

Bäckerei Winkler, Litzendorf, Germany

Together with MIWE, Bäckerei-Konditorei Winkler, a bakery and pastry shop, has developed a complete refrigeration concept and is now using the system for its entire range of white bread and pastries. "Quality has improved dramatically as a result," says Jörg Winkler. The bakery's products, especially soft rolls, have reached a completely new level of quality. "This was an important step in setting ourselves apart from the competition," adds his father, Franz Winkler.

This "village bakery," as the Winkler family describes their business, certainly has competition in the Bamberg region. Nevertheless, business is still good. From its Litzendorf headquarters, the company supplies five of its own branches and a large number of customers with delicious bread and baked goods. Master baker and business manager Jörg Winkler and his wife Christine took over the artisan bakery on 1 January 2009. The two are taking on the challenges of the market together with their team of highly motivated and well-trained employees.

"We're most well known for our bread and pastry shops," says the young baker master, explaining the focus of his business. However, purchasing ready-made dough pieces is not the bakery's approach. "We can't set ourselves apart from the others that way," says Christine Winkler.

The couple freely admit that the quality of their products, especially soft rolls and wheat buns and rolls, would often fluctuate. But now that's all in the past. "Consistently high quality, a natural taste and long-lasting freshness are what people expect from trade bakers nowadays," says Jörg Winkler, emphasising the goals he has set for himself.

To achieve these goals, the Winklers have invested in refrigeration technology. They have replaced two 15-year-old systems, each of which accommodated 10 rack trolleys. With the old systems, capacities had been exhausted, and to make things worse, the quality of the baked products varied because the company used a mixture of refrigeration and direct baking methods. →



Jörg Winkler in front of the GVA with the new TC control system.



There is a quick cooling unit for two rack trolleys integrated into the TLK.

The Winklers made a deliberate decision not to build a production facility from the ground up. Christiane Winkler explains: "We want to continue to be the village bakery in the eyes of our customers." But the Winklers also want to be a village bakery with cutting-edge technology.

As a result, a barn next to the bakery headquarters was prepared for the installation of the MIWE baking refrigeration system. Before choosing MIWE, Jörg and Franz Winkler had also talked to other providers. "In the end, we were persuaded by the expertise and the value for money offered by the specialists at MIWE." MIWE is by no means a new name for this family of bakers. The Litzendorf-based company has been using MIWE deck ovens and rack ovens for decades.

By implementing the new refrigeration system, the bakery is pursuing two goals. Firstly, all its white bread will be produced using long-time dough methods. This improves the crust, freshness and of course flavour. Secondly, all dough pieces for fine baked products and special bread rolls will be produced in larger batches and go through a deep-freeze processing. This is more cost-effective and allows the bakery to respond to sales peaks more quickly.

Facts on the refrigeration system:

- Fully automatic proofing unit (GVA) for 9 rack trolleys
- Proofing interrupter and proofing retarder (GUV) for 9 rack trolleys



The TLK only requires a fixed programme control (FP) since hardly any programme changes are made here.

- Dough piece preservation unit (TLK) for 36 rack trolleys and two spaces for quick cooling units
- Proofing chamber (GR) for 6 rack trolleys

The bakery achieved its goal by using a combination of different MIWE refrigeration systems. It now has three times more refrigeration space than was available with the old systems. "Now we can refrigerate products like pretzels, something that used to be impossible because space was so limited," says Jörg Winkler.

But the young master baker is most proud of his own special long-time dough methods for soft rolls. The process parameters for it were developed in cooperation with MIWE employee Werner Degen and Joachim Mayer from Ireks, a bakery service provider. MIWE's new TC refrigeration control system was just what the company needed. The TC system, which stands for Touch Control, features a 7 inch (17.8 cm), touch-sensitive screen.

All programme steps are displayed on this screen and be called up or modified with the touch of a finger. "It's designed very logically and is also easy to use," Jörg Winkler reports. "I can enter as many steps as I want."

To ensure consistent quality, the programme history can also be checked from the TC. Target parameters and actual parameters are stored in the integrated memory for up to 40 days.



This modern bakery refrigeration system has been installed in the smallest of spaces – in the old barn.

The TC control system has already passed the test in MIWE's oven segment. Its intuitive controls, smooth, hygienic surface and graphical display of target and actual parameters are just some of the many advantages of this control system. The system is integrated with MIWE's remote maintenance service via a network and DSL connection. This increases operational reliability and enables quick responses to malfunctions without the need for an on-site technician. Standardised interfaces and MIWE's in-house programming ensure that the system will remain up to date far into the future.

When used with MIWE bakery refrigeration systems, the TC control system can cover even more areas. The system takes over the central process control system, which communicates directly with the various components of the refrigeration system. An intelligent defrosting system constantly measures the temperature at the evaporator. In this way, defrosting doesn't have to take place strictly according to time. Instead, products are not defrosted until it is necessary. This saves



View of the headquarters where production also takes place.

defrosting energy and allows the latent energy (ice buildup) in the system to be used at the same time. Even the heating system is intelligent thanks to the TC control system. Instead of simply heating up until the set temperature is reached, the heating process stops before this point to avoid overshooting the temperature. Once again, this saves energy.

The TC control system is used with the automatic proofing unit (GVA) and the proofing interruption and retardation units (GUV). The GVA is used for soft rolls. Dough pieces slowly mature for 18 hours at temperatures in the low positive range. They are then re-cooled. This allows baking to be done directly from the GVA for up to four hours. Final proofing in the proofing chamber is no longer necessary.

The refrigerating unit runs with utmost precision thanks to frequency converters that can accurately control the operation of the machine. Tests at Bäckerei Winkler show that these frequency converters have a significant impact on the →



The GUV (left) is equipped with a TC control system, whereas the TLK works with FP control.



The GUV with TC control system.

performance of the refrigeration unit. "The system works much more accurately as a result," Jörg Winkler explains. For example, when there are minor changes in air humidity, lower humidification settings can be used.

When long-time dough methods are used, it's also important that the dough pieces are cooled off as quickly and evenly as possible. At Bäckerei Winkler, this is done with the TLK's integrated quick-cooling feature. Up to two rack trolleys can be inserted here for cooling. Even dough pieces that are subsequently deep-frozen pass through this stage of the production process.

Special bread or baked goods like pretzel sticks are processed in the GUV. This unit also operates mainly at temperatures in the lower positive range. Unlike the fully automatic proofing unit, the GUV reaches temperatures of up to +15°C. Final proofing takes place in the proofing chamber. This chamber is accessible from both sides so that rack trolleys



The TC control system on the GVA.

can be inserted on one side and removed from the other side. "The response from customers has been nothing but positive," says Christine Winkler, excited about the baking results. "The crust, juiciness and flavour are impressive."

A brief overview of Bäckerei-Konditorei Winkler

Owner: Jörg Winkler
Hauptstraße 28
96123 Litzendorf

Branch outlets: 5

Employees:

Production: 14, of whom 2 are apprentices

Sales: 20, of whom 4 are apprentices

Shipping department/logistics: 2

Administration: 2

Sample prices:

Soft rolls 0.23 EUR

Rye bread 1,000 g 2.20 EUR

Ellertal style bread 1,000 g 2.30 EUR

Special bread 500 g 1.60 EUR

Spelt whole wheat bread 1,000 g 3.30 EUR

Danish style pastry 0.85–0.95 Euro

Bamberg style croissant: 0.65 Euro