



...and the winners are:
GROHE Thermostats

Test winners in the major independent
test of 17 competing European products.



General overview

The results in brief

The clear winner in the major market test: GROHE



- In the test: 17 thermostats from leading manufacturers from all over Europe.
- Division of the tested products into three market-oriented performance categories.
- Recognized, neutral test institute – LGA QualiTest GmbH in Würzburg, a subsidiary of TÜV Rheinland!
- Test conducted on the basis of the strictest European standards – neutral test methods. No chance for test methods that produce only positive and favourable results!
- Tested: relevant criteria with genuine consumer utility benefit:
 1. **control quality**
 2. **safety**
 3. **handling**
 4. **service quality**
- Test period March/April 2006



GROHE Thermostats are overall winners



The clear winners: GROHE Thermostats



Three categories – three undisputed test winners:

Grohtherm 3000

Best product in the entire test with four 1st places in four test categories! Clear victory in the top category for **GROHE TurboStat®** and **GROHE CoolTouch®** technology.

Premium quality for uncompromising buyers.



Grohtherm 2000

Undisputed winner in the mid-price category thanks to **GROHE CoolTouch®** and **GROHE TurboStat®**.

The all-rounder and safety expert.



Grohtherm 1000

The performance giant with **GROHE TurboStat®** in the lower price category.

The best buy for price-conscious consumers!



Overall winner: 1st place for GROHE in all categories!



Test category 1: Control quality



GROHE TurboStat® technology scored the best results in the entire test! For previously unknown shower enjoyment.

■ **1. Response time in the event of pressure drop**

Grohtherm Thermostats impress with outstanding response times!

■ **2. Hot water temperature peaks**

No unpleasant surprises with the Grohtherm shower.

■ **3. Temperature constancy**

The maximum measured deviation from the previously set temperature following pressure fluctuations for GROHE is 0.13 °K!



1st place in all categories: **GROHE TurboStat®**



Test category 2: Safety



Extremely high safety standards and care-free shower enjoyment for the whole family – **GROHE is "Safety" test winner in all categories!**

- **GROHE CoolTouch® surface**

1st place for the Grotherm 2000/3000 in categories A and B.

- **Protection against scalding in the event of cold water cut-off**

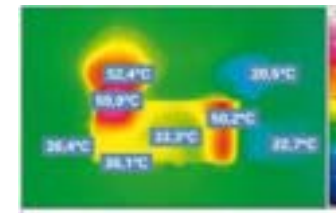
All GROHE products earn an "excellent" rating with the best measurement results!

- **GROHE SafeStop at 38°C**

On all Grotherms this prevents the mixed water temperature from being set too high by accident while showering.



Thermography of Grotherm 2000 with GROHE CoolTouch®



Thermography of competitor's product with partly hot surface

Test winner "Safety": GROHE



Test category 3: Handling



GROHE: Highest comfort levels in the test. Thermal disinfection also posed no problems for the Grohtherm products.

- **Size of comfort zone for sensitive setting of desired mixed water temperature**

2 times 1st place for GROHE

- **Thermal disinfection**

Only very few products allow this method to be performed properly.

All Grohtherm products effortlessly produce the required temperature of 70°.

- **GROHE EcoButton**

The water economy button is a standard Grohtherm feature and can be preset individually.



GROHE sets new standards – best handling in the test!



Test category 4: Service quality



GROHE: Time saving and cost efficient maintenance service thanks to the compact cartridge and practise service information.

- **GROHE TurboStat®:** Compact cartridge with integrated seal seat for reliable and simple service.
- GROHE instructions: Complete information on installation, maintenance and spare parts overview. Awards the tekomp Doku prize by the "Fachverband Technischer Dokumentation".
- Grotherm 2000/3000: Fitted with concealed connections and additional wall seal.



Service quality: top marks for Grotherm!



Convincing overall winners: GROHE Grohtherm Thermostats!



Three performance classes, four test categories – twelve victories for the GROHE Grohtherm Thermostats!

Convincing competitive advantage of the **GROHE TurboStat®** and **GROHE CoolTouch®** technologies!

For your customers, that means:
More fun and relaxation in the bathroom with GROHE Water Enjoyment.

For you, that means:
High satisfied, loyal customers thanks to your competent advice



To compare means to convince – recommend the test winners!





The A to Z of the test

Putting you precisely in the picture!

- The products in the test
- GROHE CoolTouch & GROHE TurboStat compared
- LGA QualiTest GmbH

The test products – the Who's Who of the THM market



Category A	Category B	Category C
GROHE: Grohtherm 3000 hansgrohe: Ecostat 5001 Hansa: Hansatwister Ideal Standard: Ceratherm 300	GROHE: Grohtherm 2000 hansgrohe: Ecostat 2001 Jacob Delafon: Salute Mamoli: Ecoterm Ideal Standard: Ceratherm 200 Hansa: Hansatempra	GROHE: Grohtherm 1000 Zucchetti: Zetaterm T2 Jacob Delafon: Stomb hansgrohe: Ecostat 1001SL Ideal Standard: Ceratherm 100 Mora: Moracera Hansa: Hansaprisma
Test winner: Grohtherm 3000	Test winner: Grohtherm 2000	Test winner: Grohtherm 1000



The best of the best are a convincing recommendation!



