

User's Manual

Automatic Water Softener

51865-51866, 52360-52364



Illustration similar, may vary depending on model

Read and follow the operating instructions and safety information before using for the first time.

Technical changes reserved!

Illustrations, functional steps, and technical data may deviate insignificantly due to continuous further developments.

Updating the documentation

If you have suggestions for improvement or have found any irregularities, please contact us.



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If you have found an error or wish to suggest an improvement, we look forward to hearing from you. Send us an e-mail to:

service@wiltec.info

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The most recent version of this manual in several languages can be found in our online shop:

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To return your goods for exchange, repair, or other purposes, please use the following address. Attention! To allow for a trouble-free complaint or return, it is important to contact our customer service team before returning your goods.

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Introduction

Thank you for choosing to purchase this quality product. To minimise the risk of injury, we ask you to always take some basic safety precautions when using this product. Please read this operating manual carefully and make sure that you understand it. Keep these operation instructions in a safe place.

Important instructions

The control unit is electrically operated. Therefore, the parameters programmed are lost after a loss of power over 48 hours, which can provoke a wrong start of the regeneration process of the softening system. Thus, we exhort that you check the timer adjustments after any loss of power.

Important: Only use softening salt sold in a specialised shop to avoid damages to the softening device.

Components

Automatic valve control

- Noryl plastic with FDA certificate
- High corrosion resistance, rust-free
- Innovating design, improved structure

Filter medium

Highly efficient anion exchanger based on resin

FRP container

- Polyethene plastic from food industry
- Little weight, high pressure resistance, rust-free

Brine valve

- Proven design, safe and reliable
- Appropriate for high pressures

Functions/parts

Automatic valve control

- Day-long control and monitoring via a timer, automatic regeneration of the filter medium during the regeneration time programmed according to the frequency or hardness grade of water selected and the mixing ratio desired
- Automatic calculation and generation of cleaning cycles, adapted to the water quality and user's water consumption
- Cleaning process: Raw water with a corresponding pressure and flow runs into the softener. Cations defining the hardness grade of water (Ca^{2+} , Mg^{2+} , etc.) are replaced by Na^+ . The water softened in this way is pumped through the water outlet by the system.
- Backwashing: If the brine assuring the ion exchange is no longer effective, the resin medium needs to be regenerated. Before this regeneration, it is necessary to backwash, and this is for two reasons: residues and resin chips are washed out of the medium, that is slackened more-over – so, the regeneration can be performed with a corresponding efficiency.
- Softening: With certain concentrations and flow rates, the entire brine flows through the resin bed, whereby the resin saturated recovers then its full softening power.
- Washing: After softening, the resin bed needs to be washed. It needs to be washed until there are no more residues of the softening salt in the water flowing out.



- **Re-filling:** The brine tank needs to be re-filled with new water after regeneration and washing to dissolve more softening salt for the next washing.

PE brine tank

Both re-fill water and softening salt are filled into the brine tank. The salt is dissolved slowly in the water until this is completely saturated with salt.

Operation

- Immediately after the complete installation and a test of the regeneration function, the product can be put into operation. Other steps are not necessary. Yet, there is one exception: a power failure.
- The installation and adjustment of the water softening device should be done by qualified persons. Other steps are not necessary, disregarding the permanent maintenance of the power and regular re-filling of softening salt. There are but four prerequisites for the installation of the system: three water connections (intake, outlet, and wastewater) as well as a power supply.

Filling the resin tank with water (when putting the system into operation)

- Put the operation mode to “Backwash,” then very carefully open the water-supply valve by about a quarter rotation, and slowly let the water run into the resin tank. (Should the valve be opened too quickly or the water flow into the tank too quickly, the resin might be washed out.) When the tank is entirely filled and the entire air has escaped (water begins to run slowly from the wastewater cock), the intake valve can be opened completely.
- Now rinse until the wastewater running out is completely limpid.
- Switch off the water supply and let the system open for about 5 min to allow the entire air to escape from the tank.

