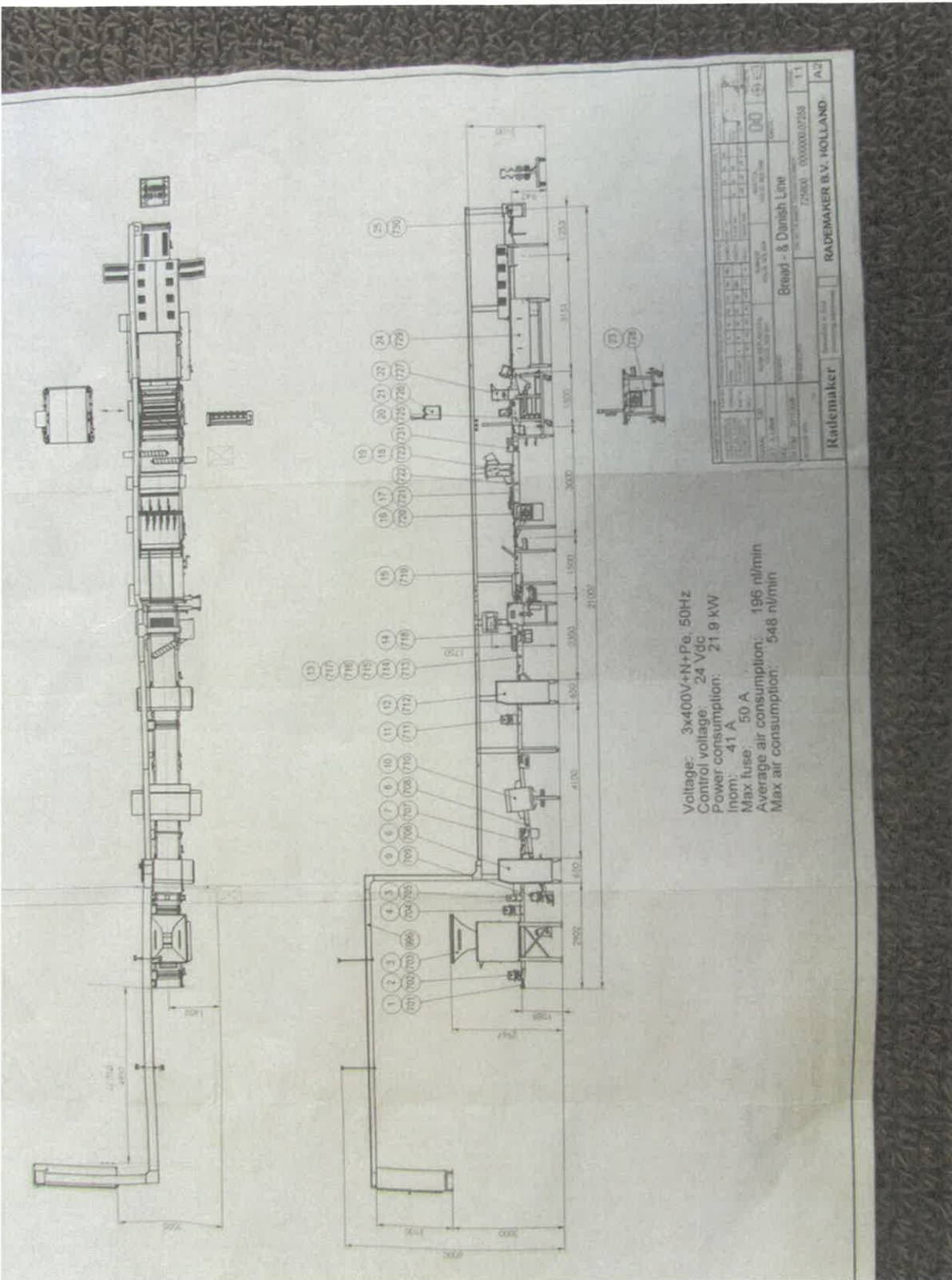




RADEMAKER CRUSTO BREAD LINE WORKING WIDTH 600 MM

Product specification:

Products capacity

Niittypitko 2000 pcs / h, 2 rows, dough thickness 3-4 mm
Coffee bread Kranssi 2000 pcs / h, 2 rows, dough thickness 3-4 mm
Muhku, 10 000 pcs / h, 8 rows, dough thickness 6-8 mm
Ciabatta, 7200 pcs / h, 6 rows
Folded bread, 4800 pcs / h, 4 rows, dough thickness 5 mm

Capacity based on 20 strokes per minute for the retracting belt, in combination with the product discharge conveyor system

Manufacturer: Rademaker Holland

Type: Crusto bread line

Year: 2008

Voltage: 3 x 400 v + N + Pe, 50 Hz

Control voltage: 24 Vdc

Power consumption: 21, 9 kW

Inom: 41 A, max fuse 50 A

Average air consumption: 196 nl / min

Max air consumption: 548 nl / min

Dimension: L 21 000 mm, W 3000 mm, H 6000 mm

1. Infeed transport conveyor, working width 600 mm, lenght 2900 mm
2. Flour duster, working width 600 mm.
 The unit consists of a hopper moiunted above aplastic roller with a grooved profile.
3. X-Pack dough sheeting system, working width 250 mm.
4. Flour duster to cover the dough skeet with a layer of flour.
5. The side compacting rollers
6. Quick reducer gauging station
7. Sharp outfeed transport conveyor
8. Intermediate transport conveyor
9. Flour duster to cover the belt with a layer of flour
10. Cross roller for rolling the dough sheet across the width
11. Flour duster to cover the dough sheet with a layer of flour
12. Two roll gauging staion to reduce the dough thickness by a maximum factor of
2:1 depending on the dough type and quality
13. Transport conveyor, including a driven cutting roller base set to cut th esides from

dough sheet and to cut the sheet in stripes

14. Flour removal brush to remove the excess flour from the dough sheet
15. Spreading cord conveyor with a length of approximately 1500 mm to spread the dough lanes in the width. Working width 1000 mm
16. One set of flour ploughs. Working width 1000 mm. The ploughs are suitable for folding dough strips with a width between 90 and 160 mm
17. Flour hingeable pressing rollers to press the folded dough together
18. The quillotine module, working width 1000 mm. Strokes per minute adjustable up to 100 per minute when executed with a cutting blade and 60 per minute executed with a stamping tool
19. Diagonal cutter for artisan baquettes for the quillotine
20. Topping module consisting of 2 polycord sections to transport products underneath the moistening roller (wet section) and the universal strewer with driven pressing roller, working width 1000 mm
21. Air operated water spray unit with four nozzles to spray the dough sheet or products with layer
22. Universal strewer for the dispensing of various dry materials. Working width 1000 mm
23. Transport conveyor with a length of approximately 1500 mm. Working width 1000 mm
24. Retracting belt with a retracting-length of approximately 380 mm to automatically transport products under running conveyor
25. Transport conveyor with a working width 1000 mm

The line control is provided with a full automatic Siemens control system with one color panel view screen which will be placed on the gauging station.



Rademaker

Specialists in food processing equipment

Bread line

When quality and quantity counts



Our daily bread

Bread comes in many shapes and sizes. This staple food is on the daily menu of people in virtually all corners of the world. We, at Rademaker, have managed to transform the traditions of the past into robust, state-of-the-art industrial bakery production lines.

Today, the ever-changing need for new types of bread reflects even faster changing consumer attitudes. 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 you to anticipate the future requirements of your customers. It is designed to produce a wide range of breads from soft dough, strongly hydrated dough, pre-fermented dough, bio dough and firm dough.

The unique modular design of the production line allows for fast product changeovers and for expansion with customized additions which 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.

Rademaker is able to deliver different types of bakery equipment and production solutions for your specific needs. Our bakery equipment is based on dough sheeting. With dough sheeting you are able to shape the dough into numerous kinds of high quality dough products with the highest output possible. First a continuous dough sheet is created, then the final product will be shaped. This is achievable through different types of units which use shaping methods like cutting, moulding/rolling, folding and bending. To finish your products with all kind of toppings we have developed strippers that can decorate your product with sugar, seeds, raisins, chocolate drops, egg yolk and much more.



