

# QLEEN

PURE WATER CLEANING SYSTEMS

## User information mix-bed resin system

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Version 10 / 2016



## **User information mix-bed resin system (handling, replacement, recycling, disposal)**

We are delighted that you have decided for a Lehmann mix-bed resin system. Before you start to work with demineralized water (pure water), we would like to provide you with some important user and safety information. We kindly ask you to read them carefully and to essentially comply with. As owner and operator of a Lehmann cleaning system also make sure that your staff has read this **“User information mix-bed resin”**, too, and observes the safety and warning information.

Furthermore, we kindly ask you to consider and observe the General User and Safety information (see Lehmann publication **“General User and Safety Information”**).

The document on hand is the original user information. It was written in German language. Versions in other languages are translations of this original user information.

### **Manufacturer / Editor**

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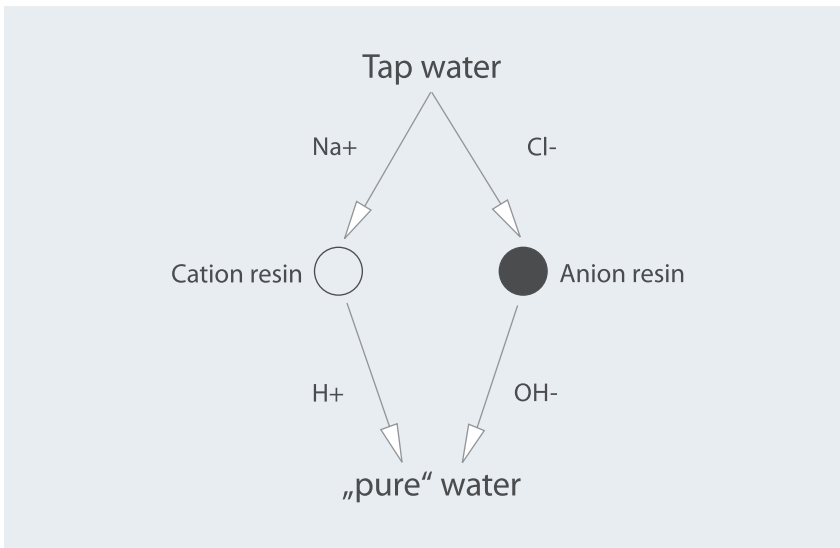
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### **Country of origin**

Federal Republic of Germany Deutschland

# 1. Description of the PURAQLEEN procedure (Cleaning with demineralized water)

The high chemical-free cleaning power of pure water is the principle the Lehmann PURAQLEEN procedure for glass and façade cleaning is based on. Tap water is conducted through a mix-bed resin system there (granulate bottle). The minerals contained in tap water adhere to the granulate (mix-bed resin). The tap water is demineralized and fed to the pump as pure water and to the cleaning head afterwards. Pure water has not only excellent wetting capacities, but also dries without leaving stains and streaks even in strongest sunlight. Thus, a use of detergents can be omitted in many cases (exception: greasy, oily or very heavy pollutions).



## 1.1 Product overview PURAQLEEN-demineralisation station (mix-bed resin system)

1. Bottle for mix-bed resin (25 l / 12.5 l)
2. Mix-bed resin (new or recycled)
3. Bottle top with riser and filter
4. Bottle top
5. Screw cap
6. Tool for assembly / disassembly of the bottle top

## 1.2 Safety remark

Pure water (= demineralized water) freezes – different from tap water – already at +1°C. Thus, no cleaning works with demineralized water are allowed at outside air temperatures below +3 °C. The demineralization station and the mix-bed resin must be protected against temperatures below +1 °C and frost, because frost may damage the water-conducting parts of the cleaning system. Mix-bed resin must be stored frost-free and must be used only for cleaning works up to +50 °C maximum.



## 2. Handling mix-bed resin

Lehmann cleaning systems are delivered with full granulate bottle. The granulate bottle is immediately ready for use. The following table displays the amount of pure water that can be produced (in l, right column) with one granulate bottle filling depending on the water's electrical conductivity (in  $\mu\text{S}$ ; left column):

$\mu\text{S}$	l	$\mu\text{S}$	l
100	11.500	600	1.900
200	5.700	700	1.650
300	3.850	800	1.450
400	2.850	900	1.250
500	2.300	1000	1.150

## 3. Replacing the mix-bed resin

The mix-bed resin must always be replaced

- if the device measuring the water conductivity displays a value higher than „050“ ( $\mu\text{S}$ ).

If the measuring device displays a value higher than „010“ ( $\mu\text{S}$ ), the granulate is about 80% saturated and has to be replaced as soon as possible. It has to be taken into account that the measuring value does not increase linearly but exponentially. A working pressure of 5 bar applies to the water conducting system. Due to this, the pressure must be removed from the granulate before replacement.

New granulate can be ordered in 25-litre-sacks (accessories), either as new granulate or as recycled granulate. The 25-litre-sacks must be stored in a suitable room. The room must be well ventilated, dry and frost-free and have a clean and even ground with sufficient load-bearing capacity. Recycled granulate has an about 80% productivity compared to new granulate. To have the system ready for operation at any time, it is recommended to permanently have at least one granulate bottle in reserve (accessory).

