

INFRARED

SHORT WAVE INFRARED ELEMENTS High speed with high power

Infrared heating technology

transfers large amounts of energy in a short time. IR lamps are available for large surfaces, for three dimensional shapes and for small work pieces. By matching infrared emitters to individual applications, heating and drying processes can be integrated seamlessly into processing operations. In addition, infrared technology can be fitted with little expenditure into existing manufacturing lines.

Infrared elements allow optimum matching

There are infrared elements with various spectra. Short wave infrared radiation penetrates more deeply into materials, medium wave radiation is absorbed more strongly at the surface and into thin films. The wavelength at which infrared is emitted significantly influences the efficiency of the heating process. Perfectly matched infrared emitters can allow energy savings of up to 50 %.

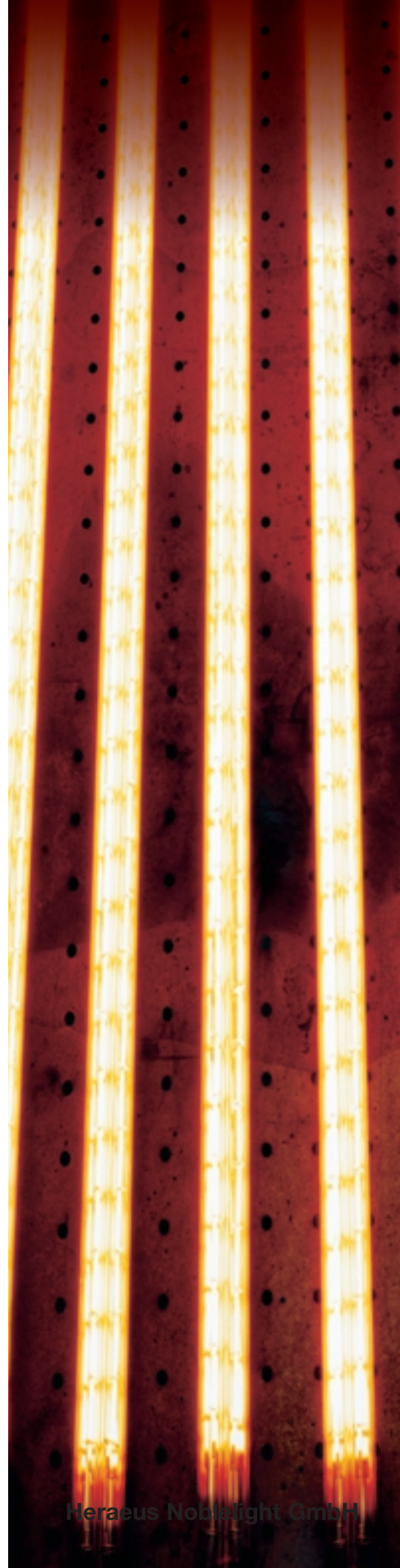
Short wave infrared elements

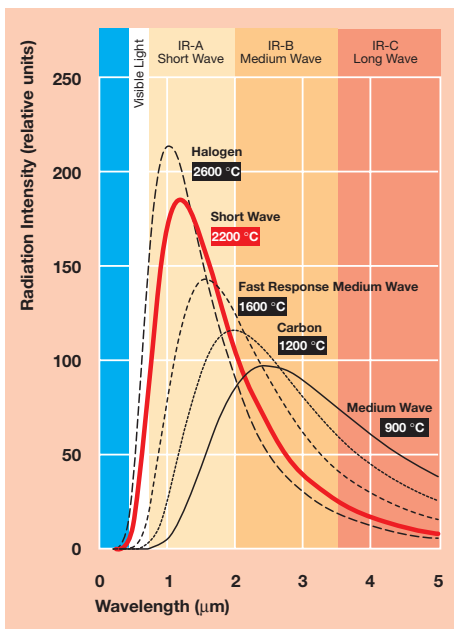
Short wave infrared radiation has a particularly high heating power. The radiation penetrates into the object to be heated and provides for very effective heating in the material. Short wave emitters are particularly suited for processes which need to be stopped and started very quickly, as they achieve their full operating efficiency within seconds. Infrared emitters are produced in proven and especially stable twin tube format. Twin tube elements distinguish themselves with high radiation density and high power intensity. A gold reflector, fitted directly to the emitter, directs the infrared radiation onto the object to be heated. The efficiency compared with plate reflectors is significantly improved. Short wave infrared elements are manufactured with heated lengths between 80mm and 2.4 m. Various designs guarantee a flexible matching of the element with the manufacturing process.

