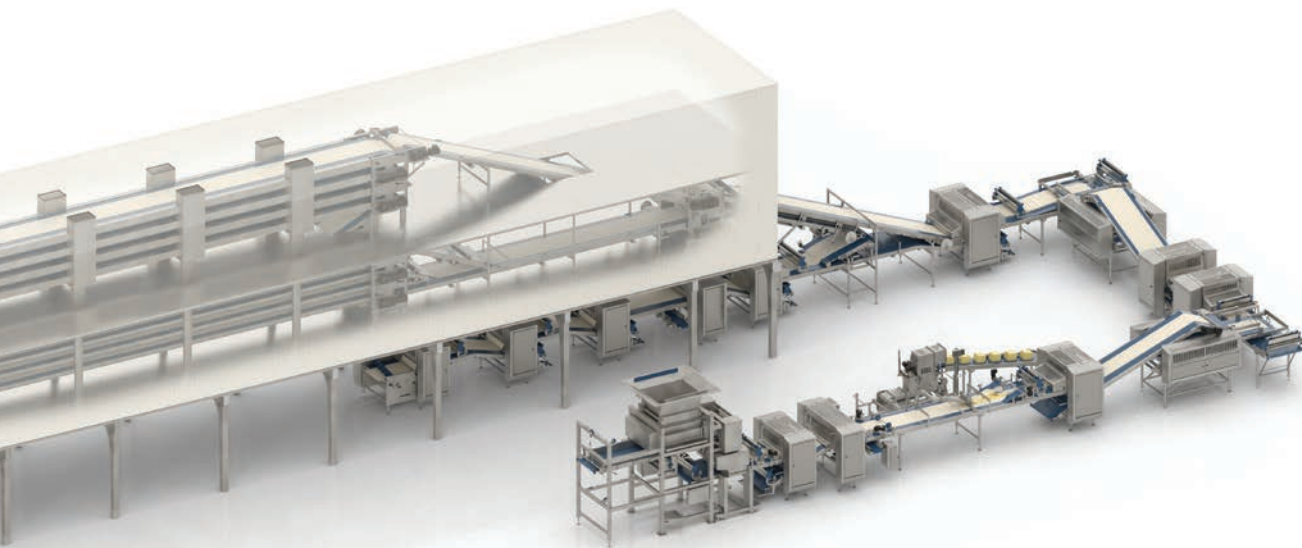


Rademaker

Specialists in food processing equipment



Laminator

The magic of
stress-free dough

Redefining Laminating Excellence

Our relentless drive for perfection has led to significant advancements in our laminators. Following a comprehensive three-year study, we have significantly enhanced the stability of fat layers and the homogeneity of dough sheets, aligning with the latest product trends. These improvements simplify operation, enhance product reproducibility, and elevate the quality of laminated dough sheets to unprecedented levels.

At Rademaker, we are committed to advancing performance, delivering superior product quality, and adhering to the highest technological standards, ensuring our customers receive nothing but the best.

Added value

- ✓ Highest Overall Equipment Effectiveness figures for the full machine lifetime
- ✓ Your partner in applying and adapting to market trends
- ✓ Fast and easy cleaning
- ✓ Best possible level of user friendliness
- ✓ The highest quality laminated dough sheet



The highest quality laminated dough sheet

The secret of quality pastry and croissant products lies in the lamination process. Laminated dough can be produced according to the French and the All-In method. Traditional lamination (French method) consists of pre-sheeting the dough and adding a continuous layer of fat which is folded into the dough sheet. After which the folded dough sheet is repeatedly laminated and sheeted to build up the required number of dough- and fat layers.

Market driven research and development is the basis for three different laminating methods developed by Rademaker. The method(s) that best suits your application depends on your requirements. To preserve the dough structure and layers, dough and fat layers are reduced as gently as possible thanks to the Rademaker sheeting technology.



