



BillerudKornas

Increasing Efficiency and Reducing Fuel Costs

Efficiency Case Study

Location: BillerudKornas Beetham Limited, Milnthorpe, Cumbria

Challenge: To supply a highly efficient boiler plant, complete turnkey installation, including ancillary equipment, construction of a new boilerhouse and integration of new plant with a existing equipment.

Solution: Replacing three, 40 year old boilers, with two energy efficient Cochran units. The removal of the existing steam manifold system and integration of the adjacent boiler into a new steam header arrangement.

Results: Increased efficiency, reduced energy costs, Service contract to ensure contained support from Cochran.

BillerudKornas Beetham at Milnthorpe in Cumbria is a world leader in the manufacture of speciality papers for healthcare and food packaging markets. Recently BillerudKornas made the decision to replace their existing 40-year-old boilers in order to reduce the fuel and maintenance costs.

Project Scope

The scope of the project required the supply of a new, highly efficient boiler plant, complete turnkey installation, including all necessary ancillary equipment.

The project also necessitated the construction of a new boilerhouse and integration of the new boiler plant with the retained boilers. This was followed by the modification and upgrading of all the boilers with SAFed controls for an unmanned boilerhouse.

While BillerudKornas were considering companies to undertake the installation, they searched the market for a company that offered a one-stop solution: designing, manufacturing and managing the whole process.

Cochran Efficiency

The Cochran Thermax steam boilers selected for the project are designed with fuel efficiency in mind. When combined with Cochran flue gas economisers, Thermax units can deliver an efficiency of up to 96% (based on BS845).

Project Integration

When considering the integration of the new steam boilers with their existing system, thought had to be given to the steam collection and distribution system. Correct sequencing of the four boilers was particularly important, as the remaining two boilers were located in separate boilerhouses.



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System Integration

Cochran undertook the removal of the existing manifold system and integration of the adjacent boiler into a new balanced steam header arrangement, with a new steam distribution linking to the fourth boiler.

The steam manifold system was fully designed with stress analysis testing and CE marking to PED requirements. Each boiler was fitted with matching Cochran Equinox pressure jet combustion systems, providing electronic combustion control, variable speed FD fans and exhaust gas analysis equipment to optimise the boiler output and performance.

The Whole Package

Upon official opening in November 2011, Tony Hallhead, Engineering Manager of BillerudKornas said, "When selecting Cochran, we looked at the whole package they could provide. Top quality UK design and manufacture, project management and extensive service support to ensure a high level of availability from the plant, which is critical to our operation."

First Class Support

"The support we received from the Cochran Site Team and their head office Engineering Teams was first class. The project went as well as could be expected and was delivered on time and to schedule" he added.

BillerudKornas expect a payback of two years on the £1 million investment. It is delivering an annual fuel saving of 13% as a result of the new boiler installations.

Ongoing Service Contract

Cochran continues to provide a service contract to BillerudKornas in order to continue to support the products. This has also included the fitting of a highly efficient Equinox natural gas burner to one of the retained boilers, with plans to replace the burner on the fourth boiler.



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