



## Infrared Heating



affordable heating for everywhere

highest efficiency rates

# Infrared heating explained

## Infrared waves

Infrared (IR) light is electromagnetic radiation with longer wavelengths than those of visible light, extending from the nominal red edge of the visible spectrum at 0.74 micrometres ( $\mu\text{m}$ ) to 300  $\mu\text{m}$ . This range of wavelengths corresponds to a frequency range of approximately 1 to 400 THz, and includes most of the thermal radiation emitted by objects near room temperature. Infrared light is emitted or absorbed by molecules when they change their rotational-vibrational movements. The existence of infrared radiation was first discovered in 1800 by astronomer William Herschel.

Much of the energy from the Sun arrives on Earth in the form of infrared radiation. Sunlight at zenith provides an irradiance of just over 1 kilowatt per square meter at sea level. Of this energy, 527 watts is infrared radiation, 445 watts is visible light, and 32 watts is ultraviolet radiation. The balance between absorbed and emitted

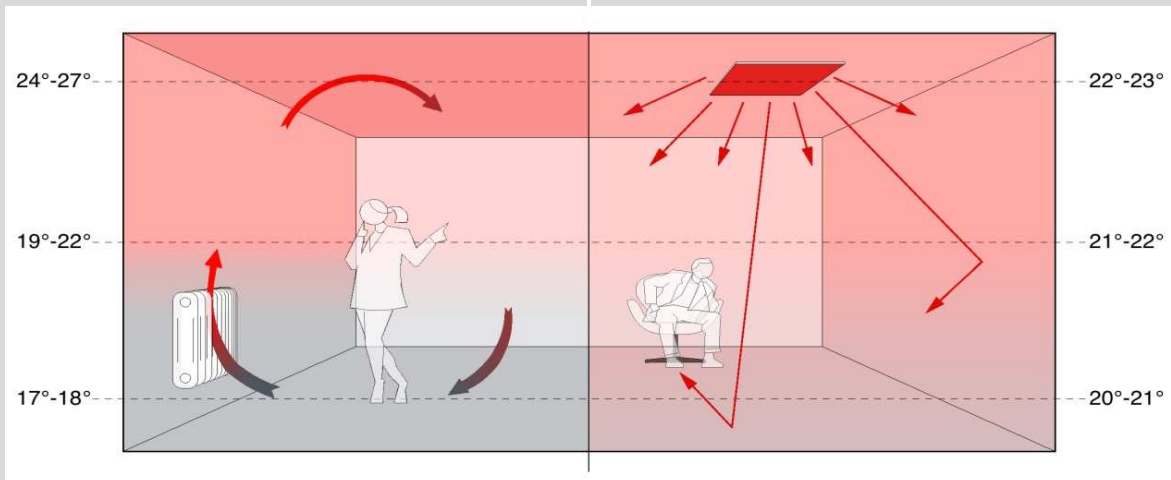


## Infrared heating

Infrared heating works according to the principle of heat wave distribution. Unlike conventional convection systems, infrared heating systems heat up objects and not the air which avoids unnecessary loss of heat. Warmth is distributed equally within a room without causing air circulation and therefore any movement of dust, pollen bacteria, smoke, smell and emission of CO<sub>2</sub> is avoided. Objects, walls and bodies store the heat and give it back to the room. As a result, rooms which are heated by infrared systems feel comfortable at an indoor air temperature of approximately 2°C lower than rooms heated by conventional convection systems, which helps to save up to 50% energy costs. As the infrared heating panels only store a small amount of heat, they warm up rapidly and reach their operating temperature very quickly.

**Conventional heating systems** warm up the air by applying the principle of convection (i.e. radiators, convectors, air-conditions, etc.).

Same as the sun does, **infrared heaters** emit invisible infrared waves which directly warm up objects (floors, walls, furniture, etc.) and bodies in a room



## Types of infrared rays

### Short Waves

Късовълновите инфрачервени отоплители, излъчват в границите от 780 nm до 1400 nm, също така наричани – светещи, защото част от видимата светлина попада в тези граници.

Характерни за тях са:

- висока температура на излъчвателя;
- къса дължина на вълната;
- висок интензитет
- достигане на максимална
- мощност, още на първата секунда;
- и др.



### Long Waves

Дълговълновите или тъмни инфрачервени отоплители, излъчват в границите над 3000 nm. По-известни като ниско-температурни отоплители, заради значително ниската температура на повърхността.