Integrate Cooling & Resting to boost your product quality

Efficient & Hygienic Cooling

- Indirect, active air coolant improves efficiency by up to 15% and preventing dough dehydration
- Eliminates the need for chemical cooling agents in the product zone

Optimized Resting Process

- Supports starch conversion (Maillard process) for better taste and color
- Relaxes dough for improved consistency, minimal shrinkage
- Enables butter crystallization, enhancing texture and quality

Energy & Durability Advantages

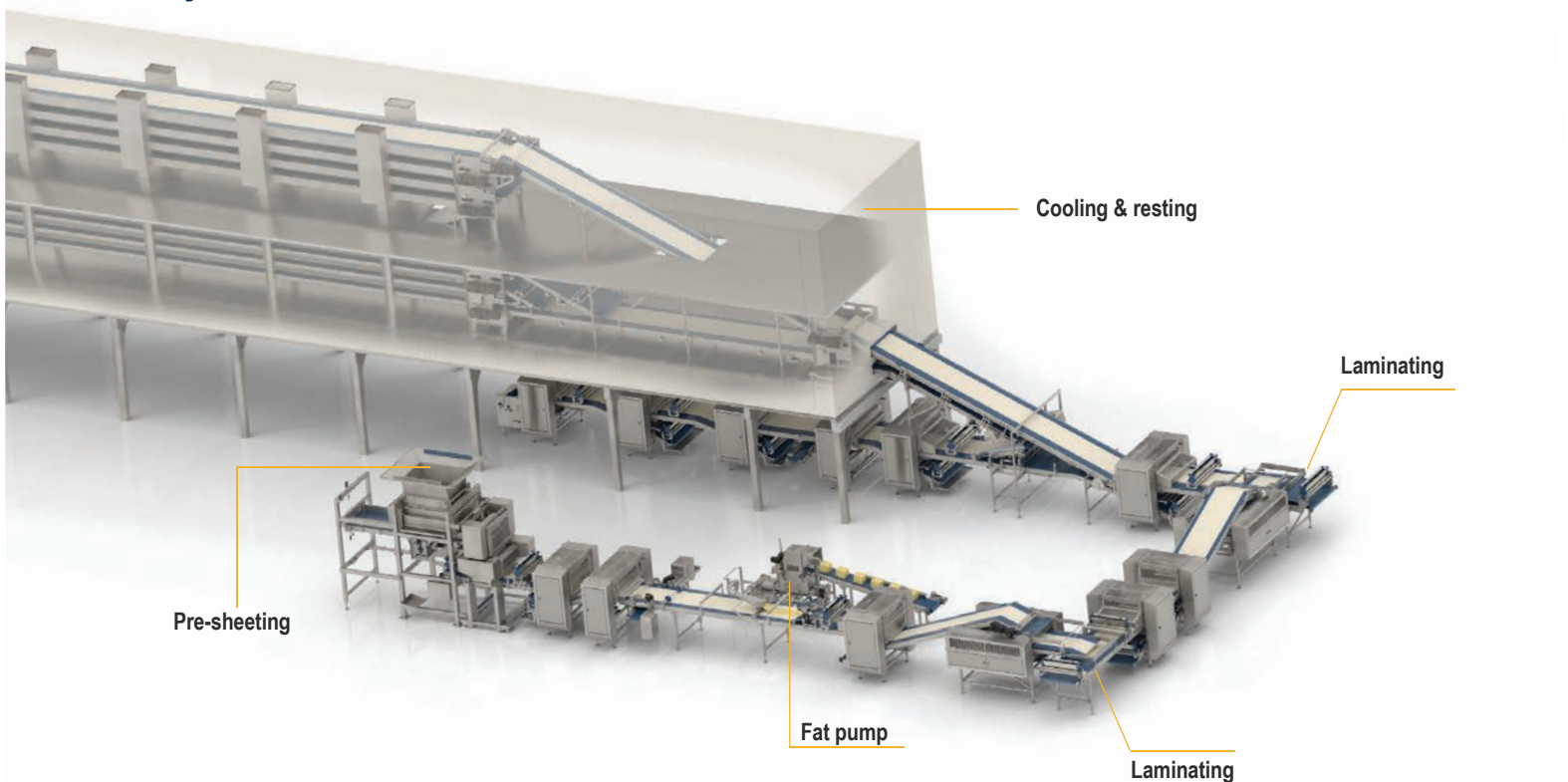
- Optimized airflow reduces energy consumption by up to 35%
- Belt tensioners with torque limiters minimize wear for long-lasting performance



Tailor-made design is key

Rademaker Laminators are developed to produce laminated doughs at capacities ranging from 250 kg to 10,000 kg of dough per hour. Each line is tailor-made using standard components. This flexibility allows for various configurations, from a block processor to a fully automated laminator, including cooling- and resting cabinet. The Laminators can be designed in different shapes: L-shape, U-shape, Z-shape, S-shape and straight (in-line laminating). Working widths vary from 600 to 1,600 mm.

