



RAFF



MINIPAN[®]
industrial lines & machines



OUR HISTORY IS SHAPING OUR FUTURE

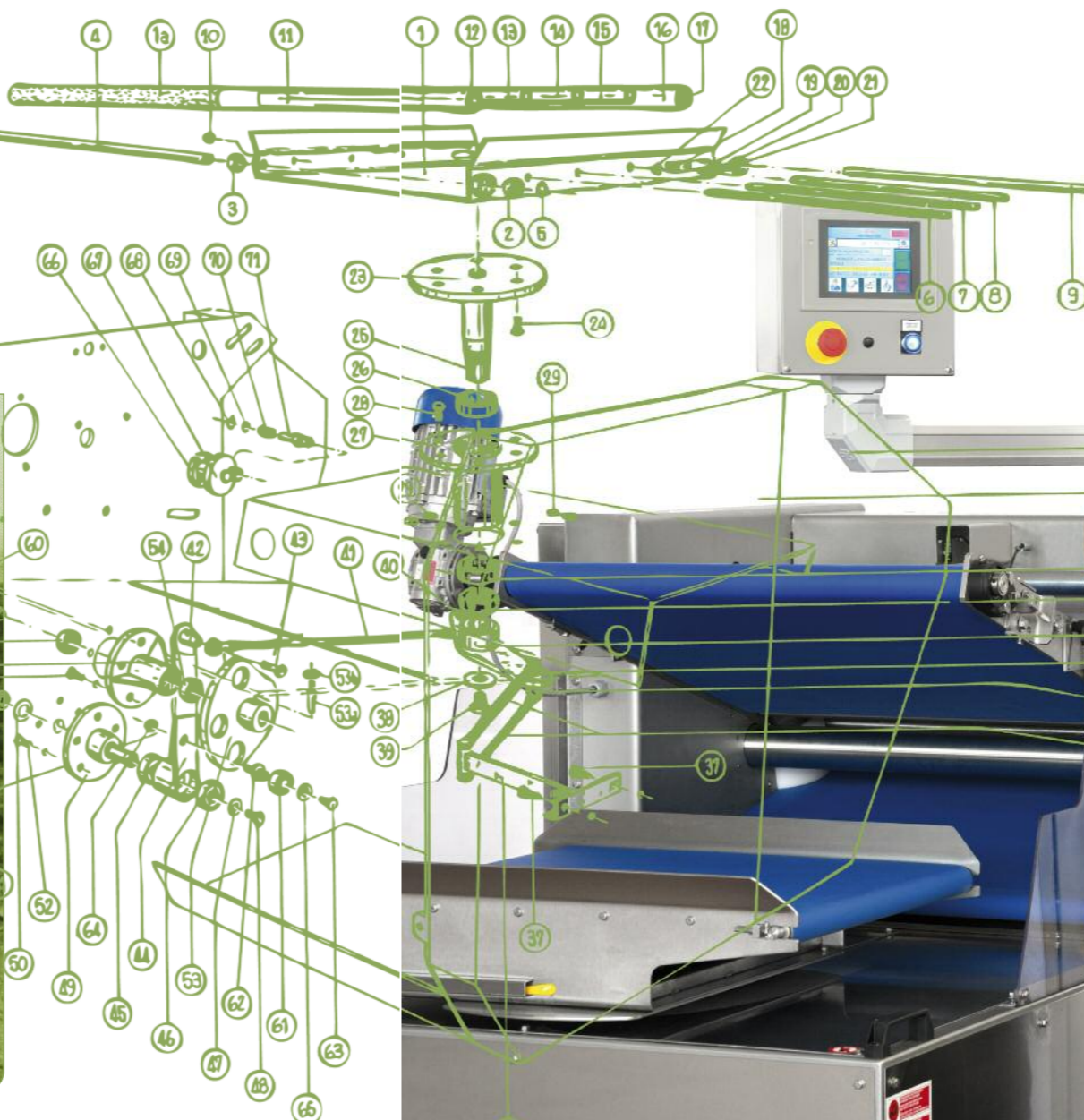
When it comes to the ancient ART of BAKING, it is always difficult to determine the MYSTERIOUS ORIGINS of the processes, essential to create specific types of bread.

