T.I.P. HWW 1300/50 Plus TLS (Model 31311)

T.I.P. HWW 1300/50 Plus TLS Domestic Waterworks

Instruction Manual

Model: HWW 1300/50 Plus TLS (31311)

1. Introduction

This manual provides essential information for the safe and efficient operation of your T.I.P. HWW 1300/50 Plus TLS Domestic Waterworks. This high-quality system is designed for automatic domestic water supply from wells and cisterns, garden irrigation, and pressure boosting in existing water networks. Please read these instructions carefully before installation and use to ensure proper function and longevity of the device.

Figure 1: T.I.P. HWW 1300/50 Plus TLS Domestic Waterworks. This image shows the complete unit, featuring a red pressure tank and a stainless steel pump head with integrated controls.

2. Safety Instructions

Adherence to safety guidelines is crucial for preventing personal injury and damage to the equipment. Always observe the following precautions:

- **Electrical Safety:** Ensure the power supply matches the specifications of the pump. Always disconnect the power before performing any maintenance or installation work. Do not operate the pump with damaged cables or plugs.

- **Water Safety:** This pump is designed for clean water. Do not use it for flammable, corrosive, or explosive liquids. The maximum liquid temperature must not exceed 35°C.
- **Installation:** Installation should be performed by qualified personnel in accordance with local electrical and plumbing regulations. Ensure the pump is placed on a stable, level surface.
- **Dry-Run Protection:** The integrated dry-run protection prevents damage from lack of water. However, regular monitoring of water levels is recommended.
- **Children and Pets:** Keep children and pets away from the operating pump.
- **Maintenance:** Only use original spare parts. Do not attempt to modify the pump.

3. Product Overview

The T.I.P. HWW 1300/50 Plus TLS is a robust domestic waterworks system featuring a powerful self-priming jet pump and a large pressure tank. Key components and features include:

- **High-Performance Jet Pump:** Self-priming pump with a stainless steel body, designed for efficient water delivery.
- **50-Liter Pressure Tank:** An extra-large steel pressure vessel that reduces switching frequency, conserves energy, and minimizes operational noise.
- **Integrated Dry-Run Protection (TLS):** Prevents damage to the hydraulic unit if water supply is interrupted.
- **Food-Grade Membrane:** The tank is equipped with a food-grade membrane, making it suitable for drinking water applications.
- **Mechanical Control System:** Ensures reliable pressure regulation for consistent water supply.

Figure 2: The T.I.P. HWW 1300/50 Plus TLS Domestic Waterworks positioned in a garden environment, demonstrating its compact design and suitability for outdoor installation (with proper protection).

