

One-stop-shop for Artisan Breads

Today's market requires an ever-increasing variety of breads, with different dough types, different crumb structures and different sizes. Bakeries, wanting to accommodate the market requirements, in turn, ask for modular bread lines that allow for fast changeovers and offering the highest accuracy, while meeting the most stringent hygienic requirements.

By Catalina Mihi

Technology lines designed to produce artisan-style breads are built to accommodate a wide variety of doughs, formulations, and product shapes and sizes. Rademaker shows how it provides answers for these challenges in the mechanical design of the modules making up their bread lines, as well as the software options that enable a wide process window to handle the different dough types.

"Recent innovations include a further improvement in the DSS pre-sheeter to accommodate a larger variety of doughs and an improved dough recycling system. And while the mechanical basis is solid and smart, the true line and process optimization originate in the software that controls the line," Rademaker specialists highlight.

THE KEY TO HIGH-HYDRATION DOUGH

Rademaker's complete line is capable of handling doughs with the highest hydration levels in the

market. In some of the reduction stations, non-stick upper rollers reduce the dough thickness to the desired thickness, ensuring that dough characteristics remain intact. A setup of a production line suitable for this type of products could comprise:

- Pre-sheeting to form a consistent dough sheet after the mixing process: Wax DSS
- Sheetting sections (variation of different reduction stations and Cross rolling unit). The exact configuration depends on the product requirements and the desired final dough thickness.
- The Make-up section, depending on the product requirements
- Tray-loading
- Handling-system

"Always important when configuring a production line is offering customers flexibility at the shortest possible footprint. The Rademaker Industrial Bread Line is



characterized by its flexibility. There are multiple configuration options and modules which can be exchanged fast and easily,” Rademaker emphasizes. Production capacities can range from 500kg up to 6,000+kg of dough per hour. “In addition to ‘engineered to order’ lines, Rademaker now increasingly focuses on ‘configured to order’ production lines, offering affordable standard solutions to most applications,” the company explains. The new Rademaker Industrial Bread Line was introduced in 2018. With increasing requests for artisan bread lines, the Dutch-based company consequently observes a growing request for higher product quality. This is why its bread line is continuously upgraded to meet all market demands. The latest innovations added include:

- **New pre-sheeter – Wax DSS:**
The dough is kneaded by the mixer and processed in the pre-sheeter. The pre-sheeter transforms dough batches into a continuous dough sheet. Rademaker’s proprietary DSS has been updated to meet the latest requirements: “An innovative dynamic hopper transports the dough in a controlled manner, keeping the shape

of the dough chunks linear and constant. Landscape sensors and separate belts carefully guide the chunks in the sheeter, ensuring size and weight accuracy. Chunk weight and length is exceptionally accurate, leading to a more stable and consistent dough sheet and eventually high-quality baked products,” Rademaker specialists explain.

Many doughs, like Italian bread types like ciabatta or focaccia, tend to have a very high water percentage, making it liquid and sticky. In the previous DSS version, oil was used to prevent the dough from sticking to the DSS hopper. Effective as this is, cleaning the line is a time-consuming issue. Rademaker replaced the oil with wax, reducing the required amount by a factor four compared to oil. Cost-savings are considerable and return-on-investment for the wax distribution system is maximum one year. Cleanability is improved due to easily removable parts and because wax is used instead of oil. Thanks to the minimal transportation height difference in the pre-sheeting system, dough homogeneity and structure are maintained. The wider belts with advanced flour strewing and optimized waste bins, in combination with a design that meets the most stringent hygienic standards, allow for cleaner working. Compared to the previous version the new system is easy to operate and better accessible for cleaning.

- **Box Motion Cutter for versatile cutting methods:**
It offers different cutting processes in one machine and a unique dough sealing solution, sealing the softer dough products and avoiding products from cracking open

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*Rademaker
specialists*

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during baking. Thanks to an ergonomic design, tools can easily be changed from the side, making it easy for the operator.

- **New molding table for the production of molded products like baguettes:**
In the molding conveyor, the side guides are repositioned on the lower belt, yielding a better molding performance. A simple, single operator control that allows fast, fool-proof adjustment of the molding table in height and molding degree to ensure fast changeover and product flexibility. The molding conveyor's unique design offers optimal access from both sides, allowing for fast product changeovers, cleaning and maintenance. As with other parts of the Rademaker Industrial Bread Line, the length has been reduced.
- **Bread Rounder for the production of rounded bread types.** It transforms square dough pieces into rounded buns, varying from 100 to 800 gram a piece, with capacities ranging from 1,100 to 1,800 kg/hr.

design of the production line allows for fast product changeovers and for expansion with customized additions that can easily adapt to a flexible product range.

Designed to meet the highest hygienic and safety standards, the Rademaker bread line will yield maximum results in terms of product quality and return on investment, with a focus on ingredient and waste reduction.

ALL-INCLUSIVE TECHNOLOGY

The ever-changing need for new types of bread reflects even faster-changing consumer attitudes, Rademaker observes the global trend. "Rademaker is familiar with types of bread from all over the world. We have incorporated all of this know-how into our flexible bread line that will allow our customers to anticipate the future requirements of the market. It is designed to produce a wide range of breads with soft dough, strongly hydrated dough, pre-fermented dough, bio dough and firm dough," illustrate the specialists. The unique modular