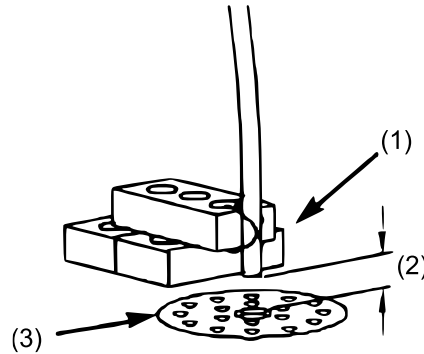
Re-filling the resin tank

- After filling the resin tank, manually start an entire regeneration cycle to obtain a corresponding level inside the brine tank.
- When the tank is filled for the first time, the salt level should exceed the water level. Moreover, there should always be enough un-dissolved salt inside the tank.
- It is advisable to install a by-pass around the softening device to allow the water-supply to continue in the case of a maintenance work or malfunction.

Warning notices

- Only modify the control valves after reading and understanding the user’s manual.
- Absolutely avoid a tilting position of the device during its installation and operation; otherwise, the inner parts of the device could be damaged.
- During the regeneration process, the water is not softened. Moreover, it is advisable not to let the water run during a regeneration; otherwise, this could impair the regeneration.
- After a longer time of absence of water flow, you should do a regeneration cycle first. Subsequent to the regeneration, let the water run during several minutes before it can be used normally.
- In no case, do cut the power supply; otherwise, the timer controlling the regeneration times is re-initialised.
- Should the grade of hardness of the raw water change much, this change needs to be programmed in the menu of the device.
- Hot water can significantly damage the system. When using a boiler or flow-type heater, it must be assured that the tubes connecting the system and boiler/heater do not go below 3 m. Should the minimum tube length of 3 m not be able to be reached, a non-return valve should be installed inside the tube.
- The pressure of the water entering must be comprised between 0.1 and 0.6 MPa. Do avoid a negative water pressure in any case.

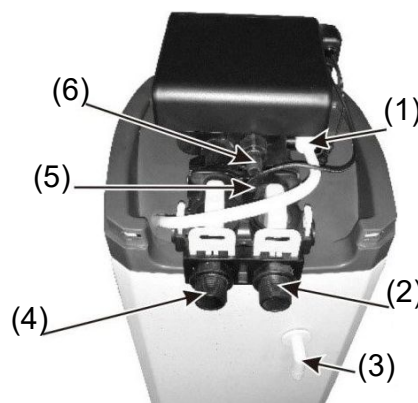
- In the area of the intake and outlet valves, no chemicals may be used. No tools should be used with which excessive force is applied onto the plastic parts of the device; otherwise, these can easily be damaged.
- The operation temperature of the softening device is comprised between 1 °C and 39 °C. The device must not be exposed to frost.
- As a precautionary measure, in case there is a fault causing a leak of the device, there should be a sink near the device.



Nº	Meaning
1	Safely fix the water outlet above the sink.
2	Distance: 4 cm
3	Sink

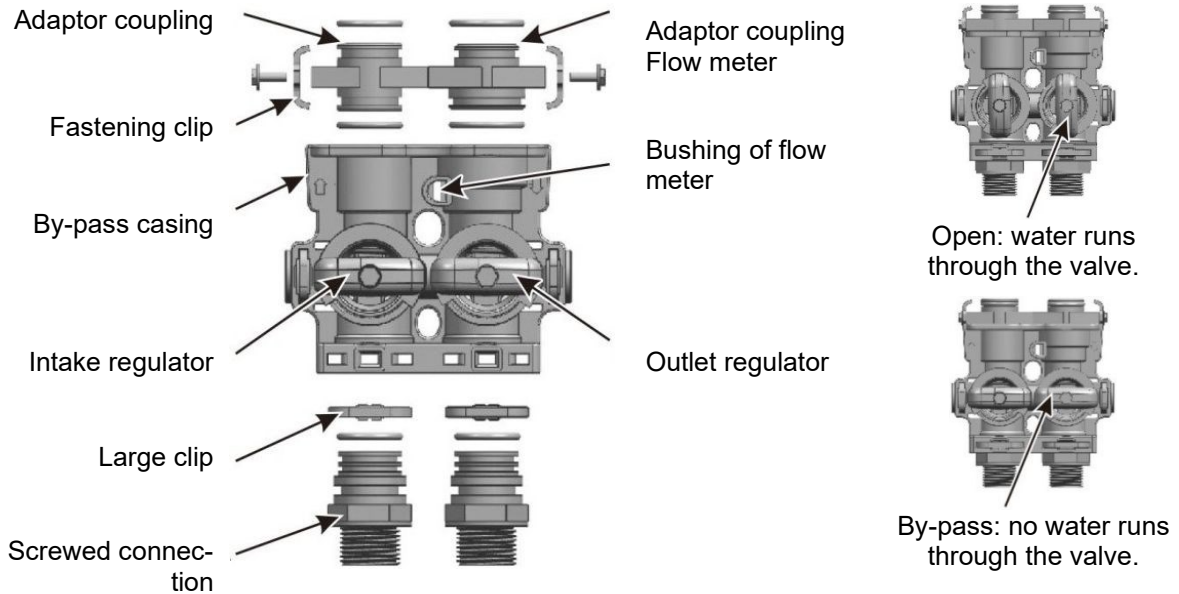
- No pressure must be exerted onto the softening device. Direct sunlight and heat emanating from other sources of warmth must be avoided.
- Only fill in coarse softening salt.

