

Bakery Bertschi, Kloten, Switzerland

You could say “what is baked at Bakery Bertschi flies around the place.” Bakery Bertschi in Kloten near Zürich earns part of its turnover from deliveries to airline caterers. The airlines only choose reliable suppliers for this. Of course, that is true of Bertschi, a craft baking company, too. They use new MIWE rack ovens. Before replacement, ten electric MIWE roll-in and five MIWE roll-in gas-fired ovens were used.

In 2009, the production operations moved to a new location near Zurich Airport and close to many of their key accounts. The company has developed exceptionally there in the meantime. “We made the most of the opportunities here and grew organically,” explains Markus Brantner, master baker and operations manager at the bakery. Roughly 500 customers are supplied with fresh baked goods and/or frozen goods from here. This includes the retail trade as well as airlines, hospitals and caterers.

Bakery Bertschi is originally from Zurich’s old town. They had a handcraft bakery there and gradually expanded their

delivery business. The following steps leading up to the relocation to a rented premises in Glattbrugg and subsequently to its own facility in Kloten were logical for Christian and Annemarie Hertig, the husband and wife ownership team. They always believed in the future and dared to build a new building. The Hertigs once worked for Bakery Bertschi. Later, they took over the bakery, and expanded it to its current size, with 6,400 square metres of production space on two levels. In spite of this, the company remains an independent, family-run company, with a craft orientation – and intends to keep it that way.

One look at the production facilities makes the reasons for the company’s lasting success clear: everything is focused on utmost quality. The well-trained and motivated employees and the technology used play a major role. “We always strive to find more ways to optimise our operations,” is how operations manager Brantner explains their approach – the ovens were one of those ways.

As one of the industry’s innovation leaders, MIWE is always looking for ways to incorporate energy optimisation and improve the baking results for its rack ovens in particular. →



Operations manager Markus Brantner.



The bakery's MIWE roll-in e+ bake almost round the clock.



Saving energy isn't everything. The baking quality and constant baking results were of key importance for Bertschi.

Bakery Bertschi also wanted proof. As a result, they installed rack ovens by two manufacturers in their production facility to test their advertising promises in practice, especially with their own products.

They also had an independent control authority measure the energy consumption. The electrical testers confirmed the results MIWE specifies for its roll-in e+. The new oven's energy consumption really is 20 kW lower than the existing MIWE roll-in, which Bakery Bertschi had been using since 2009. Instead of 72 kW, intelligent energy management means that they now provide the same baking results with 52 kW. As this reduces the power peaks, the report indicated that the company could save roughly 20,000 Swiss Francs annually with ten rack ovens.

That is particularly interesting for Bakery Bertschi, as they cannot pay attention to power peaks during production. They have to bake over 20 hours a day 365 days a year, to be able to produce what customers want and when they need it. At the same time, the experts at the bakery also point out that they didn't only purchase the new rack ovens for their low energy consumption, but because of the baking results too, of course. If the baking results are good, the energy costs are well-invested. Besides this, the experts were also soon convinced MIWE was the right choice after one look at the oven technology.

Roughly 50 percent of Bakery Bertschi's over 1000 different products are baked in rack ovens. This resulted in a minor challenge for MIWE engineers: the rack oven's control

system had to store 500 baking programs – until now, 250 baking programs had been the standard in MIWE's TC control system. As a result, the control system was expanded accordingly for Bakery Bertschi's rack ovens.

At the same time, the oven operators didn't have to get used to any changes in oven operation. Bertschi already used the TC control system for its previous ovens. TC stands for Touch Control, which means they are operated on a touch-sensitive colour screen. However, due to the company size and the many people using the ovens, the programs and access rights are clearly defined. "We want our baking to have a constant quality too," explains the operations manager. That is why he is the only one who can set baking programs.

He can do so on the oven control system itself or from his office PC, as the ovens are networked. That allows Brantner to control the baking activities at any time, and to review the baking processes during quality controls. To prevent flour dust entering the control systems, Bertschi relies on fresh air ventilation of the oven control systems. Of course, MIWE was also able to implement this customer requirement.

The Bertschi team used the oven replacement to review their existing baking programs. Virtually all programs were modified. Up to eight baking steps can be defined. Besides the temperature, parameters like air quality control – MIWE calls this aircontrol – the steam quantity and the draught can be set precisely.

According to Brantner, the slower temperature drop of the oven after insertion is clearly noticeable. That is due to the two steam devices which MIWE deploys in the electric version. That increases the heat storage of the oven. In addition to this, MIWE offers a stone wall as an option in the latest generation of the roll-in e+.

The hot air flows through it, which ensures additional storage heat and the resulting radiation energy. Compared with oil or gas burners, the electric heat exchanger can follow the temperature curve with a great deal of precision. "This is the most important reason for us to use electricity exclusively," explains Brantner. This slow temperature drop in particular at the start of the baking time has an extremely positive effect on the baking result. In conjunction with the powerful steam, this results in a good oven spring. However, it is even more important that the crust is formed rapidly and a lot of moisture remains inside the baked product as a result.

That keeps the baked goods crispy with a moist crumb. Baguettes, which are baked on perforated plates in the rack ovens, are a good example of this. They are crunchy but retain a moist crumb, making them ideal for sale as sandwiches.

In terms of the baking programs, the low steam quantity in litres is also noteworthy. At just 0.5 to 0.7 litres, this is below

the standard figure of roughly three litres. In spite of this, Bertschi still produces baked goods with an appealing crust sheen and "the perfect bloom".

Another remarkable aspect is the shorter baking time compared with the previous rack ovens. It can be up to 16 or 17 percent shorter. This is a good reason to choose the ovens when you consider what it means for oven capacity. At Bertschi, the post-baking phase is the pre-baking phase. The ten rack ovens in the bakery are always full. The next rack trolleys wait outside.

The fact that MIWE's rack ovens can be heated up and ready for baking in a jiffy is a major bonus. This also saves energy, as fewer ovens can be used to bake more. The ovens are empty less frequently and remain hot as they are always baking.

That is why the oven replacement led to a restructuring. The five rack ovens in the pastry section were replaced by a single rack oven, as these ovens are empty most of the day due to the single-shift operation. Now one rack oven bakes everything with a short baking time. Everything else is baked in the bakery's rack ovens with the other products. That means that the baking expertise is linked to the ovens.

That leaves one last question – how can you replace rack ovens if they are always baking? The exchange required →



"Gipfel", or Swiss crescent rolls, are typical products of Switzerland, and part of every baker's range.



In spite of the company's impressive size, craft processes are still used – the proof is in the products.



The baking company's range comprises over 1,000 different products. Its customers range from caterers to airline catering companies.

detailed discussions and planning. "Our requirement was that at least 60 to 70 percent of the baking capacity had to be available at all times," says Markus Brantner looking back. As an oven manufacturer, MIWE coordinated all the necessary trades and ensured that the process was smooth.

The combination of German thoroughness and Swiss precision guaranteed that baking was possible at all times. While one group was dismantling ovens and installing new ones, the old ovens were still in use for baking. As soon as the new ovens were ready for operation, baking started right away. In this way, baking operations were maintained by teamwork even though the ovens were being replaced, and all deliveries by Bakery Bertschi left the premises on time.

Markus Brantner's opinion:

"I see that many bakers only focus on energy consumption when buying ovens. However, the baking results should be the top priority. The baking results from our MIWE roll-in e+ are optimal. And if the energy consumption is good – which is the case for the e+ – the investment really makes sense."



A look at the pastry section, where the products are also baked in a rack oven.