Lanemark Application Profile

LANEMARK INTERNATIONAL

aluminium anodising

Process Heating Control and Efficiency

Specialist sub-contractors Heywood Metal Finishers – now benefiting from Lanemark burner systems.

Production efficiency and energy cost control – two factors that are central to aluminium anodising and both at the heart of the Lanemark process gas burner design.

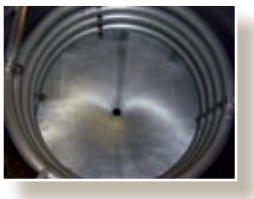
Lanemark TX tank heating burner systems are used extensively to heat the wide range of liquids found in the industry, irrespective of tank configuration or size. The 'point of use' design not only maximises temperature control accuracy but also offers markedly greater efficiency compared to systems based on centralised steam or hot water boilers, and also significant energy savings in comparison to steam, hot water, thermal oil or electrical alternatives.

Each burner system operates into a submerged tubular heat exchanger which delivers maximum heat to the process liquid while keeping intrusion into the tank space to an absolute minimum. The immersion tube heat exchangers can be fabricated from a variety of materials including mild and stainless steels as required by the individual process chemical. Combustion gases are extracted by an exhaust fan – often just one is required per group of tanks – minimising the number of exhaust flues needed for each installation.

With more than 25 years' experience in the industry, all Lanemark systems benefit from 'BurnerCare' which provides installation expertise, comprehensive system commissioning and service support as well as access to spares for almost any process gas burner system.

The case studies summarised overleaf are just two examples of Lanemark's success in this key area of manufacturing and processing.

All Lanemark TX installations feature an externally mounted burner connected through the tank wall to a submerged tubular heat exchanger and then to an exhaust header/fan/flue. The company's acclaimed TxCalc computer modelling programme is used to calculate tank heat losses and to model the expected immersion tube heat exchanger heat output efficiency performance which is normally in excess of 80%.



Performance that goes on and on and on ...

LANEMARK BurnerCare

- In an industry where unplanned downtime is to be avoided, 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 optimum performance and peace of mind for every customer in the brewing industry.
- The service includes planned maintenance schedule options and comprehensive on-line support as well as system commissioning and the supply of spare parts.

Heywood
Metal Finishers

A significant reduction in energy costs has been realised by specialist sub-contract anodisers, Heywood Metal Finishers as the result of installing high efficiency process tank heating systems from Lanemark who also acted as turn-key project managers at the site.

Handling some 50 tonnes of aluminium a week, the operation benefits from a Lanemark TX system installed at 'point of use' on each of six process tanks which receive extruded and pressed components via jigs suspended from an overhead crane. Reduced warm up times and improved temperature control accuracy have resulted in an overall saving in energy for process and space heating of 38% – equivalent to 1.5 million kW hours over a 12 month period.

"Because each tank benefits from an individual time switch control, warm up procedures on selected tanks the day before the working week have been addressed," comments Bob Chambers, Maintenance Manager, "while a reduction in maintenance requirements and a saving on electrical heating and pumps for heavy fuel oil, which supplied the main steam boiler, have also been noted."

The Lanemark systems are connected to just two exhaust fans and fulfil a role previously met by a centralised steam facility, allowing the process to gain from significantly greater energy efficiency – up to 80% is typical. This has helped to reduce energy consumption at the site and the company's liability to the Climate Change Levy, and to enhance government rebates available via Heywood's membership of the Aluminium Federation.

"We believe it is an excellent example of process temperature, accuracy and control coming together to produce benefits in terms of energy use and consistency of production quality for a customer in a highly demanding market," comments Lanemark's General Manager, Adrian Langford.

Indalex Ltd.

Monthly energy consumption savings of some 56% have been reported by Indalex Ltd. as the result of a conversion from centralised steam to 'point of use' gas process tank heating systems from Lanemark.

A series of TX burner systems has been installed to fire into small diameter submerged tubular heat exchangers located inside a line of tanks, each of which measures approximately 8m x 1m x 1.5m. Containing a variety of process solutions, aluminium products are secured on jigs fixed to an overhead crane – up to 400 extruded items per boom – and proceed through a sequential immersion process.

"The TX burners are managed by control panels on an adjacent walkway which include digital temperature controllers," explains Lanemark's General Manager, Adrian Langford. "The heat exchangers themselves are connected to a total of three exhaust fans which pull the products of combustion through each system to achieve efficiency levels in excess of 80%."

"The tanks contain a variety of process liquids including etches and dyes which are utilised to meet the requirement of each job and the level of control we now have makes an important contribution to product quality," explains Chris Tallboys, Project Engineer at Indalex. Each tank contains 11,500 litres and is raised to within +/– 2°C of the desired process temperature ensuring that the chemicals perform to their maximum effect.

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