



# ATEX Compliant Crouton Crumbing from Hosokawa Micron

ATEX/DSEAR legislation compliancy, production flexibility and operational mobility were key selection criteria when Chaucer Foods Ltd. began researching size reduction equipment capable of milling croutons and baked snack foods down to a fine crumb.

With growing export business in Russia, Eastern Europe, Europe and Australasia as well as a formidable demand from the British market, any equipment or systems purchased by Chaucer Foods Ltd had also to be capable of handling increasing volumes of product.

After extensive research and product trials, the UK based manufacturer of freeze dried fruits, croutons, snacks and various bread based ingredients purchased from Hosokawa Micron Ltd, a PSR 10, a unique 10 barg shock-pressure resistant design of Hosokawa Rietz Angle Disintegrator and bulk packing station. The system is designed and manufactured to meet stringent GMP requirements within a sanitary design and is ATEX compliant having an internal zoning classification to ATEX 20 for the safe size reduction of potentially explosive and combustible products.

Chaucer Food's high protein, high value product with low moisture content is ideal not only as a bulking agent or carrier but also when produced in a larger particle size, as a coating crumb. The ability of the Hosokawa Rietz Angle Disintegrator system to produce different crumb particle sizes was another significant factor in Chaucer Foods, Technical and Development Manager, Ian Pomfret's choice of this particular machine.



The Hosokawa Rietz Angle Disintegrator is designed for delumping, pulverising and grinding to produce uniform particle sized end product. Stainless steel, hard faced hammers subject the product to intensive impact and attrition with end particle size determined by an interchangeable 360° perforated screen. It is this simple screen change operation and infinitely variable mill speed that allows Chaucer Foods to select different crumb sizes to suit requirements. Construction of the Angle Disintegrator facilitates quick product change and easy access to screens and hammers for easy cleaning.

Operating with minimum vibration and low energy consumption, the Hosokawa Rietz Angle Disintegrator maintains a low temperature rise making it suitable for processing of heat sensitive products and without damage to flavours or colour. Temperature rise was a primary concern of the customer but the design of the system with its high efficiency pneumatic conveying actually cools product prior to delivery to the packing operation.

Following successful completion of trials at Hosokawa's Runcorn test facility Chaucer Foods Ltd placed a order which included the disintegrator, bulk packing station, control panels and dust collection unit and the installation and commissioning of the whole system in accordance with comply with current ATEX/DSEAR regulations.

The 8" Angle Disintegrator is the smallest in the range but was ideally suited to Chaucer Foods` requirements of up to 300Kgs/hr. The skid mounted system has been designed to bolt on to either of two parallel production lines with minimal operator intervention.

Product from the Disintegrator is collected in a cyclone separator and then is discharged into a bulk packing system with the ultra fines from the cyclone being carried over to a dust separator filter collection unit. Clean air is exhausted to atmosphere.

Chaucer Foods UK Technical and Development Manager, Ian Pomfret , has been impressed with the system , which has proved to be trouble free and comments on the valuable co-operation with Hosokawa in this very significant project.

He says " The Hosokawa Technical Team have worked exceedingly well with our in house team, not only have they resolved our complex process requirements but have brought valuable and constructive suggestions to the table. Our new milling system is in line with Chaucer Food's ISO 14001 accreditation, with the system giving us greater raw material conversion efficiency and creating a new product offering to add to our portfolio".