



CIR Optimizes the Performance of High Speed Printing

The Alito Color Group of Leyton, London, retrofitted Heraeus carbon infrared (CIR) emitters in place of a short wave near infrared (NIR) print drying system. Now they are able to realise the full potential of its high speed print heads, by increasing sheet feed speeds to match the print speeds with no detriment to print quality. In addition the new emitters use less power than the previous system and offer a significant increase in operating life. This improved energy efficiency impacts far less on the environment.

Alito produces direct mail products from simple postcards to complex folded and inserted material. Personalisation printers include ink jet and laser printers but to handle large address-printing runs, Alito provides technology, where printing heads can deliver up to 204.8 million ink droplets per second. It is essential that this ink is completely dried before the mailings are passed on to the finishing department, where the B1 sheets are cut, folded and glued as required. Conventionally, this important drying process has been carried out by fitting very high power, NIR short wave infrared emitters immediately after the print heads. These transfer a large amount of energy into the ink to effect the drying at high speeds. However, their high power also necessitated water cooling of the emitters, involving chiller units and pipework. Moreover, the NIR lamps were difficult to clean and had a short working life, with high maintenance costs due to frequent downtime.

As water absorbs infrared most strongly in the medium wave section of the infrared spectrum, two carbon infrared (CIR) modules were fitted to existing brackets and framework in a seamless installation process. Each 24kW module is dedicated to a specific 4¼inch head. In automatic mode, the drying temperature of around 30-40°C is programmed into a PID controller. The sheet temperature is monitored by the pyrometer and the infrared emitters are then automatically regulated. When the printing machine is running but no paper is being fed, the emitters automatically switch to stand-by while in the event of machine stoppage all emitters are switched off.

5000 B1 sheets per hour is now considered the norm, the drying system has shown itself capable of coping with speeds in excess of 10,000 sheets per hour. The CIR system also can handle heavy print drying tasks, for example when a lot of ink needs to be laid down. Previously, extra drying time was sometimes required before subsequent finishing operations.



Features

- significant increase in printing speeds
- Energy efficiency improved
- CIR heaters with a longer life time than short wave heaters in the near infrared region
- less maintenance and less downtime
- air cooling

Technical Data

- medium wave Carbon heaters combining energy efficiency of medium wave with fast response times of short wave emitters
- two CIR modules of 24kW each
- Control either manual by a simple potentiometer or automatic by an optical pyrometer

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