

MADE IN GERMANY
MADE BY HEMSTEDT

 **Hemstedt**[®] *all you can heat*
HEIZLEITUNGEN · KÜHLHAUSTECHNIK

ELECTRIC FLOOR HEATING

Especially for Energy-Efficient New Buildings



**ZERO EMISSION
MAXIMUM GOOD FEELING**

SMART LIVING:
Contribute actively to climate protection.
With intelligent concepts
100% climate-neutral heating.

GREEN ACCU MAT[®] – The Storage Heater with 40 W/m²

GREEN ELECTRIC MAT[®] – The Tile Heater with 70 W/m²

2-stage heating performance in one heating mat, ideal for own consumption with PV systems

Status 07/2021



hemstedt.de

SMART LIVING @ HEMSTEDT

Slow down Climate Change with Holistic Concepts!



Although topics such as climate change, scarcity of resources and environmental protection have long since become everyday themes, the three main areas in which we consume energy day by day are still considered separately:

Electricity for household and entertainment devices, oil, gas or wood for heating, petrol or diesel for individual mobility.

Those who think SMART group all three areas together, because intelligent solutions that have long been available connect all areas of life with each other and offer – in addition to convenience and comfort – ideal opportunities to optimize one's own carbon footprint very significantly.

HEMSTEDT offers ideal products and ideas for this, which can gradually be integrated into not just new buildings but also renovation projects.

Find out more beginning on page 6.

ENVIRONMENTALLY FRIENDLY HEATING – USING ENERGY SENSIBLY

With Sleeveless Cold/Warm Transition

Heat Smartly and Protect the Climate!

The thin bed heating mats **GREEN ELECTRIC MAT®** and **GREEN ACCU MAT®** are optimally tailored to the heating needs of modern single and multiple dwelling residential buildings and are also outstandingly suitable for use in energy renovation and modernization projects thanks to their low thickness.

A doubly designed heating circuit system with low absorption makes it possible to heat in a much more need-orientated manner and thus to save energy: if heat is required, two heating conductors heat the floor up to the desired temperature much more quickly than floor heating systems with just one heating circuit. If the optimal floor temperature has been reached, a circuit is switched off automatically, and thus the room temperature is maintained with considerably lower energy use than in the case of traditional systems.

100% Climate-Neutral Heating – Protecting Resources

The discussion has long since arrived among the general masses: the combustion of fossil fuels or wood produces CO₂ as well as fine dust – hence, the classic heating systems can hardly be described as “smart” for the environment and the future.

Electric heating, on the other hand, can, if the **GREEN** heating mats, e.g. in combination with a photovoltaic plant are supplied with electricity from wind or water power, heat on a 100% climate-neutral basis. And today, intelligent, connected systems and battery storage units are already securing a reliable supply of “smart” electricity.

Thus, with the Hemstedt **GREEN** low energy heating systems and the right energy mix, you make a valuable contribution to saving the climate!

Store heat – use energy efficiently!

STOP COMBUSTION – PROTECT THE CLIMATE!

Store Energy – Optimize Your Own Consumption

The **GREEN ACCU MAT®** takes up the idea of the “night storage heater”, which has acquired something of a negative reputation. But it is Version 2.0!

In combination with an intelligent control system, the system heats up whenever, for example, more electricity comes out of a photovoltaic plant than is currently being consumed. Since the **GREEN ACCU MAT®** is built into the concrete deep under the floor, the energy is stored in the form of heat there and is slowly released again over a period of hours without further energy having to be used.



In the near future, it will be possible to heat in “intelligent power grids” whenever, for example, excess wind energy is available. In this way, grid peaks could be reduced that would otherwise lead to a destabilization of the power supply. Already today, the control systems needed for this are available and not only look after your heating but also switch on, for example, the washing machine or tumble drier. Efficient battery stores for domestic use or the use of electric cars as a “power bank” make the whole idea even more flexible.

The future is SMART!

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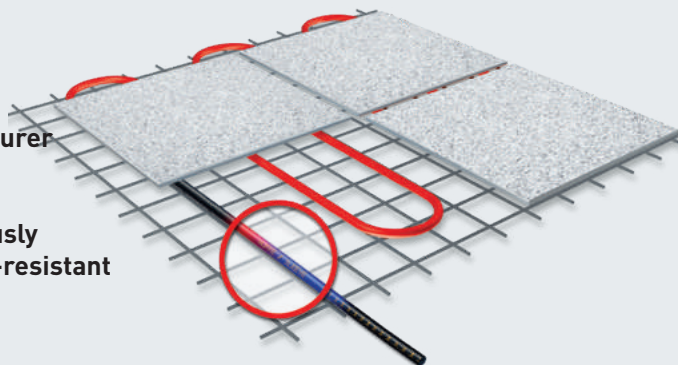
PRODUCT INNOVATION FOR EVEN SIMPLER ASSEMBLY

The Sleeveless Transition

This invention by Hemstedt has revolutionized the industry. Previously, with each heating cable, a connection had to be made somewhere with the connection cable. Generally, this was done using a mechanical connection, which was then mostly insulated with a shrink hose. The problem: Firstly, this process is not always 100 % tight, which can lead to failures sooner or later, for example in the case of a gutter heater or an open area heater. Secondly, for floor heaters, the tightness problem was added to by the fact that the connections were thicker, which made installation more difficult.

Hemstedt HEM-SYSTEM® sleeveless

- Customised heat
- Straight from the manufacturer
- Self-adhering
- 100% watertight
- Insulating sleeve continuously
chemical and temperature-resistant

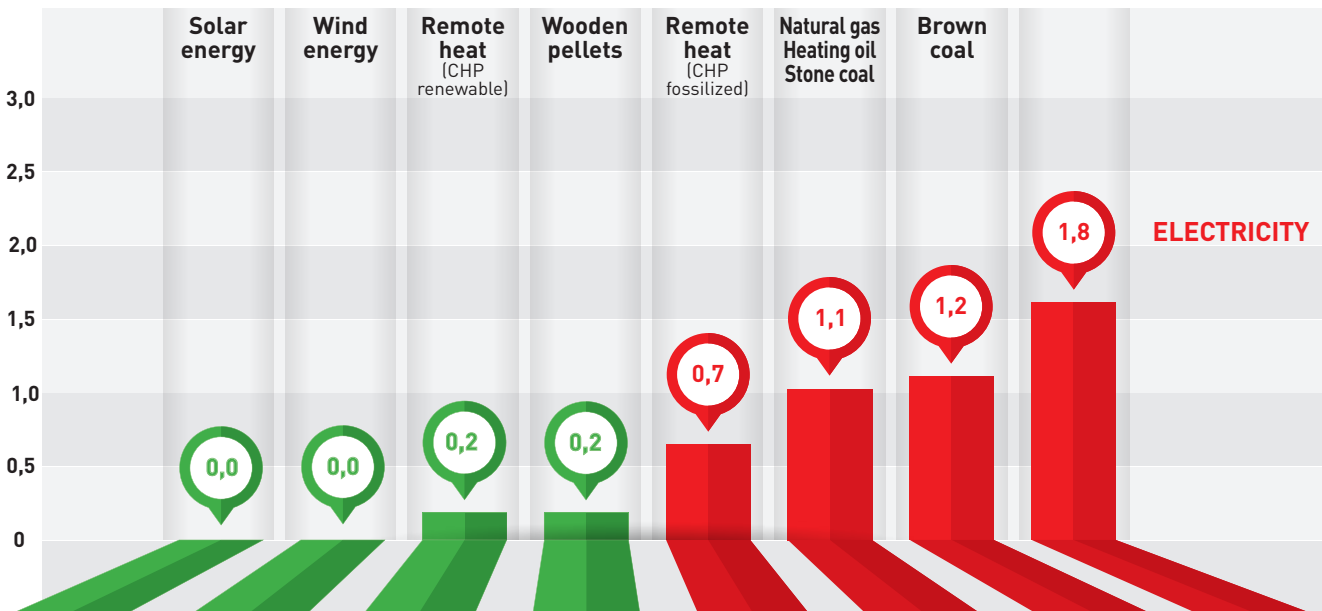


The HEM system has revolutionized electric floor heating and makes renovations ridiculously easy.

CLIMATE PROTECTION – SECURE THE FUTURE AND SAVE MONEY!

Our Energy Consumption Must Become Smarter!

The consumption of fossil fuels and traditional electricity is not as smart as you might think. The primary energy factor shows that with coal, oil and gas 1.1 kilowatts of energy must be put in to gain, for example, one kilowatt of effectively usable energy. With renewable energies, however, only a few watts must be invested in order to generate a kilowatt. Thus, power from such energy sources brings us all forward!



