

The future has begun

NEARLY THREE YEARS AGO THE BAKED GOODS PRODUCTION UNIT OF THE BÄCKEREI MÖLK BURNT OUT ALMOST COMPLETELY. SINCE THE MIDDLE OF THIS YEAR THE COMPANY HAS BEEN PRODUCING IN A NEW BUILDING WHOSE FAÇADE IS NOT THE ONLY THING THAT LOOKS FUTURISTIC



++ figure 1

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The bread doughs move fully automatically towards the thermo-oil heated multi-deck oven from Heuft

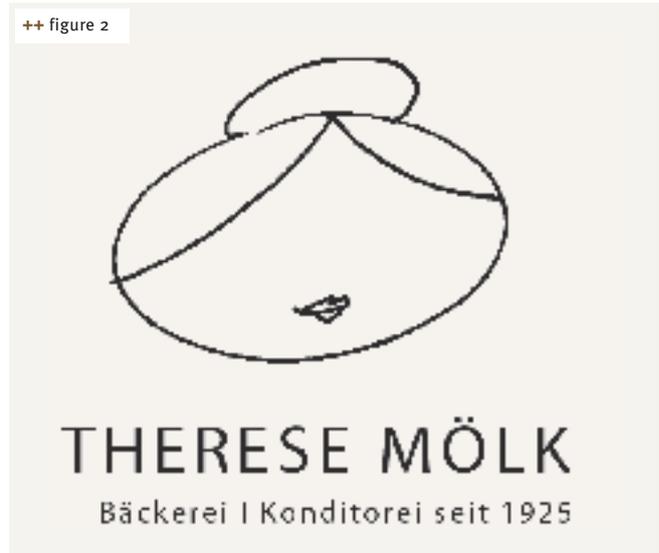
For three generations the Mölk family has operated an extensive network of 225 supermarkets and filling station shops in Austria under the “MPREIS” logo, together with 160 BAGUETTE bistros/café. Therese Mölk opened the first grocery business in Innsbruck/Tyrol in 1920 and this is regarded as the seed from which MPREIS has grown. The present-day company headquarters is at Völs near Innsbruck, where the company’s own meat factory and bakery are also located. Therese Mölk had already founded her first bakery in 1925, and baked goods manufactured by the company itself have been regarded since then as an indispensable part of their identity, a unique selling point that emphasizes their strong regional alliance to the province of Tyrol. The bakery’s Business Manager is Mathias Mölk, under whose leadership an entirely new bakery has now come into being after the previous factory fell victim to the flames in the spring of 2011. The new production unit supplies an entry level price range and special breads for the MPREIS shelves as well as a product range at the level of high-quality chain stores to baguette vendors and their baking ovens. The “Therese Mölk” brand was also revived for this channel to underline the fact.

According to Mathias Mölk, the family drew up a series of requirements for the new building in advance of the planning. These related on the one hand to the products: no baking agents other than enzymes, and long-time methods for the doughs to allow flavor precursors and flavors to develop. The long-time method stabilizes the binding of water at the same time, thus promoting freshness and shelf life. On the other hand the requirements related to the building and equipment, which were required by the specification catalog to have durability, sustainability and CO₂ neutrality.

Much has been achieved in the meantime. Production has taken place in the bakery since mid-2013 side-by-side with a meat factory, also newly built. A combined heat and power plant supplies energy, stores the resulting heat in reservoirs and makes it available for cleaning work in the two factories. The waste heat from the ovens is also reutilized in the same way, and because sufficient heat is available, the plan is for it to be output to the public grid in the future. A photovoltaic system supplies additional energy, and groundwater is used for cooling purposes. A project with Vienna University of

Technology is currently exploring how CO₂ neutrality can be achieved in four years at the latest. Mathias Mölk says “For us the important considerations when choosing the plants were robustness and thus a low rate of wear and small need for repairs. We also preferred fewer products per line instead of multifunctional plants, so as to achieve corresponding performances. In any case, only thermo-oil ovens could be considered for the baking process.”