Характерни за тях са:

- относително ниска температура;
- дълга дължина на вълната;
  - нисък интензитет;
- достигане на максимална
  - мощност
- след около 10 минути;
  - и др.

## Benefits of infrared heating

### Economical



Initial investment and installation of an infrared heating system is moderate compared to conventional heating systems. Since our infrared systems are free of maintenance no further costs or replacement of parts apply. Infrared heaters heat up objects applying the principle of heat wave distribution and do not heat up the air. No energy or heat is lost unnecessarily and due to the fact that infrared heating panels only store a small amount of heat, they warm up rapidly and reach their operating temperature very quickly.

Unlike conventional heaters which just heat the air, infrared heaters heat the walls. The walls store heat much longer than the air and release it slowly and evenly back into the room. Thus, the walls remain dry and mould has no chance to spread.

With warm surfaces, such as those produced by infrared heaters, you feel thermal comfort already at much lower ambient air temperature.

### Quality

Our Infrared heating systems are produced with highest quality standards by european companies. Constant quality ccontrols, test and certifications make our products the most efficient and of the highest quality in the market.

### Health

Infrared heating waves are proven to have many positive effects for your health such as improving blood circulation, strengthen immune system, improve blood supply to the cells and additionally has a relaxing effect to body and mind.

- **Up to 50% lower energy bills**
- **Affordable heating for every use (home or business)**
- **No noise, dust, mould, or uncomfortable convection**
- **Healthy for your body and creates a perfect micro climate**
- **No maintenance, long lifespan**

## Infrared Panels – long wave

### Infrared Panels

The sun represents a natural source of infrared heat which we all enjoy. Redsun Infrared Heating Systems with their ultra-slim panels will enable you to benefit from the same lovely and healthy warmth inside your own home. Our infrared heating panels stand for high quality and energy efficiency. The panels comply with all required regulations and highest European quality standards. Infrared heating systems are very neat, creating no dust, emissions, smells or noise and do not require any maintenance.

Redsun infrared panel heaters make you enjoy a totally new and comfortable room!



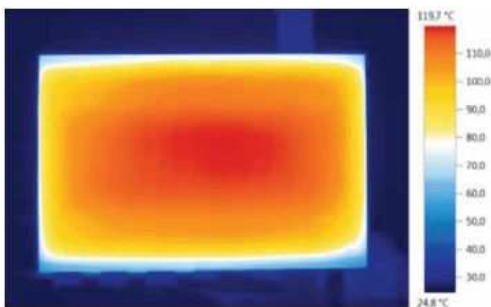
#### Areas of use

- Living room
- Bedroom
- Bathroom
- Kitchen
- Corridor/Entrance
- Shop
- Salon (Hair, Cosmetic)
- Garage, Cellar
- Commercial area
- Kindergarden
- School
- Public area
- Office
- And many more...

### Proofed number one in the market



We have tested our new developed technology with Seibersdorf Laboratory AUSTRIA.



Panel tested by Seibersdorf Laboratories

#### The result:

INFRAPOWER panels perform 18 % better than other Brands. What it means is that INFRAPOWER panels produce around 18 % more infrared waves than other panels. The most important for an infrared panel is that it produces the highest possible percentage of infrared (and the lowest possible percentage of normal convectional heat). If an infrared panel has a low percentage of efficiency it is not an infrared heater but a convectional heater.

Redsun EOOD is the official distributor for INFRAPOWER Panels in Bulgaria



## Models



### Standard Carbon Fiber Panels

Heating Capacity	450W – 1000W
Area to be heated	6 M <sup>2</sup> to 22 M <sup>2</sup>
Colour	White or with picture



### Glass Panels

Heating Capacity	600W, 800W, 1000W
Areas to be heated	12 M <sup>2</sup> to 20 M <sup>2</sup>
Colour	Black, white or with picture



### Mirror Panels

Heating Capacity	400W, 600W
Area to be heated	7 M <sup>2</sup> до 12 M <sup>2</sup>
Colour	Mirror or with picture



### Accessories

Get the highest efficiency out of our infrared panels by combining them with one of our quality thermostats or the use of one of our intelligent accessories.

