

## Target storage temperature, humidity and energy savings achieved

Barossa Valley Estate has recently undertaken an extensive expansion and redevelopment of its Barossa Valley facilities to complement the very high quality wines that are produced from the locally grown red wine grapes.

### The project requirements were:

- To equip the already well insulated barrel hall with an air conditioning system
- To maintain the wine temperature within the barrel, at or near the target storage temperature of 16°C
- Ambient relative humidity within the barrel hall to be maintained at a level between 65% and 75%.

Energy consumption of the installed system was a key factor in the decision process when comparing the types of equipment to be employed.

Barossa valley Estate's research lead them quickly to the conclusion that Climate Wizard Supercool was the best option to meet all their requirements and two model CW-80 Supercool air conditioners were installed in 2015, together with specially designed duct work to evenly distribute the cool air throughout the barrel hall.

### Designed to efficiently cool wine barrel storage rooms

Climate Wizard Supercool is the latest evolution of the successful Climate Wizard range of indirect evaporative coolers. It achieves even greater cooling capacity by adding a specially designed direct evaporative stage after the indirect heat exchanger. By using this technique, the very low supply temperatures achieved by the indirect heat exchanger are further cooled with required moisture being added to the supply air.

Climate Wizard Supercool's ability to provide the necessary cooling performance at a very low operating cost is due to the fact that it uses no mechanical compressors or harmful refrigerants. This in turn makes it the natural choice for cooling winery barrel halls.

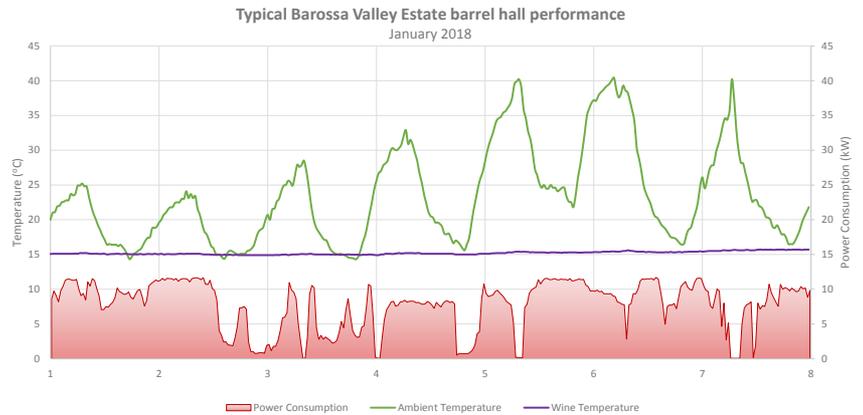
This is a solution to maintaining a controlled level of temperature and humidity – at very low operating costs!



Since installation, Seeley International, manufacturer of the Award-winning Climate Wizard air-conditioning, has had temperature and humidity monitoring equipment installed in the barrel hall to record the actual wine temperature in barrels from floor to ceiling level and the barrel hall ambient temperature and relative humidity.

The monitoring of the actual wine temperature was a step further than had been done before and provided very significant information about how the wine temperature varies as the internal barrel hall temperatures vary during the day and night.

The plots below illustrate a typical hot period and the resulting temperatures.

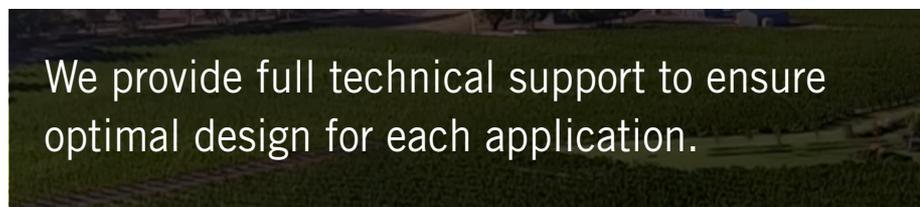


## Performance Summary

- Dramatically reduces energy consumption and cooling costs compared to equivalent refrigerated systems
- Delivers very low supply air temperatures
- Maintains desired humidity levels
- Easy installation
- Factory installed BMS interface
- Optional BACnet interface
- CW-H15 and CW-80 models available
- Australian designed and manufactured

As part of the cooperative work between the two companies, Barossa Valley Estate and Seeley International, the engineers from Seeley International also monitored the energy consumption of the Climate Wizard air conditioners. This was recorded with the aim to compare it to the estimated energy that would have been required should the winery had selected a traditional refrigerated system and a humidification system to perform the same duty.

The results indicate that the Climate Wizard Supercool system provides incredible savings of up to 80% compared to the energy that a refrigerated system would have used.



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We provide full technical support to ensure optimal design for each application.

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