

## A vintage success for Margan Wines



Margan Hunter Valley Wines - a 35,000 case brand, which is sold in all Australian states and in 16 countries around the globe.

Faced with rising energy costs and the cost of running one of the largest and leading wineries in Australia, Andrew & Lisa Margan approached J&H Air Conditioning & Equipment for a solution to reduce running costs and raise the efficiency of their current refrigerant plant.

Jason Kozaczynski from J&H inspected their site and armed with his vast experience of 26 years in the industry decided the existing plant which consisted of 2 x Glycol chillers was still in good condition but needed some modifications to make it more energy efficient.

The existing equipment servicing the processing area of the winery, consisted of an air-cooled Carrier chiller with a single dedicated 8 cylinder compressor operating on R22. The second supplementary unit was a packaged chiller with a single dedicated Copeland ZR144 scroll compressor also operating on R22.

### The Solution

Jason with the support of Heatcraft Field Sales Engineer, John Mostyn engineered an energy efficient solution, consisting of the addition of a Variable Speed Drive (VSD) and Electronic Expansion (TX) Valves. The proposal was supported with estimated average Energy Savings Calculations prepared by Heatcraft. J&H was able to present these findings to the property owner, which instilled confidence in the investment being made.

### At a glance...

#### The Business Need:

A reduction in energy costs across the refrigeration and cooling systems.

A reduction in carbon emissions to support its mission to reduce carbon and improve environmental sustainability.

#### The Solution:

J&H Air Conditioning & Equipment worked with Heatcraft to retrofit the existing R22 plant with R438A, whilst also installing a Variable Speed Drive and Electronic Expansion Valves. The solution allowed them to save energy and as an added benefit increase their plant capacity and achieve temperature stability.

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Easy to operate, fully automated Danfoss VSD and Electronic Expansion (TX) Valves.

# Studies in success



Heatcraft representation was on-site throughout the entire commissioning stage assisting in the programming of the VSD and Electronic Expansion Valves. John also provided VSD training to the J&H technicians onsite, which helped them better understand the additions for future service requirements.

Approximately 100kg of refrigerant was required to run the plant. To save on refrigerant costs and improve plant efficiency, J&H carried out a full refrigerant retrofit, using the more cost effective and zero ozone depleting R438A.

**Since the upgrade of the plant, owners Andrew and Lisa Margan have recorded a 40% reduction in energy costs. All this after a very successful 2015 vintage.**

By adding the VSD to the existing fixed speed 50Hz compressor, the refrigeration capacity of the compressor can now vary in speed from 30Hz through to 65Hz automatically to suit the required plant capacity requirements.

Jacques Roux, Winemaker and Facilities Manager at Margan Wines, commented on the changes he has observed;

***“The compressor is not nearly working as hard as it used to, with a lot less run time due to its efficiency to reach the required temperature and cycle off. In the past, the unit would run 24/7 for 6-8 weeks, so this has certainly helped us save power.”***

The VSD also contributed to more stable temperatures. ***“The chiller now brings the brine from ambient temp to -3°C in a few hours, at least half the time than before.”***

***“It is also a lot quieter than before. It’s important for us to achieve safe noise levels for OH&S. It also helps us listen out for other machinery/ malfunctions etc.”***

***“We have only had to use our backup chiller a few times, whereas in the past that would’ve been running flat out for the whole second half of the vintage – again less power and less noise.”***

***“It’s very easy to operate, with few controls that are fully automated. With the electronic expansion valves you can actually see running temperatures and system***

***performance. The automatic start-up of the compressor and pumps after power failure is peace of mind as it used to require manual restart.”***

## Environmental Sustainability

Margan Wines is striving for carbon neutrality; “As farmers we are committed to looking after the land so that it can remain productive and look after us for years to come.” says owner Andrew Margan. “We calculate our carbon emissions and carbon credits annually using a carbon calculator by Australian Winemakers Federation (WFA) and have implemented many initiatives across the entire operations of the business to reduce our emissions.”

**To increase the efficiency of your existing plant and realise savings like Margan Wines, contact Heatcraft Australia on 13 23 50.**



The VSD added to the existing chiller contributed a 40% reduction in energy costs

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