Source: Wuppertal Institut für Klima, Umwelt, Energie GmbH

Availability of Smart Electricity

In the European Union, already nearly 20% of the total, effective energy consumption is covered by renewable energy sources – and this trend is rising. In Germany, the range and availability of electricity from climate-neutral sources has more than doubled in the last ten years!

Active climate protection

The **GREEN ACCU MAT®** and the **GREEN ELECTRIC MAT®** offer the chance to heat efficiently and directly with electric energy – and with an outstanding degree of effectiveness. In this way, the use of fossil fuels can be reduced and climate change actively decelerated!

Save money with smart GREEN heating concepts from Hemstedt

Modern new buildings require 70% less energy than, for example, houses from the 1980s. The **GREEN ACCU MAT®** follows this trend and offers operation with just a third of the usual heating output of floor heating systems.

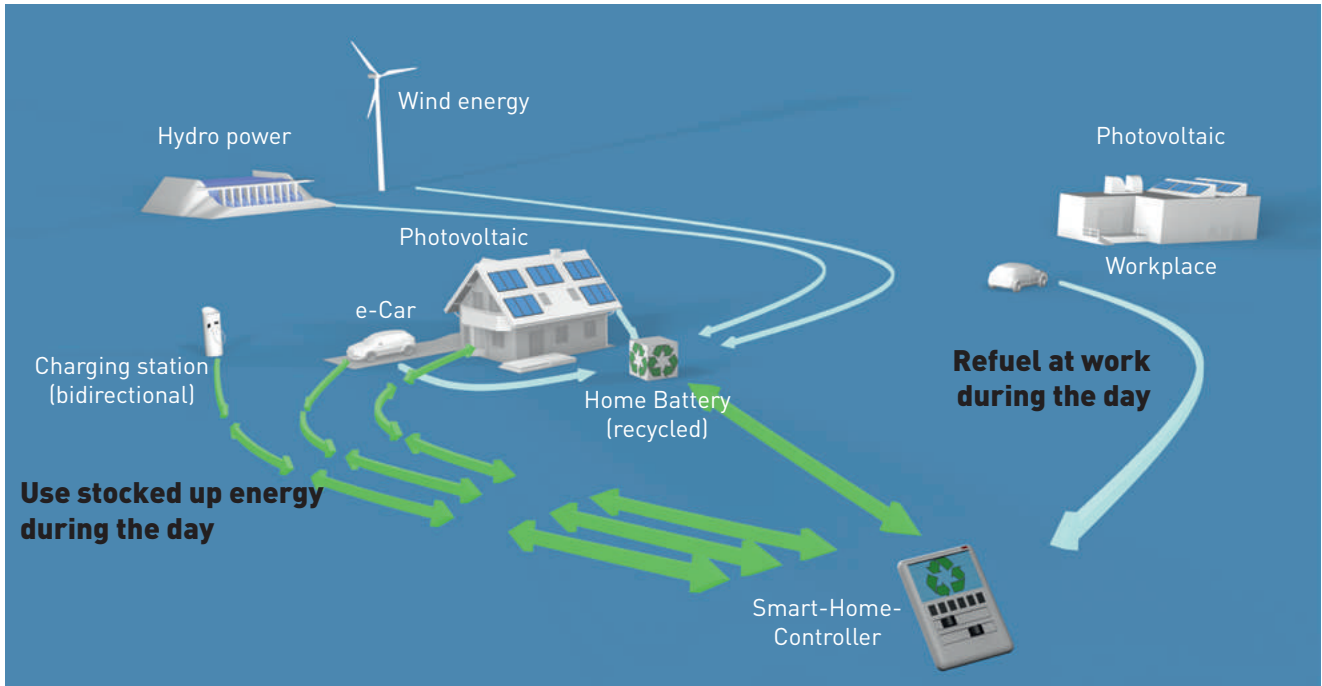
The thin bed heating mats from Hemstedt are also just right for renovation and modernization, being ideal for installation directly in the tile adhesive, for example. In this way, traditionally heated buildings can be converted quickly, easily and affordably to climate-neutral, electric floor heating systems.

Save money in the future and actively co-determine climate protection – this is SMART!



SMARTER LIVING @ HEMSTEDT WITH AWARD-WINNING INNOVATIONS

Our ancestors needed fire to warm themselves in their caves.
With the smart living ideas from Hemstedt, the burning of our planet's resources is at an end!



Electric Energy – SMART without Emissions, CO₂ or Fine Dust!

Electricity is the energy that can be acquired most easily and most efficiently – and, above all, nearly everywhere on our planet – from the inexhaustible power of the sun, in a completely climate-neutral and clean manner, be it as solar power, wind energy, water power or tidal power. However, it is important that the use of this energy is well organized – and HEMSTEDT has the right ideas for this:



This Is SMART LIVING with Hemstedt.

In addition to the electric floor heating, the overall concept also includes an in-house battery storage unit made of recycled batteries, e.g. from the constantly growing e-mobility market. Even an electric car that is not permanently used can be integrated into the concept as a storage device. This way, the photovoltaic electricity, which has been self-produced during the day, can be used for the operation of kitchen utensils and entertainment devices as well as for lighting in the evening and at night.

Additionally, the smart energy control system recognizes network peaks or downtime phases, in which, for example, wind or tidal energy is available but is not being used in the network.

Then, home batteries or vehicles are automatically charged or consumers such as washing machines, tumble driers or other appliances are started. This helps to use available energy in optimal fashion, to reduce network peaks and to stabilize electricity networks!



The E-Car As a Mobile Storage Device

If one wants to develop the system further, the electric car, for example, could be charged at the workplace with emission-free solar power and then could serve as a power supply for the house in the evening. Of course, an intelligent control system still contains sufficient energy in the battery to arrive reliably and comfortably at the workplace the next day. Combustion was yesterday – Green Power is SMART!



GEG AND ITG DRESDEN

STUDY COMPARISON WITH GAS COMBUSTION VALUE HEATING

Extract from a Conference of the BVF (symposium):

As part of the cross-system study “Energy Efficiency and Economic Efficiency of Electric Direct Heating”, mandated by BVF e.V., comparative calculations were carried out by Prof Oschatz from ITG Dresden from an efficiency (study part 1) and economic efficiency (study part 2) perspective for different system versions, including system combinations with and without electric surface heating.

Accordingly, the fulfillment of the primary energy requirement of GEG and efficiency houses with

electricity direct heating combined with PV power is possible and also financially attractive.

Thus, in high heat insulated buildings, electric surface heating represents a good alternative to other common heating systems; the total annual costs of electric direct heating systems are comparable with those of a gas combustion value heating system and cheaper than in the case of an air/water heat pump with a PV system and an air intake and exhaust system with heat recovery.

From the Car Builder to the System Builder to the Energy Storage Unit / HVACR

Today, the topic of energy storage is becoming increasingly important – not just for BMW, but also for other companies, as will be shown in the following.¹

For instance, in October 2017, a BMW storage farm with up to 700 BMW i3 battery storage devices was commissioned on the plant site in Leipzig. The development project “Battery 2nd Life”, launched by BMW, Bosch and Vattenfall in 2016, also went in this direction. Here, a power storage unit was set up with 2,600 battery modules made up of more than 100 electric vehicles (output 2 MW).²

The automotive manufacturers are going ever more deeply into the secondary marketing business with used vehicle batteries in order to earn money this way. They are also occupying themselves with intelligent bidirectional charging technology and thus with stable networks – the classic infrastructural topic.³ In the future, electric cars will not just be able to store energy but they will also supply it as needed. Thus, they are the mobile storage device for electric floor heating systems and other electric consumers in households. This opens up completely new possibilities, for example, for operators of electric floor heating systems.

The photovoltaic power self-produced during the day can be used in the evening and at night to

provide heating, to operate kitchen and entertainment devices and even for lighting. Additionally, the smart energy control system recognizes network peaks or downtime phases, in which, for example, wind or tidal energy is available but is not being used in the network. Then, home batteries or vehicles are automatically charged or consumers such as washing machines, tumble driers or other appliances are started. This helps to use available energy in optimal fashion, to reduce network peaks and to stabilize electricity networks!

If one wants to develop this system further, the electric car, for example, could be charged at the workplace with emission-free solar power and then could serve as a power supply for the house in the evening. Of course, an intelligent control system contains sufficient energy in the battery to arrive reliably and comfortably at the workplace the next day. Of course, this also applies to the classic second car, which can be used temporarily as a mobile or stationary storage device.

