

# QLEEN

PURE WATER CLEANING SYSTEMS

## User information



**PURASTART**  
**PURASTART Complete set**  
**17042 & 70043**

Version 01/2023

## Introduction to the user information QLEEN PURASTART

Thank you for choosing a QLEEN PURASTART cleaning system from Lehmann.

Before you start the cleaning work, here is some important user information.

Please read these carefully and be sure to observe them.

As the owner of a QLEEN PURASTART cleaning system, please also make absolutely sure that your employees have also read the "PURASTART User Information" and follow the safety and warning instructions.

Please also observe and comply with the "**General User and Safety Information**" (separate publication of Lehmann KG).

This document is the original user information. It is written in German. Copies in other languages are translations of this original user information.

### Hersteller / Herausgeber

Address      **Karlhans Lehmann KG**  
                 **Kranichstrasse 2a**  
                 **D-17235 Neustrelitz**

Phone        **(+49) 3981 48 850**

Fax            **(+49) 3981 44 06 20**

E-Mail        **[info@qleen.de](mailto:info@qleen.de)**

Homepage   **[www.qleen.de](http://www.qleen.de)**

Youtube     **[www.youtube.com/@qleen](http://www.youtube.com/@qleen)**

Facebook   **[www.facebook.com/lehmannkg/](http://www.facebook.com/lehmannkg/)**

### Copyright

This document is protected by copyright.

Copying, reproduction, translation or conversion into an electronic medium or into a machine-readable form, as a whole document or in sections, is not permitted without the permission of Lehmann KG.

Subject to change without notice.

© **Lehmann KG, Neustrelitz, 2022**

### Trademark

The names QLEEN, PURAQLEEN, ROTAQLEEN, CARBONPOLE, TITANPOLE are registered trademarks of Lehmann KG, Neustrelitz.

### Country of origin

Federal Republic of Germany

**We are pleased that you have chosen our product QLEEN PURASTART.**

**Item number**           —   **17042**  
                                  —   **70043**

**Type designation**     —   **QLEEN PURASTART**  
                                  —   **QLEEN PURASTART Complete set**



\* Picture shows the QLEEN PURASTART Complete set (70043)

## 1 Table of contents

Topics		Page
2. General notes and safety instructions	2.1 Structure of the manual	5
	2.2 Safety instructions	5
3. Description of the QLEEN PURASTART Mini/Maxi	3.1 The PUREWATER principle - cleaning with pure water	6
	3.2 Sustainability	6
	3.3 Water hardness and yield of the mixed bed resin	6
	3.4 Mode of operation of the QLEEN PURASTART Mini/Maxi	7
	3.5 Areas of application	7
	3.6 Scope of delivery	7
	3.7 Connections and controls	8
	3.8 Water quality measuring device	8
4. Starting up	4.1 Transport and parking	9
	4.2 Connection of the water supply	9
	4.3 Connecting the telescopic pole and brush	10
5. Cleaning	5.1 Procedure	12
6. Water quality meter	6.1 Operation	13
	6.2 Replace batteries	13
7. After cleaning	7.1 Dismantling	14
8. Additional information	8.1 Troubleshooting	14
	8.2 Maintaining and cleaning the device and accessories	15
	8.3 Replacing the mixed bed resin	15
	8.4 Storage	15
	8.5 Repair and maintenance	16
	8.6 Recycle and dispose	16
	8.7 Warranty and guarantee	16
	8.8 Manufacturer information	16
9. Technical information	9.1 Supply connections	17
	9.2 Climatic operating conditions	17
	9.3 Technical data	17
	9.4 CE Declaration of Conformity	17

## 2 General notes and safety instructions

### 2.1 Instruction structure

This manual will give you an overview of the functions, operation and proper use of our QLEEN PURASTART machine.

Certain symbols in these instructions indicate various information:



The information sign indicates useful tips and information.



