WilTec NW SOFT D

Wiltec NW-SOFT-D Water Softener Instruction Manual

Model: NW SOFT D

1. Product Overview

The Wiltec NW-SOFT-D is an automatic water softener system designed to provide soft, decalcified water for various applications. It utilizes an ion exchange process to remove hardness-causing minerals like calcium and magnesium from your water supply. This system is suitable for household use, small business kitchens, offices, and even for treating water in aquariums. By reducing water hardness, it helps improve the taste of hot beverages, enhances showering experiences, and significantly reduces limescale buildup in appliances such as dishwashers and washing machines, thereby extending their lifespan.
The NW-SOFT-D model boasts a maximum flow rate of 1000 liters per hour and features a 30 kg brine tank capacity for regeneration salt. Its compact and freestanding design ensures versatility and adaptability in various installation environments.

1.1 Product Components and Dimensions

Figure 1: Main view of the Wiltec NW-SOFT-D Water Softener. This image displays the complete unit, highlighting its compact and freestanding design.

Figure 2: Overall dimensions of the Wiltec NW-SOFT-D Water Softener. The unit measures approximately 220mm (width) x 390mm (depth) x 1065mm (height), with the control head extending to 480mm in width.

2. Principle of Operation

The Wiltec NW-SOFT-D water softener operates on the principle of ion exchange. Hard water, containing positively charged calcium (Ca^{2+}) and magnesium (Mg^{2+}) ions, passes through a special resin bed. This resin contains negatively charged sodium (Na^{+}) ions. During the softening process, the resin captures the calcium and magnesium ions from the water and releases sodium ions into the water. This exchange effectively removes the hardness minerals, resulting in soft water.

2.1 Ion Exchange Process

Figure 3: Illustration of the ion exchange reaction. Hardness ions (Ca^{2+}, Mg^{2+}) are exchanged for sodium ions (Na^{+}) on the resin beads, effectively softening the water.

