

Air Quality Process

Correct air conditioning ensures hygiene and saves resources

Since the first presentation of an USDA accepted hygienic air conditioner, French company Air Quality Process (AQP) has become a specialist in equipping cheese dairies. At the time, the concept developed by the family-owned company was considered a true revolution. It is based on specially designed units that are completely cleanable. Today, AQP supplies complete ventilation and air-conditioning systems for cheese dairies worldwide.

One customer of AQP is Dutch goat cheese maker Bettinehoeve, part of the Emmi group. 2 years ago, Bettinehoeve decided to increase production capacity which included the building of another ripening room. Having been in contact with AQP for many years, Bettinehoeve opted for an air conditioning system by AQP. Chris Broers, head of technology and production at Bettinehoeve, summarizes his experience with the equipment: "Compared to conventional air conditioning, AQP's systems make sure that air is evenly and homogeneously distributed all over the ripening steel racks, resulting in a minimum standard deviation of the products. To achieve this homogeneity, the air is recovered at 360° at the bottom of the floor unit, treated in temperature/hygrometry inside the tubes of the exchanger, and blown through perforated textile ducts on the top of the room. It forces the air to go from the upper to the lower stacks. CO₂ produced by white mold is reliably removed so that mold growth is even across the whole cheese in ripening. As humidity is also constant throughout the room, we have a uniform product quality. There are no cheeses too wet or too dry after ripening." And there is yet another advantage, according to Broers. AQP systems are perfectly cleanable and controllable in all points providing the cheese maker with an extra in food safety. To add to all these benefits, water loss during ripening is greatly reduced. "Compared to conventional air conditioning, we now monitor 2% less water loss during cheese ripening meaning a higher product yield," says Mr Broers.

No barriers, no pressure drop

The secret of AQP's success lies not only in hygiene, but also in the special air ducting through extra-smooth tubes, without barrier to the air. As a result, there is hardly any pressure drop and the ventilation requires less energy overall. According to Sales Manager Séverine Dolci, AQP units consume two to three times less energy than conventional systems. The units are made of stainless steel because they have to withstand an aggressive environment.

For AQP, the starting point of every project is a comprehensive technical survey of the air supply or the requirements tied to it on site. This determines where overpressure zones have to be set up or what volume flows have to be handled at which temperatures. The humidity of the air must also be specifically defined for each room in a cheese dairy. Together with the cheese dairy's operating plan, i.e. how often and when cleaning is carried out, whether production also takes place at weekends, etc., this results in an overall concept for the ventilation of the dairy and its departments. Further details of the system can be individually adapted by AQP to the requirements on site in its own test room with variable ceiling heights from 3 to 6 meters. The result is to ensure that the air conditioning remains consistently homogeneous at all points in ageing rooms.

Air Quality Process (AQP) not only designs and supplies air-conditioning systems, the company also advises cheese dairies on issues of room and building design or in cases of contamination, independently of the system purchase. AQP takes all relevant sources of contamination into consideration. This service is also offered for third-party systems. In the Netherlands, AQP's sales partner is Jongsma Engineering solutions.

Bettinehoeve

Bettinehoeve, part of the Emmi group, processes 50m liters of goat's milk per year into soft and fresh cheeses. A sister company called GMP (Goat Milk Powder) is specialized in drying goat's milk. The company employs 125 workers in both branches.

Dutch goat cheese maker Bettinehoeve has installed an air conditioning system by Air Quality Process (photo: Bettinehoeve)



Chris Broers, head of technology and production at Bettinehoeve: we now monitor 2% less water loss during cheese ripening (photo: Bettinehoeve)