The exclamation mark warns of potential dangers and risks

### 2.2 Safety instructions



#### Caution: Danger of accident:

- The operating personnel must be adequately trained in the use of the machine.
- The machine must be in perfect condition.  
Only set up the machine on firm, straight surfaces.
- Wear sturdy, non-slip footwear with protective toecaps to protect yourself from being crushed by the machine.
- Work on roofs only with appropriate safety equipment.
- Be careful not to get mixed bed resin in your eyes, read the "User Information Mixed Bed Resin Systems" for further safety instructions and handling of the mixed bed resin.
- Do not work with the pole system under high voltage line  
**! DANGER OF ELECTRIC SHOCK !**

#### Warning: Risk of accidents and damage to the device and equipment

- Only use the PURASTART Mini/Maxi from +5 °C and above, frost damage to the unit and equipment may occur.
- Do not work with the pole system in wind forces above 2 (>3.3 m/s), the pole system may buckle and fall off

### 3 Description of the QLEEN PURASTART Mini/Maxi

#### 3.1 The PUREWATER principle - cleaning with pure water

The high chemical-free cleaning power of PUREWATER is the basis on which the PURAQLEEN principle for cleaning glass and solar surfaces.

In this process, tap water is passed through a granulate bottle. The minerals contained in the tap water accumulate in the mixed bed resin and all salts are removed from the water. The tap water is demineralized by pre-pressure in the granulate bottle and reaches the cleaning head as PUREWATER.

PUREWATER not only has very good wetting properties, but also dries without stains or streaks, even in strong sunlight. This means that in many cases there is no need to use cleaning solutions. (Exception: greasy, oily or very heavy soiling).

#### 3.2 Sustainability

Our system contributes to the careful and sustainable use of resources for cleaning in times of dwindling resources.

In contrast to the reverse osmosis process, our devices operate in the energy-saving low-pressure range, the pressure of the domestic water supply is sufficient to operate our devices. In addition, our systems convert 100% of the supplied water into PUREWATER, which can be used for cleaning.

#### 3.3 Water hardness and productivity of the mixed bed resin

The water hardness at the place of use can be obtained from the local water supplier. This allows you to estimate the yield of the granulate bottle.

Depending on the measured value, the following values result for the maximum PUREWATER quantity and cleaning time with a granulate bottle (at a maximum initial value of 50 µS, approximate data):

German hardness level	Corresponds approximately to conductance	Estimated total amount	Estimated total cleaning time*
2,8 °dH	100 µS	10200 l	85,0 h
5,6 °dH	200 µS	5100 l	42,0 h
8,4 °dH	300 µS	3400 l	28,0 h
11,2 °dH	400 µS	2500 l	21,0 h
14,0 °dH	500 µS	2000 l	17,0 h
16,8 °dH	600 µS	1700 l	14,0 h
19,7 °dH	700 µS	1650 l	12,0 h
22,5 °dH	800 µS	1200 l	10,0 h
25,3 °dH	900 µS	1100 l	9,0 h
28,0 °dH	1000 µS	1000 l	8,0 h

\* Based on a flow rate of 120 l/h with the 9 mm flexible hose and the angled washing brush.

### 3.4 How the QLEEN PURASTART works

Tap water is required for cleaning with PUREWATER.

This is passed through the mixed bed resin in the granulate bottle and demineralized in the process. See "**Mixed bed resin system user information**" (separate publication by Lehmann KG).

The PUREWATER is conveyed to the cleaning head at the upper end of the telescopic pole via the flexible hose attached to the telescopic CARBONPOLE\*.

There, it is distributed evenly and sparingly onto the surfaces to be cleaned via fine nozzles.

The telescopic CARBONPOLE\* is made of a stable and light carbon material.

When retracted, it has a length of 2.04 m and can be extended to a length of 9.00 m. This results in variable working lengths.

This results in variable working lengths between 3 m (minimum) and approximately 10 m (maximum).

The hose is 25 m long and is made of a robust and flexible material.

The integrated water quality meter informs about the quality of the outgoing PUREWATER.

