

SPIDER

AUTOMATION TECHNOLOGY



AUTOMATIC LOADING AND UNLOADING SYSTEM
AUTOMATED PRODUCTION PROCESSES



FULLY AUTOMATIC LOADING AND UNLOADING SYSTEM

Only advantages:

- Humanization of work processes
- Rationalization
- Production optimization
- Quality improvement
- Profit increase

A WIN-WIN-WIN SITUATION

Save costs, save time, improve quality. Sounds too good to be true? But it's real! Thanks to the new Hein SPIDER loading system, this calculation definitely adds up!

Your „oven man“, „oven woman“ or oven team has to perform back-breaking work every single day. Even with a 10 m² deck oven that is loaded and unloaded three times a day with bread—and considering the weight of loading and unloading aids—around three-quarters of a ton of dough, bread and aids must be lifted and moved daily. And that on more than 300 production days a year. With a large oven battery, peak loads can reach 12–15 tons or more.

Therefore, the workspace in front of the oven is more like a permanent training ground for weightlifters than a sustainable workplace for a qualified baker.

And let's be honest: no weightlifter would choose to train in front of the oven given the hot and humid conditions!

That's why back and shoulder pain and spinal problems are often part and parcel of an oven worker's life. This frequently leads to absenteeism and reduced job satisfaction.

Poorly motivated employees are inevitably a burden for any bakery owner. This leads, unavoidably, to a decline in quality. With the HEIN SPIDER, you can specifically relieve your employees—yourself included—motivate them, and thus improve your quality.

Using the HEIN SPIDER as a „robot“ in front of one or several ovens reduces oven work time by up to 70% compared to traditional manual processes.

Costs are significantly reduced, and your employees are available for other tasks more quickly. This also saves time and costs in other production steps. Moreover, it can help your products become available sooner (logistics).

Treat yourself and your team to a production optimization through automation that takes the strain off your staff—the Hein SPIDER does the heavy lifting. Better and more efficient.

Creates a great team atmosphere and impresses customers!

Whether in sales, thanks to consistently excellent quality, or in production, thanks to easier work and production optimization—success is contagious.



Treat yourself and your team to a labor-saving production optimization through automation—let the Hein SPIDER do the heavy lifting. Better and more efficient.



THE COST PERSPECTIVE

As you can see, cost analysis is multifaceted and must be considered individually for each specific bakery. Therefore, we won't burden you with statistics, flowcharts, break-even points and decimal places, because these are purely theoretical approaches that rarely or never align with your product range, production volumes and workflows. No bakery is the same as another.

We offer you a customized solution for your bakery—and you should demand the highest quality for this individual solution. SUCCESS IS RARELY A COINCIDENCE!





ADVANTAGES:

- Custom adaptation to your needs
- Reduction of physical workload (humanization)
- Rationalization and cost savings
- Better use of baking surface
- High operational reliability
- Universal applicability
- Premium build quality, safe operation
- Easy access for maintenance
- Compatibility with existing deck ovens
- Automatic oven surface cleaning
- Easy installation, low ancillary costs
- 24-hour customer service, 365 days a year
- Reasonably priced spare parts and service
- Long-term partnership



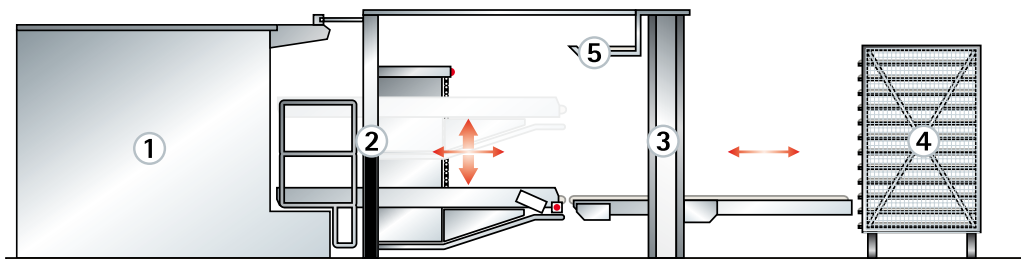
PREMIUM QUALITY—NO COMPROMISES
IN DESIGN, EQUIPMENT, AND SERVICE.
GUARANTEED.

