Bakery Matthäus, Marktsteft

"We wanted to build for the future", says master baker Simon Matthäus, explaining his fundamental idea as he planned the new bakery development; an idea which he then realised consistently with the purchase of the machinery and technology. Everything was carefully considered and well thought through; the main focus was placed on long service life and quality. For this reason, oven and refrigeration technology from MIWE was the only option.

Simon Matthäus considers the close proximity to MIWE in Arnstein as very advantageous. However, more than anything else, the young master baker and management expert in handcrafted baking closely shares MIWE's philosophy of quality. "We want to produce the best baked products for our customers. MIWE is one of the industry leaders for oven and refrigeration technology", he explains.

Simon Matthäus, a baker with heart and soul, and his wife Melanie were certain from early on that they wanted to take over the family bakery. However, the bakery's capacity presented the biggest problem. After all, plenty of space is vital for the production of high-quality baked products. "We started producing rolls using long-time dough methods a few years ago, the revenue generated by these rolls increased by 50 percent."

There was no possibility of extending the main building, whose construction dates back to 1738. So in 2005 the family started thinking about how they could expand their business and, to be prepared, they purchased a corner plot of land in a new commercial area, situated on a busy main road. Thanks to the promising sales figures, it was possible to start work on a new development, in collaboration with local constructors and production engineers. The building structure and services were designed in such a way, that it was possible to construct not only the new production building, but also a residential building.

The new development in numbers:

Construction time:	10 months
Planning:	Local construction companies and architects
Size of property:	2,200 m^2
Floor area of building:	740 m^2

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The bakery uses a MIWE cube:air and MIWE cube:stone to bake its produce.

View of the ovens from the right with rack trolley and baker.

View of the refrigerating unit.

Looking back at the planning phase, Simon Matthäus also mentions Joachim Leppig, a specialist consultant from MIWE. "Mr Leppig was involved in our brainstorming and planning sessions from the very beginning. His close involvement in the process meant that he could provide us with comprehensive advice and valuable tips." The bakery has been working with MIWE for decades. A MIWE ideal was used in the Matthäus Bakery for 24 years. "A long service life is very important to us", says Günter Matthäus, the father of the company's current manager. Father and son take this aspect into account when purchasing new systems and machinery. The machines at the Matthäus Bakery are also very well looked after. "We were therefore able to transfer all of the machinery from the old bakery into the new one", Simon Matthäus explains.

The sustainability of investment was also considered in depth when decisions about the new development were made. As a result, the building is thermally insulated. The floor heating installation means that the heating system can be operated at low flow temperatures.

In fact, the bakery's heating boiler has been rendered almost unnecessary. This is because the Matthäus Bakery is one of the first businesses to implement the MIWE eco:nova and rely on the concept of heat recovery. "We use the recovered energy to heat our service water and the rooms of the building", says Simon Matthäus, summarising his thoughts with regard to waste heat utilisation. The hot water, which is recovered for free, is collected in two 2,000 l accumulators located in the engineering room. This heat is then used for hot water generation or fed into the building heating system. A 25 kW gas boiler ensures for safety on days when the bakery is closed for production.

The MIWE eco:nova enables the energy contained in the flue gas and steam from the two ovens to be used cost-effectively. The two media are fed into the heat recovery system separately to maximise efficiency. The heat is released into the system before the cooled flue gas and remaining steam are exhausted via the chimney. A positive side effect of this, is that only one chimney is required for all of the ovens – and additional ovens can also be connected to the system in future.

In the time leading up to the investment, the young master baker researched the topic thoroughly and examined numerous different systems. In the end, the MIWE eco:nova won out. "That is mainly because everything in our bakery comes from a single source", his father Günter adds.

In the case of the Matthäus Bakery, saying that everything comes from a single source simply means that the entire range of oven and refrigeration technology was planned and implemented by MIWE. The bakery's deck oven comes in the form of the MIWE ideal, equipped with five decks. It

features a 2-circuit design, which enables the two oven groups to be operated at different temperatures. Simon Matthäus: "This is particularly important for small businesses, as it enables baking flexibility." A MIWE proofing chamber (GR) is positioned directly beside the oven.