### 3.5 Areas of application

Typical applications for the QLEEN PURASTART are:

- To restore and increase the energy yield of small solar and photovoltaic systems.
- Clear and streak-free view of windows, window frames, conservatories, glass and greenhouses
- Often difficult to access outdoor advertising surfaces and lighting boxes
- Against intensive soiling by insects on vehicles (train, ship, airplane, truck, car)

### 3.6 Scope of delivery

#### QLEEN PURASTART (17042)

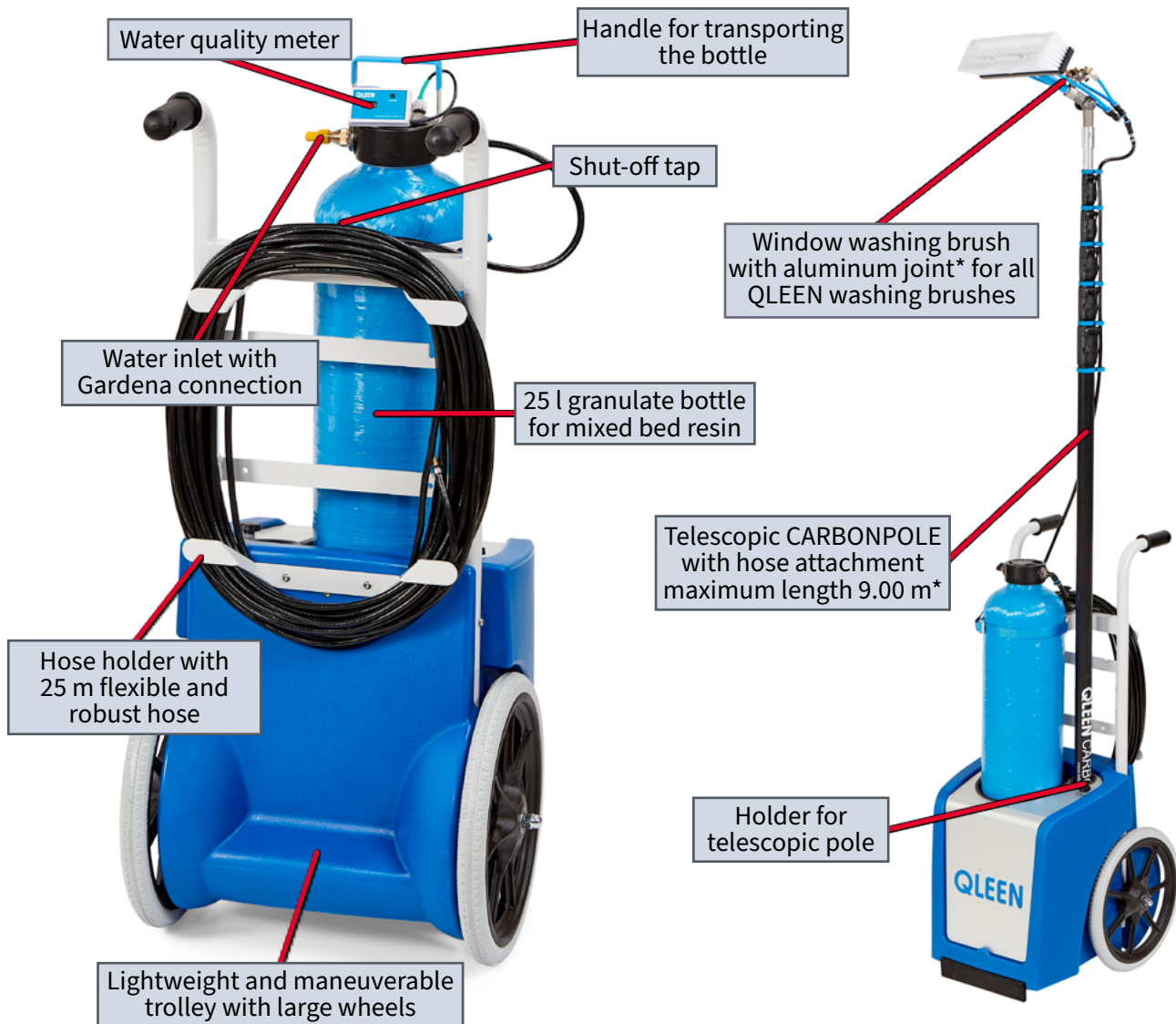
- QLEEN PURASTART basic station with 25 l granulate bottle filled with mixed bed resin and integrated measuring device for the water quality, 25 m flexible hose wound up
- Instruction

