



# HUMIDIFICATION IN FOOD MANUFACTURING

Humidification and Evaporative Cooling



# TRUSTED TECHNOLOGY

Condair humidifiers are used in food production facilities around the world to maintain product quality, improve yield, prolong shelf life and facilitate the successful production and storage of many food products.

Some of the world's leading food manufacturers put their trust in Condair humidification systems to help them achieve their production objectives.



## GLOBAL EXPERTISE, LOCAL SOLUTIONS

Condair has manufacturing facilities in Asia, North America and Europe, as well as sales operations in 20 countries and distributors in over 50 more.

The company has been serving the global food sector for more than 65 years and is highly experienced in delivering the right solution for a client's requirements.

Humidification systems are designed for each application by experienced experts to create the optimal humidity for food production or storage areas. If required, Condair's regional R&D departments can work with a client's team to deliver innovative solutions for unusual applications.

Condair's regional humidifier engineering teams offer installation, commissioning and maintenance support to ensure humidity control systems continue to return on the initial investment for years to come.

# OPTIMUM HUMIDITY IMPROVES PRODUCTIVITY

All food products have an optimum internal moisture level. When exposed to air at low humidity, moisture is drawn from the surface of the product. This causes a drop in weight, directly impacting productivity by reducing yield. Moisture loss can also reduce the quality of a product, detrimentally affecting its visual appearance and shortening its shelf-life.

Maintaining the ideal atmospheric humidity level during food production and storage, inhibits undue moisture losses. It can also enable specific reactions from an ingredient required in the product's successful production.



## Crop storage

The majority of moisture loss from vegetable crops occur when the produce is initially chilled from its field temperature to its storage condition. Correctly humidifying this process can significantly improve yields by reducing evaporative weight loss. This has subsequent benefits as a higher moisture content maintains product freshness, appearance and extends shelf-life.

## Cheese maturation

Different cheeses require different levels of humidity for optimum ripening, sometimes varying at certain stages. Accurate humidity throughout a cheese ripening area will ensure consistent product quality, prevent dehydration (higher yield) and present a better appearance to the finished product.

## Baking

The higher the relative humidity during dough proofing, the softer the outer crust of the baked product. So accurate humidity management during dough fermentation and proofing is essential in consistently achieving specific product characteristics. Humidity also plays an essential role in oven baking, as the amount of water vapour in the oven greatly affects a product's moisture evaporation and baking time.



## Abattoirs

Maintaining a very high humidity during primary chilling, can reduce moisture loss from carcasses to around 1%. Specialist humidifiers and system design is required to ensure air humidity is maintained without wetting in the cold store or on carcasses.



## Fruit ripening

For most fruits, 90-95%RH is the ideal humidity level during ripening. Low humidity will result in evaporative losses from the fruit, lower yield, poorer appearance and reduced shelf-life.

# HUMIDIFIERS FOR FOOD MANUFACTURING

Condair has a comprehensive range of humidification products to suit any food manufacturing process and facility. From spray systems that provide moisture directly to a room, to in-duct systems that can closely manage humidity within an air handling unit.

Condair also offers a wide range of associated products such as water treatment systems, air compressors, pumps and humidity monitors.

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ON-SITE CONSULTATION



JetSpray compressed air & water humidifier



ML Princess high pressure humidifier



Live steam humidification



Condair EL steam humidifier

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