



ACCU-CHILL® CBC Continuous Cryogen Injection System

By installing a continuous cryogen injection system, processors of plant materials and proteins can increase efficiency and gain benefits in terms of quality, time, and space.

The ACCU-CHILL continuous cryogen injection system provides precise temperature cooling while keeping your process continuously moving along. The ACCU-CHILL continuous system is suitable for many continuous mixes that require cooling including mechanically deboned meat, offal, pet food proteins, bacon or jerky pieces, plant or botanical materials, cooked rice/particulate matter, or difficult to process masses like granola. The ACCU-CHILL continuous system precisely injects either liquid carbon dioxide or liquid nitrogen to quickly cool your food product for maintaining quality, reducing bottlenecks and increasing throughput.

If transitioning from a batch operation to a continuous operation, ACCU-CHILL continuous can save labor as well as provide consistent and precise chilled temperatures. A continuous operation eliminates batch to batch temperature variations and frequently reduces labor in the loading and unloading of batch systems. Both precise temperature control and seamless operation make ACCU-CHILL continuous an attractive alternative to batch processing.

With the versatility to process a variety of products including complex proteins and botanical and biomass materials, the ACCU-CHILL continuous system provides a high level of heat removal per unit length compared to alternative chilling options. The combination of continuous, gentle movement of the product material with the injection of a cryogen allows for a relatively small footprint machine to achieve large degrees of temperature reduction. Rapid temperature reduction is important for reducing moisture loss, bacterial growth, cleaning time, or all three.



Established Savings and Efficiency

Initial data from several protein products across several producers provides evidence for throughput increases of up to 40%. Texture analysis during the testing also confirms minimal product degradation within the ACCU-CHILL continuous system, reaffirming the system's capability for maintaining product quality.

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Compared to mechanical chilling methods, the ACCU-CHILL continuous system can increase efficiency by lowering labor requirements and by eliminating the time required for batch to batch transitions associated with manual loading. Continuous cryogen injection can also decrease losses from product that may be overworked in batch mixing. In addition, the ACCU-CHILL continuous system yields space savings through both its small footprint and the reduction of Work In Progress (WIP) carts, bins, or totes. Its small size and open design leads to easier sanitation and simplification of maintenance and repair.

Temperature Control is Linde's Expertise

The ACCU-CHILL continuous injection system consistently applies only the necessary amount of cryogen, ensuring an evenly and consistently chilled product. Either liquid nitrogen or liquid carbon dioxide can be used in the ACCU-CHILL system, offering precise temperature control from either cryogen. The team of experts at Linde can work to identify and provide the exact temperature control system that works best for your processing operation.

Customized for Your Operation

The ACCU-CHILL continuous cryogen injection system can be configured with the appropriate mixing paddle, auger screw, pin blend, or ribbon blend system and outfitted with an injection system specified for your products. Linde has a number of nozzles, process control schemes, and injection styles to best meet the needs of your products.

Features

- Precise temperature control or reduction
- Continuous process
- High heat removal; small footprint
- Sized for your operation
- Easy to integrate
- Efficient cryogen use

Benefits

- Small footprint
- Reduced product degradation
- Improved throughput
- Labor and space savings over batch process
- High reproducibility and product uniformity

Contact Linde Today

For more information about cryogenic, process, analytical, and industrial gases used throughout your operation, call Linde at **1-844-44LINDE** or visit our website at www.lindefood.com.

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