Carbon Infrared Emitters Provide Perfect Finish of Dauphinois Potatoes

An oven system, incorporating the latest carbon infrared heating technology from Heraeus Noblelight, is helping Hitchen Foods, of Ince, near Wigan, to meet customer demands for pre-browned, ready meal Dauphinois potatoes. Carbon infrared (CIR®) is ideal for applications in the food industry, such as surface browning, as it delivers medium wave infrared radiation, which is perfectly suited to evaporating water from products at a very high power density. This ensures that the surface of the food product rapidly achieves a sufficient temperature to drive away any local moisture, so that browning is achieved without heating the body of the product.

Hitchen Foods is part of the Bakkavor Group which produces freshly-prepared products from leafy salads to hot eating products, which need to be cooked or re-heated before consumption. Dauphinois potato ready meals are major products of the Ince factory and recently, increasing customer demand has required that these should be pre-browned to improve presentation. Browning of ready meals can be achieved by various techniques such as steam or hot air convection ovens or by long wave radiant heaters and electrical panel heaters. However all of these technologies have a large footprint and tend to have a cooking effect on the product, when only surface browning is required. They can also be difficult to maintain and are not very energy-efficient.

Fortunately, engineers at Hitchen Foods realised that one of the other factories in the Bakkavor Group had a redundant infrared oven in storage, which had previously been used for a similar ready meal browning operation. This was subsequently transferred to the Ince site and features two 40kW carbon medium wave modules and three exhaust cassettes to provide balance to the system. Two zone control allows production flexibility when required. Since installation, the compact oven system has proved reliable in operation, with minimum maintenance requirements. The working environment around the oven has proved very comfortable and the virtual instant response of the carbon emitters means that they can be switched off very quickly in the event of unexpected line stoppage and there is no need for lengthy pre-heat times to ensure that the oven reaches its operating temperature before starting the line.

Features
- Infrared heaters evaporate water at a very high power density
- Pre-browning of ready meals
- Comfortable working environment
- Can be switched off very quick in case of line stoppage
- Minimum maintenance requirements

Technical Data
- Two 40 kW medium wave emitters
- Three exhaust cassettes to provide balance
- Two zone control allows production flexibility