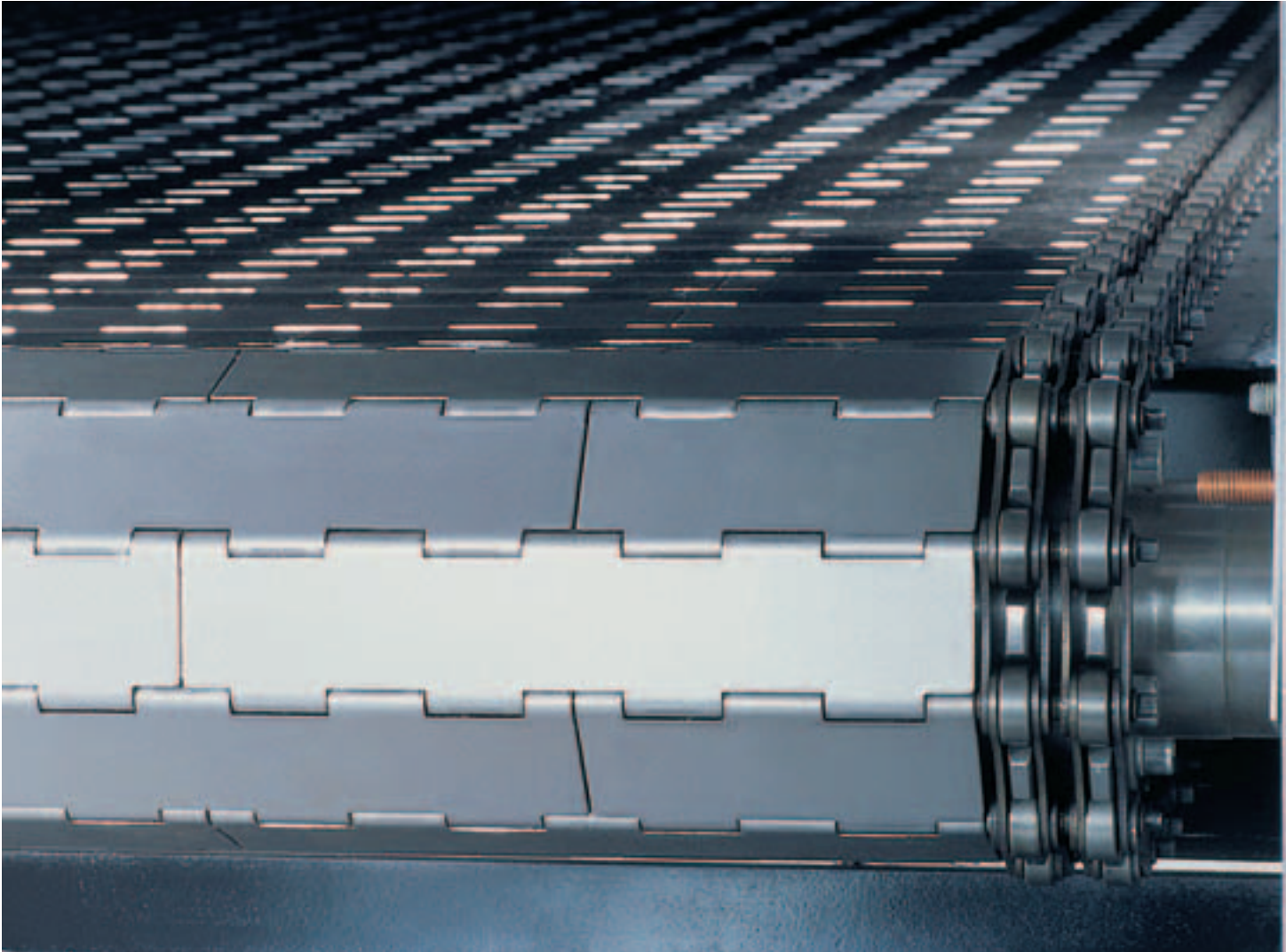


HEUFT

AUTOMATIC BAKING OVENS



Innovations from Bell

Automation of the Baking Process

Together into the Future



This brochure will provide you with comprehensive, clear and detailed information about the central theme of automation in the baking process. For, your oven system must be as adaptable as your baking operation is individual.

We shall deal with the essential aspects of oven purchase, pros and cons, advantages and disadvantages of various ovens and heating systems, and point out new alternatives. We would like to provide you with extensive, honest and clear information, to set you thinking and arouse constructive discussion, and to offer you assistance in your decision-making.

For, investment in equipment determines today what the future will bring, and what tomorrow will mean for your business. The best equipped are only those whose oven technology provides today all options for the future, in other words, today's equipment must be capable of fulfilling all of tomorrow's requirements. The decision for an automatic oven system will have lasting, long-term impact on all company procedures, assortment, employee motivation, energy costs, flexibility in production – that means on the all decisive factor quality. And, even the slightest improvement in quality will ensure and enhance your competitive edge.

And, as we are genuine partners, we would like to share with you all our experience and expertise. And more important still: we provide you with concepts and solutions with the guarantee of ensuring the quality expected from this craft and the decisive advantages for the future.

This brochure is a contribution in countering biased information about automatic baking ovens. An initial overview of the contents and topics can be found on the opposite page. You can, of course, directly contact us at any time – be it for further information, exchanging experience, or because you would like to provide suggestions. In any case, we would be happy to speak with you!


Thomas Heuft

Table of Contents

Quality – ensuring Success

Competition among baking operations will increasingly be carried out in the realm of quality. This has nothing in common with bakery shop romanticism. Rather, premium quality can only be achieved through modern oven and heating systems. **Page 3**

Thermal-oil – the all-round talent

With this time-tested, traditional heating system quality standards of the future can be guaranteed. **Page 4**

Top-rate technology providing top-rate quality – systems comparison **Page 4**

Rationalisation – decide for the Future

Lower costs, labour-savings, produce more efficiently and profitably while remaining flexible – automation of baking processes plays a decisive role. **Page 6**

The right combination – systems comparison **Page 7**

Assortment – a Wonder of Variation

The trademark and the most effective competitive advantage of a traditional small craft bakery and a modern large-size craft bakery is a wide-ranging and varied assortment of baked goods. **Page 9**

The more varied the products, the more flexible the system – systems comparison **Page 10**

Personnel – the best of all Potential

Highly qualified personnel are rare. Automation allows consolidation of tasks – the employees have less workload and are more motivated. **Page 12**

Technology that makes baking fun – systems comparison **Page 12**

Saving Energy and saving the Environment

Switching over to an automatic oven system will lower energy consumption. And thermal-oil is the heating system that is environmentally compatible. **Page 13**

Perfect Space utilisation

Production space costs money. With the right oven concept existing floor-space can be optimally utilised. **Page 14**

