System log for warm water heating systems

grünbeck

1 Customer data

First name	Last name
Street	Postal code, place
Phone	Email

2 System data

System designation (make/type)					
Heat generator					
Date of installation					
Water values derived from an analysis of the drinking water supply	pH value		Total hardness mmol/l		Conductivity µS/cm	
Individual heating capacities in kW (in case of multi-boiler systems)					
Total heating capacity in kW					
System volume in litres					
Specific system volume in litres/kW	Single-boiler system (system volume: total heating capacity) Multi-boiler system (system volume: lowest individual capacity)				
Maximum admissible filling and make-up water volume in litres	3 x system volume				

3 Heating system materials and components

Heat generator	Cast iron ☐ Steel ☐		Aluminium ☐ Stainless steel ☐	
Heat exchanger	Aluminium ☐ Aluminium-silicon ☐		Stainless steel	☐
Pipes	Steel ☐ Carbon steel ☐ Stainless steel ☐		Plastics ☐ Copper ☐	
Radiators	Aluminium	☐	Steel	☐
Fittings	Cast iron ☐ Red bronze ☐ Steel ☐		Brass ☐ Stainless steel ☐	
Buffer tanks	Steel	☐	Enamelled steel	☐
Heating pumps	Steel ☐ Brass ☐		Aluminium ☐ Stainless steel ☐	

4 Requirements on the water quality as per VDI 2035

*The **VDI 2035** sets out rules to prevent damage caused by scaling and corrosion at drinking water heaters and warm water heating systems.*

VDI 2035 sheet 1 | Standard values for filling and make-up water

Total heating capacity in kW	Specific system volume ≤ 20 l/kW	Specific system volume ≤ 50 l/kW	Specific system volume ≥ 50 l/kW
< 50	Standard value: < 3 mmol/l Circulatory-type water heater or electric heating < 0.3 l/kW	≤ 2 mmol/l	< 0.02 mmol/l
> 50 to ≤ 200	≤ 2 mmol/l	≤ 1.5 mmol/	< 0.02 mmol/l
> 200 to ≤ 600	≤ 1.5 mmol/	< 0.02 mmol/l	< 0.02 mmol/l
> 600	< 0.02 mmol/l	< 0.02 mmol/l	< 0.02 mmol/l

VDI 2035 sheet 2 | Standard values for the heating water

		Low-salt	Saline
Conductivity at 25 °C	µS/cm	< 100	100 to 1,500
Aspect		Free from sedimenting matter	
Oxygen	mg/litre	< 0.1	< 0.02
pH value at 25 °C		8.2 to 10 (aluminium: 6.5 to 8.5) (aluminium + other metal materials: 8.2 to 8.5)	

Grünbeck recommends filling the heating system with the 2-component system

This systems fulfils all the requirements stipulated in **VDI 2035**, sheet 1 and sheet 2 as well as in the joint work sheet by the BDH (Federal Association of the German Heating Industry) and the ZVSHK (German Central Association for Sanitary, Heating, Air-conditioning). Treated water ensures the protection from scaling and corrosion and allows for the filling of the heating system according to the standards. Elaborate system dimensioning by way of boiler capacity, system volume and materials is no longer required.

Reliable: Protects the heating system from deposits and corrosion

Convenient: Easy initial filling and make-up water feed of closed heating systems

Decide for efficient heating protection to maintain the value of your real estate.

The 2-component system. Heat up with clarity and reliability.

1. **Fill the heating system with demineralised water** generated by the mixed-bed cartridge **desaliQ:MA**
2. **Dose thermaliQ safe** to protect the system from corrosion and to reliably adjust and stabilise the pH value
3. **Check once a year** and **document the results**

No follow-up check required after 8 – 12 weeks.

WATER KNOWLEDGE

Proper application provided, **thermaliQ safe** can stabilise the pH value of the heating water. This applies in general – irrespective of the materials and boilers installed.

The requirements for such a stabilisation of the pH value are, however, the observance of the generally acknowledged rules of engineering during the installation of the heating system and a practice-oriented procedure based on **VDI 2035.**

The practice-oriented 2-component system for optimum heating protection.
We understand water.

