Over the last 30 years MCS has developed a unique and specific competence in designing and manufacturing automatic industrial Proofing systems which, combined with its own Tunnel ovens, form the “very heart” of the industrial baking lines.

The technical mission of MCS to combine high capacity, quality of the final product and flexibility is emphasized in proofing systems, which are offered in many different configurations to suit the different baking technologies and output requirements. On request the proofers are designed to run alternatively different types of products.

MCS Automatic proofers

The Technology

- MCS exclusive climatization unit allows to keep a very precise control of temperature (± 1°C accuracy) and humidity (± 3% accuracy) throughout the proofer, with ample adjustment possibilities, to maximize the product consistency. Air at low speed is supplied through a series vertical ducts located at the two sides and then it is recovered at the top of the proofer, in the center;

- Selection of the most suitable proofer design and introduction of custom made solutions, to meet specific requirements;

- Several different loading and unloading systems to suit the different products and type of lines.
Swinging tray proofers

With this system it is possible to use multiple trays (up to 4 tiers) reducing the overall size of the proofer and its cost. The system is also versatile: it can indifferently handle products on baking pans, as well as products on peelboards to be hearth baked. In the latter case, by using food grade plastic boards, it is possible to perform a very efficient cleaning obtaining a perfect hygiene. Proofers designed to work with both pans and boards are equipped with a special unloading device suitable to handle the different requirements, supervised and controlled by recipe management programmes through the PLC.

Stabilized tray proofers

This system is mainly used for small/medium sized lines and for hearth baked products. The trays are supported by side wheels running onto rails. When passing from one tier to the other, a sprocket engages the side wheel, stabilizing the tray till it reaches the rails of the next tier. The trays are normally covered with canvas, easily removable for washing or, when possible, the tray’s surface is made of stainless steel or food grade plastic material. At every cycle, in the return section of the proofer, the empty trays are subjected to the cleaning process: at first the surface is brushed, then vacuum cleaned, exposed to UV rays and finally air dried.

The design: mechanical excellence, hygiene and safety

- Easy access for maintenance and cleaning;
- Frame in stainless steel and high quality components;
- Absorption of the stress on the proofer chains by means of pneumatic tensioning systems;
- The systems are fully assembled and tested in our factory prior to delivery;
- A special attention is given to the hygiene of the system, with design that uses only smooth and rounded surfaces without slits that may collect residuals turning into bacterial colonies;
- In order to avoid the potential risk of injuries to the operator caused by moving parts, the proofer is designed to prevent access to hazardous places by means of electrical or fixed protections.
Special products like Ciabatta need prior to the make-up a long pre-fermentation (up to 20 hours) of the first dough (biga), followed by an additional pre-fermentation of the final dough. Then the dough is ready to be processed in a sheeting line. Long dough pre-fermentations, which can reach even 22 hours, are also used in the production of high quality “Pizzeria type” pizzas. In industrial plants this process of dough development, which usually requires extensive times and a considerable amount of labour, can be easily automated, providing not only significant cost savings but also an accurate control of the individual phases.

MCS has successfully developed automated dough pre-fermentation systems, where stainless steel bins receive the required amount of dough, are covered with a lid and fed into a chamber with specific temperature and humidity conditions. After the pre-fermentation each bin is unloaded from the proofer, lid is removed, dough discharged and after oiling, the bin starts the whole cycle again. If required a bin washing unit can be added to the system.
**Swinging Cradle Proofers**

This system is utilized in lines dedicated to elongate bread, since the configuration of the cradles, the loading and the unloading devices allow only this type of product. A variation of the system is the proofer with swinging cups, suitable to work only round shaped doughs. The latter is normally used in cross-sheeted pizza lines.

In case of Rye-bread production plastic baskets are commonly used, in order to give a proper shape to the dough pieces during proofing. The plastic baskets, round or oval, are fitted on swinging cross bars connected to the side chains.

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**Norià type Proofers**

The Norià (Paternoster) systems are utilized for Proofing as well as pans/straps Storage, Cooling and Freezing in multi-products lines. Despite a more complex mechanical design, which may require more frequent and accurate maintenance, this system offers high flexibility in proofing times combined with a very compact design.

**Tunnel Proofers**

Tunnel Proofers are very common in dedicated lines for the production of batons, when floor space is available. These proofers offer big advantages in terms of simplicity of the design and require very basic maintenance.
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