Pipes of the softening device

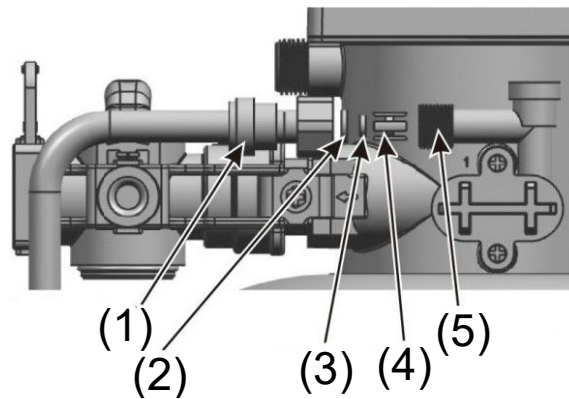


Nº	Name	Nº	Name
1	Brine hose	4	Water intake
2	Water outlet	5	Flow meter
3	Overflow valve	6	Sink

By-pass valve



Brine-line flow control unit (BLFC)

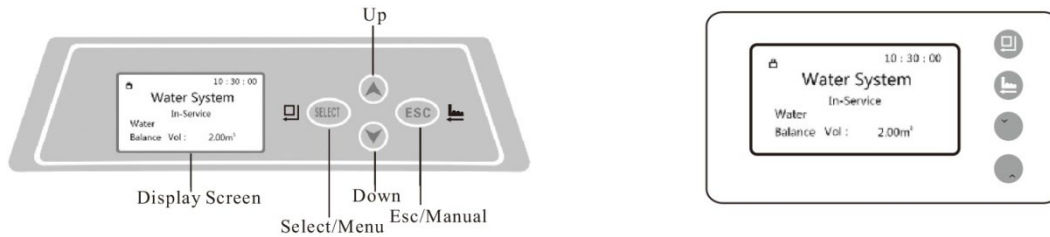


Note! The end of the BLFC key holder presenting the small cross-piece should be inserted into the brine connection first.

Nº	Name	Nº	Name
1	Quick coupling	4	Knob holder of flow meter
2	Push-button of brine-line flow meter	5	Brine connection
3	Knob 4 of brine-line flow meter		

Operation of control unit

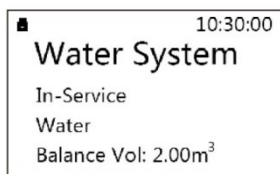
Control Panel



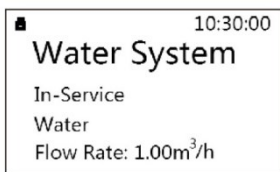
Display screen

a) During operation, the display shows the following screens in a 10-s interval:

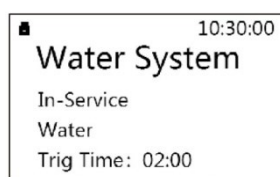
- quantity of water treated, e.g., “2.00m³”



- current flow rate, e.g., “1.00m³/h”



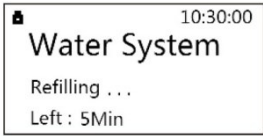
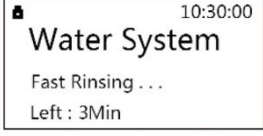



- release time in minutes, e.g., “2:00”



b) The following screens are displayed other with corresponding operation modes:

Operation mode	Screen displayed	Description
Backwashing		“10:30:00” is the current time; “2Min” is the average length of the mode, counted down
Brine and slow washing		“30Min” is the average length of the mode, counted down, re-fill via “Down flow”



Brine re-fill		"5Min" is the average length of the mode, counted down
Quick re-fill		"3Min" is the average length of the mode, counted down
Engine running		Engine running.
Key lock		Key lock activated, to deactivate, press the two keys shown during 5 s
Maintenance error		Error 1 = error code

"Select/Menu" key

- Press this key to access the adjustments menu. Navigate through the menu with the help of the arrow-up and arrow-down key.
- After adjusting a parameter, press "Select/Menu" again to save the value chosen. There will be a beep confirming the saving.