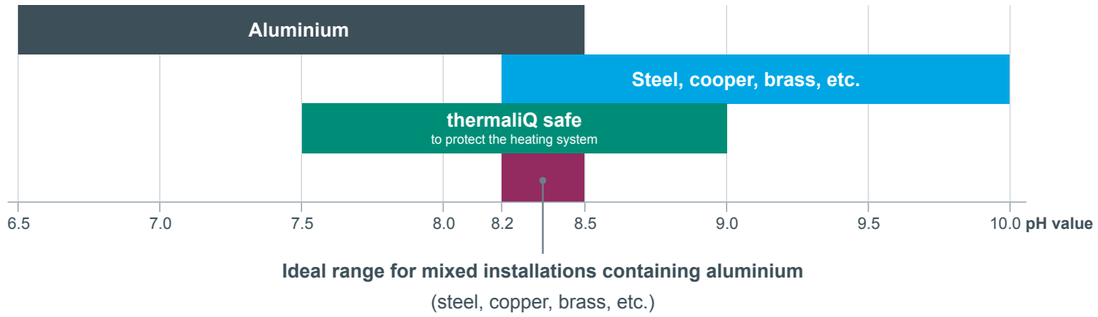
5 Filling water quality

Heating system has been flushed as per DIN EN 14336	yes ☐ no ☐					
Filling water treatment	Filling with softened water ☐ Filling with demineralised water < 100 µS/cm ☐					
Required total hardness (mmol/l) of the system's filling water		Filling volume in litres				
Date of initial filling						
Counter reading before filling						
Counter reading after filling						
Values of the heating water after filling	pH value		Total hardness mmol/l		Conductivity µS/cm	
Values of the circulating heating water*	pH value		Total hardness mmol/l		Conductivity µS/cm	

* 8 to 12 weeks after filing
With **thermaliQ safe**, checking is only required once a year

6 Water treatment with additives

Chemical reactions of the water contained in the heating circuit and a resulting shift of the pH value cannot be prevented. If the recommended pH value of between 8.2 and 10 (6.5 to 8.5 for aluminium components; 8.2 to 8.5 for mixed installations containing aluminium) is not observed, corrosion may result. Therefore, the heating water also has to be conditioned accordingly. This is the only way to meet the stipulations of the VDI 2035 as well as the recommendations and installation instructions of the component manufacturers.
If **thermaliQ safe** is used, the limited pH tolerance band for mixed installations can be extended to the range of 7.5 to 9.0.



Ideal range for mixed installations containing aluminium
(steel, copper, brass, etc.)

Designation of additives	Manufacturer	Concentration
thermaliQ safe	Grünbeck	Add 1 litre (0.5 percent by volume) of thermaliQ safe per 200 l of system volume

Measure and check the pH value every year. If chemicals were added, the concentration of the chemical must be measured and checked once a year as well. Observe the manufacturer's specifications at all times!

