

therm-x2® — the unrivalled original

The energy-saving radiator for all heating systems.





Kermi therm-x2[®] steel panel radiators. The original with many benefits

Often copied — never equalled! The Kermi therm-x2 steel panel radiators with their patented serial flow x2-technology offer a solution for energy transfer which is globally unique. They provide the highest level of efficiency resulting in energy savings of up to 11 %, while at the same time ensuring the utmost comfort — at every point of operation.

This provides the ideal answer to all your customer's requirements for a cosy living comfort.





therm-x2. The original with many benefits.

Kermi therm-x2 steel panel radiators

I like it cosy. Kermi.

At home, within our own four walls, is where we long for comfort, intimacy and safety. Ensuring the right thermal comfort is essential for feeling at home and relaxing.

What makes the right thermal comfort? How do you measure being comfortable? At Kermi, we have been working on this for decades now. It all started with radiators and surface heating. Today, our focus is on creating an optimal indoor climate in people's homes and workplaces. We offer comfort and security all year long with comprehensive solutions for optimal warmth and thermal comfort in both new-builds and renovated old buildings.

Healthy thermal comfort affects many aspects of life, resulting in a feeling of well-being. Future-proof and sustainable products made by Kermi are the right choice when it comes to environmental protection. The "Kermi system x-optimised" provides optimal energy efficiency thanks to a sophisticated interaction between all elements.

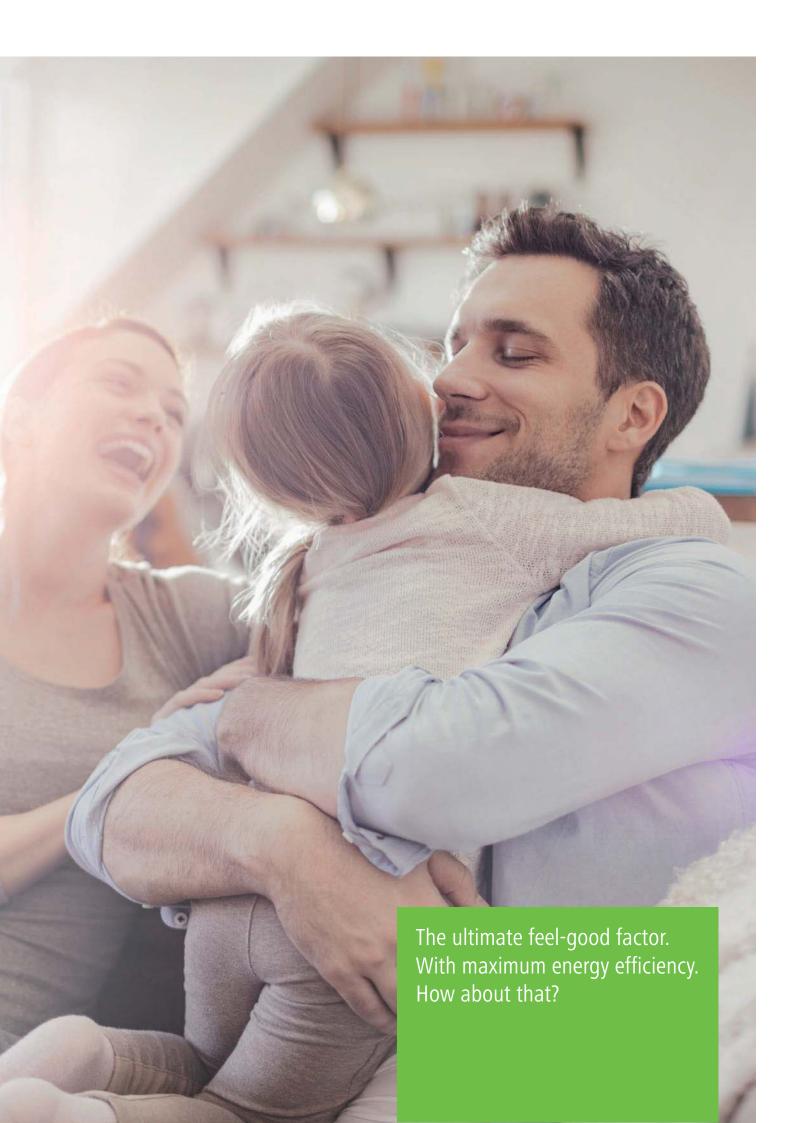
Kermi components and systems all adhere to particularly high quality standards. These standards are seamlessly implemented from product development through production to final inspection. Furthermore, the cooperation with our specialist partners, our pre-sales and after-sales services, and the large number of additional services we offer you a reassuring feeling.