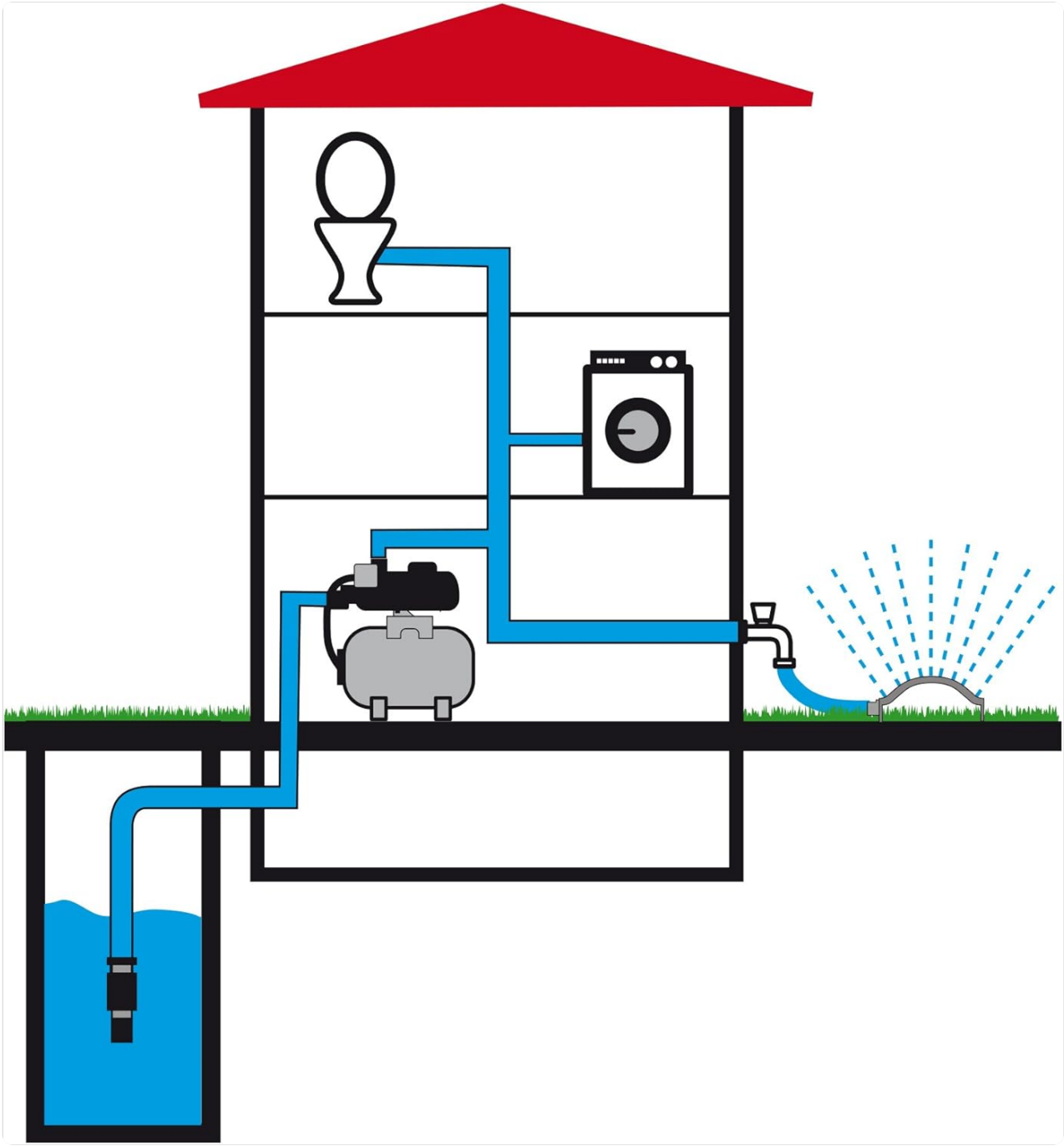

Figure 3: Schematic diagram illustrating the application of the domestic waterworks for supplying water to a household (toilet, washing machine) and for garden irrigation from a well or cistern.

Figure 4: Cross-section view of the pressure tank, highlighting the durable EPDM membrane. This membrane ensures a long service life with over 1 million fill and empty cycles and is suitable for potable water.

Figure 5: Detailed view of the integrated dry-run protection (TLS) mechanism. This system automatically shuts off the pump if water supply is insufficient, preventing damage to the hydraulic components.

Figure 6: The mechanical control system, including the pressure switch, which is pre-installed and ready for connection. This system regulates the pump's operation based on water pressure.

4. Setup and Installation

Proper installation is critical for the performance and safety of your domestic waterworks. It is recommended that installation be carried out by a qualified professional.

4.1. Location Selection

- Choose a dry, frost-free, and well-ventilated location.
- Ensure the surface is stable and level to prevent vibrations.
- Keep the pump as close as possible to the water source to minimize suction lift.

4.2. Plumbing Connections

- **Suction Line:** Connect a suction hose (minimum 1" diameter) to the suction port (IG 30.93 mm / 1").

Ensure the suction line is airtight to prevent air ingress, which can impair pump performance. Use a foot valve with a filter at the end of the suction line in the water source.

- **Pressure Line:** Connect the pressure line to the pressure port (IG 30.93 mm / 1"). Use appropriate fittings and sealants to ensure leak-free connections.
- **Priming:** Before initial operation, the pump housing and suction line must be completely filled with water through the priming port until water overflows. This is crucial for self-priming.

4.3. Electrical Connection

- Connect the pump to a grounded electrical outlet (230 V~, 50 Hz) with appropriate circuit protection.
- Ensure the power cable is not damaged or pinched.

