

# Tunnel ovens made in Sweden

THE ELECTRICALLY HEATED TUNNEL OVENS MADE BY SVEBA DAHLEN ARE STANDARD IN THE BREAD FACTORIES IN SCANDINAVIA. AT IBA 2009, THE SWEDISH COMPANY WILL PRESENT A GAS HEATED TUNNEL OVEN



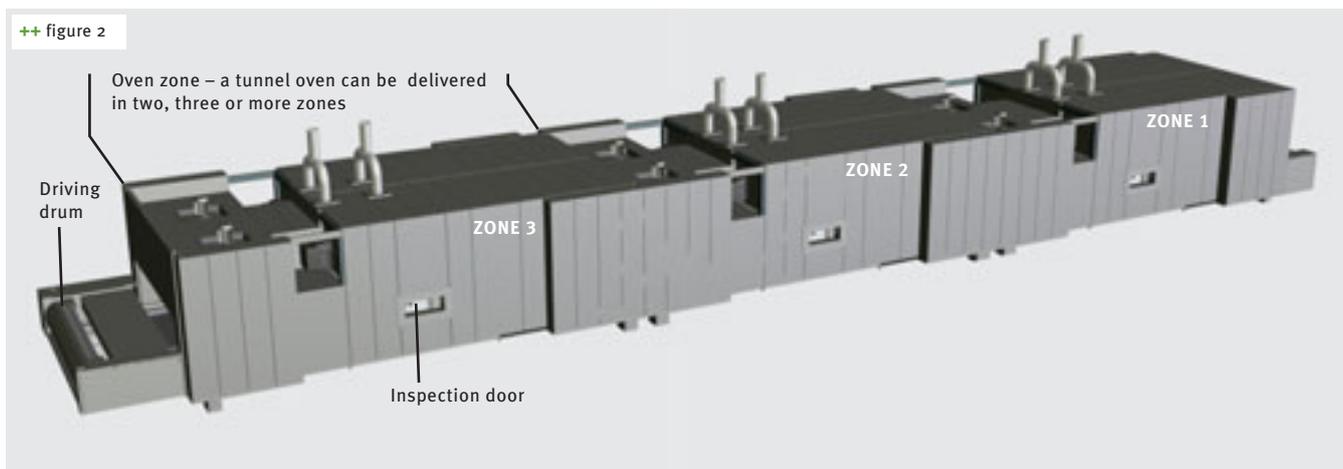
**++ figure 1**  
Despite their shape (round, square or oblong), all bread rolls made in Lidköping are made in part or completely from rye. The products shown are designated for the markets in Switzerland and Germany

**++ figure 2**  
New from Sveba Dahlen: indirect gas heated tunnel oven will be presented at IBA 2009

**++ figure 3**  
Separate burners for top and bottom heat

**+** Arvo Mäkitalo is chief of the Fazer production in Lidköping, Central Sweden. For approximately 10 years, the man from Finland has worked in Sweden for the Finnish company which recently increased its market presence with the takeover of the Swedish fresh bread division from Lantmännen. This takeover has had no effect on Lidköping or Arvo Mäkitalo in terms of production but it has in terms of logistics. Mäkitalo reports, "We now have to handle 350 dispatch tours a day compared to 120 previously."

The Mäkitalos staff numbers 200. The production takes place in three shifts, two over the day and one at night. The people working on the night shift work every night, but for two hours less than their colleagues from the day shifts. Mäkitalo explains, "This way people have fewer problems with their working hours. Working on different shifts is much more difficult." The products made at Lidköping include three types of cut bread and six types of rolls. All are intended to be sold in the supermarkets. The entire product range is made



with rye (partly or entirely); for some products oats are also used and some products are of organic quality. Besides the Swedish market, Lidköping also delivers selected types of bread rolls to Switzerland and organic rolls to Germany. The total production capacity at Lidköping is 50 tons a day, 85% of which are rolls.

All rolls are baked in the electrically heated continuous ovens by Sveba Dahlen. Electrical power is a cheap source of energy in Sweden compared to gas or oil because of the hydro and nuclear power plants. Mäkitalo reports, "The power consumption per kilogram bread or rolls is much lower when using electrical energy." The Sveba ovens are equipped with separately controlled radiators for top ▶

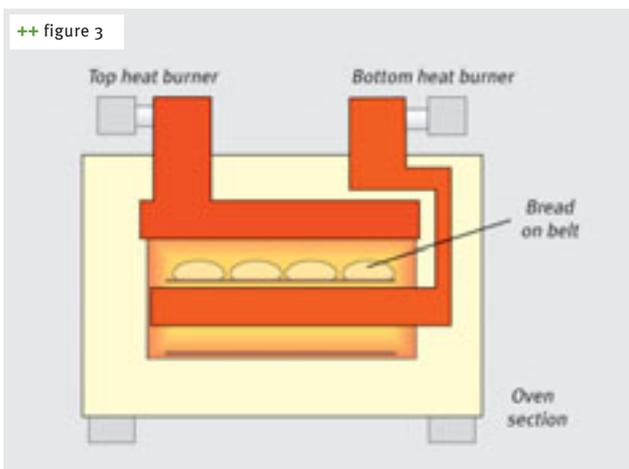
### Fazer Bageri in Sweden

At the beginning of 2009, the Finnish Fazer Group took over the "Lantmännen Farskbröd" production of fresh bread production from Lantmännen in Sweden. This deal was approved by the respective competition authority. The bread is distributed in Sweden under several brand names with "Bageri Skogaholm" probably being the best known.