THE IDEA – THE SYSTEM

From the outset, the HEIN SPIDER was designed to ease and humanize oven work while also optimizing workflows, reducing costs, and—if possible—improving product quality. It was clear to us that this system had to keep pace with your bakery's growth and development.

The core of the system is the loader and unloader unit, which is stationary in front of a deck oven.

You can load dough pieces from baskets or with a cross cloth loader. The loader functions analogously to a cloth loader, loading the oven and unloading it after baking. You select the baking deck for loading or unloading at the push of a button. During unloading, the belt moves in the opposite direction to loading, so that you can sort products directly into baskets at an ergonomic height.



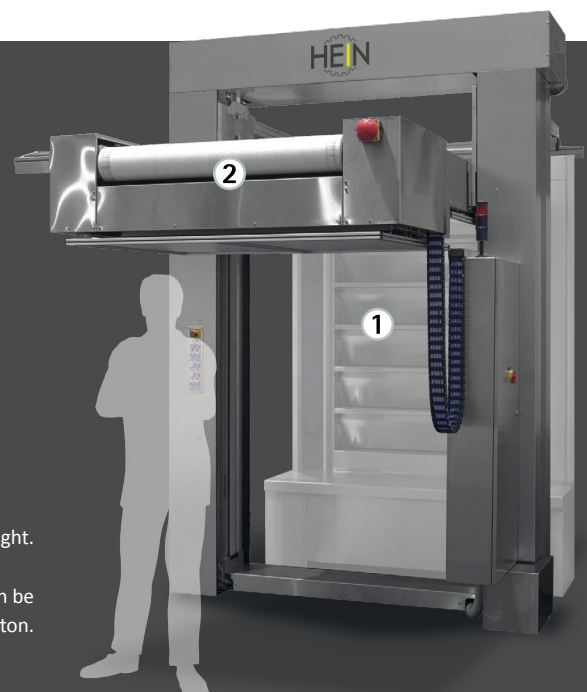
MODULAR COMPONENTS OF A SYSTEM:

- 1) Deck oven system
- 2) SPIDER
- 3) Transfer table / dough crawler
- 4) Docking station / proofing rack
- 5) Outfeed conveyor / water spray device / discharge chute

...

If you don't need the HEIN SPIDER, simply park it above head height.

If you want to operate multiple deck ovens, the HEIN SPIDER can be moved automatically at the push of a button.





SYSTEM COMPONENTS

To increase the efficiency of our HEIN SPIDER, we have added a few essential system components:

THE DOCKING STATION

For cross-cloth loaders, enabling you to load free-standing, freely-proofed dough pieces just as easily (with automatic cart locking). The loading table and docking station work hand in hand.

THE LOADING TABLE

This table matches the oven deck size and serves as a staging buffer for basketed products, ensuring you're always one deck ahead while the HEIN SPIDER is loading or unloading.

THE TOUCHSCREEN SYSTEM CONTROLLER

The control center of the system, managing and regulating all processes.

THE UNLOADING TABLE / DISCHARGE CHUTE

For receiving baked goods, particularly when the shipping distance is short.

THE OUTFEED CONVEYOR

Automatically transports baked goods to shipping.

THE SPIRAL CHUTE WITH ROTATING TABLE

An alternative to the discharge chute.

THE SHIPPING INFO CENTER

Ensures the shipping team knows which products are arriving and when (logistics).



THE DOUGH CRAWLER BELT

For sequentially picking up proofed dough pieces from proofing boards as an alternative to using a cross-cloth loader to assemble a complete oven deck load for the next baking cycle.

The table consists of a fixed support module and a crawler unit (dough crawler). The support module is located in front of the table and features stops and guides for the precise placement and securing of proofing boards. These guides are custom-fitted to the board size on a project-by-project basis.

