Aqua

The Temperature Control People.

Case Study | **Agriculture & Farming**

Aqua Helps With Vertical Farming Growth

Client

Vertical Farming Company

Challenge

Design a system to closely control the temperature and humidity levels of the vertical farming facility

Solution

A temperature control system which combines coils, chiller, and a tank with a variable speed pump set

Vertical farming offers a sustainable alternative to traditional methods of growing crops. It developed in response to challenges that conventional farmers were facing. It aims to produce higher quality, lower cost, pesticide free produce, reducing food waste and environmental impact.

Here's how Aqua helped with a temperature control system for a vertical farming application.

Situation

The vertical farming concept is effectively indoor farming, with everything carefully designed and monitored to ensure optimum growing conditions. Variables such as light, temperature, humidity, irrigation, and air composition are precisely controlled, and the process is pesticide free. The crops themselves are grown in vertical, stacked layers so footprint is kept to a minimum.

Aqua were tasked with designing a system to closely control the temperature and humidity levels of the vertical farming facility. Ideal growing conditions need to be simulated inside the farm so that resulting crops are both plentiful and high quality.

Solution

Our in-house design team created a system which combines coils, chiller, and a tank with a variable speed pump set. The chiller supplies chilled water to the coils. As the ambient air goes across these coils, the air temperature reduces and the humidity increases, to the required set point.

Equipment from Aqua helped them reduce costs by

50%

Cut lead time from

14 to **6** weeks

Results

Aqua have designed & supplied this solution, both in the UK and overseas. "It's great to see how our cooling technology can be deployed in such a cutting-edge industry" explains Aqua Area Sales Manager, Mark Hopper.

"The potential vertical farming has to really make a difference with the agriculture and food sectors is quite astonishing. I'm proud that Aqua have been involved in such an innovative & sustainable project."

Aqua have also developed a pump skid version of the system for the client's US site. The skid is effectively plug & play format, just needing to be connected to the chiller, which the client purchased locally. Ironically, buying this element of the equipment from Aqua helped them reduce costs by 50% and cut lead time from 14 to 6 weeks when compared to purchasing locally. It also enabled the client to finish their project on time, so avoiding further financial implications.

For help with vertical farming projects, call the team on **0333 004 4433.**