

INFRARED

FAST RESPONSE MEDIUM WAVE INFRARED EMITTERS High power and high stability

Infrared heating technology

transfers large amounts of energy in a short time. Not only thin foils and large surface areas but also solid, small or complex geometry work pieces can be heated up very quickly. Because infrared emitters can be individually matched to a particular application, heating and drying processes can be seamlessly integrated within finishing operations – and with minimum disruption to existing manufacturing lines.

Infrared emitters allow optimum matching

Infrared emitters are available in different forms matched to different requirements: short wave emitters for deep penetration or medium wave emitters for rapid heat-up of surfaces and thin films. The wavelength at which infrared is emitted significantly influences the effectiveness of the heating process. Perfectly matched infrared emitters can allow overall energy savings of up to 50 %.

Fast response medium wave infrared – stable and efficient

Twin tube emitters distinguish themselves by their exceptional stability and high power density. Fast response medium wave emitters can be supplied in all lengths up to around 6 m. Consequently, it is possible to transfer high power over long lengths. The emitters offer long operating life. Gold reflectors double the effective emitted radiation. The emitters transfer heat at a medium wave spectrum and are thus particularly suitable for drying processes. The high absorption by surface layers and films makes them particularly applicable to thin materials, while the fact that they also have a penetrative effect fits them for use in plastics processing. The emitters can be switched on and off in seconds and are consequently best suited for processes with short cycle times.

Heraeus

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

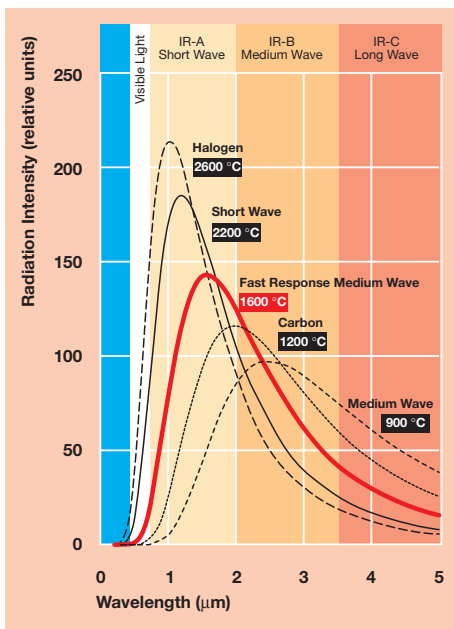
- InfraLight – Halogen infrared emitters
- Twin tube infrared emitters in all conventional wavelengths
- MagicHeat Carbon emitters
- IR modules and control systems for industrial applications
- Emitters for targeted heating in manufacturing processes and for complex surface geometry

Infrared heating technology offers important advantages:

Heating only where it is required, with the optimum wavelength for the product to be heated and in harmony with the process.



FOR INNOVATIVE SOLUTIONS IN INFRARED

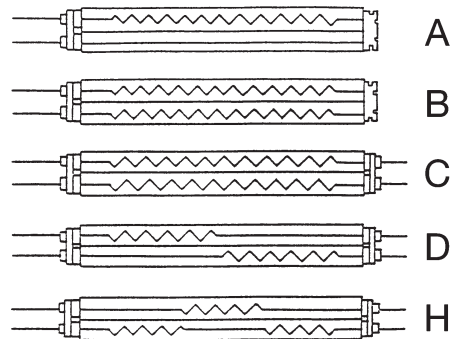


Spectrum of the fast response medium wave infrared emitter compared with other Heraeus infrared emitters – taken at the same electrical power for all emitter types.



Radiation field of fast response medium wave infrared emitters. As well as emitters and emitter fields, Heraeus also offers SYS series electronic controllers and Heratron power controllers.

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



FAST RESPONSE MEDIUM WAVE EMITTER

- Twin tube emitter, tube format 34 x 14mm
- Filament temperature 1500 – 1800 °C
- Peak wavelength 1.4 – 1.6 µm
- Maximum current 16 A
- Mean power density 45 W/cm
- Maximum surface power 120 kW/m²
- Standard emitters are designed for horizontal operation. The emitters are modified for vertical operation.
- Emitters are available in various designs and can be one-side and two-side connected.
- A gold coating of the emitter ensures that the effective radiation is virtually doubled.



FAST RESPONSE MEDIUM WAVE STANDARD EMITTERS

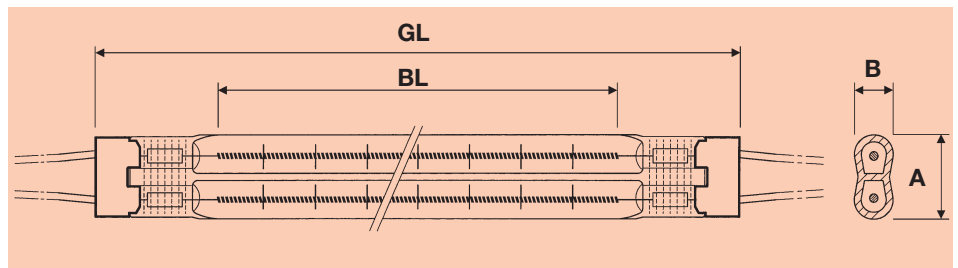
Emitter one-side connection, design B

Total Length GL [mm]	Heated Length BL [mm]	Voltage [V]	Mean power density [W/cm]	Power output at 16 A [W]	Max. surface power [kW/m ²]
300 – 500	200 – 400	115/120	45	900 – 1800	120
400 – 900	300 – 800	230/240	45	1350 – 3600	120
700 – 1600	600 – 1500	400	45	2700 – 6750	120
800 – 1500	700 – 1400	415	45	3150 – 6300	120
800 – 1800	700 – 1700	480	45	3150 – 7650	120
1100 – 2100	1000 – 2000	600	45	4500 – 9000	120

Emitter two-side connection, design C

Total Length GL [mm]	Heated Length BL [mm]	Voltage [V]	Mean power density [W/cm]	Power output at 16 A [W]	Max. surface power [kW/m ²]
520 – 920	400 – 800	115/120	45	1800 – 3600	120
920 – 1720	800 – 1600	230/240	45	3600 – 7200	120
1320 – 3320	1200 – 3200	400	45	5400 – 14400	120
1320 – 3320	1200 – 3200	415	45	5400 – 14400	120
1420 – 3120	1300 – 3000	480	45	5850 – 13500	120
2120 – 3320	2000 – 3200	600	45	9000 – 14400	120

Heraeus manufactures fast response medium wave emitters in other designs, lengths, voltages and power intensities to meet the individual requirements of your finishing process.



We reserve the right to change the pictures and technical data of this brochure.

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