



Systems

**BECOME A  
WATER  
EXPERT!**

**This is how  
your water gets into top shape**

*The solution for your specific requirements.*

grünbeck

# WE HAVE THE SOLUTION FOR YOUR APPLICATION

## QUALITY, SERVICE & VARIETY

### What drives us

Our water is one of the most valuable resources. We are well aware of this fact and the associated considerable responsibility in terms of people and the environment. It is our passion to redefine water quality all over the world.

### The Grünbeck principle: Expertise

From a scientific point of view, the abbreviation „H<sub>2</sub>O“ is an adequate description of water. But to you and many others, water means so much more: Growth, food, health. Anyone analysing this valuable element in depth needs to take all of this into consideration. Grünbeck, more than any other company, is devoted to this subject. To us, your water becomes science. We therefore have a better understanding of how things relate and can get the best out of it for you.

### Values are decisive – and not just pH values.

In addition to knowledge, it is primarily values that Grünbeck cultivates and conveys: responsibility for water as food, high performance, service, quality, innovation, openness and transparency.

### We supply multi-sector product solutions for

- ✓ Residential applications
- ✓ Hygiene and the health industry
- ✓ Food and beverage industry
- ✓ Energy supply
- ✓ Water supply
- ✓ Swimming pool technology

### Proven processes and pioneering innovations

- ✓ Filtration
- ✓ Activated carbon filtration
- ✓ Removal of heavy metals
- ✓ Deacidification
- ✓ Desulphurisation
- ✓ Membrane processes such as reverse osmosis
- ✓ Ion exchanger process such as softening
- ✓ Disinfection
- ✓ Water reuse
- ✓ Neutralisation
- ✓ Membrane-based capacitive deionisation (MCDI)
- ✓ Water treatment for swimming pools

**LEITPROJEKT**  
2024

**LEITPROJEKT**  
KUMAS – Kompetenzzentrum Umwelt e. V.  
verleiht der

**Grünbeck AG**  
Höchstädt a. d. Donau

für das Projekt  
**Innovatives, neues Verfahren zur  
Spülabwasseraufbereitung für Schwimmbäder**

den Status  
**Offizielles Leitprojekt 2024**

Augsburg, 5. Dezember 2024  
Dr. Joachim Knüpfer, Erster Vorsitzender  
KUMAS – Kompetenzzentrum Umwelt e. V.

