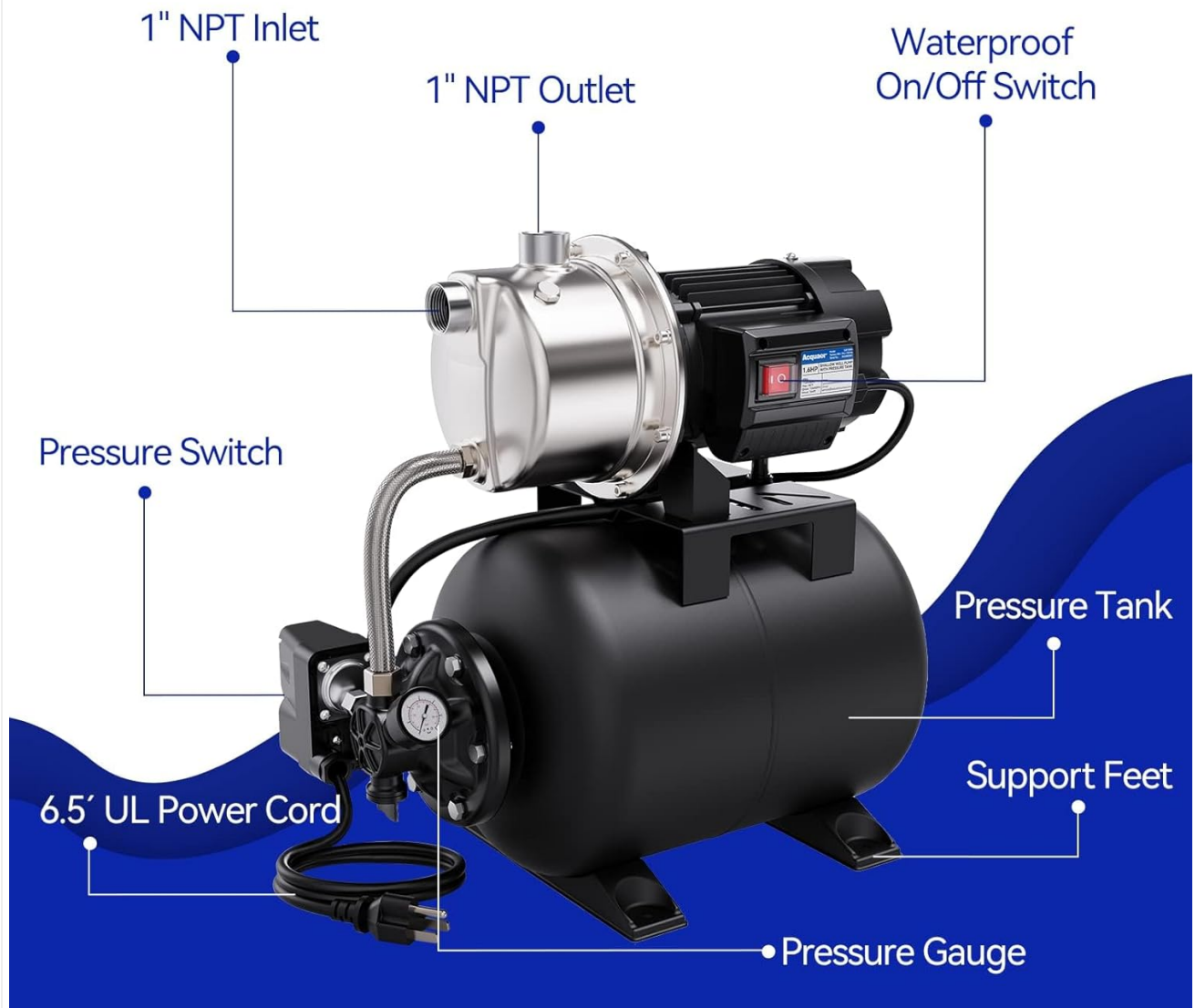
- **Powerful Motor:** 1.6 HP motor provides high flow (up to 1320 GPH) and pressure (Max. Head 164ft) with strong suction (up to 26ft).
- **Durable Construction:** Stainless steel casing and aluminum motor housing ensure corrosion resistance and longevity.
- **Integrated Pressure Tank:** Reduces motor start-ups, extending service life and providing stable water pressure.
- **Automatic Operation:** Features an automatic pressure switch (Auto On < 20 psi, Auto Off > 40 psi) and a pressure gauge for real-time monitoring.
- **Safety Features:** Built-in thermal overload protection and a waterproof On/Off switch.
- **Easy Installation:** 1" NPT discharge and suction ports, compatible with 3/4" garden hose adapter.