Ranking for "Control quality"



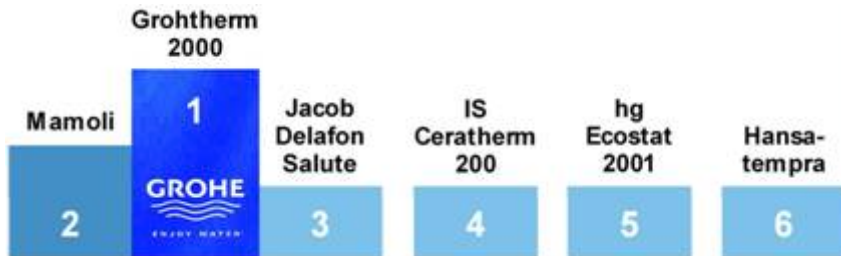
GROHE TurboStat® - 1st place in all three categories.

A result of the newly developed cartridge that sets standards!

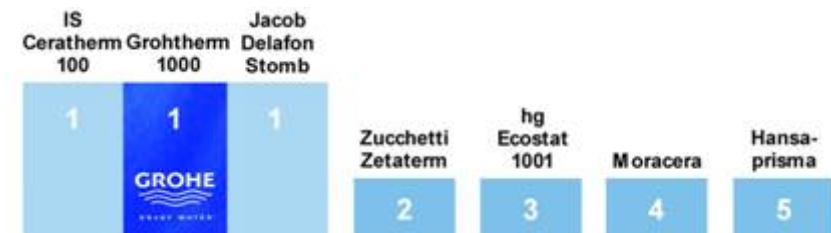
Category A



Category B



Category C



Three reasons – one success formula: **GROHE TurboStat®**



The test results for "Control quality"



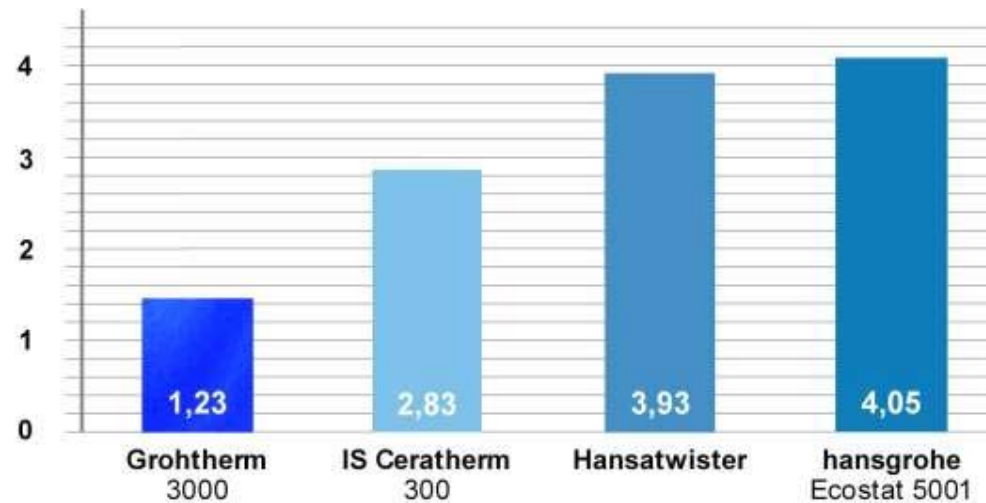
1. Response time in the event of pressure drop

The Grohtherm Thermostats impress with the shortest response times!

The Grohtherm 3000 reacts twice as fast as the next competitor.



Response time in seconds



Three reasons – one success formula: **GROHE TurboStat®**



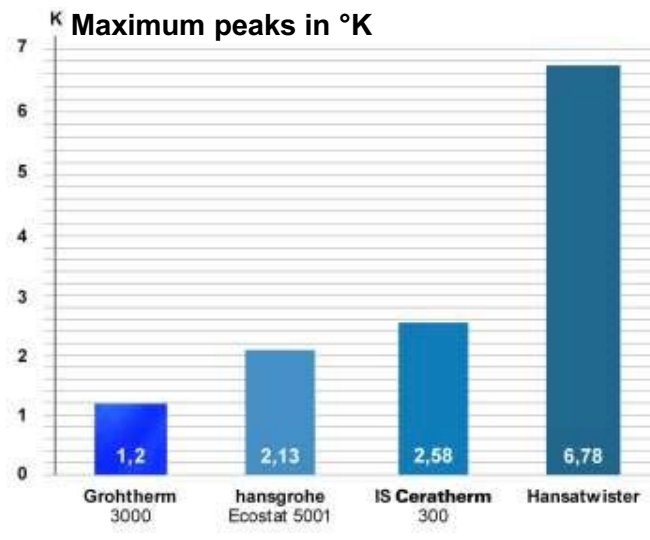
The test results for "Control quality"