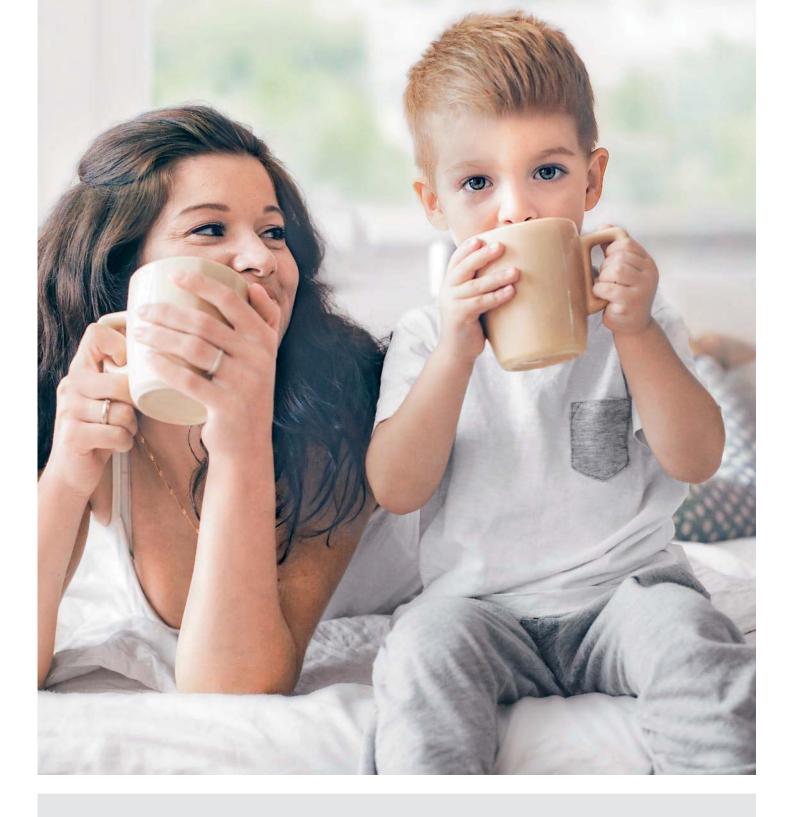
With our highly innovative solutions, we at Kermi provide your home with healthy, "green" warmth and fresh, clean air, allowing you to feel comfortable in your four walls!

For nearly six decades now, Kermi has been developing and manufacturing thermal comfort and shower design products at their headquarters in Lower Bavaria. Today, Kermi is one of the leading European manufacturers in these areas. As a pioneer when it comes to economy and ecology, Kermi keeps setting standards in technology, design, and efficiency with its approx. 1300 qualified employees.

You can find out more about Kermi and our locations at www.kermi.com.







You can rely on us.



The highest quality. Made in Germany for nearly sixty years



Heat output acc. to European standard DIN EN 442



Certified management system in accordance with ISO 9001/140001/50001



RAL quality mark as a guarantee for the highest quality



All products are manufactured acc. to the highest product quality standards in accordance with EN 442



Comprehensive product data for the BIM planning process

Ensuring healthy thermal comfort

Sustainably generate heat. Store heat energy in the long term. Selectively control heat. Efficiently transfer heat. And ventilate your living space in a controlled manner. This is the innovative and integral approach of the "Kermi system x-optimised".

A system for the future

Comfortable warmth and controlled ventilation are what affect your well-being at your workplace and living spaces. Heating and ventilation are mutually dependent. The groundbreaking "Kermi system x-optimised" offers a range of advantages for future-oriented heating and ventilation technology.

The system concept is paramount, the centrepiece of which is modern management of energy and comfort levels. It optimises the interfaces, minimises energy losses between system components, and improves energy efficiency many times over. The innovative x-buffer layered buffer storage is optimally adapted to the operating mode and efficiency of the x-change heat pump. Heat transfer is firmly defined within the system. The living room ventilation ensures dust and pollen-free fresh air which guarantees the best possible indoor air quality.

And the system concept goes even further. Matching components that are perfectly adapted to each other result in greater security. Kermi's unique Plug & Heat principle creates a harmonious overall system. The intuitive system operation facilitates optimum control in everyday use.

Improving energy efficiency

The energy efficiency of the entire system is the result of the x-fold optimised components and their perfect interaction. Each component is designed to be highly efficient in its own right. The x-fold optimisation between the individual components considerably increases the efficiency of the overall system. Procuring all system components from a single source results in added quality and planning security.

All parts of the "Kermi system x-optimised" have been developed by Kermi or under Kermi's supervision, using state-of-the-art technology, and have been subjected to strenuous testing. This is why "x-optimised" is an x-fold promise for x-fold performance.

The "Kermi system x-optimised" controls the interaction of the different areas, keeping in mind the details and requirements:



Comfort from a single source

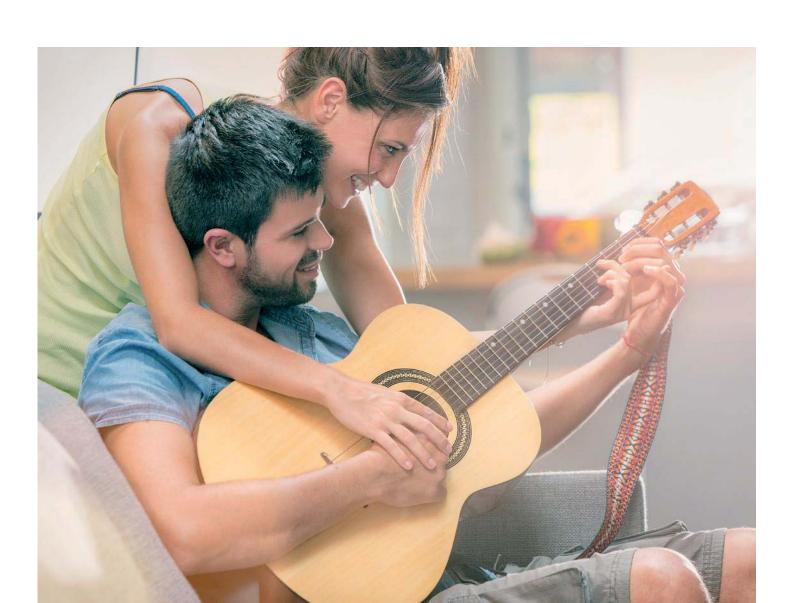
The whole is more than the sum of its individual parts. Especially since every part is extremely powerful, reliable, high-quality and meets modern design requirements. Nothing less will do as far as we at Kermi are concerned.

