



MIWE thermo-
express



Smooth heat for the highest quality standards

When the perfected construction elements of a MIWE multi-deck oven are combined with thermal oil technology, the result is an oven in which the advantages of baking on stone baking plates are ideally combined with the merits of smooth radiant heat.

The MIWE thermo-express is precisely such an oven – an oven that guarantees best quality through the uniform transfer of heat to the baking products.

In the MIWE thermo-express multi-deck oven, the heat required for baking is passed on to the baking products by radiation from heater covers above and below the ovens.

Thermal oil is circulated through these covers as heating the medium.

Thanks to this heating solution, the MIWE thermo-express can also offer another advantage – sheer size. With as many as twelve baking chambers and a depth of up to 2.40 m its effective baking area reaches an astonishing 52 m². The advantages are obvious.

Smooth radiant heat for perfect baking – even for bread with a high rye content



Concept

The thermal oil system is based on a central supply unit – the heating boiler – which distributes the heated oil to the various baking ovens through a pipe line of the primary circuit. From the oil circulating in this circuit the baking ovens draw exactly the amount of energy they need, as determined by the control system. The heater plates inside the baking oven are then supplied with thermal oil through a separate secondary circuit.

As the result, smooth heat radiates on the baking products from above and below. With the thermal oil heating system, several multi-deck baking ovens can be run by one central heating boiler. This has the advantage that only one central heating boiler with one burner and one flue are needed to operate several ovens. And it is also possible, of course, to combine several central heating boilers to form a battery of boilers.

All MIWE central heating boilers and MIWE ovens heated by thermo oil are designed for tempe-

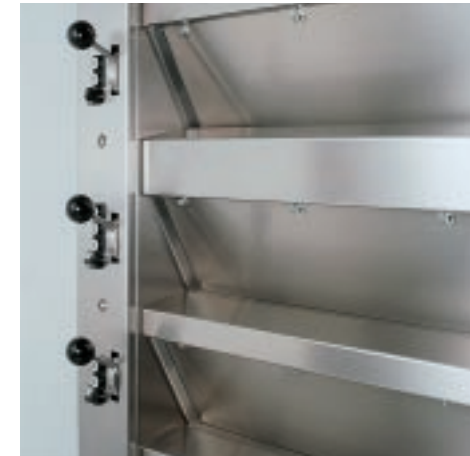
ratures exceeding 300 °C. This extreme strain is warranted by standardized and tested materials, by TIG welding of the units, and by careful selection of suitable plant components such as pumps, valves, and control valves. In fact, if a special fully synthetic thermal oil is used you can run the central heating boiler with an oil feed temperature of up to 320 °C. In this case, the MIWE thermo-express easily reaches a thermal oil temperature in the baking chamber of 300 °C .

A 'turbo' circulator for the air in the baking chamber is available to boost the convective heat transfer.

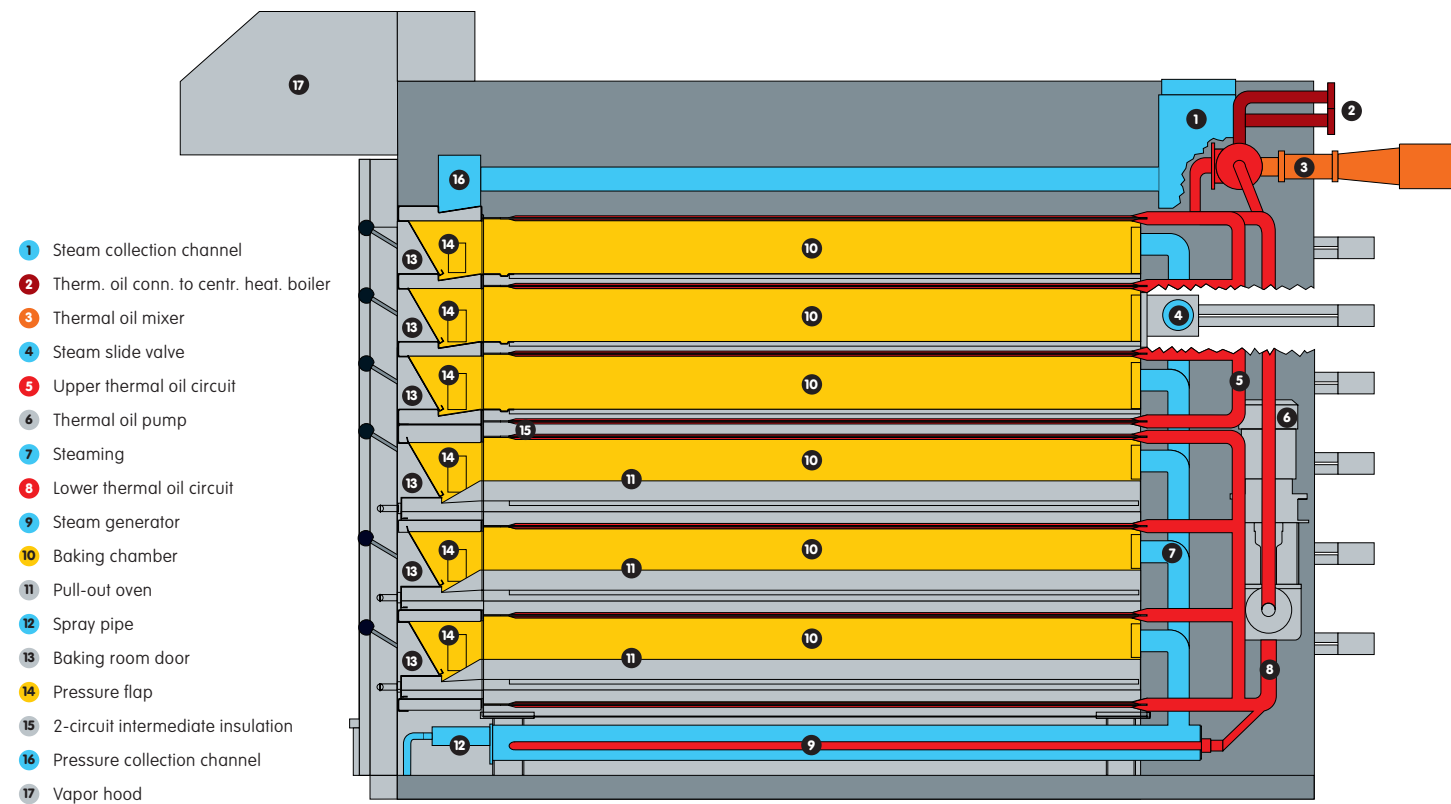
As an alternative to the mechanical seal pump normally used on the MIWE thermo-express, we can equip the oven on request with a magnetic coupling pump without a shaft seal. Its advantage is the static sealing arrangement between the drive and pump.