The crawler has an extendable crawler tongue. The operator uses a hand switch to initiate the crawling process once the boards are in place. The tongue is guided over the boards as it extends. While the tongue extends, the transport belt moves in the opposite direction, picking up the dough pieces from the boards. After picking up the dough pieces, the tongue retracts with the belt stationary. Each crawling cycle picks up the load from three boards.

The table is designed to assemble a complete oven deck load for loading in a single pass. This ensures that the loader/unloader is engaged only for the time needed to transfer a complete oven load, rather than waiting for partial loads to accumulate.

For a full oven deck load, the crawling process is repeated twice. The proofing boards on the support module are manually swapped out, and the product carpet already on the belt is realigned at the infeed-side light barrier before crawling resumes.

After the third pickup, the load on the table is positioned at the outfeed-side light barrier to ensure a defined handover path to the loader.



THE CONSTRUCTION

As standard, we only use stainless steel materials and the highest-quality electrical and mechanical components and drive systems. Our occupational safety technology meets the highest standards; you decide whether the HEIN SPIDER runs behind safety fencing.

The actual loading/unloading table features a horizontally movable, fabric-stabilized, highly heat-resistant belt. The table is counterbalanced, height-adjustable, and mounted in a sturdy frame.

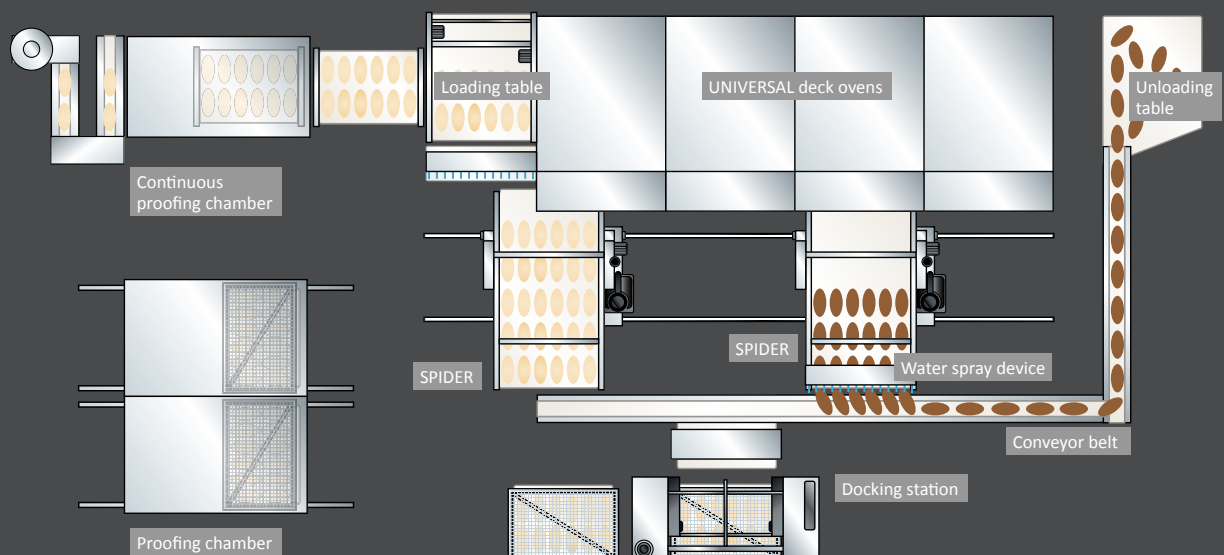
The HEIN SPIDER unit glides almost silently along the oven battery on a floor track (recessed into the floor to prevent tripping) and overhead guide rail. Thanks to its precise and rapid motor drive, the vertical and horizontal movements appear continuous and not stepwise. This smooth motion allows you to load even highly proofed dough pieces without quality losses.

The transfer table and docking station work synchronously (1:1), with freely programmable row spacing (load density) onto the loading table.