Fully industrial Laminator



Rademaker Laminators guarantee a perfectly laminated dough sheet. To achieve this, we provide the following modules:

Pre-sheeting



Generates a dough sheet of the highest quality. Different set-ups are available, depending on the dough type and desired capacity.

Fat encapsulation



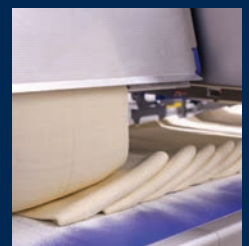
The fat pump turns fat blocks into a continuous sheet. After the fat sheet is applied to the dough sheet, it is encapsulated by the dough. The mobile fat pump can be fully dismantled for fast and easy cleaning.

Sheeting and thickness reduction



Reduction steps are applied for a to achieve a consistent dough sheet.

Laminating

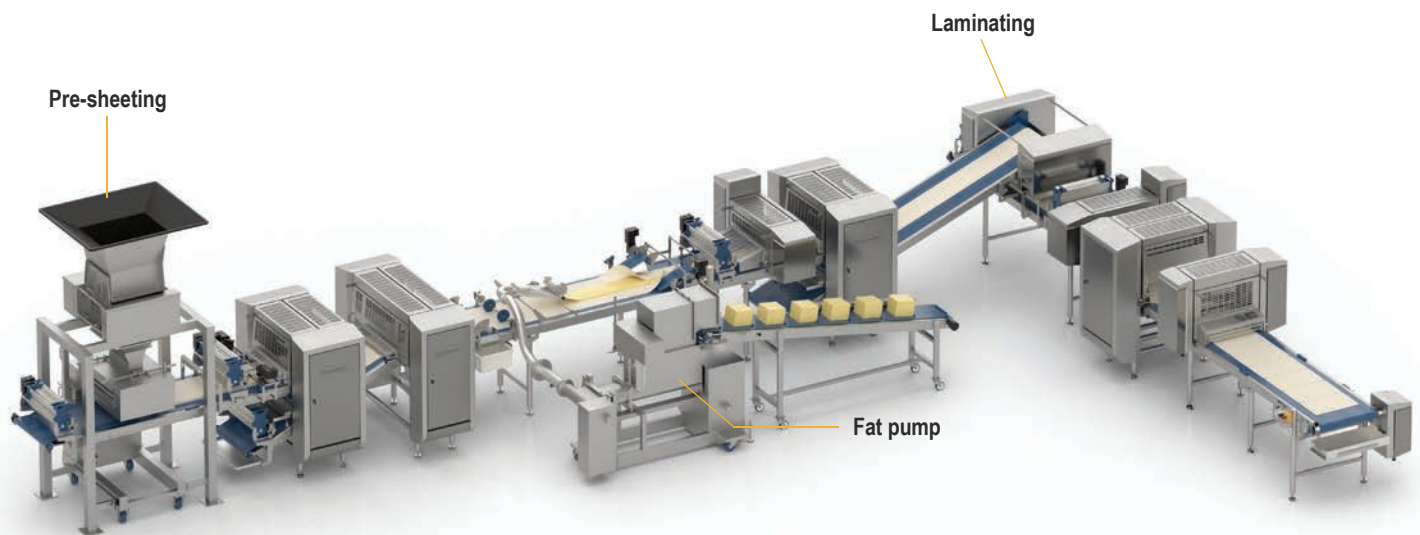


Rademaker offers three laminating methods and is deployed depending on the line concept.

Semi-industrial Laminator

We understand that not all customers require large-scale solutions. To accommodate a broader range of production needs, we have developed a semi-automatic concept designed for lower output capacities. This system allows for manually handled dough blocks during the cooling and resting phases, providing greater flexibility.

Together we determine the solution that meets your capacity and specific application, resulting in the best possible production efficiency. The line configurations shown on these pages are examples of the many possibilities that we offer. Our specialists will be happy to apply their knowledge and experience in helping you achieve your goals.