Consequently, there is no rotating seal, which means that leakages are ruled out completely.

2-circuit arrangement with thermal separation, as well as operating elements for program start-up, steaming and the steam slide valves



Large picture right: The 2-circuit MIWE thermo-express with two pull-out ovens



Steaming

Saturated steam depositing intensively on the baking products, fast recovery times, and constant readiness – these are the ideal preconditions which allow baking 'batch after batch', with short baking times also for steam-intensive bakery products.

With the MIWE thermo-express, each baking chamber is equipped with a separate, large-capacity, quantity-controlled steam unit which produces an intensive supply of saturated steam.

Steam slide valves and a pressure flap enable sensitive and extremely exact control. The pressure flap ensures that the hot air is safely discharged and prevents an excessive build of pressure when the steam is fed in.

Steaming of the baking oven by a steam boiler provided by the customer is recommended above all for large MIWE thermo-express units with eight to twelve ovens. With constant pressure and unchanging temperature, the steady supply of saturated steam produced by the low-pressure steam boiler is available in unlimited quantities and is 100 per cent reproducible.



Making life easier for bakers

The MIWE thermo-express makes work in the bakery easier, because your convenience was always a top priority for us when designing how to operate it. The height at which the dough is loaded, for example, is comfortable also for the highest baking chamber. Or think of the projecting table which is available as an accessory.

Or the special discharge unit which allows you to load or unload baking tin products without any inconvenient holding notches. As a specialty, the MIWE thermo-express can be equipped with up to five pull-out ovens. Extremely stable, self-contained, and running freely without any protruding, cumbersome

supports, they can be pulled out till the last millimeter, are comfortable to load, can be operated easily with one hand, and allow utilization of the whole baking area thanks to the rational loading pattern – a real help in every bakery.



Patented pull-out trolley with variable working height for good ergonomics at all times

Multi-circuit versions

If different baking products in the same baking oven require different parameters for temperature, baking time and steaming, or if just a part of the baking area is to be loaded and heated, what you need is an all-round multi-deck oven – the MIWE thermo-express multi-circuit.

In this version, different baking temperatures can be run independently in a single oven. Up to seven ovens can be operated as single-circuit versions – with multi-circuit versions, each circuit has to consist of at least two ovens.

The multi-circuit versions allow individual oven groups to be operated at different temperatures. Separate circulation pumps and control valves automatically control the supply and circulation of the thermal oil – and if one oven group is not to be used at all, they shut it off completely.

The patented MIWE AZW pull-out trolley does the stretching and bending for you – so that you can load up to 8 pull-out ovens of the MIWE thermo-express at a comfortable working height. Solidly mounted in front of the MIWE thermo-express, the elevating table lifts the selected uncoupled pull-out oven to the desired operating height and back into the baking chamber – all at the push of a button.

Baking needn't be a tough job any more. Just let the MIWE athlet loading system perform the loading and unloading of the MIWE thermo-express for you, fully automatically. The entire baking area can be loaded at once. And with supplementary accessories (the MIWE butler, loading and outgoing conveyors, etc.) you can take the automation and rationalization of your baking operations even further!