#### QLEEN PURASTART Complete Set (70043)

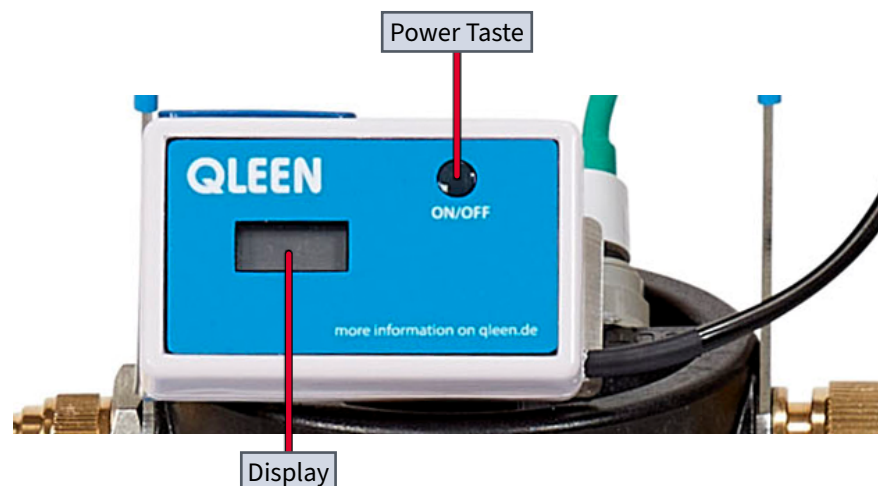
- QLEEN PURASTART basic station with 25 l granulate bottle filled with mixed bed resin and integrated measuring device for the water quality, 25 m flexible hose wound up
- 9.00 m telescopic CARBONPOLE with clips for hose attachment
- 180° adjustable aluminum joint with 2 integrated fan nozzles
- 40 cm window washing brush
- Instruction

\* Only in the variant QLEEN PURASTART Complete set (70043)

### 3.7 Connections and controls



### 3.8 Water quality meter





## 4 Starting up

### 4.1 Transport and parking

- The QLEEN PURASTART can be transported by trolley
- Only park the QLEEN PURASTART on a straight, level and non-slip surface.



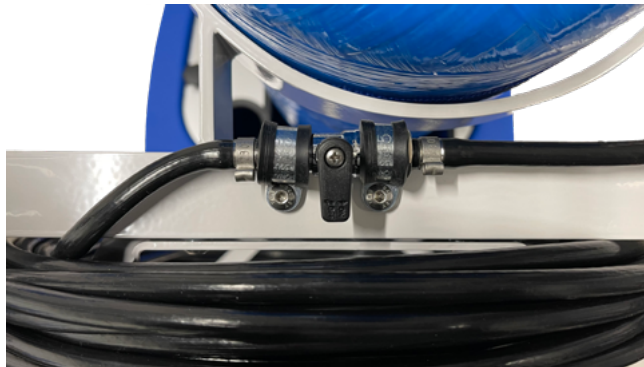
#### Caution Risk of injury

- Wear sturdy shoes with steel toecap when transporting, crushing of the foot can occur when setting down!
- Do not place on inclined, sloping and uneven surfaces, the granulate bottle can fall over and it can lead to injuries and damages!
- If there are obvious defects on the QLEEN PURASTART or the telescopic pole system, do not operate it!

### 4.2 Connection of the water supply

Water can be supplied directly to the house water connection via a Gardena hose.

- Before connecting the tap water, make sure that the shut-off tap is closed.

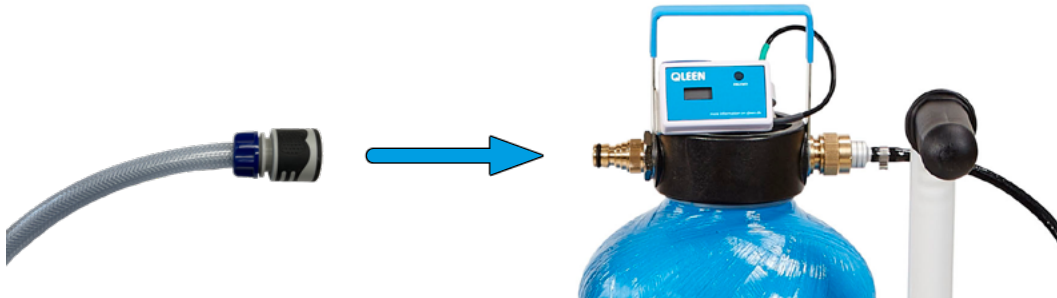


#### Attention the device can be damaged:

Only use clean tap water with a maximum inlet pressure of 5 bar for the water supply!  
Otherwise, the unit or the mixed bed resin may be damaged.