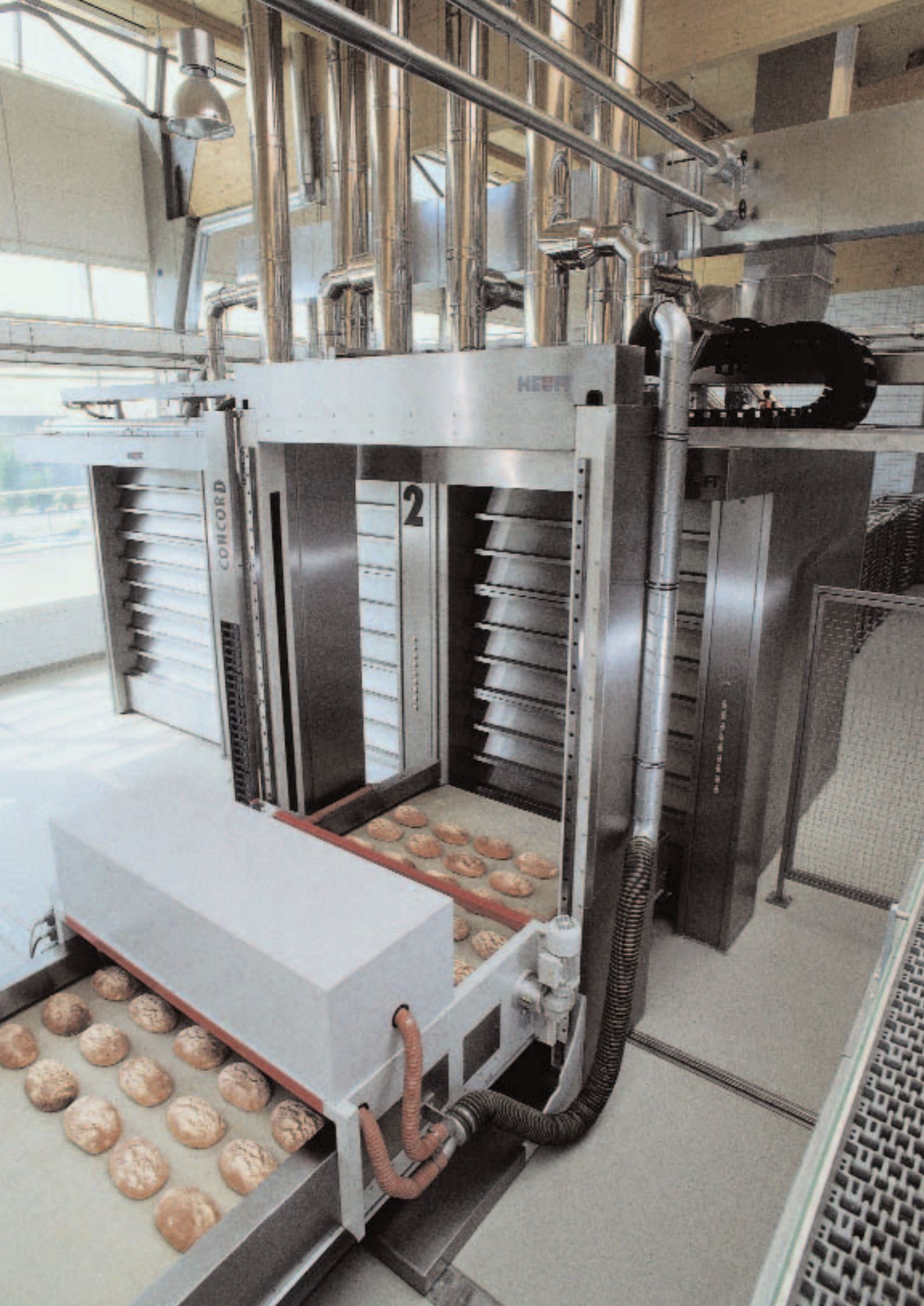
Modular construction – systems comparison **Page 15**

Oven Models

- Deck oven with Concord Loader **Page 16**
- Vulkan Tunnel oven **Page 18**
- Vulkan Euroback
Multideck continuous oven **Page 18**
- Vulkan Impact – the Heuft
high-capacity compact oven with
Concord rapid **Page 20**
- Vulkan Impact as reversible oven
with Concord rapid **Page 21**

Heuft – the Company at your Side

Quality, functional capability and reliability – these are the guiding principles of Germany's oldest baking oven maker and thermal-oil specialists **Page 20**



Quality – ensuring Success

Quality is no Coincidence

Quality baking at its highest level – Those striving for excellence, do not settle for less. First-class ingredients, selected recipes, masterly preparation, optimal manufacturing and perfected baking techniques are indispensable in the pursuit of quality.

Medium and large sized baking operations producing first-rate quality today have very little in common with the once romantic bakery that is currently portrayed by the industry in TV commercials. Rather, premium quality can only be achieved by using state-of-the-art ovens and heating systems.

At Heuft, quality has top priority. Our ovens are top-rate in precision and reliability. Because we want you to be able to bake premium quality, time after time – and when it comes to that, you're unbeatable.

These 3 Vulkan thermal-oil automatic ovens are installed in the bakery Wünsche in Ingolstadt. Each oven has 9 hearths, 187,5x240 cm, with 40.5 sqm overall baking area. Each hearth group consists of 3 hearths with 13.5 sqm baking area, temperature can be individually regulated.

...and yes, there are subtle Differences

In future, the image of the artisan baker will increasingly become a projection of the alleged good old days. The customer of the future will make decisions based on subjective and objective quality standards, yet more often based on personal tastes – but always only the best will do.

Competition will increasingly be carried out in the realm of quality. Central to commercial success is, therefore, clear commitment to quality. And, achieving premium quality requires stable, absolute consistency and constant reproducibility – the customer can always count on consistent quality.

Time-tested and predictable product quality is the primary asset of baking operations that allows them to be up to the challenges of tomorrow. With the ovens from Heuft, you can take on any challenge, because you're able to bake top quality time after time – and this makes itself felt up front in the shop.

Setting new Standards of Quality

Quality is always subject to change. For bakeries this means having to exercise a great deal of flexibility. For example, baguettes with coarse, irregular porosity do not really reflect the standard of quality as seen in German bakeries; customers, however, consciously wish to have their baguettes with such "irregularities".

Testing the physical limits of the baker are a multitude of requirements inherent in preparation and manufacture that can only be overcome through the use of modern technology. For instance, in future there may be uncommon ingredients and products currently unknown to us that may require unconventional preparation and production techniques.

Today, classic oven systems are already operating at the limits of technological performance. This is true, above all, when oven loading is carried out using conventional means, or a heating system is being used that is not providing optimal efficiency.

That is why we at Heuft are continuously working on improvements of

our present ovens and further developing the latest technical processes, and the thermal-oil system that is superior to all other heating systems.

Thermal-oil, the All-round Talent

Crispy, succulent and aromatic bread and pastry at its highest quality is best produced using a mild heat for soft and gentle baking without flaming and scorching, with rich but never overheated steaming, rapid and even steam extraction, as well as targeted and timed implementation of air circulation.

This requires that the appropriate heat is provided at the time and in the amount needed – this must be quick, at the precise temperature, controlled, constant and adapted to each individual product. These are attributes that can only be achieved with thermal-oil heating.

That's because, as a liquid heat transfer medium, thermal-oil has a much greater heat accumulating capacity, and a much better heat transfer rate than air or water. For thermal-oil, the temperature difference ΔT (Dt) between the heat transfer medium and baking chamber

is less compared to all other systems – providing the ideal conditions for mild yet powerful heat radiation. Furthermore, temperature distribution is absolutely even, and temperature curves are especially stable.

Thermal-oil is the time-tested, traditional heating medium that ensures the ability to fulfill quality standards of the future. Heuft specialises in thermal-oil. For more than 30 years we have been designing and building thermal-oil systems for baking operations.

Top-rate Technology providing Top-rate Quality

A wide assortment of bread, cakes and pastries with masterly character and of the best quality can only result from gentle and careful handling, preparation and baking. The traditional craftsmanlike equipment is the classic deck oven together with the automatic loading system Concord from Heuft, which in combination can be perfectly adapted to the most varied requirements.

Programmable control technology provides gentle transfer from the preparation table to the loader, precise placement in the oven and, if

wished, automatic removal. Moreover, it guarantees exact adherence to pre-set programs – from preparation steps such as spraying before loading, to removal after baking.

Thus, every single baking program is perfectly tailored to the respective product. Because at Heuft we know: the technology must be as flexible as the products are different – always ensuring the right quality for the right product.