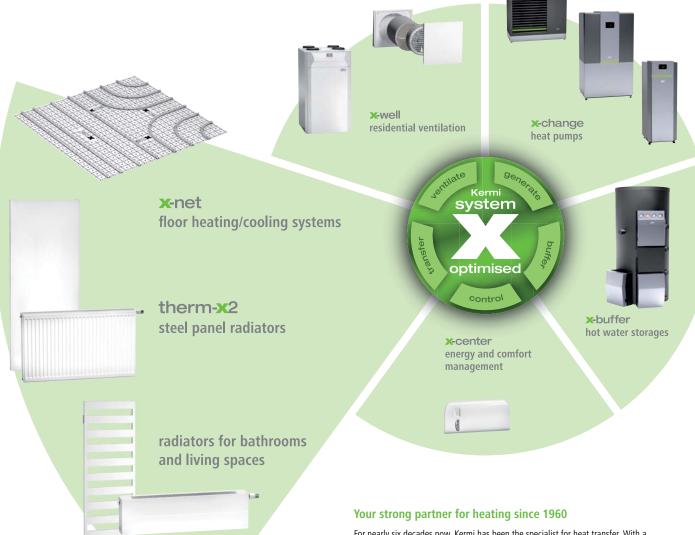
One point of contact for one system

Every building has different framework conditions and requirements. Kermi is your competent partner for optimal heating and thermal comfort when it comes to building construction. With our integrated solutions from a single source, we guarantee not only efficiency and energy savings, but also comfort and homeliness. Even when dealing with complicated structural conditions in an existing building, heating and thermal comfort systems made by Kermi provide significant benefits. This is because our components are also highly efficient and innovative for energy-efficient restructuring of old buildings.

Functionality combined with an attractive design

Functionality and design always go hand in hand at Kermi. When developing products, we always strive to combine both these elements in a harmonious manner. The result is prizes and awards for innovative technological solutions and product design, ensuring you can always rely on the quality, functionality and design of Kermi brand products and systems.





For nearly six decades now, Kermi has been the specialist for heat transfer. With a wide range of radiators and systems for surface heating, we have repeatedly set the benchmark for energy efficiency, ecology and design. The development of the unique, innovative x2-technology is setting a standard with the therm-x2 steel panel radiators which — thanks to their patented operating principle — repeatedly achieve top performance when it comes to energy efficiency and comfort. With our particularly large programme of x-net panel heating/cooling, nothing stands in the way of extensive heat dissipation with a high proportion of radiant heat.

There is a wide range of bathroom and living room radiators to choose from. Convectors are very powerful heaters for rooms with large windows to quickly provide comforting warmth. Heating panels produce a high proportion of cosy radiant heat. The aesthetic design of Kermi Decor round pipe radiators offers completely new options when designing your living space. The customised design and high-quality workmanship make Kermi design radiators value-added design elements in bathrooms and living spaces. The designs beautifully complement modern architecture. Numerous models have won prestigious design awards.

Kermi therm-x2 steel panel radiators



The unrivalled original

Only the original offers a high level of energy efficiency combined with greater radiant heat. This is the heat generation of the future with maximum thermal comfort.



Often copied — never equalled!

Patented since 2005 and implemented in every Kermi steel panel radiator: The original x2-technology. With unique serial flow, it ensures the best possible energy efficiency, faster heat dissipation and the highest level of thermal comfort in the room.



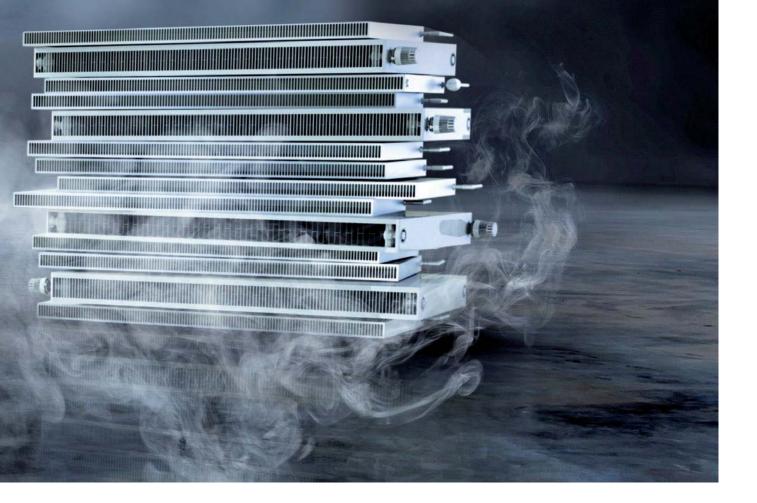
More heat, reduced costs

Best-in-class when it comes to energy savings: With more than 20 million Kermi steel panel radiators installed, the innovative x2-technology ensures significantly shorter heating periods, maximum radiant heat and a high energy savings potential.



