

Case Study

Spray chilling of fatfoods



Customer: CSM Bakery Supplies Europe, Germany

CSM Bakery Supplies Europe is a division of CSM n.v. CSM is the largest supplier of bakery products worldwide and is global market leader in lactic acid and lactic acid derivatives. CSM produces and distributes an extensive range of bakery products and ingredients for artisan and industrial bakeries and for in-store as well as out-of-home markets. CSM has around 9,700 employees in 28 countries.

Application: Spray chilling of fat

The cold air flowing into the spray chilling chamber results in the immediate solidification of the molten drops of fat to form a free-flowing powder.

Equipment: Mini Spray Dryer B-290

If a molten mass is atomized into a cold air stream, the droplets solidify into particles. In a product feed vessel the molten fat is heated to above the melting point. The nozzle is also heated to prevent premature clogging. For this purpose an additional thermostat is not necessary, instead the heating controller and the peristaltic pump of the Mini Spray Dryer B-290 are used. Due to the low melting point of the fat, the inlet air is cooled down to -15°C by a special air cooler.

Benefit / Conclusion: High recovery rates

The lab-scale spray chilling solution is used to simulate the conditions in the industrial solidification tower. Due to the low inlet temperature of the cooling air, the production conditions are optimally suited.

“The BUCHI Mini Spray Dryer B-290 with spray chilling accessory is an excellent system for small-scale testing on the behavior of fat during spray chilling (or spray congealing).”