The HEIN SPIDER can handle 2- and 3-deck wide ovens with deck depths of 160–240 cm. With Hein UNIVERSAL tube ovens, even wider decks can be accommodated (on request).

The outfeed conveyor transports baked goods to the discharge chute or spiral chute.

A water spray device and automatic oven exhaust extraction can be integrated.



CONTROL SYSTEM

Regardless of the control system you choose, if the control fails, your ovens can continue to operate independently.

With the manual “push-button control,” you initiate individual movements—selecting the oven and deck, loading, and unloading. The baking recipe must be set at the oven. This control mode is only conditionally practical and sensible; the number of ovens and production volume are key factors.

The HEIN SPIDER achieves its full potential with the color touchscreen controller. This freely programmable control system manages the entire baking process: loading, baking recipe, unloading, and transporting the baked goods to shipping. The number of decks the system can load depends primarily on the baking times of the products; the control selects the appropriate oven deck for the recipe.

After the product-specific baking time, the system automatically unloads and transports the products. The shipping team can view on-screen (optional) which products are ready and when.

OPERATION

You can place dough pieces directly onto the loading table using baskets or cross-cloth loaders. Loading and unloading are triggered by pressing a button. Alternatively, in automatic mode, you can place dough on the loading table and/or docking station.

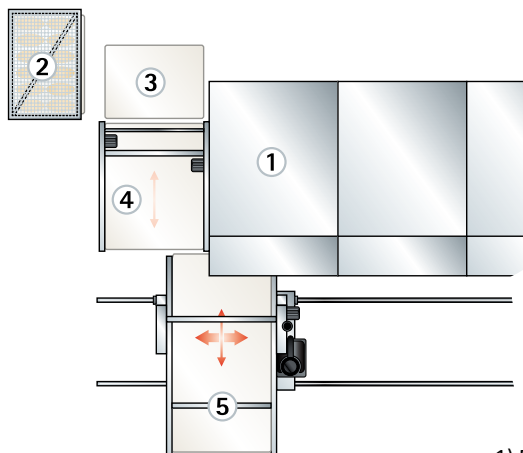
Using the touchscreen, select your baking recipe; the transfer table passes the load to the HEIN SPIDER, which handles the entire baking process. Unloading always takes priority.



CONFIGURATION EXAMPLES

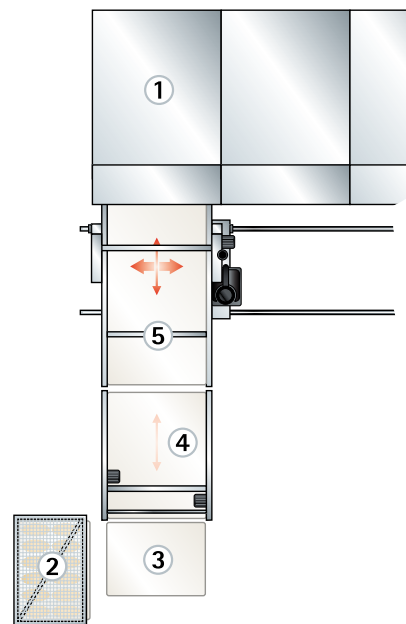
A Hein SPIDER production line is always custom-built, carefully planned, precisely tailored to your needs, and made to measure. The system should fit your operation like a glove—while also allowing for future expansion.