2. Temperature peaks

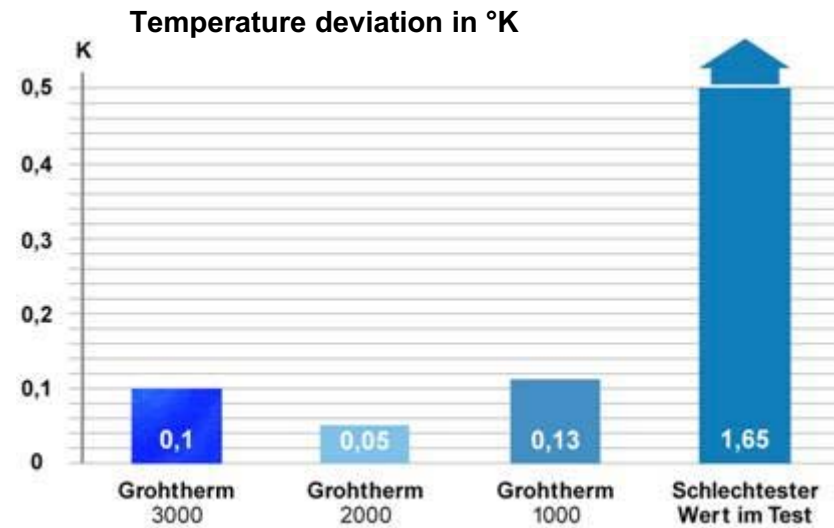
No unpleasant surprises with the Grohtherm shower.

The temperature peaks after a pressure drop are exceptionally low for GROHE products!



3. Temperature constancy

The maximum deviation from the previously set temperature following pressure fluctuations for GROHE is 0.13 K!



Three reasons – one success formula: **GROHE TurboStat®**



Ranking for "Safety"



- **GROHE CoolTouch®** technology makes an outstanding impression
- 1st place for the Grohtherm 2000/3000 in the categories A and B.
- Grohtherm 1000 – test winner for safety in the entry-level category: best protection against scalding in the event of cold water cut-off!

Category A



Category B



Category C



The safest choice: GROHE Grohtherm Thermostats with **GROHE CoolTouch®**



The very best in safety – GROHE CoolTouch®!



GROHE – the safety concept

Care-free shower enjoyment requires safety – especially for families with children!

The motto here is: no false economies!

GROHE unifies:

Uncompromising safety with **GROHE CoolTouch®** surface

Compact, contemporary design

Colidity for years of shower enjoyment



GROHE Grohtherm 3000



GROHE Grohtherm 2000

Only GROHE provides CoolTouch in a compact full-metal finish



Hansatwister

Metal chassis, compactness sacrificed



hansgrohe Ecostat 2001

Plastic chassis

Only from GROHE: CoolTouch in a compact design and robust full-metal finish!



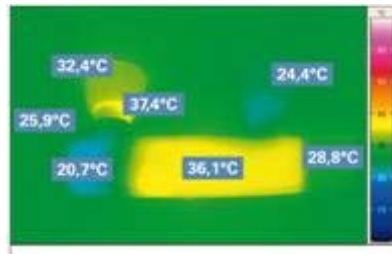
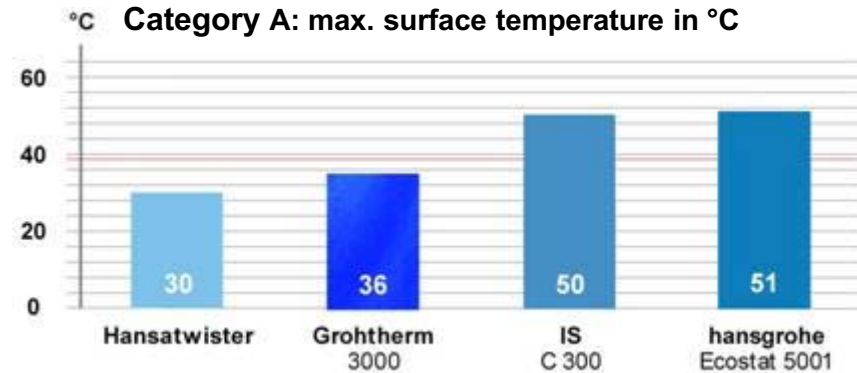
The very best in safety – GROHE CoolTouch®!



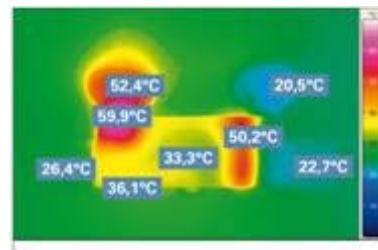
GROHE CoolTouch® surface

Only on Grohtherm 2/3000 with **GROHE CoolTouch®**: no unpleasant hot spots anywhere on the surface of the faucet – also not at the wall fittings!

