

## Humidity Related Problems in Cheese Processing Facilities

### FFPs – Frequently Faced Problems

Cheese is a by-product of milk we get from cows, goats, sheep, and other mammals by coagulating the milk and draining the whey. Coagulation is accomplished first by acidification with a bacterial culture and then by adding an enzyme to thicken the liquid. Cheese powder is also manufactured for use in dips, dressings, biscuits, chips, and directly as a flavouring on hot dishes like spaghetti and soups. Cheese needs to be refrigerated to retain its freshness. However, lowering temperature causes condensation which in turn leads to the growth of mould.



A typical dairy, cheese and powder processing unit grapple with the following humidity related challenges

- Wet Surfaces in the cheese processing areas due to condensation
- A risk for mould growth and bacteria developing in critical locations due to wet surfaces and high humidity
- Unpredictable curing time and quality deterioration due to external moisture conditions
- Variable productivity and wasting of product because of the layer of fungus and mould after the curing time
- Risk of moisture regain during cooling stage of Cheese powder before packaging

Maintaining humidity at a proper level in the Cheese Cure Room has some beneficial effects. However, new food safety and standards regulators call for all areas that have food process must be free from ceiling condensation.

### Conventional Method Used

In many traditional Cheese processing facilities drying is based on heating and ventilation. Such a drying process leads to unpredictable product quality due to outdoor climate and seasonal variations.

Traditional HVAC system that keeps the RH around 90% / 22°C +-2 because of the moisture from the product itself.

### General Recommendation

Maintaining ambient relative humidity levels between 45% and 55% is recommended for optimal performance and reliability at room temperature maintained between 20 °C to 22 °C.

### Bry-Air Solution

Bry-Air Dehumidifiers remove moisture from the air in the processing, storage and packaging areas to help improve the quality and prevent spoilage. Humidity control is the optimal alternative solution for the handmade type of high-quality Cheese production. Using Bry-Air Dehumidifier, the producer can have full control of the curing time and quality of Cheese avoiding the mould formation in the Cheese processing facilities. Inlet air dehumidification in spray drying and fluidised bed drying prevents seasonal variation in production capacity.

## **Advantages of Bry-Air Dehumidifier in a Cheese Processing Facility**

- Drying at consistent and stable humidity levels ensures superior quality of cheese products
- It helps reduce curing time by up to 70%
- Eliminates the need for mechanical removal of the mould layer before packing
- Helps retain original quality, flavour and taste of the cheese
- Prevents condensation thereby removing contamination, fungal growth and wet surfaces
- Improved productivity as production schedule independent of the prevailing weather conditions
- Improved hygiene and sanitary conditions resulting in waste reduction
- Ease of installation as compact, independent system and can be placed anywhere
- Energy efficient