**Figure 2:** Performance specifications of the Acquaer pump. This image highlights the maximum flow rate of 1340 GPH, maximum head of 164 feet, and maximum suction lift of 26 feet.

**Component Identification:**

# PRODUCT DETAILS



**Figure 3:** Labeled components of the Acquaer pump. This diagram points out key parts such as the 1" NPT Inlet, 1" NPT Outlet, Waterproof On/Off Switch, Pressure Switch, Pressure Tank, Support Feet, Pressure Gauge, and 6.5' UL Power Cord.



## AUTOMATIC PRESSURE SWITCH

Auto On < 20 psi  
Auto Off > 40 psi

## PRESSURE GAUGE

Built-in pressure gauge facilitates to observe the situation in the tank in real time.



## THERMAL OVERLOAD PROTECTION

Thermal overload protection will automatically shut off the pump when dry running.

**Figure 4:** Detailed view of pump features. This image illustrates the Automatic Pressure Switch (Auto On < 20 psi, Auto Off > 40 psi), the Pressure Gauge for real-time observation, and the Thermal Overload Protection mechanism.

### Dimensions:

# PARAMETERS



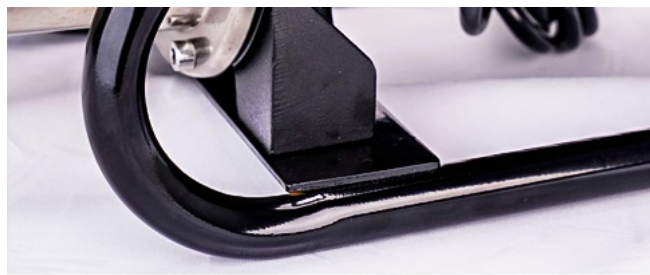
**Figure 5:** Physical dimensions of the Acquaer pump. The pump measures approximately 17.9 inches in length, 10.9 inches in width, and 19.7 inches in height.

## Installation and Setup

1. **Choose a Location:** Place the pump on a stable, level surface in a dry, well-ventilated area, protected from freezing temperatures and direct weather exposure. Ensure adequate space for ventilation and maintenance.
2. **Connect Suction Line:** Attach a 1-inch NPT suction pipe to the pump's inlet. It is crucial to install a foot valve at the end of the suction line, submerged in the water source, to prevent backflow and maintain prime. Ensure all connections are airtight to prevent air leaks.
3. **Connect Discharge Line:** Attach a 1-inch NPT discharge pipe to the pump's outlet. You may use the provided 3/4" garden hose adapter if connecting to a standard garden hose.
4. **Priming the Pump:** Before initial operation, the pump must be primed. Remove the priming plug (usually

located on top of the pump housing) and fill the pump casing completely with water until it overflows. Replace the priming plug securely. This step is critical for the pump to function correctly.

5. **Electrical Connection:** Plug the pump's 115V power cord into a grounded electrical outlet. Ensure the power supply matches the pump's voltage requirements.



### SOILD SUPPORT

Sturdy iron base and handle maintain the stability of machine when working.

### STAINLESS STEEL CASING

High quality & rustproof materials, corrosion resistance for durability.



### SAFETY SWITCH

Waterproof switch cover prevent accidental startup and keep safe.

**Figure 6:** Visual guide for pump priming and operation. This diagram illustrates the correct method for priming the pump before use, ensuring the suction line is submerged, and the proper functioning during and after use.

