

Bakery Schmitz & Nittenwilm, Cologne, Germany

“Top baking results for the products, efficient handling at the baking oven and low energy consumption. That’s what every baker dreams of,” says Jochen Schmitz with a smile. MIWE made his wishes, and those of his brother Peter, come true. In the Schmitz & Nittenwilm Bakery in Cologne, a variety of oven systems are in use to make this possible. “And we are delighted with the success,” adds Jochen Schmitz.

However, he wouldn’t have believed it one year ago. “The original idea was that we would replace the rack ovens,” recalls the qualified pastry cook and master baker. Together with his brother Peter, he took over the family business on January 1, 2008. In just nine kilometres in Cologne’s inner city, they operate 33 branch outlets. They only have an 1,800 square metre production area to serve these outlets. “That was an aspect we had to take into account when investing in the ovens.”

When comparing various rack ovens, the two bakery owners were particularly impressed by the potential energy savings offered by the MIWE roll-in e+. Peter and Jochen Schmitz wanted to see for themselves whether the advertising promises in the brochure and their colleagues’ opinions were true. First, they ordered a MIWE roll-in e+ test unit.

Baking oven engineering:

7 MIWE roll-in e+

4 MIWE thermo-static

3 MIWE ideal with loading system athlet

1 MIWE ideal with manual loading

“What astonished us from the word go, and continues to amaze us, is the evenness of baking,” admits Jochen Schmitz openly. The sight of racks full of evenly baked hard rolls almost made them forget the energy consumption. “We had never seen evenness like that.” In particular, the hard water (up to 15 German degrees of hardness) had quickly calcified the baking ovens, resulting in uneven baking results. →



Jochen Schmitz.



The ovens: MIWE ideal, MIWE thermo-static and MIWE roll-in e+ (from left to right).

This tough environment allowed MIWE roll-in e+ to show one of its strengths. The steam unit is self-contained and separate from the air circulation in the baking chamber, as the steam pipes are heated by the outgoing flue gas. Therefore, they do not adversely affect the subsequent baking results. At the same time, this saves energy and increases the combustion efficiency of the baking oven. "We examined MIWE's advertising statements critically and were unable to find any evidence to the contrary," adds Jochen Schmitz.

That's why one rack oven soon turned into seven. 70 percent of the time, they are used for hard rolls. They are mainly required for initial deliveries to branch outlets and for the filled rolls sold as snacks. "However, 90 percent of hard rolls are baked in the branch outlets," explains Jochen Schmitz. Schmitz & Nittenwilm wants to offer an even roll quality in the face of strong competition - in particular with the discount price bakeries. That means hard rolls from rack ovens in the bakehouse, and from the MIWE aero in the shops, as both ovens use the hot air principle.

Still, Jochen Schmitz admits that baking in rack ovens makes even more individual adjustments possible. He mentions MIWE aircontrol. "We had never seen anything like it before." Of course, the other manufacturer's rack ovens also had an air quantity control function. "However, the impact on the products was negligible." MIWE aircontrol is different.

The hot air supply to the baking chamber can be adjusted in nine steps. Master baker Schmitz adds: "For hard rolls, the adjustments at the end of the baking phase are at level eight or nine. By contrast, cinnamon stars are baked at level one or two throughout the entire process to prevent them



The MIWE thermo-static control system is in a separate location.

drying out." Coming up to Christmas, the new rack ovens are also used to bake Christmas biscuits. "The evenness and efficiency of the loading process for these products were also impressive, which confirmed our decision to purchase the ovens."

The baking programs for the rack and wagon ovens are accessed via the Touch Control System MIWE TC. Once a week, Schmitz & Nittenwilm synchronise all rack ovens to ensure that the same parameters are saved in all baking ovens, and that everything can be baked every, no matter which baking oven is used.

What they bake:

Rack oven MIWE roll-in e+

Hard rolls, Danish-style pastries, sheet cakes, Christmas products

Wagon oven MIWE thermo-static

Pretzels, yeast baked goods (plaited goods, biscuits, mini-rolls, milk rolls), tin bread, pastry products

MIWE ideal with loading system MIWE athlet

Unmoulded bread

MIWE ideal with draw-plate ovens

Coarse rye bread (typical for Rhine region), tin breads, pastry products

However Jochen Schmitz self-critically also admits, that in retrospect, he would not buy so many rack ovens today. "I would prefer if we had one more MIWE thermo-static."