2.2 Internal Components and Water Flow

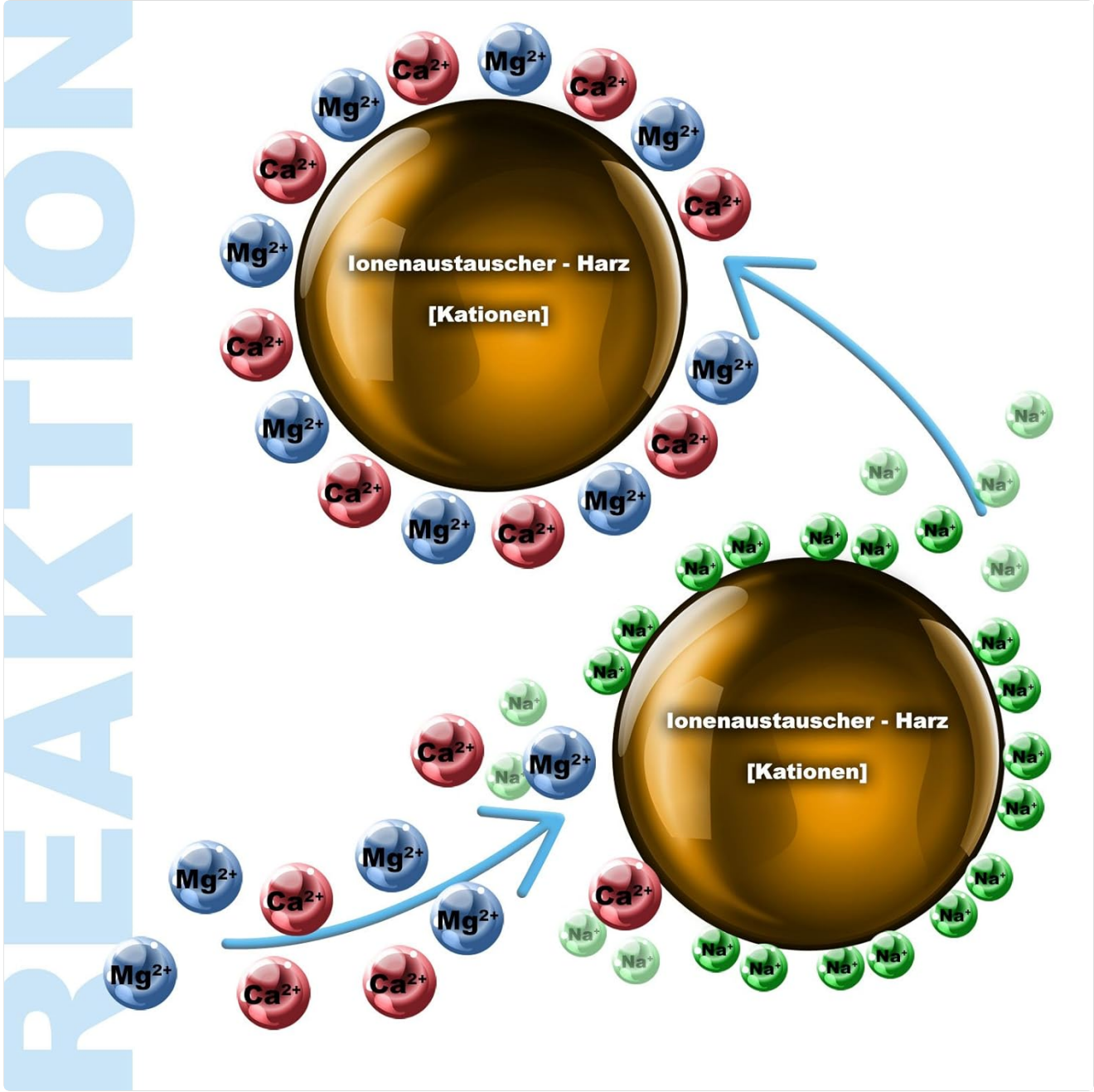

Figure 4: Cross-section view detailing the internal components and water flow. This diagram shows the automatic central control valve, bypass valve, brine line, safety brine valve, pressure tank, resin bed, and cabinet container, illustrating how hard water enters, is softened, and how the regeneration process occurs.

3. Installation

The Wiltec NW-SOFT-D water softener is designed for freestanding installation. Ensure the unit is placed on a level, stable surface in a location with adequate drainage and access to the main water supply and a power outlet.

3.1 Connecting the Unit

The unit features standard connections for inlet, outlet, and drain. Refer to the diagram below for proper connection points. It is recommended to install a bypass valve system to allow for maintenance or to temporarily supply unsoftened water if needed.

Figure 5: Detailed view of the connection points and bypass valve assembly. This includes quick couplings, brine line connections, flow meter, adapter couplings, fastening clips, bypass housing, inlet/outlet regulators, and screw connections. The main connections are 26.44 mm (¾") AG.

1. **Water Inlet:** Connect the hard water supply to the designated inlet port.
2. **Water Outlet:** Connect the softened water outlet to your household plumbing.
3. **Drain Line:** Connect the drain line to an appropriate drainage point, ensuring it is securely fastened and allows for proper wastewater disposal during regeneration.
4. **Brine Line:** Ensure the brine line is correctly connected between the control head and the brine tank.
5. **Power Connection:** Plug the power adapter into a suitable electrical outlet.

3.2 Initial Setup and Salt Filling

Before initial operation, the brine tank must be filled with regeneration salt.