Side-mounted dough crawler *

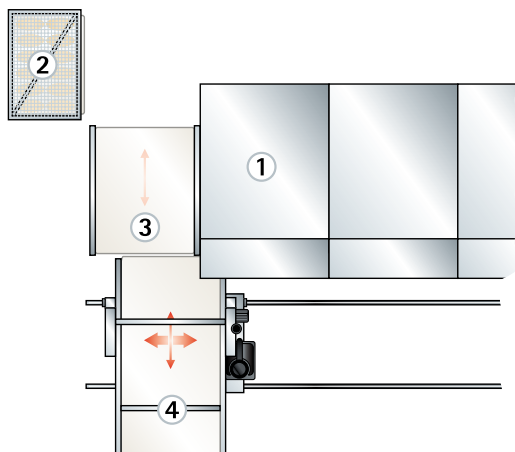


- 1) Deck oven system
- 2) Proofing rack
- 3) Loading module
- 4) Dough crawler
- 5) SPIDER

Front-mounted dough crawler

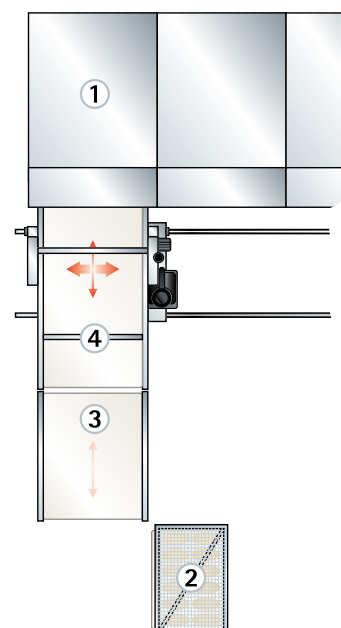


Side-mounted transfer table

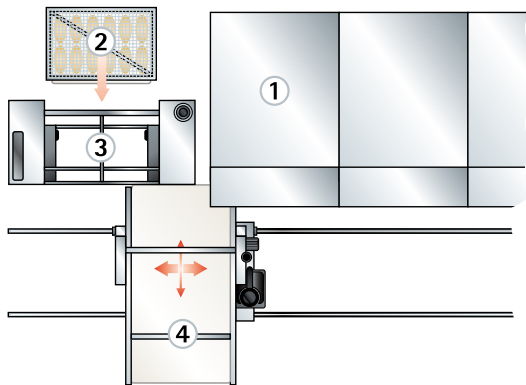


- 1) Deck oven system
- 2) Proofing rack
- 3) Transfer unit
- 4) SPIDER

Front-mounted transfer table

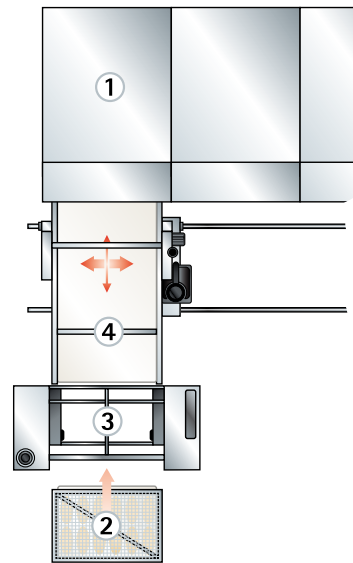


Side-mounted docking station

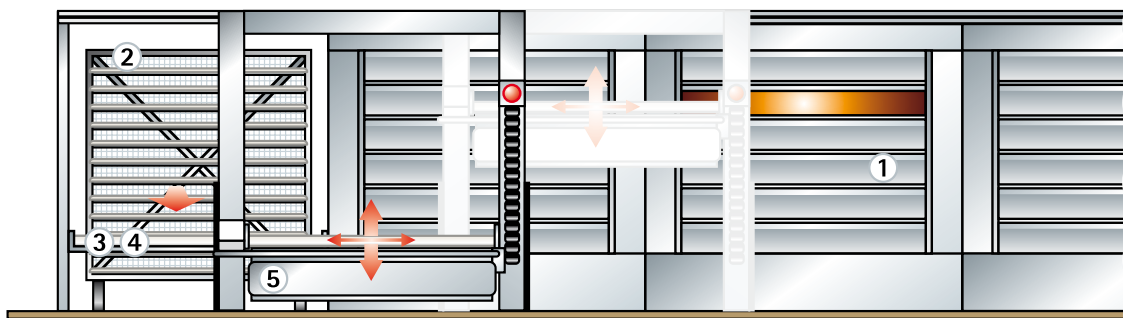


- 1) Deck oven system
- 2) Proofing trolley
- 3) Docking station
- 4) Spider

Front-mounted docking station



* Front view



- 1) Deck oven system
- 2) Proofing trolley
- 3) Loading module
- 4) Dough crawler
- 5) Spider

PROFITABILITY

Thanks to the shorter loading and unloading times of the HEIN SPIDER compared to traditional methods, you can save 1–2 workers at multiple ovens.

