SUCCESS STORY 105

Bake oven characterization and balancing in pizza manufacturing

Q **How does a major global supplier producing close to 2 million chilled pizzas every week guarantee product quality and minimize production waste?**

A

Situation and background

Over the last 20 years, one of the largest pizza manufacturers in Europe has increased production to 2 million chilled pizzas shipped to the retail market every week. Being “grade A” accredited to the BRC Global Standard for Food Safety process, monitoring of their cook process is key to both product safety and quality. Using DATAPAQ, oven surveys are performed as part of NPD and ongoing process validation strategies. Temperature profiles guarantee that product heating is consistent both through the oven and across the oven mesh belt width, to guarantee bake and product consistency (color, bake & appearance), and eliminate “blown - pizza base expansion” product rejects.

The winning solution

- Single temperature monitoring solution, providing six air monitoring points at product level across the oven width in a single run
- Thermograph “thermal contour map & 3D plot” view of cook to allow quick identification of hot and cold spots along the 30 m (100 ft) oven.
- Profile overlay feature for direct comparison of current with historic runs, allowing identification of process changes
- System easily transferable to each of the four ovens in turn

Savings made/ROI reached in weeks from

- Rectifying oven insulation and fine tuning zone temperature settings after initial oven surveys identified temperature imbalances across the belt width (up to 100 °C/212 °F), due to heat escaping from oven
- Reducing cost for lost production and waste disposal fees (dough & meat) due to temperature imbalances and resulting product rejects from “blown” product
- Improved energy efficiency by accurate oven balancing, eliminating heat losses due to back drafts zone to zone or even out of the oven

KEY FACTS

Customer’s End Product
Chilled Pizza for Retail Market

Max Temperature Reached
During Cooking
290 to 350 °C (554 to 662 °F)

Duration of Process
2 to 5 mins

PRODUCT AND BENEFITS

MultiPaq21 Datalogger
- 6 Channel IP67 with ± 0.2 °C (0.4 °F) accuracy

Food Insight™ Software
- Thermal contour & 3D-view of temperature deviation across oven belt
- Profile overlay to compare one run with another

Thermal barrier
- 1 hour protection @ 250°C (482°F); only 60 mm (24 in) high

Food Probe Jig
- Accurate, repeatable placement of MI probes across oven belt

Local Service
- Rapid service support

Contact us.
www.flukeprocessinstruments.com

Rev.B/March 2020