

New process approaches

Sulbana reports on newest developments

At a major German cheesemakers' seminar in 2017, Sulbana's CEO Thorsten Kehl described several new approaches of Sulbana group for the production of mozzarella and pizza cheese.

Ideal synchronisation

By an ideal line adjustment, fresh mozzarella can be produced in a batch process with production time of less than 30 minutes, including the cooking-stretching process. According to Mr. Kehl, this is done mostly with direct acidification and stretching takes place at pH 5.8. This optimized process works continuously and gently with little fat loss. Exact dry matter and water absorption is achieved by precise temperature control, cheese dust is directly recycled, and the end products are characterized by perfect shape and surface.

In the case of pizza cheese production, the best possible matching of the lines can be achieved by working with starter cultures. The cooking-stretching takes place at pH 5.1, whereby the maturation time in the drainage system can be adjusted to up to 3 h. According to Mr. Kehl it should be ensured that long cooling times in the brine are maintained. The ripening time in the initial packaging should be 72 h.

Gentle cooking-stretching

Sulbana now achieves a particularly gentle cooking-stretching process via an adapted hot water treatment. A small ΔT be-



Thorsten Kehl, Sulbana, at a major German cheesemakers' seminar in 2017: "We produce equipment for the production of mozzarella and pizza cheese for 800-6000 kg/h and size 1 g to 15 kg" (photo: Sulbana)

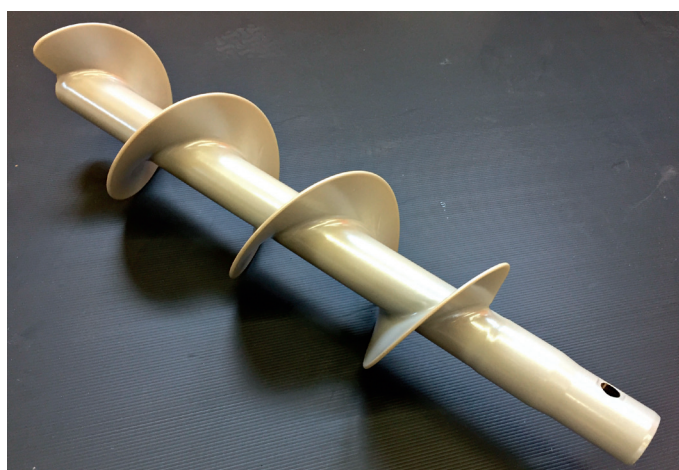


Fig. 1: Screw conveyor with new resistant non-stick coating applied in a thick-layer process (0.3 mm) (Photo: Sulbana)

tween core and surface and uniform heating from 32 ° C to 62 ° C lead to lower fat losses, less burning, less protein denaturation and less squeezing-out of originally contained water.

A new machine in the Sulbana portfolio is the "Power Moulder" designed for high performance. Here, the moulds are rinsed in the return, direct or indirect cooling is possible. Curd is filled in primary moulds, cooling takes place in secondary moulds. This has the advantage that only a small surface area of the product comes into contact with water, which reduces the risk of contamination. A permanent sprinkling ensures a fast heat transfer.

Improved anti-adhesion properties

Sulbana now applies a resistant thick layer (0.3 mm) on conveying equipment in order to achieve even better anti-adhesion properties. The parts are easy to clean, the cheese unsticks even in the cold condition, which shortens the cleaning time. Sulbana recommends to replace relevant spare parts for existing machines with the new anti-adhesion coating.

Indirect curd heating

Sulbana has realised (as a pilot plant) an indirect heating of cheese curd without process water prior to the stretching process. According to Mr. Kehl, this method works particularly gently, the concept will be ready for market within the next 12 months.

