



The Temperature
Control People.

Case Study | Food & Beverage



**Cold Storage
Innovation Saves
Food Processor
£££££s**

Client

UK based food processor

Challenge

Lack of adequately cold, storage space

Solution

Repurposing existing storage space with chillers & low temperature fan coils on long term hire

The UK imports billions of pounds worth of fresh fruit and vegetables every year. The more tropical fruit varieties, like pineapples, mangos, bananas and kiwis travel thousands of miles before arriving in the UK. On arrival, they need to be carefully stored, before they're processed and packaged ready for distribution to the retail network. If storage misses the mark, product quality, shelf life, adherence to food safety standards and brand reputation could all be comprised.



Situation

Aqua were approached by a UK food processing giant, who were looking for support with cold storage for their tropical fruit product line. They were looking to store 200,000 individual fruits, all year round, which would be processed and distributed as snack packs or pre-prepared fruit products across a range of private brands.

Our client had some incredibly old, stand-alone cold stores on site, but age meant there was no way they could keep such a high volume of product cool enough. However, if they could be repurposed, it would save considerable investment in finding a new facility.

Our rental team carried out a detailed site survey and looked at different ways they could create a large

cold storage space, at a consistent 3°C. After careful consideration, and running lots of calculations, they ascertained that reconfiguring the old cold stores was a viable option.

"200,000 is a lot of fruit!" explains Aqua's Sales Engineer, Ben Hughes. "Probably the most stressful part of this job was making sure my calculations were spot on. As well as the obvious things like heat loss, external heat load and ambient, I had to work out the hourly respiration rate of 200,000 pieces of different fruits. I checked that one several times before specifying the cooling equipment needed for a storage space which has ended up bigger than a full sized football pitch!"



Solution

Aqua supplied 2 x 340kW Aqua Pro chillers and 6 x 70kW low temperature fan coils on a long term rental agreement. Our Aqua Pro units operate on low GWP, so are highly efficient as well as being a positive choice for the environment.

The equipment was designed and installed with an open tank system. The fan coils were sited internally, and the

two chillers were positioned outside the building. Adding an open tank to the design reduces the reaction times, between the temperature coming back from the fan coil and back to the chiller, giving greater system volume and eliminating any risk of temperature spikes.



Results

With the new cold storage facility in place, the fruit can now arrive on refrigerated transport, before being taken off onto racking within the cold store. Once processed, the final product is stored in boxes on pallets before being distributed back out to the network.

From the client's perspective, they now have consistent storage, at the optimum temperature, which protects product quality and, therefore, their business. They also have less wastage and peace of mind, all without the need to invest in a new facility and protecting their CapEx.



For support with your next cold storage requirement, chat with the team on 0333 004 4433.