



Hybrid Carbon Infrared Heaters Optimize the Drying of Paper Tissues

Paper serviettes are popular because they have good absorbency and can be attractively printed. However, during printing, these very properties cause particular problems, as both the ink on the surface and that fraction within the deeper serviette layers must be dried. Only when the ink and water are completely dried can the serviettes be packed. In order to achieve this in-line and in an acceptable time, the drying must be especially efficient.

The hybrid carbon infrared emitter from Heraeus Noblelight combines a medium wave carbon emitter with a short wave infrared emitter in a quartz glass twin tube. This unique combination allows the use of infrared for applications which require infrared radiation at the surface as well as in the deeper layers. As a result, the right heat is homogeneously distributed. The emitters help to dry printing inks on the surface, while at the same time providing penetrating heat to evaporate water within the serviette. By using these emitters instead of conventional halogen emitters when serviette printing, energy savings can be made or production output can be increased.

It has been shown that the use of hybrid emitters saves energy. Alternatively, if the same amount of energy consumed by conventional emitters is used, then it is possible to significantly increase the serviette production output. Consequently, the new hybrid emitters dry serviettes significantly more efficiently than conventional halogen emitters, which deliver only short wave radiation.

Infrared heat is already a proven technology for the drying of coatings and it is known that the wavelength of the radiation has a significant influence on drying. Medium wave infrared is especially good for the rapid evaporation of water, as medium wave radiation is efficiently absorbed by water and this radiation is then directly converted into heat. This is in contrast to short wave infrared radiation, which penetrates more deeply into materials.

All carbon infrared emitters deliver effective medium wave radiation at high power densities and speed up the drying of water-based inks and lacquers extremely efficiently. Specifically, infrared emitters with Carbon Technology CIR® provide power densities of up to 150kW/m², with response times in seconds. The fast response times of the carbon emitters allow excellent controllability, so that heat is applied for only as long as necessary.



Features

- Drying of print on paper tissues
- Ink on the surface and water in the deeper parts
- Hybrid Carbon emitters improve printing speed and energy efficiency

Technical Data

- medium wave Carbon heaters and short wave infrared heaters combined in a twin tube
- fast response times
- Excellent controllability

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