5. Operating Instructions

5.1. Initial Start-up

1. Ensure all plumbing connections are secure and leak-free.
2. Completely fill the pump housing and suction line with water.
3. Open a tap in your domestic water system to allow air to escape.
4. Connect the pump to the power supply. The pump will start and build pressure.
5. Once water flows steadily from the tap and no more air bubbles are visible, close the tap. The pump will continue to run until the pressure tank is filled and the cut-off pressure is reached, then it will switch off automatically.

5.2. Normal Operation

- The domestic waterworks will automatically switch on when water is drawn (e.g., by opening a tap) and the pressure drops below the cut-in pressure.
- It will switch off automatically when the water drawing stops and the cut-off pressure is reached.
- The large 50-liter tank ensures a reduced start-up frequency, contributing to energy efficiency and quieter operation.

5.3. Dry-Run Protection (TLS)

The integrated dry-run protection system will automatically shut down the pump if it detects a lack of water in the suction line. This prevents damage to the pump. If the pump shuts down due to dry-run protection, check the water source and refill the pump if necessary before restarting.

6. Maintenance

Regular maintenance ensures optimal performance and extends the lifespan of your T.I.P. Domestic Waterworks.

- **Regular Inspection:** Periodically check all connections for leaks and ensure the power cable is intact.

- **Filter Cleaning:** If a pre-filter is installed on the suction line, clean it regularly to prevent clogging and maintain flow rate.
- **Pressure Tank Air Pressure:** The air pressure in the pressure tank should be checked annually and adjusted if necessary. Disconnect the pump from power and drain the tank before checking. The pre-charge pressure is typically around 1.5 - 2.0 bar (refer to specifications for exact value).
- **Winterization:** If the pump is installed in an area subject to freezing temperatures, it must be completely drained and stored in a frost-free location during winter to prevent damage from freezing water.

7. Troubleshooting

This section addresses common issues you might encounter. For problems not listed here, please contact customer support.

Problem	Possible Cause	Solution
Pump does not start.	No power supply; thermal overload protection activated; dry-run protection activated; motor fault.	Check power connection and circuit breaker. Allow pump to cool down. Check water source and prime pump. Contact service if motor fault suspected.
Pump runs but no water is delivered or pressure is low.	Pump not primed; air in suction line; suction line clogged or leaking; water source empty; excessive suction height.	Prime the pump. Check all suction line connections for leaks. Clean suction filter. Ensure sufficient water in source. Reduce suction height if possible.
Pump switches on and off frequently.	Pressure tank air pressure too low; small leak in system; check valve faulty.	Check and adjust air pressure in the pressure tank. Inspect all pipes and fittings for leaks. Check or replace check valve.
Unusual noise or vibration.	Air in pump; foreign object in pump; loose mounting.	Prime the pump. Disconnect power and inspect pump impeller for obstructions (if safe to do so). Secure pump mounting bolts.

8. Technical Specifications

Parameter	Value
Model	HWW 1300/50 Plus TLS (31311)
Motor Power	1200 W
Max. Delivery Head	50 m
Max. Flow Rate	4200 l/h (63 l/min)
Max. Pressure	5.0 bar

Parameter	Value
Max. Suction Height	9 m
Pressure Tank Volume	50 liters
Pump Body Material	Stainless Steel
Max. Liquid Temperature	35 °C
Suction Connection	IG 30.93 mm (1")
Pressure Connection	IG 30.93 mm (1")
Connection Cable Length	1.5 m
Dimensions (L x W x H)	40 x 55 x 70 cm
Weight (Gross)	21.2 kg
Power Source	230 V~, 50 Hz (Electric with cable)
Material	Steel (Tank), Stainless Steel (Pump)
Color	Black, Red