If the assortment focuses on only a few products, a simple oven – at first glance – is the tunnel oven. Of decisive importance, however, is whether baking will be continuous or in batches.

When baking in batches and striving for genuine quality, oven downtimes are inevitable. Because, the baking climate in the oven must be adjusted to the next product to be loaded. Trying to produce baked goods one after the other too quickly will always result in inferior quality.

For continuous operation, i.e. a running conveyor, idle time occurs only when changing over to the next product. The typical multideck continuous oven in batch system is advantageous when similar products are

Careful and gentle transfer of baked goods. The Concord precisely manoeuvres to the transfer table.



baked at a relatively constant temperature as often and as long as possible, one batch after the other.

A particular strength of the **Heuft tunnel oven** is that the oven can be operated in continuous mode as well as with stationary belt and still produce top quality and consistent baking. And, not to mention, excellent steaming capability.

The **Vulkan Impact, the high-capacity compact oven from Heuft**, is a deck oven which is equipped with the **high-performance double loader Concord rapid**, and bakes in batch mode. The **Vulkan Impact** is a technology that is unmatched in efficiency among its kind on the market.

Loading and unloading of hearths is done in a matter of seconds using

the double-loader, i.e. two loaders, one above the other. Both loaders together have the same capacity as an entire oven. In two steps an oven can be loaded and unloaded as quick as a blink.

This unique loading concept from Heuft also enables the construction of a reversible oven – loading and unloading takes place on one side. Once and for all passé is the problem of “first in/last out”, i.e. the product loaded first was the last to leave the oven, and thus was baked longer which resulted in inconsistent quality – no longer however with the Concord rapid. Thanks to this innovative technology, consistent quality is guaranteed.

“We built our new bakery operations with the future in mind. So it was a natural decision to find an oven system, that ensures being able to consistently manufacture first-rate quality – no matter in which direction the development is going.”

Uwe Mantei has been baking since the beginning of 1998 with 2 Vulkan Automatics (each 27 sqm = 54 sqm baking area) and the Concord loading system.

Rationalisation – decide for the Future

Innovative today – obsolete tomorrow

Of all places, the Baker's shop is where time isn't standing still. For, it is exactly here where old-fashioned preparation and production techniques are being replaced by more functional and improved concepts and solutions.

What is adequate and practical today, will be obsolete and impracticable tomorrow. The decisive factor for the survival of a business is continual rationalisation. And it is automation that plays a determining role in the rationalisation process.

With our oven units and the Heuft loading systems, you are able to work with targeted efficiency thanks to sophisticated technology and modern computer control. And once you have that you're well-equipped for the future.

Up with performance – down with costs

Working efficiently saves costs through optimisation of operational flows, through faster loading and unloading times, and through constantly high-quality baked goods. Whoever invests wisely today, will

remain financially competitive in future.

State-of-the-art technology only makes sense when, thanks to greater efficiency, it generates greater flexibility. Then, for one, workflows are accelerated and streamlined; and for the other, you are in the position to change or broaden the assortment quickly, easily and without great expenditure – you are always in tune with the times.

Of additional importance is reserve capacity that can be mobilised when the pressure is really on – here, computer-controlled technology can be a most important and dependable member of your baking staff.

Heuft automatic oven systems are a long-term investment in stable value, reliability and flexibility.

Automation – it can't get any simpler or more efficient

Rationalisation also means an increase in productivity in all realms of business. This means, for instance, the overall available baking surface can be optimally utilised, the actual baking performance of an oven system can be considerably increased through rapid



automatic loading (load in/bake load) and computer-controlled baking programs. Because as you know, a large half-filled oven is unprofitable. Production is wage-cost intensive. Expensive skilled personnel at the front of the ovens can be reduced – thanks to automatic loading, this operation becomes the simplest operation in the bakery. Skilled personnel can then be assigned to where they are really needed.



Machine running time equals working time – at the push of a button the entire spectrum of technology is at your disposal. And that means performance that is not dependent on the mood of the day: always 100% dependable, always punctual and precise, always working at its peak and with the utmost commitment. And: your staff "member Technology" is never sick, and never asks for a holiday.

We at Heuft know that your business depends on the reliability of your

oven or oven facilities. That is why our systems are so precise, efficient and dependable – and that for your entire baking career.

The right Combination

The most efficient baking technique for large quantities of only one product is the **tunnel oven in continuous operation**. This system is unbeatable, especially for baked goods with short baking times such as rolls or salt pretzels.

This is the single-hearth continuous oven at the bakery Wünsche in Ingolstadt. The oven is 200 cm wide and 1,800 cm long (36 sqm baking area) and has 6 temperature circuits. Baking is done continuously in step system or with stationary hinged-section belt. You can reach Herr Wünsche under the phone number ++49 (0) 8458 / 327 90.



The single-hearth continuous oven at the company, Roelandt in Zele/Belgium. The oven is 205 cm wide, 2,040 cm long (41.82 sqm baking area) and has 6 temperature circuits. Baking is done continuously on wire belt in 3 shift operation.

Once production is up and running you have 100% capacity utilisation, from the time the first batch of baked goods is removed. From that point on the oven is constantly loaded, the conveyor is running uninterruptedly, the temperature remains constant, and there is no idle time.

For **multideck continuous ovens** the efficiency potential, however, drops the moment when products are baked in batch operation (i.e. with stationary belt). For this system, best utilisation is achieved when baking medium-sized batches.

For smaller batches the ideal variant to rationalise operations is to load the **deck oven using the Heuft automatic loading technology Concord**. The number of hearths, one over the

other, can just as easily be planned and realised as the necessary baking surface itself – nothing is left to chance.

After setting the baking program the most varied of baked goods can be loaded and baked one after the other without long interruptions for loading.

Loading and unloading become lightning fast operations with the **Vulkan Impact, the high-capacity compact oven from Heuft**, a multideck continuous oven equipped with the **high-performance double loader Concord rapid**, used in double step system – then, you are actually faster in a two-step operation than in a one-step operation.

In less than 3 minutes the prepared dough is transferred to the loading system. Through high-speed loading as well as baking – less than 30 seconds are needed per hearth for each operation for a baking surface of 12 sqm – construction design as a reversible oven is also available.

For baking surfaces of, for instance, 50 to 100 sqm, the reversible oven proves superior to the continuous oven, alone for reasons of the minimum space needed, and low investment costs. An additional advantage is that it can be loaded and unloaded from the same side – allowing operating personnel to manage both activities.

With the **Vulkan Impact Heuft** has set new standards in oven technology.

Assortment – a Wonder of Variation

Nothing is so constant as Change itself

A master bakery distinguishes itself through its craftmanlike assortment of baked goods that is wide-ranging and various. Besides seasonal products such as fruit pie and Christmas biscuits and pastries, and the inevitable promotional business, a bakery must be in the position to venture out to a new future concerning first-class quality, presentation of new products, and providing variety – i.e. the entire spectrum of the craft itself.

Bakeries must also adapt to changes in the market of the future such as, for example, semi-baked goods or organic baked goods, or to meet the increasing demand for Sunday sales of a narrow range of baked goods (e.g. a production of a small assortment out of the cold).

You're ready for the future with Heuft automatic oven systems. Then, the ovens are as flexible as your assortment is varied – no matter where the future leads.

Nothing off the Peg

Manufacturing of a large range of various products demands automatic production technology that allows a high degree of flexibility, and can efficiently provide first-rate quality even for the smallest batches.

A varied and masterly assortment – that is the trademark of a master bakery, and in future the most effective competitive advantage.

And, as no two bakeries are alike, Heuft not only offers standard solutions, but individually tailored-made concepts as well.

Variety is no Sleight-of-hand

Flexibility in changing assortment is a premise that must be adopted today, in preparation for tomorrow. The more flexible and versatile production technology is, the less time is needed for changeover and setup in daily operations.