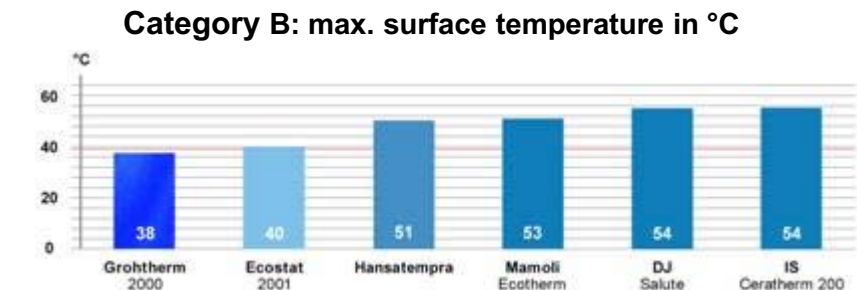
The surface temperature is exactly in the region of the desired mixed water temperature!



Thermography of Grohtherm 2000 with **GROHE CoolTouch®**



Thermography of competitor's product with partly hot surface



A safe choice every time – **GROHE CoolTouch®**

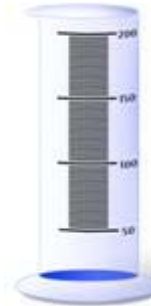


The very best in safety – Grohtherm Thermostats!

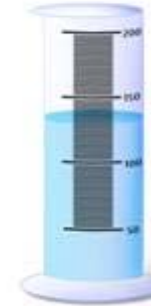


Protection against scalding in the event of cold water cut-off

All GROHE products receive an "excellent" rating!
 The smallest amounts of residual water flow in the test!
 Therefore here also the test winner in all three categories.



Grohtherm 1000
6 ml



IS Ceratherm 200
130,5 ml

Category A



Category B



Category C



A safe choice every time – GROHE Thermostats!



LGA QualiTest GmbH – the test institute



The institute:

- GROHE commissioned the LGA QualiTest GmbH, Würzburg – one of Europe's most renowned institutes – to conduct the test.
- The LGA QualiTest GmbH is a subsidiary of TÜV Rheinland and is commissioned regularly to perform European product certifications and comparisons for Stiftung Warentest.
- The test methods are subject to the strictest currently valid European standard requirements.



Services and competences:

- Testing and assessing of performance characteristics
- Surveys and comparative product tests for international consumer organisations
- Issuing of GS safety marks and other test and quality certificates
- Participation in standards committees and expert panels



More Info: www.lga.de





Annex

Measuring results and explanations

Control quality



Response speed in the event of pressure drop

Practical relevance:

The speed of the temperature adjustment makes cold water pressure fluctuations almost unnoticeable, also when the neighbour flushes the toilet.

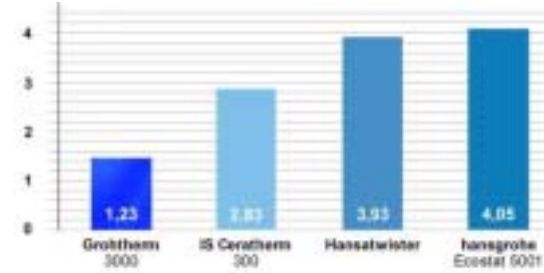
Explanation of measuring method

Based on the "NF" standard, the response speed in the event of a cold water pressure drop from 3 to 2 bar until temperature constancy is measured in seconds.

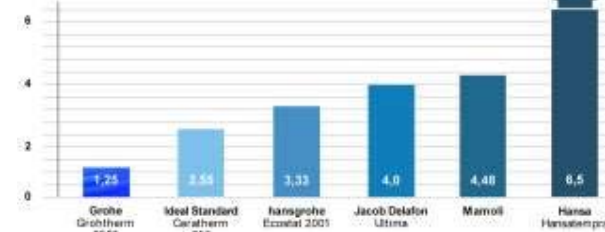


Category A	<p>Fastest overall: The Grotherm 3000 outperforms all 16 competitors. Twice as fast as the second product in this category!</p>
Category B	<p>Fastest in category: The Grotherm 2000 also beats all the competitors' products in this category and is better than the competitors in category A.</p>
Category C	<p>Top duo by far Moracera and Grotherm 1000 secure the top places unchallenged in the entry-level category.</p>

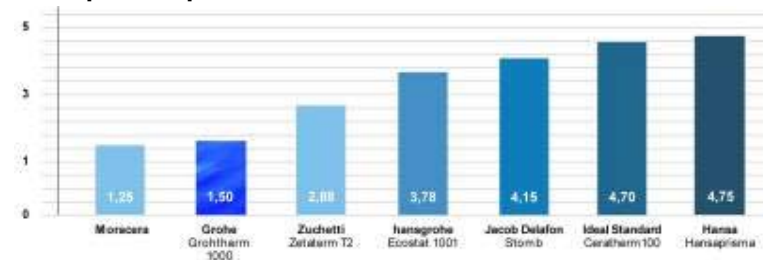
Response speed in seconds



Response speed in seconds



Response speed in seconds



Test victories for the Grotherm Thermostats in all categories!



