# THE ROWA® Anti-limescale Unit MANUAL

**● No chemicals ● No electricity ● Maintenance-free**
**Catalytic granulate for limescale stabilising**

## Things worth knowing about the ROWA® anti-limescale unit

### *Why do we even need to treat our drinking water?*

The drinking water provided by water works in the Federal Republic of Germany fulfils the criteria of the German Drinking Water Ordinance and thus meets legal requirements.

Minerals dissolved in water cause (in a crystalline form) a stubborn, adhering coating to form in pipes and hot water tanks. As permanent clinging white layers, they also adhere to shower partitions, ceramics, bathroom fittings, etc.

The service life of drinking water installations and connected technical equipment is heavily dependent on the avoidance of these limescale formations.

Limescale on, for example, heating elements acts like an insulating layer, ensuring that heating of water consumes considerably more energy. The avoidance of limescale therefore results in considerable savings in energy costs. And this pays cash dividends for you.

In drinking water heating systems, limescale formation in the pipes of heat exchangers and hot water tanks conceals yet another danger:

So-called “dead spaces” form in this part of the installation system as a result of limescale formation. Bacteria conveyed in from outside can multiply in these spaces and negatively impair the hygienic quality of this water. No limescale formation means no dead spaces and, consequently, enhanced hygienic safety.

The absence of adhering limescale layers on visible surfaces in the household and commercial premises considerably facilitates cleaning of these and means that aggressive acids in cleaning agents can be avoided.

**The effect of ROWA® anti-limescale granulates on water can be compared to the difference between snow and ice.**

**With the ROWA® anti-limescale unit, limescale crystals are transformed into snowflakes and can be simply wiped away.**

**Without the ROWA® anti-limescale unit, limescale crystals adhere to the surface like a thick layer of ice and can only be removed with a solvent and/or the exertion of extreme force.**

## *What is the difference between a water softener and the ROWA® anti-limescale process?*

## *How does a chemical softener function?*

A water softener (ion exchanger) involves practically complete replacement of calcium ions on the surface of the so-called ion exchange resin with sodium ions. Water that is chemically altered in this manner (soft water) no longer meets the limit values specified in the Drinking Water Ordinance and exhibits a ph value considerably below neutral (pH 7.0). Using further technical equipment, this water is blended with the remaining drinking water supplied (which is not descaled) using blending valves until it once again meets the criteria of the Drinking Water Ordinance.

This system is static and cannot react to changing levels of hardness of the drinking water supplied (mixed water). Systems require regular technical maintenance. The effectiveness of the ion exchange resin is strictly limited. Systems require regeneration every two to three weeks (depending on the water consumption and level of hardness involved). Regeneration after 3 days at the latest is recommended for reasons of hygiene.

This is achieved by introducing a concentrated saline solution into the unit. The concentration of salt in the treated drinking water is increased. In the event of malfunctions of this technical system, the drinking water may no longer meet the requirements of the Drinking Water Ordinance.

The softening process entails continuous operating costs relating to brine (tablet salt) and personnel costs for maintenance.

## *And what is the advantage of the ROWA® anti-limescale unit?*

The **ROWA® anti-limescale** unit functions with a catalytic surface backed by small ceramic granulate. So-called seed crystals form initially in a natural manner in stage 1 when the drinking water makes contact with this ceramic surface. These seed crystals are conveyed further into the building water installation with the drinking water.

Immediately after the formation of these **ROWA® anti-limescale** seed crystals form, they lead to further bonding of lime dissolved in the water to their surfaces. Small limescale crystals form during this which do not exceed 30 µm (1/1000 mm = 0.001 mm, by way of comparison: a human hair has a diameter of 180 µm). These crystals are conveyed with the water and no longer adhere to surfaces.

This new structure prevents limescale deposits without altering the natural composition of the water. The water remains free of chemicals. The unit does not require any special maintenance.

## *We work/live in an old building.*

## *What will happen if the ROWA® anti-limescale unit removes existing limescale or rust incrustations from the pipework system?*

Removal of limescale deposits can occur over a period of six months or longer. This depends on the volume of deposits present and the amount of water you consume. The quality of drinking water is completely preserved during this period, thanks to the slow removal of the corrosion and limescale layer. A slight darkening may occur during the first few weeks, an indication of the effectiveness of the removal of old incrustations.