The MIWE thermo-express is available with an inner oven height of 20 cm, specially for use with the MIWE athlet. For manual operation the inner oven height is 17 cm in the interest of ergonomic loading heights.



The MIWE athlet makes baking even simpler – here in combination with the 2-circuit MIWE thermo-express

Different versions of the MIWE thermo-express, combined with MIWE proofing technology

MIWE central heating boilers



The MIWE central heating boiler is the heart of the entire oven system – as a compact oil, gas or electric fired central heating boiler with circulation pump, burner, control elements and operating panel in a single housing (compact design), or as an industrial version with separate boiler and freely arranged control fittings.

The central heating boiler can be set up in a separate boiler room away from the baking oven and still perform its job of providing the ovens with fluid heat. The compact version – with its connections for the primary circuit duct and flue gas pipe situated on top of the boiler – can be built-in on three sides, enabling it to be placed virtually anywhere. It is even possible to choose between right hand and left hand

versions, whichever is better for operating. Boiler size and dimensioning of the primary circuit are normally based on the total baking area of the ovens connected to the boiler. If you intend to expand your bakery step by step by adding further thermal oil heated ovens, it is advisable to consider the likely final capacity from the start when you choose the size of the boiler and primary circuit. This way, the plant can be reset or extended to the new capacity level each time a further step is completed. Alternatively, you can interconnect two or more central heating boilers (in a tandem arrangement) in order to operate a larger number of thermal oil ovens.

Because the control system of the central heating boiler is connected to all the baking ovens, it regulates boiler output according to the actually required temperatures. It also takes account of night start-ups of the baking ovens, and reports any defects immediately. Furthermore, optimized heating means less strain on the thermal oil – and this pays off in the end by longer service life.

MIWE's central heating boiler has yet another extraordinary feature to offer: a special conservator placed above the unit keeps the thermal oil temperature in the conservator constantly below 60 °C. This cold store manages to prevent almost totally any oxidation of the heating medium, which would be detrimental for the oil quality and reduce its service life.

By the way: MIWE supplies its central heating boiler complete with a first charge of special oil. And: the scope of supply also covers the subsequent free disposal of the used oil through MIWE Service.

The central boiler system – as a compact unit (bottom) and as an industrial model (left)



Materials and workmanship

Our high standards of manufacturing automatically result in the use of high-quality materials for the construction of MIWE multi-deck ovens. With the MIWE thermo-express, all the exterior paneling and the doors for bringing in the dough are made of rust-resisting stainless steel.

Alternatively, for those who would like to keep an eye on the baking process we can supply doors made of temperature- and shock-resistant special glass. The MIWE thermo-express is built into a stable base frame – a feature that you will learn to appreciate if ever you decide to move the oven to a different position in the bakery. Workmanship is as decisive for the quality of our baking ovens as our choice of materials. For example, the baking chambers are a through-welded construction of corrosion- and heat-resistant steel and therefore completely steam-tight.

Picture top: Door for bringing in the dough, with holding notch and pressure flap.

Picture bottom: Tested and certified quality in every detail (thermal oil pipe with quality test stamp).



Controls

The MIWE thermo-express multi-deck oven can be controlled by the MIWE DS digital control system as well as by the easy-to-program MIWE CS computer control system. The MIWE CS uses the display to present clear and well organized texts – for example concerning the baking products – and allows you to freely program 99 baking programs with up to 8 baking sections each. It exactly controls all functions, which naturally include automatic night start-up and operating hours statistics, and can also be networked with other computers. In a word, the MIWE CS sets the baker free of almost all the routine operations in baking control required up to now. On request it is even possible to program the control software so that the door is opened by an electric motor to a small gap for steam to escape through.

With the MIWE DS the baking process is controlled digitally. The baking time clock (with display of the remaining baking time), the thermostat (with setpoint and actual temperature), the automatic night start-up function, the week timer, and the automatic steaming function can all be selected at the dust- and splash-proof membrane-type keypad.

A step switch for the exhaust fan and steaming of the proofing room can be operated as well if required.



Maintenance and safety

All components such as burners, spray pipes, switchboxes, lights, controls and safety devices are easy to reach from the front for maintenance purposes. The baking plates can be taken out to be cleaned. We recommend that you arrange for regular, preventive maintenance of our baking ovens and other units by signing a MIWE Service Agreement.

MIWE baking ovens comply with the safety regulations in accordance with VDI, VDE, DIN and all other widespread standards. Since 1996 we have been certified by the DVGW to issue our gas-fired models with the necessary EC Type Test Certificate.



**MIWE makes baking simple:**

With a range of classical baking ovens that includes not only efficient in-store ovens and reliable oven solutions for smaller bakers, but also fully automatic large-scale baking units.

With a complete range of bakery refrigeration equipment that simplifies and ensures the quality of your baking preparations.

With loading systems that make hard physical work a thing of the past.

With a wide selection of control options – from “single-button-operation” for unskilled workers to sophisticated monitoring and documentation systems.

And ... with customer support that you can always rely on.

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