Bakery Burger, Großweikersdorf

Großweikersdorf. „Thanks to refrigeration technology, we have made significant progress in terms of quality and plan to achieve the same in terms of operating efficiency", master baker Peter Burger says happily. For Burger, it was obvious that the new installation of his bakery would have to incorporate adequate refrigeration space. In this respect, the bakery refrigeration solutions from MIWE were the top choice.

The implementation of refrigeration technology is, without doubt, one of the reasons as to why Burger Bakery now counts among the leading companies in the region that lies between Vienna and the forest quarter. In the year 2000, Peter Burger took over the parental business in Großweikersdorf together with his wife Sonja. The adjacent building had already been purchased as the town centre business activities relocated, with ever increasing frequency, to the business park.

„Billa had already moved. Hofer was under development. That was when I asked myself what we should do", Burger reminisces. The master baker and trained pastry cook considered the space in the bakehouse to be insufficient. He only had a production area of 100 square metres at his disposal. „That would not have been enough in the future." The Burger family therefore decided to „relocate the production facility to where the customers were".

That this was the correct approach towards the new installation is apparent just by looking at the opening hours. The bakery is open Monday to Saturday from 5.30am to 10pm. On Sundays, the opening hours are from 8am to 10pm. This is because the bakery has also become a restaurant in the meantime.

„And our café customers are also keen shoppers in the bakery", Peter Burger says cheerfully. Even on a Sunday, business is booming, with the breads and baked products selling really well, particularly so because Burger is the only baker open on this day of the week.

This is also made possible through the use of refrigeration technology. During the new installation of the business, Peter Burger took into consideration as to where this refrigeration technology could be implemented to the greatest effect. Refrigeration technology was by no means a new concept, having been used previously in the headquarter building. →

Master baker Peter Burger.

Views of the refrigerating unit.

View of oven assembly comprising MIWE ideal deck oven, proofing chamber and rack oven.

However, only a small cell had been used in that case.

Refrigeration technology in numbers:

- MIWE freezer storage unit (TK) for 16 rack trolleys
- MIWE blast freezer (SF) for 1 rack trolley (can be expanded to accommodate 2 rack trolleys)
- MIWE automatic proofing machine (GVA) for 6 rack trolleys
- MIWE dough preservation unit (TLK) for 27 rack trolleys

„Nowadays, refrigeration can be used in the bakery to create a more efficient working environment", Peter Burger reasons. Thanks to the refrigeration processing, a significant part of the production can be postponed until later in the day. „That makes the job easier and prevents bottlenecks." At the same time, it has enabled a reduction in the expense of paying out extra allowances for night shifts.

In order to realise his vision, Peter Burger uses a variety of MIWE cooling cells. All of these were attached in a row to the bakery. The cells are located outside of the building with only a roof covering to protect them from the influences of the weather. „That saves immediately on construction investment costs", Alexander Tomann from MIWE Austria reasons.

The condensors are located in the courtyard because it offers a shaded environment. This is conducive to a higher level of efficiency than would be possible were they to be positioned on the roof and therefore subject to direct sunlight. The design of the roof structure was also easier as a result.

A heat recovery system has also been integrated. This concept is possible where refrigerating units are concerned, because their purpose is not to generate refrigeration, but is rather to remove heat. Each refrigerating unit functions according to this principle: the withdrawal of heat from the cooling cells via absorption. The fact that the cells are isolated prevents heat from flowing between them, causing the temperature to fall as a result.

The removed heat is then released into the surrounding air via the condensors. However, in Burger's case, a large quantity of the heat removed from the refrigerating units is, in the first instance, supplied to the building heating system via plate heat exchangers. This helps to save on heating costs, which make up a substantial portion of the operating costs generated by 2,200 square metres of functional operating space. In addition to his own business comprising a large shop and café, Peter Burger has two further rooms in the building that he rents out.

Operating space:

Size of property:	5,200 m2
Developed space:	2,200 m2
Bakery floor space:	1,300 m2
Production floor space:	400 m2
Rented space:	500 m2

But let us now go back to the subject of refrigeration technology. As easy as refrigeration technology is to explain, it is in fact a complicated concept, as far as the cooling or freezing of dough pieces and baked products is concerned. Because in addition to the heat, humidity is also withdrawn from the cooling cell. This moisture is required, however, for dough pieces and in the refrigeration processing of part-baked products.

„This is where you can start to see a difference between the systems produced by refrigeration engineers and those produced by Miwe", Alexander Tomann says, outlining the challenge faced by the refrigeration systems manufacturer. Internationally well-known for decades thanks to its high-

quality baking ovens, MIWE has meanwhile been active in the field of bakery refrigeration for more than ten years. In the same way as with the ovens, the baker's perspective and range of products is taken into consideration where the refrigerating units are concerned.

With focus on the refrigeration solution used at Burger Bakery, this involves implementation of a blast freezer, which is responsible for the refrigeration processing of dough pieces and pre-baked products. „The goal here is to cool the products quickly yet gently to a core temperature of 18° Celsius", master baker Burger explains. In terms of spatial requirements, the blast freezer is designed to accommodate two rack trolleys. However, only one trolley is required at present. For this reason, the freezer currently features the technology to support one trolley only. Alexander Tomann: „If the requirement calls for it, we can quickly expand the system with hardly any trouble at all."