Authenticity instead of imitation

There's nothing like the original:
The energy-saving x2-technology
producing comforting warmth
is only available from Kermi.
Kermi's x2-technology has
revolutionised serial flow in the
steel panel radiator sector.





Serial flow. It's a simple principle: First, the front panel heats up and quickly provides warmth. Then, the downstream panel is heated up and provides a maximum level of comfort as a radiation shield.



Patented technology. The revolutionary x2-technology was developed and patented by Kermi in 2005. It remains unrivalled when it comes to efficiency and energy savings.



Quick surface heating. The average surface temperature of the radiator decides whether we perceive a room as comfortable. A radiation component up to 100 % higher provides a sense of well-being.



Huge range of different models. Only Kermi gives you so many options: 3 designs, 14 heights, 18 lengths, 8 types, 8 connection versions, 240 basic colours ... Everyone will find the perfect energy-saving radiator here!



Maximum energy efficiency. The x2-technology turns every steel panel radiator into an efficiency miracle that saves up to 11 % energy while at the same time providing 100 % comfort.



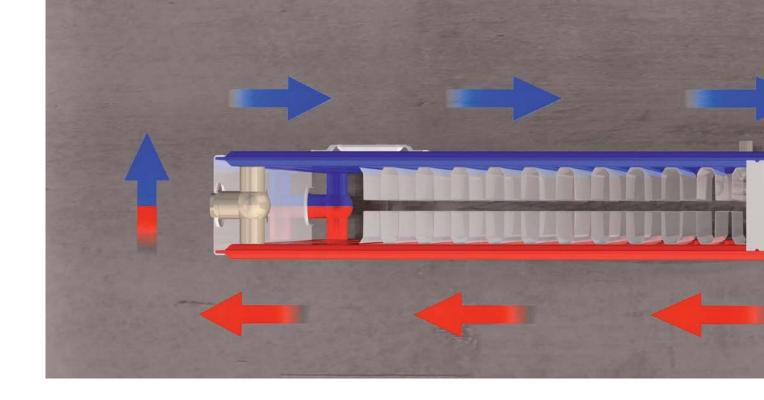
Flexible use. Steel panel radiators with x2-technology are versatile and always work efficiently — whether with condensing heating systems or modern heat pumps and solar thermal systems.



Attractive design. Steel panel radiators with x2-technology also convince with their attractive design — whether classic profiled, simple with a smooth surface or stylish with discrete grooves.



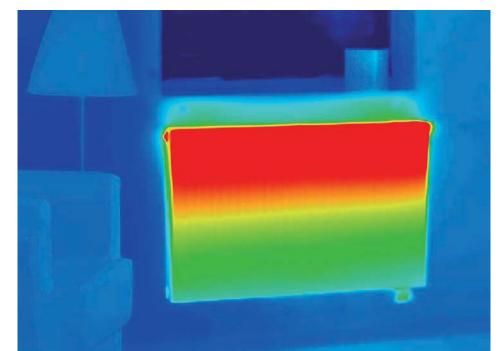
Guaranteed up-to-date. Saving energy in private households has never been more topical. The x2-technology in combination with hydraulic balancing and connection flexibility makes your heating system more efficient.

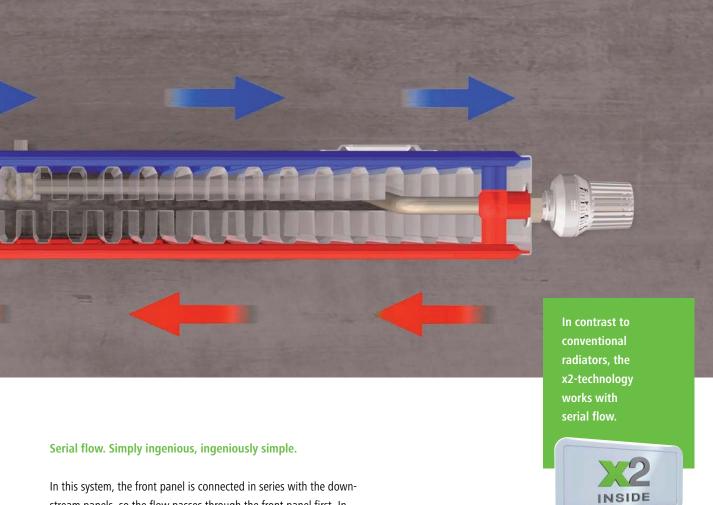


Serial instead of parallel. Clever heating solution with the original

In conventional steel panel radiator technology, all of the panels are connected in parallel and are thus flowed through simultaneously. This not only results in an unsatisfactory energy efficiency, but also doesn't create a particularly comfortable indoor atmosphere. Kermi was not happy with this solution and therefore created a completely new, unique type of steel panel radiator: the therm-x2 with a serial flow principle.

The x2-technology enables an up to 25 % shorter radiator heating period. The forced flow-through produces a shorter heating cycle as well as shorter operating times, and the valve closes faster.