Technology is ancillary to assortment and must be adapted to individual products. That means, a perfected and future-oriented oven concept consisting of various automatic oven systems must not only be geared to its rationalisation potential,



The high-capacity Vulkan Impact with the double loader Concord rapid at the exit end of the oven. The Concord rapid manages the entire batch of baked goods for an oven on 2 loaders, one above the other.

but especially equipped for a varied assortment of baked goods.

Of paramount importance at Heuft is: don't try to see whether it works, but be sure that it does work.

The more varied the Products – the more flexible the System

The **deck oven** is designed and constructed for wide-ranging assortments. Relatively small hearth sizes and hearth groups, or individual oven control make it the most flexible system when it comes to baking varied and small batches.

In combination with the **Heuft automatic loading system Concord**, every changeover in assortment can be easily and efficiently carried out at anytime without loss in quality – it is a genuine versatile talent.

The indisputable master in the category of flexibility and efficiency is the **Heuft Vulkan Impact**, a **high-capacity compact oven** – the ideal symbiosis of the classic deck oven and innovative technology – also available as a continuous and reversible oven system.



Equipped with the unique **Heuft high-performance double loader Concord rapid** – in double step a complete hearth can be loaded and unloaded in a matter of seconds – and all products can be baked with the Vulkan Impact – one for all, all in one.

The **tunnel oven**, with its unbeatable efficiency for baking mono-product lines on a large scale, is an ideal sup-

plementary module to, or in combination with the versatile deck oven system.

Whereas a large variety of products are baked, in rapid changeover, in a **multideck oven Vulkan Euroback** or the **Vulkan Impact from Heuft**, the tunnel oven guarantees a constant manufacture of large amounts of a baked good that is a standard element in your assortment throughout



This is the high-capacity compact oven, Vulkan Impact, with the double loader Concord rapid at the bakery, Richard Nußbaumer GmbH in Waldbronn. The oven has 5 hearths, 250 cm wide, 480 cm long. Each hearth has 12 sqm baking area, the entire oven has 60 sqm overall baking area. You can reach Herr Nussbaumer under the phone number ++49 (0)72 43 / 5 67 80.

the year – e.g. the ubiquitous roll, or in many regions the salt pretzel.

One is not always as flexible as one would believe when using the multi-deck **continuous oven** that has long been favoured by master bakeries.

For batch baking, where temperature curves and product changeovers are necessary, longer and longer loading breaks occur. The reason is, in general, an oven must first be run empty and

adjusted before a product change-over is possible. The **multideck continuous oven in step system** – seen from the perspective of producing a varied assortment – is here restricted.

Personnel – the best of all Potential



“At that time we really enquired around at all the companies. But the new concept from Heuft was the most convincing. I immediately had the feeling that: At Heufts we’re in good hands. And it has proven to be true!”

A quote from, master baker Richard Nußbaumer, who in 1999 received the first Vulkan impact with Concord rapid.

Without Personnel, Things come to a Standstill

The most important asset of each and every bakery operation are the employees. Employees who are reliable, competent, committed and motivated always excel in performance.

At Heuft, we attach great importance to functional reliability, precision and labour-savings; technology that your staff can count on – that’s when baking really becomes a pleasure.

Put an End to back-breaking Work

Of all businesses, the bakery is where it is difficult to find highly qualified employees. Here, the solution is to consolidate the number of tasks that can be done with the help of automated oven systems – whereas in the past, several workers had to carry out one activity, only one is needed today. This in no way means monotonous work. Rather, the worker who can operate an automatic oven has considerably higher self-esteem and understanding of technical and technological sequences. The person manning the oven remains the most important craftsman in the bakery, not least because, with his expertise he can achieve the best baking results.

The hardest physical work is taken over by “colleague robot”. Work stress is eliminated, because the computer-controlled baking programs precisely run at the touch of a button. And there is an increase in employee satis-

faction and motivation thanks to labour savings, simplified handling, reliability of the system, and smooth and safe operation – and this can be felt throughout the entire bakery.

Most of our employees at Heuft have grown up around bakers. And we attach great importance to that. Because, we not only understand our craft, but yours as well.

Technology that makes baking Fun

Bending over and heavy lifting during loading of the lower and upper hearths of the oven are a thing of the past, thanks to modern loading systems.

If an oven is loaded and unloaded from one side, e.g. for **deck ovens equipped with the automatic loading system Concord**, or the **Vulkan Impact with Concord rapid** from Heuft, this has the decisive advantage that the oven operator can directly monitor baking results.

Any necessary corrections of baking programs can be immediately keyed in. This is a major advantage that ensures consistent high quality. And, the expert runs the show – not the oven.

Saving Energy and saving the Environment – A Balance sheet to be proud of

Economy, Day after Day Euro after Euro

Energy savings and environmental compatibility – these are two aspects that have long been neglected by many a business. The ecology tax (on energy), steadily rising energy costs and the heated debate on further cost increases for energy are all reasons enough to exercise greater responsibility when it comes to energy consumption – and, not to mention, for the sake of the environment.

Our Environment will be grateful

Converting to an automatic oven system guarantees lower energy consumption, in that optimal capacity is utilised – e.g. loading times are shortened. Moreover, for instance, for thermal-oil ovens, sections of the baking surface can be switched off when not needed – this creates flexibility and at the same time saves additional energy.

Playing a decisive role, however, is the type of heating system used. Best is using a heat transfer medium that is capable of heating the baking surfaces within the shortest time possible. The highest degree of efficiency is achieved through a thermal-oil heating system. Thermal-oil excels in performance and is modest in consumption, is non-toxic, reliable and when used properly has a service-life of at least 8 to 10 years. After that, it can be recycled. And such economical use of resources benefits our environment.

In addition, with a boiler unit, any number of ovens can be connected. There are fewer flue problems and less loss of exhaust gas. That is why thermal-oil is the ecological heating system of the future

Heuft ovens are state-of-the-art technology and are of high-quality workmanship. To date, no Heuft Thermal-oil Oven has ever been scrapped. And, Heuft ovens retain a very high resale value.



Great in performance –
modest in consumption:
the thermal-oil boiler unit

- compact, lying or upright models
- in various sizes, from 80 to 1,000 KW boiler rating
- low energy consumption

Perfect Space utilisation – nothing is left to Chance



At the bakery, Mantei in Heidelberg: 2 Vulkan Thermal-oil deck ovens, each has 6 hearths, 187.5 x 240 cm, 27 sqm baking area, prepared for 9 hearths. The Concord can be moved transversely, and in expanded stage can load up to 3

ovens each with 9 hearths (121.5 sqm baking area). Each hearth group, 3 hearths with 13.5 sqm baking area, is individually regulated.

You can reach Mr. Mantei, phone number ++49 (0) 62 21/6 04 90.

Don't give up any Space!

For one, production space costs money. That is why the option of using your existing floor-space is generally cheaper than building on.

For another, at first glance there doesn't seem to be space enough for installing an automatic oven system on your existing premises. But, with the right oven concept, new equipment can be fitted into almost any floor-space.

Think ahead when planning

An important aspect is your medium-term business plan. If future expansion is planned, long-term investment in the necessary increase in baking surface must be taken into account. For, an oven concept that is tailored only to current requirements, means pre-programmed and more expensive investment in the future.

Heuft assists you in coming up with well-thought-out and conceptual solutions when planning, so that your baking operations are geared towards future growth, and that bad investment can be avoided.

Less often means more

In order to be able to optimally use existing space, it is sometimes sufficient to use the limited floor-space available to cover increasing needs. This can be achieved through better utilisation of baking surfaces and considerably reduced idle times.

