

## Bakery Treiber, Steinenbronn, Germany

### Always reliable

**"We can't afford downtime," says Wolfgang Treiber pragmatically, referring to his company's refrigeration technology. When the new production facilities were built in 2013, they installed state-of-the-art, high-quality technology in all areas. MIWE supplied all of the ovens and refrigeration systems. "Even that does not rule out faults," reports Jäger. Refrigeration is particularly important for the company's processes.**

However, MIWE never leaves Bäckerei Treiber to fend for itself. MIWE remote provides continuous monitoring and analysis of the refrigeration systems. Errors are reported immediately and suitable measures can be taken. "Of course, that really helps us," adds Harald Greißl, Head of Building Services at Treiber.

He is now also responsible for refrigeration technology. One large block of refrigeration systems on one of the long sides of the production hall is reserved for the bakery. Flash freezer cabinets and fully automatic proofing units

can be operated directly from the hall. The large freezer cabinets are located behind that. Pretzel dough pieces are fed directly from one of the ends of the system blocks.

"Pretzels are one of our A products," says Wolfgang Treiber. Most of them are baked fresh in the branch outlets. For this, the pretzel dough pieces are proofed after processing, then "stiffened" before they are dipped in the lye, and then deep-frozen using a MIWE flash freezer. Stiffening, i.e. formation of a slight skin, is performed in a fully automatic proofing unit equipped with a dehumidifier. Packaged in plastic bags, the pretzels then make their way to the branch outlets.

Danish-style pastries are also routed via the deep freezer. Bäckerei Treiber regularly offers its customers new varieties. "We want to offer our regular customers something different all the time, and make our range highly seasonal," explains Production Manager Florian Schlink. The qualified master pastry chef is responsible for fine baking at Treiber.

Florian Schlink then points to the second block of refrigeration →



Harald Greißl, Head of Building Services at Treiber, can keep track of all refrigeration technology systems with MIWE remote.



Treiber's refrigeration systems are designed as combined systems, which is technically complex, but energetically expedient.

systems on the other side of the hall. It is slightly smaller, and designed for the special requirements of fine pastry products. Finished products, such as cream slices, are stored here until they are transported to the branch outlets.

### Combined systems

Both blocks of refrigeration systems are designed as combined systems. That means that while there are a variety of consumers, such as flash freezers, deep freezers and cold storage units or even fully automatic proofing units, they are all connected to a single cooling system. With individual systems, every refrigeration cabinet has its own refrigerator unit. That is technically extremely simple to implement. However, it is energetically extremely unsatisfactory, as every cooling unit must be designed for a potential maximum load.

This is particularly clear with fully automatic proofing units, for example. They only draw maximum loads when freezing; proofing or stiffening only requires a fraction of the load available. However, they still have high connected loads! This is also true of deep-freezer cabinets - though not quite as extreme. Once the cabinets are full and the goods have been cooled down, only a little energy is required to maintain the temperature. In spite of this, there must be enough power to cool down or freeze the goods. Overall, a high connected load is necessary, which also affects the energy costs. The refrigerator unit actually only runs for a very short time. "However, every start means



Recovered heat from ovens and refrigeration systems is fed to the building's hot water supply.

increased wear, no matter how long the refrigerator unit runs afterwards," explains building services expert Harald Greißl.

One first step to counteract this is to connect the cooling load to a central refrigeration supply. That has some positive results, such as reduced space requirements, lower investments and a longer runtime of the machine, reducing the wear described. However, it doesn't affect the connected load, which cannot be reduced without a closer look at the load curve of the individual refrigeration systems. Based on the demand quantities analysed, a customised combined cooling system was designed to provide the required refrigeration on demand for the respective refrigeration cabinets. Of course, sufficient power reserves are also maintained.

As a result of this system, only one plate heat exchanger had to be installed downstream of the compressor. The waste heat is fed to the combined system and used to help power the hot water supply.

You might think that combined systems like this are particularly susceptible to faults! "That's not the case," says Harald Greißl, "one technical problem can't shut down the whole system." And Wolfgang Treiber is not worried either, as all system values are monitored at all times. Always means 24 hours a day and seven days a week. The systems are even monitored on public holidays like Christmas.

