

## Bäckerei Werner, Mainz

**That is all we needed! The new MIWE thermo-static wagon oven supplements the oven program of Bäckerei Werner in Mainz. Measurable differences with baking results. Now, the optimum oven is available for almost every product.**

The decision for the first thermal oil oven in the history of the bakery Werner was not made from a fondness of experimenting, but rather it was well considered. Each type of heating has special pros and cons, or in other words, strengths and weaknesses. Up to now, the bakery, which has grown to 35 branch outlets in the meanwhile, has counted on the classical oven types, hot gas circulation ovens in the area of deck ovens, and hot air circulation in the area of rack ovens. "This has served us well up to now," Production Manager Marcus Kerz explains. "A few months ago, we took over a bakery that bakes only with thermal oil ovens. At the same time, we noticed that a whole range of

products showed different properties regarding porosity, juiciness/fresh-keeping and volume despite using similar recipes and reprocessing." The technologists at Werner are not just primarily interested in evaluating one or the other oven system, but rather they wish to identify the corresponding strengths of the systems, transfer them to their own range of products, and ultimately find the right oven for each product. "Of course, this means that we have to experiment a lot. We have found out that it is not sufficient to simply bake products of the same recipe in different ovens, but rather we have discovered that we have to use different temperatures and baking curves for each oven type to obtain optimum quality." The fact that we exclusively use the ovens and refrigeration technology of MIWE has simple and resounding reasons: "Throughout the years, we have been working with the MIWE technology - one thing has always been right besides the products, and that is the service," Kerz declares. →



Ready in a few seconds: the 17m<sup>2</sup> baking area is loaded.



The reprocessing of bread requires a lot of manual work.

### Changed operational sequences

The production at Bäckerei Werner has completely changed within a year. Up till that point, the bakery did not have in-store baking; the full product range was baked in production and subsequently distributed to the branch outlets. "The entry into in-store baking was worthwhile since the increased costs for the oven technology used in the stores are by far compensated by the higher sales quantities," Kerz explains. For production, this means that more than half of the daily 30,000 hard rolls are no longer baked in the MIWE roll-in rack ovens, but in flexible baking stations, which naturally come from MIWE, as well. Due to this switchover, the oven capacity in the rack oven area is actually too big 10 roll-ins; what the bakery really needs, and now, is a greater refrigeration area. This situation will not continue for long, as the production engineers of MIWE are already measuring the areas. The "eye of a needle" refrigeration technology will thus soon be a thing of the past. Even the too small shipping department will be enlarged, as the bakery has been all but overrun by its own growth in the last few years. In addition to the good technical equipment, however, the bakery's success is due to the employees' experience and conscientiousness in production. They work meticulously,



Unmoistened wheat bread is baked in great quantities, and is very much in demand.

challenge their recipes and operational sequences are again and again, and, in particular, look for better solutions for quality. "As our number of self-baked goods increases, we are trying to reduce the percentage of convenience products as much as possible. We are very much aware that we will thus lose part of the reliability during the reprocessing and proofing," Kerz explains. The bakery will compensate this through the technical skills of the employees, and as far as possible, through the standardization of the operational sequences.

### The refrigeration suction device

Switching to in-store baking has also caused a few problems at Werner. How can you accomplish a safe and smooth transport of a such large number of dough pieces? In this case, the answer also comes from Arnstein: MIWE smartproof™. The dough pieces are stored on special boards, which are provided with small lateral slots. They are subsequently stacked on boards in a special shock freezer, which has the property not to inject cold air but to suck it off. The process shines due to its high efficiency, which results in less energy consumption and high capacity. In a conventional flash freezer, the boards with the dough

pieces have to be loaded in the rack trolley. Due to the big intermediate spaces, only a fractional part of the dough pieces quantity can be loaded; for MIWE smartproof™, the boards are directly on top of each other. Nonetheless, the system provides a smooth heat transport. In this way, the dough pieces are not dehumidified and only cooled down to almost 0°C. They can subsequently be either stored in a cooling cell or directly forwarded to the shipping department. The accumulated cold is sufficient to store the dough pieces for several hours without further cooling, and the baking is performed at the branch outlet if required. "Without this system, we would have quality problems with each temperature fluctuation," Kerz says.

### **MIWE thermo-static, the rational bread oven**

At Werner, the thermo-static is mainly used as a bread oven. At the moment, it is a great relief for the employees. A major part of bread production is tin bread, which had to be laboriously placed into and removed from the draw-plate hearth by hand in the past. Now, you can simply load the three trolleys of the wagon oven with the boxes, mostly

already after the reprocessing, and then push the corresponding trolley into the oven. This is facilitated by MIWE slide; a robust loading help that reduces the rolling resistance to a minimum and is almost troublefree as a mechanical solution. Other manufacturers focus on automatic drives, but these drives are not only an additional part, but once they suffer damage, they bring about no real relief. "Open the door, load the trolley, close the door, and then start the program; it takes less than 10 seconds to load a 17 m<sup>2</sup> baking area," Kerz says enthusiastically. The bread from the thermal oil wagon oven is noticeably juicier since baking loss is lower thanks to this system. This has consequences for quality since the bread is fresher and juicier longer. Added to this are the absolutely uniform baking results, which constantly amaze bakers.

### **The option cool-down is available**

The advantage of the thermal oil technology is the high heat storage capacity. What is a real blessing for baking batch after batch can sometimes be a problem during product switchovers. It takes simply too long until the →



The thermo-static is ideal for tin bread because the handling functions as easy as with a rack oven.



At Werner, the unloading is carried out with unloading boards; an automatic loading is not possible due to the different oven mass.



At Werner, the rack ovens are installed as an island. Five on the one side, five on the other. One bakery, and one pastry shop.



Numerous layered pastry specialties are produced in the pastry shop.

temperature can be significantly reduced. Normally, it is seldom a problem with a sophisticated baking operational sequence, but the oven is not as flexible as a hot gas circulator. MIWE has meanwhile recognized this problem and thus developed the cool-down option and registered it for a patent. In this way, the thermal oil coming from the oven is cooled down in a water bath via a heat exchanger. Of course, the heat withdrawn in this way can be reused, for example, for water heating. For the oven, this means that not only static temperature curves can be used, but also, for

the first time, real baking curves. In this way, you can completely change and control the baking behavior. The oven at Werner is already provided with this option, and will soon be equipped with the cool-down system. You might think this is only an additional gadget, but the technologists at Werner are convinced that the new control elements can further improve the baking results. "Nowadays, it is not enough to be good; you have to be the best to succeed in the long run," Production Manager Kerz comments.

## A brief portrait of the Bäckerei Werner bakery

Proprietor: Manfred Werner (one-man business)  
 Robert-Bosch-Straße 34  
 55129 Mainz-Hechtsheim

Specialty stores: 38

### Employees

Production: 40, of which 10 are apprentices

Sales: approx. 50

Shipping department/logistics 10 drivers/3 commissioners

Administration: 6