A thermal-oil heated oven system offers two essential advantages: the burner is not installed in the baking room, but in a separate area – because, the only thing that belongs in the baking room is the oven itself, and there is no unnecessary noise to disturb and irritate employees – and if planning is done with foresight, the number of ovens can be increased with a minimum of cost and effort.

It's absolutely amazing: Modular Design

The **deck oven equipped with Concord loading technology from Heuft** can be easily adapted to the increasing need of additional baking surface – it simply works like building blocks.

The number of ovens can be increased within a system, i.e. additional ovens can be set up side by side – and, not until the moment you

actually need additional baking surface. Future growth in production is already taken into account when planning today's space.

The genuine space-saver, however, is the **high-capacity compact oven Vulkan Impact from Heuft, with the double loader Concord rapid**. Then, in optimal operation it achieves the best capacity utilisation through short pre-heating times and high-speed loading and baking.

Designed as a **reversible oven**, it can be installed at the back and enlarged using the modular system just as a thermal-oil oven.

Compared to other oven systems, the tunnel oven fares rather badly when it comes to efficient utilisation of floor-space.

The baking surface of the single-hearth construction is considerably less than the space needed for installation. The system is also difficult to enlarge. The advantage is, however, that no expensive loading equipment is necessary: loading and unloading can easily be carried out.

Oven Models

Automatic Deck Baking Oven with Concord Loader

Technical Characteristics

The oven group consists of one or several deck ovens placed side by side, and an oven loader, the Concord. Each oven has up to 12 hearths (decks) one above the other. Baking is done on stone plates.

Type of heating: oil, gas, electric

Heating system: thermal-oil, electric, heating gas circulator

Loading system: The Concord loader has a hardwearing cloth belt. The loader is horizontally and vertically movable. Loading speed is significantly greater than loading by hand.

Temperatures: Usually hearth groups with different temperatures, but also separate hearth control or separate upper and lower heating are possible depending on heating system.

Functioning

The classic Vulkan Thermal-oil Deck Oven is loaded with the fully automatic Concord loader. The loading tongue is inserted directly into the hearth, deposits the dough pieces onto the hearth or scrapes up the baked goods at the end of the baking time and removes the products from the hearth.

The transfer of the dough pieces to the loader, loading of the selected hearth, control of baking processes for the respective product, final baking and, if desired, spraying of the baked goods and their removal – all operations are controlled and monitored by one central computer.

Assortment

The baking ovens have the usual, craftsmanlike baking characteristics of the Vulkan Thermal Oil Deck Oven with stone plates with very good baking quality. This means that an entire assortment can be baked in this oven. Loading of pull-out hearths is no problem for the Concord. Sheet goods and pan goods are loaded manually.

Usual Sizes

(special models can be designed)

Deck ovens are built with 5 to 12 hearths. A deck baking oven can have an overall baking area of from 10 to 54 sqm. The Concord can, depending on baking time, load up to 27 hearths (3 deck ovens with 9 hearths each).

Deck surface areas:

(hearth width x hearth length)

125 x 160 cm	187.5 x 160 cm
125 x 200 cm	187.5 x 200 cm
125 x 240 cm	187.5 x 240 cm

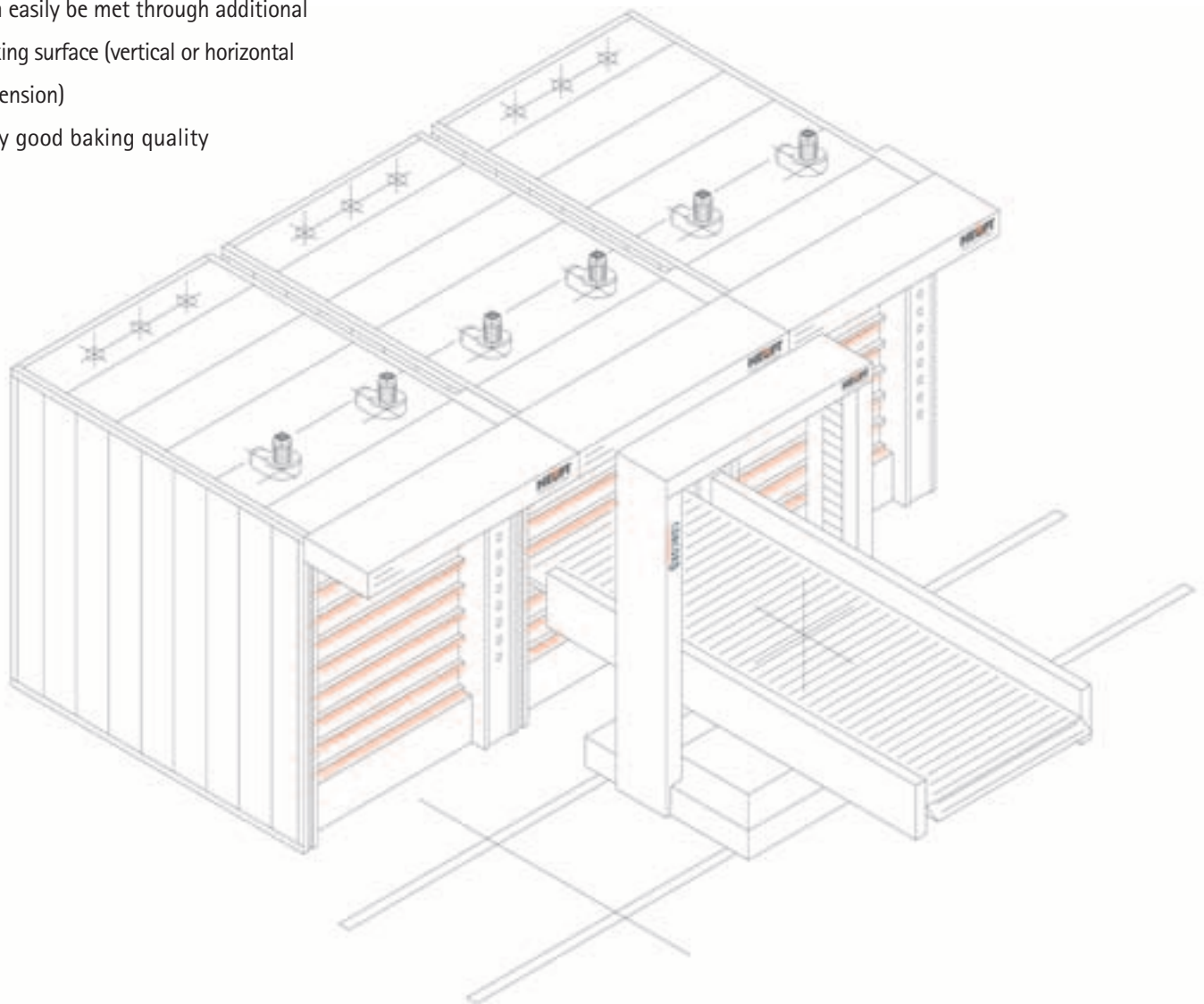
Advantages

- can be adapted to different batch sizes and a wide-ranging product assortment with frequent product changeover
- high degree of flexibility
- traditional craftsmanlike baking
- baking done on stone plates
- additional pull-out hearths available
- manual loading is possible

- ovens and loading system can often be integrated into existing production facilities without any problem. Existing deck ovens can, under certain circumstances, also be loaded with the Concord.
- growing need of baking surface can easily be met through additional baking surface (vertical or horizontal extension)
- very good baking quality

Disadvantages

The larger the batches, the lower the degree of rationalisation. For larger baking surfaces, space required can be relatively high.



