

MONITORING HUMIDITY FOR OPTIMAL CONTROL

A proactive solution to drive efficiency and cost-saving into a production cycle.



CHALLENGE

Specifying a package to deliver production improvement and cost-savings to a brick manufacturer.

EFFICIENCY-DRIVEN SOLUTION

- Sensors for temperature and humidity control
- Controllers and chart recorders for visibility of real-time data
- Variable speed driers to offer superior control and adjustment

PARTNERSHIP OUTCOME

- Optimise productivity
- Reduce energy costs
- Reduce waste
- Increase data visibility

TECHNOLOGY AND BRANDS

- Eurotherm controllers and chart recorders
- GE moisture probes
- Invertek AC drives



EFFICIENCY ENGINEERED



VALUE ENGINEERED



SAFETY ENGINEERED



PARTNERSHIP ENGINEERED



CONSISTENCY ENGINEERED

THE CUSTOMER AND BACKGROUND

An established brickmaker, our customer has particular expertise in the production of bespoke orders for specialist one-off applications. This is a labour-intensive process with a lengthy manufacturing cycle, leading to high energy costs and potential production delays. Accordingly, the customer is always looking for ways to improve production efficiency.

THE CONTEXT AND CHALLENGE

One of the customer's key challenges was judging the exact time to allow for drying the bricks. If it's too fast, a skin forms over the clay, sealing in moisture which can lead to imperfections and waste. If it's too slow there will be implications in terms of energy consumption and production efficiency. However, drying time is affected by a number of variables including the size of the drier and humidity in the atmosphere. Of these, humidity is perhaps the most critical. The customer knew that if they could monitor this successfully, they would be able to plan production more efficiently, reducing cycle times and energy costs. However, despite trying various humidity sensors over time, none had been able to cope with the temperatures or electrical disturbances inside the driers. And so the customer relied on basic electronic temperature control and an interface which gave little in the way of data and feedback. Without real-time information, the whole process was left to guesswork, resulting in potential inefficiency.

OUR APPROACH AND SOLUTION

We have been supplying products to the customer for a number of years and were aware of their production challenges. So when one of our team was shown an industrial humidity sensor during a training session, a light-bulb moment occurred. There was a way to engineer a solution which could increase efficiency and reduce costs within the manufacturing process.

The GE probe MMR101 is a high temperature industrial humidity probe which could potentially add the missing link to their control process. The next step was to make a joint visit with GE to understand more about the application, during which it quickly became apparent that the GE probe had the right functionality.

We supplied the temperature and humidity probes, temperature controllers and chart recorders as well as variable speed driers. For the first time, the customer was able to gather vital data and make adjustments in real-time: for example, changing temperatures and fan speeds where necessary. They could even identify and resolve problems in the process, for example by replacing inefficient fans. The game-changing advance however, came with the humidity controller. Able to withstand operating temperatures, it allowed the customer to accurately measure and monitor humidity inside the drier. From the recorder, they could watch the humidity curve drop until it flatlined, at which stage the process was complete and the bricks could be confidently removed. Equally importantly, if humidity dropped, a simple injection mechanism allowed water to be sprayed into the drier. With this simple addition, they were able to reduce the drying time and optimise the production cycle, leading to time and energy savings.

"MJ Wilson came to us with a potential solution to one of our long-standing challenges. We hadn't asked for it – but we saw right away it would work for us. The results have made a significant difference to our operations and costs, meaning we're better able to meet our customers' expectations. It's a great example of their pro-activity and commitment."

MJ WILSON TRUSTED ADVISOR

With lower costs and waste, and increased efficiency for the customer, by partnering MJ Wilson, you benefit from pro-active advice and innovation to add value when and where you need it most.

Value Engineered. Efficiency Engineered. Consistency Engineered.



VALUE ENGINEERED

50% REDUCTION IN PROCESS SCRAP



EFFICIENCY ENGINEERED

70% INCREASE IN RIGHT FIRST TIME (RFT)



CONSISTENCY ENGINEERED

80% INCREASE IN YIELD