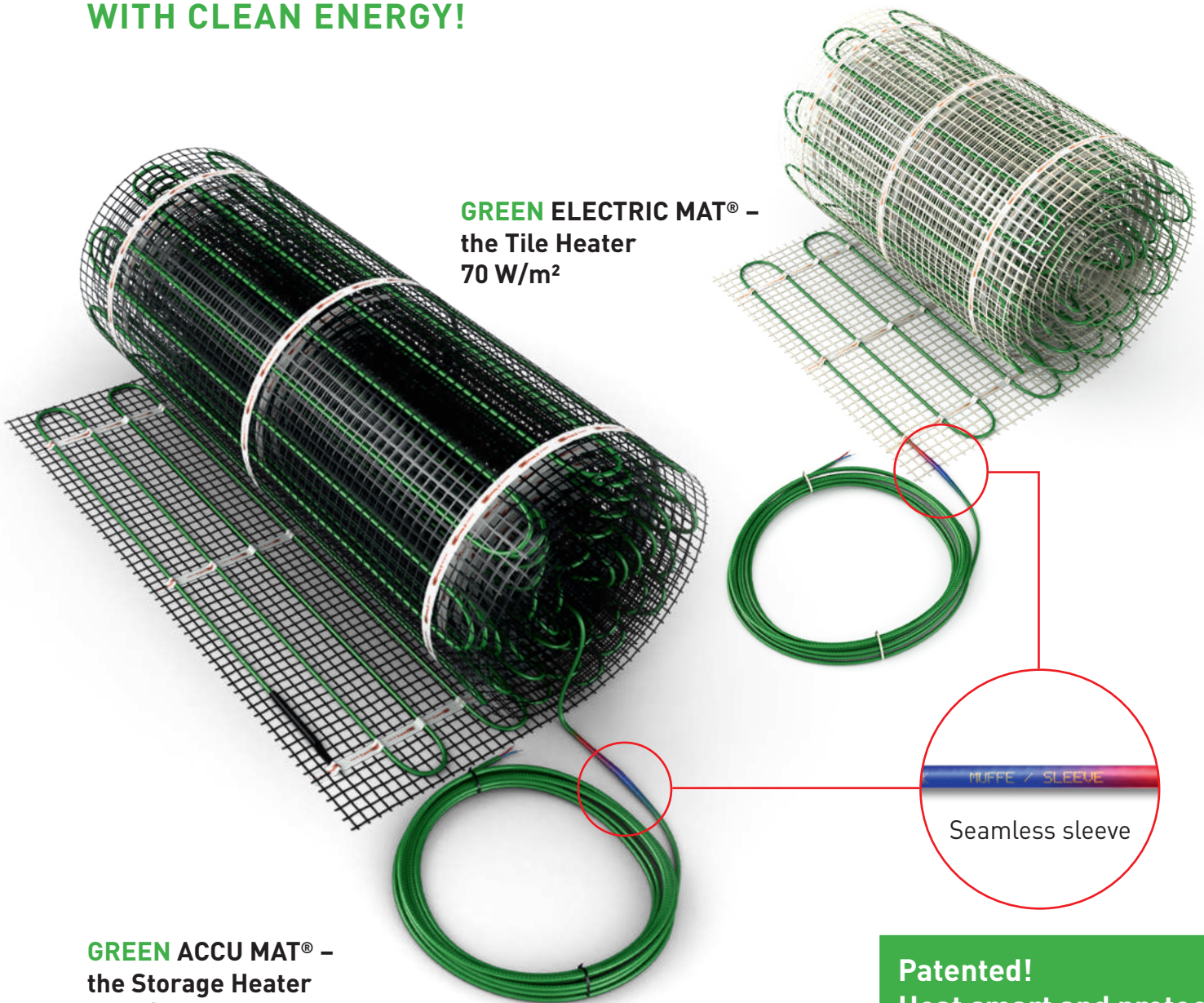
Combustion was yesterday – green power is SMART!

¹ Soller, Gregor: Vom Auto- zum Anlagenbauer. In: Vision Mobility 6/2019, S. 80f

² Vgl. Soller 2019, S. 80f

³ ebenda

CLIMATE PROTECTION HEATING – COMFORTING WARMTH WITH CLEAN ENERGY!



GREEN ELECTRIC MAT® –
the Tile Heater
70 W/m²

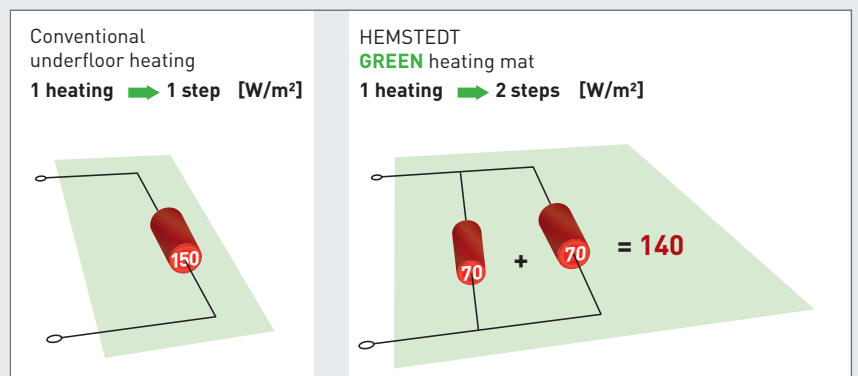
GREEN ACCU MAT® –
the Storage Heater
40 W/m²

Patented!
Heat smart and protect
the climate!

HEMSTEDT Technology Inside, Using the Example of the GREEN ELECTRIC MAT®

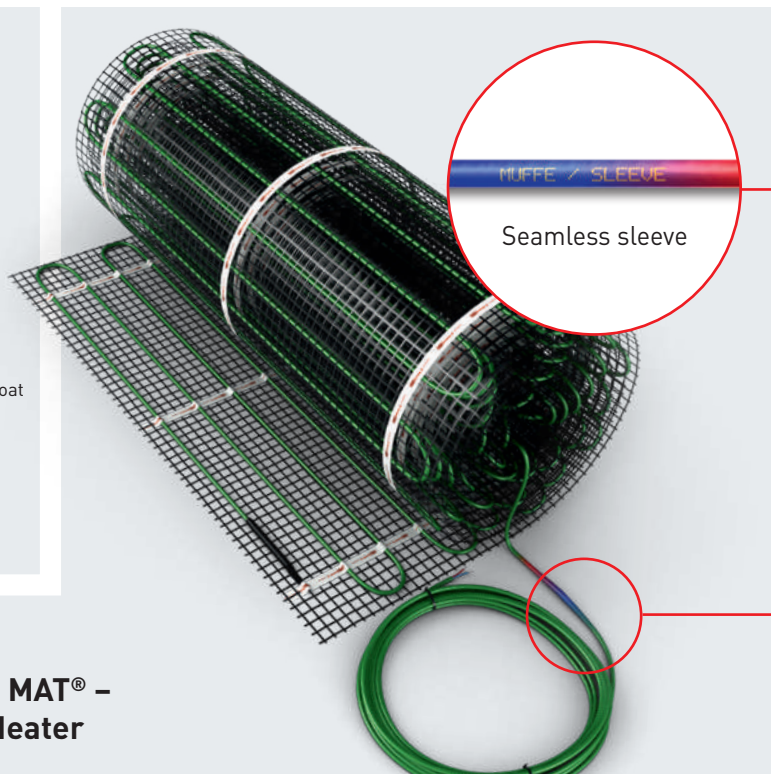
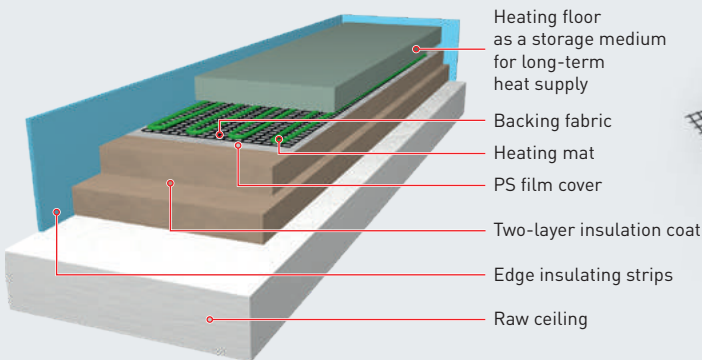
Advantages at a glance:

- Energy-saving operation
- Thin heating system thanks to slim, sleeveless connection technology
- Two heating circuits – for targeted, fast and need-based heating.



THE ENERGY STORAGE HEATER – GREEN ACCU MAT® – the Storage Heater for Floor and Concrete

GREEN ACCU MAT® in or under the floor



Patented!
Smart heating and electricity
used optimally!

GREEN ACCU MAT® – the Storage Heater

Store energy. The GREEN ACCU MAT® is the storage heater for more efficiency and comfort. The mat is installed under the floor on the heat insulation at a depth of approximately 8 – 10 cm. The GREEN ACCU MAT® uses the floor and concrete as a storage medium. Flexible heating and temporary fast heating in the event of weather-induced temperature fluctuations is possible on an economically efficient basis for the first time. Additionally, by means of a smart energy control system, current peaks and excesses can be used optimally and stored in the form of heating energy.