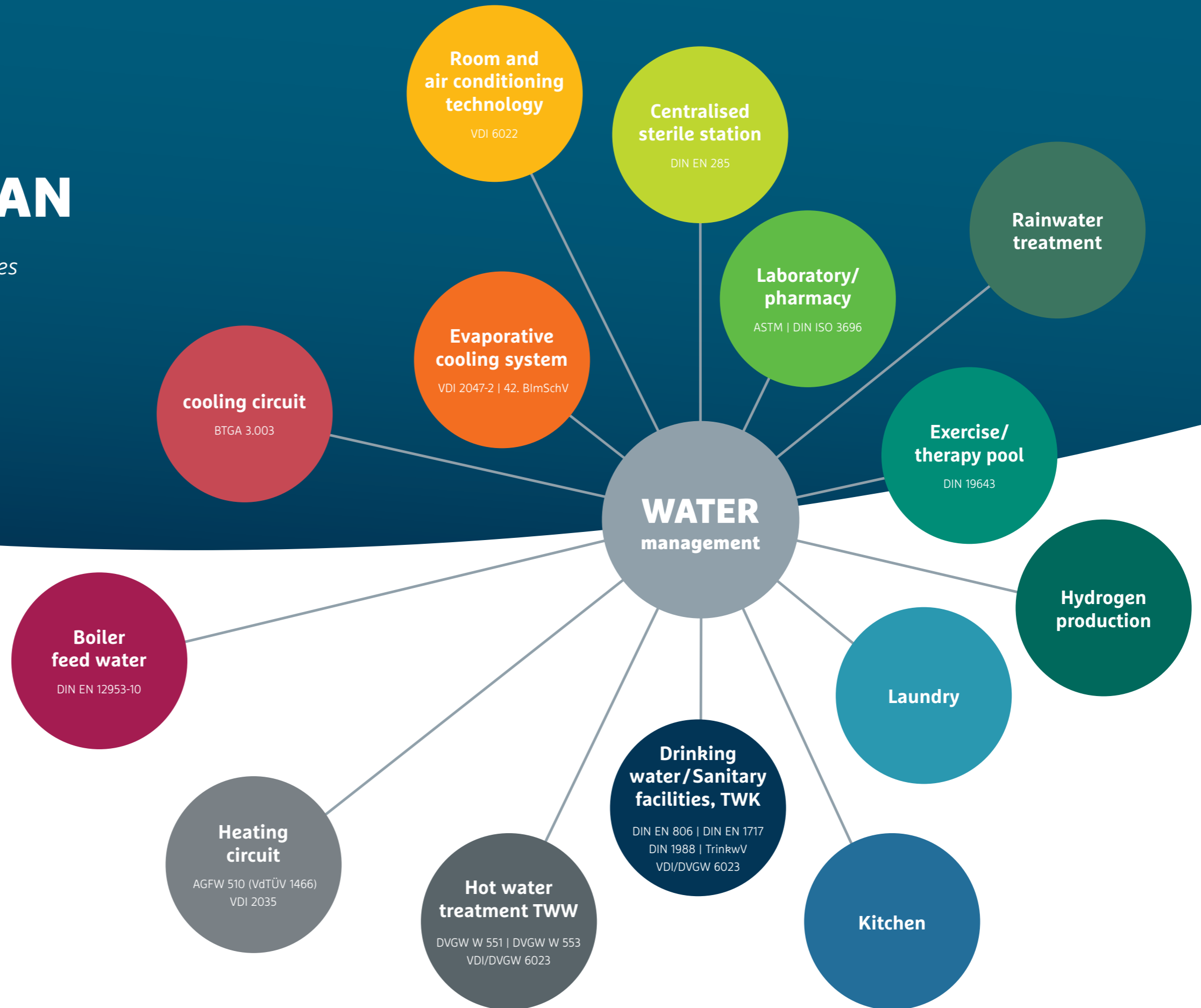
[www.kumas.de](http://www.kumas.de)

### Grünbeck receives the coveted KUMAS award

Our spaliQ:RU backwash water treatment plant impressed the independent expert jury of the KUMAS environmental network with its energy efficiency and resource conservation, and was named an "Official Flagship Project 2024". The system is considered an innovative process for treating backwash water in swimming pools and is already in use at the WWK Arena of FC Augsburg, among other locations. KUMAS, the Centre of Excellence for the Environment in Augsburg, confers the status of "Official Flagship Project" upon outstanding environmental innovations every year.

# OUR WATER CAN

Exactly what your water system requires



## Ready for any of your requirements

Water is more versatile than you might think. In our everyday lives, we constantly come into contact with this valuable resource – even when its use is not obvious. But one thing is clear: The right water improves our comfort, our safety and our quality of life. And this is also thanks to strict regulations and normative regulations. Our technically flawless treatment plants meet all current standards, ensuring a reliable supply in every application.

## Individuality is standard for us

There are two parameters that make water treatment complex: On the one hand, there is the varying quality of the raw water and, on the other, the individual requirements for your application. And that is precisely where we at Grünbeck come in. We analyse, design and manufacture tailor-made water treatment solutions that ultimately increase efficiency, ensure hygiene and protect downstream installations.



