black.infrared stands for infrared emitters with an absolutely novel design. black.infrared combines the latest quartz glass materials with printed electronics and intelligent emitter know-how.

black.infrared technology is now available in a lab system, made for easy testing and process validation.

**Lab System black.infrared:**
- tuning new processes
- suitable for customer tests
- easily integrable standard module
- special size on request

**What is black.infrared?**
- black.infrared emitters are printed metallic filaments, which are located between high-purity quartz-glass
- the lower plate is made of special HBQ quartz glass, the top is protected by a layer of QRC
- infrared radiation is emitted at the highly emissive HBQ side
- the entire structure helps to direct infrared radiation very homogeneously to the product and achieve a particularly efficient heat process
- black.infrared is ideal for applications in semiconductor manufacturing or vacuum processes in photovoltaics
black.infrared sets new standards

- High Power density (up to 200 kW/m²)
- Medium wave spectrum 1000 °C
  2-2.5 µm peak temp
- Outstanding infrared homogeneity
- High purity (only silicon & oxygen)
- Fast response time
- Optional framework
- Intelligent controls

Heat processes benefit from black.infrared

Our lab system black.infrared is made to work under atmospheric conditions.

- Photovoltaics
- Semiconductor
- Glass
- Print
- Coating
- R&D, laboratories, institutes and test centres

Energy efficiency through new combination

A black.infrared emitter combines infrared radiation in the medium-wave range at around 2.5 µm with high electrical power. This combination is so far unique. Infrared radiation in medium wavelengths is particularly suitable for glass, plastics and most coating.

Special size on request!

Relationship distance - intensity - homogeneity

- Radiation sources lose intensity as the distance increases.
- In the case of quartz tube emitters, the homogeneity increases with increasing distance.
- The optimum working range is a compromise between intensity and homogeneity.
- black.infrared emitters are designed in such a way that a radiant surface allows the greatest possible homogeneity regardless of the distance.

Lab System BLACK.INFRARED

| Standard size: | 550 x 660 x 130 mm |
| Supply Power: | 16.8 kW |
| Supply voltage: | 400 V / 230 V (Fan) |
| Heated area: | 240 x 400 mm² |
| Emitter size: | 40 x 400 mm² |
| No. of Emitter: | 6 pieces |
| Emitter power: | 2800 W |
| Power density: | 175 kW/m² |
| Cooling Air inlet: | D 125 mm (1x) |
| Cooling air outlet: | D 90 mm (2x) |
| Air cooling: | 2 chamber system, no cooling to the substrate |
| Supply fan: | radial fan extern, 230 V |

See www.heraeus-noblelight.com

For special sizes, please contact your local Heraeus Noblelight office.

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