"ESC" key

- By pressing this key, you can skip a step of the adjustments menu; e.g., this is how to access directly the next value.
- Moreover, by pressing the key, you can trigger the intake/outlet valve by hand.
- By pressing this key, you can return to the summary menu from the adjustments menu.
- By pressing this key, you can leave the adjustment mode of a parameter, the value chose not being saved.

Arrow-up and arrow-down key

- The individual items shown in the adjustments menu can be retrieved with the help of these keys.
- When you adjust a parameter, pressing the arrow-up or arrow-down key will modify its value.
- Press both keys at the same time for 5 s to deactivated the key lock.

Other information

- The time is shown in 24-hour clock.
- The flow rate is given in m³/h.
- A lock symbol shown indicates an activated key lock.
- The time shown in the right upper corner is the current time.
- When adjusting a numeric value of a parameter, the values selectable can be shown one by one by pressing once the arrow-up or arrow-down key. The values selectable can also be

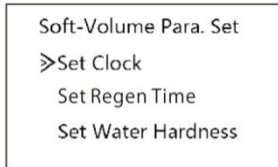


passed through by pressing and holding one of these keys. Every 0.2 s, the next value is shown then. One of these keys held for more than 3 s will have the display show 20 values every 0.2 s.

Adjusting and saving the different parameters

Adjustments of user's menu

- With the key lock deactivated, press the symbol key to access this menu.



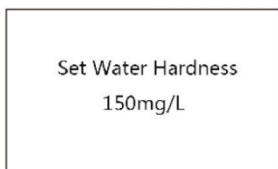
- Time menu



- Regeneration menu

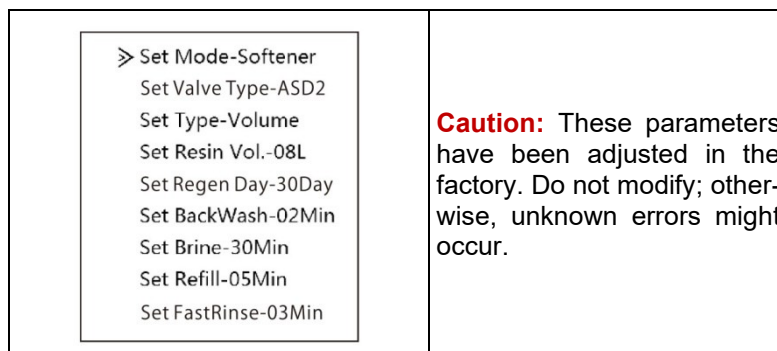


- Water hardness menu



Adjustments of system menu

After starting the device and during display of the valve mode, press the "ESC" and arrow-down key at the same time to access the system menu.