# EVERYTHING FROM A SINGLE SOURCE.

- 1 Cooling tower**  
Water is used in cooling towers to cool industrial processes or buildings. This can lead to the formation of deposits, corrosion and biological impurities (e.g. Legionella bacteria), which severely impair efficiency. Specific water treatment extends the service life of the system and reduces maintenance costs.
- 2 Rainwater treatment**  
Professional treatment makes rainwater usable for industrial purposes. This saves precious drinking water and reduces consumption costs. At the same time, the environment is protected thanks to a reduction in the amount of waste water.
- 3 Centralised water treatment**  
In large building complexes, central water treatment ensures consistent water quality. This protects pipes and connected devices from scaling, corrosion and impurities.
- 4 Swimming pool technology**  
The water in swimming pools must be treated continuously to guarantee hygienic conditions for bathers. Water treatment ensures clear, clean water and minimises health risks. It also helps to maintain the balance of chemical additives.
- 5 Kitchens**  
In industrial kitchens, hygienically safe water is essential for preparing food and beverages. It improves their taste and appearance. Treated water also prevents scaling in devices such as coffee machines or dishwashers.
- 6 Heating systems**  
Tap water can cause deposits and malfunctions in heat exchangers and lines. Water treatment improves the energy efficiency of the system and extends its service life.
- 7 Laundries**  
In laundries, water quality plays a key role in cleaning results and machine performance. Treated water prevents scale deposits, which can impair the effectiveness of detergents and damage machines. In addition, soft water requires less detergent, which saves costs and protects the environment. Textiles also remain in a good condition for longer.
- 8 Laboratories**  
Depending on the application, laboratories require water of very high purity, e.g. deionised or distilled water. Reliable water treatment ensures that analyses remain reproducible and accurate. It also protects sensitive devices and analytical instruments from damage.
- 9 CSSD (Central Sterile Services Department)**  
In the CSSD, water quality is crucial for the sterile reprocessing of medical instruments. Residues in the water, such as salts or organic substances, can impair sterilisation or lead to deposits on instruments. Ultra pure water ensures hygienic reprocessing and protects sensitive medical technology.
- 10 Osmosis system on a rental basis**  
High-grade water is often not available in remote buildings or temporary facilities. A mobile osmosis system available for hire enables water to be treated according to requirements. It provides a flexible solution without the need for long-term investment.
- 11 Biogas**  
In biogas production, water is required, for example, for substrate treatment or for cleaning gases. Untreated water can attack facility components or disrupt the biology in the fermenter. Specific water treatment improves process reliability and increases the efficiency of the gas yield.
- 12 Hydrogen (H<sub>2</sub>)**  
The production of hydrogen via electrolysis requires highly pure water, given that impurities can damage the electrodes or render the process inefficient. Only thorough water treatment can guarantee the required purity. Water quality also plays a key role in fuel cell technology.
- 13 Water dispenser**  
Enjoy high-grade table water without any logistical or time expenditure. This is possible thanks to hygienically safe water dispensers. They are connected directly to the water pipe and help to reduce disposable bottles and transport routes.

# REFERENCES

## Klinikum Starnberg

Klinikum Starnberg is a municipal hospital providing basic and standard care with 312 beds and treats just over 22,100 inpatients per year (as of 2024). The main departments are internal medicine, general and visceral surgery, endocrine surgery, trauma surgery and orthopaedics, hand surgery, gynaecology/obstetrics (with the Wolfratshausen branch), paediatrics/neonatology, urology and anaesthesia, as well as the affiliated departments of HNO, plastic surgery, neurology and gastroenterology.



Since early 2000, Starnberg Hospital has been using a water treatment system from Grünbeck. The last update was carried out in 2022.

### REQUEST FOR EXPANSION

A redundant water treatment system for supplying on-site steam sterilisers.

### Required water quality:

Conductivity < 5 µS/cm approx. 1,000 l/h

In the new request in 2021, the existing Grünbeck system for the CSSD was to be supplemented with an additional line as redundancy.

### Required water quality:

Conductivity 0.2 µS/cm approx. 2,000 l/h

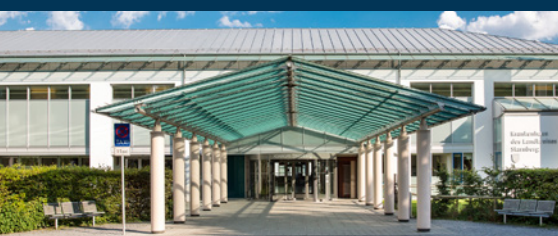
### IMPLEMENTATION

First request: 10/2017, commissioning 02/2018

Second request: 06/2021, commissioning 11/2022

### FUNCTION

Water treatment for the CSSD



### Klinikum Starnberg

Two-stage reverse osmosis system for the generation of permeate with a conductivity of < 5 µS/cm for supplying the on-site steam steriliser