In consultation with MIWE, Peter Burger spent a good deal of time considering to what extent refrigeration requirement had to be provided. „In terms of dimensions, it is much better to be generous than too conservative," Burger recommends. After almost four years of operation, the system is nearly at full capacity and the long-sighted planning during those initial stages of development has proved accurate.

The reasons behind the high capacity utilisation rate of the refrigerating unit are the numerous advantages associated with refrigeration use. Meanwhile, refrigeration management techniques are used for the bakery's entire assortment of soft rolls. After the rolls have been made, the dough pieces are placed inside the blast freezer. This freezer is designed with openings on either side so that at the next stage the trolleys can be pushed straight through to the MIWE TLK dough preservation unit.

This is why Peter Burger chose MIWE:
- excellent and expert advisory service
- accurate and comprehensive planning
- high-quality workmanship and system technology
- quick service and spare part supply

In comparison to „normal" deep-freeze cells, the sophisticated technology in use at this bakery ensures for air conditions that prevent the frozen dough pieces from drying out. Sufficiently dimensioned evaporators and a well thought out air guide system form the basis of this ingenious technology.

The TLK cell is also used to store the pre-baked special breads and baked goods intended for retailers. While some breads such as the local Schmidatal variety - a 90% rye bread with natural sourdough - are baked every day, master baker Burger puts the special breads through the refrigeration process.

„The important factors in this case are the quick cooling process and the second subsequent baking stage", Burger points out. The special breads are usually produced twice a week. „And when the time comes, we produce the batches cost-effectively." This also means that efficiency is improved during peak periods, such as at the weekend. The breads are then baked to a maximum core temperature of approximately 90° Celsius, remaining at this temperature for around 80 percent of the total baking time.

Following a brief cooling phase, the breads are transferred to the blast freezer and then to the TLK cell. As and when required, the breads are taken out and baked again for a further 25 minutes at 170° - 180° Celsius. Peter Burger: „In this instance, it is important for the core temperature to be reached again."

The advantage of this particular method is that the entire assortment of breads can be offered to the customers on a daily basis. „On Sunday too", Burger says smiling. Even on this day of the week, the amount of bread sold is by no means insignificant. Each Sunday, Burger uses the MIWE cube in-store baking oven so that he is able to provide oven-fresh bread throughout the day.

Burger Bakery has also managed to convey this fresh way of thinking to the proprietors of the local wine taverns. →

View of the two MIWE roll-in rack ovens.

„In comparison to before, they are really starting to offer a wider culinary variety", the master baker explains. This variety naturally includes tasty baked products that come fresh from the oven.

As usual, the baked products are delivered to the restaurant in a pre-baked state. Pre-baked, freeze-blasted and then deep-frozen, the products then just need to be packaged. Kaiser rolls, whole grain rolls and other white pastries are wrapped in foil bags and packed into thermoboxes, ready for transportation. The bakery's delivery vehicles are additionally equipped with a cooling cell to guarantee a continuous cold chain.

In contrast, the raw frozen pastries intended for the shop or for distribution to different retailers are managed using the automatic proofing machine. Six rack trolleys are loaded directly from the dough preservation unit into the back of this machine. „Using freely selectable defrosting and proofing curves, the products can be managed until they are ready for baking", Alexander Tomann explains, highlighting an advantage of the MIWE system.

The baker is therefore able to tailor the system to meet his or her exact requirements and does not have to conform to any preset process parameters. Peter Burger has developed his own process. The parameters can be saved into and retrieved from the control system, which is easy to understand. At midday, when the working shift is over, the rack trolleys filled with dough pieces are slowly defrosted and gently proofed. In stages, the trolleys are then placed in the oven for baking the following morning.

Baking technology in numbers:
1 MIWE ideal double-width deck baking oven, depth: 2 metres, 6 oven decks (year of manufacture 1996)
2 MIWE roll-in rack ovens (year of manufacture 2006)
1 rack oven (other manufacturer) purchased second-hand

All of the bread is baked in the deck oven. Kaiser rolls and other white pastries such as puff pastries are baked in the rack ovens. „This is also conducive to an efficient production process that yields high-quality handmade results", Peter Burger says, clearly pleased with his decision to purchase oven and refrigeration technology from MIWE.

Data and facts Bäckerei Burger	
Proprietor: Peter Burger Horner Straße 26 A – 3701 Großweikersdorf, Austria	
Branch outlets:	3
Mobile sales:	3
Employees	
Production:	9
Sales:	7
Distribution/logistics:	6
Management:	2
Price examples:	
Soft roll	0,31 EUR
Rye bread 1.000 g	2,90 EUR
Special breads 500 g	2,70 - 2,90 EUR
Danish-style pastry	1,65 EUR
Quark turnover	1,40 EUR
Hazelnut filled croissant	1,40 EUR

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