

Dough, batter and crème

MIXING, KNEADING AND WHIPPING – THESE THREE BASIC PROCESSING STEPS IN BAKERIES AND PASTRY SHOPS HAVE A LOT IN COMMON



++ figure 1

++ figure 1
Tonelli triple tool mixer...

++ figure 2
... can also be used with two tools

+ These basic methods are used to produce a homogeneous mass from the raw materials. The properties of the mass can be influenced by the geometry of the tools, the operating time and the respective introduction of energy. The Tonelli Group, located in Collecchio near Parma, Italy, has added a new chapter to this part of bakery and pastry shop technology.

Up to now, some types of mixers – Wendel, spiral, and arm mixers – were used for the production of dough while other types of mixers were applied for making batters and crèmes. The differences are mainly the tools and the motorization of the machines. Tonelli has stopped this kind of forced differentiation and developed a “Triple Tools Planetary Mixing Head” which can produce either dough, batters or crèmes with the same perfection.

The Tonelli Group is a traditional machine manufacturer from the Italian region of Parma. The company is in demand worldwide, when it comes to mixing, stirring, aerating, pasteurizing or tempering of any type of mass. For some years now, the developers in the company have been concentrating on the art of dough mixing, regardless of whether the

dough is almost liquid as for ciabatta or heavy as for pretzels.

The combination of both development routes finally resulted in 2006 in the “Triple Tools Planetary Mixing Head”. This mixer is available for different performance levels with different bowl sizes. Depending on the type of application, three tools with similar or different geometry are combined and are then operated and controlled via a direct drive located in the mixer’s head. Power transmission is completely achieved without belts. The tools available include spirals, Wendel mixers, whipping tools and many more. Whether the same or different tools are being used is dependent on the intended processing and its intensity: size reduction, mixing, kneading, aerating, etc. A permanent feature is a scraper which removes the mass from the bowl’s wall and forces it back into the center of the bowl with each turn. The type and extent of energy to be introduced can be controlled by proper tool selection and via the drive. The already filled mobile bowls are moved to the mixing station and lifted to the mixing head with a special lifting device. Alternatively, raw materials can be fed into the bowl through an au-

omatic dosing system via connections integrated in the mixer head after the mixer has been docked to the mixing head. During filling and mixing, the mixing head and bowl are hermetically closed preventing the release of dust into the environment. The advantage of this mixer is its broad range of possible applications and the respective reduction of processing time because three tools are working simultaneously. Due to the large number of possible combinations of different tools, it is possible to process materials in this system for which commonly horizontal mixers are being used. Even marzipan can be processed in this mixer. Of course, the mixer can also be operated with only two tools. Two twisted tools for example can interlace with each other thus producing the classical mixing effect of a traditional Wendel mixer. Even more applications are possible because the new Tonelli machine is also available with a double-wall mixing bowl which allows thermal treatment (cooling or heating) of the material inside the bowl. The mixing bowls are mobile and can be moved either to a washing station or cleaned on site with CIP equipment. Rotating nozzles integrated in the mixer head generate fine water jets which cover the entire surface inside the bowl that come into contact with the product, thus ensuring reliable cleaning. Disinfection is also possible if needed. The Triple Tools Planetary Mixing Head by Tonelli is available with bowl sizes from 200 to 1,300 liters. +++

++ figure 2



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