If the inner walls of your pipes are intact, timely use of the ROWA® anti-limescale unit leads to the formation of protective layers which protect the pipes and heat exchangers against limescale deposits and fresh corrosion.

Pipes which are already defective are not repaired by the **ROWA® anti-limescale unit**. The incrustation may have initially plugged a hole caused by corrosion for some time in the case of extreme limescale formation in your pipework system.

**Check your drinking water filter!**
**! A drinking water filter has been obligatory in every house since 1988.**

If, despite the DIN 1988 technical regulation, you do not have one of the prescribed drinking water filters behind the water meter, there is a risk that so-called pitting may have occurred in your installation caused by foreign particles from the external mains supply network, which, due to the absence of a filter, have not been intercepted.

Protect your installation with a filter!

## *If the water emerging from our pipe system after a lengthy shutdown is discoloured brown by corrosion?*

The limescale and corrosion layer on the inner pipe walls is first disintegrated after installation of the **ROWA® anti-limescale unit**. Discoloured (rusty brown) water emerging from the tap is an indication that these incrustations are still being removed. This removal should be completed after a few months, and a protective coating will then have formed on the inner walls of the pipes. No more corrosion will occur after this. The discolouring of the water vanishes and does not reoccur.

It can only arise again at those tap points which are seldom used (e.g. the guest toilette).

## *Is the water quality maintained through the use of the ROWA® anti-limescale unit?*

Yes, completely! Rather than remove lime from the water, the ROWA® anti-limescale unit holds it suspended in the form of small mature limescale crystals. These crystals can no longer stubbornly adhere to surfaces.

## *Will I save washing agent?*

Many **ROWA® anti-limescale unit** customers have confirmed that they have saved on the use of washing agent. The respective public utility company/water works, as a provider, recommends in any case that washing agent use be reduced to a minimum – regardless of whether it is free of phosphates or not.

All washing agent ingredients enter sewage plants in waste water and thus place a burden on purification stages and the environment. You should therefore please try to reduce your previous dosage by approx. 25 %.

## *What do I need to consider when I install the ROWA® anti-limescale unit and am using a washing machine and dishwasher?*

**A) Dishwasher in the household (non-commercial use)**

1) You do not need special softener tablets or expensive combination elements anymore (3 in 1, salt and clear rinser function in one). We recommend the use of a normal washing-up agent in powder form.

2) Where a rinsing agent is used, we recommend a ph-neutral clear rinser (ph value 7). This also reduces the burden on the environment and waste water. You can halve the amount of clear rinser you use without concern (i.e. reduce the dosage to zone/stage I).

3) Please check at this opportunity whether your tableware and cutlery are suitable for cleaning in your dishwasher (check the instructions supplied by the manufacturers).

**B) Washing machine (non-commercial)**

We have already explained above that you can lower the dosage of your washing agent. This will further preserve your machine.

The rubber hoses and heating elements in your washing machine are also protected against limescale formation by the **ROWA® anti-limescale** effect. You will no longer need to use so-called softener tablets or other softening agents to protect your washing machine.

## *I have a steam cooker in the kitchen and notice traces of limescale dust on the stainless steel plates in the steaming chamber after cleaning.*

## *What does this indicate?*

Limescale crystals stabilised by the **ROWA® anti-limescale unit** are flushed into the steaming chamber with the water. The water evaporates on the warm plates following clear rinsing after cleaning, leaving a residue of limescale crystals. However, these do not adhere. If this condition is visually unwelcome, simply wipe the dry plate with a microfibre cloth.

## *I have a steam cooker with a boiler and automatic descaling program.*

## *How can I check whether the appliance is protected against limescale?*

Limescale formation in the boiler and on the delicate heat exchangers located there can be checked by opening the boiler when the appliance is cold (please refer to the steam cooker operating instructions). **(Caution! Do not open when hot!)**

If you check the circulating pump (it can be illuminated through the inlet and outlet with a flashlight) during the next planned customer service of your steam cooker, you will not find any more solid shards of limescale. Solid limescale particles will also not emerge if the pump is tapped out.