Date, company, signature of the heating installer responsible

Date, signature of customer

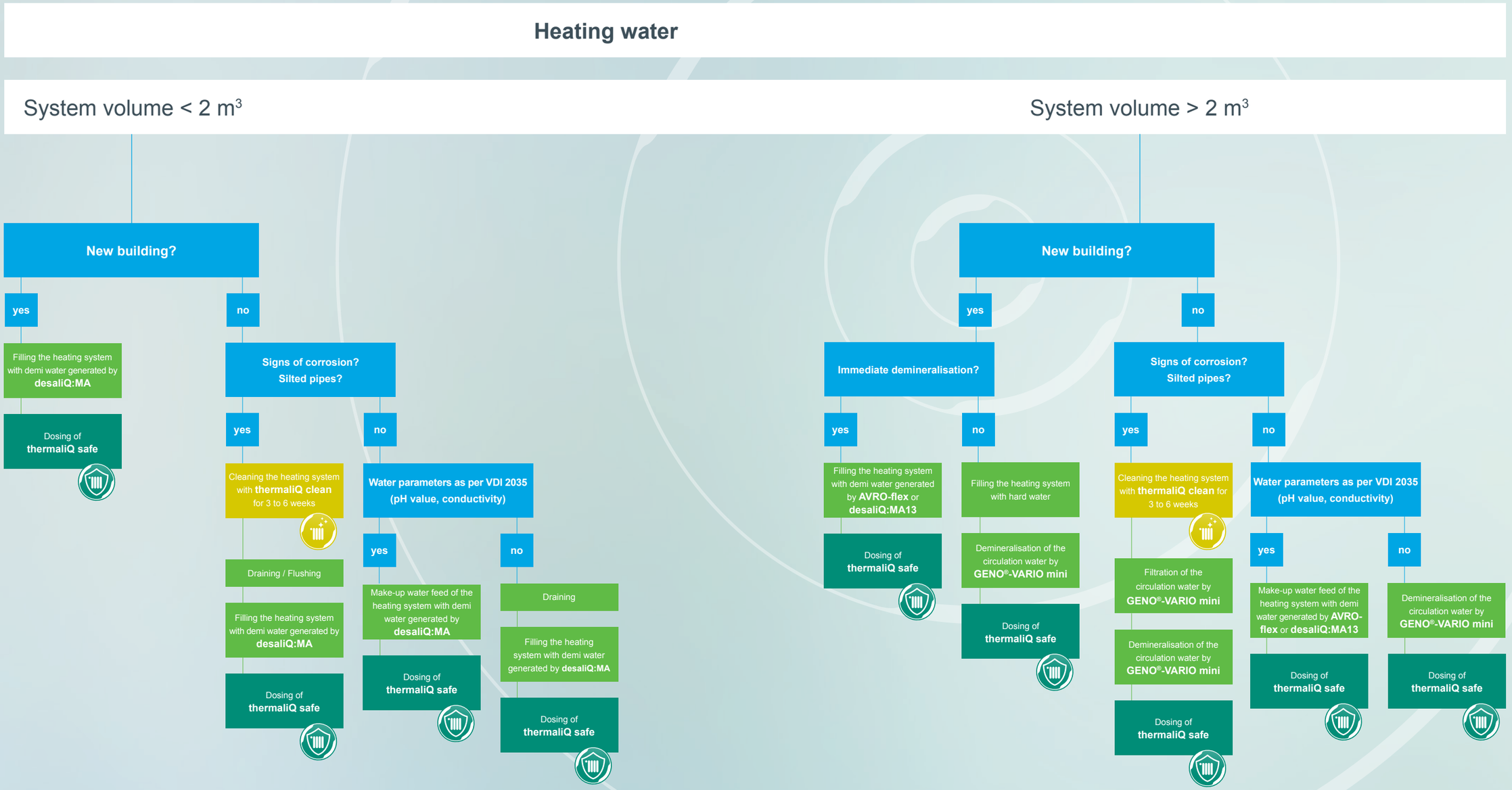
7 Check/Maintenance (heating water)

Annual check measurement as per VDI guideline 2035

Date					
Counter reading after maintenance [m³]					
Make-up water feed volume* [litres] < 100 µS/cm					
Colour and aspect of the heating water					
pH value					
Conductivity [µS/cm]					
System pressure [bar]					
thermaliQ safe (see water treatment)					
Additive 1 (see water treatment)					
Additive 2 (see water treatment)					
Sum of total hardness [mmol/l]					
Signature of heating installer					
Signature of customer					

* The max. admissible filling and make-up water volume must not be exceeded (refer to page 2).

We bring clarity to the process.



Your heating specialist:

© Order no.: 825.52 110-en · Printed in Germany · ME 06.17 · We reserve the right to modifications

QUALITY MADE IN GERMANY

Grünbeck Wasseraufbereitung GmbH
Josef-Grünbeck-Straße 1
89420 Hoechstaedt | Germany

+49 9074 41-0
+49 9074 41-100

info@gruenbeck.com
www.gruenbeck.com

For more info go to www.gruenbeck.com

EXCLUSIVE PARTNER FC AUGSBURG

A company certified by TÜV SÜD
In accordance with DIN EN ISO 9001, ISO 14001 and SCC[P]
www.tuev-sued.de/ms-zert