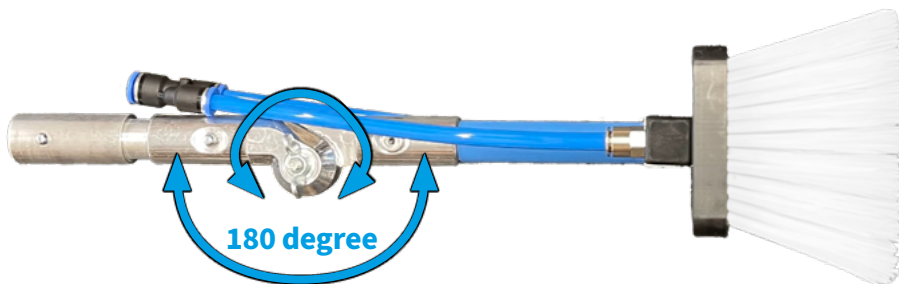
- Connect the house water connection by means of Gardena hose to the inlet of the QLEEN PURASTART
- Open the tap of the house water connection

⇒ **The water supply is established**

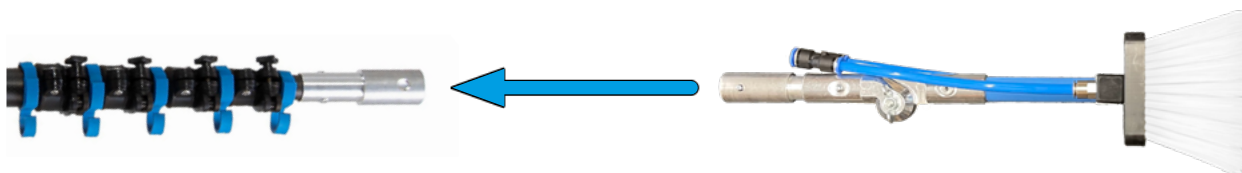


### 4.3 Connection of the telescopic pole and brush\*

- Loosen the wing screw on the joint and set the desired working angle and tighten the wing screw again



- Put the joint with the window washing brush on the telescopic CARBONPOLE



- To connect the LEWI telescopic poles to the joint, remove the QLEEN - LEWI adapter from the joint and insert the telescopic pole directly into the joint



\* Only in the variant QLEEN PURASTART Complete set (70043)

- Unwind the hose from the hose holders to the required length
- Attach the hose to the telescopic pole using the clips
- Connect the plug nipple at the other end of the hose to the nozzle inlets on the angle washing brush

⇒ **The device is now ready for operation**



## 5 Cleaning

For most soiling, the PUREWATER is completely sufficient.

Only heavily soiled and oily or greasy surfaces must be pre-treated with a cleaning solution.

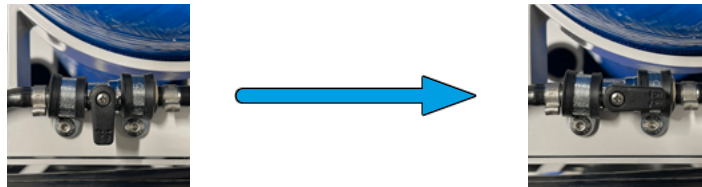
Dirt that can only be removed by intensive mechanical cleaning (e.g. glass plane) should also be pre-treated accordingly.

The higher the level at which work is carried out, the greater the dirt load at the lower levels, because the "foreign dirt" from the higher level is added to the "inherent dirt".

This should be taken into account when calculating the work and the order.