This will assure you that the steam cooker will no longer malfunction as a result of limescale formation and that you do not need a new pump.

An important factor when it comes to reducing costs!

## *Can I stop descaling my household coffee machine now?*

The answer depends on whether the heating elements of your coffee machine deactivate automatically or not after the water has flown through to the glass coffee pot. We recommend the following to ascertain this: Switch on the coffee machine again after making coffee, even when you have removed the coffee pot from the machine.

Place the receptacle under the hot water outlet and pour a little water into the cold water compartment after about five minutes.

**Case 1:** The heating elements in the appliance have continued to heat if the water evaporates immediately. Continue to descale your coffee machine regularly in this case, because the limescale has been burnt solid by the high heating temperature of the heating elements after the water has dried up.

**Case 2:** If no water evaporates, the heating elements deactivate the appliance automatically after the coffee has passed through completely. Only the hotplate remains activated. Limescale accumulations are prevented as a result.

## *We use an appliance to make mineral water with carbon dioxide. I am beginning to get the feeling that, since installing the ROWA® anti-limescale unit, the water smells differently after the addition of carbon dioxide.*

## *Is this possible? What does it indicate? Will this continue in this manner?*

The **ROWA®** anti-limescale unit process disintegrates old incrustations and deposits in existing water pipe systems. This uppermost layer is disintegrated first with great intensity when cleansing commences with the **ROWA®** anti-limescale unit.

The residue released in this manner is not harmful to health, but it can lead to this odour after carbon dioxide is added. However, this phenomenon diminishes markedly after the first few days, eventually vanishing completely.

## *White limescale dust forms on tiles, fittings and the shower walls.*

## *What can I do to stop this?*

The lime dissolved in water is converted into fine crystals by the **ROWA®** anti-limescale unit which do not adhere to surfaces. However, if the water containing the crystals evaporates, the crystals remain on the surface in a form resembling powdered sugar. These, however, do not adhere stubbornly to surfaces.

Tiles, fittings and shower walls can be cleaned with a damp cloth without the need for special acidic cleaning agents. This applies particularly if the bathroom is only used occasionally and old limescale dust is not removed with fresh water in any case during regular use.

Regular cleaning with a conventional, gentle household cleaning agent will help. Where cleaning is only carried out irregularly, limescale dust lying on surfaces can combine with other dirt particles, hair spray, deodorant residue and nicotine to form an adhering layer of dirt. This layer then consists of limescale, but also other adhering particles which can be removed through regular cleaning.

## *Can shower heads and filters in hand-held sprinklers and/or aerators still be afflicted with limescale after the ROWA® anti-limescale catalyst has been newly installed?*

## *I sometimes think the water pressure is getting worse rather than better.*

## *Is this possible?*

Aerators and shower heads remain free of stubborn limescale incrustations after installation of the **ROWA® anti-limescale unit**. However, small limescale rings may form on the outer edges of the jets and aerators. These can also be wiped away easily after a few days with a damp cloth or damp brush.

The increased removal of limescale and corrosion particles which are retained in fine filters in aerators and shower fittings collect behind the aerators. After installation of the **ROWA® anti-limescale unit** in old pipe systems, blockages of aerators and the filters between the shower head and flexible hose may occur.

You should in these cases unscrew the aerators and filters regularly over a period of approx. 3 months and rinse them out briefly.

However, the **ROWA® anti-limescale unit** does not prevent loosened rust, sand, metal and hemp particles penetrating the household pipe system from the external public mains supply. The installation of a protective filter behind the water meter is recommended here, as described in the DIN 1988 technical regulation (see Page 3 in this respect).

## *Can I continue to drink the drinking water which, due the ROWA® anti-limescale effect, permanently conveys lime in crystalline form without the need to worry?*

## *What happens to the fine limescale crystals in my stomach?*

Acids are agents utilised to dissolve solid limescale particles and crystals. This is also the mechanism that acts in the stomach and digestive tract when solid chalk and magnesium tablets are taken. The digestive juices in the stomach contain hydrochloric acid and are extremely acidic. **All** limescale crystals are thus converted to solution and can then pass through the membranes of our digestive system.

This is why you can drink treated drinking water while using the **ROWA®** anti-limescale unit without any need for concern.