Control quality



Temperature peak

Practical relevance

The temperature peak is the sudden increase in shower water temperature when the cold water pressure drops. The smaller the temperature difference, the fewer fluctuations the thermostat allows.

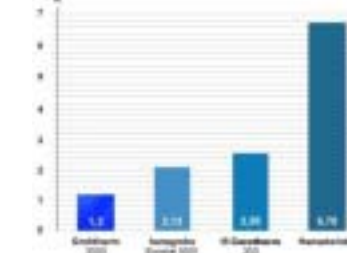
Explanation of measurements

Based on the "NF" standard, the maximum temperature difference in the event of a cold water pressure drop from 3 to 2 bar is measured in Kelvin (°C).

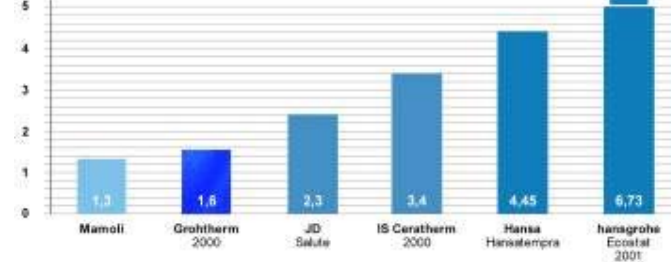


Category A	<p>Best overall: With the lowest temperature difference of 1.2 K, the Grohtherm 3000 outperforms all the competitors.</p>
Category B	<p>Third overall: With an excellent 2.13K, the Grohtherm 2000 also beats much more expensive products from category A.</p>
Category C	<p>Sound entry: In a homogenous competitive field, the Grohtherm 1000 proves a very sound choice.</p>

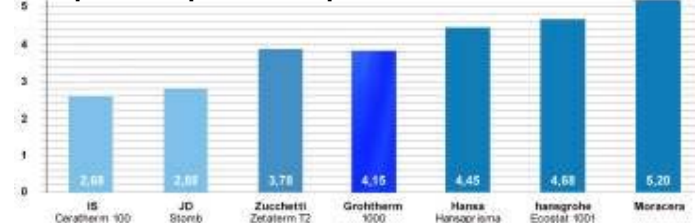
Temperature peaks: temperature difference in K



Temperature peaks: temperature difference in K



Temperature peaks: temperature difference in K



GROHE Thermostats impress with the smallest temperature differences in the test!



Control quality



Temperature constancy

Practical relevance

Following pressure fluctuations, the thermostat precisely regulates the shower water back to the desired temperature. No need for constant readjustments!

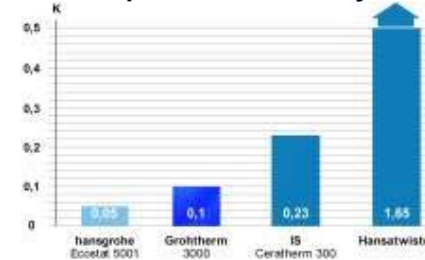
Explanation of measurements

After the cold water pressure has been restored, the temperature deviation is measured in °C.



Category A	<p>Excellent! Top marks for Grohtherm 3000! Hansatwister with the largest deviation of all tested products.</p>
Category B	<p>Excellent! The Grohtherm 2000 is top of the class with the best result in the test!</p>
Category C	<p>Best in category: With a temperature difference of only 0.13K, the Grohtherm 1000 scores the best result in this category!</p>

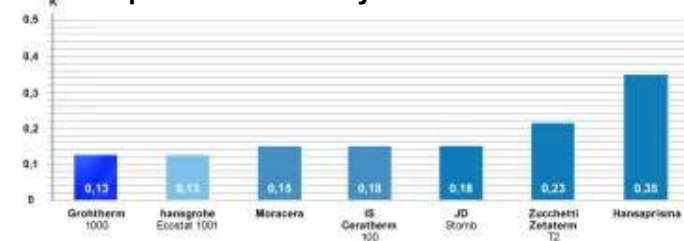
Temperature constancy: deviations in K



Temperature constancy: deviations in K



Temperature constancy: deviations in K



The GROHE Grohtherm Thermostats shine with outstanding constancy!



Safety



GROHE CoolTouch® surface

Practical relevance

The warm water flow temperature can very often reach 70-80°C. There is then a danger of burning on the faucet surfaces, especially for children, if there is no CoolTouch solution in place.

Explanation of measurements

The surface temperature of the thermostat is measured at different points. The warm water flow temperature according to EN1111 is 65°C, the mixed water setting at 37°C.



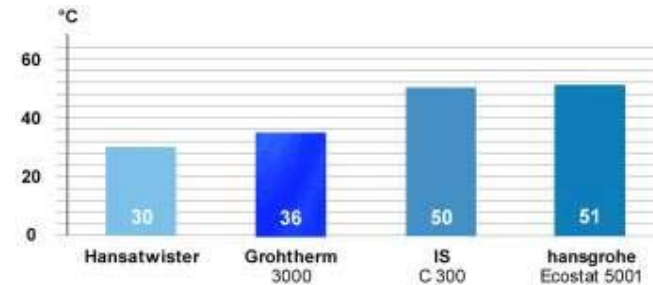
Category A

Excellent!

