

Aqua

The Temperature
Control People.

Case Study | Food & Beverage



**CO2 Chiller Proves
The Golden Ticket For
Chocolate Giant**

Client

UK leading chocolate manufacturer

Challenge

Legacy chiller system replacement

Solution

CO2 chiller system

Popular the word over, chocolate is a favourite indulgence, and the UK is one of the leading chocolate consuming countries in Europe. Chocolate features heavily within our popular culture and is often the go to gift when celebrating seasonal events such as Easter and Christmas.

Aqua have supplied temperature control solutions to a number of chocolate & confectionary customers over the years. For one particular client, we were asked to undertake a review of their current set up. With future growth planned, they wanted to invest in an updated system that would safeguard their production against downtime as well as future proofing their manufacturing facility for years to come.



Situation

The factory had two existing chilled water systems which were central to their chocolate manufacturing process. One provided chilled water for processes and room cooling, whereas the second circulated water at a much lower temperature, around -30°C.

This colder line supplied cooling to several custom designed machines which are instrumental to the chocolate tempering process. Precise temperature control is critical here, otherwise the quality and consistency of the finished chocolate product can be negatively impacted.

They were relying on two smaller chillers that had been installed on a duty assist basis. But, as the units aged, and the business grew, unless both were running the plant struggled for cooling capacity.



Solution

Aqua designed, supplied and installed a new system based around an 80kW CO2 chiller. This chiller would be able to take the full demand of both lines, as well as providing reserve capacity for future expansion.

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A CO2 chiller could be considered because of the low application temperatures involved. An added benefit with CO2 is that it is a completely natural, non-flammable refrigerant. Commonly referred to as R744, the refrigerant has excellent properties with a global warming potential (GWP) of less than 1 and Ozone Depletion Potential (ODP) of zero. This makes it an environmentally friendly option and it also protected our client from future refrigerant legislation around F-Gases.

To ensure the new system is ultra resilient and reliable, additional back up controllers and other features were incorporated into the final chiller design.

Results

"This project was so well suited to a CO2 chiller" said Aqua Sales Manager, Mark Whittaker.

"It gives our customer everything they'll need from a cooling perspective and there's plenty of room for growth built in. Reliability is so important within the chocolate & confectionary sector, and we've spec'd this unit incredibly well to ensure it can stand up to years & years of chocolate production!"

Aqua will also support with ongoing maintenance of the chiller, going forward.



For help with your next CO2 chiller requirement, call the team on 0333 004 4433 or email sales@aquacooling.co.uk