**CAUTION: A check valve must be installed at the inlet pipe to prevent water from flowing back and losing prime.**

## Operation

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1. **Initial Start-up:** After ensuring the pump is properly primed and all connections are secure, turn on the power switch. The pump will begin to draw water.
2. **Automatic Pressure Control:** The integrated pressure switch will automatically turn the pump ON when the system pressure drops below 20 psi and turn it OFF when the pressure reaches approximately 40 psi. This maintains consistent water pressure.
3. **Monitor Pressure:** Observe the pressure gauge to ensure the pump is operating within expected pressure ranges.
4. **Thermal Overload:** If the pump runs continuously without water (dry running) or experiences an overload, the thermal protection will activate, shutting down the motor. Allow the motor to cool down, identify and resolve the issue (e.g., re-prime, check for blockages), then restart.

## Maintenance

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Regular maintenance ensures the longevity and optimal performance of your Acquaer pump.

- **Disconnect Power:** Always disconnect the pump from the power source before performing any maintenance.

- **Check for Leaks:** Periodically inspect all connections for leaks. Tighten fittings as necessary.
- **Clean Inlet Screen:** If your suction line has a screen, check and clean it regularly to prevent blockages.
- **Winterization:** In areas subject to freezing temperatures, drain all water from the pump and piping to prevent damage. Store the pump in a warm, dry location if possible.
- **Pressure Tank Check:** Periodically check the air pre-charge in the pressure tank. Refer to the tank's specific instructions for proper pressure settings.

## Troubleshooting

Problem	Possible Cause	Solution
Pump does not start or runs but no water flows.	<ul style="list-style-type: none"> <li>• No power.</li> <li>• Pump not primed.</li> <li>• Air leak in suction line.</li> <li>• Foot valve clogged or stuck.</li> <li>• Motor thermal overload activated.</li> </ul>	<ul style="list-style-type: none"> <li>• Check power connection and circuit breaker.</li> <li>• Re-prime the pump completely.</li> <li>• Inspect and tighten all suction line connections.</li> <li>• Clean or replace foot valve.</li> <li>• Allow motor to cool, then check for cause of overload.</li> </ul>
Low water pressure or flow.	<ul style="list-style-type: none"> <li>• Partial air leak in suction line.</li> <li>• Clogged impeller or piping.</li> <li>• Insufficient water supply.</li> <li>• Pressure tank pre-charge incorrect.</li> </ul>	<ul style="list-style-type: none"> <li>• Inspect and tighten suction line connections.</li> <li>• Clean pump impeller and piping.</li> <li>• Ensure adequate water source.</li> <li>• Check and adjust pressure tank air pre-charge.</li> </ul>
Pump runs continuously or cycles frequently.	<ul style="list-style-type: none"> <li>• Leak in discharge line or system.</li> <li>• Pressure switch malfunction.</li> <li>• Pressure tank waterlogged or incorrect pre-charge.</li> </ul>	<ul style="list-style-type: none"> <li>• Check for leaks in plumbing system.</li> <li>• Inspect or replace pressure switch.</li> <li>• Check and adjust pressure tank air pre-charge; drain if waterlogged.</li> </ul>
Pump is noisy.	<ul style="list-style-type: none"> <li>• Air in pump or suction line.</li> <li>• Cavitation due to restricted flow.</li> <li>• Loose mounting.</li> </ul>	<ul style="list-style-type: none"> <li>• Re-prime the pump; check for air leaks.</li> <li>• Ensure adequate water supply and clear suction line.</li> <li>• Tighten pump mounting bolts.</li> </ul>

## Specifications

Feature	Detail
Model Number	SJS150-SA

Feature	Detail
Brand	Acquaer
Power	1.6 HP
Voltage	115 Volts (AC)
Maximum Flow Rate	1320 GPH (Gallons Per Hour)
Maximum Head	164 Feet
Maximum Suction Lift	26 Feet
Material	Stainless Steel
Product Dimensions (L x W x H)	17.5" x 10.75" x 19.75"
Item Weight	38.7 pounds
Inlet/Outlet Size	1" NPT
Included Components	Pump Body

## Warranty and Support

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This Acquaer pump comes with a **Two-Years warranty** from the date of purchase, covering defects in materials and workmanship under normal use. Please retain your proof of purchase for warranty claims.