Thermostats	Analog or Digital
Feet for Infrared Panel	Aluminium
Towel Rail	For any Panel
White Frame Set	For Standard Panels





# Infrared radiant heating – short wave

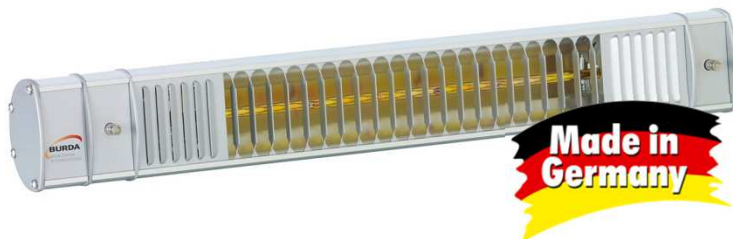
## Infrared radiant heating systems

Infrared short-wave technology Infrared radiation is a sub-area of the light spectrum generated by the sun. This type of light, however, is invisible to the human eye; it only serves to radiate heat. Basically: the shorter the wavelength, the easier it is to penetrate the air. Short-wave infrared generates heat by heating the object it meets with, without heating the air around it. Even effective and instant heat without pre-heating. A good example for this mode of action is the effect that occurs when a person walks out of the shade into the sunlight. Although the ambient temperature remains the same, they feel the temperature as considerably warmer under direct solar radiation. Economically, environmentally convincing and cost-saving for more advantages and return at any use.



### Areas of use

- Construction drying
- Garages
- Industrial halls
- Churches
- Public building
- Public bath
- Live stock
- Private home
- Work shop
- Hotels, offices
- Restaurants, cafes, outside areas
- Terrasse
- Many other areas...



## Pioneer in infrared short-wave technology

As the pioneer in the field of infrared short-wave technology the unique expertise and experience of BURDA Technologies enables us to provide a high quality product and move the technology forward. The innovative products we offer are the best evidence for intelligent solutions. Each product is produced with passion to bring out highly efficient, energy saving instant heating or cooling products. Customized solutions, perfectly attuned to people and the environment guarantees an almost unlimited range of use.

Highest standards in the production process and the use of sophisticated materials allows us to always offer our customers only the very best in terms of high quality, design, functionality and high performance. This is the only way possible to set standards worldwide.

Redsun EOOD is the official distributor for BURDA Infrared Radiant Systems in Bulgaria



## Models

### Heating

First-class infrared-radiant heaters with a broad range of use . In addition a wide choice of models and colours is further evidence of our high standard.



### Heating & Light

Unique combination of heating and colourful lamps for an individual atmosphere. The only patent holder for its design and utility model with 180° adjustable halogen bulb in Europe



### Accessories

Get the highest efficiency out of our radiant infrared heaters by combining them with one of our intelligent accessories.



### Heating & Cooling

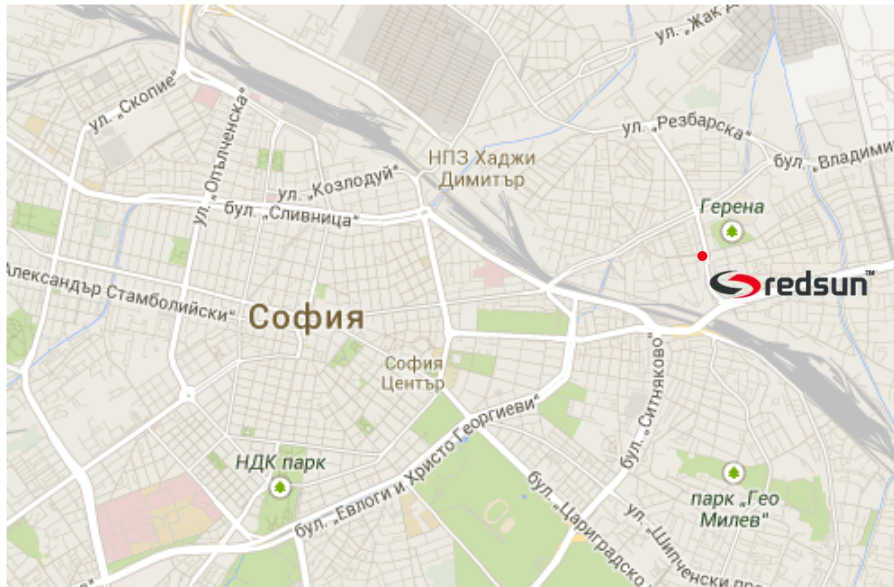
PERFECTCLIME is the first heating & cooling concept that combines infrared short-wave technology in one unit. Instant comfortable heat during winter or refreshing cool air during summer.



### Wellness

Based on the infrared-technology the range of sauna heaters offers space-saving, quick and easy sauna treatment almost everywhere.





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Official distributor for Bulgaria