The wagon ovens are an entirely new oven system for him and his brother. "We had heard of them, but were reluctant to use them because we believed that the technology with thermal oil and central heating boilers was complicated and expensive."

In spite of these initial reservations, the bakery in Cologne now houses four MIWE thermo-static units. The two brothers thought long and hard about it. They weren't convinced until they had completed a baking test with their own recipes at two bakeries which already use these baking ovens. "We liked the results. The baked goods have a good base, a solid crust and still retain the required moisture in the crumb." Results they had only ever seen from deck baking ovens. However, wagon ovens can be loaded efficiently using rack wagons.

Each MIWE thermo-static holds two wagons with 9 racks each. They have a smaller ground area than competing products, which was important given the restricted space available at Schmitz & Nittenwilm. All four ovens can be heated via a central heating boiler. It is located behind the row of rack and wagon ovens.

First, tin breads were baked in the five MIWE thermo-static ovens. "Previously, we baked them in a rack oven and experienced quality improvements which were virtually unbelievable," recalls Jochen Schmitz. Later at night, the pretzels are fed into the wagon ovens. These are not typical baked goods for the area around Cologne's famous cathedral. Jochen Schmitz brought the expertise required to bake them from the Southern German and Austrian companies where he worked.

Roughly 3,000 soft pretzels, pretzel rolls and pretzel bagels are baked in the MIWE thermo-static every day. Jochen Schmitz attributes the long-lasting freshness of the pretzels to gentle baking with the mild radiation heat. "There just isn't enough cooling capacity to bake them in the shops."

However, the rolling loading system reaches its limits when unmoulded bread is to be baked. Roughly 80 percent of bread at Schmitz & Nittenwilm is baked unmoulded. Rye-based bread varieties predominate. The baking solution for this is clear: Deck baking oven. "However, the loading system must be just as efficient as rack and wagon ovens," demands Jochen Schmitz.

That is why Schmitz & Nittenwilm has relied on automatic loading of deck baking ovens for over ten years. "Efficient and labour-saving for the employees," argues master baker Schmitz. Virtually all employees in the bakehouse are trained and qualified staff. The company's business philosophy includes taking particular care of the employees. It is not rare for staff to stay with the company for between 10 and 35 years.

However, the previous loading system only stayed with the company for twelve years. "From the outset, we had problems with the transport conveyors. A major repair operation was required. We asked ourselves why not just by a new system," is how Jochen Schmitz explains the decision. Like the baking ovens, the previous loading system was supplied by a competitor of MIWE. "However, the baking ovens did provide good results," admits Schmitz.

In spite of this, the bakery chose to replace the baking oven completely. "We now have everything from a single source, and just one contact," argues Jochen Schmitz. Now, they use three triple-width, two metre deep deck baking ovens MIWE ideal with six adjacent ovens. The building height did not allow them to be stacked on top of one another, although it would be technically possible.

They are loaded by the MIWE athlet. The proofed bread loaves are transferred from the baskets onto the conveyor belt by hand at a transfer station. The entire peel loading and unloading process is then automatic. The control system selects and starts the oven. The bread is unloaded automatically and transported away to the other side of the baking oven via a conveyor. →



Loading unit MIWE athlet in front of the MIWE ideal.



Working on the transfer table of the MIWE athlete.



Interior of one of the MIWE ideal ovens.

Another deck baking oven MIWE ideal is used for manual loading. In particular, the two draw-plate ovens are required for the typical Rhine rye bread. The long and heavy folds with the rye bread are placed onto these. "That makes the work at the oven far easier."

The pastry shop uses rack, wagon and deck ovens. A total of ten employees work there. For Peter and Jochen Schmitz, this sector is highly important. "We want to distinguish ourselves from the cheap competition in this area, too." The new oven technology also helps here. Efficient production methods are used, energy is saved and most importantly: The baked goods are of the right quality!

A brief overview of Bakery – Pastry Shop – Café Schmitz & Nittenwilm OHG

Owner: Jochen und Peter Schmitz
 Weyerstraßerweg 147
 50969 Köln

Branch outlets:	33
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Employees:

Production:	35, of which 3 are apprentices
Sales:	200, of which 8 are trainees
Distribution/logistics:	17
Management:	5

Price examples:

Hard rolls	0.28 EUR
Rye bread 1,000 g	2.90 EUR
Special bread 750 g	2.85 EUR
Delicatessen bread 750 g	2.75 EUR
Danish-style pastry	1.25 EUR