

Client

Tarac

Location

Nurioopta, South Australia, Australia

ACQUA Product(s)

Cyclonic Evaporator (CycloVap*)

Objective

To concentrate heat sensitive wine extract from 1000 liters per hour to a concentrate of 100 liters per hour (10:1 concentration) without loss of color or aroma and without caramelization of the product.

Background

The client produces a wine extract to enhance the quality of lower grade red wines with a material that is derived from natural grape.

There were space and height limitations in the existing factory so a compact plant was a major requirement.

Wine extract also has a substantial amount of tartrate present and this has previously been a problem with heavy deposits in the plate evaporator that was used to 2:1 concentrate the product.



Solution

ACQUA provided the client with a compact Cyclonic Evaporator (CycloVap*) plant to process 1000kg/hr of wine extract, to produce 100kg/hr of concentrate without loss of color or aroma and not caramelized.

The CycloVap* uses a patented Inline Swirl Generator (ISG*) inlet nozzle to provide equal distribution to all of the calandria tubes as well as very high cyclonic liquid inlet velocities to highly improve film and heat transfer coefficients.

This results in the ability of the CycloVap* to evaporate liquids in a 3 meter calandria tube length compared to 9 - 12 meter long calandria lengths. This results in lower capital cost per kilogram of water evaporated as well as reduced building costs due to lower headroom requirements.