

**MILMEQ**

## **CHEESE COOLING TUNNELS**

**Collaboration with the cheese producing industry on the newly adopted hot formed cheese block tower making process resulted in the development of our cheese chilling tunnel, then known as the Realcold Rapid Chiller, during the 1970s.**

The MILMEQ® Cheese Cooling Tunnel provides a true first in, first out, 24-hour cooling cycle for cheese that ensures product quality, colour and flavour are maintained.

Our tunnels employ an air blast based system that provides uniformed conditioning to chill product. Application of low temperature airflow in a controlled environment enables a fast chill, which can avoid bitter flavours developing in the cheese.

MILMEQ® Tunnels allow control over air temperature, air velocity and retention time, meaning they can

be custom designed to handle any product in a carton, box, case, mould, crate or plastic liner.

Interfacing conveyor systems provide completely automatic, hands-free loading and unloading of product, precisely timed to achieve the desired temperature.

### **APPLICATIONS**

Cheese cooling tunnels are suitable for chilling a range of cheese products, including:

- › Block cheese, such as cheddar
- › Mozzarella
- › Cream cheese

### **BENEFITS**

- › Uniform conditioning applied to all products
- › Equal retention time for all products – a true first in, first out carton tunnel
- › Fast cooling – 24-hour cycle
- › Preserves product flavour, colour and shape
- › Hands-free operation with automated loading and unloading
- › Eliminating manual handling preserves product quality and reduces the incidence of injury through strain
- › Reliable and low maintenance

## CONFIGURATION OPTIONS

Block cheese chilling tunnels typically handle 20-kilogram blocks packaged in cartons, which are chilled from 35°C to 15°C within a 24 hour period.

We have also designed tunnels for cream cheese and mozzarella, which chill the product from 70°C to 20°C within 24 hours.

Tunnels can be designed to operate with a variety of refrigerants, including ammonia (NH<sub>3</sub>) and modern synthetic options, depending on customer specifications and desired cycle times. A number of recent cheese cooling tunnels have then used a secondary refrigerant such as glycol.

## CASE STUDIES

### > Laticínios Tirol

*Treze Tilias, SC, Brazil*

Tunnel designed to cool 2,400 x 20-kilogram blocks of prato cheese from 36°C to 12°C in 24 hours. Specific requirements included working within the limited space of their existing cool store and transport of the cheese blocks in plastic crates rather than cartons. The fast cooling process resolved an issue of bitterness in the cheese which had previously been causing customer complaints.



### > Fonterra

*Te Rapa, New Zealand*

Installation of a second tunnel on this site to cool 4,560 x 20-kilogram cartons of cream cheese from 75°C to 20°C in a 24 hour cycle. At the time of this install, we were also engaged to extend and upgrade the original 1997 cheese cooling tunnel. Both projects have been extremely successful.



### > Glanbia Foods

*Twin Falls, ID, USA*

Tunnel installed to improve efficiency and meet the requirements for increased production volume. Chills 20-kilogram blocks of cheddar cheese in cartons from 35°C to 10°C in a 24 hour cooling cycle, with a capacity of 3,240 blocks per day. We have also installed cheese cooling tunnels for Glanbia Ireland and for their US-based subsidiaries, Southwest Cheese and MWC.

