



Single Step Mixing boosts Production

Faced with the challenge of establishing a system to improve an existing process for mixing fats into flours using the Vrieco-Nauta conical mixer, Hosokawa worked in conjunction with a major bakery client to produce a single step process to reduce production times and boost productivity.

With the original mixing system, very small lumps of the fat with flour were formed in the mixed product, which were found as white spots in the final baked products. Previously this problem had been solved by using a deagglomerator after mixing, but this added another stage to the process increasing overall production times.

To investigate the problem, and find a solution, extensive testing was carried out at Hosokawa's test centre in Doetinchem. It was found that optimal results were gained by introducing the fat direct into the bulk and breaking the agglomerates with a high speed rotating element. This was achieved by placing an Intensifier inside the Vrieco-Nauta conical mixer.

The intensifier is a high speed mixing element which rotates in the product at a speed of up to 40 m/sec. Due to the high speed, Hosokawa were able to mix the flour with fat without creating any agglomerates.



This also provides the advantages of combining a high shear mixer into the Vrieco-Nauta conical mixer which is famous for its gentle mixing, flexible working capacity and high mixing accuracy. With the combination of the two mixing principles (high and low shear mixing), this allows the processing of top quality product mixtures, which can be qualified as difficult to mix, with low power consumption, low heat introduction and minimal product damage.

Typical applications for the Intensifier include mixing of viscous fluids into powder mixtures, providing excellent particle distribution for products such as lecithin, fat, margarine and cacao Mass. It also provides high accuracy mixing of critical fluids into a powder mixture such as flavours, solvents, detergents and for the mixing of segregative and cohesive powders as well as pastes and fluids.