

C is for cookie

LATEST ROBOTICS TECHNOLOGY HELPS TO PACK NINE MILLION COOKIES A DAY, FIVE DAYS A WEEK, FOR THE NORTH AMERICAN MARKET



From humble beginnings in 1951, a two brother, two room operation in Hamilton, Ontario, has grown into Voortman Cookies Limited which is now a multi-million dollar enterprise with 500 employees in a state-of-the-art, 300,000 square foot facility in Burlington, Ontario. Packaging more than 50 varieties of tasty cookies and wafers, Voortman recently purchased a brand new Delta robot pick & place packaging line from Sigpack Systems AG, Switzerland, a Bosch Packaging Technology company. The new line is capable of packing more than 80,000 freshly baked cookies in just one hour. 14 Delta robots use a gentle and precise vacuum to pick up individual, freshly baked cookies from the conveyor belt and transfer them into plastic trays that are supplied by a tray denester. The Sigpack Systems Delta robot XR31 provides precise placing and very gentle handling of the 17 cookie varieties currently in production. Switching from one packaging format to another takes only a few minutes, as only the software recipe needs to be changed.

The cookies are taken over directly from the cooling channel at a product rate of 1,320 products/min. The trays are fed on two chain transports, aligned on the right and left of the product belt at a maximum tray rate of 65 trays/min. The chain moves in the opposite direction to the product belt ("counterflow principle"). The line comprises 14 Delta robots (from which 2 robots are for stand-by, but normally the work load is distributed over all 14 robots). The maximum number of pick&place cycles per minute per robot is 130. Both robot and line controllers are proven industry standards: adept for robots, Allen-Bradley PLC as line controller. For monitoring purposes, there is an in-robot controller integrated vision system and customized application software from Sigpack Systems for quality control and statistics. Output capacity is max. 65 trays/minute (depending on tray

format and number of cookies per tray). Up to 18 different combinations of cookies and trays can be handled; main differences being the number of rows per tray (1-3), the number of products per tray (up to 54) and the orientation of the products in the tray ("on pile" or "on edge"). The pick-up system consists of vacuum grippers suitable for on pile and on edge loading.

The robots are programmed to only pick up products from the conveyor of a specific size. All other cookie sizes are ignored and continue down the conveyor to an external reject bin. Each of the 14 robots has its own vision system to scan the product size. Once the trays have been filled with cookies, they are then transferred to a Sigpack Systems HBM flow wrapper that wraps about 120 trays of cookies per minute. +++

++ figure 1
Intelligent and efficient teamwork of the Delta robots

++ figure 2
View of the cookie packaging line comprising 14 Delta robots

++ figure 2
Gentle on edge placing – up to 130 times per minute



International, Innovative, Inspiring

Hygienic design

The Sigma laminator is designed to be hosed down with hot water and foam, meeting all the highest hygienic standards. All areas are easily accessible so that cleaning can be performed as efficiently as possible.

All mechanical parts in the production zone are made of stainless steel or food grade non-corrosive materials.

Flexibility

The Sigma laminator can be designed to be anything from a block processor to a fully automatic laminator or even a combination of both. A very wide range of dough's can be processed on the same line.