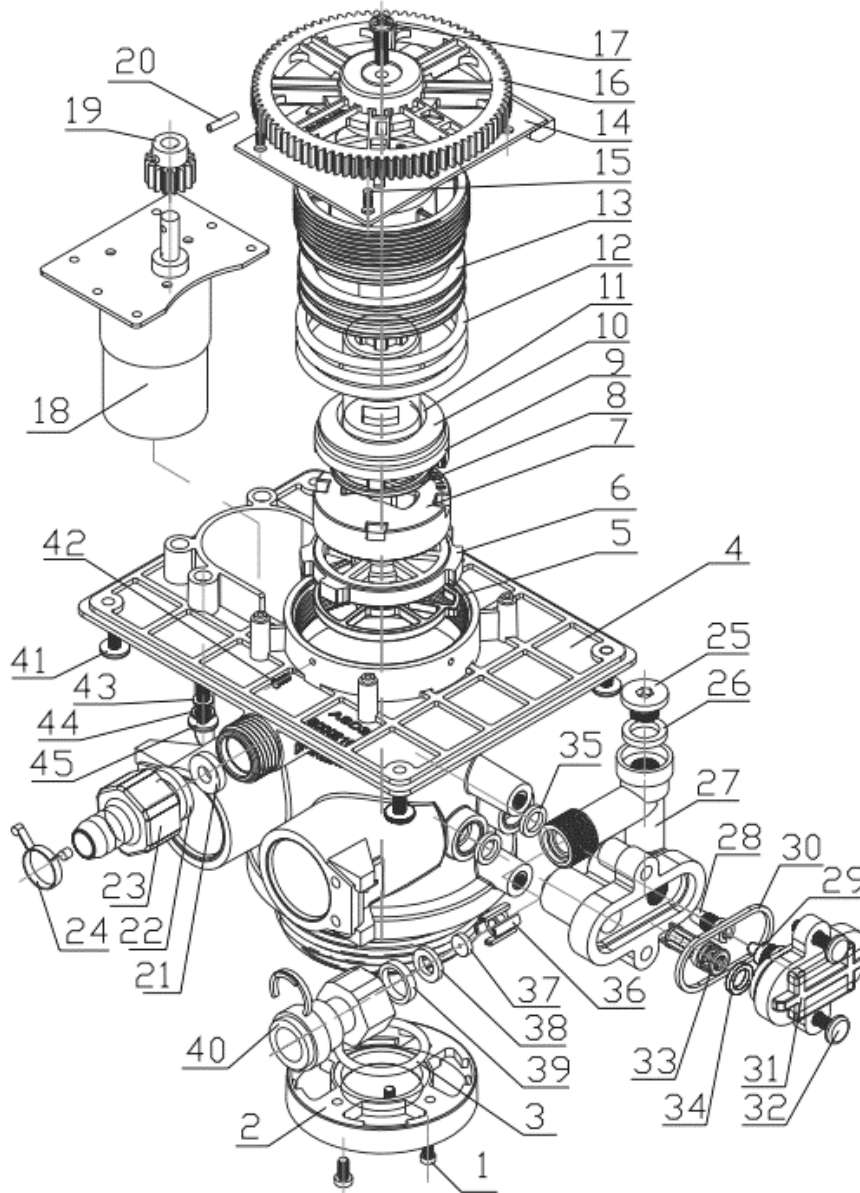
<p>Set Mode</p> <p><input type="radio"/> Purifier</p> <p><input checked="" type="radio"/> Softener</p>	<p>Adjust mode.</p> <p>Caution: Do not modify both parameters; otherwise, the valves cannot work any longer.</p>
<p>Set Valve Type</p> <p><input checked="" type="radio"/> ASD2</p> <p><input type="radio"/> ASD4</p> <p><input type="radio"/> ASU2</p>	<p>Adjust valve mode.</p>
<p>Set Type</p> <p><input type="radio"/> Timer</p> <p><input checked="" type="radio"/> Volume</p>	<p>Adjust type.</p>
<p>Set Resin Vol</p> <p>08 L</p>	<p>Adjust quantity of resin.</p> <p>Caution: "08 L" is but an example. Do not modify this value; otherwise, the water cannot be treated optimally any longer.</p>
<p>Set Regen Day</p> <p>30 Day</p>	<p>Adjust regeneration cycle.</p>
<p>Set BackWash</p> <p>02 Min</p>	<p>Adjust backwash.</p>
<p>Set Brine</p> <p>30 Min</p>	<p>Adjust brine mixture.</p>
<p>Set Refill</p> <p>05 Min</p>	<p>Adjust re-fill.</p>
<p>Set Fast Rinse</p> <p>03 Min</p>	<p>Adjust quick washing.</p>

Cleaning the injector

Should the injector be contaminated by foreign bodies (e.g., sand, small stones, etc.) or other dirt, the injector, responsible for the inlet of brine, might block. If there is a sediment filter installed before the water softening system and if you use salt with a sufficient quality, the injector might not be blocked, however. Should the injector be blocked, it needs to be cleaned. To clean the injector (considering the parts list), proceed as follows:

1. Stop the water intake.
2. Screw off the cold-water intake.
3. With a screwdriver, untighten the fixing screw.
4. Remove the injector from the control unit. When doing so, make sure that the O-ring is not damaged.
5. Then remove the injector filter and its O-ring with a screw driver.
6. Rinse and thoroughly clean all parts under clean, warm water.
7. Blow away the water remaining and re-install the parts in reversed order.