Two heating stages for optimum efficiency

The two heating stages of the GREEN ACCU MAT® provide for optimal consumption:

+ Comfort heating stage with 40 W/m²

This heating circuit ensures a continuous in-feed, e.g. of own PV power, and stores the heat for the basic heating in the floor. The thus tempered floor enables fast heating by switching on the reserve heating stage.

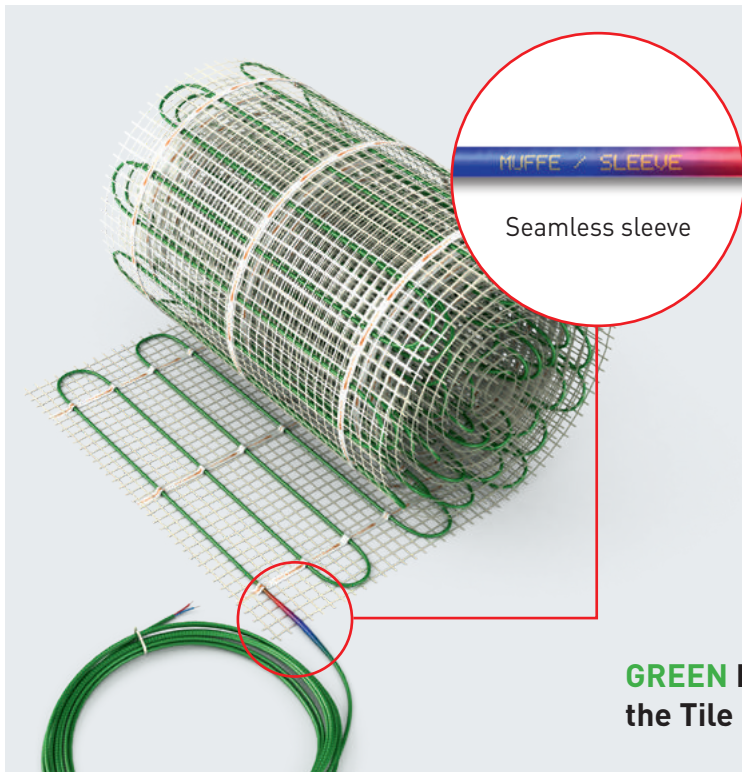
+ Double heating stage with 80 W/m² for temporary fast heating (can be switched on only when needed)

A second heating circuit can be switched on quickly and at any time if needed. Control is assumed by the Hemstedt regulators (see page 12) or a smart home control system. In addition to the temperature control, it can also be used in connection with PV systems to optimize own consumption.

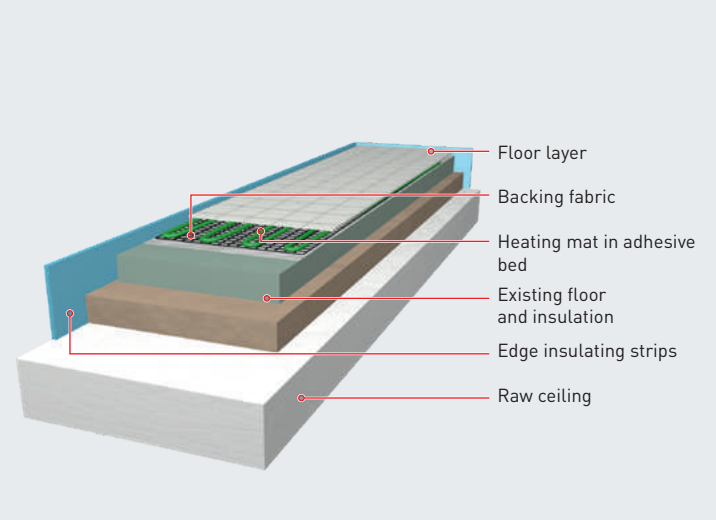
+ Reserve through two heating stages with a total of 80 W/m²

If needed, both heating stages can be activated together continuously. Which current is to be fed in from where can be controlled using the dual circuit controller.

THE ENERGY-SAVING HEATER – GREEN ELECTRIC MAT® – the Profitable Thin-Bed Heating Mat for Tiles



GREEN ELECTRIC MAT® under the floor layer



GREEN ELECTRIC MAT®
the Tile Heater

Patented!
**Heat smart and protect
the climate!**

The **GREEN ELECTRIC MAT®** with **one-sided connection** for integration in the tile adhesive / or leveling compound. Highly suitable for old building renovation, new buildings, as well as for baths, showers, living rooms, offices, etc. Due to the sleeveless technology, particularly suitable for walk-in showers.

Like the **GREEN ACCU MAT®**, the **GREEN ELECTRIC MAT®** is also structured with two stages and has the same heat properties.

- + Double heating stage with 70 W/m² connectable for fast heating
- + Comfort heating stage with 70 W/m²²
- + Double heating stage + comfort heating stage = fast heating operation with a total of 140 W/m²

Part-storage of the heat in the floor is possible.

Use green power efficiently.

Special tariffs and night tariffs for regional eco-power allow targeted in-feed into **GREEN ELECTRIC MAT®** and **GREEN ACCU MAT®**.

The advantage:

- + Better use of electricity from renewable energies
- + In-feed of own PV power
- + Optimized comparison of power generators and power consumption
- + Contribution to stabilizing and relieving the networks



GREEN ACCU MAT® AND GREEN ELECTRIC MAT®

Hemstedt Innovations, Signed and Sealed.



With the new, resource-friendly heating mats from Hemstedt, we have not only brought a high-quality product “Made in Germany” onto the market with which you can heat 100% climate neutrally, but also an outstandingly innovative and forward-looking product. This has been proven by the Industry Awards in 2014, 2016 and 2018.

In this competition, which has been held regularly since 2000, an independent panel of approximately 30 professors from renowned German universities and research institutions as well as specialized journalists and industry representatives decides on which of the more than 5,000 submitted products to recognize.

Key factors in the decision are product maturity and future orientation, as well as effective use, efficiency enhancement and practicality.

The panel members' requirements are clear:

» To me, innovation means that a product or process elevates itself significantly and surprisingly from the recognized state of the art.«

Prof. Dr. Thorsten M. Buzug,
University of Lübeck

» An innovative industrial solution uses the current technical and scientific potential, protects the resources, offers innovative functionality and absolute safety and is characterized by optimal user friendliness.«

Prof. Dr. Rainer Laur,
University of Bremen



Hemstedt thus again elevates itself above the masses and demonstrates that tried-and-tested quality, combined with future-oriented innovative spirit, is the ingredient for customer-oriented, successful products.



In 2019, approximately 500 participants from over 60 countries were involved in the race for the awards from the renowned British trade journal (<https://www.build-review.com>). The Build Awards pursue two objectives: innovative companies are to be recognized, of course, but reliability and resilience as a partner of the construction industry also play a major role. So it is no wonder that Hemstedt, with over 40 years of experience and a whole portfolio of innovative ideas – especially in the field of climate-neutral heating – is among the winners.



**Green
Product Award**
Selection 2018

In March 2019, the **GREEN ACCU MAT®** was given the sought-after “**Green Product Award**” – a prize that recognizes outstanding, climate and resource-protecting alternatives to existing solutions. Naturally, Hemstedt would be there!

A high-caliber, international panel of scientists, architects and politicians from submissions coming from over 40 countries in all six continents! Another particularly important objective of this initiative is the “Green Product Network”, in which established companies are brought together with students and start-ups in order to work together on a better future.



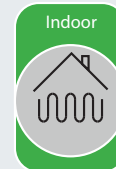
Nils Bader, Managing Director and initiator of the Green Product Award.

DUAL CIRCUIT CONTROLLER – Everything under Control, Everything in View



for **GREEN ELECTRIC MAT®** – The Tile Heater
and **GREEN ACCU MAT®** – The Storage Heater

Clear
Touch-Display



**Fit for the future –
smart living or optimizing
own consumption!**

Order no. 93082

The Hemstedt regulator is specially designed for **GREEN ELECTRIC MAT®** and **GREEN ACCU MAT®** and controls the two heating conductors separately and in a manner optimized for consumption and need. A clear touch display allows the desired room temperature to be set conveniently or time-controlled operation with four individually programmable weekly programs.

In addition to the basic function of a floor heater, the output accessed by the regulator from the house grid can additionally be restricted by means of a control inlet, so that it can be used in connection with PV or other systems to generate renewable energy, particularly favorable for optimizing own consumption.