Up to now three lines are in operation in the generously-sized production hall. The intention is for others to follow. Line 1 produces Kaiser rolls and baguette rolls, and line 2 supplies fully automated large loaves for the entry price product range but can also be used for larger amounts of special breads. Line 3 is available for dough sheet products and for high quality specialties that are in many cases made up by hand. The entire raw materials logistics including pre-dough preparation is from Bühler AG in Uzwil, Switzerland. Two linear transport systems from the DIOSNA Dierks & Söhne GmbH, Osnabrück, Germany, are responsible for dough preparation. A 10-row IndustrieRex bread roll plant from the König Maschinen Gesellschaft m.b.H. in Graz, Austria, is supplied by a combination of a metering station, two wendel mixers with a batch size of 200 kg, three dough resting stations for a bowl fermentation time of 20 min, and a bowl tipper from which the dough travels on a conveyor belt to the divider-rounder. It deposits up to 27,000 Kaiser bread rolls per hour or 20,000 baguette bread rolls per hour onto peelboards 3 m wide. At this stage the doughs already have a 45-min pre-proofing behind them in addition to the 20-min bowl fermentation, and a 3-h final proof is in front of them.



++ figure 2
The „Therese Mölk“ brand is again used for the BAGUETTE bistros

During this time a proofer from the Kaak Group, Terborg, the Netherlands, clocks them up and then down again unhurriedly on the peelboards through the air-conditioned atmosphere. Finally they are baked on the hinged plate belts of a thermo-oil heated multi-deck tunnel oven from the Karl Heuft GmbH in Bell/Eifel, Germany, which is 3 m wide and almost 15 m long.

The second linear transport system, which in its final expansion stage is designed for a batch size of 300 kg and a dough resting time of 60 min in the bowl, has ten dough resting stations. Because bread doughs are involved here, two powerful wendel mixers from the WV 400a type series ▶



++ figure 3
The third line produces dough sheet products and artisan high quality bread specialties



++ figure 4
Bühler supplies the entire raw materials logistics



++ figure 5
Bread loaves for the entry level price range weigh 300, 500 or 1,000 g



++ figure 6
Great importance is put on long time methods at the family Mölk

are at work here. Lines 2 and 3 obtain their doughs for large loaves and special breads, and for the products made up by hand, from this plant. The dough make-up of the fully automatic line 2 is undertaken by a Doughmaster from the Benier Nederland B.V. in 's-Hertogenbosch, the Netherlands, and here again the proofer is from Kaak. The entry price products leave it after 1 h and the special breads after 3 h, and move via the fully automatic link towards the multi-deck oven, also heated by thermo-oil and also from Heuft.

However, that is not the only option available for baking on this oven's hearth surfaces. Products that are deposited on peelboards by hand on line 3, for example, and were allowed to develop in a separate proofer, can be loaded in via a bypass. Finally the oven offers a third loading variant, this time via the exit table. It is designed mainly for pan clusters and egg pastries and pretzels deposited onto paper or foils. A total of twelve hearths, each with an area of 21.6 m², are available in this oven, of which four hearths allow separate control of the top and bottom heats. All the hearths are equipped with turbulence technology along the entire length of the hearth, and if necessary the hearths can be switched over to step-by-step operation instead of with a continuous feed.

Two thermo-oil heated twelve-hearth stone multi-deck ovens together with a loading plant stand ready for everything that is expressly described as a premium product and is to be awarded the seal of quality "baked on stone". A total baking

area of 60 m² is available in each oven, divided into four control circuits to meet the needs of the large variety of products that are to be baked. Here again the proofed goods are delivered on peelboards. A fully automatic loader, which handles the loading of 400 boards per hour, undertakes the feeding and baking fully automatically.

In this way line 2 offers a total capacity for an hourly performance of 3,500 breads each weighing 300 or 500 g, or 2,500 breads each weighing 1,000 g. Line 3 enables the production of approx. 1.5 t of premium bread per hour, depending on the make-up effort.

Production has been running for several months, not least thanks to the two advisers Konrad Mändli and Carl Ulrich Kreffter. Mändli, a Swiss food technologist with many years of experience as a production manager in large bakeries, assisted Mölk mainly in the planning phase. Kreffter, who is an engineer, stood in as an Interim Manager for production during the new build. Mathias Mölk, the landlord, can now turn his attention to the further investment projects. Equipping the confectionery and fine pastries unit as well as the production of bread for dumplings and breadcrumbs in the upper floor of the new building are on his list, in addition to a dough sheet line to manufacture bread and bread rolls and a donut line. On the other hand no decision has yet been taken on planning a kitchen that could supply midday meals to bistros and cafés. +++



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