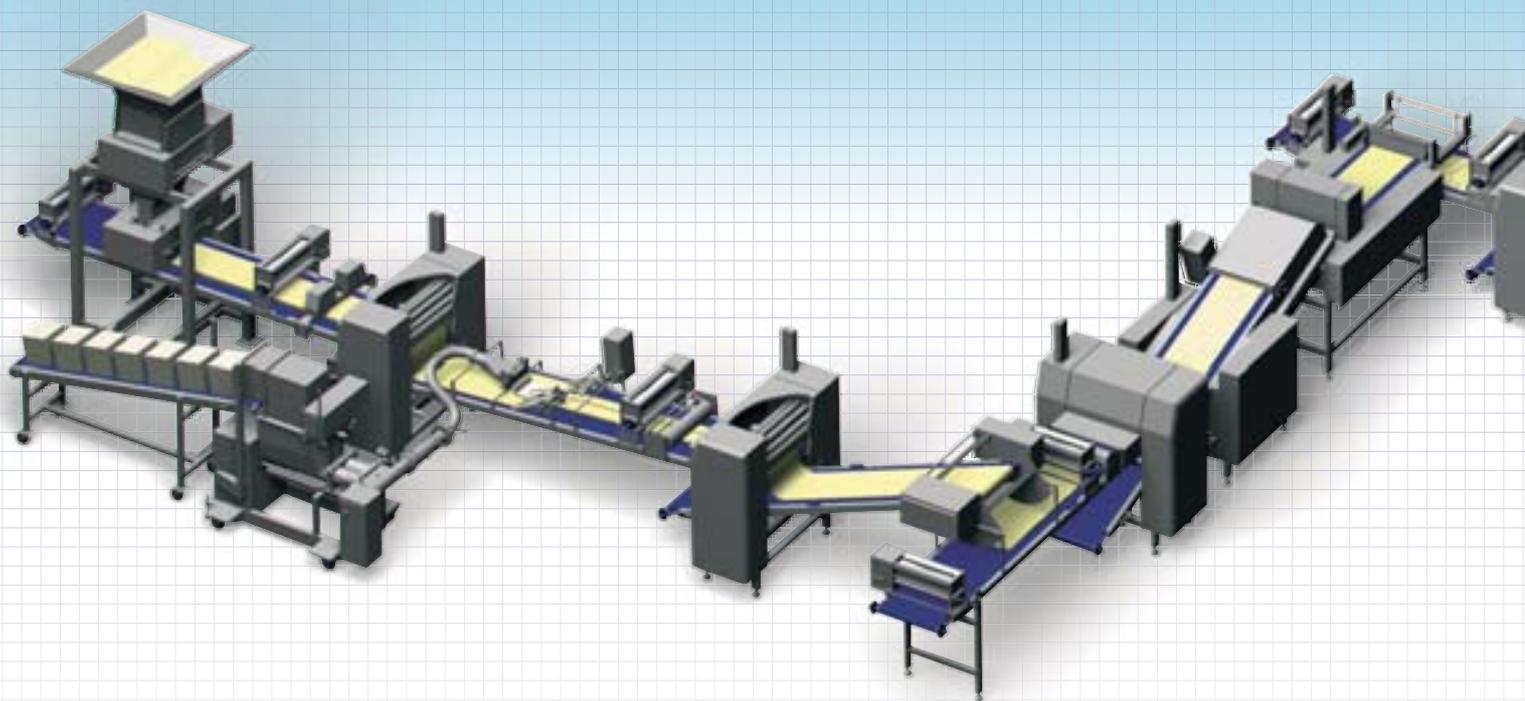
Depending on the configuration the Sigma laminator can be delivered within three to four months.

Outstanding product quality

The Sigma laminator produces the best laminated dough in the industry today. High capacity low stress dough with a perfect gluten structure due to the use of our unique dough flow control system in combination with a high speed cross roller and the use of a resting/cooling tunnel.