Why sheeting technology?

Rademaker is a specialist in sheeting technology. Sheeting technology is preferred above the traditional system because sheeting provides important benefits. Sheeting makes it possible to handle a wide variety of dough types, from green to pre-fermented dough, all at high capacities. By using stress-free dough sheeters and laminating technology, you can achieve basically any dough and bread structure desired. The Bread line concept enables the combination of traditional bread types with artisan bread types, all produced on one sheeting system.

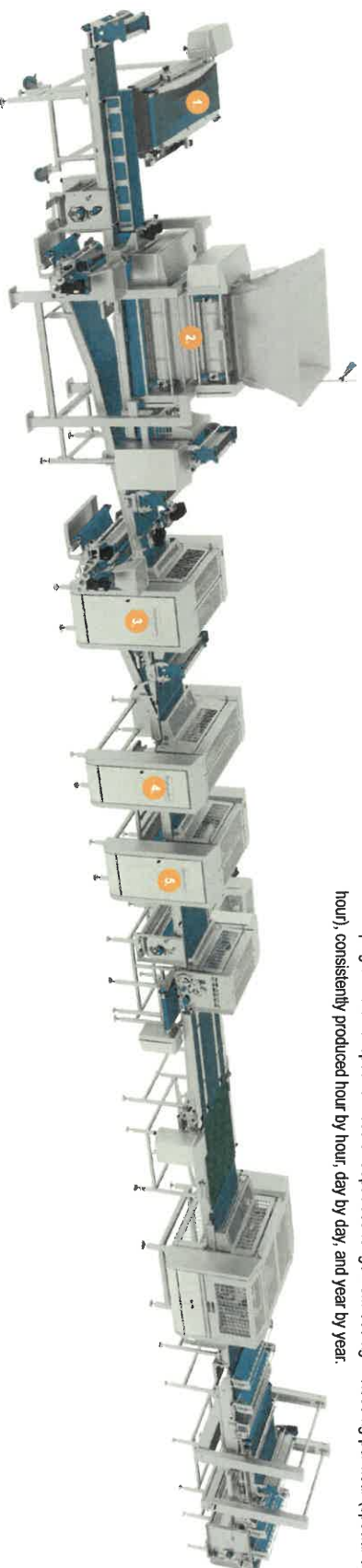


Added value

- ✓ High flexibility because a wide range of doughs and product can be processed
- ✓ Low dough tension as a result of several technology improvements
- ✓ Consistent dough quality as a result of numerous improvements
- ✓ Efficient production thanks to fast maintenance, cleaning and change-overs
- ✓ Hygienic design upgrade
- ✓ Exceptionally high dough length and - weight accuracy

All these values result in a proven decreased cost of ownership.

Variation and versatility



The Rademaker Bread line is developed to produce a wide assortment of breads for mid-sized to industrial bakers. Whatever bread product you need, our Bread line can make it. The line consists of a number of innovative and versatile modules on wheels that can easily be positioned in any required order. This flexibility is key when it comes to configuring your application and managing production efficiency. When you choose the Rademaker Bread line, we will provide you with the best solution for your situation, even if this means developing a customer-specific module. Capacities range from 500 kg – 6,500 kg per hour (special execution: up to 9,000 kg per hour), consistently produced hour by hour, day by day, and year by year.

Sheeting process

The Sheeting process of our Bread Line consists out of the following processes:



1 In-line Dough Recycling System: rework dough is directly transferred back into the pre-sheeter. This way no dough is lost during the production process.



2 Bread dough pre-sheeters: generate stress-free dough sheets of any type with excellent weight control at the highest quality. The dough structure is untouched because of the dough friendly handling. We have several solutions available, depending on dough type.



3 Quick Reducer: the first reduction of the dough sheet's thickness is done by a Quick Reducer. Due to our unique non-sticking rollers, we are able to process dough types with high water percentage.



4 Cross roller: to compensate the one-sided reduction of the reduction stations and to adjust the dough sheet in thickness. The dough sheet will reduce in thickness and increase in width.