One or two-hearth continuous Oven Vulkan Tunnel

Technical Characteristics

The oven is most often built as a single-hearth oven, seldom as a two-hearth continuous oven. Baking is done on wire belt, hinged section belt, steel belt or stone plate belt.

Type of heating: oil, gas, electric

Heating system: thermal-oil

Feed-in: feeding conveyor of cloth or steel

Exit: transfer conveyor of steel

Temperatures: various temperature zones as well as separate regulation of upper and lower heating

Functioning

The oven is designed for continuous production of a narrow range of baked goods each being produced in large scale. At the feed-in of the hearth the products are transferred to the oven belt. Usually the belt runs continuously during the entire baking time, or continuously in steps. At the end of the baking time, the products are conveyed to the other end of the

hearth and exit the oven. The speed of the belt depends on the baking time of the respective product (throughput time = baking time). In addition baking on stationary belt is possible

Assortment

Generally, all products can be baked in the oven. The oven must be configured to the existing product assortment.

Usual Sizes

(special models can be designed)

The oven is most often built as a single-hearth oven, seldom as a two hearth continuous oven.

Hearth areas:

Usual hearth width:

1,000 to 3,000 mm

Usual hearth length:

9,600 to 4,8000 mm

Overall baking area: 9.6 to 288 sqm

Specifications can be tailored to your needs.

Advantages

Very high degree of rationalisation potential and consistent baking quality for continuous production of a

narrow range of products, each in large scale (line production). Good baking quality also on stationary belt.

Disadvantages

The ratio of baking surface area to needed floor space is rather unfavourable. The oven is not suitable for a wide range of products

The Vulkan Euroback Multideck Continuous Oven in Step system

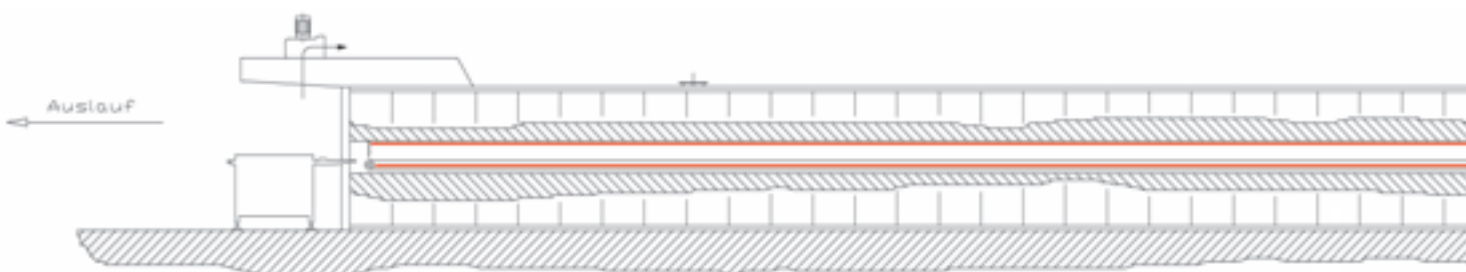
Technical Characteristics

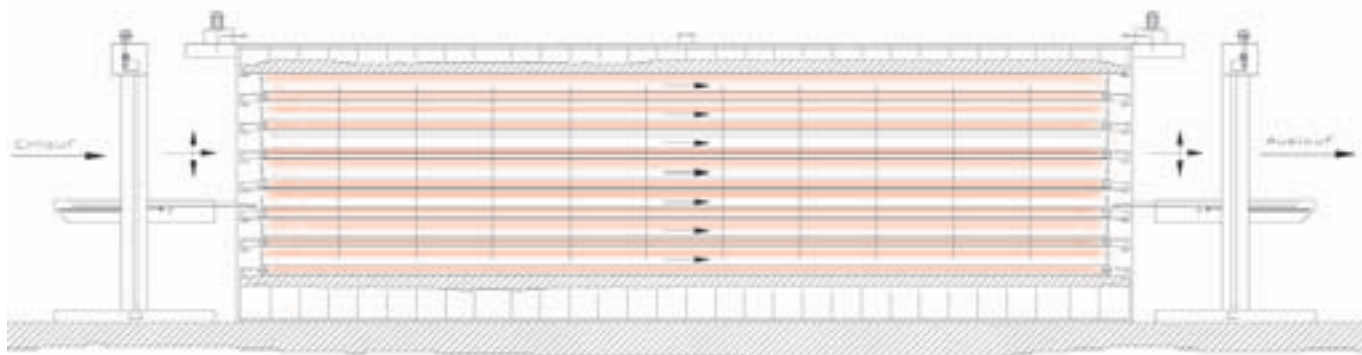
The oven usually has up to 7 hearths (decks), a loader and an unloader. Baking is done on a wire-belt, hinged-section belt, very seldom on stoneplate belt.

Type of heating: oil, gas, electric

Heating system: Thermal-oil

Loading system: The loader has a section length of usually 1,200 mm and consists of cloth belt or of steel belt. The unloader has the same section length and is of steel belt. Loader and unloader are placed immediately in





front of and behind the hearth belts and can be adjusted in height.

Temperatures: Each hearth is individually controlled, mostly with separate upper and lower heating. In addition, longer ovens usually have additional temperature zones.

Functioning

A loader transfers the dough pieces to the oven belt of a hearth in steps. Here, there are two modes of operation:

Continuous in step system:

The belt continuously runs in steps during the entire baking operation. At the end of baking time the products have reached the end of the hearth. and the oven belt transfers the baked goods to the unloader.

Batch baking in step system:

A hearth is loaded in steps. Baking is done with stationary belt. At the end of baking time the baked goods are conveyed in steps out of the oven and at the same cycle as they were loaded.

Assortment

In general, all varieties of baked goods can be baked in this oven.

Usual Sizes

(special models can be designed)

2 to 7 decks

Deck surface areas:

Hearth widths: 2,000 mm

2,500 mm

3,000 mm

Hearth lengths: 4,800 to 18,000 mm

Overall baking area: 19.2 to 378 sqm

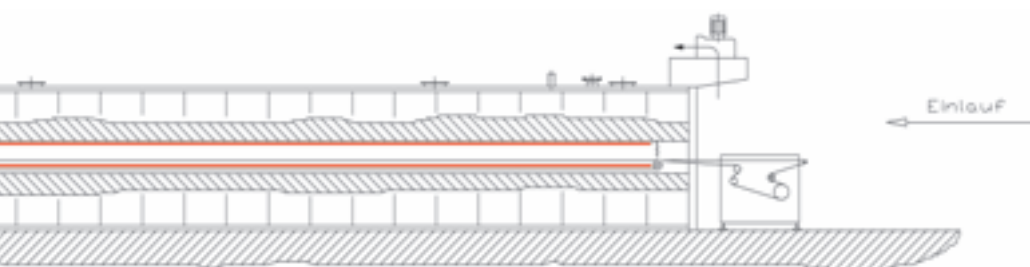
Advantages

The oven is suitable for a greater range of assortment and large-scale production. Various products can be baked at the same time in different hearths.

- high degree of rationalisation
- relatively large baking area for size of oven
- good baking quality

Disadvantages

For a wide range of baked goods, meaning frequent product change-over, idle times occur. Usually the oven must be run empty, as the parameters for the next product must be reset before the next product can be loaded into the oven. The time needed for completely emptying and filling the oven is relatively long. This becomes clearly evident especially when products with short baking times are run. As a result, efficient capacity utilisation of the oven sinks.



High-capacity compact Oven Vulkan Impact with double Loader Concord rapid as continuous Oven

Technical Characteristics

The oven has up to 12 hearths. Baking is done on hinged section belt, very seldom on wire belt. The belt is stationary during the baking operation.

