

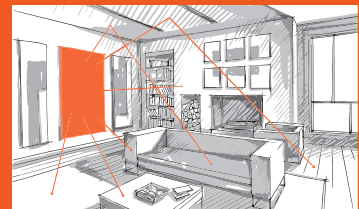


Infrared: the new way to heat

Welltherm is a leading manufacturer of high-end Infrared Heating Systems, manufactured in Lüdenscheid, Germany.

Our meticulous processing and customised production, including our “Made in Germany” quality seal and VDE and EMC certifications, guarantee the highest quality and safety of our products. Infrared heating, being energy efficient, controllable and 100% safe, represents the future of sustainable heating technology.

WHAT IS INFRARED? Similar to the sun, infrared heating emits heat radiation which is absorbed by the people, objects and surfaces of the room. Heated elements store heat up to three times longer than air and then emit it back into the room. Convection heaters such as radiators or electric wall heaters simply heat the air.



INFRARED VERSUS CONVENTIONAL HEATING

Conventional heating circulates air so temperature at ceiling level is significantly higher than floor level. In contrast, infrared distributes heat evenly throughout room.

With solid objects and surfaces discharging infrared heat and becoming a secondary heat source, energy use is reduced.

Using infrared which heats surfaces rather than air has other benefits. It reduces the risk of mould on walls. It also reduces allergic reactions as conventional heating circulates air, dust and bacteria throughout the room – infrared does not.

HOW MUCH COULD YOU SAVE WITH WELLTHERM?

Infrared panels offer owners an unprecedented level of control of their property's temperature and energy use. Projected savings can only be a guide however, research shows that in a well-insulated building you can expect significant reductions in energy usage:

Up to 20% savings compared to gas-central heating.

Up to 40% savings compared to oil-fired central heating.

Up to 50% savings compared to electric storage heating.

WHY CHOOSE WELLTHERM

While infrared technology has long been established for medical and outdoor purposes, recent developments have made infrared heating efficient and aesthetically attractive for indoor applications, for example the use of toughened glass infrared heat panels. Welltherm uses high quality components such as two integrated thermal safety switches per panel, or toughened durable, fire-resistant glass withstanding 70 KJ pressure. It looks and performs exactly as you would expect from a quality German engineered and manufactured product.



Energy Saving

Heating efficiency can be measured by way of ratio between the output of infrared power and the electrical power used. Due to ESHC technology (Entire Surface Heat Conductor), exclusively employed by Welltherm, 70% of the surface of our panels are covered with heat conductors—while similar products hold a density range of less than 25%—saving up to 30% of heating costs compared to other technologies.

Efficiency

Welltherm's products are designed to transmit heat where it is meant to go, towards the room, not the rear or sides. For example, one of Welltherm's competitors advise a distance of 800mm for installation of triptych printed panels whereas Welltherm panels have no limit of distance due to their insulation and minimal heat escape.

EMF (Electromagnetic Field)

Welltherm uniquely uses an Electromagnetic Field technology which applies counter-rotating heating conductor geometries to reduce unwanted EMF to absolute minimum (welltherm.de/en/products).

Reliability

Infrared panels are a "fit and forget" system. Welltherm's uncompromising approach to high engineering standards ensures years-long performance, free of maintenance, replacement or inspection costs.

Good ROI

Welltherm's low running costs and virtually zero maintenance deliver excellent Return on Investment.



100% made in Germany, Welltherm's products hold the highest quality compliance standards such as ROHS, EMC, TÜV, EnEV (EU energy conservation regulations), ISO 9001, and CE.



OTHER FINANCIAL BENEFITS

- With IR, individual panels can be turned on and off, where as a boiler must be fired up just to heat one room. Also, the thermostat of an IR systems is typically set lower by two degrees to reach a similar level of comfort.
- Infrared is far cheaper to install than a “wet” heating system like gas or oil.
- An IR system is best used alongside a home smart meter system.

A direct efficiency comparison of ESHC technology with other infrared heating systems

	Competitor A	Welltherm	Competitor B
Proportion of heat radiation	74%	85%	62.9%
Heat Transfer coefficient	0.51	0.6	0.44
Max Temperature	95°C	107°C	91°C
	X	✓	X

High efficiency
ESHC–Technology



CASE STUDY

THURROCK BOROUGH COUNCIL

Thurrock Borough Council, as part of their “transforming Homes program” used Infrared panels in a recent trial.

The council wished to reduce damp and mould in its properties, they selected a two bedroom property and replaced the existing storage heaters with IR panels.

The results have been remarkable – damp was reduced by 44% after just one month and a 60% reduction in heating costs was observed.

CASE STUDY

WATER TREATMENT WORKS

Water Treatment Works carried out an extensive upgrade of its premises. The specification called for 23No. electrical convection heating with total connected Load of 23.95KW.