- Display of the current room temperature
- Clear presentation of up to 4 weekly programs
- Touch display
- Adjustable brightness of the display, ideal e.g. in bedrooms
- Combinable with Smart Home solutions

Depending on the current difference between the target and actual value of the floor temperature, the heating circuit regulator activates one or both of the heating circuits.

Technical Data

Nominal operating voltage	AC 230 V ±10 %, 50 Hz
Nominal load	max. 10 A at AC 230 V; two-pole with separate relay, each max. 5 A
Floor temperature restriction	adjustable from 20 to 40 °C
Max. adjustable range	10 .. 40 °C
Floor sensor monitoring	of short circuit and interruption
Integration into outlet sockets	according to DIN 49073, floating
Protection class	II, with corresponding integration
Protection type	IP20, use at room temperature
Device security and EMC	according to EN 60730-1, EN 60730-2-9, EN 50559
Sensor	2 m

The dual circuit controller fulfills the requirements of EN 50559:2013 (VDE 0705-559)

This standard applies to electric floor heating systems for residential buildings and all other buildings whose use corresponds to that of residential buildings or is at least similar to it, with a maximum traffic load of 4 kN/m². This standard defines the main properties of electric floor heating systems and establishes the test processes for these properties for the information of the users. Special feature of the dual circuit controller: in the case of heating outputs over 120 W/m², the heating function can be time-limited according to DIN.

GREEN ACCU MAT®

The Energy Storage Heater



The **GREEN ACCU MAT®** with a one-sided connection and sleeveless connection technology is the storage and direct heater for more efficiency and comfort. The mat is installed under the floor at a depth of approximately 8 – 10 cm. The **GREEN ACCU MAT®** uses the floor and concrete as a storage medium. Specially designed for low-energy houses.

Technical data

Nominal voltage	230 Volt
Output	approx. 40 / 40 / 80 W/m ²
Cold connection cable one-sided	1 x 4.00 m
Minimum laying temperature	5 °C
Outer casing max. temperature	65 °C
Lowest bend radius	5 x dA
Resistance tolerance	-5 % / +10 %
VDE standard	tested in accordance with IEC60800:2009 <I> VDE-REG 8600 >I>
Cold/warm transition	seamless, without shrink technology
Insulation	XLPE
Supply width	0.85 m / 0.50 m
Calculation width	1.02 m / 0.67 m
Protection type	IP67
Protection class	2

2 x 40 = 80 W/m² 230 V

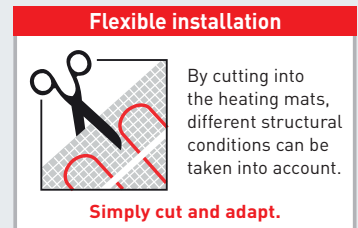
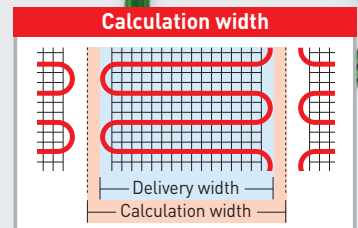
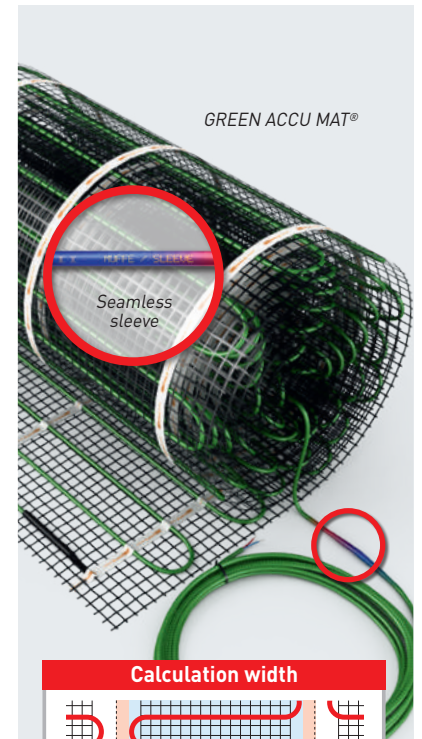
GREEN ACCU MAT®

Heating output W	Surface m ²	Calculation width	Mat length	Order no.
2 x 40 W/m ²		m	m	
2 x 64	1.61	0.67	2.40	31875-64/64
2 x 102	2.55	0.67	3.80	31875-102/102
2 x 137	3.42	0.67	5.10	31875-137/137
2 x 180	4.49	0.67	6.70	31875-180/180
2 x 225	5.63	0.67	8.40	31875-225/225
2 x 255	6.37	0.67	9.50	31875-255/255
2 x 275	7.04	1.02	6.90	31875-275/275
2 x 329	8.57	1.02	8.40	31875-329/329
2 x 407	10.10	1.02	9.90	31875-407/407
2 x 474	11.73	1.02	11.50	31875-474/474
2 x 541	13.26	1.02	13.00	31875-541/541
2 x 619	15.20	1.02	14.90	31875-619/619
2 x 670	17.34	1.02	17.00	31875-670/670
2 x 779	19.28	1.02	18.90	31875-779/779
2 x 860	21.22	1.02	20.80	31875-860/860
2 x 925	23.26	1.02	22.80	31875-925/925
2 x 1019	26.32	1.02	25.80	31875-1019/1019

Accessories

Item name	Order no.
Cold connection cable for extension 4 x 1.50 mm ² , 1.00 m	81303-1.50
Assembly sleeve (1x, assembled in the plant), for extension	26170
Plastic nails for fixation (PU = 100 units)	20304
Sensor extension 1.00 m	20090
Dual circuit controller – digital controller	93082
Spare temperature sensor for dual circuit controller	93082-Fuehler
Repair sleeves on request	
Aluminium sensor sleeve (ED 15.20 mm/ID 12.50 mm)	20079
Plastic switch box for room thermostat	20702
Sensor pipe for room thermostat, length: 2.50 m	20703

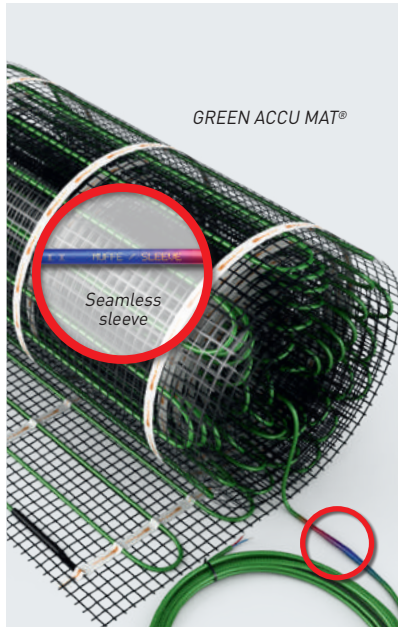
As a protective measure, we recommend a residual-current-operated protective device (RCD <I> 30 mA).</I>



93082

GREEN ACCU MAT® SET

The Energy Storage Heater



GREEN ACCU MAT®

Seamless sleeve

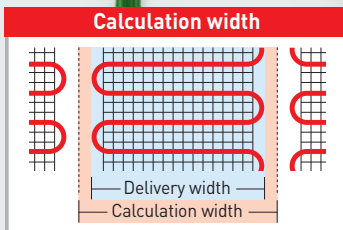
The **GREEN ACCU MAT®** with a one-sided connection and sleeveless connection technology is the storage and direct heater for more efficiency and comfort. The mat is installed under the floor at a depth of approximately 8 – 10 cm. The **GREEN ACCU MAT®** uses the floor and concrete as a storage medium. Specially designed for low-energy houses.

The **GREEN ACCU MAT®** set includes the following products:

- 1 HEM direct heating mat with one-sided connection 2 x 40 W/m² and 4.00 m connection cable;
- 1 temperature regulator with self-learning clock thermostat and sensor, UP; 1 sensor sleeve for sensor tube;
- 1 sensor tube for room thermostat; 1 outlet socket; 1 assembly manual

Technical data

Nominal voltage	230 Volt
Output	approx. 40 / 40 / 80 W/m ²
Cold connection cable one-sided	1 x 4.00 m
Minimum laying temperature.....	5 °C
Outer casing max. temperature	65 °C
Lowest bend radius	5 x dA
Resistance tolerance	-5 % / +10 %
VDE standard	tested in accordance with IEC60800:2009 <VDE-REG 8600 >
Cold/warm transition	seamless, without shrink technology
Insulation.....	XLPE
Supply width	0.85 m / 0.50 m
Calculation width	1.02 m / 0.67 m
Protection type	IP67
Protection class.....	2



Flexible installation

By cutting into the heating mats, different structural conditions can be taken into account.

Simply cut and adapt.