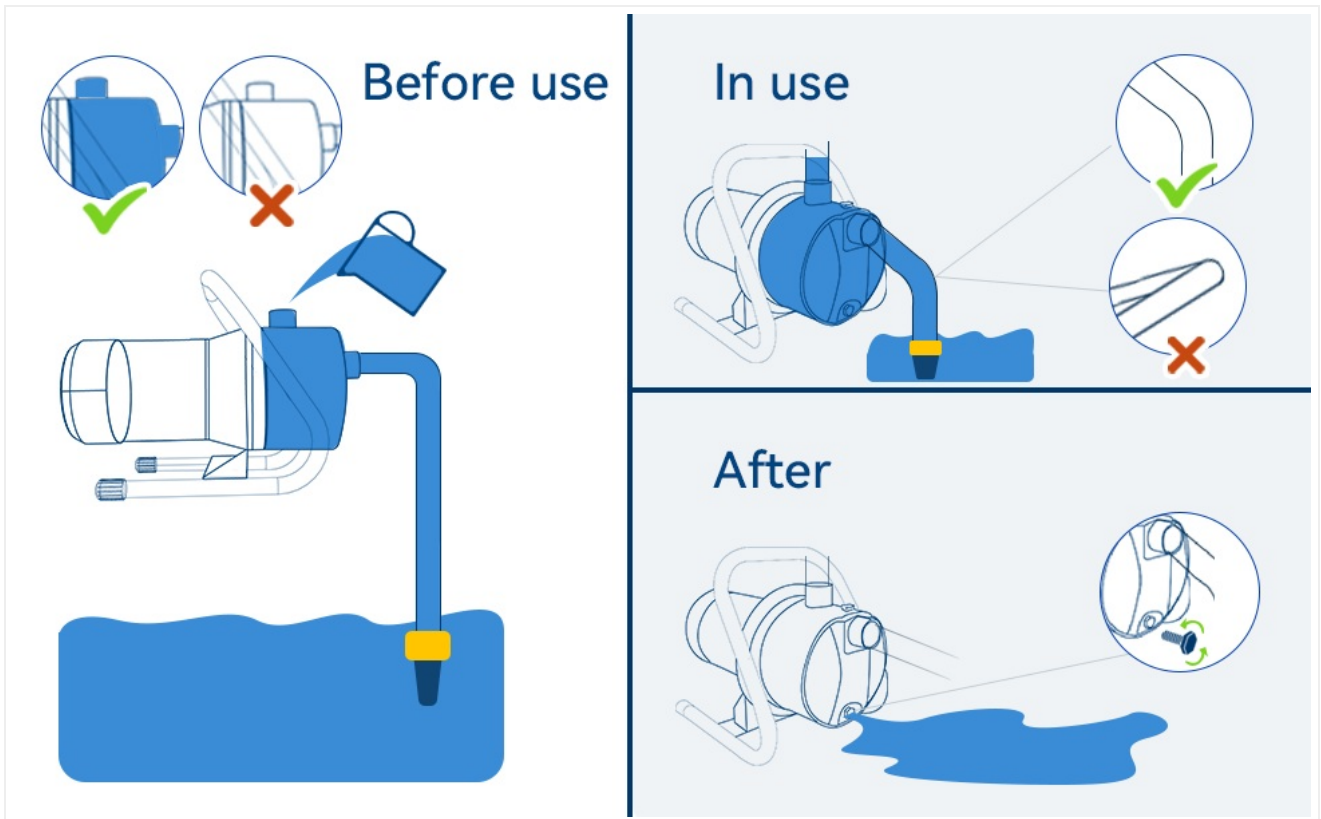
For technical assistance, installation advice, maintenance inquiries, or warranty support, please contact Acquaer customer service. Professional advice is available to ensure your water system operates smoothly and worry-free. Refer to the product packaging or the official Acquaer website for the most current contact information.

## Applications

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The Acquaer 1.6 HP Shallow Well Pump is versatile and suitable for a wide range of applications:

- Sprinkler systems and irrigation for lawns, gardens, and farms.
- Water transfer for daily household use.
- Drawing water from shallow wells, ponds, lakes, and rain barrels.
- Boosting water pressure from water tanks.



**Figure 7:** Examples of multiple uses for the Acquaer pump. This image depicts the pump being used for plumbing tasks, garden watering, agricultural irrigation, and vehicle washing, showcasing its versatility.