

Laminating for the global market

LAMINATING LINES AND DOUGH SHEET PLANTS ARE IMPORTANT PARTS OF A LINE FOR FINE BAKED GOODS. **PAUL GROENEWEGEN**, MANAGING DIRECTOR AT RADEMAKER DEUTSCHLAND GMBH, A SUBSIDIARY OF RADEMAKER BV FROM CULEMBORG, THE NETHERLANDS, EXPLAINS TO BAKING+BISCUIT INTERNATIONAL THE DEVELOPMENT OF THE MARKET



++ Paul Groenewegen
Managing Director at Rademaker Deutschland GmbH

+ bbi: Rademaker actually comes from the fine pastry lines sector. What has happened there in the past few years or even decades with regard to laminating plants?

+ Groenewegen: Hygienic design has become a great topic! In general we noticed that the market has a greater interest in ergonomic design and easy handling of tools. Energy saving drives have nowadays become more and more applicable. And you see an increase in capacities. That is both by higher stroke numbers and by wider lines in terms of working width. Servo drives have become significantly important, due to higher expectations on speeds, shorter cycle times and higher product position accuracies. And then there is the integration of weighing technology in dough/pastry plants and of vision technology in order to determine and adjust product positions.

+ bbi: That's a lot! So how, for example, has the control of the plants changed?

+ Groenewegen: As a result of marketing research at customers who are working with our plants – for example talking to plant operators and maintenance staff – we have made

serious steps in making the line operation much easier via Touch Screen or even the mobile Wireless Touch Panel. Images and icons are nowadays easier to understand.

+ bbi: What do you mean by easier? Can you give me an example?

+ Groenewegen: On our Touch Screen we show only the relevant information necessary for the person who is operating the TS. We have different levels for operators, supervisors and maintenance staff. All of them need their own specific (relevant) information. While he is running the line during production, an operator will see only the functional information and push buttons he needs for small adjustments. There is no needless information. A supervisor is able to download (management) relevant info regarding production data. Maintenance staff is specifically interested in the technical details like running hours of drives for instance.

+ bbi: Broadly speaking, is there a trend towards larger monolines or rather to smaller and perhaps also more flexible plants?

+ Groenewegen: On the one hand there is definitely a trend to larger capacities but that does not mean monolines. The market still requires – perhaps even more than before – flexibility due to unpredictable consumer market trends. Some of our traditional markets like for instance the German market are mature. They have their own clear specifications and requirements in terms of technology, technique and high capacities. Next to those our mother company Rademaker BV is doing business in emerging markets. In a mature market, where a luxury bakery product group for consumers, like for instance laminated pastry, has been well established, it still has to develop a larger market share in emerging markets. That means there is a demand for larger plants in mature markets, whereas in emerging markets a demand for smaller plants is more typical. As a result Rademaker has developed, for example, equipment for medium sized bakeries based on smaller product runs and regular changeover times in order to enable this type of company to take a first step to automation. The average dough capacity ranges from 450–850 kg/h.

+ bbi: Where is the biggest sales market for laminating plants?

+ Groenewegen: For Rademaker, laminating equipment has become a global market activity more than ever before. That means that our traditional markets within the EU, like for instance Germany, UK or France, and America and Asia, are without any exception still key markets.

+ bbi: By the way, are laminating plants for the Asian or Russian market built differently to those for the European market?



++ figure 1

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++ figure 1
Laminated dough after the reciprocating belt

+ Groenewegen: Rademaker has a clear view and philosophy on designing and building innovative food and bakery equipment. We have established a strong brand image over the past 35 years. We simply cannot afford to supply other standards or even consider different standards unless our customers specify certain machine specs with regard to electrical or mechanical parts. In that respect Rademaker also has to maintain its well-known flexibility for supplying custom built equipment most of the time.

+ bbi: Let's be a little more technical: A classical laminating unit folds the dough continuously on the conveyor belt and thus determines the laminating plant's L, U or Z shape. Are there also other systems? And what advantages and/or disadvantages do these have?