Cooling and resting (optional)



Rademaker offers three laminating methods and is deployed depending on the line concept.



Cooling and resting is applied for a better dough quality, improved development of taste and fat crystallisation through gentle cooling.

Thickness calibration



Several reduction steps together with cross-roller are applied to achieve a consistent dough sheet, with the right amount of layers. To preserve the layers, the thickness is reduced as gently as possible.



The final dough sheet contains homogeneous layers.

The Rademaker secret

Homogeneous layers are the basis for achieving the light and crispy structure croissants are famous for and what earned pastries their reputation. The experience and expertise gained over the years has made us global market leader in laminating systems. Our know-how is put to use when we develop production equipment that meets and exceeds our customers' requirements. Whether it is a croissant, a swirl, palmier or any other type of pastry you want to produce, we will apply our know-how to benefit you.

Layering

Your product requirements and the desired production process determine which type of fat should be used: butter, margarine, shortening, low-trans or non-trans margarine.

Within the laminating process, the dough and fat layers are essential for the baking structure of the final product. To acquire the highest quality layers, it may be necessary to cool and/or rest the dough sheet with the help of a cooling and/or resting cabinet. In a co-development relationship with you, we translate your requirements into a tailor-made laminating solution. Additionally, we offer a range of croissant- and pastry lines to shape the dough in any product desired.

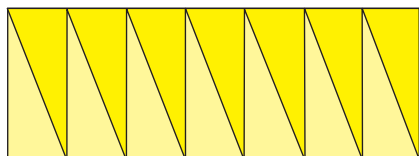
The laminating technology (without adding a layer of fat) offers advantages for the production of bread, pizza baselines and flatbread lines as well.



Various laminating variations

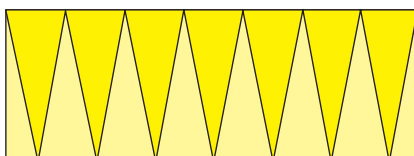
Asymmetric lamination:

- Horizontal laminating



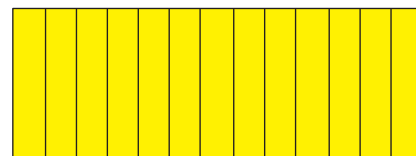
Symmetric lamination:

- Lapping
- Horizontal laminating



Symmetric lamination:

- Cutting and stacking



Three laminating methods

Each end product and thus dough type require a specific application and laminating method. The desired capacity also plays a role in the solution that suits you best.



Lapping

The dough sheet runs vertically between a guiding system that moves back and forth.

Specs:

- No. of layers per section: 4-6-8-10
- Max. lamination width 600 mm
- Symmetric lamination

Benefits:

- Fits small surfaces
- Low cost solution



Horizontal lamination

The belt with the dough sheet moves back and forth above the next conveying belt.

Specs:

- No. of layers per section: 4-6-8-10
- Max. lamination width depending on the working width, from 600 until 1,600 mm in steps of 200 mm.
- Symmetric and asymmetric lamination

Benefits:

- Wide range of lamination widths
- High speed solution



Cutting and stacking

A guillotine cuts the dough sheet into regular rectangular sheets which are then stacked on top of each other.

Specs:

- No. of layers per section: 3-4-5-6-7-8-9-10-11
- Max. lamination width depending on the working width, from 600 until 1,600 mm in steps of 200 mm.
- Symmetric lamination

Benefits:

- Even and uneven layering possible
- Wide range of lamination widths
- Best similarity
- High quality solution
- Suitable for laminated and bread doughs



Added values

Highest OEE figures for the full machine lifetime

Rademaker's dough sheeting technology continues to evolve, keeping pace with industry trends and customer demands. By expanding our focus beyond just dough sheeting to the entire production process, we help our customers achieve the highest-quality end products. From raw ingredients to the final bake, we act as a knowledge partner, offering expertise at every step of the way.

Functionality

An open design with best possible visibility of the process has been the focus for the system design. Rounded edges and fully opening covers on both sides of each unit are applied throughout the system. The best possible accessibility of the process is achieved by optimizing the space between the working stations and the application of horizontal conveyor belts. Smaller units are also designed with open housing. Lightweight safety covers with extra handles enable ergonomic operation. Overall safety is guaranteed by the application of safety locks.



