



ACCU-CHILL® LX. Bottom-injection system with hygienic nozzle.



Introduction

Linde's ACCU-CHILL® LX system is a patented cryogenic chilling solution that uses either liquid nitrogen or liquid carbon dioxide as the refrigerant. Bottom injection (BI) chilling is an established technology to chill food products in blenders, tumblers, mixing vessels and cooking kettles from below. Ideal for chilling meats, seafood, poultry, sauces, soups, thick pastes and bakery dough, ACCU-CHILL LX rapidly reduces the product temperature to your desired setpoint. Whether you are looking to lower the temperature or firm up the product for subsequent forming, ACCU-CHILL systems can provide you with accurate control over ever-changing production variables.

Design highlights of ACCU-CHILL LX include a ground-breaking hygiene feature. The nozzle opening automatically closes once the cryogenic gas has been injected to create a smooth surface along the blender wall. This self-closing mechanism thus minimises the risk of food particles or residue getting trapped in the nozzle opening and causing cross-contamination between batches.

ACCU-CHILL LX can be installed in new or existing process equipment such as mixers, blenders and kettles. It requires minimal space, and cools the product directly. It consists of several components: injection nozzles, a control panel, a cryogen control manifold, a gas exhaust and safety systems. All of these components are custom-engineered to fit your unique needs.

Benefits

- Highest hygiene standards with reduced risk of particle entrapment and cross-contamination
- An optional, patented open-top exhaust system, eliminating the need for an overhead exhaust and the risk of condensate drip
- Faster, more consistent temperature pull-down
- Controlled final temperature with minimal variations of plus/minus one degree
- Significant reduction in number of nozzles required per blender or vessel
- Low capital investment cost for the equipment
- Fast and easy cleaning of the system for time and money savings
- Highly precise process control for consistent product characteristics (temperature, viscosity, moisture, etc.)
- Significantly less hot and cold spots and batch-to-batch variations than with top injection snow horns or dry ice added manually
- Improved productivity for downstream processes such as food-forming operations.

Linde's bottom injection manifold

As a reliable, full-service partner for our customers, we have more than 40 years of experience with the bottom injection of cryogenics during food grinding, mixing and forming operations. In order to consistently maximise the efficiency of our systems and to optimally protect the quality of foodstuffs, we work closely with all major manufacturers of food blenders, mixers and other processing vessels. Our highly flexible ACCU-CHILL® systems can be installed directly by the original equipment manufacturer (OEM) or retrofitted in the field.

We offer all our ACCU-CHILL customers an extensive range of services, extending from initial consulting and planning through engineering and installation to gas supply, safety training and maintenance support.



Linde GmbH
Gases Division, Carl-von-Linde-Strasse 25, 85716 Unterschleissheim
Phone +49 89 31001-0, www.linde-gas.com