WilTec 61544

WilTec 19L Domestic Autoclave Pump with Pressure Switch (Model 61544)

Instruction Manual

1. Introduction and Product Overview

This manual provides essential information for the safe and efficient operation of your WilTec 19L Domestic Autoclave Pump with Pressure Switch, Model 61544. Please read these instructions carefully before installation, operation, or maintenance. Keep this manual for future reference.

This comprehensive system, consisting of a diaphragm tank and a powerful pressure switch pump, is designed for supplying clear water to both your home and garden. It is ideal for domestic water supply using rainwater, wastewater, or groundwater, reducing reliance on tap water for showering, laundry, and toilet use. In the garden, it supports automatic irrigation systems. The system can also be integrated into existing water networks to boost pressure.

It features a 1200W motor, a delivery head of 30m at 3 bar operating pressure, and a maximum pump pressure of 4.8 bar, delivering up to 3400 liters of clear water per hour. The 19-liter pressure tank is made of shock-resistant iron for stability and durability. A convenient handle facilitates easy transport, making it suitable for mobile use. An integrated manometer allows precise monitoring of operating pressure. The pressure switch activates the pump when water pressure drops due to water draw-off and automatically deactivates it once the tank is refilled. Maximum cut-in pressure is 1.5 bar, and maximum cut-out pressure is 3 bar. A larger tank capacity results in less frequent pump activation, leading to reduced energy consumption and electricity costs.

Figure 1.1: Main view of the WilTec 19L Domestic Autoclave Pump. This image shows the pump unit mounted on top of the blue 19-liter pressure tank, with the electrical cable and pressure switch visible.

2. Safety Instructions

WARNING: Failure to follow these safety instructions can result in electric shock, fire, serious injury, or death.

- Always disconnect the pump from the power supply before performing any installation, maintenance, or cleaning tasks.
- Ensure the electrical supply matches the specifications on the pump's rating plate.
- The pump must be connected to a properly grounded outlet with a residual current device (RCD) for personal protection.
- Do not operate the pump with damaged cables or plugs. Have them replaced by a qualified

electrician.

- Protect the pump from frost. Drain the pump completely if there is a risk of freezing temperatures.
- This pump is designed for pumping clear water only. Do not use it for flammable, corrosive, explosive, or abrasive liquids.
- Never run the pump dry. Ensure the pump is always primed with water before starting.
- Keep children and unauthorized persons away from the operating pump.
- Ensure adequate ventilation around the pump during operation.
- Do not lift or carry the pump by its electrical cable.

3. Setup and Installation

3.1 Unpacking and Inspection

- Carefully remove the pump from its packaging.
- Inspect the pump for any signs of damage that may have occurred during transit. Do not operate a damaged pump.
- Ensure all components are present.

3.2 Placement

- Place the pump on a firm, level, and stable surface to prevent vibration and movement.
- Position the pump in a dry, well-ventilated area, protected from direct sunlight, rain, and frost.
- Ensure sufficient space around the pump for ventilation and maintenance access.

3.3 Electrical Connection

- Connect the pump to a standard 230V, 50Hz electrical outlet.
- Always use a grounded outlet protected by a residual current device (RCD) with a tripping current of no more than 30mA.
- Ensure the power cable is not stretched, pinched, or exposed to sharp edges.

3.4 Suction Line Connection

- Connect a non-collapsible, airtight suction hose to the pump's suction inlet. Use thread sealant tape for a secure, leak-free connection.
- The suction hose should be as short and straight as possible to minimize friction loss.
- Install a foot valve with a filter at the end of the suction hose in the water source to prevent debris from entering the pump and to maintain prime.
- Ensure the foot valve is always submerged in water.

3.5 Pressure Line Connection

- Connect the pressure hose to the pump's pressure outlet.
- Ensure all connections are tight and leak-free.

3.6 Priming the Pump

- Before initial startup, the pump housing must be completely filled with water through the priming port (usually located on top of the pump).
- Open any valves in the pressure line to allow air to escape during priming.