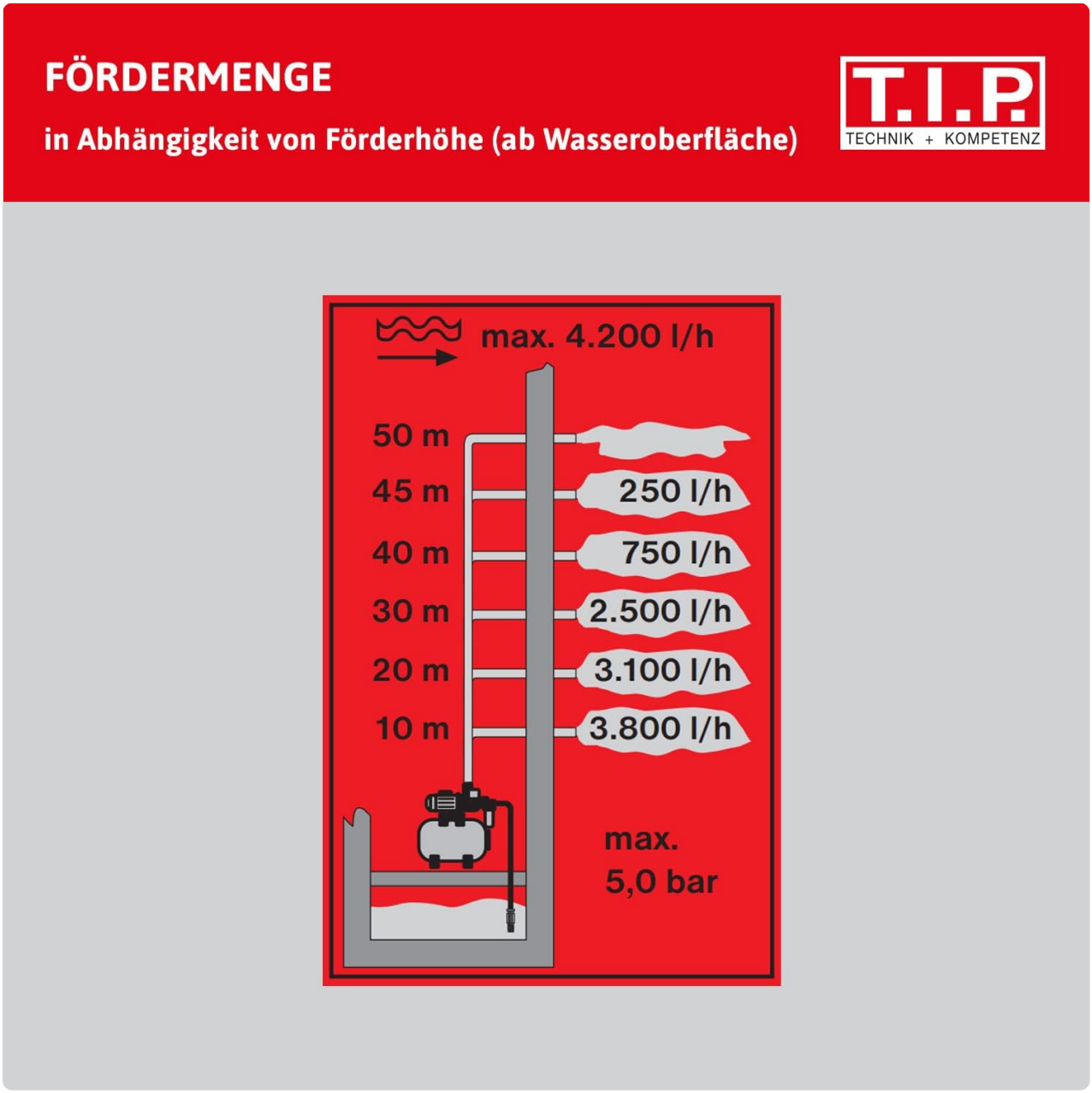

Figure 7: Official technical data table for the T.I.P. HWW 1300/50 Plus TLS, detailing power consumption, flow rate, delivery height, pressure, suction, tank volume, cable length, and weight.

8.1. Flow Rate vs. Delivery Head

The actual flow rate of the pump depends significantly on the delivery head (the total height difference between the water surface and the point of water discharge). The following table illustrates the performance of the HWW 1300/50 Plus TLS at various delivery heads:

Delivery Head (m)	Flow Rate (l/min)	Flow Rate (m^3/h)
42 m	18 l/min	1.1 m^3/h
40 m	20 l/min	1.2 m^3/h
30 m	42 l/min	2.5 m^3/h
20 m	52 l/min	3.1 m^3/h
10 m	63 l/min	3.8 m^3/h