### 5.1 Procedure

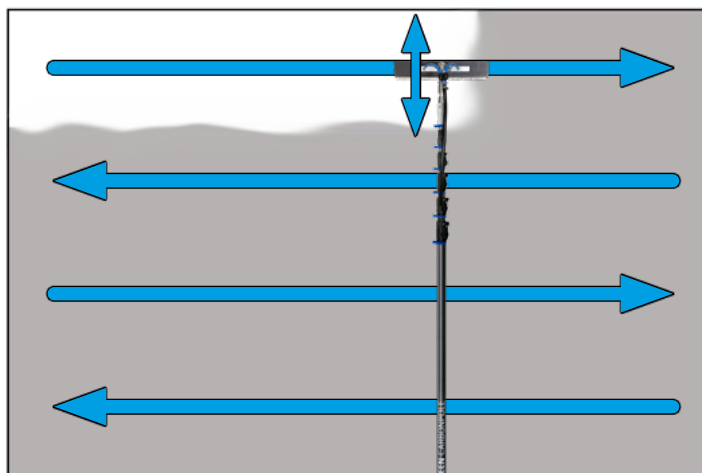
- Set the shut-off tap to 'ON' ⇒ after a short time, the PUREWATER flows through the nozzles on the brush



#### Caution Risk of injury

- **Risk of tripping:** Watch out for the hose when working!
- **Impact hazard:** Place the poles on the floor during work interruptions! Do not lean against vertical walls, this can cause the equipment to fall over and cause injury or damage to the equipment!
- **Electric shock hazard:** Do not work with the telescopic pole under high-voltage lines!

- Extend the telescopic pole to the maximum height of the cleaning surface.
- Position the brush in the upper area and move it from one side to the other with even upward and downward up and down movements over the surface to be cleaned.
- To increase the mechanical cleaning power, press the telescopic pole lightly against the surface to be cleaned with the help of the guide hand.
- Proceed in the same way for the surfaces below until the entire surface is cleaned.
- Adjust the telescopic pole according to the working height in order to ensure fatigue-free work.

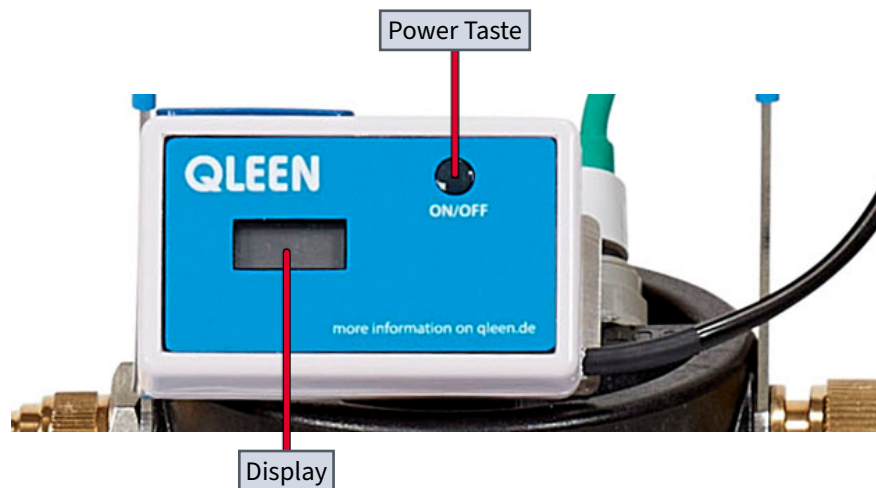


## 6 Water quality meter

With the integrated measuring device you can monitor the quality of the filtered water at any time. We recommend for glass and solar systems from a value of 50  $\mu\text{S}$  to replace the mixed bed resin. If the values are above 50  $\mu\text{S}$  it can not be guaranteed that the surface dries streak and stain free.

### 6.1. Operation

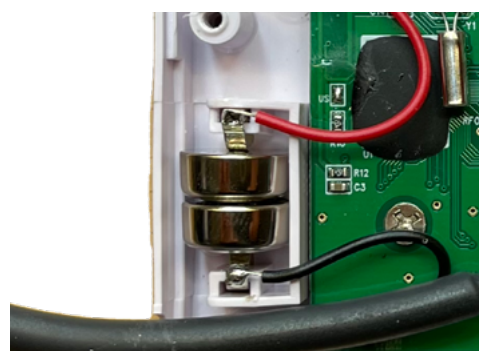
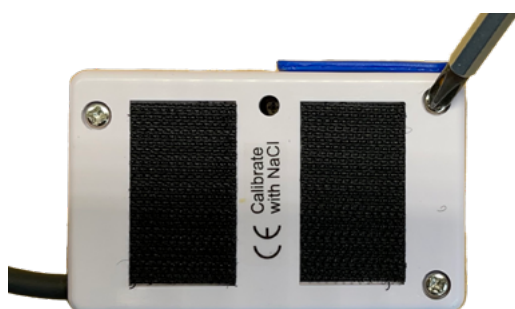
- Switch on the meter with the power button, after 10 minutes the meter switches off automatically
- The display shows the salinity of the output water in  $\mu\text{S}$
- From values above 50  $\mu\text{S}$  we recommend the exchange of the mixed bed resin



