



CO₂ Snow Production and Dispensing



Snow horns can be customized in size and shape to address the specific snow volume needs and help with precise depositing.

Linde's carbon dioxide snow dispensing technologies provide efficient, precise, and economic temperature control on demand that is adaptable to a wide variety of applications.

The varied technologies may be utilized from a manual application up to a fully automatic system. No matter the application mode, the snow dispensing systems can simplify the operation and improve temperature consistency.

Precise Cooling at Any Angle

Linde's snow dispensing technology delivers cryogenic CO₂ snow so that food manufacturers get the consistent temperature control needed to maintain consistent product quality. This includes hamburgers and meat patties, sausage, gyros, baked goods, cooked product lines, and mixing and blending operations for dough, meat or other mixes. CO₂ snow carries high capacity cooling directly to the food for mixing or layering to quickly and efficiently remove heat. The snow dispensing system remains efficient and easy to use whether it's one package per day or dozens of batches per hour. Linde's patented snow horn technology can be easily mounted directly on an existing piece of equipment or packaging line and custom sized to meet just about any production rate.

Spot on Temperature Control

Linde's array of snow horns provides space and labor savings over many other options. Floor space in a food plant can be precious and limited. Liquid CO₂ is stored outside in a vessel and refilled to maintain supply. This liquid is piped directly to the use point in the plant where Linde's snow horns equipped with the patented apertures to turn the liquid into CO₂ snow with a temperature around negative 109 °F. That snow is then applied to food through layering, mixing, or conveying where it rapidly absorbs heat, resulting in cooling at the contact point with the food. Alternative cooling methods like water ice or dry ice pellets require bins for storage and labor to move those products from the bins to the point of use where the ice or pellets are often hand shoveled on top of the product. Applying CO₂ snow via a thin pipeline directly into the use point removes both of these wasteful steps. Additionally, sanitation concerns are reduced by eliminating ice and pellet storage bins and shovels.

CO₂ Snowing in Action

Linde helped a large poultry producer whose existing dry ice supplier suddenly shut down. The company had been using dry ice to chill 40 lb boxes and 2000 lb totes of a variety of raw chicken products. Having difficulty finding another reliable supplier, the customer soon realized that an alternate method would be needed. Linde's self-exhausting snow horns provided the on demand cooling needed at the exact use points without requiring additional floor space while minimizing the need for manual labor. Linde's engineers worked closely with the company to install over a dozen snow horns around the plant with a liquid CO₂ distribution system that efficiently transported the cryogen to the use points. These actions provided the cooling needed for the product.

Features and Benefits

- Efficient, cost effective removal of heat generated during processing
- Assures uniformity of temperature
- Maintains product quality
- Low capital investment
- On demand system can provide space and labor savings
- Easy to operate, maintain and clean



A Wealth of Experience and Support

Years of research at our food technology center have identified the ideal cooling conditions for a broad range of products. When you choose Linde, you're selecting more than the largest supplier of industrial gases in North and South America. You're also selecting a support team that includes:

- Experienced food scientists and engineers.
- A complete array of services, including on-site evaluation, designed experimental testing, installation layout and start-up support – Linde's Total System approach.
- A food technology center featuring an analytical laboratory to evaluate your product in full-sized production equipment.

It's everything you need to improve the quality and consistency of your products.

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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