93082

2 x 40 = 80 W/m² 230 V

GREEN ACCU MAT®				
Heating output W	Surface m ²	Calculation width	Mat length m	Order no.
2 x 40 W/m ²		m	m	
2 x 64	1.61	0.67	2.40	31875-64/64-Set
2 x 102	2.55	0.67	3.80	31875-102/102-Set
2 x 137	3.42	0.67	5.10	31875-137/137-Set
2 x 180	4.49	0.67	6.70	31875-180/180-Set
2 x 225	5.63	0.67	8.40	31875-225/225-Set
2 x 255	6.37	0.67	9.50	31875-255/255-Set
2 x 275	7.04	1.02	6.90	31875-275/275-Set
2 x 329	8.57	1.02	8.40	31875-329/329-Set
2 x 407	10.10	1.02	9.90	31875-407/407-Set
2 x 474	11.73	1.02	11.50	31875-474/474-Set
2 x 541	13.26	1.02	13.00	31875-541/541-Set
2 x 619	15.20	1.02	14.90	31875-619/619-Set
2 x 670	17.34	1.02	17.00	31875-670/670-Set
2 x 779	19.28	1.02	18.90	31875-779/779-Set
2 x 860	21.22	1.02	20.80	31875-860/860-Set
2 x 925	23.26	1.02	22.80	31875-925/925-Set
2 x 1019	26.32	1.02	25.80	31875-1019/1019-Set

Accessories

Item name	Order no.
Cold connection cable for extension 4 x 1.50 mm ² , 1.00 m	81303-1.50
Assembly sleeve (1x, assembled in the plant), for extension	26170
Plastic nails for fixation (PU = 100 units)	20304
Sensor extension 1.00 m	20090
Dual circuit controller – digital controller	93082
Spare temperature sensor for dual circuit controller	93082-Fuehler
Repair sleeves on request	

As a protective measure, we recommend a residual-current-operated protective device (RCD < 30 mA).

GREEN ELECTRIC MAT®

The Energy Storage Heater –

The Tile Heater



The **GREEN ELECTRIC MAT®** with a one-sided connection and sleeveless connection technology is the tile heater for more efficient heating. The mat is installed in the tile adhesive. The particularly thin mat with slim, sleeveless connection technology can be used in both new and old buildings.

Technical data

Nominal voltage	230 Volt
Output	ca. 70 / 70 / 140 W/m ²
Cold connection	1 x 4,00 m
Minimum laying temperature.....	5 °C
Lowest bend radius.....	6 x dA
Resistance tolerance	-5 % / +10 %
VDE standard	in accordance with IEC60800:2009
Cold/warm transition	seamless, without shrinking technology
Insulation	Fluoroplastic
Supply width	0.46 m
Calculation width	0.50 m

2 x 70 = 140 W/m² 230 V

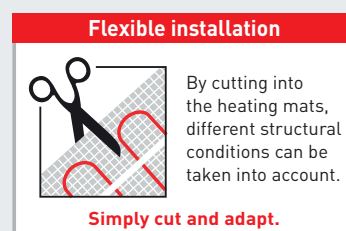
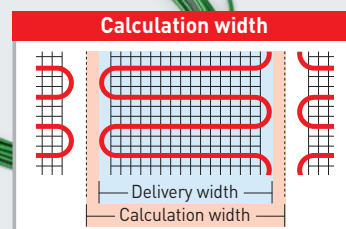
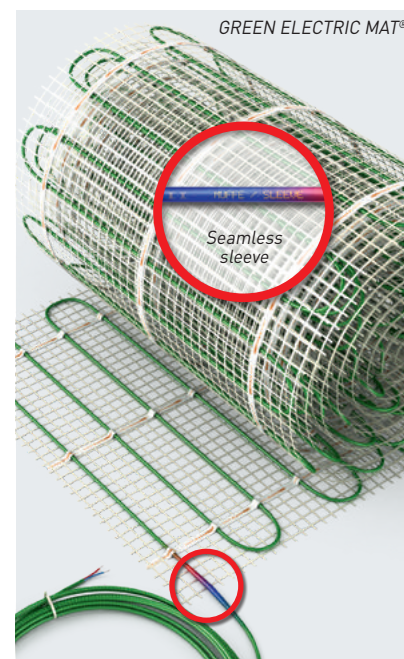
GREEN ELECTRIC MAT®

Heating output W 2 x 70 W/m ²	Surface m ²	Calculation width m	Mat length m	Order no.
2 x 70	1.00	0.50	2.00	30770-70/70
2 x 105	1.50	0.50	3.00	30770-105/105
2 x 140	2.00	0.50	4.00	30770-140/140
2 x 175	2.50	0.50	5.00	30770-175/175
2 x 198	3.00	0.50	6.00	30770-198/198
2 x 238	3.50	0.50	7.00	30770-238/238
2 x 275	4.00	0.50	8.00	30770-275/275
2 x 300	4.50	0.50	9.00	30770-300/300
2 x 343	5.00	0.50	10.00	30770-343/343
2 x 423	6.00	0.50	12.00	30770-423/423
2 x 488	7.00	0.50	14.00	30770-488/488
2 x 562	8.00	0.50	16.00	30770-562/562
2 x 611	9.00	0.50	18.00	30770-611/611
2 x 715	10.00	0.50	20.00	30770-715/715

Accessories

Item name	Order no.
Cold connection cable for extension 4 x 1.50 mm ² , 1.00 m	81303-1.50
Assembly sleeve (1x, assembled in the factory), for extension	26170
Plastic nails for fixation (PU = 100 units)	20304
Sensor extension 1.00 m	20090
Dual circuit controller – digital controller	93082
Spare temperature sensor for dual circuit controller	93082-Fuehler
Repair sleeves on request	
Aluminium sensor sleeve (ED 15.20 mm/ID 12.50 mm)	20079
Plastic switch box for room thermostat	20702
Sensor pipe for room thermostat, length: 2.50 m	20703

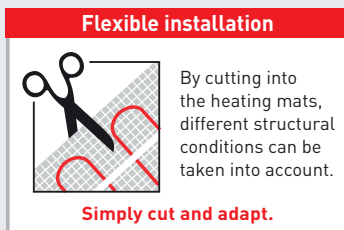
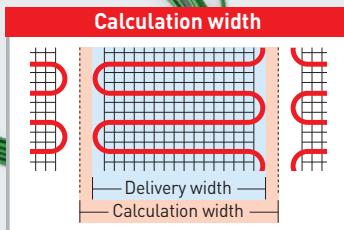
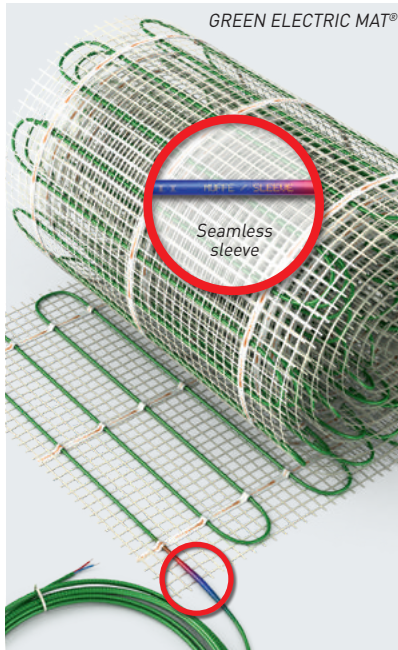
As a protective measure, we recommend a residual-current-operated protective device (RCD ← 30 mA).



93082

GREEN ELECTRIC MAT® SET

The Energy Storage Heater – The Tile Heater



93082

The **GREEN ELECTRIC MAT®** with a one-sided connection and sleeveless connection technology is the tile heater for more efficient heating. The mat is installed in the tile adhesive. The particularly thin mat with slim, sleeveless connection technology can be used in both new and old buildings.

