Lanemark Application Profile

LANEMARK INTERNATIONAL

ovens & dryers (retrofit)

Lanemark Burners open up Oven Retrofit benefits

Water processing pipe production at Northpoint Limited benefits from Lanemark's gas burner technology.

From powder coating to paint curing, box ovens are a common and crucial facility throughout the processing and manufacturing sector and, because they can affect quality, must perform reliably and consistently. Process oven refurbishment offers a highly cost effective and efficient means of meeting these requirements – a scenario within which Lanemark burner systems installed in a retrofit context offer significant benefits.

High quality, process heating performance – without the need for major capital investment on complete, new oven installations – can often represent the optimum process solution for operators. Lanemark can point to a long list of examples – as demonstrated overleaf – where its burner technology has been used as a key element in oven refurbishment.

In all cases, customers are able to replace often outdated and inefficient burner systems with modern, reliable technology very cost effectively. Operating on either mains natural gas or propane gas as appropriate, and with the added benefit of the Lanemark BurnerCare service – outlined below – all process oven users can be confident that the Lanemark retrofit option can help realise and maintain the effectiveness of their applications.

The Lanemark forced draught (FD) series of oven burners – used extensively in the process oven sector – offers a range of distinct operational advantages, including –

- High turndown
- Short flame profile
- Optimised temperature control
- Proven performance
- Economic operation

As detailed on Page 4, a choice of models is available – including the latest FD-C (GA) series gas and air modulating burners – offering a range of heat outputs from 117 to 880 kW.

Performance that goes on and on and on ...

LANEMARK BurnerCare

- In every industry where unplanned downtime can be extremely damaging and expensive, the support and structure of the Lanemark BurnerCare package is widely regarded as a key element of the Lanemark service.
- Lanemark BurnerCare is designed to ensure ongoing performance and peace of mind for every refurbished oven customer.
- Burner system commissioning, planned maintenance schedule options, comprehensive on-line support and the supply of spare parts are all key elements of the Lanemark BurnerCare service.

Lanemark Application Profile

a proven track record

Northpoint

Subcontract coating specialists, Northpoint Limited, is achieving process efficiency gains and reductions in energy consumption resulting from an oven refurbishment programme that makes the most of Lanemark gas burner technology. Importantly, the work at site has also helped Northpoint gain from interest free loan availability from the Carbon Trust.

One of the most recent installations at Northpoint's Manchester premises is centred on a powder coating line, which is used for water processing pipes, that now benefits from Lanemark's gas and air modulating burner technology.

Four Lanemark FD10-C (GA)N-3 modulating gas and air burners with a total heat input capacity of 1,000 kW are operational and utilise combustion air fan motor speed controllers to ensure that the correct volume of combustion air is delivered to each burner. Prior to the refurbishment work, the existing burners needed ambient air to be introduced around the burner firing locations due to the high level of suction within the oven. Lanemark FD-C (GA) series burners do not require this additional air supply, resulting in a significant energy saving.

The oven in question is now up to 20% more efficient.

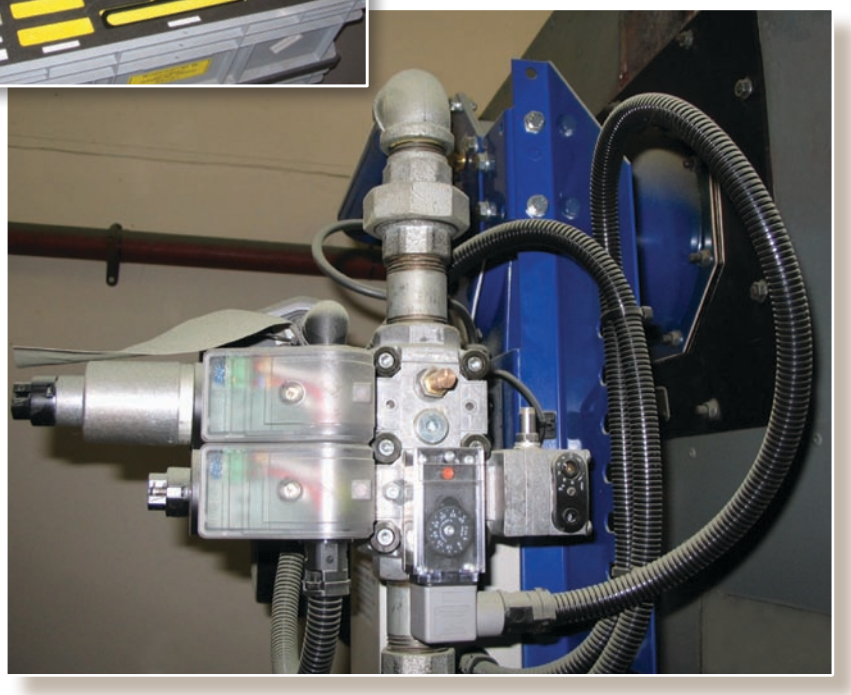
Lanemark emphasises the importance of the link between the burner control and response capability of the FD-C (GA) gas and air burner design and its close work on the project not only with Northpoint, but also independent consultants Ray Greaves and Mike Milner of Redford Design Ltd., who assisted with the application for the loan support from the Carbon Trust.