Only the Grohtherm 3000 and Hansatwister provide CoolTouch.

The GROHE Thermostat impresses with its compact design.

Category A: max. surface temperature in °C

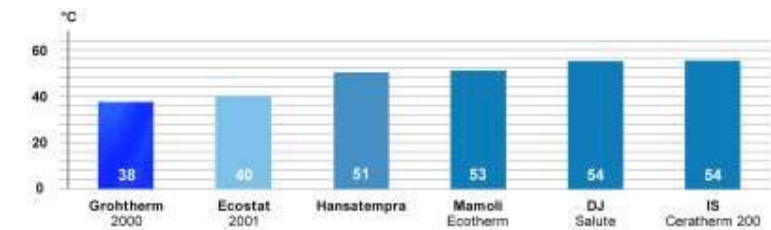


Category B

Excellent!

Along with the hg Ecostat 2001, the Grohtherm 2000 is the only product in the middle segment with CoolTouch; GROHE with full-metal finish, hg with plastic chassis.

Category B: max. surface temperature in °C



GROHE CoolTouch® is the only solution that does credit to its name.



Safety

Protection against scalding in the event of cold water cut-off

Practical relevance

If the cold water flow is cut off, the thermostat also stems the warm water flow as quickly as possible to prevent scalding.

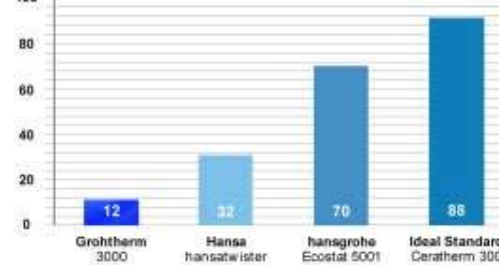
Explanation of measurements

According to EN1111 the requirement is fulfilled if ≤ 200 ml of water are collected 5 seconds after the cold water flow has stopped. Figures in ml of water collected after 5 seconds.

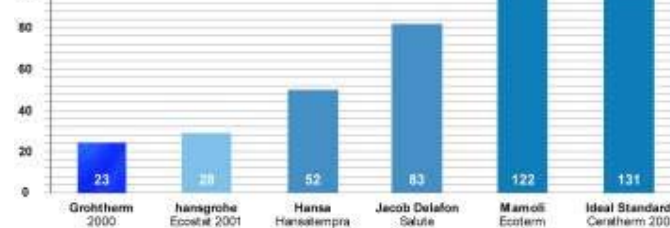


Category A	<p>Excellent! The Grohtherm 3000 earns top marks in an excellent competitive field! Best result in this category.</p>
Category B	<p>Excellent! The Grohtherm 2000 also secures the best result in its category!</p>
Category C	<p>Excellent! The Grohtherm 1000 achieves the best result in its category and in the entire test!</p>

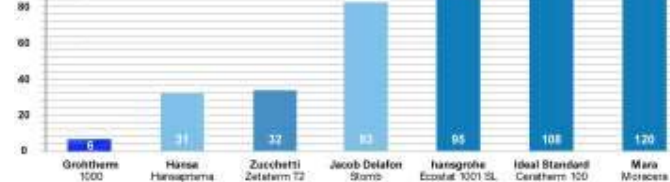
Category A: volume in ml after 5 sec.



Category B: volume in ml after 5 sec.



Category C: volume in ml after 5 sec.



Grohtherm Thermostats are the safest in the test in the event of cold water cut-off.



Safety



Safety button

Practical relevance

A safety button (e.g. **GROHE SafeStop** at 38°C) prevents the mixed water temperature from being set too high by accident while showering.

Especially for families with children or people with impaired eyesight, this is an important safety feature.

	Product	Safety button provided	Limited to
Category A	GROHE: Grohtherm 3000	yes	38° C
	Hansgrohe: Ecostat 5001	yes	38° C
	Ideal Standard: Ceratherm 300	yes	40° C
	Hansa: Hansatwister	yes	38° C
Category B	GROHE: Grohtherm 2000	yes	38° C
	Hansgrohe: Ecostat 2001	yes	38° C
	Ideal Standard: Ceratherm 200	yes	40° C
	Hansa: Hansatempra	yes	38° C
	Jacob Delafon: Salute	yes	38° C, no marking
	Mamoli: Ecoterm	yes	38° C
Category C	GROHE: Grohtherm 1000	yes	38° C
	Hansgrohe: Ecostat 1001SL	yes	38° C
	Ideal Standard: Ceratherm 100	yes	40° C
	Hansa: Hansaprisma	yes	38° C
	Jacob Delafon: Stomb	yes	38° C, no marking
	Zucchetti: Zetaterm T2	yes	38° C/42° C
	Mora: Moracera	yes	38° C/42° C

All Grohtherm Thermostats are fitted with **GROHE SafeStop**.



