“The frozen pizza market is regulated by price.” – It is unlikely that anyone who knows the industry will contradict this statement by Christian Becker-Sonnenschein, Managing Director of the CODEX by Rondo GmbH & Co. KG in Burbach, Germany. Therefore attaining cost leadership is one of the most important aims of pizza manufacturers worldwide. This can be achieved for example by shortening process times or using more efficient processes, by using fewer raw materials or avoiding down times. Not many companies take a different approach and seek for an improvement of the quality of their products by the use of longer dough proofing times with lengthy resting times and the use of expensive raw materials.

One challenge facing pizza line manufacturers is the fact that they have little influence on the pizza dough. The properties of the latter are defined by its recipe and mixing. The processing line must adapt to the dough properties in the best possible way – not always an easy task. Nonetheless, Codex by Rondo’s claim is that it has developed a process which controls the dough with, e.g. its structure, water absorbency and plasticity. For this the company has developed the so-called C2 sheeting process for yeast doughs. In principle this involves continuously mixing all the raw materials together and kneading them, whereby at a specified time active over-pressure in the kneading chamber is produced.
A demonstration line in the Test Center in the Italian town of Schio has a dough output capacity of 0.4–1.5 t, similar to the plant with which the company presented its C1 process for laminated doughs approx. 2 years ago. First of all the flour and premix are dosed in and mixed while being sprayed with high pressure water. The extruder’s jacket is double-walled, which provides the option to cool it with a glycol solution. After the liquid has been metered in (yeast and oil) and up to 40 % of residue dough has been added, a positive pressure of 5 bar is now created. According to Becker-Sonnenschein, the air is actively kneaded into the dough, the pressure being adapted to the required crumb structure of the end product. He says the dough looks as if it has been foamed up. It is continuously moved forwards through the extruder by two counter-rotating screws. “Smaller bubbles form from the initial large air bubbles in the dough as it continues to be carried forwards through the kneading process. The surface area of the dough increases so that more water can bind to the flour particles in the dough,” describes Becker-Sonnenschein the process. The screws completely fill the chambers, with the result that the dough cannot expand until the end of the extruder, i.e. when it comes out of the nozzle. It does this rather impressively, and emerges from the 300 mm wide stainless steel nozzle as a dough sheet approx. 45 mm thick which is smooth and uniform, with no stress and without any frayed edges.

Up to this point the process takes 6 min, and dispenses with the usual 40–60 min relaxation phase. The dough sheet is carried forward to the satellite head, which rolls the dough down to a thickness of 7–8 mm. “Due to the gentle handling, the dough remains fluffy, soft and stress-free,” is how Becker-Sonnenschein describes the sheet. One cross-roller and only one calibrator, which brings the dough sheet down to 2.6 mm, are sufficient to produce a dough with a very straight edge margin. To manufacture the pizzas, this is now de-floured and punched out. At Codex the dough for an Italian pizza is pre-baked as a plain crust at 330 °C for 30 sec, and only then is it covered with a topping and optionally frozen. This eliminates...
the classical double topping (first the application of tomato sauce before the pre-baking, then the dosing of the various toppings afterwards). Becker-Sonnenschein says that in addition to saving time, a shorter oven length can also be used, because the pizza crust remains in the oven for only about one third of the usual time.

Codex by Rondo researched its C.2 process for a long time. Initial tests by customers now show that this was worthwhile. According to the company it was possible, for example, to lengthen the expected shelf life of a pizza product by 50 %.

“With this customer we have manufactured a pizza with a shelf life of 63 days as fresh dough without any signs of freezer burn, and we have done that with a Clean Label recipe. That is due to the greater water binding – the dough sheet now contains a proportion of water that is larger by up to 9 % without any quality sacrifices compared to the standard formulation currently applied at the customer without the Codex process,” claims Becker-Sonnenschein.

Another point with which the company hopes to be welcomed with open arms by producers is the Clean Label already mentioned. According to the Managing Director, Clean Label and therefore a recipe which eliminates baking agents is entirely possible with the Codex extruder, in fact it is preferred. All the experiments in the Schio Competence Center up to now have shown that the manufacture of a dough sheet functioned better when using doughs that were free from baking agents and enzymes. Becker-Sonnenschein says “We think that Clean Label is the aim that will characterize tomorrow’s market.”
Using SD-touch, it is easy to control the baking process and create smart and energy-efficient recipes and cooling/fermentation programs.

In fermentation cabinets and rack ovens, we now use heat-reflective double-glazing with superior insulating properties.

Better insulation around the door area gives a more even temperature and baking throughout the oven.

In an eco+ oven, the heat is retained inside the oven, resulting in a cooler and more comfortable working temperature in the premises in which it is installed.

Insulating the bottom of the oven or fermentation cabinet saves substantial amounts of energy. It also prevents damage to floors and further improves fire safety.

The light in deck ovens with an insulated door is turned off when the door is closed, ensuring that it is never lit unnecessarily. A small, but important energy-saving measure.

There are no new items or changes to include.