Lanemark project in conjunction with independent consultants Ray Greaves and Mike Milner of Redford Design Ltd.

Lanemark Application Profile

a proven track record

Precision Aircraft



Supplying many of the world's leading names in this highly demanding sector, Reading-based Precision Aircraft has turned to Lanemark to optimise the oven heating capability which operates in conjunction with its wet paint processes. Importantly, the work has been centred on refurbishing an existing oven which has helped to keep project costs down while still helping the manufacturer meet specific production parameters required by many of its customers.

A 220 kW Lanemark FD-E forced draught burner system has replaced a cone burner on an existing box oven at Precision Aircraft, which handles a range of product designs and materials, from aluminium and steel to copper and brass. As a result, the highly accurate temperature control helps to optimise the finished quality of each component – clearly a central requirement in the aerospace sector.

The components produced by the company are designed for functional objectives so factors such as coating integrity and thickness have to meet very stringent criteria. Because the Lanemark burner provides consistent and reliable heat, Precision Aircraft can be confident that this key area of product manufacturing is of the highest calibre.

Lanemark's ability to install equipment into an existing oven at the site has helped keep investment costs to a minimum, whilst delivering key processing objectives. One such factor is traceability – the Lanemark burner system is linked to a data recorder, which provides a hard copy of all heating operations for each customer's records.

B G Penny

A second installation of Lanemark burner technology is now helping Coventry-based B G Penny & Co. Ltd. enhance its growing success as powder coating subcontractors to a range of industries.

The latest installation utilises a Lanemark FD15-C (GA) burner and focuses on a burner replacement for an existing box oven through which suspended parts are processed. B G Penny points to rapid heat up and highly accurate temperature control as key benefits of the installation, particularly as its work can require the company to accommodate a range of materials between 1 mm and 15 cm in thickness.

The heating requirement for the oven can range from 50˚C to 220˚C within which a temperature control as low as just +/- 1˚C is achieved. B G Penny points out that the ability to raise temperature rapidly – up to 190˚C in just 25 minutes, for example – helps significantly with process scheduling and throughput rates.

Focus on: Lanemark FD range

The Lanemark range of forced draught (FD) burners is proven extensively in both new and retrofit process oven applications. Proven energy efficiency combines with excellent turndown capability to offer all users extremely effective oven heating performance, whilst the choice of burners in the FD series enables precise installation requirements to be matched.

FD-C (GA) Series

Maximum energy efficiency combines with minimum emissions. Ideal for direct-fired operations, FD-C (GA) burner systems feature Lanemark's innovative 'air pressure' (APL) technology, which utilises combustion air fan motor speed control with variable flow mono-bloc gas valve technology to ensure that safe and efficient gas/air ratios are maintained, even under variable plant operating conditions.

FD-C Series

Flexible, high turndown (gas only) control for process air heating applications and convection ovens and dryers. The Lanemark FD-C series of packaged burners is ideal for direct-fired applications with units installed either to fire in-line or at 90° to the process air flow with shorter flame profiles. The internal burner cone design ensures stable combustion whilst maximum turndown rates of 40:1 offer the user extensive process control for every self-contained FD-C installation. FD-C burners also include a burner windbox fitted with a protective cowl and controls mounted inside a steel control box.

FD-E Series

The FD-E series offers a cost effective alternative to the FD-C series of packaged burner systems. Ideal for installations that do not require a protective cowl or control box, the same choice of heat inputs – from 117 to 880 kW – is available. Installations offer extremely effective process oven heating without compromising the performance characteristics of the Lanemark FD-C series.

LANEMARK INTERNATIONAL
Lanemark House, Whitacre Road, Nuneaton, Warwickshire CV11 6BW United Kingdom
Tel: +44 (0) 24 7635 2000 Fax: +44 (0) 24 7634 1166 E-mail: info@lanemark.com www.lanemark.com