For Lantmännen, the sale of the fresh bread production was part of the company's strategic focus on frozen baked goods. With the takeover of a total of three factories from Lantmännen (the factory in Örebro was not included in the takeover), the Fazer Group, which up to then had operated only one factory for fresh bread and rolls and another factory for flat bread in Sweden, will attain the number 2 position on the Swedish bread market. The most important competitors are Pagens and Polar-Bröd. In 2007, Fazer Bageri had a turnover of about 56m Euros in Sweden compared to 135m Euros for Lantmännen. For the next three years, investments to the tune of about 50m Euros have been announced.

In 2008, the Fazer Group consisting of Bageri, Confectionery and Amica (Food Service) reported a turnover of 1.16bn Euros (pro forma 1.5bn Euros). The bakery division contributed 365m Euros to that figure. +++

++ figure 3



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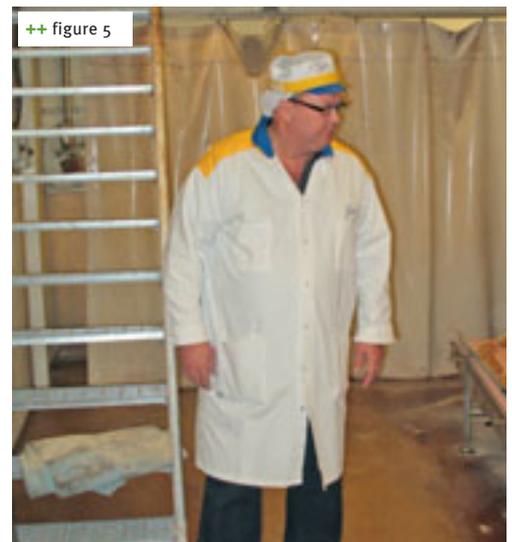
++ figure 4

**++ figure 4**  
The most important product at Fazer, in Lidköping, is a rye roll based on a Finnish recipe which has been adapted to the taste of the Swedish consumers

**++ figure 5**  
Arvo Mäkitalo, Production Manager at Fazer, Lidköping

**++ figure 6**  
Nice to look at: Bread rolls with a pattern of punched holes are sprinkled with flour which is then brushed off. The flour remains in the holes. After baking, the roll looks like a little fly agaric.

**++ figure 7**  
Fazer in Lidköping is specialized in the export of square rolls

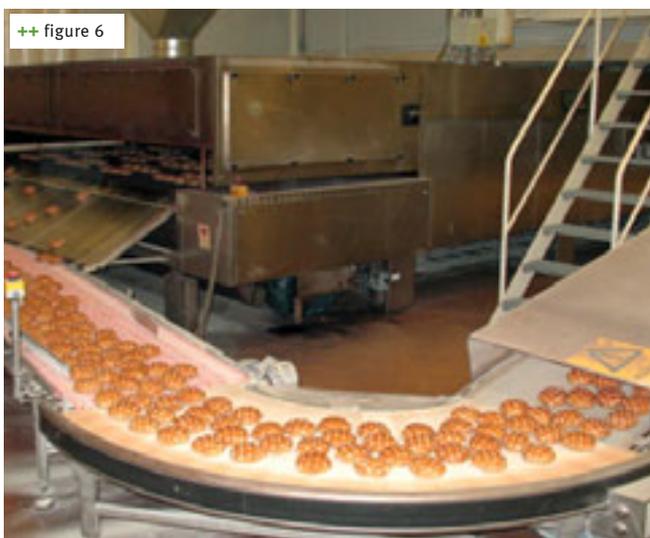


++ figure 5

and bottom heat in five to six zones, depending on the type of oven. When baking rolls, fans are not needed for air circulation. Steam is introduced externally, and according to Mäkitalo, there are hardly any downtimes and only minimal maintenance and repair times. “The ovens are sturdy and easy to control. We have no more than two to three mechanical repairs each year and just an annual complete check up of the entire plant.” For the older ovens, the temperature in the individual zones is controlled manually; the newer ovens all have PLC. Fazer has developed a system to control the heat inside the oven via thyristor control (a type of voltage control where the load voltage is regulated by thyristor phase control).

For many years, Sveba has specialized in electrically heated tunnel ovens; now there are ovens with indirect gas heating also available from the company from Fristad. The first oven of this type is now operating in Russia as part of a line for white bread loaves (batons).

The line was built, together with the subsidiary Glimex, as a turnkey project. The prototype oven has a length of 20 m. It has three zones which can be controlled separately. Its working width is 2.5 m. The hourly capacity reaches 2,200 pieces with a piece weight of 400 g and a baking time of 22 minutes. According to Jan-Olof Johansson, Industrial Oven Division Manager at Sveba, irrespective of the number of zones in the oven, there are two burners in each zone, one for the top heat and one for the bottom heat. Johansson explains, “Due to the high number of burners, the heat can be optimally controlled in each zone thus achieving high energy efficiency.” The oven is based on a modular design and can be set up in shortest possible time at the site. Depending on the specification, the oven comes with turbulence zones and wide or narrow wire belts. In very long ovens or in ovens in which heavy products will be baked, the usual belt drive can be reinforced with a second driving drum and a second motor. +++



++ figure 6



++ figure 7



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