

# Wide range of possibilities

THE LARGE BAKERY OF GEORG SCHMIDT IN HEIDECK, FRANCONIA, GERMANY, IS AN EXCEPTIONAL COMPANY IN MANY RESPECTS



**+** Since all three children of the owner are interested in continuing the business, owner Georg Schmidt has fine tuned his bakery so that it is ready for the future. This includes investment into a 10-deck thermo-oil oven, by Heuft, which is heated with wood chips.

With a total baking area of 120 sqm, provided by 10 levels on top of each other – the new oven in the Schmidt Bakery is something to look up to and not only optically. Schmidt explains: “The controls of this oven are like a keyboard. After we have learned to play on it, the results turn out to be superior. Our breads are developing a wonderful crust and the rolls are crisp and stay fresh for a long time. The oven reacts very quickly, up to 1.5°C per minute when a reduction in heat is required. This makes the oven very flexible.”

The oven offers many possibilities that can influence the baking atmosphere. The top and bottom heat of each deck can be individually controlled. According to oven manufacturer Heuft, the temperature difference of two adjoining hearths can be as much as 70°C. Each of the 2x6 m decks is equipped with two turbo zones and an active steam removal so that the hearth can be quickly and easily “flushed” with air. This results in the baking atmosphere always being perfectly controlled.

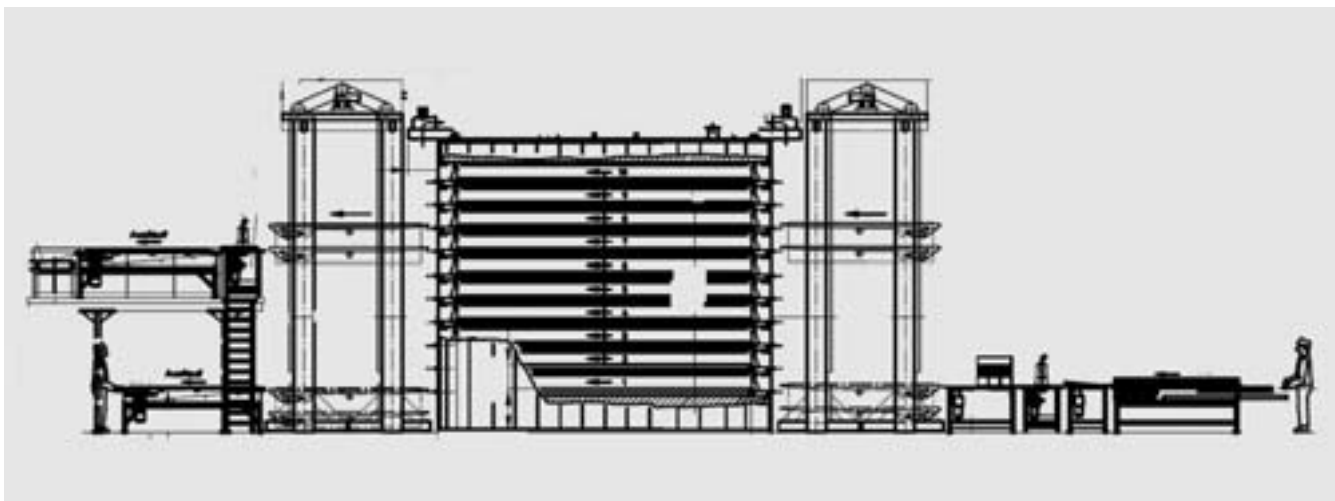
This was one of the key reasons why Georg Schmidt opted for an oven where the hearths are not loaded and unloaded



stepwise but rather all in one movement. Schmidt reports: “My oven must operate under defined conditions at any time. This is the only way to produce quality, which in turn is what pays. When an oven is loaded step by step, the climate inside the hearth is blurred between the steps because there is no clear separation.”

Double loaders are required to achieve the complete loading demanded by Schmidt. One loader placed in front of the oven removes rolls and other dough pieces from wooden peel boards, whilst bread loaves proofed in baskets are deposited manually. Schmidt explains: “This is less exhausting than the handling of large rack wagons. Added to this, it serves as another quality control stage as employees handle each loaf directly. The manual loading takes about 2-2.5 minutes, the actual feeding process only 30 seconds.”

