Dry Air Helps Sausages Mature Faster

The process of manufacturing meat products consists of various specific steps combined in such a way that unique products are obtained with characteristic ingredients and flavours. This stepped process is applied for making raw sausages like salami.

In the complex manufacturing process of raw sausages, meat, fat, water and usually, "starter cultures" are used. These are micro organisms that affect maturation thereby influencing the characteristics of the sausage products. As per the specific recipe, components of the sausage meat are minced into a homogenous mixture and then filled in casings of various material and diameter. The raw sausage meat filled in the casing then becomes actual sausage after a multi-stage maturing process. A fundamental part of this process is the drying of the sausage. Here, the product loses between 25 - 35% of its weight in water. The drying process is vital for shelf life and flavour.

Traditional Method

For maturing the raw sausage, maturing and drying rooms with controlled air flow, temperature and humidity are used. In traditional systems the required ambient conditions (approx. 64,4-68 °F / 18 - 22°C at 60 - 70% relative humidity) are reached by cooling and heating the air in a circular flow.

Furthermore, an adjustable amount of outdoor air (fresh air) is supplied. Big fans and an air distribution systems create a more or less uniform air circulation in the room and are the deciding factor for the drying process. But with these systems, observing constant process conditions irrespective of the season is difficult, if not impossible. In winter the dry air outdoors enables a higher degree of drying as compared to summer when the air outdoors is moist. Especially during summer the drying capacity is not sufficient and the product dries too slowly. This long exposure of the product to the moist ambient air often causes mould growth on the surface of the sausage leading to its spoilage and thus to financial loss.



Sausage ripe area with dry air circulating

Drying sausages



Munters Dehumidifiers

- Improve production reliability
- Ensure better quality
- Eliminate mould risk
- Lower heating costs
- Reduce system operating costs
- Increase production without added investment
- Improved delivery schedules
- Reduce batch times





Ripe area for sausage

State-of-the-Art Solution with Dry Air

The use of Munters dehumidifiers makes it possible to maintain the desired drying conditions irrespective of the season with simultaneous acceleration of the drying process as well as lower energy costs. In the search for new options, this advanced and cost-effective solution emerged from discussions between manufacturers and specialists at Munters. Munters dehumidification system was designed to be installed near the maturing room for, raw sausage,via an air inlet and air exhaust duct. The Munters technology controls the humidity with humidity sensor which measures the moisture in the maturing room and ensures the maintenance of the desired degree of humidity.

When the system was upgraded, the existing on-site cooling system could still be operated, but with considerably less power than before as now it is only required for cooling the room rather than for thermal dehumidification. Depending on the size, the Munters dehumidifier can be powered by electricity, steam or natural gas for regenerating the dehumidification rotor (desiccant wheel). The resulting saving is relative to the size of defumidifier and corresponding energy prices.

The system concept developed by Munters reaches full productivity within a short "running-in phase" as it is easy to execute and optimally supports the existing process.

Increase in Productivity

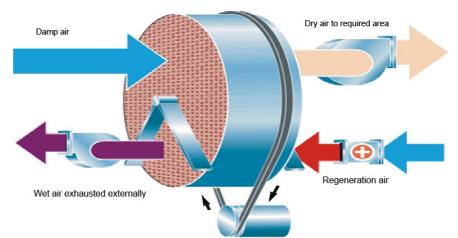
By using the Munters dehumidifier, batch time is reduced and can be standardised. Production schedules can be reliably met – irrespective of the season and weather. Precise drying reduces formation of undesired surface mould. On account of the highly improved production reliability, delivery dates can be better planned. Moreover, the released cooling of the refrigeration system can be used for other tasks in the process.

The energy efficiency of the Munters process results in saving energy costs of up to 50% against the traditional dehumidification process using heating / cooling.

Munters Sorption Dehumidifiers

The Munters technology takes the air to be dehumidified and passes it through a rotor that is divided into two sectors. In the process sector the air moisture is absorbed by the rotor and the air current leaves the device as dehumidified air. In the rotor's regeneration sector a separately heated air current again absorbs the moisture and discharges it away from the area. Whether you require a standard product or a completely customised system, Munters has the solution for you with the best cost-benefit ratio.

Our patented Powerpurge technology and Energypurge reduce significantly the energy needed for rotor reactivation. Munters are the global leader in desiccant dehumidification with offices in over 30 countries, look on www.munters.com/food for more information.



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