

CASE STUDY

PROJECT HIGH TEMPERATURE UF PLANT
PRODUCT Ultrafiltration (UF)
INDUSTRY Food and Beverage
LOCATION New South Wales



BACKGROUND

In a world-first, the largest wheat starch and gluten plant of its kind in the world is operating in conjunction with an ethanol distillery to extract value-added products from wheat grain using an advanced process requiring advanced processing technology.

MAK Water worked closely with the customer to design, build, deliver and install an advanced Ultra Filtration plant that extracts select proteins from a feed of liquid plant protein. Our solution for protein fractionation, was a highly specialised Ultrafiltration (UF) plant, utilising advanced membranes from [Synder Filtration](#), an American custom UF membrane manufacturer.

SOLUTION

Highly customised 120m³/day skid mounted Ultrafiltration (UF) plant, constructed to food safe standards and designed to operate at high temperatures above 60°C. and 80°C+ cleaning cycles.

MAK WATER KEY SOLUTIONS

- Custom sanitary SS316 pipework and vessels for F&B application
- Advanced Ultrafiltration (UF) membranes for high temperature protein isolation sourced Synder Filtration
- Prefabricated and factory tested skid mounted system
- Custom automated CIP with various options for chemical dosing, hot flushing, and recirculation
- Heat sanitisation of membranes and process piping
- High temperature membranes + hygienic instrumentation
- Compact design for minimal footprint in tight installation area while allowing ample maintenance access.
- Premium instrumentation and ClearAccess™ remote access



MAK Water UF plant at our factory

RESULTS AND BENEFITS

- **Custom solution.** Expert advice and consultation from The Smart Water People delivered a bespoke solution to a unique challenge.
- **Turnkey solution.** Design, build, installation, operator training and ongoing service & maintenance all handled by MAK Water.
- **Plant Reliability.** Custom design and quality equipment will provide reliable operation with minimal maintenance requirements
- **Local.** The plant was built in Australia using materials sourced from local suppliers. Providing superior build quality and spare part availability



Top-down view of UF plant in factory