### SYSTEM COMPONENTS

- 2 x GENO backwash filter MXA 2" at the water's point of entry to the house, parallel piping

- 2 x Delta-p DN40 at the water's point of entry to the house with external electronic blending

### System 2018

- 2 x fine filter pureliQ:KD25
- 2 x Euro system separator GENO-DK2 1"
- 2 x water softener GENO-mat duo WE-X 150
- 2 x automatic water analysis system GENO-softwatch Komfort
- 2 x GENO-activated carbon filter AKF 1600
- 2 x reverse osmosis GENO-OSMO-X 1200 «S»
- 2 x GENO membrane degassing MEC 2200-2
- 2 x permeate stage reverse osmosis GENO-OSMO-X 1100 «S»
- Switch cabinet for activation of 2 membrane-equipped systems
- 3 x permeate tanks 3,000 litres with CO<sub>2</sub> trap and sterile air filter
- 2 x pressure booster GENO-FU 16/40-1 NE

### System 2022

- Fine filter pureliQ:KD25
- Euro system separator GENO-DK2 1"
- Automatic water analysis system GENO-softwatch Komfort
- GENO-activated carbon filter AKF 3000
- Reverse osmosis GENO-OSMO-X 2200
- GENO membrane degassing MEC 2200-2
- Electrodeionisation GENO-EDI-X 2000
- 3 x permeate tanks 3,000 litres with CO<sub>2</sub> trap and sterile air filter
- 2 x pressure booster GENO-FU 16/40-1 NE
- UV disinfection system violiQ:UV120i-comfort
- 2 x sterile water filter



### Grand Resort Hotel Suhl

Ultrafiltration system GENO-Ultrafil BW-W 53/70



### L&T Sporthaus

Filter system GENO-mat BWK-X 1200 EV-A "Special"



### Deutsche Rentenversicherung Bayern Süd

Water softeners with anti-corrosion dosing



**Chirurgische Klinik Seefeld**

Two-line reverse osmosis system two-stage for the generation of permeate with a conductivity of <math>< 5 \mu\text{S}/\text{cm}</math> for supplying the on-site steam steriliser



**Universitätsklinikum Jena**

2-stage osmosis technology with concentrate treatment, UV technology and sterile filtration



**Neubau Klinik Altötting**

3 water softeners with external electronic blending for drinking water supply, 3 reverse osmosis systems with superordinate main switch cabinet for cooling and electrodeionisation (EDI) for the CSSD with UV system – sterile filter and loop through the building



**Milchwerke Berchtesgadener Land Chiemgau eG**

4 reverse osmosis systems, each with a capacity of  $7 \text{ m}^3/\text{h}$ , for boiler feed water for a steam plant and process water in the factory, additional concentrate stage to recycle up to 50% of the waste water from the reverse osmosis systems



# From experts for experts

# Reliable service

*This is what makes the difference*

And even when your system is up and running, we'll continue to provide you with all-round support through our service network.



The Grünbeck Forum is a unique institution and sets standards in the dissemination of WATER KNOWLEDGE. In an area of over 1,400 m<sup>2</sup>, experts use state-of-the-art equipment to pass on their know-how to people from a wide range of industries: the plumbing trade, plant engineering, the beverage and food industry, energy plants and the hygiene and health sector.

### Seminars and advanced training

Knowledge is a valuable treasure and the fundamental basis for effectively using technical innovations, for meeting the legal requirements that serve to protect water and for convincing customers of the benefits of Grünbeck's technologies.

### The bottom line: unique

You give us a task, we find a solution. That's exactly how you can imagine Grünbeck's support for your water management. Even if the applications and procedures are repeated, in the end, the focus is on your specific project and your requirements. We support you every step along the way, from the quotation to final acceptance.

The project results are as unique as your starting points. You can find numerous reference projects in various areas at [gruenbeck.com](http://gruenbeck.com).

# 100

Employees in field sales

# 260

Employees in service

# 75

Years of water knowledge



# 27

Locations: international

# 25

Locations: throughout Germany



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Exclusive Partner