Efficiency – Performance that lasts

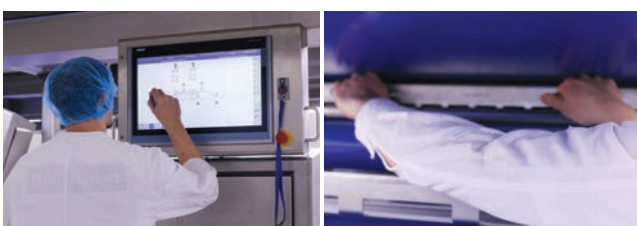
Rademaker equipment is engineered for performance that endures. Designed with long-term efficiency in mind, our systems deliver consistently high Overall Equipment Effectiveness (OEE) throughout their entire operational life. The result: maximum productivity, minimal downtime, and reliable output - year after year.

Built for reliability, precision, and ease of maintenance, our systems deliver long-term efficiency in even the most demanding industrial conditions. This translates into a lower

total cost of ownership and a higher return on investment for your production line. Rademaker also offers a wide range of dedicated solutions to monitor and optimize the OEE of your entire line, even in complex production processes. Contact our experts for tailored advice.

Service & Maintenance

Accessibility of the system is strongly improved in order to allow for easy service and maintenance. The service and maintenance requirements are reduced by optimal material selection. This results in minimal wear and increased lifetime of all sensitive items, in combination with a minimized variance of spare parts. Lifetime lubricated bearings in the product zone and clear, comprehensive lubrication locations for bearings outside product zone are resulting in minimal downtime. Parts that require regular maintenance are located in easily accessible places outside the production zone. All conveyor belts are equipped with quick belt release mechanisms to reduce downtime during cleaning and to keep maintenance to a minimum. Cleaning and maintenance require less time and production can go on without interruption. Data gathered by the PLC can be used to improve maintenance (e.g. motor loadings, running stops and stop causes).



Process

The Rademaker Laminator is designed with wider rollers (+50 mm) and belts (+100 mm). Apart from a higher output that results in improved dough support, reduced risk for microdamage and stress in the outer dough edges. This results in an even less thickness variation and improved consistency of the layers than before.



Hygienic design

The system is designed according to the Rademaker Sigma® design guidelines. These guidelines are directly derived from various high-end requirements for hygiene & cleanability such as the GMA standard and EHEDG recommendation. With excellent machine surface finishing, tilted upper surfaces, rounded frames, food approved blue plastic parts and eliminated hinges and bolts, the unit will meet the highest industrial expectations for hygiene. For more information you can download our hygienic design brochure.



Control

Process control by means of intensive data handling and communication is becoming increasingly more important in industrial production processes. Our control platform enables OMAC based data exchange with neighbouring (third party)



equipment as well as LMS, MES or ERP systems. Furthermore, advanced data processing enables on-line monitoring and optimization of equipment efficiency. The smart use of the combination of process and recipe information allows easy and fast start-up and reduction of flour usage. The existing cascade system and automatic belt speed adaptation (DDIC / Dough loop) is adapted to fit the increased hygiene level. The advanced control system features fully automatic speed adjustment and enables the different sections to operate independently. While the last dough part of the production run is processed towards the last section of the line, the first section of the line is ready for cleaning or for the production of another product. The operator will be advised when the next recipe can be started on the machine. Finally, the number of sensors is reduced to guarantee optimal control with minimal risk of downtime due to malfunction.

Partner in Adapting to Market Trends

The bakery industry is evolving fast, and staying competitive requires more than just following trends, it requires putting them into practice effectively. At Rademaker, we help you do exactly that. We've gone beyond just optimizing machine performance; in recent years, we've placed even greater focus on operator-friendly production lines. Our customers tell us this makes a real difference in maximizing their line efficiency.

Our vision doesn't stop at the machine, we also look at the final bakery products. Whether it's introducing new filling types, innovative shapes, or enhanced layering effect, we work proactively to help you stay ahead. Partner with Rademaker to turn industry shifts into growth opportunities.



Why Rademaker?

