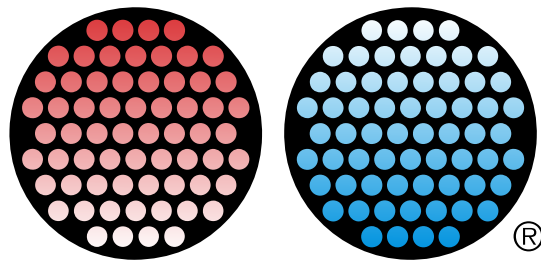


Safe - Professional - Innovative



**GRAHAM HART
PROCESS TECHNOLOGY**

CASE STUDY

Food & Beverage Sector

Brief

A domestic food and beverage client required three air cooled heat exchanger units to provide total cooling of condensate using ambient air.

The site presented several environmental and operational challenges, including airborne debris, restricted airflow, noise limitations, variable operating conditions, and a corrosive fouling process fluid. The solution needed to deliver reliable cooling performance while remaining easy to maintain, quiet in operation, and suitable for the surrounding plant environment.

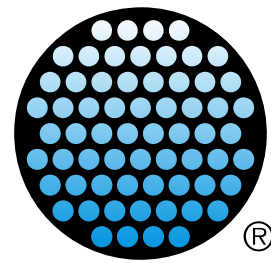
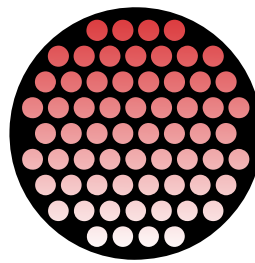


Materials & Spec

- Three stainless steel air cooled heat exchanger units supplied.
- ASME Code Sec VIII Div 1
- Induced draft configuration.
- Low noise, forward-swept curved aerofoil bladed fans.
- Variable speed fans for improved operating efficiency.
- Bolted, removable header plates.
- Bundle layout designed for ease of cleaning.
- Fin selection chosen to reduce fouling risk and improve maintainability.
- Noise level maintained below 80 dBA at 1 m.



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Outcome & Results

- Lower inlet air velocity, helping to minimise the entrainment of airborne debris and reduce the risk of air-side fouling.
- Higher exit velocity, reducing the risk of hot air recirculation around the units.
- Improved environmental protection for the tube bundle from sun, rain, and hail.
- Better process control and greater operating stability across variable ambient and flow conditions.
- Low noise, forward-swept curved aerofoil bladed fans were selected to maintain the required noise level below 80 dBA at 1 m, helping the installation remain suitable for its location close to a school.
- Variable speed fans were incorporated to minimise operating costs by matching cooling output to process demand.
- Stainless steel tubes and headers were selected to handle the corrosive fluid properties, while bolted removable header plates were specified to allow effective tubeside cleaning.
- These units were delivered on time and in full.



“ IT WAS SO QUIET, I HADN'T REALISED YOUR AIR COOLED HEAT EXCHANGER WAS OPERATING. ”

Site Engineer