- Once filled, close the priming port securely.

Figure 3.1: Side view of the pump, illustrating the general layout of the motor, pump head, and pressure tank. This view helps in identifying the suction and pressure ports for hose connections.

4. Operating Instructions

4.1 Initial Startup

1. Ensure the pump is properly installed and primed as described in Section 3.
2. Plug the pump into the electrical outlet. The pump will start automatically if the pressure in the tank is below the cut-in pressure.
3. Monitor the manometer to observe the pressure build-up.
4. Allow the pump to run until it reaches the cut-out pressure and switches off automatically.

4.2 Automatic Operation

- The integrated pressure switch controls the pump's operation. When water is drawn from the system (e.g., opening a tap), the pressure drops.
- Once the pressure falls below the set cut-in pressure (approx. 1.5 bar), the pump automatically starts to replenish the tank and supply water.
- When water draw-off stops and the system pressure reaches the set cut-out pressure (approx. 3 bar), the pump automatically switches off.
- This automatic start/stop function ensures efficient water supply and reduces energy consumption.

4.3 Monitoring

- Regularly check the manometer to ensure the system is operating within expected pressure ranges.
- Listen for unusual noises or vibrations, which may indicate a problem.

4.4 Shutting Down

- For temporary shutdown, simply unplug the pump from the power outlet.
- For extended periods of non-use or winterization, follow the maintenance instructions in Section 5.

5. Maintenance

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

5.1 General Checks

- Periodically check all connections for leaks. Tighten as necessary.
- Inspect the power cable and plug for any damage.
- Ensure the pump's ventilation openings are clear of debris.

5.2 Suction Filter Cleaning

- If a foot valve with a filter is used, regularly check and clean the filter to prevent clogging and maintain efficient suction.
- A clogged filter can lead to reduced pump performance or dry running.

5.3 Diaphragm Tank Pressure Check

- The air pressure in the diaphragm tank should be checked periodically (e.g., every 6-12 months) when the pump is depressurized and empty of water.
- The pre-charge pressure should typically be around 1.5 bar (check product specifications for exact value). Adjust with a standard air pump if necessary.
- Incorrect tank pressure can lead to frequent pump cycling.

5.4 Winterization

- If the pump is stored or used in an area where temperatures may drop below freezing, it must be completely drained to prevent damage from ice expansion.
- Disconnect the power supply.
- Open the drain plug (if available) and disconnect the suction and pressure lines to allow all water to escape.
- Store the pump in a dry, frost-free location.

6. Troubleshooting

Before contacting support, please refer to the following troubleshooting guide:

Problem	Possible Cause	Solution
Pump does not start	No power supply Pressure switch fault Motor overload	Check power connection, fuse, RCD Check pressure switch settings Allow motor to cool, check for blockages
Pump runs but no water is delivered	Pump not primed Air in suction line Suction line leak Foot valve clogged Suction height too high	Prime the pump completely Check suction line for leaks, tighten connections Clean foot valve filter Reduce suction height or use a pre-filter
Low pressure or reduced flow	Partial blockage in suction/pressure line Air in system Worn pump components Incorrect tank pressure	Check and clear lines Re-prime pump, check for leaks Contact service Check and adjust tank pre-charge pressure
Pump cycles frequently	Leak in pressure system Insufficient air in pressure tank Small water draw-off	Check all connections and fixtures for leaks Check and adjust tank pre-charge pressure This is normal for very small water draws
Unusual noise/vibration	Air in pump Foreign object in pump Loose mounting	Re-prime pump Disconnect power and inspect impeller (if accessible) Ensure pump is securely mounted

If the problem persists after attempting these solutions, please contact WilTec customer support.