We know that in the late 1950's, Northern Italian bakers were seeking a device able to support their fork mixers for KNEADING their dough, made with the local low protein flour. They were looking for a machine to help the development of the right GLUTEN NETWORK, able to REFINE and speed up the kneading activity of their fork mixers. Like their fork mixers, it had to be gentle enough to REDUCE FRICTION, therefore capable of controlling dough temperature increases.

By observing what MASTER BAKERS were doing by hand (pressing and stretching dough with the heel of the hand, FOLDING over, and ROTATING it through 90° repeatedly, until the dough become elastic and smooth), MINIPAN engineers designed the very first "RAFFINATORE", a closed loop DOUGH BREAKER, able to mimic the manual process. The RAFF machine drastically reset the human effort required to finish a dough sheet, providing always an extremely CONSISTENT and effective result. It is no secret why RAFF instantly became MINIPAN's best seller, driving the growth and success of the Company.

Ever since, we have been developing the RAFF technology and evolved it into a futuristic concept. The demand for HAND MADE LOOKING BREADS is nowadays growing bigger and bigger and RAFF, despite its HEAVY DUTY INDUSTRIAL built, has kept unchanged its unique amazing capability to improve the GLUTEN NETWORK in respect of a TRADITIONAL METHOD.

Mr. Bruno Zaffagnini, production manager. Minipan member since 1976





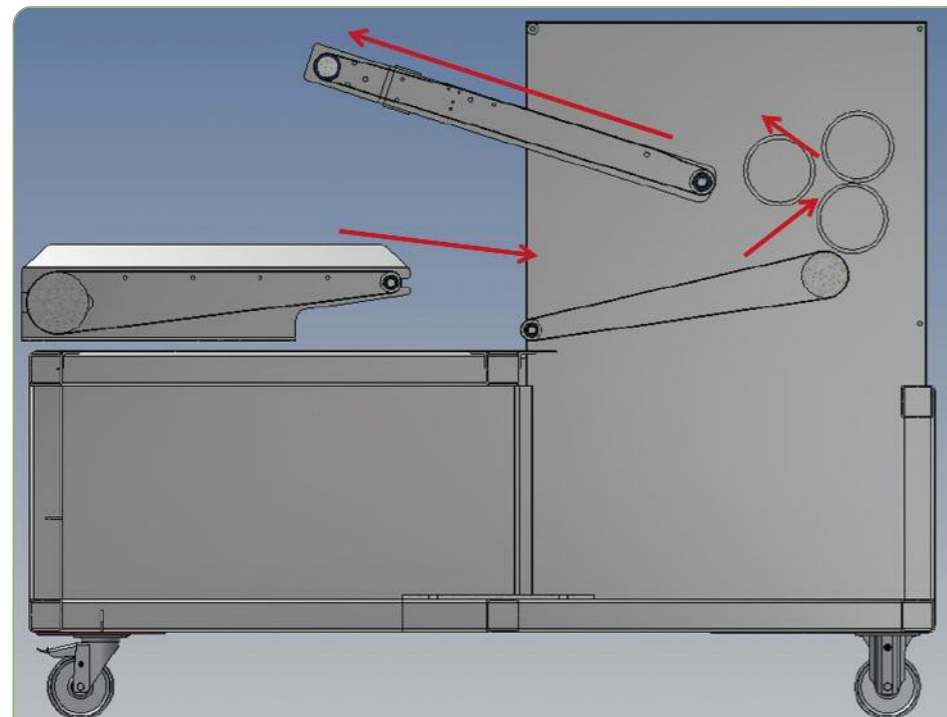
WORKING PROCESS AND ADVANTAGES

A chunk of mixed dough (max 35Kg.) is introduced through the 4 ROLLERS head to gauge it down while stretching it. The DOUGH SHEET achieved is then FOLDED OVER and ROTATED 90° with an automated TURNTABLE.