In this system, the front panel is connected in series with the down-stream panels, so the flow passes through the front panel first. In controlled operation, the front panel's output is completely sufficient and the downstream panel heats up hardly at all. Only with the increasing need for output does it also contribute towards rapid room heating with high convection output.

Benefit from the development lead of the original.

The therm-x2 offers you multiple innovative advantages: Significantly better dynamics, optimal comfort at every operating point, and excellent energy efficiency. This way, Kermi is making an important contribution towards the energy revolution. For a future-oriented and sustainable heat supply.

up to

1 1 0/0

energy
savings

up to

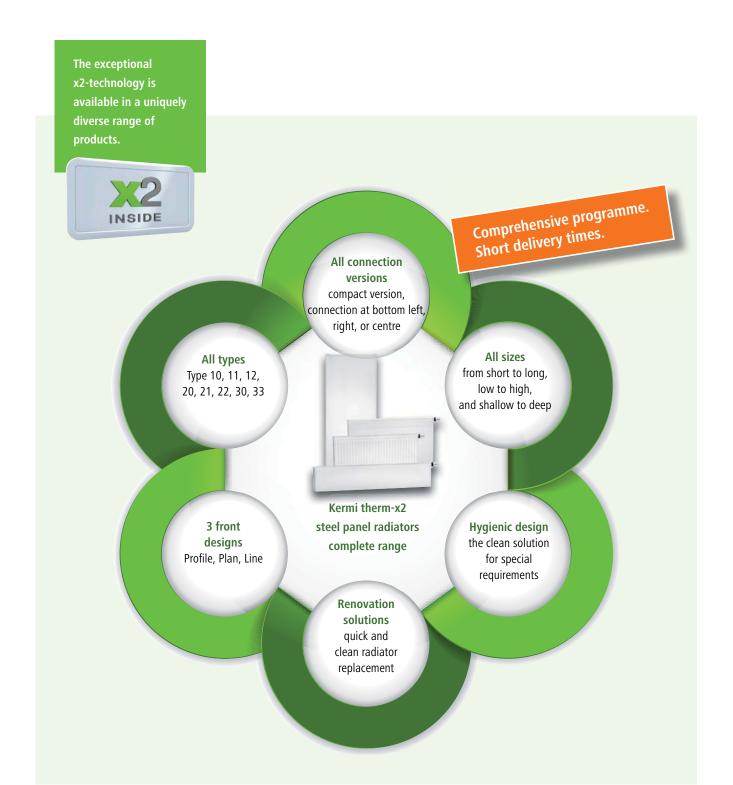
25 %
shorter
heating period

up to

100 %
higher radiation component

Only the original offers you such a wide range of options

The requirements and expectations that consumers have of radiators could not be more diverse. This is reason enough for us to provide exactly the right product for every taste and purpose.





All dimensions, types, front designs amount to **26.572 designs in 240 basic colours.** No other steel panel radiator programme offers you this many options.

Perfectly adapted to all modern heat sources

Kermi therm-x2 steel panel radiators are the optimal addition to all modern heating systems. Particularly with all heat sources that require a low return temperature, they make full use of their advantages. The hot water has to cover a longer distance within the radiator. This increases the energy yield, especially in partial load mode with lower mass flow rates and results in lower circulation and generation losses. This means therm-x2 steel panel radiators are also a perfect alternative for heating renovation without panel heating.

The complete program for all requirements

Impress your customers with the largest range of models available on the market for serial steel panel radiators. This offers you the perfect solution for all customer requests and structural requirements.

For every installation situation

The therm-x2 steel panel radiators Vplus with a centre connection combine the proven benefits of the therm-x2 technology with the previously unknown diversity of connection options.

This means you have great flexibility regarding short-term changes of the connection type on-site and full design freedom due to the numerous connection options.

Perfect for new-builds and modernisation

Kermi therm-x2 compact replacement radiators provide the ideal solution for quick, uncomplicated renovation and modernisation. Identical in size to the corresponding Kermi models, they are aimed precisely at the standard 500 and 900 mm hub distances that constitute over 90 % of the demand. For a completely trouble-free radiator replacement in just a few installation steps, without any special accessories.





Kermi x-net panel heating/cooling

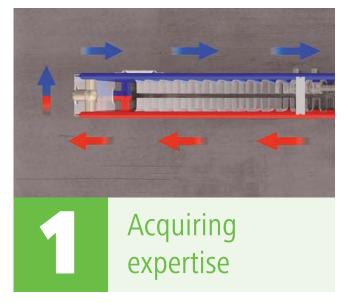
13



Only the original gives you the fivefold advantage

Radiators are a long-term investment for your customers.

With the therm-x2 steel panel radiators, you can offer a unique range of products which are genuine energy-saving miracles and will put a smile on your customers' faces.



With the energy-efficient therm-x2 heating technology, you are well prepared for the future and have the ideal solution for every system requirement. This is because therm-x2 radiators can be perfectly combined with all heating systems and heat sources: oil, gas, pellets, heat pumps, solar ... They are characterised by optimum heat dissipation into the room, even at low system temperatures. They are optimised for operation with heat pumps, for example: With their high ΔT between flow and return, they work particularly efficiently with heat sources which require low return temperatures.



Kermi therm-x2 radiators harmonise perfectly with modern heat sources. That means they improve their energy efficiency and are an efficient extension and optimisation of heat pumps, solar panels, or heating systems with condensing technology. This is because the unique x2 technology makes genuine energy-savings possible during heat transfer.