### 6.2. Replace batteries

If the display is barely legible or no longer legible, the batteries must be replaced. 2 button cells of type 357 (LR44, AG13) are installed.

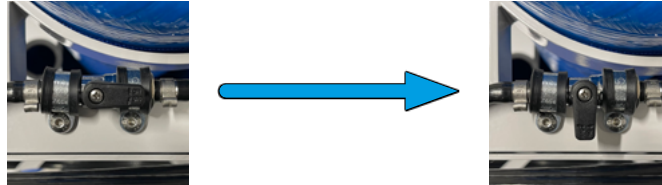
- Detach the meter from the handle, it is attached to the handle with Velcro.
- Remove the 3 screws from the bottom of the housing using a Phillips screwdriver.
- Remove the old battery and replace it with a new one, paying attention to the polarity of the batteries.
- Screw the case back together and attach it to the handle.



## 7 After cleaning

### 7.1 Dismantling

- Place the telescopic pole on the ground
- Close the tap of the house water connection
- Wait until the water from the bottle runs out
- Close the shut-off tap



#### Caution pressure on the granulate bottle

- Wait until the water has completely drained from the granulate bottle, there may still be high pressure in the granulate bottle!

- Disconnect the flex hose from the brush, remove it from the telescopic pole and roll it up
- Remove the washing brush and the aluminum joint
- Retract the telescopic pole completely
- Disconnect the hose from the house water connection

## 8 Additional information

### 8.1 Troubleshooting

Malfunctions	Causes	Solutions
No water comes out of the nozzles	<ul style="list-style-type: none"> <li>The tap of the house water connection is closed</li> <li>The stopcock is closed</li> <li>The hose is kinked</li> </ul>	<ul style="list-style-type: none"> <li>Open the stopcock and water tap</li> <li>Remove the kink from the hose</li> </ul>
The meter does not display anything	<ul style="list-style-type: none"> <li>The batteries are empty</li> </ul>	<ul style="list-style-type: none"> <li>Replacing the batteries in the meter, see <b>Page (6.2 Replacing batteries)</b></li> </ul>
Little water and an uneven spray pattern from the nozzles	<ul style="list-style-type: none"> <li>The nozzles are clogged with dirt or mixed bed resin residues</li> </ul>	<ul style="list-style-type: none"> <li>Remove the hose on the nozzles and blow through with compressed air from the nozzle side</li> </ul>

## 8.2 Maintenance and cleaning of the device and accessories

### Clean hoses

- Carefully wash or wipe off any soiling
- Dry with a clean cloth
- Check for damage and leaks
- Roll up the hose onto the hose holders

⇒ **The hose is cleaned, checked and ready for storage and transport**

### Clean telescopic pole

- Rinse the telescopic pole as well as all closures and contact surfaces with water.
- Clean the outside and inside with a soft, clean cloth
- If necessary, lubricate with commercially available silicone spray

⇒ **The telescopic pole is cleaned, checked and ready for storage and transport**

### Clean washing brush

- Rinse brushes
- Allow to air dry

⇒ **The washing brush is cleaned, checked and ready for storage and transport**

## 8.3 Replacement of the mixed bed resin

If the water quality measuring device indicates more than 50  $\mu\text{S}$ , we recommend changing the mixed bed resin.

For the exchange of the mixed bed resin, please observe the instructions of the "**User information mixed bed resin systems**" (separate publication of Lehmann KG).

## 8.4 Storage

The QLEEN PURASTART should be stored dry and at a temperature above 5 °C.

The mixed bed resin in the bottle can be stored for up to 6 months; longer storage will render it unusable due to algae and germ formation.