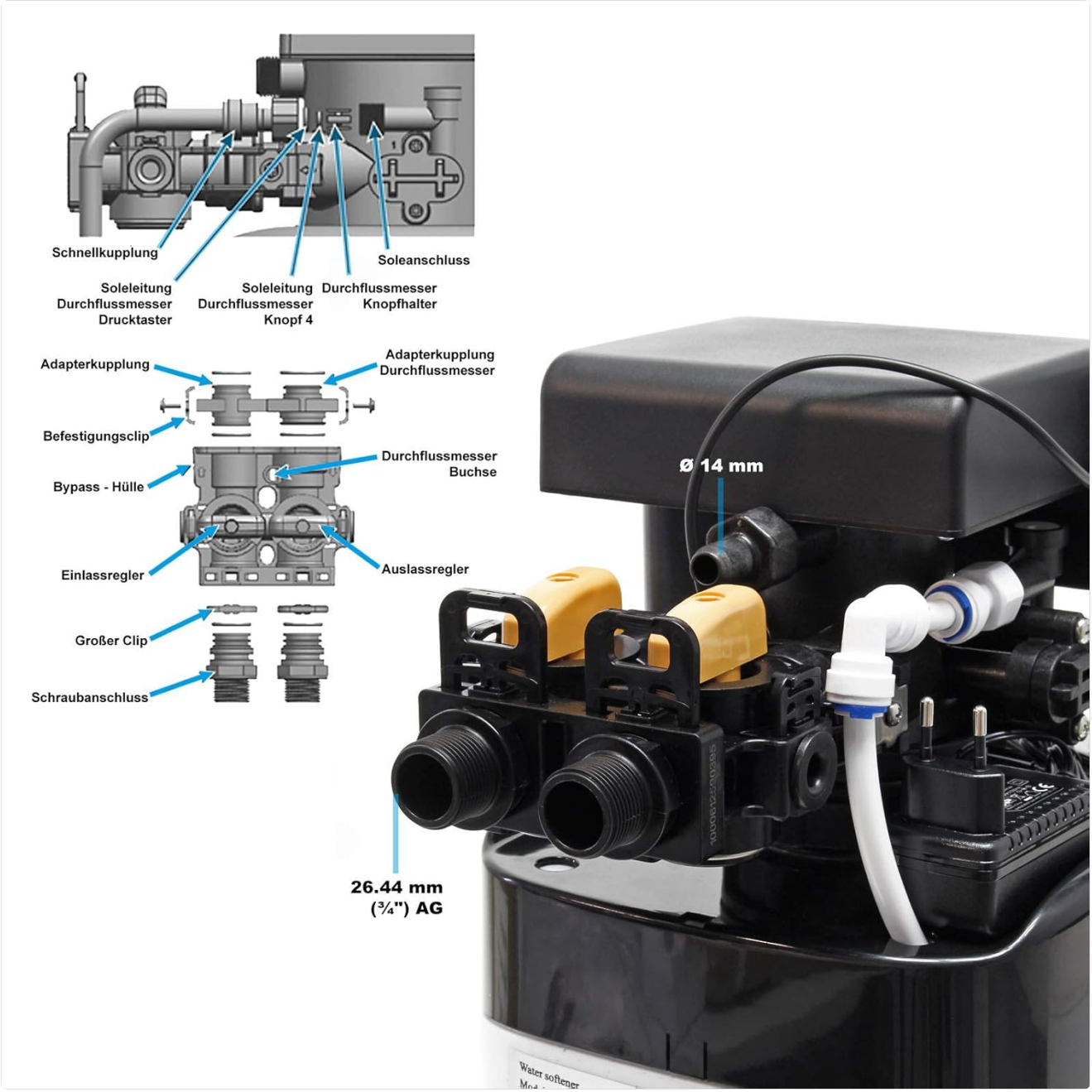

Figure 6: Internal view of the brine tank, showing its capacity and dimensions (approximately 120mm x 175mm for the salt storage area). The tank has a capacity for up to 30 kg of softening salt.

1. Open the lid of the brine tank.
2. Fill the tank with common water softening salt (e.g., tablet salt or crystal salt) up to the indicated fill line, or as per the manual's recommendation, ensuring not to overfill. The tank can hold up to 30 kg of salt.
3. Close the lid securely.
4. **Set Initial Water Hardness:** Access the display on the control head and input the initial hardness of your water supply. This setting is crucial for the automatic controller to optimize the regeneration cycles. Refer to your local water utility for water hardness information or use a water test kit.