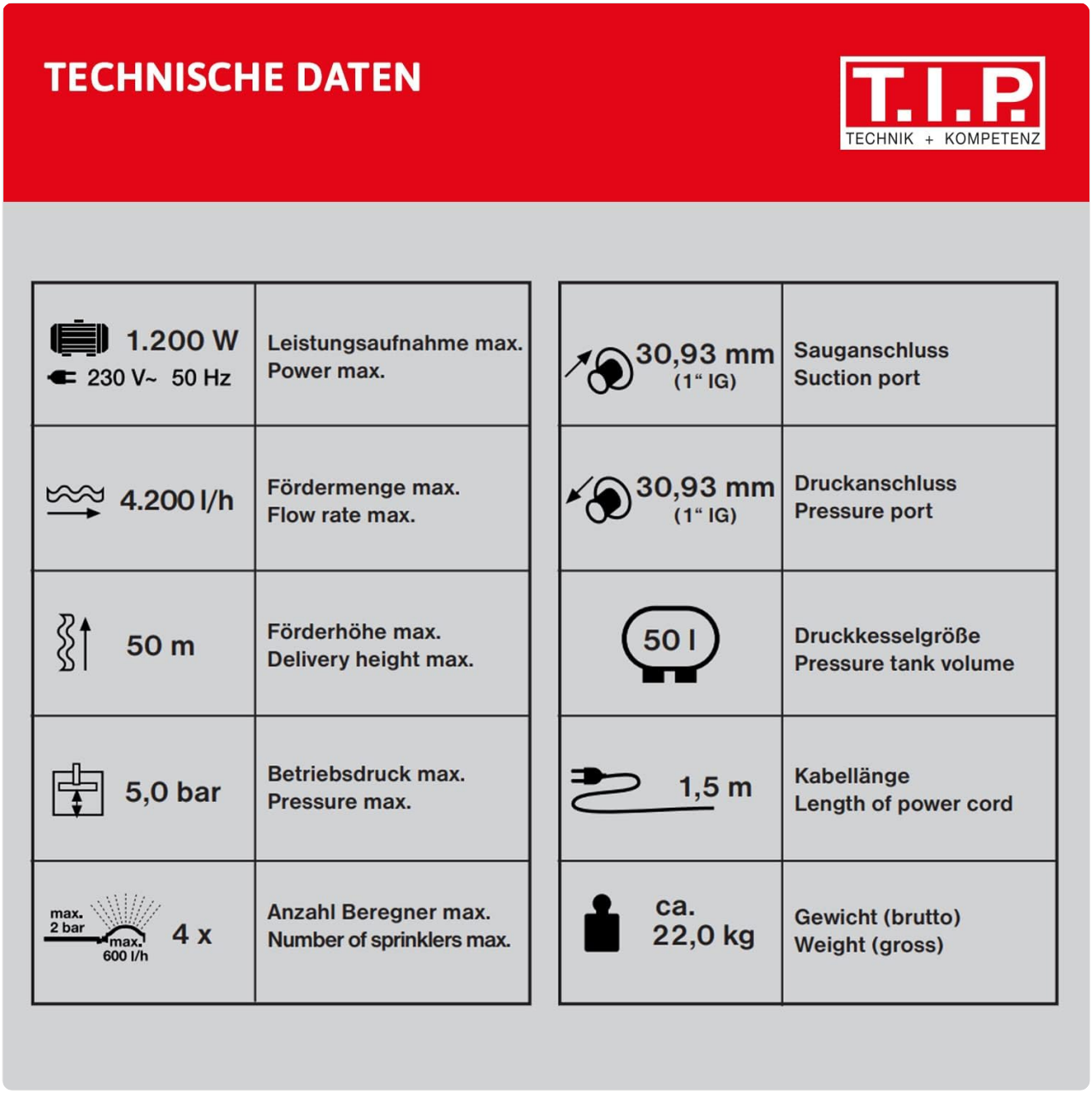

Figure 8: Graphical representation of the flow rate in relation to the delivery head for the T.I.P. HWW 1300/50 Plus TLS. This chart visually depicts how the pump's output changes with varying vertical lift.