Type of heating: oil, gas, electric

Heating system: thermal-oil

Loading system: The double loader Concord rapid has 2 loaders one above the other. Together the loaders have the capacity of an entire hearth. In two operations each, a hearth is quickly loaded and unloaded. The loader belts are of hardwearing cloth or stainless steel.

Temperatures: Each hearth is regulated independent of the other hearths. Separate upper and lower heating is also possible.

Functioning

For a multideck continuous oven, each hearth is loaded and unloaded with the Concord rapid, a double loader in step system. Baking is done as in a classic deck oven. Pre-steaming, main steaming, desired temperature curve, steam extraction, circulated air, everything is controlled and optimally regulated for the respective product.

Assortment

Suitable for an entire assortment in very high baking quality.

Usual Sizes

(special models can be designed)

Up to 12 hearths

Deck surface areas:

Hearth widths: 2,000 mm, 2,500 mm

Hearth lengths: 4,800 mm

6,000 mm

7,200 mm

9,600 mm

Baking areas:

9.6 sqm 12.0 sqm 14.4 sqm

15.0 sqm 18.0 sqm 24.0 sqm

Overall baking area: 38.4 to 288 sqm

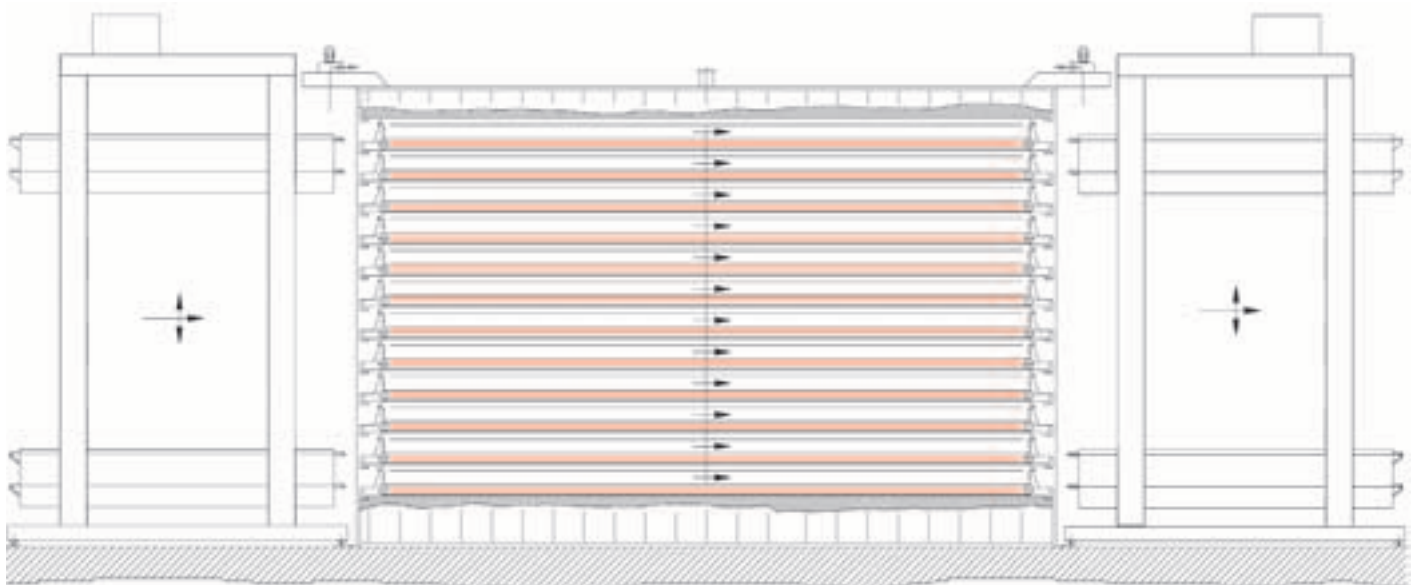
Advantages

The oven is suitable for a greater range of assortment and large-scale production. Various products can be baked at the same time in different hearths.

- optimal baking quality for all products
- a very high degree of flexibility through lightning quick loading and emptying of hearths
- high baking capacity through high-speed preheating and fast loading
- very good ratio of baking area to space needed for installation, as design allows for up to 12 hearths
- high steaming performance

Disadvantages

None



High-capacity compact Oven Vulkan Impact with double Loader Concord rapid as reversible Oven

Technical Characteristics

The oven has up to 12 hearths. Baking is done on a hinged-section belt, seldom on a wire belt. The belt remains stationary during baking operation.

Type of heating: oil, gas, electric

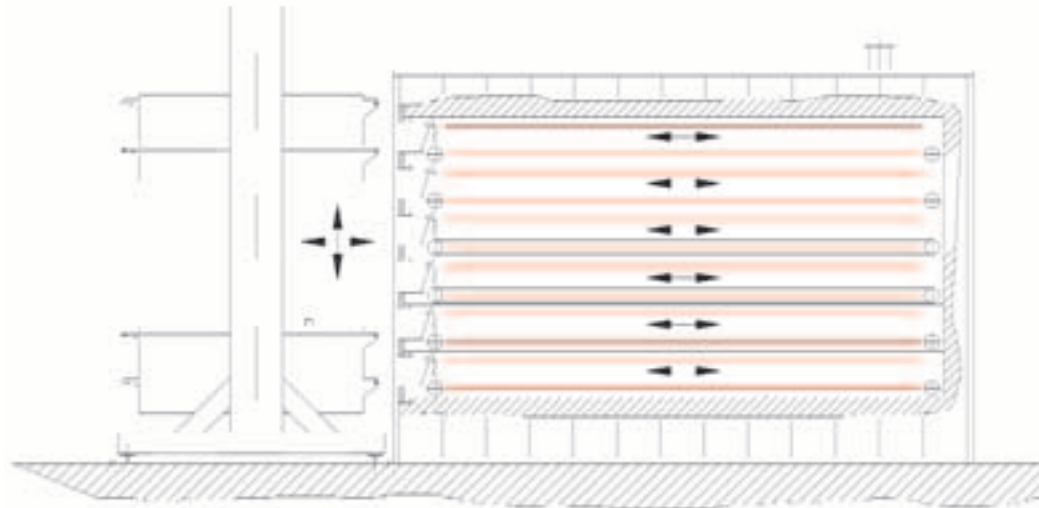
Heating system: thermal-oil

Loading system: The double loader Concord rapid has 2 loaders one above the other. Both loaders together have the capacity of a complete oven. In two steps each a hearth is quickly loaded and unloaded. The loader belts are of hardwearing cloth or stainless steel.

Temperatures: Each hearth can be individually regulated, independent of the others. Separate upper and lower heating is also possible.

Functioning

For a multideck reversible oven each hearth is quickly loaded and unloaded with the Concord rapid, a double loader, in two steps. Baking is done as in a classic deck oven. Pre-steam, main steam, desired temperature curve, steam extraction, turbulence, everything is controlled for optimal baking of the respective product.



Assortment

Suitable for an entire assortment, in very high baking quality.

Usual Sizes

(special models can be designed)

Up to 12 hearths

Deck surface areas:

Hearth widths: 2,000 mm, 2,500 mm

Hearth lengths: 4,800 mm,

7,200 mm, 6,000 mm, 9,600 mm

Overall baking area depends on the baking times for the various products and speed used of the Concord rapid. The usual sizes, however, are 4 to 10 hearths and an overall baking area of 38.4 sqm to 150 sqm.

Advantages

Oven and loader are optimally suited for wide-ranging assortment, frequent product changeovers and large-scale production. Various products can be simultaneously baked in different hearths.