4. Operation

Once installed and configured, the Wiltec NW-SOFT-D operates automatically. The control unit monitors water usage and initiates regeneration cycles as needed, based on the programmed water hardness and capacity settings.

- **Automatic Control:** The integrated controller manages the softening and regeneration processes without manual intervention.
- **Regeneration Cycle:** When the resin's capacity to exchange ions is depleted, the system automatically initiates a regeneration cycle. During this cycle, a brine solution (saltwater) is drawn from the brine tank and flushed through the resin bed. The concentrated salt solution reverses the ion exchange process, flushing the accumulated calcium and magnesium ions to the drain and recharging the resin with sodium ions.
- **Display Information:** The display on the control head provides information on the system's status, remaining capacity, and current operation mode. Consult the detailed control panel instructions for specific navigation and settings.

5. Maintenance

Regular maintenance ensures the optimal performance and longevity of your Wiltec NW-SOFT-D water softener.

- **Salt Refilling:** The most critical maintenance task is to regularly check and refill the brine tank with water softening salt. The frequency depends on your water usage and hardness. Ensure the salt level does not drop too low to prevent the system from running out of salt during a regeneration cycle.
- **Resin Maintenance:** The ion exchange resin itself is designed for long-term use and is virtually maintenance-free, as it is automatically regenerated by the system. No manual cleaning or replacement of the resin is typically required under normal operating conditions.
- **Cleaning:** Periodically clean the exterior of the unit with a damp cloth. Avoid using harsh chemicals or abrasive cleaners.
- **Inspection:** Occasionally inspect all connections for leaks and ensure the drain line is clear and unobstructed.

6. Troubleshooting

This section provides general guidance for common issues. For more complex problems, contact customer support.

- **Water is not soft:**
  - Check salt level in the brine tank and refill if necessary.
  - Ensure the initial water hardness setting on the display is correct.
  - Verify that the bypass valve is in the correct operating position (not bypassing the softener).
  - Check for any error codes on the control panel display.
- **Excessive salt consumption:**
  - Verify the water hardness setting. An incorrect high setting can lead to more frequent regenerations.
  - Check for leaks in the brine line or tank.
- **Unit not regenerating:**
  - Ensure the unit is plugged in and receiving power.
  - Check for any blockages in the drain line.
  - Consult the control panel for regeneration schedule or error messages.

7. Technical Specifications

The following table provides detailed technical specifications for the Wiltec NW-SOFT-D water softener.