5 Reduction station: the dough sheet is reduced to its final thickness while passing through the rollers.



Our tray loading systems are able to precisely load the products onto the baking trays, peel boards, baking bins or transportation belts. We have developed several systems to provide a solution for every specific situation.

Tray loading systems

Various make-up processes.

The production processes shown on this page are just a fraction of the possibilities the Rademaker Bread line can offer.

Width cutting



Spreading conveyor



Weighing module



Moulding



Rounding



Baguette pointing device



Cutting



Degassing



Topping/decorating



Special moulding



Toast bread module



Toast bread module 4 pieces module



Producing the variety of your choice

Versatility is key in the Rademaker Bread line. Thanks to the modular set-up, this flexible production line allows you to produce a wide range of breads by simply exchanging one or more modules. A good recipe is the key to your bread quality. As it is our quest to produce a wide variety of high quality breads, the Bread line is capable of handling a large variety of recipes, including those for breads with a high water percentage (strongly hydrated) or low salt content, with bio ingredients, or gluten free, pre-fermented, Levain, mother dough, biga and sponge dough. All these recipes result in a very wide range of bread products. If you want to produce tin breads we focus on achieving a fine and consistent crumb structure, as with the high-water absorption artisan breads we focus on obtaining a light, authentic and open bread structure. Whatever bread product you desire to produce, our dough processing capabilities are second to none.

While our Bread line is developed to produce an extensive and international assortment of breads, we can take the extra step and apply one of the major strengths of Rademaker, namely developing customized modules tailored to your specific needs.

On these pages an overview of the most important bread shaping methods.

Cut breads



Rolled breads



Rounded breads



Tinned breads



Glutenfree breads



Efficiency & Functionality

The overall set-up of the Bread line is designed for high production efficiency. This is enabled by fast and easy removable tools, reduced change parts, exchangeable scrapers & bins and various options to minimize required cleaning efforts.



Efficient, error free operation and tool change-over is realized by applying Unique Fit Tooling. Because of the lightweight and more compact tooling, handling and detaching the tools is as easy as possible and can be done by one person. No other devices are needed to help the operator change the tools.

Dough recycling system

Rework dough is created when the dough sheet is cut to its final width. This rework dough is directly transferred back into the pre-sheeter by the new Rademaker dough recycling system. After detailed testing and analyzing this new recycling system was developed. To achieve the highest dough quality, it is of huge importance that the rework dough is placed exactly underneath the new dough batch. The dough recycling option brings the Rademaker Bread line to a highly effective and cost saving level.



New Moulding table

A moulding table is needed to produce rolled bread types. The outstanding performance of the Rademaker moulding table remains untouched. However, ease of cleaning and fast changeover is realized by creating optimal accessibility from both sides. Safe operation is achieved by use of double handed operation. Because a single operator can move the upper belt quickly and ergonomically, changeover efficiency improved.



Lane cutting & spreading

Cutting the dough sheet in lanes and spreading these dough lanes is now done by one module. It consists out of light weight, unique fit tooling. One set of cutting knives is developed to seal and cut the dough. Very high manufacturing accuracy enables us to decrease the pressure on the conveyor belt and in so doing significantly increasing belt life time. Change over time is reduced by applying the spreading tools in a different manner.



Box Motion Cutter

Six different cutting modules are captured in one versatile and accurate dough cutting machine. Cutting & separating on a belt transfer, better alignment



and separation of cut products. But also cutting & stamping on a cutting table, with or without seal time technology. The machine is designed for silent operation and consists of the highest level of hygienic design. Fast and ergonomic tooling change overs is realized by sliding tools sideways onto a tooling trolley. High visibility and good accessibility for cleaning is achieved.

Functionality

Rounded edges and fully opening covers on both sides of each unit are applied throughout the system. The best possible accessibility and visibility of the process is achieved by optimizing the space between the working stations. Tools that are attached to the machine are mounted with standoffs. A minimal distance of 1 inch is applied to optimize cleaning activities. Overall safety is guaranteed by the application of safety locks. Lightweight safety covers with extra handles enable ergonomic operation.



Elimination of falling heights by minimizing the transportation height throughout the production line, it results in a stable and relaxed dough sheet.



