Baker Perkins' unique system ensures even baking

A stable and reliable baking environment that provides even baking across the full width of the oven band is crucial to achieving the consistency cookie and biscuit makers demand in a highly competitive market.

Colour variation across the band is the most obvious sign of uneven baking, usually accompanied by moisture content and pi bece weight variations.

Our new TruBake™ HiCirc oven incorporates a unique, proven system that addresses all of these aspects while also simplifying changeover with stable, repeatable adjustments for temperature profile and air distribution.

In a convection oven, air is blown onto the product from plenums above and below the band and the spent air is returned to the burner module. Here, a proportion is extracted in order to control humidity and the rest is reheated and recirculated. The problem, put simply, is what to do with the convection air once it has hit the product?

Typically, return air is drawn from the baking chamber by a single collection duct per zone situated to the side and top of the oven chamber. This produces asymmetric air movement both across the width and along the length of the oven. The result is inefficient and uneven baking caused by the return air interfering with

the convection and moving laterally across the product.

It also means that extraction rate becomes critical: over-extraction draws in cold air which passes down the side of the oven and leads to under-baking of the edge lanes; under-extraction increases humidity and leads to high moisture content.

The Baker Perkins convection system prevents uneven baking by removing the return air from the baking chamber at multiple locations in a controlled manner. Air collection ducts above and below the band extend the full width of the oven to avoid lateral air movement, and are placed every two metres along its length to minimise longitudinal drift.

These independent two-metre cells create a repeating sequence of stable and predictable airflows that maximise the rate of heat transfer while maintaining an even distribution across the band.

So the choice is between an inherently stable system with control of air from the moment it leaves the burner to the time it returns to the combustion chamber, and a system with a fundamental weakness. A simple choice for producers valuing the profitable advantages of even baking and maximum throughput.

The predictable baking environment of Baker Perkins' HiCirc ovens is suitable for a wide variety of products, from brownies, cookies and bars up to crackers and pet treats; it has also already been applied to other products including baked granola and ingredients. ◆