The **GREEN ELECTRIC MAT®** set includes the following products:

- 1 HEM direct heating mat with one-sided connection 2 x 70 W/m² and 4.00 m connection cable;
- 1 temperature regulator with self-learning clock thermostat and sensor, UP;
- 1 sensor sleeve for sensor tube;
- 1 sensor tube for room thermostat;
- 1 outlet socket;
- 1 assembly manual

Technical data	
Nominal voltage	230 Volt
Output	ca. 70 / 70 / 140 W/m ²
Cold connection	1 x 4,00 m
Minimum laying temperature	5 °C
Lowest bend radius	6 x dA
Resistance tolerance	-5 % / +10 %
VDE standard	in accordance with IEC60800:2009
Cold/warm transition	seamless, without shrinking technology
Insulation	Fluoroplastic
Supply width	0.46 m
Calculation width	0.50 m

2 x 70 = 140 W/m² 230 V

GREEN ELECTRIC MAT®				
Heating output W	Surface m ²	Calculation width m	Mat length m	Order no.
2 x 70	1.00	0.50	2.00	30770-70/70-Set
2 x 105	1.50	0.50	3.00	30770-105/105-Set
2 x 140	2.00	0.50	4.00	30770-140/140-Set
2 x 175	2.50	0.50	5.00	30770-175/175-Set
2 x 198	3.00	0.50	6.00	30770-198/198-Set
2 x 238	3.50	0.50	7.00	30770-238/238-Set
2 x 275	4.00	0.50	8.00	30770-275/275-Set
2 x 300	4.50	0.50	9.00	30770-300/300-Set
2 x 343	5.00	0.50	10.00	30770-343/343-Set
2 x 423	6.00	0.50	12.00	30770-423/423-Set
2 x 488	7.00	0.50	14.00	30770-488/488-Set
2 x 562	8.00	0.50	16.00	30770-562/562-Set
2 x 611	9.00	0.50	18.00	30770-611/611-Set
2 x 715	10.00	0.50	20.00	30770-715/715-Set

Accessories

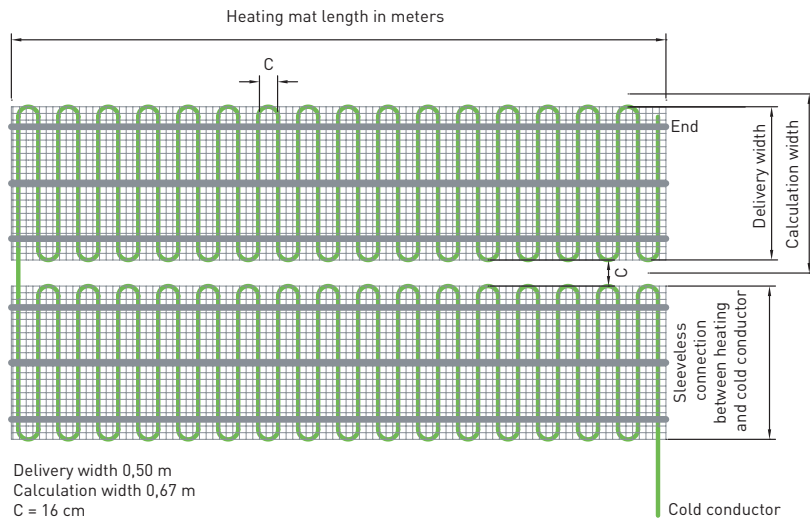
Item name	Order no.
Cold connection cable for extension 4 x 1.50 mm ² , 1.00 m	81303-1.50
Assembly sleeve (1x, assembled in the factory), for extension	26170
Plastic nails for fixation (PU = 100 units)	20304
Sensor extension 1.00 m	20090
Dual circuit controller – digital controller	93082
Spare temperature sensor for dual circuit controller	93082-Fuehler
Repair sleeves on request	

As a protective measure, we recommend a residual-current-operated protective device (RCD ← 30 mA).

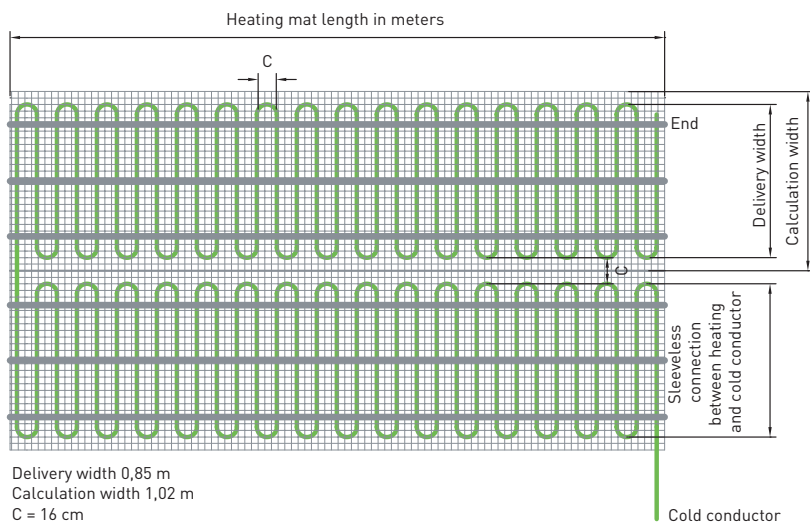
INSTALLATION

of the GREEN ACCU MAT® and GREEN ELECTRIC MAT®

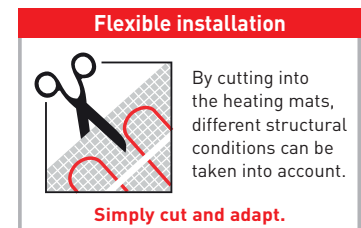
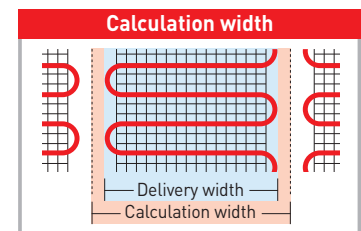
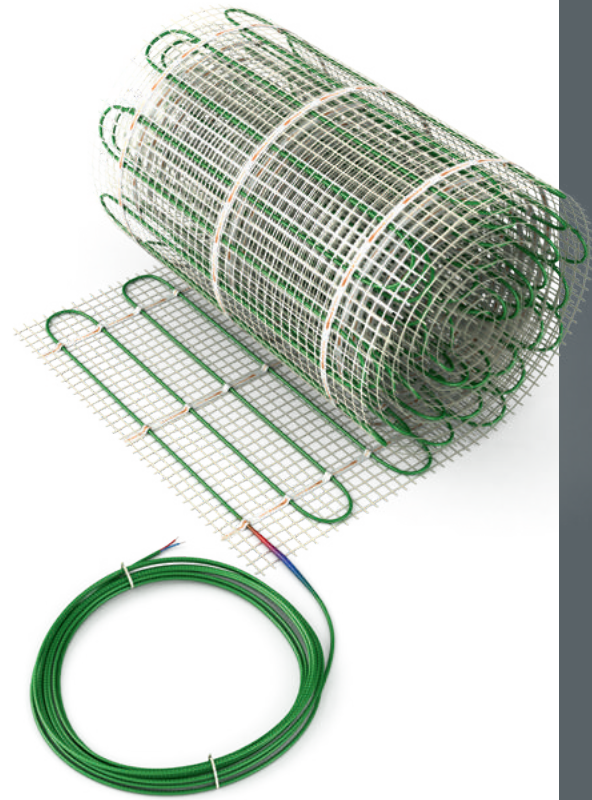
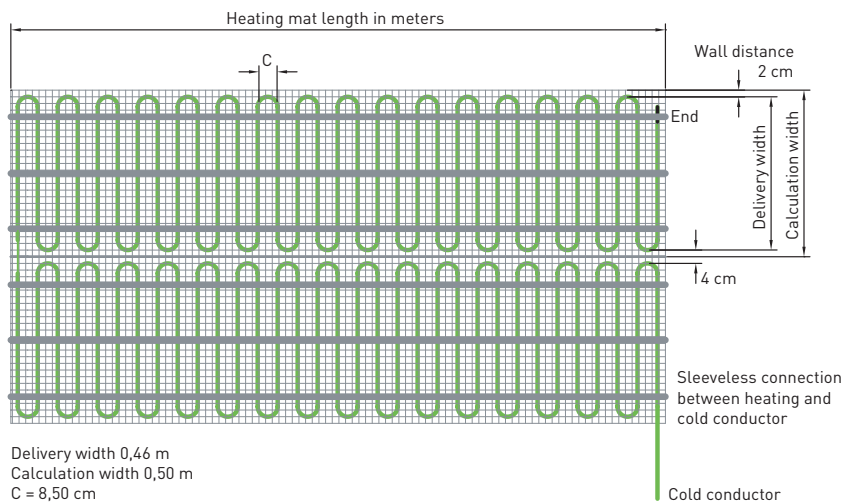
GREEN ACCU MAT® 50 cm delivery width 2 x 40 W/m²



GREEN ACCU MAT® 85 cm delivery width 2 x 40 W/m²



GREEN ELECTRIC MAT® 46 cm delivery width 2 x 70 W/m²



Resistant. Innovative. Reliably.



Sabine Hemstedt, Ranga Yogeshwar and Andreas Hemstedt.



When the company was founded in 1974, Dieter and Silvi Hemstedt wanted to make products not only more durable and reliable, but also better and more future-oriented. And it has not changed until today. Management invests more than half of the time in dialogue with its own engineers, but also with users and scientists in developing new ideas. On the one hand, it is about making existing innovations even better, but on the other one it is all about recognizing future developments today and converting them into market-ready, high-quality products. Hemstedt benefits from the advantages of a medium-sized family company – lean hierarchies, short decision-making channels, direct dialogue!