Handling



Setting sensitivity

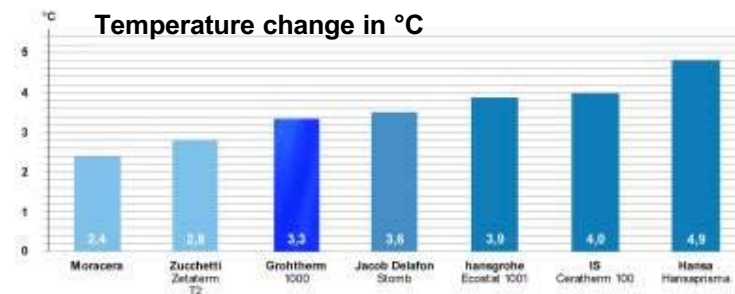
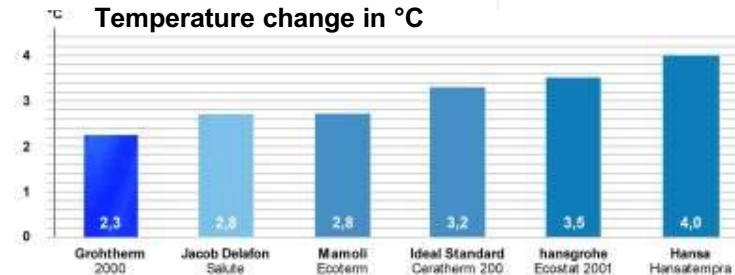
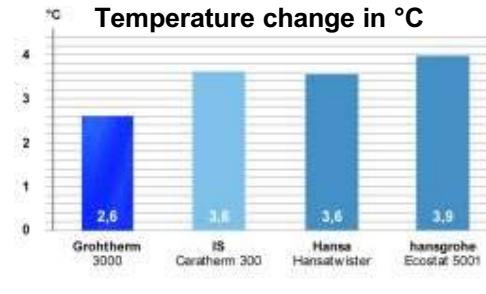
Practical relevance

The desired mixed water temperature can be adjusted very precisely, avoiding unwanted hot and cold shocks under the shower. This is important for shower comfort.

Explanation of measurements

When the knob is moved by a standard distance of 13mm the water temperature may rise from 35°C by a maximum of 4°C to 39°C in order to fulfil the standard (requirement of the strict "NF" standard).

Category A	<p>Excellent! The Grotherm 3000 earns top marks and impresses with the most precise setting in its category!</p>
Category B	<p>Excellent! The Grotherm 2000 earns top marks and also heads the middle category.</p>
Category C	<p>The Grotherm 1000 also earns good marks. Hansaprisma is the only product in the test which does not meet the tight french norm.</p>



Grotherm Thermostats are given an Excellent rating for their precise adjustability.



Handling



Thermal disinfection

Practical relevance

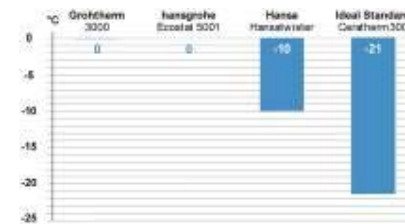
According to DVGW (W551), to perform thermal disinfection by killing bacteria it is necessary for the temperature to reach 70°C at the outlet. Only the thermostats from GROHE and hansgrohe allow this reliably.

Explanation of measurements

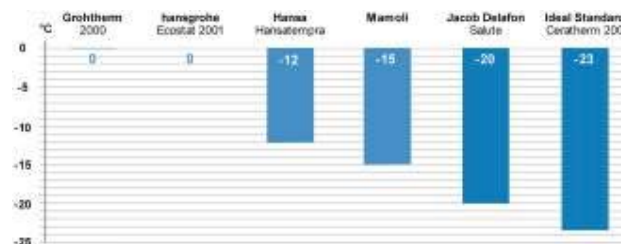
The deviation to the warm water flow temperature of 70°C is measured.

Category A	<p>Excellent! The Grotherm 3000 allows thermal disinfection in accordance with strict guidelines.</p>
Category B	<p>Excellent! The Grotherm 2000 allows thermal disinfection in accordance with strict guidelines.</p>
Category C	<p>Excellent! The Grotherm 1000 allows thermal disinfection in accordance with strict guidelines.</p>

Temperature change in °C



Temperature change in °C



Temperature change in °C



Grotherm Thermostats allow thermal disinfection in accordance with strict guidelines.



Handling



Economy button

Practical relevance:

An economy button (e.g. **GROHE EcoButton**) drastically reduces water usage, thereby saving water and energy.

The **GROHE EcoButton** can also be individually adjusted.