Only the original is using the patented x2-technology serial flow. According to this principle, the flow goes through the front panel first. In controlled operation, the front panel's output is completely sufficient and the downstream panel takes on the radiation shield function. Only with the increasing need for output does it also contribute towards rapid room heating with high convection output. The result: A level of energy efficiency that is unrivalled in the steel panel radiator sector.

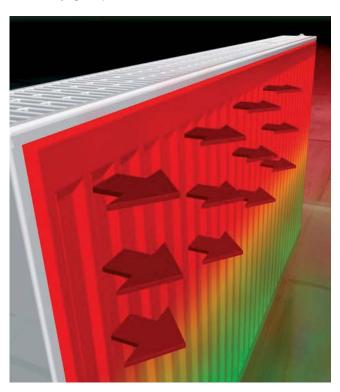


3 Avoiding hassle

For most of the heating period, radiators work in partial load mode with low mass flow rates. The average surface temperature of the radiators is significantly less than 40 °C. This is enough to reach the desired room temperature but it does not create a feeling of real comfort. The result: Customers think that the radiators are not working properly and complain.

With the original, you can offer your customers the optimal radiators for every heat source. This is because serial flow inevitably produces a significantly higher surface temperature on the front panel, resulting in an up to 100 % higher radiation component.*

This will provide your customers with maximum thermal comfort at all times — even in partial load mode. And you will receive considerably fewer annoying complaints.



* Source: Research report from WSPLab, Dr.-Ing. Harald Bitter "Metrological Investigation of Steel Panel Radiators to Determine the Interior Radiated Heat Output"



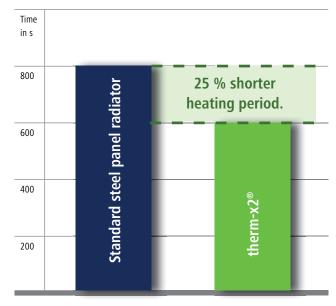
No matter which design — the therm-x2 radiators are state-of-the-art in two ways when it comes to speed. Firstly, they will impress your customers with their dynamic responsiveness. Up to 25 % shorter heating periods of the radiator ensure pleasant room temperatures very quickly.

Secondly, you will also benefit from significant time savings during installation. The V-version, for example, features a factory-fitted, $k_{\rm V}$ -preset valve insert. This means that time-consuming hydraulic balancing on-site is no longer required. And for the fast-growing renovation market, the compact replacement version offers you an efficient replacement solution to perfectly fit the old DIN connections.

Dynamic response

Example: Type 22, BH 600, BL 1000

From the idle state to maximum heat output of the radiator at 100 % mass flow rate.



Standard steel panel radiator Valve fully open for **800 s** Output = 1158 W (70 °C/55 °C) T_O after 200 s = 43.5 °C

 T_R after 800 s = 55 °C

Kermi therm-x2 steel panel radiators Valve fully open for 600 s Output = 1158 W (70 °C/55 °C) T_O after 200 s = 50 °C

 T_R after 600 s = 55 °C

 $T_0 = Average surface temperature$

 $T_R = Return temperature$

 $\dot{m} = 66.5 \text{ l/h}$

Source: Research report by Prof. Dr.-Ing. Rainer Hirschberg "Dynamic Response and Energy Expenditure of a Steel Panel Radiator with Panels Connected in Series".



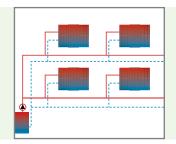
By installing therm-x2 radiators you will no longer need to look for suitable heat meters or make compromises to attach them. Play it safe with the original: All reputable heat billing companies have determined the proper installation positions and connection factors for the Kermi therm-x2.



Only the original provides you with these 10 top sales arguments

The range of radiators is large and building contractors and home owners are often overwhelmed with making the right decision. With the therm-x2 steel panel radiators you have convincing arguments and can give perfect advice to your customers.

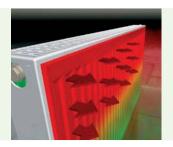




Hydraulic balance included

Heating systems which have been perfectly hydraulically balanced are mandatory and offer additional energy-savings potential. For radiators with integrated valve already preset at the factory by Kermi to the respective radiator output, it is ensured that only the mass flow rate required to cover the heat demand is fed into the radiator.

2



Up to 100 % more comfortable radiant heat

Radiating heat and creating pleasant thermal comfort — the Kermi therm-x2 radiators achieve this with maximum cosy radiant heat at every operating point. Comparable with the pleasant effect of sun rays on the human body.

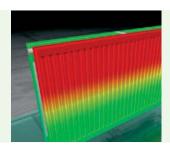
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Reduced energy costs

The high energy efficiency of the therm-x2 technology makes the radiators an ideal addition to the energy saving chain. This provides high savings potential — the heating bill can be reduced by up to 11 %.

4



Significantly higher dynamics

The benefits of the x2 serial flow principle also include a dynamic heating process and considerably faster reaction times of the front panel. Compared to conventional steel panel radiators, the heating period is reduced by up to 25 %.





Perfect for heat sources in the lower temperature range

Modern heat sources such as heat pumps or solar panels work with low flow temperatures and are therefore also particularly efficient when it comes to energy management. The innovative x2-technology is ideally suited for this and has a positive effect on the efficiency of these heat sources.

