



Trotec Case Study

Customer:

Alesca Life Technologies Limited
(Tokyo, Beijing, Dubai)
www.alescalife.com

Sector:

Food cultivation via hydroponics

Benefits:

- Controlled humidity level for the indoor cultivation (vertical farming) of plant-based foodstuffs
- Perfect climate in all growth phases
- Maximum crop yield, prevention of plant diseases and crop failures

Trotec products:

TTK dehumidifiers, TTV axial fans,
DL200 data logger

Optimum humidity values for vertical farming

In the "Sustainable City" (Dubai), Trotec air-conditioning technology creates ideal conditions for the cultivation of plant-based foodstuffs

Vertical farming – farming of the future

Alesca Life Technologies, which is based in Dubai, Tokyo and Beijing, was founded in 2013 and is an AgriTech company specialising in vertical farming. Alesca develops turnkey vertical indoor farms for sustainable food production. The corporate goal is to ensure local food supply in spite of diminishing cultivable land and unfavourable climatic conditions.

Trotec is an internationally acting company that has specialised in the development, production and commercialisation of solutions for humidification and dehumidification as well as systems for monitoring and controlling the key air parameters (air humidity, air quality, temperature). The approaches offered by Trotec on the one hand include solutions that can be utilised on a modular basis, but just as well provide possibilities tailored to individual customer requirements for a large variety of processes in the food industry – in the present case these are systems for the dehumidification of indoor plantations.

Vertical farming in indoor farms is growing increasingly popular for the cultivation of healthy and fresh food in empty factories, storage facilities or converted shipping containers – instead of having to import it into the country over long distances in the first place. Indoor farms are spreading all around the world, one of them in "The Sustainable City", a relatively new district of Dubai. Numerous greenhouses, temperature-controlled eco domes, but also shipping containers converted into indoor farms dominate the district's shape. These indoor growing areas in particular serve to the agricultural use to cultivate fruit, vegetables and herbs for the community.

Trotec technology ensures a high harvest yield in Dubai's Garden of Eden

One of the indoor cultivation systems was designed by Alesca Life Technologies. The Beijing-based company converts shipping containers into vertical gardens, in which fruit, vegetables, mustard and further seeds are grown under controlled conditions. In this process, Alesca relies on suitably dimensioned climate solutions

Case Study: Alesca Life

Trotec dehumidifiers for vertical farming

from Trotec to provide for ideal climate conditions (humidity level and temperature) with smart technology for the dehumidification, ventilation and temperature control in their indoor farms. The landscape of the United Arab Emirates has proved to be a perfect host for soil-less food production. Since only a small part of the surface is considered as cropland, more than 80 percent of the country's foodstuffs is imported.

Controlled humidity values in all flowering phases

During the initiation, formation and maturation, the plants grown in Alesca's indoor greenhouses pass through different phases, requiring different humidity levels in each case. Therefore it is indispensable that the humidity level is checked constantly and adapted to the different stages of the growth phase. Innovative climate sensors such as the DL200 data loggers continuously monitor the climate in the indoor farms. Mobile TTK 655 S dehumidifiers from Trotec ensure a controlled humidity level in all phases of the indoor cultivation. The climate conditions in the indoor cultivation areas are additionally optimised by axial fans like those of the TTV series, which, with their high air flow rate, provide for growth-inducing air circulation.

Improvements thanks to Trotec's solution:

- **Ideal climate conditions and humidity values for indoor growing**
- **Increasing yields by the prevention of plant diseases**
- **Protection against crop failure by 24/7 climate monitoring and control**

Optimum climate conditions and humidity values are indispensable for the indoor cultivation of plants. To ensure a maximum harvest with a high quality and at the same time prevent expensive harvest failures, reliable dehumidification solutions are required.

With the mobile and stationary dehumidification systems from Trotec, indoor growers rely on well-proven solutions with a high economic efficiency.



DUBAI



Products for vertical farming & indoor gardening with hydroponic systems



[Mobile condensation dehumidifiers](#)



[Stationary condensation dehumidifiers](#)



[Mobile desiccant dehumidifiers](#)



[Stationary desiccant dehumidifiers](#)



[Axial fans of the TTV series](#)



[Climate data loggers](#)