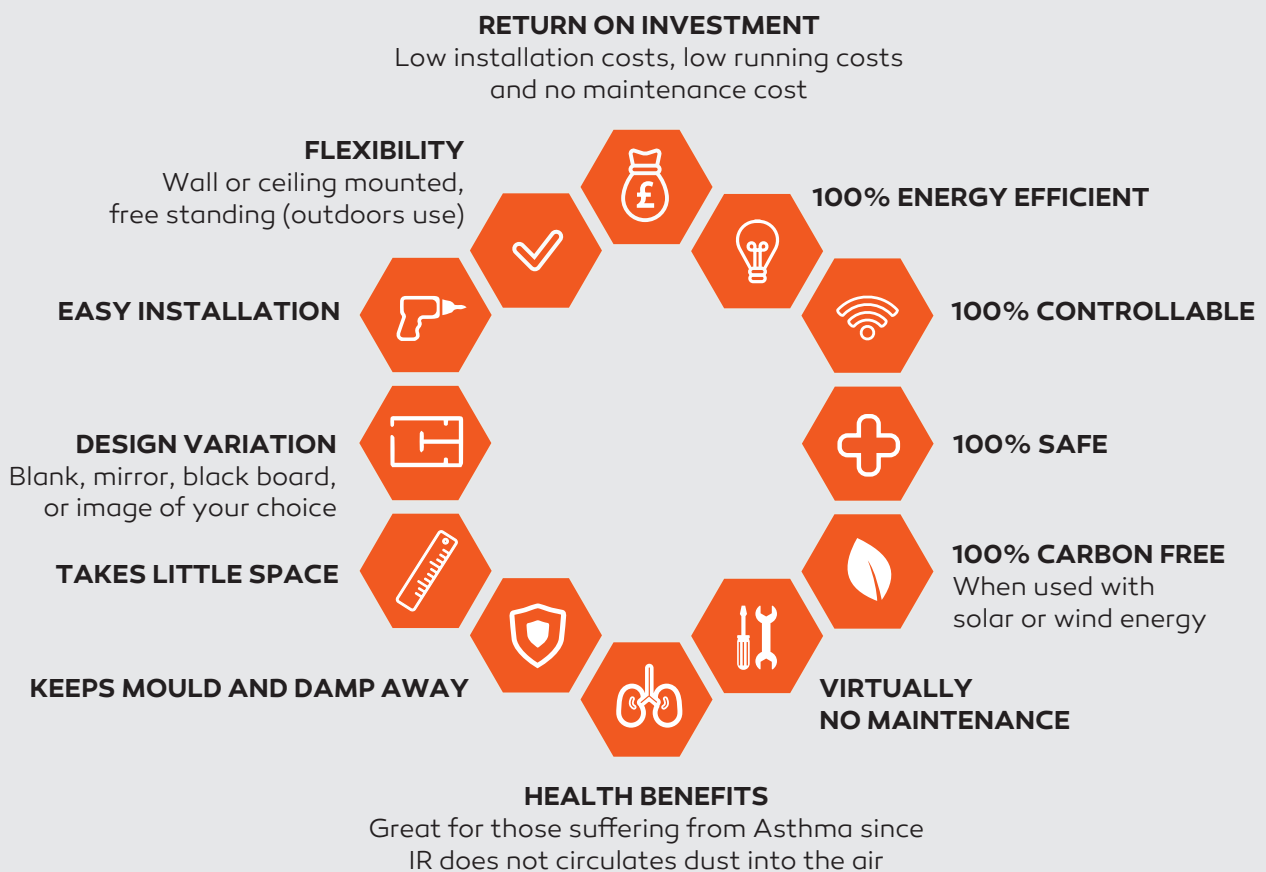
However, Welltherm offered alternative of 37No. infrared heating panels fitted in the ceiling grid with connected load of 12.21KW.

Due to the different heating method (convection vs radiant), the infrared heating system works less time than the convection type and the ceiling-fitted infrared panels free up wall space.

The Future | Infrared heating

More and more homeowners looking to reduce their carbon footprint and energy bills are adopting the use of solar panels as a replacement for the use of gas or in addition to it. This will pave the way for domestic heating based on ecological principles. Welltherm is well placed to support and provide solutions for this momentum and emerging market needs.

In our assessment, infrared is the future of the heating industry. In many cases it may be the only solution. Already many residential towers are seeking to remove gas supply from their premises. Other buildings are being constructed with an all-electric infrastructure. Private landlords are also removing gas appliances and switching to lower maintenance and lower risk alternatives. Home owners are beginning to explore the benefits of solar energy with mass market providers offering cheaper and easier solutions. Gradually, the price differential between gas and electricity will be eroded and, giving the current challenges in Britain to meet CO2 emission targets and move away from gas, we see an increased emphasis on efficient, decarbonised, ecologically-friendly electric heating solutions.



60 months guarantee



Welltherm GmbH, Lüdenscheid