



## Trotec Case Study

### Customer:

Antonio Álvarez Jamones, Spain  
[www.antonioalvarezjamones.com](http://www.antonioalvarezjamones.com)

### Sector:

Exquisite ham specialities

### Benefits:

Optimal air humidity level, even at low temperatures of 2 – 3°C. For perfect climate conditions during the maturation process.

### Trotec product

Condenser dryer DH 160 ES

# Perfect climate in cool maturing chambers

Trotec dehumidifiers provide the ideal condition for ham production

**Trotec improves the quality of ham and sausage products with a range of dehumidifiers developed and manufactured in Germany. Spanish ham and sausage products are a world-renowned gastronomic jewel, and Trotec is involved in the drying and maturing process.**

Trotec is a German company operating internationally which has specialised in the development, production and marketing of dehumidification systems, air humidification and temperature control. Trotec provides versatile solutions for a wide range of processes in the food industry. Today, we will present Trotec's contribution for the production of ham and sausages.

Trotec dehumidifiers allow for an optimal relative humidity in the processing rooms during the various phases of drying and maturing. In addition to the correct temperature, the suitable relative humidity present in maturing chambers and cellars is the decisive factor to guarantee an optimal quality of the finished product. If the relative humidity exceeds or falls below the optimal range, this inevitably reduces the quality of the ham, or even leads to a total loss of the batch. Or in other words, if the humidity level is too

high, it would promote the growth of microorganisms and extend drying and maturing times. If the air humidity is too low on the other hand, the ham rind would dry out, which would slow down the process during which the moisture is transported from the inside to the outside. The ham product would be dry on the outside, but as yet unripe inside.

**The following three aspects are crucial for the maturing process:**

- Colour
- Aroma and taste
- Antibacterial effect

An increase in humidity does not allow the hams to harden, mould develops and, as the process continues, insects or mites may even infest the hams. Colour, taste, aroma and texture would also change. Trotec offers the solution to the problem of excess moisture during the maturing of hams and sausages: the product series of condensation dehumidifiers or adsorption dryers which are able to operate below 0 °C.

# Case Study: Álvarez, Spain

Trotec Dehumidifier DH 160 ES

## Trotec dehumidifiers provide ideal conditions

In the first stage of curing, the salting phase, the hams are stored in chambers with temperatures of 2 to 3 °C and a relative humidity of 75 to 80% that has to be maintained. Trotec dehumidifiers are able to work in combination with the cooling units in the chambers to maintain these ideal conditions.

In the second stage, the drying phase, temperature ranges of 12 to 14 °C are kept, and the relative humidity is slightly reduced to between 70 % and 75 %.

There is no need to check the temperature for the time the ham is being stored in the cellar (third stage). These cellars provide natural conditions, keeping temperature levels stable throughout the year.

This last stage in the cellar is the most important. The relative humidity must not exceed 70 %. If the humidity level exceeds 70 %, there is an increased risk of mite infestation. And if the humidity is not controlled and infestation is the result, all the effort put into the preceding ripening phases has been in vain. This risk is to be avoided!

Staff at "Antonio Álvarez Jamones" are well aware of this risk. Therefore, they have entrusted Trotec dehumidifiers with the mission to control the humidity levels of the various drying and curing phases for many years already. Thanks to its stainless steel design, the DH 160 ES condensation dryer is perfectly suited to be used in the food industry. With its integrated hygrostat, the device reliably maintains the set humidity value throughout the entire maturing process.

## Traditional manufacturing for best quality

"Antonio Álvarez Jamones" is one of the pioneers of the Protected Designation of Origin 'Trevélez Ham'. This traditional company's preserved knowledge and artisan methods have been passed on by experienced ham craftsmen for almost 200 years. Located in the heart of the Alpujarra, in the town of Trevélez, province of Granada, Antonio Álvarez Jamones is a family business dedicated body and soul to ham production. The company was founded in 1960 by Antonio Álvarez, the father of the current company owners. At that time, he began curing and marketing Trevélez ham, producing around 150 hams a year. Today, more than 150,000 hams are being sold!



The philosophy is still very clear and unambiguous – the focus remains on offering demanding customers a product of outstanding quality.

The entire process of drying and maturing takes place under completely natural conditions. This traditional method is currently practiced by very few companies. The staff at "Antonio Álvarez Jamones" will continue to perform this kind of manufacturing in the future.

**The Trotec DH 160 ES condenser dryer is made of stainless steel and always provides an optimal air humidity level.**

## Condensation dehumidifier DH 160 ES

- Dehumidification performance: 85 to 245 litres / 24 hours (depending on room temperature and humidity)
- Air volume: 2,200 m<sup>3</sup>/h
- Offers a very high dehumidification performance even at low temperatures (can be optionally used from -0.5 °C)
- Robust, corrosion-protected construction, also available in hygienic stainless steel variant
- Fully automatic operation
- Professional hot gas automatic defrost system with automatically controlled cycle inversion
- Steplessly self-regulating EC double-flow radial fan
- Subsequently installable
- High level of efficiency with simultaneously low energy consumption
- Reduction of energy costs by means of process heat-assisted air heating
- DIN socket for external switchings and potential-free contact for remote switching
- Integrated condensate pump



Detailed information on the DH 160 is available at:  
[www.uk.trotec.com/dh160](http://www.uk.trotec.com/dh160)