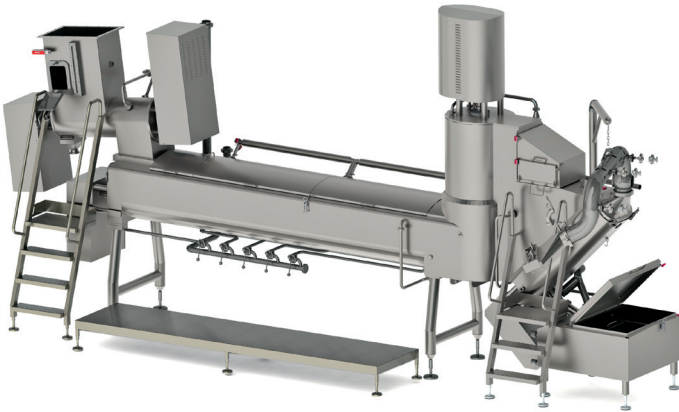


Fig. 2: Sulbana water cooker-stretcher for the production of pizza cheese with a capacity of up to 5 t/h (Photo: Sulbana)

Mr. Kehl encouraged the seminar participants to also think of differently created pasta filata products such as Burrata or other special products.

Core competencies

With its core competence in cheese technology for pasta filata, hard and semi-hard cheeses, Sulbana has long established itself in the industry. Mozzarella plants with capacities of 800 to 2,500 kg/h are built for the production of pearls, cherries, balls or pieces of 1 g to 1,000 g. Complete lines are provided, which include cheese vats, cutter units, water cooker-stretchers, moulding machines, cooling/brine baths and feeding systems. Packaging machines are regularly integrated into the projects by Sulbana.

In the case of pizza cheese, Sulbana plants have capacities of 1,200 to 6,000 kg/h, the product weight can be 1 to 15 kg. Typically, Euroblocks or 2.5 kg loaves are made on these lines. Here too, the Swiss specialist offers a comprehensive portfolio from cheese vat to packaging. A special focus is on individually planned drainage conveyors, also designed in two-storey, whereby breakage buffers and cheese dust rework are integrated. The Sulbana water cooker-stretcher machines deliver up to 5 t of product/h

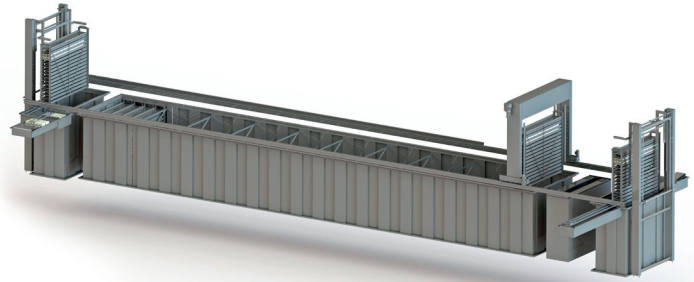


Fig. 3: Fully automated, crane-free brine bath system with mechanical guided loading and unloading, rack trolley, and rack washing booth (Photo: Sulbana)

and come in a new design for large industrial production. The flexible lines can produce cheeses with dry matter of 45 to 60% and 25 to 50% fat in dry matter. Other special features of these machines, which are made in stainless steel, are special screw conveyor seals (Huhnseal) and drives without a double gearbox. Sulbana's dry salting lines come in capacities from 2 to 6 t/h and are designed for salt contents up to 1.5%, for which they are built with or without absorption belt.

Sulbana's shaping and pre-cooling rotary machines have capacities of 1.5 to 4 t/h for 2.5 kg loaves. They have laterally installed drives (no danger of contamination by lubricants) and come without a central drive. The cooling is done by means of a cold water sprinkling but indirect cooling of the mould segments has recently been made available. Sulbanas cooling/brine baths for fresh mozzarella are equipped with a new swing-back product transport.

In addition, Sulbana also builds crane-free hygienic salt bath systems for pizza cheese (1.5 to 15 kg), semi-hard and hard cheese (5 kg to 750 kg). The cheeses are mechanically guided, shelf cleaning can be integrated. These main brine systems can handle 20,000 2.5 kg cheese loafs for cooling times up to 7 h at 5 ° C and reach a capacity of 7 t/h. The product flow can be continuous.