## 8.5 Repair and maintenance

System users and operators must not carry out any repair and maintenance work of their own on Lehmann cleaning systems.

Such work is not permitted and will result in direct loss of warranty and guarantee.

loss of warranty and guarantee.

Repair and maintenance work may only be carried out by the technical customer service of Lehmann authorized dealers or by the manufacturer, Lehmann KG.

For all repair and maintenance work, please contact your Lehmann authorized dealer from whom you purchased the cleaning system.

All repairs are carried out by trained technicians who are equipped with original spare parts for Lehmann systems.

Before contacting the authorized dealer's technical service department, please have the following information ready:

- Type, customer number, phone number, date of purchase and the most accurate description of the problem possible

## 8.6 Recycling and disposal

System, accessories and packaging - must not be disposed of with household waste.

Instead, they must be handed over to a suitable collection point for recycling or disposal.

Return shipment to Lehmann KG is also possible. The sender bears the costs of the return shipment.

Saturated mixed bed resin can be recycled or disposed of in household waste.

Please observe the instructions in the "**User Information Mixed Bed Resin Systems**" (separate publication of Lehmann KG).

## 8.7 Warranty and guarantee

Lehmann KG trusts in the quality of its products.

That is why we offer our customers in the member states of the European Union an exceptional 24-month warranty, which is understood to be without prejudice to statutory warranty claims and does not restrict them.

## 8.8 Manufacturer information

Karlhans Lehmann KG  
Kranichstrasse 2a  
D - 17235 Neustrelitz

Phone +49 (0) 3981 4885 0

Fax +49 (0) 3981 4406 20

E-Mail [info@qleen.de](mailto:info@qleen.de)

Homepage [www.qleen.de](http://www.qleen.de)

Youtube [www.youtube.com/@qleen](http://www.youtube.com/@qleen)

Facebook [www.facebook.com/lehmannkg/](http://www.facebook.com/lehmannkg/)



## 9 Technische Informationen

### 9.1 Supply connections

- Water supply via Gardena tap piece (only tap water with maximum 5 bar)
- PUREWATER outlet via 25 m flexible hose or Gardena coupling

### 9.2 Climatic operating conditions

- Permissible temperature range for system use: +5 °C to +50°C
- Maximum permissible wind speed: < 3.4 m/s (wind force 2) for work with pole set
- Maximum permissible surface temperature of surfaces to be cleaned: < 50 °C

### 9.3 Technical data

Component	Measured variables	Notes	Values
QLEEN PURASTART	Dimensions	Length / Width / Height	38 x 38 x 110 cm
	Weight	With mixed bed resin	45 KG
	Required filling quantity		25 l
	Productivity	Depending on the water quality	1000 - 10200 l PUREWATER
EC meter	Measuring range		0-9999 µS ±2 %
	Batteries		2 x button cell 357-A
Telescopic pole	Working height	Maximum	10 m
Workplace	Work and movement area	Minimum length / width	2 x 2 m
	Ground inertia	At least	250 Kg/m <sup>2</sup>
	Safety distance to power poles and lines	At least	40 m

### 9.4 CE Declaration of Conformity

This product has been extensively tested prior to market launch and complies with the legal requirements. Please see next page: **CE Declaration of Conformity**.



EC declaration of conformity



Directive 97/23/E (pressure equipment)

The documents authorized person is:

Mr. Dustin Schnabel, Lehmann KG, Kranichstraße 2a, D 17235 Neustrelitz, Germany

**Manufacturer:**

**Lehmann KG, Kranichstraße 2a, D 17235 Neustrelitz, Germany**

**hereby declares that the following products / devices match the regulations of the above mentioned directives including their amendments in force at the time of declaration.**

- **QLEEN / LEWI PURASTART in different versions**

The following harmonized standards have been applied:

EN 13923

Neustrelitz, 01.12.2016

  
-----  
H.J. Supthut  
Executive Director

Karlheinz Lehmann KG  
Kranichstraße 2 a  
17235 NEUSTRELITZ



**Karlhans Lehmann KG, Kranichstrasse 2a, DE -17235 Neustrelitz**

Homepage: [www.qleen.de](http://www.qleen.de)  
Telefon: **+49 (0)3981 48850**  
E-Mail: [info@qleen.de](mailto:info@qleen.de)