+ Groenewegen: Beside the continuously laminating sections by means of a reciprocating belt or lapping station we also supply a cut & stack laminating section. This avoids pastry hanging in a lapper and stretching it out whilst laminating. Cut & stack is particularly suitable for soft dough slabs to be retracted as an individual slab without deforming, like for instance croissants and Danish pastry. The (chilled) butter or margarine layers and firm dough layers are stable enough to maintain a proper shape. A cut & stack laminating unit as the final laminator section allows one to minimize side trimming – and therefore scrap dough – due to the fact that the laminating width can be accurately adjusted or determined based on the required final dough width on the make-up or croissant plant. For dough capacities higher than 2,500 kg/h, laminating buffer systems are applicable in order to compensate for extremely high laminating belt speeds.

+ bbi: So what kind of dough would you use preferentially on a reciprocating belt?

+ Groenewegen: Due to their characteristics, softer pastries and bread dough are more suitable for continuous lamination.

+ bbi: I would say the first thing one thinks of in relation to laminating plants is croissants. Which other baked goods are also produced but would not spring to mind immediately?

+ Groenewegen: You have a lot of possibilities: cracker dough, Danish pastry, toast bread, bread loaves, milk rolls and both Scottish puff pastry as well as French puff pastry. ▶

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++ figure 2
A cut & stack laminating section

+ **bbi:** Which plant is your best seller?

+ **Groenewegen:** This is hard to say. Rademaker has a large portfolio based on different product groups like for instance pastry laminating equipment, bread sheeting equipment, pie lines, depositing equipment, which is mostly custom-built for very different applications, pizza topping equipment, universal make-up lines and croissant lines. All of them contribute to the overall performance of Rademaker Deutschland. One year the bestseller is the bread lines and pizza equipment segment, the next year it is laminating equipment. There is a good overall balance.

+ **bbi:** So as one of your company segments, the company manufactures dough sheet plants for focaccia, baguettes, bread rolls and other soft doughs. What's new in this area?

+ **Groenewegen:** As mentioned above, weight accuracy, i.e. weighing and cutting in multi-lanes, is an important factor. Rademaker uses its own patented weighing technology, based on dynamic weighing of continuous doughflow. Then the double-chunker stress-free sheeting system for dough with a high water content (dough yield of approx. 185–190) and especially for long-time dough methods is very innovative. And pre-fermented dough is used more and more often on dough sheet plants.

+ **bbi:** In fact dough sheeting plants are also a question of money. From what point is a dough sheeting plant worthwhile? I.e. what is the hourly production capacity of the dough sheeting plants offered by Rademaker?

+ **Groenewegen:** That depends entirely on the philosophy of a company regarding ROI (return on investment), production

efficiencies and current reject numbers in a semi-automated or manual operation, but also on market factors, for example if it is a mature or emerging market, labor costs, availability of workers, level of workers, cost of raw materials etc.

+ **bbi:** In terms of laminating plants you talked of the importance of hygienic design. What is the situation with dough sheeting plants regarding this topic and thus in relation to the cleaning of such plants?

+ **Groenewegen:** Although perhaps not known to all of the bakery industry, Rademaker has already been designing and building wash-down equipment for more than 20 years. Our experiences with, for example, pie manufacturing equipment in the meat processing industry and the pizza (topping) processing industry has given us a huge advantage compared to other bakery equipment suppliers. For instance, the Rademaker Sigma laminating concept and the Crusto bread line concept are standard in a wash down execution. During the iba trade fair we introduced a newly designed wash-down croissant machine.

+ **bbi:** And the last question: What will the dough sheeting line of the future look like?

+ **Groenewegen:** The marketing research and R&D activities of our mother company Rademaker BV are focused on what customers are looking for, so at the end of the day the market will determine what a dough sheeting line should be designed for. Our customer's requirements and specifications are driven by their customers and finally the consumer needs.

+ **bbi:** Mr. Groenewegen, thank you for the interview. +++

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