An open design with high visibility on the process results in fast product set-up and procedure optimization.

Hygienic Design

Our Bread line is designed according to the highest Rademaker Sigma hygienic design standards. These guidelines are directly derived from various high-end requirements for hygiene & cleanliness such as the GMA standard and EHEDG recommendations. Elimination of recesses, cavities and dead corners is achieved. An open design enables easy cleaning without reducing the operator's safety. Belt lifters and retractable belt tensioners achieve accessibility for cleaning and inspection. The improvements result in reduced cleaning time, increased production time and strongly reduced maintenance.

Sanitary operation is achieved by using lifetime- or non-lubricated bearings throughout the direct product zone. All motors contain food approved H1 lubricants, this results in zero risk of lubrication contamination. To keep the rollers of the reduction stations as clean as possible, they are fitted with wear resistant roller scrapers. To achieve an easy to clean surface, the machine is executed with round edges, tubes, ducts, angled surfaces and a smooth surface finishing in the production zone.



Accumulation of dirt and dust is reduced due to the application of stand-offs.



Wear resistant roller scrapers to keep the rollers of the reduction stations as clean as possible.

Customer satisfaction is key

Based on 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!

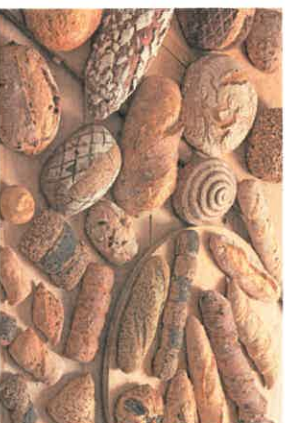
Unmatched 24/7 Service

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 laminator. 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

To be your partner for new product development and consultancy, we have, since 2006, opened the Rademaker Technology Centre (RTC). Here, the development process of a Rademaker production line starts. It features several pilot lines for any bakery product. The testing rooms are climate controlled, so the customer's production situation can be created. Rademaker technologists develop the products that the customers demand. Eventually, these products are translated into a Rademaker production line.



Rademaker Academy: training & sharing know-how

Technology know-how is one of the key items that is required when a production line is installed, and the production process starts. More specifically the detailed know-how on sheeting processes, production line operation and dough processing are often lacking. This lack of know-how can result in problems affecting the overall cost and time to market. But also, raw material suppliers who see the traditional bakery industry shift more and more towards sheeting technology require more knowledge. This is why the Rademaker Academy started: to preserve and share bakery knowledge through education and training.



Controls



Great care is given to the new user interface, the central interface size is increased to 22". The touch panel position can be easily adjusted to the desired working height. An iPad control is optionally available to enable remote operation at any position in the line. Our control platform enables OMAC based data exchange with neighboring (third party) equipment. Advanced data processing enables on-line monitoring and optimization of equipment efficiency. Fast start-up and reduction of flour usage are achieved due to the smart combination of process & recipe information. The existing cascade system & automatic belt speed adaptation (DDC / Dough loop) is adapted to fit the increased hygiene demands but remains part of the machine design. 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 end of the line, the beginning of the line is ready for cleaning or for the production of another product.



Continuous innovation and innovation

10 Years after the formal start of the Rademaker Research & Development (R&D) Department, it moved to its own building, the Rademaker R&D Centre. It contains a dedicated working space for R&D, where modules, lines and processes are tested. The R&D Centre underlines the leading position that Rademaker occupies in the market in the field of innovation. Besides the fact that it expresses our dedication to development and innovation, it is also a promise. A promise to keep working on improving the machine performance and finding innovative, effective production solutions. To prepare ourselves for the future, setting up our independent R&D department is an important impulse. This way we can pro-actively approach the market and give founded advice towards our customers.



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 craftsmen and no concessions are made regarding materials used in our production lines.



Handling system & Turn-key solutions

The Rademaker Handling System is developed to process a wide variety of (artisan) bread products for mid-sized to full industrial bakeries. Gentle product handling is achieved at high output and great flexibility is offered to handle many different bread products on one system. We can also deliver a complete bread production solution. 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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