This CYCLE can be REPEATED as many times as a specific bread recipe requires, in order achieving the CRUMB TEXTURE DESIRED.

The PROCESS implemented by our RAFF dough breaker, provides several ADVANTAGES:

- Improvement of the GLUTEN NETWORK, while elongating its fibers
- Improvement of the AIR CELL CONSISTENCY and DISTRIBUTION in the crumb (i.e. avoiding nasty holes in the crumb of the sandwich bread)
- Mixing time reduction
- Very LIMITED dough TEMPERATURE INCREASE, thanks to its LOW-FRICTION-GENTLE process
- Respect of the traditional dough generation method, to achieve clean label breads



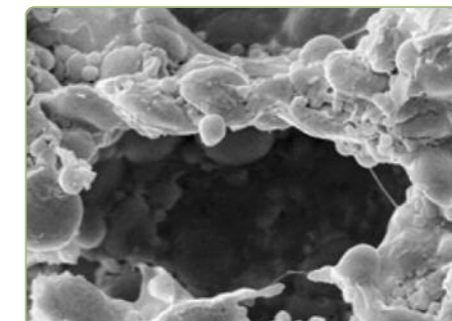
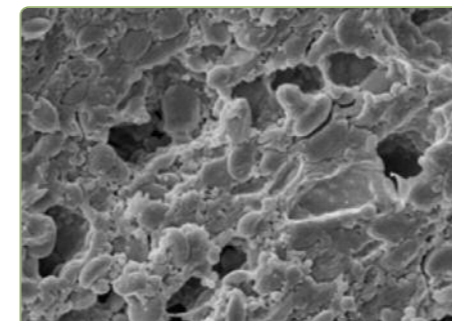
TECHNOLOGICAL STUDY

In the attempt to fully understand the impact of RAFF in a bread dough make-up process, MINIPAN, in cooperation with the University of Bologna, has recently supported a SCIENTIFIC RESEARCH. In order to achieve a comparable result, the researchers picked two pieces of dough out of the same mixed batch. One piece was kneaded through the RAFF machine before being formed into a bread shape by a divider/rounder, while the other one was loaded into the same divider/rounder as it was, directly from the mixing bowl.

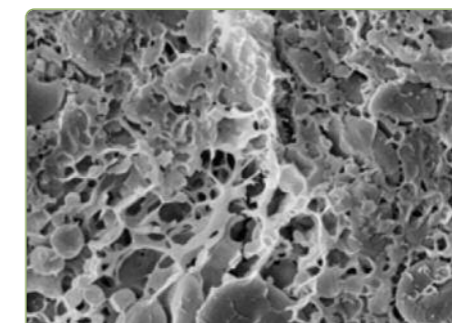
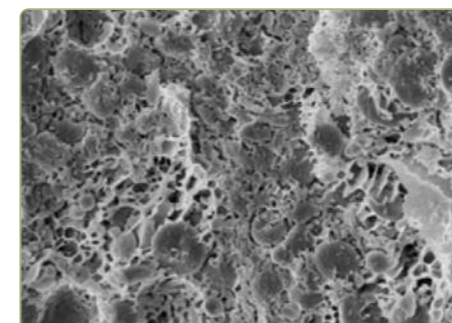
The conclusions of the study are unequivocal. RAFF IMPROVES the bread STRUCTURE, homogenizing the AIR CELLS distribution inside the crumb, INCREASING their total NUMBER, while DECREASING their overall DIMENSION (below 1mm).

Using an Electron Microscope (SEM) to analyze several bread samples, the scientists proved that MULTIPLE process CYCLES through the RAFF machine improve the DEVELOPMENT of PROTEIN CHAINS in the crumb, to obtain an ISOTROPIC GLUTEN MATRIX.