- optimal baking quality for all products

- excellent flexibility through quick loading and unloading of hearths
- large baking capacity through quick heating speed and rapid loading
- very good ratio of baking surface to space needed for installation, as design allows up to 12 hearths
- high steaming performance

The oven system is easily integrated into existing production facilities, as the oven can be placed at the rear. The oven operator can immediately monitor baking results. If corrections in baking program are necessary, the operator can key these in at once. Investment costs are lower, space needed is less.

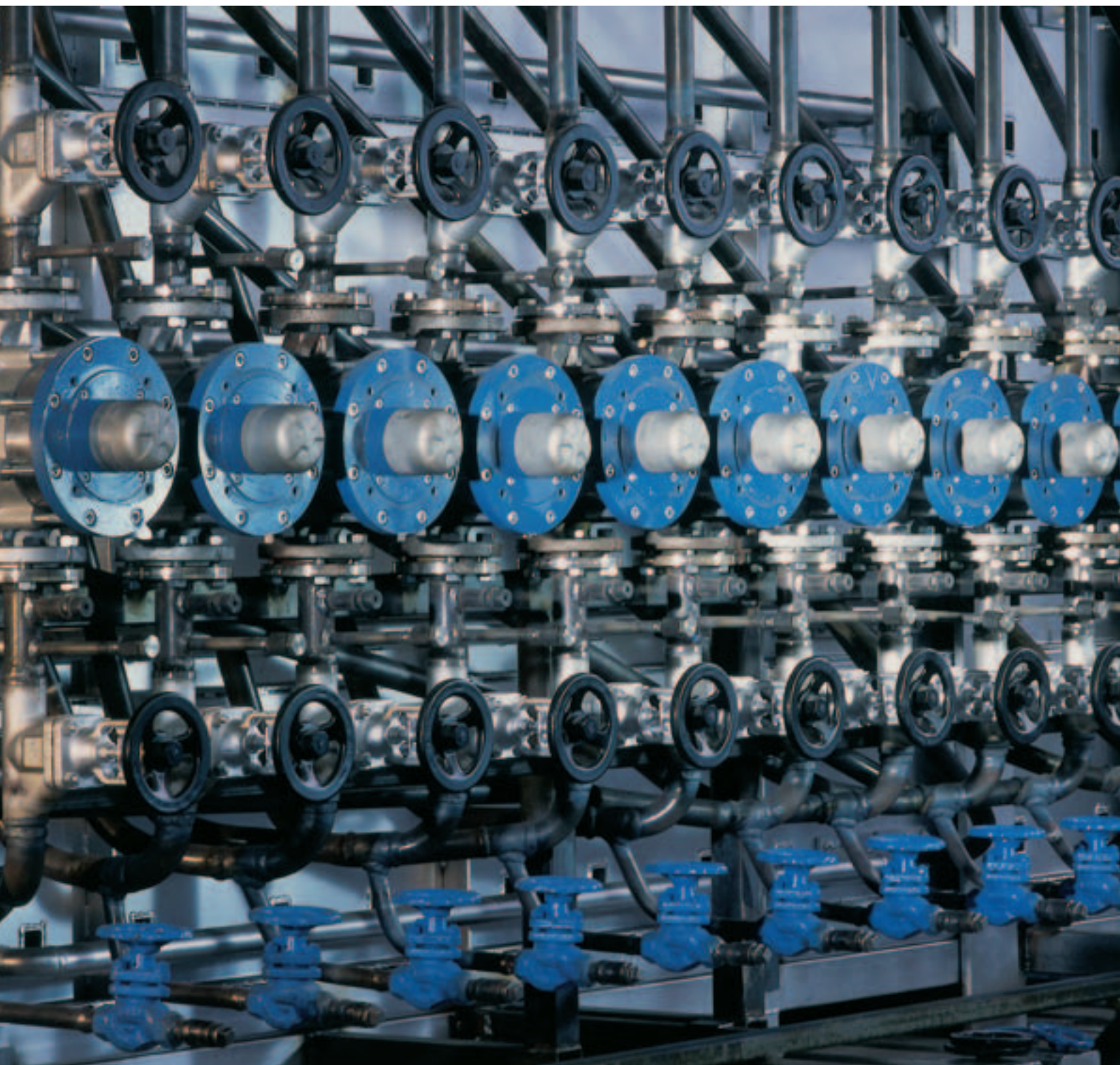
As loading and unloading times for the hearths are very fast, it is also possible that a Concord rapid loader, loads as well as unloads the hearths

Disadvantages

None

HEUFT

AUTOMATIC BAKING OVENS



Speaking of Heuft...

A Partnership that you can count on

One thing that the traditional, craftsmanlike small bakery and the modern large-size bakery operation have in common is: dependency on quality, and the reliability of their oven or oven units. Here, the master baker, Dölger, was truly right (see quotation right side): a supplier, and be he as good as he may, is simply not enough. You need a partnership for your baking ovens, that guarantees you will consistently bake premium quality time after time. In fact, for your entire baking career. No matter what comes.



Thermal-oil, the ideal Heat transfer medium for large Surfaces

The fact that thermal-oil systems have gained wide acceptance for heating large surface areas, has neither to do with pure coincidence, nor has it become simply fashionable. Rather, it has to do with elementary physics. There is simply no other heat transfer medium that is able to distribute heat so evenly, while providing such gentle but powerful heat for baking.

Profound Experience, wide-ranging Expertise

Heuft has been working with thermal-oil from the very beginning. For more than 30 years Heuft has been designing and building thermal-oil systems for bakeries. There is absolutely no short-cut for that competitive edge in experience. No matter whether, apprentice, technician, general manager, mechanic installer or employee in production and sales – at Heuft, we all have thermal-oil in our blood.



HEUFT

AUTOMATIC BAKING OVENS



We solve your Problems – not ours

In the last few years we have developed a lot of innovative systems and greatly improved those we already had. Quality has always been of more importance to us than costs, functional dependability more important than assembly or production expenditure, and reliability of our products more important than market position. And, it ensures that our oven systems work from the very first touch of that button. Perhaps that's why they're somewhat more expensive. But you can be sure that they're worth every penny of it – and that, long term.

An Array of Competence ensuring your Success

Most of our employees have grown up around bakers, have served their apprenticeships and gained their experience in thermal-oil with us, with our customers, or at other companies in which this technology plays such an essential role.

Furthermore, we work closely together with the most experienced specialists in this sector and make sure that we are always in tune with the latest developments, and we are continual-



ly upgrading and enlarging our expertise. For, we would also like you to be able to work in future with the most modern and reliable oven units.

Let our Ovens speak for themselves

You're heartily welcome to call on us in Bell/Eifel, Germany; the cradle of German baking oven construction. We will gladly take the time for you and your staff.



“For me it wasn’t a risk at all. The oven technology really convinced me, and you can put that on the record. The oven makers at Heuft were the only ones who precisely kept to the delivery date that had been agreed.”

Master baker, Heinz Wünsche, who, attending the IBA 1998, ordered the first tunnel oven and 3 loading systems from Heuft, in an article published in the Deutschen Bäcker Zeitung (German Baker’s Newsletter).

Imprint

Concept: Thomas Heuft **Text:** Thomas Heuft, qualified engineer; Klemens Holthaus, master baker and specialized journalist; Claudia C. Niedzwetzki-Weidner, freelance journalist **Photography:** Peter Sondermann **Graphic Design:** Winkel Design, Jörg Schneider, Cologne **Print:** JK Drucktechnik, Koblenz

2nd edition, ???? copies · Status April ??, 2006

Hier muss noch die
Auflagenhöhe und
der Status aktuali-
siert werden.

HEUFT
THE THERMO-OEL PEOPLE

Karl Heuft GmbH · D-56745 Bell/Eifel
Tel. 00 49/26 52/9 79 10
Fax 00 49/26 52/97 91 31
info@heuft-backofenbau.de
www.heuft-backofenbau.de