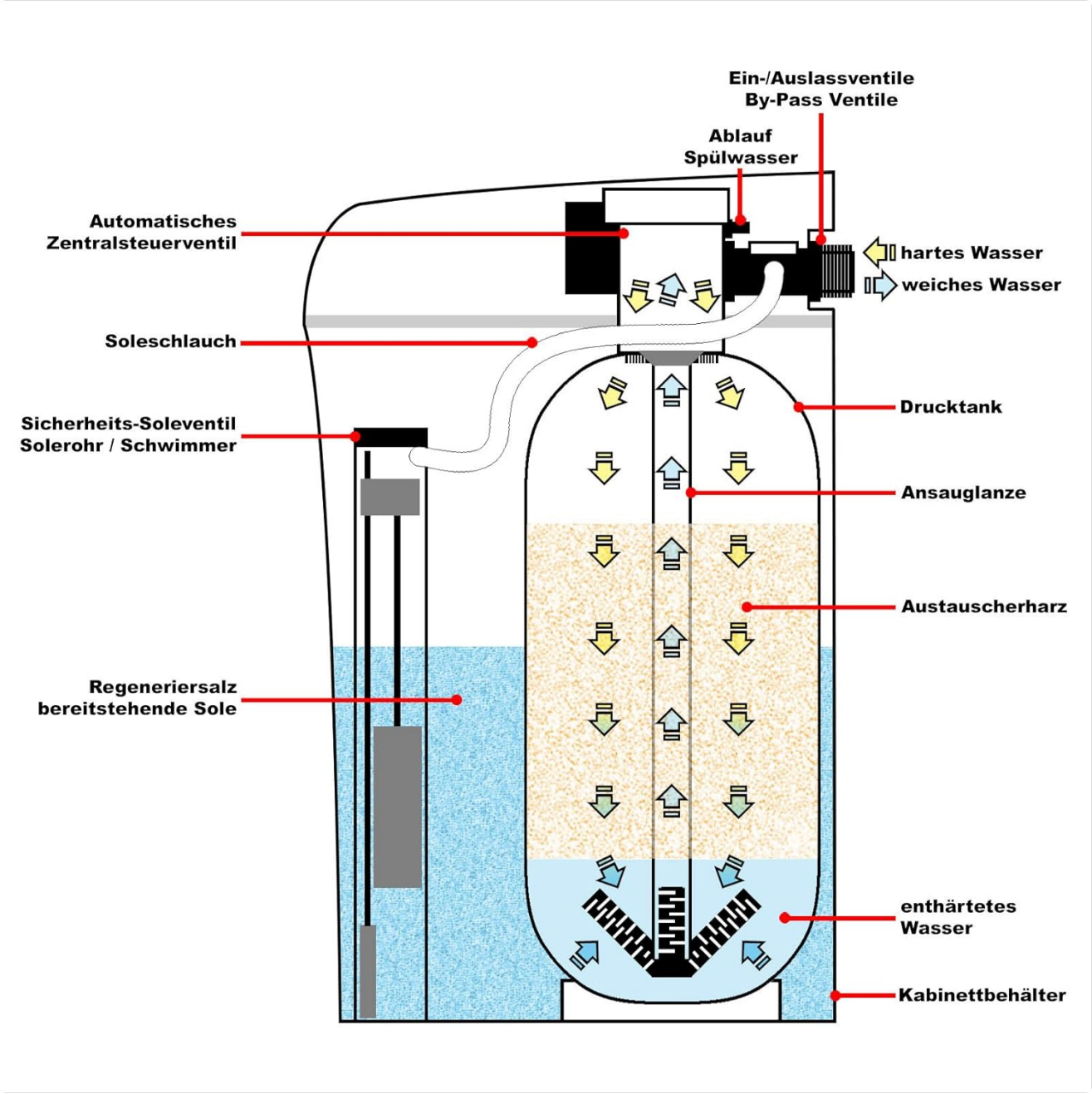

Figure 7: Technical Information table. This table provides detailed specifications for various Wiltec water softener models, including the NW-SOFT-D (model 52362), covering capacity at different water hardness levels, nominal flow, max/min pressure, pressure drop, salt consumption per regeneration, and regeneration time.

Feature	Specification (NW-SOFT-D)
Manufacturer	WilTec
Model Number	NW SOFT D (52362)
Installation Method	Freestanding
Max Flow Rate	1000 L/h
Brine Tank Capacity	30 kg (salt)
Purification Method	Ion Exchange
Special Features	Automatic Control

Feature	Specification (NW-SOFT-D)
Product Dimensions (L x W x H)	22 cm x 48 cm x 106.5 cm
Product Weight	24.2 kg
Material	Resin (for ion exchange)
Power Source	Electricity
Capacity at 10°dH	3500 L
Capacity at 15°dH	2200 L
Capacity at 20°dH	1800 L
Nominal Flow (20°dH to 8°dH)	2 m^3/h
Nominal Flow (20°dH to 0.5°dH)	0.3 m^3/h
Max. Raw Water Pressure	6.0 bar
Min. Raw Water Pressure	1.0 bar
Pressure Drop Max Flow	0.6 bar
Salt Consumption per Regeneration	1.28 kg
Regeneration Time	30 min

8. Support and Warranty

For technical assistance, spare parts, or warranty inquiries, please contact WilTec customer support. Ensure you have your product model number (NW SOFT D) and purchase details available when contacting support.
While specific warranty details are not provided in this manual, standard manufacturer warranties typically cover defects in materials and workmanship for a defined period from the date of purchase. Please refer to your purchase documentation or the manufacturer's official website for comprehensive warranty information.