## Everything under control

Just calling it remote monitoring does not do it justice. MIWE remote not only monitors, it even controls the whole system if necessary. "By the time I receive an error message on my mobile phone, MIWE has already started analysing the problem," explains Harald Greißl.

Three compressors are installed in Treiber's refrigeration system blocks. "If one compressor develops a fault, MIWE remote can deactivate the source of error," explains Harald Greißl. The employees do not even notice the change in power distribution. Greißl himself doesn't even have to drive to the company premises for this.

As all system data is logged in the MIWE control centre, trends or negative developments are detected at an early stage. That allows countermeasures to be taken even before error messages are sent. "We don't want total failures, but we don't want excessive service costs either," are Wolfgang Treiber's requirements when it comes to refrigeration systems.

MIWE remote helps with this, as problems can generally be analysed precisely from the control centre. "We can solve some problems without a MIWE technician on-site," explains Harald Greißl. He adds that the bakehouse staff made operating errors, in particular in the initial period, which were rectified quickly using the remote service.

However, when MIWE service technicians are needed, they know precisely what to expect. This saves working time. The technician can bring the right replacement parts and possibly take preventive measures detected by the MIWE remote error analysis.

## Baking challenges

However, MIWE remote support covers more than just the technical systems. "As a baking company, we have very special requirements for cooling curves and air conditioning parameters in the refrigeration systems," explains Treiber, looking at the fully automatic proofing units. They are used for all products subsequently baked in the rack ovens.

To bring baked goods like table rolls or pretzel rolls to an even temperature, they are flash frozen briefly. They are then inserted in the fully automatic proofing unit at  $-6^{\circ}$  Celsius, where they mature for up to twelve hours. The

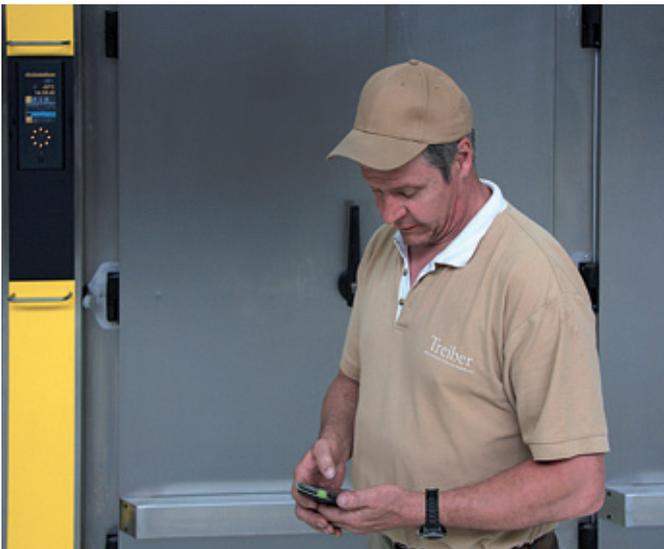


Detailed view of the refrigeration system with the plate heat exchangers.

MIWE TC control unit allowed diverse parameters to be configured and reproduced extremely precisely.

If new products are introduced, or if quality fluctuations in the raw materials make changes necessary, the settings must be adjusted. The MIWE experts not only know the technology, they also know how to react to technical baking challenges.

"For example, one problem we had was that the dough pieces formed skins," explains Wolfgang Treiber. The MIWE experts used remote to regulate the system fan speed accordingly, and optimise the cooling curve. And they did it online, without ever having to visit the bakery. MIWE remote guarantees not only the reliability, but also helps assure the high product quality of Treiber's bakery products. →



Harald Greißl receives error messages conveniently on his mobile phone.



Dough pieces, such as various Danish-style pastries and the dough pieces for the branch outlets, are stored in large freezer cabinets.

## A brief overview of Bakery Treiber

Owners: Evelyn and Wolfgang Treiber, as well as Katharina Fischer, née Treiber

Branch outlets: 29

### Employees:

Production: 85

Employees: approx. 400

Shipping department/logistics: 18

Administration: 8

### Sample prices:

Regional „Filder“ rolls 0.40 Euro

Spelt rolls 1.00 Euro

House bread 2,000 g 6.50 Euro

Special breads 750 g between 3.00 and 4.00 Euro

Danish-style pastries from 1.35 Euro