

New generation croissant line

RADEMAKER HAS COMPLETELY REDESIGNED ITS CROISSANT LINE AND HAS IMPROVED IT IN VIEW OF THE LATEST HYGIENE AND DESIGN STANDARDS. THIS SHOULD INCREASE THE MACHINE'S PERFORMANCE DURING OPERATION, PRODUCT CHANGE, CLEANING AND MAINTENANCE

++ figure 1



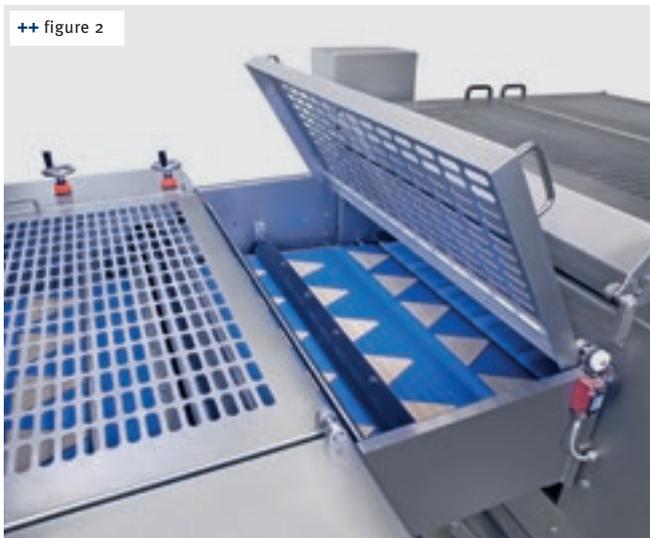
++ figure 1
Rademaker's new croissant line

+ The croissant line made by Rademaker B.V. from Culemborg, the Netherlands, has flexible capabilities: it can form filled and unfilled croissants, the latter also as minis, bent into a crescent shape and straight, in a closed and pinched Q shape and in special Spanish and Italian shapes (called Spanish and Italian Artesano). It also enables hourly output capacities of up to 24,000 items for the Spanish Artesanos and up to 126,000 items for 10 g minis. The maximum working width is 1000 mm when loading baking trays and up to 1,200 when transferring to downstream plants.

Construction of the line

At the start of the line the flour is removed from the dough, which arrives from the dough preparation unit as a shaped dough sheet. The dough is cut lengthways and the excess dough at the sides is removed, cut up and taken for recycling. The rows of dough are stamped or cut into appropriate pieces. After turning and moistening, an optional module can be installed to fill the dough pieces. Otherwise the dough pieces are coiled, possibly bent, and optionally the ends pressed together (pinched).

++ figure 2



++ figure 3



++ figures 2+3
The rows of dough are stamped out, then turned



++ figure 4
For example straight croissants are rolled up by a dragnet

Rademaker offers its clients two alternative ways of bringing the croissants into the required shape. In one of these the rotary unit called R-moulder can shape unfilled baked products from the dough triangles by using two belts. This allows the speed of the upper and lower belt to be controlled individually. Thus the user can manufacture the croissant with either more or less tension. The second alternative option for shaping is provided by the V-moulder, which operates with vacuum. This unit can process both filled and unfilled croissants. Here again the dough triangle is shaped by an upper and lower belt. However, the dough piece is adjusted by vacuum as the rolling up begins. This means the dough triangle cannot slip out of place and is easier to process.

The design of all the plant components is more use-friendly in the sense that individual components have been removed or combined. For example this leads to increased accuracy of the rotating cutters and rotary unit, and thus to a more uniform quality of the end products. Accessibility to the individual components is now even better, since fewer components need to be removed in order to reach the required parts. Thus the conveyor belt rollers can be exchanged individually instead of changing the entire module. The construction of the tools, for example the robotic turning arms for the triangles or the compression springs, is now more compact and lightweight, thus making them easier to handle from the ergonomic point of view.

Hygienic Design

Another new feature is the way the design of the tools and frame have been processed, so contamination can no longer reach into inaccessible areas. In addition all the corners and edges have been rounded. The surfaces of the line have been

smoothed to 1.0 µm, so there is less surface area for micro-organisms to attack. The scrapers and brushes can be removed by hand without tools, so cleaning can proceed more easily and thus more efficiently. The cleaning of the plant is now also completely designed for full wet cleaning (D4W, designed for wet cleaning). +++

++ figure 5



++ figure 5
The Artesano croissants are special Spanish and Italian shapes