

Bäckerei Plücker – MIWE TC

The Bäckerei Plücker in the Alraft neighborhood of Waldeck, with 27 branch outlets and four sales vehicles, originally emerged from a mill. At the beginning, bread was only sold by delivery before the first branch outlet was opened in 1989, and the network of branches has grown step by step up to now.

Christian Plücker is responsible for production in Bäckerei Plücker. The master baker and graduate in business administration for trade, holds the reins in the 1,500-square-meter production area, while his twin brother, Malte, is - as a Diplom-Betriebswirt (FH) (approximates a master's degree in business administration from a university of applied science) - responsible for the commercial part of the company. The proprietor of the bakery is their father Walter Plücker.

Three new rack ovens MIWE roll-in and one wagon oven MIWE thermo-static have been recently put into operation at Bäckerei Plücker. „No oven operator has ever called me on Sunday morning up to now,“ master baker Christian Plücker says. The baking result is correct, and the operation is simple. All ovens use the new control system MIWE TC.

Three rack ovens had been replaced, they were almost 20 years old. Although the ovens were still working, Bäckerei Plücker wanted to use the newest technology. „Less energy consumption, easier operation, and a combination with the heat recovery were the main reasons for the replacement purchase,“ Christian Plücker says, explaining his reasoning. He has always been satisfied with the baking result of MIWE ovens. Therefore, MIWE was the first choice.

Bread and, in the meanwhile, hard rolls are the products that mainly generate turnover in the bakery. Traditionally, Bäckerei Plücker uses different oven systems for baking. „We have the suitable oven type for each product. Thermal oil is used in tunnel ovens for bread production.“

The new MIWE thermo-static has now been connected to the central heating boiler. This wagon oven, heated with thermal oil, combines the advantages of a deck oven with those of a rack oven: baking like on a deck, and loading like with a rack trolley. Especially puff pastries, sheet cakes, and sponge bases are baked in MIWE thermo-static. Although hard rolls are baked in the branch outlet, the basic turnover is produced in the morning at the bakehouse in Alraft. „Our objective is to preferably unload at the time →



Master baker Christian Plücker is convinced by the simple operation of the rack oven MIWE roll-in and the new control system Touch Control MIWE TC.



Constant operation concept: three double rack ovens and the new heat recovery unit MIWE eco : nova.

of delivery," Christian Plücker says. „Large quantities are accordingly needed there at the same time.“

Therefore, the Bäckerei Plücker has decided to purchase MIWE roll-in jumbos - double rack ovens, which provide the double baking area on a slightly bigger standing area.

MIWE roll-in is „the“ absolutely classic rack oven; it has been on the market since 40 years and has been continuously technically developed since then. Christian Plücker is satisfied with the baking result of the ovens from Arnstein: „They bake evenly, and are very efficient.“ Hard rolls, a range of special hard rolls, and butter cake are baked in the rack ovens. „MIWE roll-in can produce optimum baking conditions for each product.“

MIWE aircontrol makes it possible. The system controls the quantity of the circulated hot air in the baking chamber. A dosing grille is installed between the heating unit and the baking chamber. Its opening cross-section can be adjusted in ten stages from „closed“ to „open,“ and the air volume profile can thus be exactly defined for each product.

In this context, Christian Plücker points out once again other advantages: „On average, we bake 30°C lower in the new baking ovens.“ The reasons for this are attributed to the improved technology, like the high efficiency of the heat exchanger. It is also attributed to MIWE aircontrol since air circulation and the baking temperature influence each other. With higher air circulation, it is therefore possible to work, within certain baking technical limits, at lower temperatures or with a reduced baking time.



Quick heating-up, simple operation: batch-after-batch baking is easy.

When master baker Plücker speaks of evenness, he also means that the baked products are similarly baked even with partial loading. This is possible by means of the „magic key,“ as Christian Plücker says. Normally, the baking programs are designed for full loading of the ovens. In case of partial loading, falsified results are unavoidable; that is to say, the baking goods can even burn. This is actually logical since the supplied heat energy is decisively too high for the reduced baked goods quantity.

In order to prevent this, MIWE comes up with a simple but ingenious trick: here, the temperature in the baking chamber is not controlled via the cycled burner output capacity. In fact, the control system continuously compares the actual temperature in the baking oven with the setpoint curve. The control system gets this setpoint curve from a „learning passage.“

For this purpose, the baking program just has to be carried out once during full loading in the „learning mode.“ In total, reproducible, even baking results are made possible by MIWE aircontrol and the „self learning“ automatic capacity regulation.