Setting



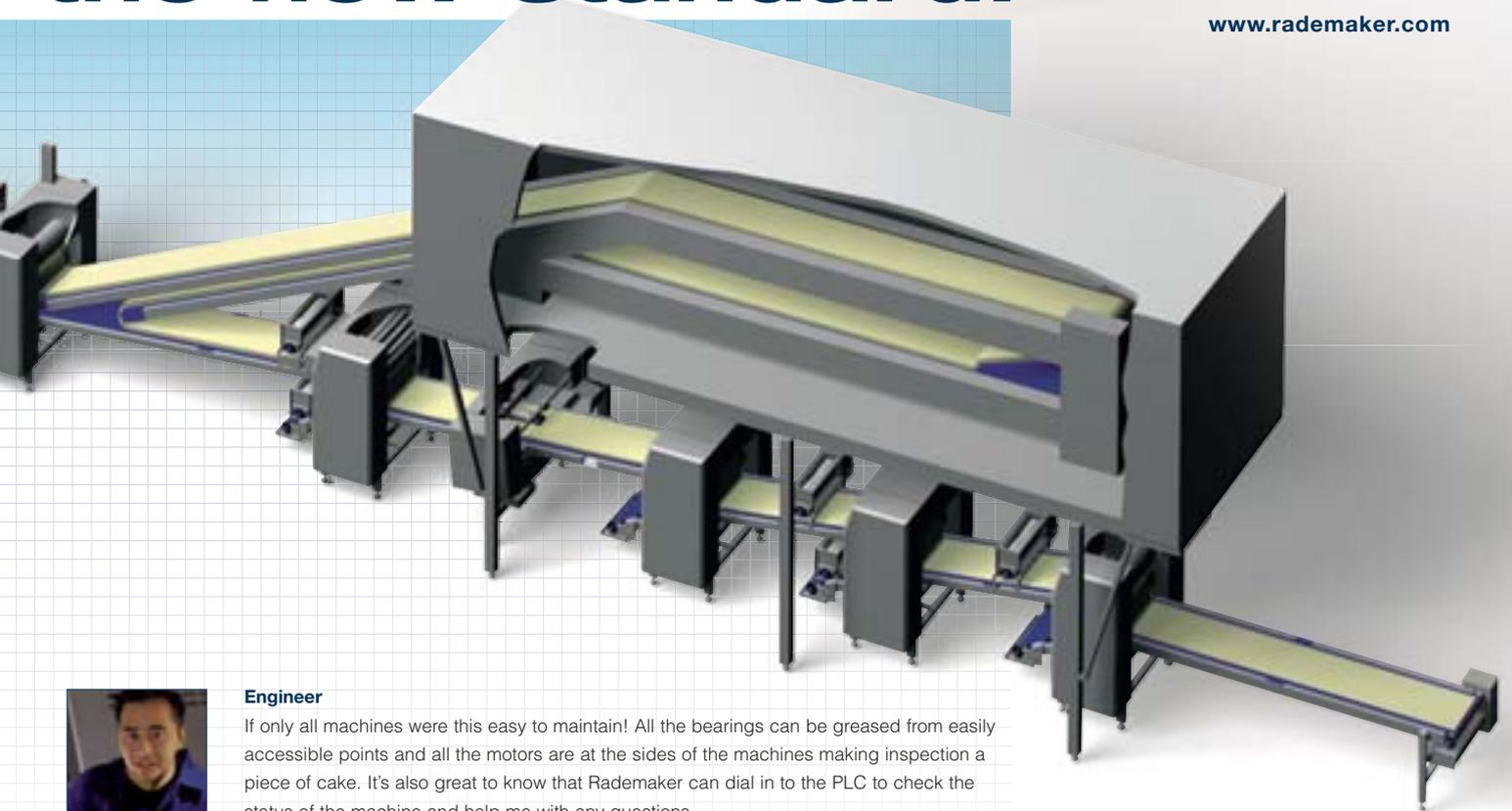
The New Rademaker Laminator - Sigma

Rademaker has developed the most advanced laminator in the world. It is designed to meet the highest standards set in the food industry today, whether they be product quality, hygienic design, mechanical efficiency or user friendly.



the new standard!

www.rademaker.com



Engineer

If only all machines were this easy to maintain! All the bearings can be greased from easily accessible points and all the motors are at the sides of the machines making inspection a piece of cake. It's also great to know that Rademaker can dial in to the PLC to check the status of the machine and help me with any questions.



Line supervisor

The Sigma laminator is very easy to operate, with its user friendly operation panel. Thanks to the PLC system, changing from one product to another is very easy because all the speeds and thicknesses are changed automatically, even the flour dusters switch themselves on and off.



General Manager

This Sigma laminator is real value for money. Designed to work 24 hours a day, 7 days a week with very low maintenance costs and a guaranteed high level of efficiency. It never lets us down.

Rademaker