However, more detailed cost analyses require an individual assessment.

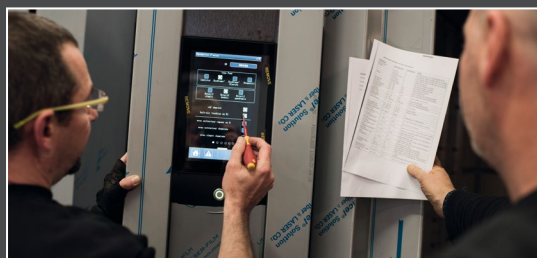
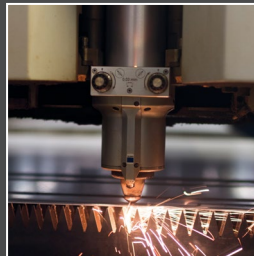
With the HEIN SPIDER, you always come out on top!

Call us today and let us convince you:
Tel.: (+352) 45 50 55 1

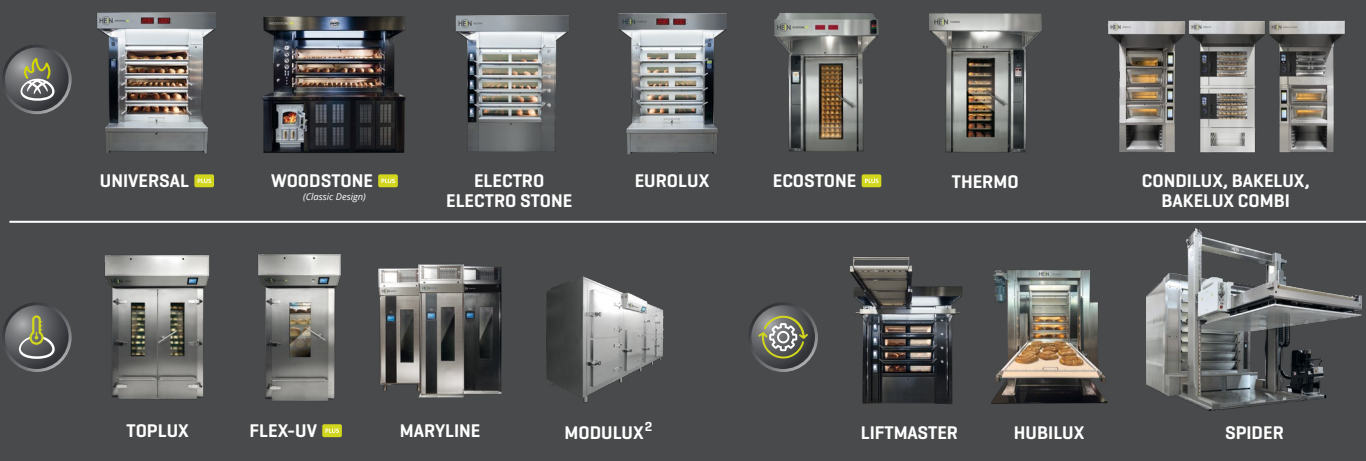


Oven construction and cooling technologies

The HEIN company is an innovative family-owned company from Luxembourg, which has been developing high-quality baking and cooling technology for demanding bakers and manufacturing it in its own production facilities since 1882. Every product that leaves the manufacture is the result of over 140 years of experience, the highest level of engineering, the best materials and components, the most modern production techniques down to the last detail and the skills of highly motivated and committed employees.



Overview of our product range



Redefining excellence. Since 1882.



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