The second loader is positioned behind the oven and handles the unloading of the deck oven. This is also a double loader which transfers the baked goods to a conveying belt system from where they are moved on to the packaging section. In the case of one of the loaders being out of order; the oven can of course be loaded and unloaded from one side. For special cases or for emergencies there is an additional loading table positioned behind the oven. This table is currently used for maneuvering the large pizzas which travel on baking paper into the oven.



Virtually everything else baked in this oven is moved on hinge plate belts and without pans through the heat. The small range of panned bread is produced in two old thermo-oil deck ovens from Hamburg. Pretzel products are made in another oven supplied by a Parchim-based company. Kaiser rolls are the only product still baked in a rack oven. Everything else from the entire bread and rolls range now passes through the new oven. Schmidt reports: "With this oven we have achieved an in-

crease in quality very quickly." This quality is what makes the difference in competitive terms. Approx 20 bakery sales outlets sell fresh rolls exclusively. There are no par-baked products to be baked-off on site but only freshly produced baked goods. Each outlet receives fresh products four times a day. The outlets are situated within a radius of 35 km. In rural areas this is a viable distance which does not impair the freshness of the products. 16 of the bakery outlets have a coffee bar. As ►

++ figure 1

Unloading section of the 10-deck oven, with its small footprint and 120 sqm baking area

++ figure 2

The oven is loaded and unloaded with a double loader that can fill and unload the entire baking area of one deck with one movement. When baking rolls, two double loaders can handle up to seven hearths, one on each side of the oven

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++ figure 3

a result, pastries and snacks have a large share of total sales. Jörg Schmidt, one of the owner's sons, is responsible for the pastries range. He has been working in the company for six years. His major success is a range of home-made ice cream. His brother Michael is still studying food technology in Bremerhaven. He will later manage the bakery. Their sister is currently still in High school. She plans to study business and economy. She is already involved in the sales activity, supporting her mother.

This family constellation was the reason why Georg Schmidt has continued with this comprehensive investment program. The production hall was expanded by 1,000 sqm and is now 3,500 sqm. At the beginning of February 2007, the new oven was delivered together with a wood chips furnace for the thermo-oil supply for all ovens. Georg Schmidt has invested more than 0.75m Euros in the environmentally-friendly technology. However, he is not an environmental activist but rather a person who computes clearly not only in cents and Euros, but also in the future of his children and the



++ figure 5



++ figure 4

joint company. This commitment to the environment is also a marketing tool.

The Schmidt bakery emits about 1,100 t of CO<sub>2</sub> less each year due to the use of wood chips. In order to heat the total baking area of 200 sqm, an annual consumption of 70 cubic meters of wood chips are required. The chips are compressed and subsequently combusted in a special furnace at controlled temperatures. The equipment operates fully automatically. Schmidt explains: "Sometimes, I check the furnace only once or twice a week." First of all, the flue gas heats the thermo-oil before it is cooled down in a heat recovering unit to 130-140°C after which it is released into the atmosphere via highly effective dust filters in the chimney. The steam removed from the oven is also guided through the heat recovery unit in which the service water for the entire bakery is heated.

The wood chips furnace operates 24 hours a day as re-starting and shut down of the oven and the oil heating units would take too long. The excess energy is utilized by an ammonia unit where it is converted in order to cool down the raw material storage via buffer tanks around the clock. Schmidt reports: "These energy issues are still very new. We learn and we inch our way forwards slowly with each investment to finally reach an optimal concept. For us, it is important that the added value stays in the country. Our wood chips are supplied by a local producer." The economical benefit must not be underestimated. Compared to today's prices for oil, the savings are in the six-digit range. The entire plant will be paid off in less than ten years. By then, the next expansion stage, which comprises 1,000 sqm more of hall space, will be completed and Georg Schmidt will hopefully enjoy his retirement. +++

++ figure 3

Baked rolls and bread loaves are conveyed via a belt system to their respective packaging stations

++ figure 4

Key product from the bread range is a rustic mixed rye bread comprising 85% rye. A three-stage sourdough imparts the specific aroma

++ figure 5

The vapor not only escapes passively from the oven but is also actively sucked off so that the humid air inside the oven can be completely replaced by dry air



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