7. Technical Specifications

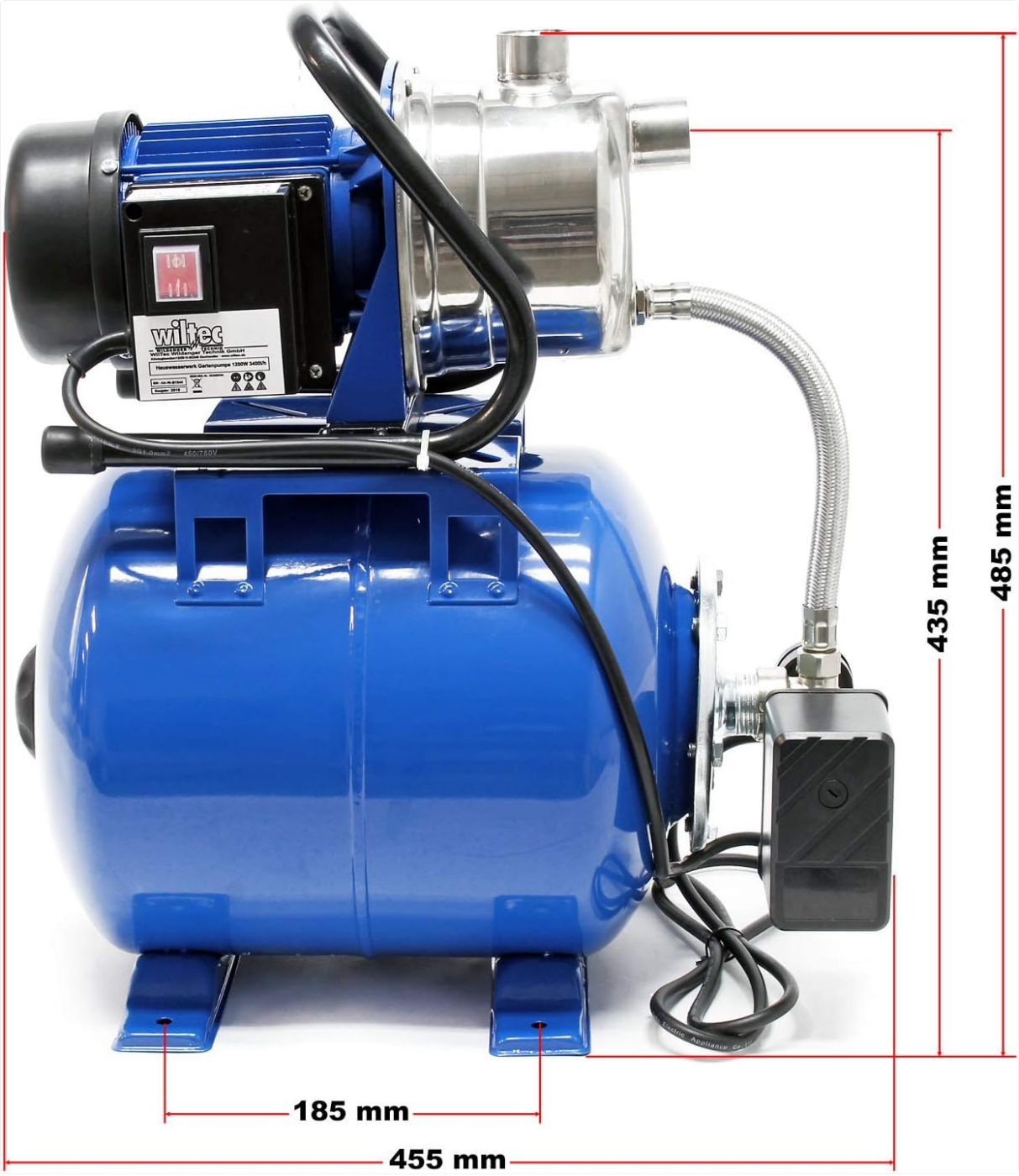

Figure 7.1: Dimensions of the WilTec 19L Domestic Autoclave Pump. This image provides key measurements for installation planning, showing length, width, and height in millimeters.