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has many years experience in infrared heating technology, provides advice and individual attention and offers the resources of an applications center for testing. Infralight has the optimum spectrum for each application.

- Halogen infrared elements
- Twin tube infrared elements in all conventional wavelengths
- IR modules and control systems for industrial applications
- Elements for targeted heating in manufacturing processes and for complex surface geometry





Spectrum of the short wave infrared

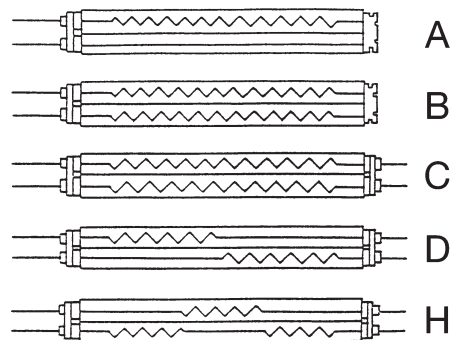
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- Twin tube Lamps, tube format 23 x 11 mm
- Filament temperature 1800 – 2200 °C
- Peak wavelengths 1.2 – 1.4 μm
- Mean power density 60 W/cm
- Maximum surface power 150 kW/m²
- Standard Lamps are designed for horizontal operation. The lamps are modified for vertical operation.
- IR Lamps are available in different designs and can be one-side or two-side connected.
- A gold coating of the emitter ensures that the effective radiation is virtually doubled.



Radiation field of short wave infrared emitters. As well as elements, Infralight also offers systems, electronic controllers and power controllers.

Standard designs for infrared twin tube elements, with one-side (A,B) or two-side (C,D,H) connections.



SHORT WAVE STANDARD ELEMENTS

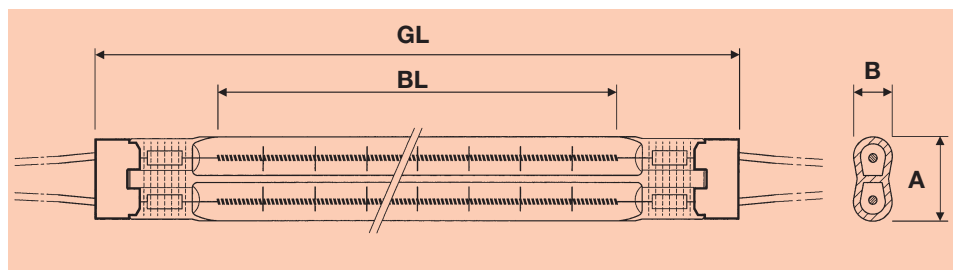
One-side connection, design B

Total Length GL [mm]	Heated Length BL [mm]	Voltage [V]	Mean power density [W/cm]	Power output at 12,5 A [W]	Max. surface power [kW/m ²]
145 – 285	80 – 220	115	60	400 – 1400	150
165 – 465	100 – 400	230	60	900 – 3000	150
265 – 765	200 – 700	400	60	1400 – 5100	150
265 – 965	200 – 900	480	60	1400 – 6100	150

Two-side connection, design C

Total Length GL [mm]	Heated Length BL [mm]	Voltage [V]	Mean power density [W/cm]	Power output at 12,5 A [W]	Max. surface power [kW/m ²]
170 – 480	90 – 400	115	60	700 – 3000	150
280 – 880	200 – 800	230	60	1400 – 6000	150
480 – 1580	400 – 1500	400	60	2400 – 10400	150
480 – 1880	400 – 1800	480	60	2900 – 12500	150

Infralight manufactures short wave elements in other designs, lengths, voltages and power intensities to meet the individual requirements of your manufacturing process.



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