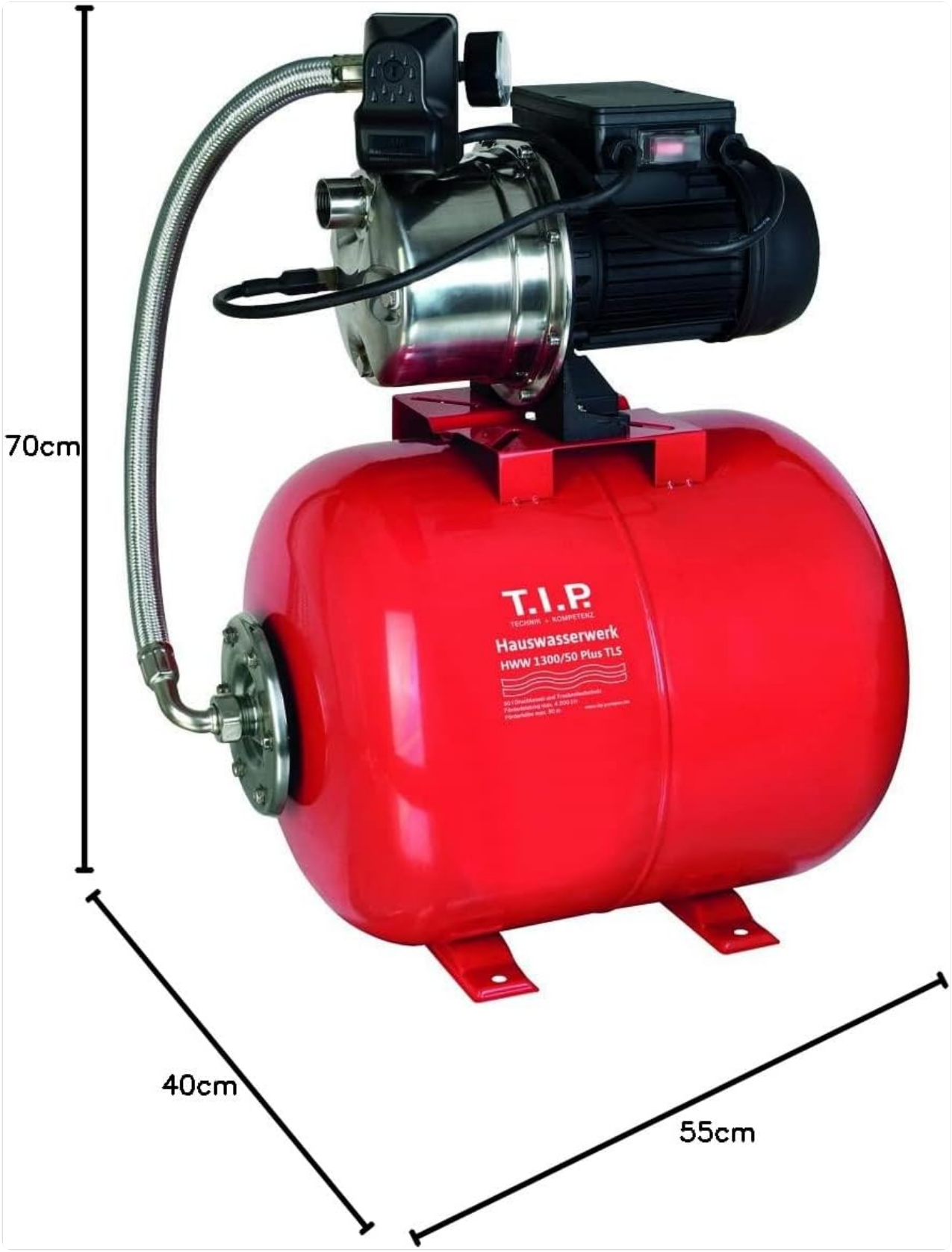

Figure 9: Dimensional drawing of the T.I.P. HWW 1300/50 Plus TLS, showing its length (55cm), width (40cm), and height (70cm) for planning installation space.

9. Warranty and Support

T.I.P. stands for outstanding quality and durability. In the event of wear or need for replacement parts, T.I.P.

offers a special service:

- **10-Year Spare Parts Availability Guarantee:** T.I.P. guarantees the availability of spare parts for 10 years from the date of purchase, ensuring long-term usability of your product.

For technical assistance, warranty claims, or to order spare parts, please contact T.I.P. customer support through their official channels. Please have your model number (31311) and purchase information ready when contacting support.