"We do not rest on our successes, but prepare the next innovations at an early stage." Andreas Hemstedt, CEO

**And above all – what others only say about themselves – Hemstedt has it signed and sealed!
Because for the second time the company was awarded the coveted "TOP 100 seal"
honored for its outstanding commitment to innovation.**

The evaluation criteria include not only the commitment of the management in the area of research and development but also to what extent, e.g. employee ideas are taken up, which training measures are being promoted in the company and much more. Because, unlike the industry award, TOP 100 does not award any special products, but takes a close look at

all areas of the innovation process. And that for over 20 years. Companies that have been awarded this seal belong to the world class of innovators. This confirms e.g. also Dr. Nikolaus Franke, professor for entrepreneurship and innovation at the Vienna University of Economics and Business and member of the scientific advisory board of the Top 100 jury.

QUALITY AND INNOVATION ARE A PROMISE TO OUR CUSTOMERS!



The Tradition and Success of a Family Company

MADE IN GERMANY
MADE BY HEMSTEDT

Where We Come From

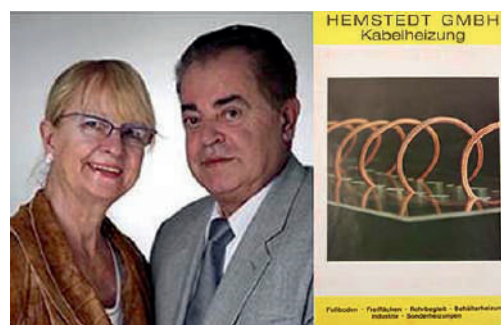
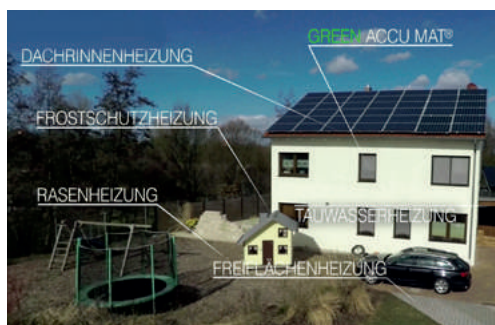
Everything started in 1974 in a small village near the metropolis region of Stuttgart: Dieter and Silvi Hemstedt founded their own company with the aim of manufacturing high-quality and specialised heating cables. And they got their sums right: Only four years later, the company already had 20 employees, revenue and the need for more space were increasing fast. And the exact same applied to the product range. Cold storage technology joined the list and more and more customers were demanding specialized solutions, which Hemstedt could implement in a fast and precise manner. This flexibility and the high quality were what quickly made Hemstedt well-known across the whole world. Ever more frequently, deliveries were leaving the Swabian production warehouse and heading to China, the USA, Russia and to many other countries. Today, over 50 people are working in development and production on around 17,500 square metres.

As well as chairman of the board Dieter Hemstedt, there are two others belonging to the management board of Hemstedt GmbH. In 1990, Sabine and Andreas Hemstedt took the company into its second generation. From 2006, they were active as authorized signatories until they were finally welcomed onto the board in 2011.

And as such, the company is now focused above all on the development and production of energy-efficient heating systems and integral concepts which make essential contributions, not just to becoming climate-neutral, but even to creating a climate-positive house. Regarding this goal, Hemstedt was already awarded twice, in 2008 and 2015, with the "Top 100" seal and the "Industry Prize Best Of" in 2014, 2016 and 2018 at the Hannover trade fair.

But however much we try to develop something new, the tradition will always remain the same: Perfect 100% "Made in Germany" Quality!

HEMSTEDT QUALITY: EXCELLENT!



Silvi and Dieter Hemstedt – Founders



QUALITY SIGNED AND SEALED

HEMSTEDT GmbH: Your Partner for 100% Quality.

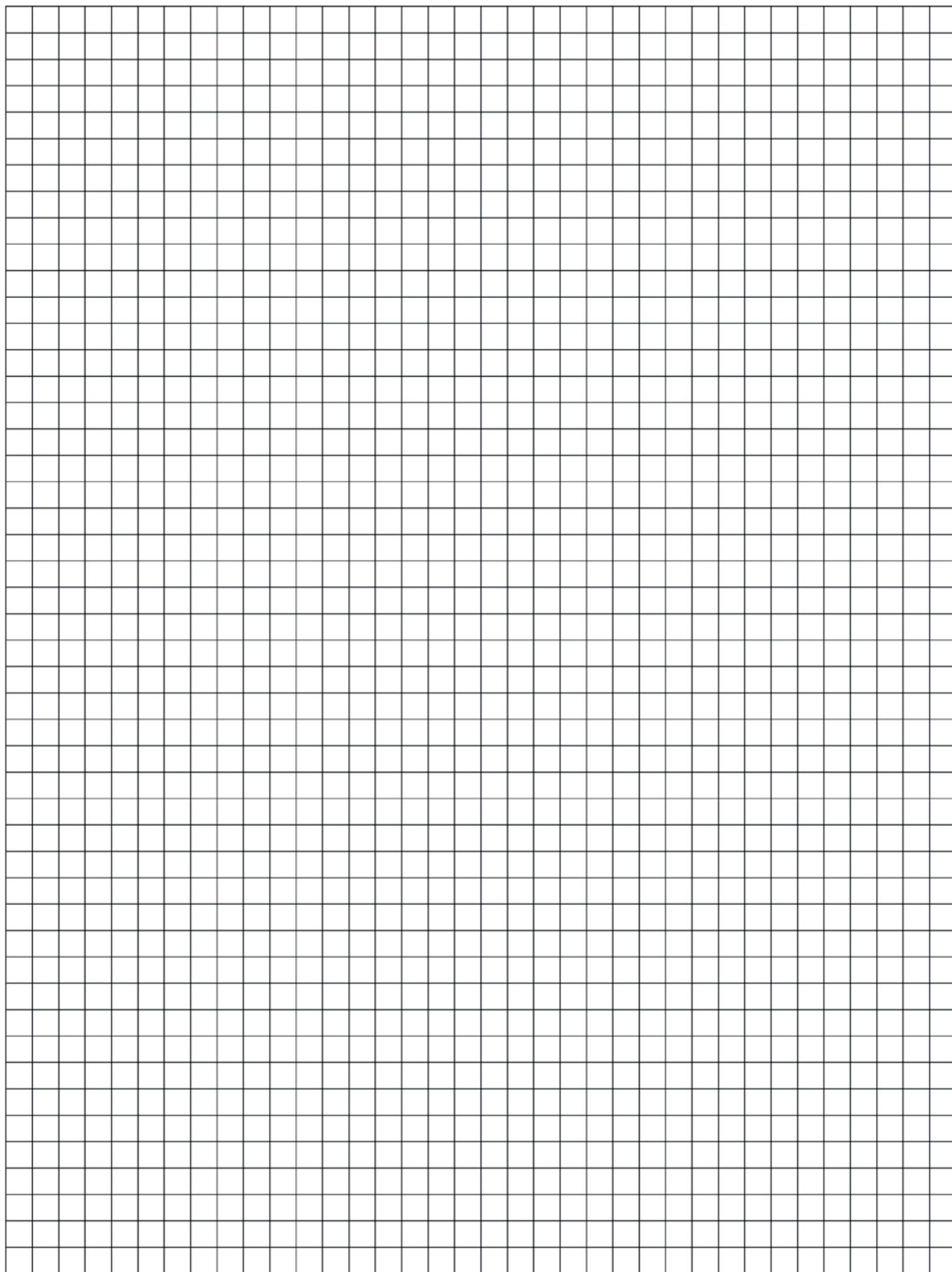
To enable us to adhere to this very high standard of quality, we are affiliated with many test centers, organizations and commissions:

- Heilbronn University of Applied Sciences (D)
- VDE test center, VDE Test- and Certification Institute, Offenbach (D)
- TÜV Süd
- IEC International Electrotechnical Commission
- BVF Bundesverband Flächenheizungen und Flächenkühlungen e.V., Dortmund (D)
- DEKRA Arnhem (NL)
- EAC certificate for Russia
- sic cert, Lahr (D)

Additionally, at Hemstedt, 100% end control is carried out with professional testing equipment for:

- resistance measurement
- insulation resistance
- high voltage testing
- function testing according to the applicable protection class
- as well as further, customer-specific testing.

The standard-compliant CE labeling is ensured and maximum product reliability guaranteed by traceability of test data and course of manufacture for each product, using the distinct serial number for a guaranteed 10 years.





Worldwide: Direct

As a global player, Hemstedt GmbH supplies and supports international customers and projects, together with overseas representatives on all continents, directly from the main factory in Brackenheim.



 **Hemstedt**[®]
HEIZLEITUNGEN · KÜHLHAUSTECHNIK

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