In other words RAFF consents to achieve BETTER BREAD, even using lower protein flour and avoiding chemical aids.



Images on SEM 250x and 500x of sample not processed with RAFF (obtained by free fracturing)



Images on SEM 250x and 500x of sample processed with RAFF (obtained by free fracturing)



RAFF

MINIPAN's refiners have been serving and satisfying the most demanding bakers for the last fifty years. Continuing this glorious heritage, the latest RAFF range provides RELIABLE technology together with the most SOLID construction.

Application field and advantages: RAFF is the only machine able to refine CHUNKY DOUGH for bakery products and is particularly efficient in the lamination of flat breads, crackers, grissini and bread snacks.



RAFF WITH CUTTING TABLE

The CUTTING TABLE is a useful device which can be mounted behind a RAFF machine in order to automatically prepare SHEETS/BANDS of dough with the correct width for the following make up steps.





RAFF LINE

Born as a self-standing unit to support Artisan Bakers, RAFF nowadays can be fully AUTOMATED and integrated into a heavy duty INDUSTRIAL production line.

A wide variety of automated dough chunkers (customizable hopper capacity) are available, in order to make the RAFF feeding procedure a SAFE, CONSISTENT and EFFORTLESS operation.

Even if it has been designed for hard dough, flour dusters are available to help RAFF processing stickier recipes.





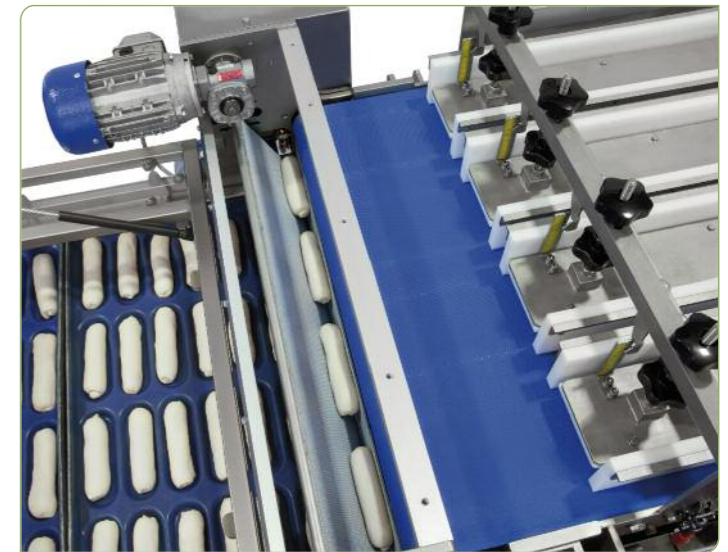
INDUSTRIAL MAKE UP LINE

Some SPECIALITY BREAD types traditionally need a dough breaker in their sheeting process to achieve the AUTHENTIC QUALITY and premium crumb structure. Italian tigelle flat bread, Venetian crustless sandwich bread, Brazilian bisguinha, Chilean hallulla, Cuban water crackers...travelling around the world, we have discovered that many ancient regional recipes feature a cross lamination stage in their sheet preparation method.

Among MINIPAN's different SHEET GENERATION technologies, RAFF is certainly the most respectful machine to process medium hydrated dough.

To feed continuous SCRAP FREE SHEETING lines, RAFF can be integrated with reciprocating belts to create an ENDLESS SHEET of dough, by joining the individually laminated batches (from 5 to 35Kg per batch).

As a result, RAFF can be coupled with several different make up lines, granting the HIGHEST FLEXIBILITY, from hot dog rolls to sandwich bread, loading automatically fluted trays, molded trays, as well as baking tins.



MINIPAN. TASTE SHAPERS.®



biscuits



bread



bread snacks



gluten free



automation



MINIPAN®

industrial lines & machines

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