Baker master Plücker explains in detail what he understands under efficiency in connection with MIWE roll-in: „We can bake batch after batch thanks to the quick heating-up of the ovens. Loading with the rack trolley is quick, and the operation is easy.“

The operation is therefore simple because MIWE comes up with something new once again. The operation of today's oven generation is performed by the TC control systems. The fixed program controls like MIWE FP and the compu-

terized control systems like MIWE CS are already easy to operate and bring the desired baking results. With the TC control system, however, one strikes out in a new direction. TC stands for Touch Control.

The large color touch screen display is the first thing that attracts your attention when viewing the oven. Absolutely flat and humidity-proof, it thus structurally meets the hygiene requirements of the bakehouse.

„This is an advantage in comparison with keys and rotary regulators,” Christian Plücker says.

The hygiene advantage of the new TC control system, however, is only the smallest aspect on closer examination. „The most important for us was that each oven operator could operate the oven easily,” Christian Plücker argues. In addition to permanent oven operators, a number of other bakers work there on the weekend. „If one of our oven operators does not bake for five weeks, he forgets how to bake one or another product.”

This is no problem with MIWE TC control system. „15 minutes instruction were enough,” Malte Plücker says, reminiscing. „The whole operation is intuitively carried out with graphic elements.” The right program can be simply selected by means of the product image. MIWE already provides a number of product images with the oven and the control system. The bakery’s own product images or company logo can be inserted at any time.

Two operation variants can be called using MIWE TC. The baking programs can be created and adapted in the Pro mode. Up to 250 baking programs can be stored, and a maximum of eight baking sections can be defined. „It works very well. There is no unnecessary menu branching,” Chris-

tian Plücker says. The whole baking process is visible in the graphic mode. The adjustments cannot be changed by just anyone, however, since access is password-protected.

The „Easy mode” completely suffices for oven operators. MIWE engineers have deliberately concentrated on the basics: select the program and then press start. In the process, the start button does not actually have to be pressed. The start-stop key is already touch-sensitive at a distance. „Just hold your hand in front of it for a short time,” one of the bakers of Plücker explains. In „Easy mode,” the baking program, the setpoint/actual temperature and the remaining baking time are shown on the display.

At Bäckerei Plücker, the product images or the baking programs are transferred to the control system via a USB port. The baking ovens are provided with two of these ports, with one located directly on the front side of the control system. „This is enough for our purposes,” Christian Plücker says. A connection via a network interface (Ethernet) would be possible; connections by Bluetooth or WLAN, that is, a wireless network, are also available as options.

This connection is particularly important if operating states have to be called, or baking processes have to be recorded or evaluated within the scope of quality assurance. Christian Plücker: „We are in the bakehouse every day and know what and how the baking is performed.” Right now, he is not using this connection, but he considers it as an option within the scope of networked production.

Both Plücker brothers and their parents think in the long term. Therefore, they have also taken into consideration the new acquisition of the baking ovens with respect to the energy efficiency. „Energy costs are already an issue today. →



The packaging of the fresh baked goods is still carried out in the bakehouse.



Baking like on a deck and loading like with a rack trolley: the thermal-oil baking oven combines the advantages of two worlds.



Bread and hard rolls generate the main turnover for Bäckerei Plücker.



The heat recovery unit MIWE eco : nova is also controlled by means of Touch Control MIWE TC.

Environment protection will certainly increasingly become the centre of attention," Malte Plücker explains. The energy recovery plant MIWE eco : nova is installed together with new baking ovens. The heat exchangers extract energy from the exhaust air and the steam of the baking ovens.

13,000 liters of hot water are collected in two accumulators before using them for building heating and heating the water of the case washing plant. MIWE eco : nova is also controlled by the Touch Control MIWE TC.

A brief portrait of the Bäckerei Plücker

Proprietor: Master baker Walter Plücker
Zur Rittermühle 8
34513 Waldeck, OT Alraft

Branch outlets:	27
Mobile sales:	4

Employees

Production:	32, of which 3 are apprentices
Sales:	120, of which 15 are apprentices
Shipping department/logistics	15
Administration:	4

Turnover distribution:

Sales by own branch outlets:	85%
Delivery transaction:	15%

Price examples:

Kaiser rolls	EUR 0.26
Special rolls	EUR 0.36-0.46
Alraft country style bread 1250 g	EUR 2.80
Special bread 500 g	EUR 2.55