	Product	Economy button provided	Economy button adjustable
Category A	GROHE: Grohtherm 3000	yes	yes
	Hansgrohe: Ecostat 5001	yes	yes
	Ideal Standard: Ceratherm 300	yes	no
	Hansa: Hansatwister	yes	yes
Category B	GROHE: Grohtherm 2000	yes	yes
	Hansgrohe: Ecostat 2001	yes	yes
	Ideal Standard: Ceratherm 200	yes	no
	Hansa: Hansatempra	yes	yes
	Jacob Delafon: Salute	yes	yes
	Mamoli: Ecoterm	yes	no
Category C	GROHE: Grohtherm 1000	yes	yes
	Hansgrohe: Ecostat 1001SL	yes	yes
	Ideal Standard: Ceratherm 100	yes	no
	Hansa: Hansaprisma	no	no
	Jacob Delafon: Stomb	yes	yes
	Zucchetti: Zetaterm T2	yes	no
	Mora: Moracera	no	no

All Grohtherm Thermostats are fitted with the **GROHE EcoButton**.



Service quality



**Assembly instructions,
maintenance instructions,
spare parts overview**

Practical relevance:

Maintainability includes easy orientation for the plumber. This contributes towards time-saving and inexpensive servicing.

The GROHE instructions received the tekom Doku award of the "Fachverband Technischer Dokumentation" and are certified by TÜV-South.

	Product	Assembly instructions	Maintenance instructions	Spare parts overview
Category A	GROHE: Grohtherm 3000	yes	yes	yes
	Hansgrohe: Ecostat 5001	yes	yes	yes
	Ideal Standard: Ceratherm 300	yes	yes	yes
	Hansa: Hansatwister	yes	yes	no
Category B	GROHE: Grohtherm 2000	yes	yes	yes
	Hansgrohe: Ecostat 2001	yes	yes	yes
	Ideal Standard: Ceratherm 200	yes	yes	yes
	Hansa: Hansatempa	yes	yes	no
	Jacob Delafon: Salute	yes	yes	yes
	Mamoli: Ecoterm	yes	yes	no
Category C	GROHE: Grohtherm 1000	yes	yes	yes
	Hansgrohe: Ecostat 1001SL	yes	yes	yes
	Ideal Standard: Ceratherm 100	yes	yes	yes
	Hansa: Hansaprisma	yes	yes	no
	Jacob Delafon: Stomb	yes	yes	yes
	Zucchetti: Zetaterm T2	yes	yes	yes
	Mora: Moracera	no	yes	yes

The Grohtherm Thermostats come with all the relevant information.



Service quality



Connections

Practical relevance:

High design standards can only be achieved with perfectly attuned accessories.

In categories A and B the Grohtherm products also provide an exemplary wall seal.

	Product	S connections included	S connection with wall seal	Concealed screws
Category A	GROHE: Grohtherm 3000	yes	yes	yes
	Hansgrohe: Ecostat 5001	yes	no	yes
	Ideal Standard: Ceratherm 300	yes	yes	yes
	Hansa: Hansatwister	yes	yes	yes
Category B	GROHE: Grohtherm 2000	yes	yes	yes
	Hansgrohe: Ecostat 2001	yes	no	yes
	Ideal Standard: Ceratherm 200	yes	no	no
	Hansa: Hansatempra	yes	no	yes
	Jacob Delafon: Salute	yes	yes	yes
	Mamoli: Ecoterm	yes	no	no
Category C	GROHE: Grohtherm 1000	yes	no	no
	Hansgrohe: Ecostat 1001SL	yes	no	no
	Ideal Standard: Ceratherm 100	yes	no	no
	Hansa: Hansaprisma	yes	no	no
	Jacob Delafon: Stomb	yes	no	no
	Zucchetti: Zetaterm T2	yes	no	no
	Mora: Moracera	no	no	no

Perfectly designed down to the last detail.



Noise permits



Noise permits

Practical relevance:

Particularly in the property business it is crucial that all criteria are fulfilled in order to retain the relevant standards.

The GROHE Thermostats are certified in Faucet Group I and carry the corresponding test mark.

	Product	Test mark	Faucet group
Category A	GROHE: Grohtherm 3000	PA-IX18039/1C	I
	Hansgrohe: Ecostat 5001	P-IX 8476/IIBB	II
	Ideal Standard: Ceratherm 300	Yes (Ü-Sign)	missing
	Hansa: Hansatwister	P-IX 9114/ID	I
Category B	GROHE: Grohtherm 2000	PA-IX 18040/1C	I
	Hansgrohe: Ecostat 2001	PA-IX 8856/IDB	I
	Ideal Standard: Ceratherm 200	Yes (Ü-Sign)	missing
	Hansa: Hansatempra	PA-IX 7115/ID	I
	Jacob Delafon: Salute	No	missing
	Mamoli: Ecoterm	No	missing
Category C	GROHE: Grohtherm 1000	PA-IX 18041/1C	I
	Hansgrohe: Ecostat 1001 SL	no	missing
	Ideal Standard: Ceratherm 100	Yes (Ü-Sign)	missing
	Hansa: Hansaprisma	PA-IX 7115/ID	I
	Jacob Delafon: Stomb	Yes (NF IA)	I
	Zucchetti: Zetaterm T2	No	missing
	Mora: Moracera	No	missing

No disturbing background noise when using Grohtherm Thermostats.