Customer satisfaction is key

Based on over 40 years of Rademaker expertise, our production lines are considered as a sublimation of technological excellence gathered over time resulting with high product quality at the lowest possible cost of ownership!

Unmatched 24/7 Service

Rademaker supports your production process every way we can, 24 hours a day, 365 days a year. Our service doesn't stop after the delivery and installation of your equipment. We can provide a full range of services to cover all system and process related issues through the operational lifetime of the machinery.

- ✔ 24/7 Service Helpdesk
- ✔ Customer Training
- ✔ Preventive and corrective maintenance
- ✔ Spare parts
- ✔ Upgrades, refurbishing & optimising

Technological support by our Technology Centre

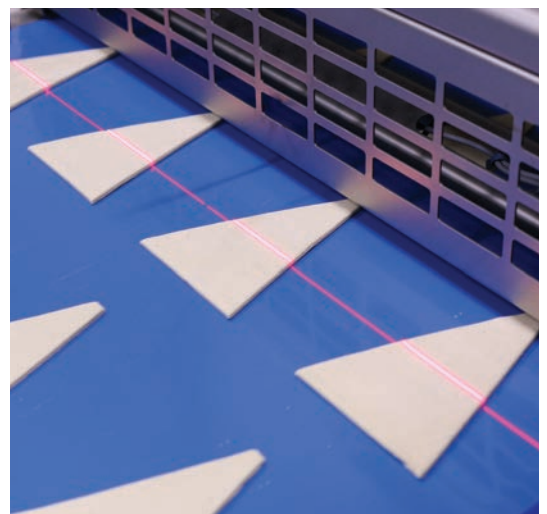
The development process begins at the Rademaker Technology Centre (RTC) where product concepts are transformed into a Rademaker production line. It is equipped with multiple pilot lines capable of handling a wide range of bakery products, including bread, puff pastries, croissants, pizzas, flatbreads, donuts, gluten-free options, and specialty items. The RTC in a nutshell:

- ✔ Testing, Product development & Demonstrations
- ✔ Worldwide experience and knowledge available for you
- ✔ Dedicated Technologists available to assist you
- ✔ Climate controlled testing rooms



Continuous improvement and innovation

Our continuous pursuit of equipment perfection propels us to consistently elevate equipment performance. Aligned with the latest hygiene and design standards, the Rademaker Laminator embodies state-of-the-art excellence. In Culemborg, our dedicated Pastry Product Team is entrusted with the mission of maintaining the excellence of our Laminator. At the RTC they have access to a dedicated Laminator, Pastry and Croissant line for testing and innovation. This empowers us to enhance performance, elevate product quality, and stay aligned with the latest technological standards in the market, ensuring our customers receive nothing but the best. Our continuous improvement program, coupled with attentive client feedback, fuels a drive to enhance machine performance during operation, simplifying product change-overs, cleaning, sanitation, and maintenance.



User Friendliness

Great care is given to the new user interface of our production equipment. The central interface size is increased to 22". The touch panel position can be easily adjusted to the proper working height. An iPad control is available to enable remote operation at any position in the line. Making it a timesaving and user-friendly operational tool. Optionally tablets or phones can be used to take over control from the centralized HMI.B1 Wi-Fi network.



Discover the Rademaker Academy

Efficient production and profitability depend on qualified and trained operators. We understand the importance of this. For this reason, Rademaker started the Rademaker Academy – a comprehensive resource of ongoing training to support our customer's Rademaker process for a lifetime. The training is conducted by qualified training personnel – each with a customizable program tailor-made to your expectations, needs, and Rademaker system.



Inhouse production

The complete production process of our equipment takes place in two state-of-the-art production facilities, covering a total of 20.000m2. The quality of our production lines is derived because the production team consists of our highly qualified craftsman and no concessions are made regarding materials used in our production lines.



Turn-key solutions

Besides stand-alone Laminators, or complete Pastry or Croissant production systems which includes a Laminator, we can also deliver complete production solutions. Our Systems Integration Division is the result of our client's desire to have Rademaker take control and responsibility for a part or the complete bakery system. The benefit being our clients can leverage Rademaker's decades of international bakery experience while focusing on their day to day operations and core business. Additional advantages being one point of responsibility, innovation of system design using tier one equipment suppliers, and efficiency of communication.





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