

Batch Cooling for Batter Mixing Processes

A large food manufacturer specialising in Ethnic snack products contacted ICS Industrial Cooling when they were looking to change a mixing process which meant that temperature control would become critical.

The organisation produces over 1 million snack food products every day, catering for a wide range of international tastes. The need for accurate temperature control is essential in order to maintain continual productivity for the business.

Potable Water Cooling

The process that required accurate temperature control assistance was the batch production of batter mix. In their process up to eight batches of water are added to the mix every hour. The water is sourced from the site's potable water tank which feeds the mix at a temperature of up to 18°C. Due to the high water temperature, the final batter mix was reaching temperatures in the region of 50°C. At this temperature, the mix was forming a thick skin on the surface making the batter difficult to work with. Equipment was needed which had the ability to cool the potable water before it entered the batter mix.

Furthermore, due to the warm summer temperatures and equipment continuously in operation, the ambient air temperature within the customer's plant room was reaching 32°C; therefore they required a chiller that would comfortably manage the process cooling with fault free operation in the warmer summer months.

A Packaged Cooling Solution

ICS's Sales Engineer, **Steve Cawley** carefully considered the customer's requirements and recommended a skid mounted package comprising of a food safe, washable GRP lined 350 litre, insulated buffer tank which was cooled by a fully packaged 15kW TAEvo 081 air cooled chiller via a plate heat exchanger.



The completed cooling package on-site

This one-off unit (pictured above) was custom built using a non ferrous, food safe cooling circuit with quick release water and power connections. It was designed especially for a fast installation and start-up; an ideal solution for managing process cooling.

All pipework used in the installation was stainless steel; allowing it to be thoroughly cleaned using strong chemicals. The pipework can also easily be broken down and rebuilt if the customer should decide to relocate the unit to a new site in the future.

The customer also opted for a loose supply advanced remote control. The remote control option allows the customer to control the unit from a distance of 150m.

An Improved Process

To improve the customer's batter mixing processes, the chiller now supplies water at 1°C onto the plate heat exchanger in order to cool the potable water in the tank to 5°C which is then ready to be drawn off as batches are required. The final batter mix is now reaching temperatures of approximately 30°C with no skin formation, creating the perfect consistency to work with.

"The project was completed on time and to our specific requirements. The cooling is only needed for certain food products, so we can use the unit as and when we need it. It has improved our processes and does the job well."

Chief Engineer,
Food Manufacturing Organisation.

Temperature Control Specialists

ICS Industrial Cooling provide heating and cooling solutions to a wide range of industries nationwide. Standard and bespoke equipment can be supplied, providing a solution to any temperature control requirement.

For further information on ICS's products and services, call free on **0800 169 3861** or email your enquiry to info@icstemp.com.