6



An attractive appearance

A radiator not only has to be functional, it must also look attractive. With Kermi therm-x2 steel panel radiators you can choose: from classic therm-x2 Profile, elegant therm-x2 Plan or stylish therm-x2 Line radiators. We offer innovative therm-x2 technology for every type of living space and matching all furnishing styles.



The quick renovation solutions

Kermi therm-x2® Profile and Plan compact replacement radiators offer a quick, flexible, and above all uncomplicated solution for radiator replacement. Perfectly adapted to DIN radiators with hub distances of 500 or 900 mm — these represent approx. 90 % of the demand on the renovation market.

8



therm-x2 always fits

The therm-x2 steel panel radiators impress with their exemplary range of shapes. Whether short or long, narrow, or wide ...

To give you an example, the Verteo version is a space-saving solution for harmonious integration into the room. Or with height 200, ideal for use in front of large windows or low base walls.

9



Kermi brings colour into your home

The days when radiators were essentially only available in white are long gone. The Kermi colour concept offers numerous different options — from the classic sanitary colours to elegant, matt surfaces, from fresh, vibrant colours to brilliant metallic shades.

10

MADE IN GERMANY

Safety and quality "Made in Germany"

We have set high goals for ourselves with regards to quality, environmental protection, occupational safety, and energy efficiency. That is why we bear a shared responsibility for our products and processes. The same applies to our contract partners who we support in implementing our high standards.

Kermi therm-x2® Profile. Innovative technology of the future in a classic design

Brilliantly coated, with top and side covers. Manufactured according to the high Kermi quality standard.



comfortable and, thanks to lower energy consumption, results in reduced heating costs. The detailed high-quality design is equally convincing. From the brilliantly coated all-round cover to the fully integrated valve fitting with kv-values preset at the factory for the radiator version with integrated valve: therm-x2 Profile is available in the therm-x2 Profile-K, therm-x2 Profile-K replacement, and therm-x2 Profile-V/Vplus versions.



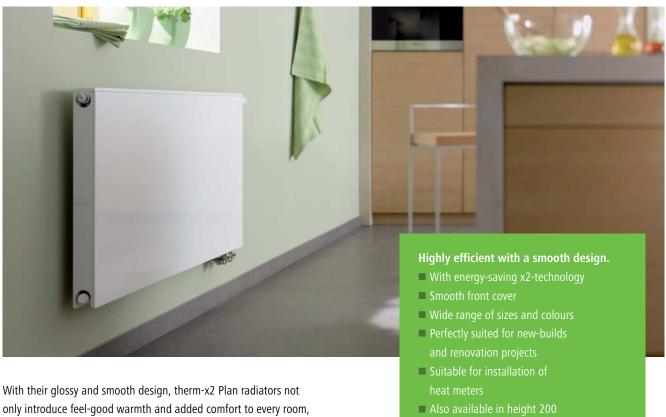
Kermi steel panel radiators with height 200 are perfectly suited for verandas, conservatories, and under window sills, as well as anywhere large window sections or low base walls are required.



Complete planning freedom until the very end: For the Vplus model, the radiator version and dimensions can be determined even after tube installation

Kermi therm-x2® Plan. Unique energy-saving technology with an attractive appearance

Brilliant and smooth in every detail — the flush front section, side panels, and decorative cover result in a particularly attractive appearance.



With their glossy and smooth design, therm-x2 Plan radiators not only introduce feel-good warmth and added comfort to every room, but are also harmoniously integrated into almost every living space. In V-version radiators, the valve is integrated and preset to the appropriate heat output at the factory. This not only saves additional energy, but also renders on-site hydraulic balancing superfluous. therm-x2 Plan is available in the therm-x2 Plan-K, therm-x2 Plan-K replacement, therm-x2 Plan-K/V Hygiene, and therm-x2 Plan-V/Vplus versions.



therm-x2 Hygiene radiators are the clean solution for special hygienic requirements. For quick, easily accessible cleaning and almost dust-free thermal comfort. This makes them ideal for allergy sufferers.



therm-x2 compact replacement radiators are the ideal solution for quick renovations. With standard hub distances of 500 and 900 mm, they allow for easy radiator replacement in just a few installation steps, without requiring any special accessories.

Kermi therm-x2[®] Line. The harmonious combination of efficiency and shape

A clear shape and subtle, fine ribbing in the front therm-x2 Line steel panel radiators combine design and function in a single unit



With its pleasantly unobtrusive appearance, elegant slim design and finely profiled front surface, the therm-x2 Line is a real eye-catcher in all living spaces and furnishing styles. Maximum heat transfer, a short heating period and high radiated heat output quickly create pleasant thermal comfort with feel-good temperatures everywhere. In V-version radiators, the valve is integrated and preset to the appropriate heat output at the factory. This not only saves additional energy, but also renders on-site hydraulic balancing superfluous. therm-x2 Line is available in the therm-x2 Line-K, therm-x2 Line-K replacement, therm-x2 Line-K/V Hygiene, and therm-x2 Line-V/VM versions.