### Procedure

#### CAUTION

Electrical Shock Hazard! The live system and accessory parts and plugs must not be touched with wet hands. Protective gloves must be worn.

1. Disconnect the system from power supply\*

▷ Unplug the main plug

✓ The system is disconnected from the power supply.

2. Remove the system pressure

▷ Open all levers at the system and put them into position „open“ to do so

✓ The system is pressureless.

3. Shut off the water supply and disconnect the hose connection at the quick fastener at the granulate bottle top



✓ The water supply is shut off and the quick fastener is disconnected.

4. Disassemble saturated granulate bottles

▷ Put granulate bottle into upright position

▷ Cautiously lift down the granulate bottle from the system trolley



- The granulate bottle weighs about 30 kg in this status!

**⚠ CAUTION**

Risk of crushing! Feed might get jammed by the granulate bottle.

- Wear safety shoes!
- Set off the granulate bottle on even ground with sufficient load-bearing capacity only

▷ Put the granulate bottle on the ground in upright position and protect it against tipping over

5. Return saturated granulate bottles to the Lehmann KG (Option 1 – this service is currently offered for Germany only)

- ▷ Cautiously disassemble bottle top with hose and filter
- ▷ Cautiously put the granulate bottle into tilted position
- ▷ Drain surplus water – hold possibly escaping granulate with a sieve or with your hand
- ▷ Close the granulate bottle carefully with the screw cap
- ▷ Check the screw cap for tightness
- ▷ Send the saturated granulate bottle back to the Lehmann KG with return note

- The granulate bottle must be closed absolutely secure/tight. No water must escape during transportation!

✓ The granulate bottle is prepared for sending.

6. Replace saturated granulate yourself (Option 2)

- ▷ Cautiously disassemble the bottle top with hose and filter
- ▷ Cautiously bring the granulate bottle into tilted position and remove the granulate-water-mix from the granulate bottle
- ▷ Cautiously bring the granulate bottle in tilted position over a collection tank (about 30 l volume)
- ▷ Pour out the granulate-water-mix quickly
- ▷ Rinse and flush granulate remains with water
- ▷ Strain off the collection tank cautiously
- ▷ Hold back the granulate with a sieve or by hand
- ▷ Dispose the drained granulate into the household waste or, within Germany, by sending it back for recycling (see 4, please, Recycling or Disposal)

**⚠ CAUTION**

Risk of crushing! Feed might get jammed by the granulate bottle.

- Wear safety shoes!
- Set off the granulate bottle on even ground with sufficient load-bearing capacity only

- ▷ Protect the granulate bottle against tipping over
- ▷ Cautiously fill in new granulate

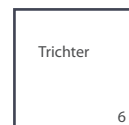
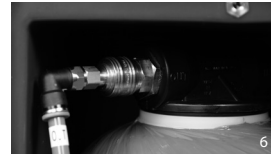
- Use a sufficiently big funnel as filling aid here
- A bottle filling needs a 25-litre-sack of granulate

▷ In case the granulate bottle is not immediately recommissioned again: Close the granulate bottle with the screw cap

✓ The granulate was replaced

7. Assemble the granulate bottle

- ▷ Unfasten the screw cap from the new granulate bottle
- ▷ Slowly and cautiously fill the granulate bottle with water until the granulate is lastingly covered by water



- The process will take a few minutes because the granulate soaks with water only slowly
- > Check if the position of the riser pipe in the granulate bottle head is correct
- The riser pipe must be pressed flush and up to the stop into the granulate bottle head and fit closely at the sides
  - In case of leakages at the riser pipe tap and pure water will mix which can result into a reduced cleaning performance.
- ▷ Rinse the granulate bottle top, the riser pipe fastened to it included, with cautious but quick upward and downward movements into the granulate
- ▷ Clean the thread at the granulate bottle head from granulate remains
- ▷ Fasten den granulate bottle head by screwing into clockwise direction
- ✓ The granulate bottle is screwed together.

#### 8. Assemble granulate bottle

- ▷ Lift the granulate bottle cautiously into the system
- The granulate bottle weighs about 30 kg in this status!
- ▷ Connect the two hoses at the granulate bottle top with the two quick fasteners (IN, OUT) with the granulate bottle top.
- ▷ Fasten the front lid again

✓ **The granulate bottle is assembled**

## 4. Recycling or Disposal

You have the following options for recycling or disposing the saturated granulate:

1. Return the saturated granulate bottle to Lehmann KG for exchange. This exchange service is offered inside Germany only:
  - The return to Lehmann KG is done via a return note that is enclosed to the granulate bottle. The saturated granulate is recycled at the Lehmann KG.
2. Replace the saturated granulate yourself and return it to Lehmann KG for processing:
  - Loose saturate granulate can – properly packed – send back to the Lehmann KG. The shipping costs are paid by the sender.
3. Replace the saturated granulate yourself and dispose it as household waste:
  - The granulate is environmentally neutral and can be disposed as household waste.
  - Still, we kindly ask you to consider possible information provided by your regional disposal service company.

## 5. Accessories

The Lehmann KG offers a wide range of accessories and spare parts. In case of interest we will be pleased to send you the current overview. Just send a request to [info@lewi.de](mailto:info@lewi.de) or call us: **(+49) 03981 488 50**.



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