Feature	Specification
Model Number	61544
Brand	WilTec
Power	1200 W
Maximum Flow Rate	3400 Liters per hour
Maximum Lift Height	30 Meters
Maximum Pump Pressure	4.8 bar

Feature	Specification
Cut-in Pressure (approx.)	1.5 bar
Cut-out Pressure (approx.)	3 bar
Diaphragm Tank Capacity	19 Liters
Product Dimensions (L x W x H)	45.5 x 26.5 x 50 cm
Item Weight	11.06 Kilograms
Material	Iron
Color	Blue
Power Source	Electric Cable

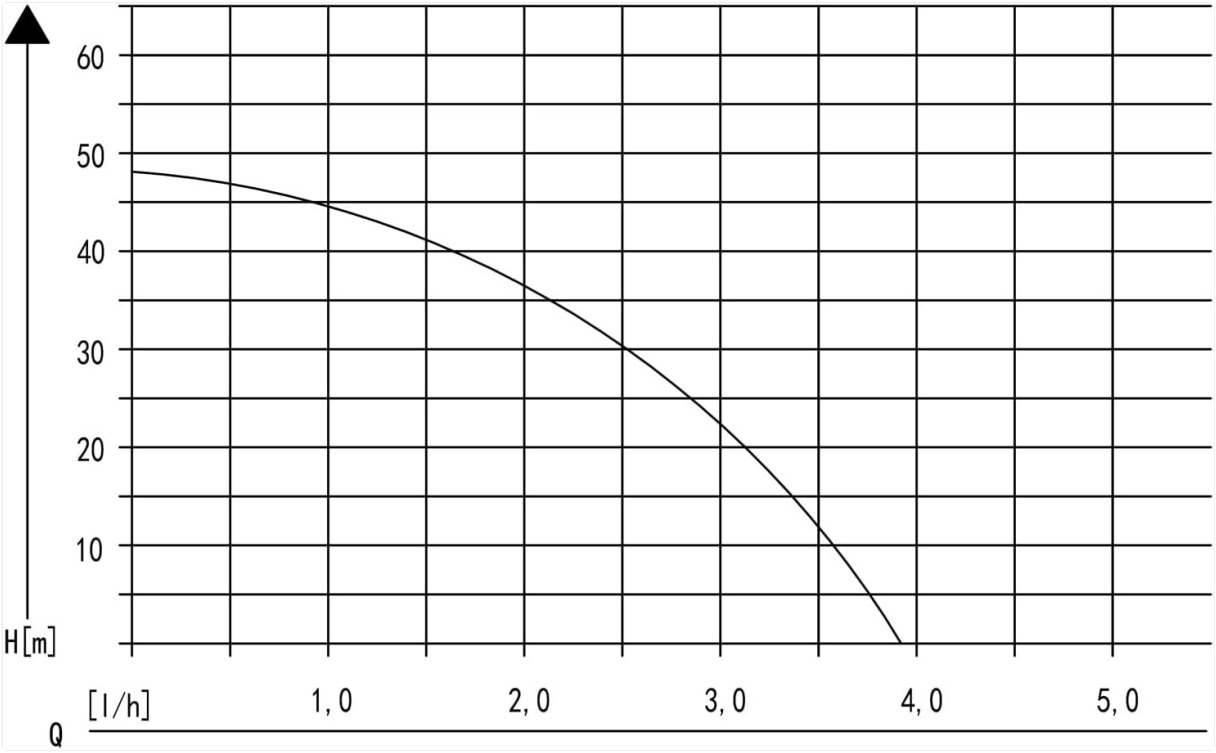

Figure 7.2: Performance curve (H[m] vs Q[l/h]) for the pump, illustrating the relationship between delivery head and flow rate. This graph helps understand the pump's capabilities under different operating conditions.

8. Warranty and Support

For warranty information, please refer to the terms and conditions provided at the point of purchase or contact your retailer. In case of technical issues or questions not covered in this manual, please contact WilTec customer support or the seller for assistance.

Please have your model number (61544) and purchase details ready when contacting support.