- Attractive design with finely profiled

- Perfectly suited for new-builds
- Suitable for installation of heat meters
- Also available in height 200



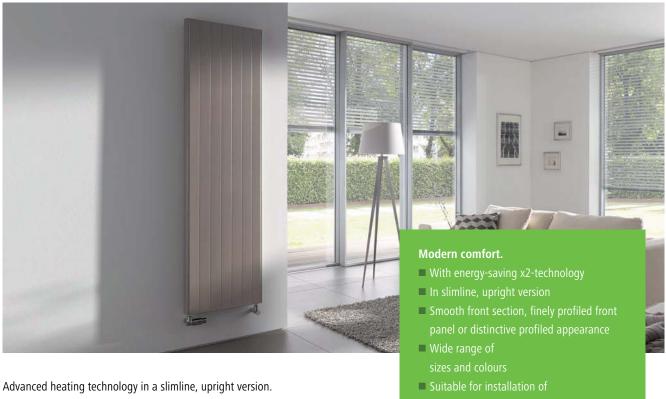
therm-x2 Hygiene radiators are the clean solution for special hygienic requirements. For quick, easily accessible cleaning and almost dust-free thermal comfort. This makes them ideal for allergy sufferers.



Complete planning freedom until the very end: For versions with centre connection, the radiator type and dimensions can be determined even after pipe installation.

Kermi Verteo. Slimline heating technology that saves space and energy

The space-saving solution for harmonious room integration, perfect for rooms with high ceilings.



Advanced heating technology in a slimline, upright version. The space-saving solution for harmonious room integration. With extremely smooth front section, finely profiled front panel, or featuring a distinctive, profiled appearance on request. Using the unique, innovative x2-technology for reduced energy consumption and improved comfort. Various heights and lengths. For all heat sources, even for modern heating systems with low flow temperatures: oil, gas, or remote heating, solar energy, or a heat pump. Complete with accessories.





Kermi Verteo: Adaptable and universal for a customised heat demand. Available in six different heights and six lengths. With heat output from 650 - 3636 watts.

Unrivalled for 14 years: Only the original can make this claim!

Since 2005, the patented x2-technology has been offering significantly improved energy efficiency compared to other steel panel radiators. With the principle of serial flow which was innovative at that time, x2-radiators made by Kermi were well ahead of their time. Since then, the innovative x2-technology has significantly improved customer satisfaction: This is due to increased energy efficiency and reduced losses, as well as the comfortable radiant heat and high convection output which rapidly heats up the room. Everyone who wants to enjoy comfortable, pleasant heat and be energy-conscious appreciates these benefits. This has made the Kermi x2-radiators the unrivalled original for 14 years now.

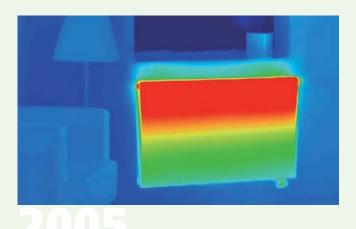




2008

Sky-rocketing energy prices

Several considerable increases in energy prices have made consumers sit up and take notice. Kermi x2 is "the energy-saving radiator" that uses every opportunity to save energy. And since energy-saving alone is not a valid argument for specialised tradesmen, the radiator offers three benefits: It saves energy/trouble/time.



Serial flow

The first radiator on the market with serial flow made an immediate impression with its patented operating principle.

It allowed Kermi to present the "radiator of the future" and on the basis of thermographic imaging, showed how a technological advantage can be converted into greater comfort and less energy consumption.

INSIDE

All radiators with integrated valve

The program expansion for all multi-layer radiators with integrated valve made by Kermi attracted the attention of our competitors. As they couldn't come up with a comparable technology, they were searching for arguments against the well-known benefits of the x2-technology. To no avail: Kermi's original has become the "new standard in heating technology". With 100 % more comfort and 11 % energy savings.

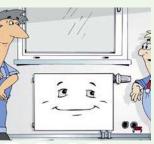




2009

Comprehensive programme

With the introduction of the x2-compact, Kermi also achieved the energy savings effect of its x2-technology for renovation projects and refurbishments. The replacement radiators fill the gap in the programme, meaning that specialist tradesmen can now "show off" with the energy-saving radiator in the renovation market as well.



Competition is good for business

The therm-x2 is no longer the only radiator with serial flow on the market. However, this doesn't change the fact that the therm-x2 remains the unrivalled original and is superior to its competitor products in every way. It impresses with its energy-saving effect for new-builds, renovation projects, and refurbishments. Additionally, it is a perfect contribution to the energy revolution.



6,377,280 x the optimal solution

The Kermi steel panel radiator range provides an optimal solution for every installation situation to meet every requirement. The seamless complete range offers a virtually unlimited variety of connections, types, versions, and sizes. With a staggering total of 6,377,280 different radiators, Kermi's message is clear: Only the original offers all the options.



2018

The unrivalled original

Kermi demonstrates what the company has to offer as the inventor of the x2-technology and as the technology leader:
The unique serial flow ensures greater energy efficiency, faster heat dissipation and the best possible thermal comfort, for both new-builds and renovation projects. Naturally, all of this is available in combination with modern heating systems.



The right choice: the original. x2 – the patented technology from Kermi. Place your trust in the output and safety provided by the original! You can find out more about the patented x2-technology from Kermi and the advantages that only the original can offer you at www.kermi.com



Thermal comfort | Shower design

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