Exploded view and parts list



No	Name	Qty.	No	Name	Qty.
1	Screw	3	24	Steel clamp	1
2	Sieve connection	1	25	Plastic screw	1
3	O-ring of stand pipe	1	26	Gasket	1
4	Valve housing	1	27	Injector body	2
5	Gasket of fixing ring	1	28	Injector neck	1
6	Fixing ring	1	29	Injector nozzle	1
7	Mobile disk	1	30	O-ring cover	1
8	Gasket of mobile disk	1	31	Injector cover	1
9	Valve rod	1	32	Screw	2
10	Anti-friction washer	1	33	Injector filter	1
11	Union nut of inner O-ring	2	34	Injector filter O-ring	1
12	Union nut of outer O-ring	3	35	O-ring	2
13	Cap nut	1	36	BLFC holder	1
14	Holding plate	1	37	BLFC knob	1
15	Screw	4	38	Pressure disc	1
16	Plastic gear	1	39	Quick-coupling gasket	1
17	Screw	1	40	Quick-coupling	1
18	Motor	1	41	Screw	4
19	Copper gear	1	42	Screw	3
20	Pen	11	43	Bolt washer	4
21	Flowmeter of wastewater pipe	1	44	Spring washer	4
22	Gasket (1/2")	1	45	Screw	4
23	Wastewater hose connection	1			

Troubleshooting

Problem	Possible cause	Solution
Control unit inoperable	Power unit disconnected	Connect device to power.
	Power cable defective	Replace.
	Device switched off	Switch on.
	Power unit defective	Replace.
Wrong regeneration time	Re-initialisation of timer due to power failure	Re-adjust the regeneration timer.
System leaking	Loose pipe connections	Tighten connection piece.
Device emitting unusual noise	Air in system	Do a backwash of the device.
Milky water	Air in system	Open drain valve to release air.
Insufficient water softening	Raw water of very poor quality	Contact water supplier.
	Too long a regeneration time	Re-initialise regeneration time.



	Resin exhausted	Start regeneration or replace resin.
Incapacity of device to use salt	Too low a water pressure	Modify intake pressure; min. value: 1.1 bar.
	Obstruction of brine tank pipe	Clean brine tank pipe.
	Obstruction of injector	Clean or replace injector.
	Brine controller leaking	Check piston, valves, and holders.
Brine tank overflowing	Re-fill time re-adjusted	Contact vendor.
No softening of water	Automatic regeneration failing	Check power connection of controller.
	Too low a salt concentration	Keep brine tank filled with salt.
	Obstruction of injector	Dismount injector, clean it under running water.
Too low or too high a frequency of backwash	Wrong backwash control unit used	Replace wrong backwash control unit with a correct one.
	Backwash control unit disturbed by external influences	Dismount control unit, clean it under running water.
Raw water flowing out during service mode	Insufficient regeneration	Re-do regeneration and make sure to choose the correct salt concentration.
	By-pass valve leak	Replace gasket.
	Wastewater hose gasket defective	Replace gasket.
	Wrong water hardness adjusted	Adjust correct water hardness.

Regulations for waste disposal

The Waste Electrical and Electronic Equipment Directive (WEEE Directive, 2012/19/EU) of the EU was implemented in the German law related to electrical and electronic equipment and appliances.

All WilTec electric devices that fall under the WEEE directive are labelled with the symbol of a crossed-out wheeled rubbish bin. This symbol indicates that this electric device must not be disposed of with the domestic waste.

WilTec Technik GmbH is registered with the German registration authority EAR (Stiftung Elektro-Altgeräte Register) under the WEEE-registration number DE45283704.

Disposal of used electrical and electronic devices (intended for use in the countries of the European Union and other European countries with a separate waste collection system for these devices).

The symbol on the packaging or the product itself indicates that this product must not be treated as normal domestic waste but must be disposed of at a recycling collection station for electrical and electronic waste.

By disposing of this product correctly, you contribute to the protection of the environment and the health of your fellow people. Inappropriate disposal threatens the environment and health.



Material recycling helps to reduce the consumption of raw materials.

Additional information about the recycling of this product can be provided by your local commune, the municipal waste disposal facilities, or the store where you purchased the product.

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