Apart from bread, the MIWE ideal is also used for baking wheat rolls, which are known as "Kipf" at the Matthäus Bakery. "They are baked directly on the baking plate", says Günter Matthäus gesturing towards the oven. In addition to the use of long-time dough methods and pre-dough, this also contributes to the unique flavour of the rolls. But it doesn't stop there. As a result of being situated on a corner, the Matthäus Bakery is fondly referred to as the "corner bakery". Simon Matthäus has taken this nickname quite literally and developed triangular rolls, known as Eckis (from the German word for corner, Ecke). These rolls are baked in the rack oven.

Working with a rack oven is a new experience for the bakery employees. "But this actually played to our advantage," explains Simon Matthäus. "Having never worked with rack ovens before, we were not tied to any particular rack oven system." So the decision to install the new MIWE lift-in instead of the MIWE roll-in was an easy decision to make. The MIWE lift-in is a rack oven which suspends rack trolleys in the air during baking. To be compatible, rack trolleys must feature a special holding device.

Originally developed for the American market, the MIWE lift-in has superior hygienic advantages when compared with the tried and tested technology of the MIWE roll-in. "The pivot mounting at the base of the oven is not there," Simon Matthäus explains. "That makes it easy to sweep the floor of the MIWE lift-in." Once the rack trolley has been wheeled into the oven chamber and locked into place, the entire trolley is lifted from the ground and can be suspended and rotated in the air throughout the baking process.

Positioned between the MIWE ideal and MIWE lift-in is a MIWE automatic proofing machine (GVA), which can accommodate up to three rack trolleys. The floor area of the GVA is large enough, that it would be possible to replace it with a second MIWE ideal if the bakery's oven capacity requirements were to increase. The GVA could then be repositioned next to the deep-freeze storage unit (TLK). The floor plate for the deep-freeze unit was made bigger on purpose to avoid any problems with a potential move.

The deep-freeze unit is located outside of the building, with the door being built into the wall of the bakery. An overhead canopy is sufficient for protecting the unit against the influences of the weather. The unit is used for storing dough pieces which Matthäus produces himself. „Proportionate batch sizes make production more reliable and cost-effective", Simon Matthäus explains, clearly pleased with the advantages afforded by this technology. →

Simon Matthäus in front of the oven with a rack trolley.


MIWE lift-in rack oven.

View across the work table. The TLK is seen in the background.

Outside view of the TLK. The floor plate for the GVA has already been laid.

The waste heat from the refrigerating unit is also put to good use. This heat is fed directly to the heating circuit of the building heating system via inconspicuous heat exchanger plates (MIWE recover).

This gives master baker Matthäus the time he needs to think about new challenges – "in-store baking", he says succinctly. Adjacent to the new production site, is a small but excellent shop with a drive-in service and café, where the family also intends to bake. A MIWE cube:air and MIWE cube:stone have already been installed on-site. "Even here, we will not be making any compromises", says Matthäus, showing his evident enthusiasm for the technology from MIWE.

The Matthäus Bakery uses the following MIWE products:

- Proofing chamber for 3 rack trolleys or 1 proofing trolley
- Double-width MIWE ideal deck baking oven with 5 decks
- MIWE lift-in rack oven
- Automatic proofing machine (GVA) for 3 rack trolleys
- MIWE eco:nova heat recovery system with 160 kW power rating
- Deep-freeze storage unit (TLK) for 6 rack trolleys
- Cold storage unit (NK) for raw material storage
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- MIWE cube:air / MIWE cube:stone

A brief overview of Bakery Matthäus GmbH	
Proprietors: Günter and Simon Matthäus Hauptstraße 16 97342 Marktsteft	
Branch outlets:	2
Employees	
Production:	5
Sales:	6
Price examples:	
Rolls	0. 25 EUR
Rye bread, 1,000 g	2.35 EUR
Special bread, 750 g	2.45 EUR
Hafenmeister bread, 3,000 g	6.20 EUR
Danish-style pastry	0.80 – 0.95 EUR

Stand: 0511